

2020

ANNUAL REPORT OF PROGRESS

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* Membership as of November 2020.

ACRP

AIRPORT
COOPERATIVE
RESEARCH
PROGRAM

2020 ANNUAL REPORT OF PROGRESS

The National Academies of
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TRANSPORTATION RESEARCH BOARD



100 YEARS
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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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Cover photo: Courtesy of St. Louis Lambert International Airport

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. John L. Anderson 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.nationalacademies.org.

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 provide leadership in transportation improvements and innovation through trusted, timely, impartial, and evidence-based information exchange, research, and advice regarding all modes of transportation. The Board's varied activities annually engage about 8,000 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.

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Letter from AOC Chair

Mid-March of 2020 brought the worst pandemic the world has seen in a 100 years—the impact COVID-19 has had on every industry and sector cannot be overstated. The aviation industry was no exception, experiencing a major shock for the second time in 20 years that changed the nature of air travel. With airports and our stakeholders seeking the most up-to-date research on the best ways to mitigate the impacts from the pandemic, implement those processes and procedures, work with all airport stakeholders, and communicate those efforts to the traveling public, ACRP rose to the challenge. Within 5 weeks, ACRP planned and held a virtual Insight Event on the future of travel.

While COVID-19 consumed the time and energy of many airport officials and employees, day-to-day airport operations didn't stop. The work of the AOC and ACRP also continued.

Unfortunately COVID-19 wasn't the only major story of 2020 for our nation; issues of systemic racism, diversity, and inclusion came to the forefront yet again. The AOC, ACRP, and TRB have always been committed to diversity in our volunteer panels and in our research teams, and as the conversation in our country continues, we recognize that more can be done. We have started planning an Insight Event that will be held in 2021 on Systemic Racism and are looking forward to bringing together experts to talk about what airports can do to be a part of the solution.

Just before the pandemic, in January of 2020, the AOC adopted its second strategic plan titled *ACRP Blueprint for the Future: Strategic Plan 2020–2024* to guide the ACRP and ensure that we continue to be a valuable resource for the industry. In June, we held our usual summer meeting, in-person and with remote participants, to program the Fiscal Year 2021 slate of projects.

If you haven't had an opportunity to explore the results of ACRP research, we encourage you to check out the vast library of well-researched, well-organized reports, guidelines, tools, and other resources meant to assist you in tackling the challenges you might face. And, if there's a topic you'd like to see us address, please submit your request to IdeaHub.

— Rhonda K. Hamm-Niebruegge





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Introduction

In the internet age, people have information at their fingertips instantaneously, allowing unprecedented access to new ideas and information. Airports play an integral role in turning those ideas into experiences, allowing individuals to travel the world, to explore new cultures, visit new people, and learn new ways of thinking. Air travel is essential for this cross-cultural exchange of ideas to foster economic, environmental, and technological innovation

Throughout 2020, airports and aviation professionals from around the world have worked tirelessly to mitigate the unprecedented impact of the coronavirus on airport operations, traveler safety, and worker health. The sharing of information and best practices for dealing with communicable disease transmission and emergency preparedness planning, among other topics, has helped industry practitioners and stakeholders develop new

procedures to maximize worker and traveler health and safety. The Airport Cooperative Research Program (ACRP) is proud to have provided information to combat misinformation, ensure traveler safety, create and disseminate crucial research, and bring the industry together to share best practices.

ACRP has been conducting and disseminating essential research to the aviation community since its establishment in 2005. ACRP provides high-quality, industry-driven research to address day-to-day challenges in the airport industry in the form of research reports, case studies, Insight Events, webinars, and more. ACRP's *2020 Annual Report of Progress* showcases the program's activities and accomplishments and how they encourage collaboration and innovation to solve the most pressing issues facing the aviation industry today.

WHAT IS ACRP?

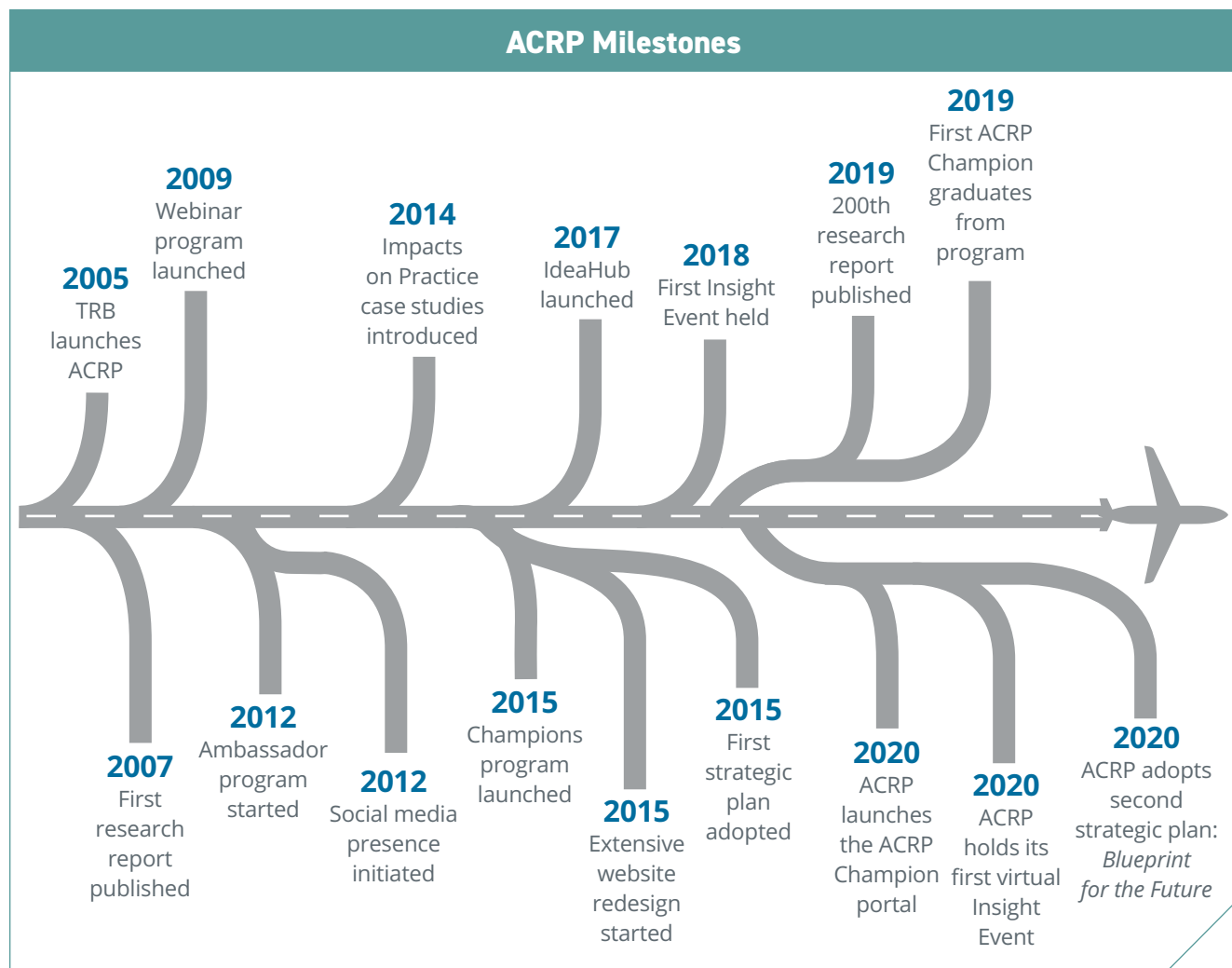
ACRP is an applied research program managed by the Transportation Research Board, part of the National Academies of Sciences, Engineering, and Medicine, and sponsored by the Federal Aviation Administration. Together with public- and private-sector industry experts, ACRP produces myriad research products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

Banner Photo: Sunrise from PHL Ramp Tower roof. Credit: David Rosenblum, Philadelphia International Airport.



Key Milestones in ACRP History

Since its inception in 2005, ACRP has adapted and grown to meet industry needs and expand its outreach with the help of new platforms. From the publication of the first research report to the creation and launch of the web-based ACRP Champion portal, ACRP has continued to use innovative tactics to disseminate critical information and cultivate practitioner engagement.



Banner Photo: PHL Terminal C exterior. Credit: David Rosenblum, Philadelphia International Airport.



Meet the ACRP Staff



Marci A. Greenberger, ACRP Program Manager

Marci A. Greenberger is the ACRP Program Manager and has worked with the Transportation Research Board (TRB) of the National Academies of Sciences, Engineering, and Medicine since 2008. Prior to becoming ACRP Program Manager, she served as a

Senior Program Officer (SPO), managing projects on operations, maintenance, safety, and security, as well as legal issues that affect the industry. Before joining ACRP, she spent more than 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 a BS in Aviation Management from The Ohio State University, and earned an MBA from California State University-Northridge.



Kerry Ahearn

Kerry Ahearn joined the National Academies in January 2020 as an SPO for ACRP. She has 23 years of experience as an aviation manager and subject-matter expert, and she is certificated by the FAA as a Commercial, Instrument, and Multi-Engine pilot. Ms. Ahearn has held senior management positions in the areas

of operations, security, and noise abatement and served as the manager of Boulder City Airport in Las Vegas for nine years. Most recently, she worked with Innovative Emergency Management (IEM) to evaluate and improve emergency preparedness at air carrier airports throughout the country. Ms. Ahearn is an Accredited Airport

Executive and a Certified Airport Executive by AAAE. She earned her bachelor's degree from Embry-Riddle Aeronautical University.

Lawrence D. Goldstein

Lawrence Goldstein is an SPO and manages research projects across the Cooperative Research Programs at TRB. He has been with the National Academies for more than 10 years, and his 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. Mr. Goldstein received his BA in Physics and Mathematics from Columbia College, his MA in Astronomy from Columbia University, and his MURP from George Washington University.



Matthew Griffin

Matthew Griffin joined ACRP as an SPO in October 2019. He previously served as the Director of Regulatory Affairs and Education at the Airport Consultants Council. Mr. Griffin also served as the Senior Manager for Policy and Regulatory Affairs at Airport Council International – North America and spent time with the Capital Region Airport Authority in Lansing, Michigan. Before joining the staff, he had the pleasure of serving on various ACRP panels. Mr. Griffin holds a BS in Aviation Management from Purdue University as well as a private pilot's certificate.



Banner photo: Jets park on the Premier Jet Center ramp at Flying Cloud Airport.
Credit: Gary Schmidt, Minneapolis-St. Paul Metropolitan Airports Commission.



Sarah Kosling

Sarah Kosling joined ACRP in 2020 as an Associate Program Officer/Business Analyst. She has a background in international development, specializing in the areas of strategic foresight and data analysis. Previously, she served in the Peace Corps in Nepal as a food security

volunteer and is passionate about sustainable urban development in the Global South. She holds a BS in Biology from Denison University.



Joseph Navarrete

Joe Navarrete joined ACRP as an SPO in 2009, bringing experience as both a principal investigator and panelist on ACRP projects from his previous job at a large consulting firm. His background is in airport planning for 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, Mr. Navarrete particularly enjoys facilitating the collaborative research process that is the hallmark of ACRP. Mr. Navarrete holds a BA in Geography and a certificate in Cartography from George Mason University.

Theresia Schatz

Theresia Schatz is an SPO with more than 30 years of aviation industry experience. Before managing research projects for ACRP, she worked for The Port Authority of New York and New Jersey in various supervisory and managerial positions including airport operations, administration, and property management at JFK, Newark Liberty, and LaGuardia airports. Ms. Schatz is an Accredited Airport Executive through AAAE and holds a BS in Aviation Management from the Florida Institute of Technology, an MBA from Baruch College, City University of New York, and an AAS in Aerospace Technology from Farmingdale College, State University of New York.



Gail Staba

Gail Staba is an SPO responsible for facilitating the ACRP Synthesis studies. She has more than 20 years of experience in transportation planning and environmental management at ports and airports. Ms. Staba's prior experience includes airport planning 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. She 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.



Brittany Summerlin-Azeez

Brittany Summerlin-Azeez serves as ACRP Program Coordinator and joined ACRP in 2017. She manages the day-to-day administrative and logistical aspects of meetings and correspondence between SPOs, committee members, and sponsors. She also assists with the Ambassador and Champion programs. Ms. Summerlin-Azeez has a background in human resources and sales. She holds a BS in English and Political Science from Howard University and has a green belt certificate from Lean Six Sigma.

ACRP Blueprint for the Future: Strategic Plan 2020–2024

Since its first meeting in January 2006, the AOC has assured the success of ACRP through strategic guidance and the involvement of airport practitioners at all levels. ACRP developed the first strategic plan in 2015, and in January 2020 published the second iteration, *ACRP Blueprint for the Future: Strategic Plan 2020–2024*.

The AOC recognizes that the success of ACRP relies on engagement with all stakeholders who play vital and essential roles in every aspect of the program. The mission remains the same as when Congress established ACRP in 2003: to serve the airport industry by undertaking research needs not adequately addressed by other programs. When adopting the *ACRP Blueprint for the Future: Strategic Plan 2020–2024*, the AOC reiterated its commitment to the development of research products that address current and emerging issues in the airport industry and by conducting applied research to solve problems that airport practitioners share. This commitment has resulted in reports, guidelines,

tools, methodologies, websites, legal digests, syntheses, and more.

ACRP's values are consistent with and mirror those of TRB and the National Academies. The processes ensure a balance of perspectives, expertise, and diversity through collaboration and consensus that is unbiased and objective. These core principles are what drive us. The strategic planning process involved extensive feedback from our community of practitioners. The resulting consensus was a request for faster research results and a focus on digital tools and products for practitioners. The AOC wants to lead with intention and has affirmed that the engagement of ACRP's stakeholders must continue in each step along every stage of the process.

The goals of the AOC are to: (1) ensure that research is of the highest quality and greatest relevance to the airport industry; (2) match research methods and products with the urgency of the topic; and



Outside Terminal 2 at Raleigh-Durham International Airport. Photo Credit: Kim Stevens, State Aviation Journal.

(3) improve dissemination of ACRP products and encourage implementation. Toward achieving these goals and objectives, ACRP held a webinar on problem statement development and how to use IdeaHub, the program's web-based system for collecting problem statements; developed a social media plan; and empowered ACRP Ambassadors to reach out to employees from airports not known for previously engaging with or using ACRP products. ACRP is always seeking new ways to systematically update our products, encourage diverse airport

practitioners to participate on panels and on research teams, facilitate and expedite implementation of ACRP products, identify the impacts that airports are experiencing from the implementation, and disseminate those success stories.

The vision adopted by the AOC and its subsequent activities will aid in cementing ACRP's place as a trusted resource when airport practitioners seek real-world solutions to the issues and challenges of the day.



*Alaska Airlines B-737 about to take off from the freshly painted Runway 8-26 in Kodiak, Alaska.
Photo Credit: Paul Khera, Aviation Planner.*



This Year at ACRP

PROJECTS AND FUNDING

Throughout 2020, ACRP continued to adapt and evolve while the world faced an unprecedented health crisis. ACRP continued to grow its research product library and expand and update its dissemination initiatives. This year featured several new accomplishments and built on past successes with a redesigned Champion program and portal, Insight Events, and virtual workshops.

This year, ACRP collected nearly 70 problem statements on IdeaHub from a wide range of stakeholders that includes airport operators, industry associations, federal and state transportation agencies, universities, and aviation consultants. These problem statements address issues faced by airports of all types and sizes and encompass a variety of topics, such as environmental management; addressing homelessness at airports; and

incorporating shock events into forecasting and planning.

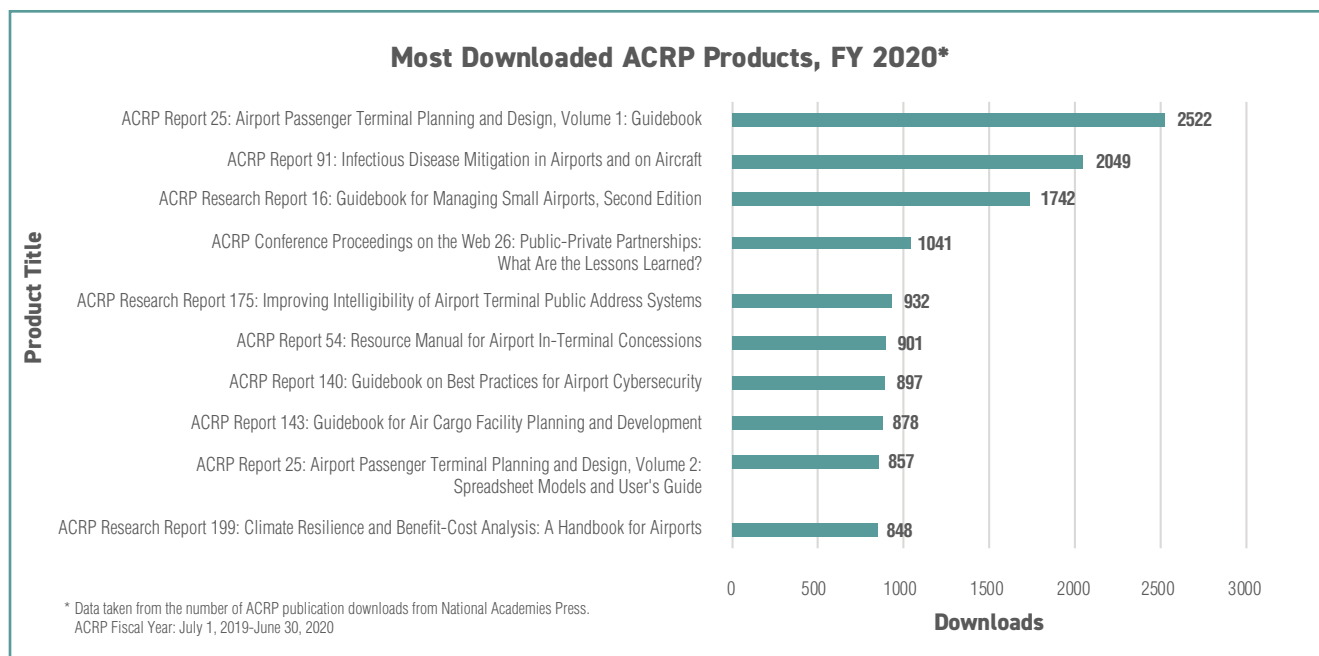
These new research projects will yield new resources for airport practitioners. This investment in new research will bring the total amount ACRP has committed to project funding since 2005 to more than \$150 million, and the number of ACRP projects authorized since 2006 to 650.

ACRP published 40 research products (reports, digests, syntheses, web-only documents, and WebResources) this year, covering a wide range of topics relevant to airports that included airport diversity with business contracts and workforce, impacts from temporary flight restrictions, ground vehicle technologies that may have applicability on the airfield, the impact on revenue from TNCs, and much more.

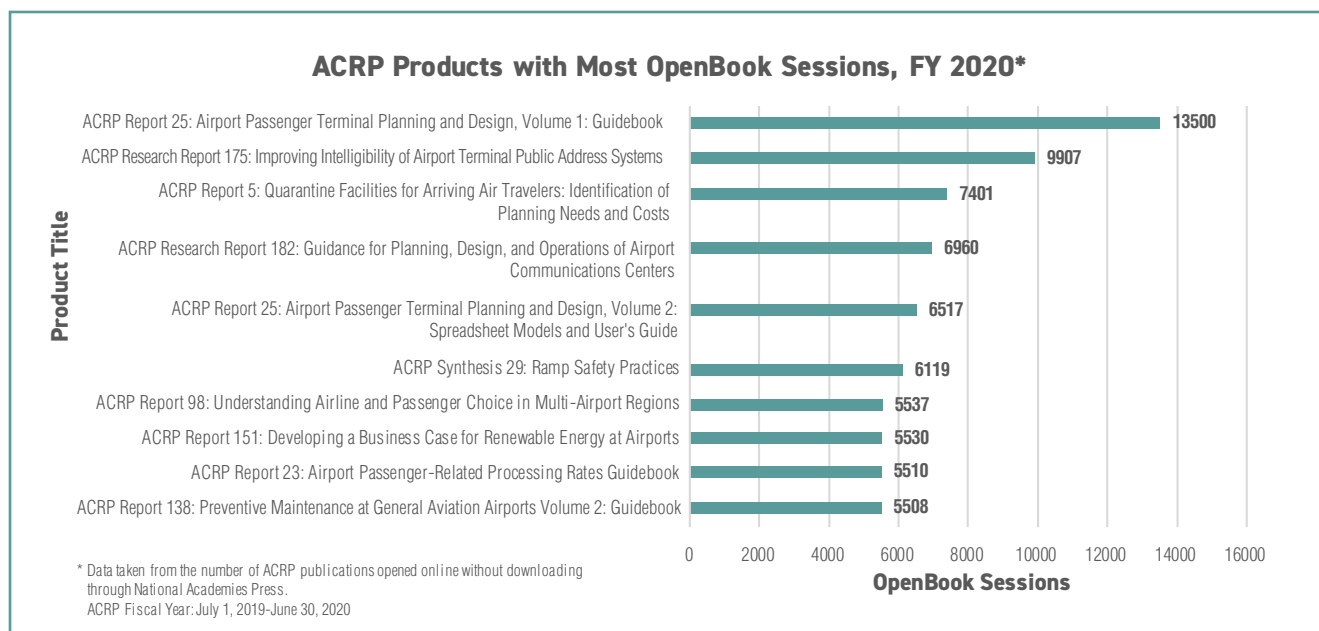
| Cumulative Funding and Projects by ACRP Research Area Since 2005 | | | |
|--|---------------|----------------------|---------------------|
| # of projects | Funding | Research topic | Percentage of total |
| 48 | \$17,570,000 | 1: Administration | 12% |
| 102 | \$36,540,000 | 2: Environment | 24% |
| 64 | \$24,190,000 | 3: Policy & Planning | 16% |
| 31 | \$11,105,000 | 4: Safety | 7% |
| 2 | \$650,000 | 5: Security | <1% |
| 8 | \$2,570,000 | 6: Human Resources | 2% |
| 18 | \$6,770,000 | 7: Design | 4% |
| 3 | \$750,000 | 8: Construction | <1% |
| 20 | \$6,790,000 | 9: Maintenance | 4% |
| 30 | \$11,320,000 | 10: Operations | 7% |
| 324 | \$33,630,000 | 11: Special Projects | 22% |
| 650 | \$151,885,000 | | |

PRODUCING IMPACTS

ACRP products are accessed by practitioners from within the United States and around the world. As shown below, the most frequently downloaded products in FY 2020 cover topics such as terminal planning and design, infectious disease mitigation, and guidelines for managing small airports.



The most frequently viewed or read online products cover topics such as terminal planning, improving intelligibility of public address systems, and quarantine facilities for arriving air travelers, as shown in the chart below.



ACRP also conducts a survey of project panelists and contractors to collect information on how our products are used. As shown below, the most frequent uses for our products are for obtaining guidelines, getting ideas for new and effective practices, validating current practice, decision making, and implementing a new program.



| 2020 Publications by Type | |
|--|----|
| Conference Proceedings and Conference Proceedings on the Web | 2 |
| Legal Research Digests | 4 |
| Research Reports | 15 |
| Syntheses | 9 |
| Web-Only Documents | 7 |
| WebResources | 3 |
| Total | 40 |



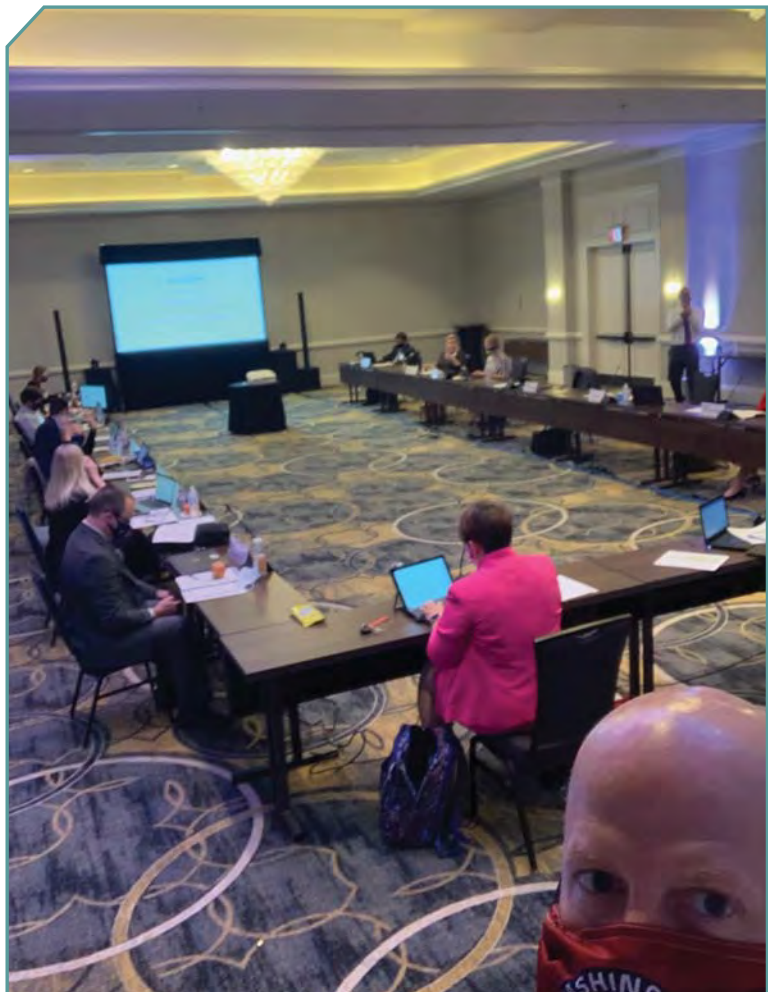
Dealing with COVID-19

ACRP ADDRESSES COVID-19 CHALLENGES

COVID-19 brought many new challenges for airport practitioners, even as they implemented pandemic response and continuity of operations plans. This unprecedented situation and the specifics of COVID-19 required airports and the airline industry to have quickly evolving procedures to keep employees and the traveling public safe. ACRP quickly collected the relevant resources and made those resources available on the ACRP website.

In July, the AOC determined that a face-to-face meeting could be safely arranged for the annual selection of projects. Many of the members met in-person, while others participated remotely, which resulted in a robust, successful meeting. Projects were chosen and the vital work of ACRP continues.

ACRP held two virtual events over the past year dedicated to sharing and discussing information and resources to regain public confidence and sense of safety in air travel. The events also aimed to help prepare the aviation industry to navigate the new normal while staying financially stable.



The AOC met in July 2020 for the annual selection of research projects. Photo Credit: T. J. Shultz, ACC.

Banner Photo: COVID-19 cleaning at TSA checkpoint. Credit: David Rosenblum, Philadelphia International Airport.

ACRP Insight Event: Flight Plan to Recovery: Preparing Airports and Their Business Partners for the Return of the Flying Public

To comply with social distancing practices and safety protocols, ACRP convened its first ever virtual Insight Event – *Flight Plan to Recovery: Preparing Airports and Their Business Partners for the Return of the Flying Public* in May 2020. This Insight Event presented strategies and case studies in public health, safety, operations, and financial stability to prepare airports for operating in the age of COVID-19. Industry experts from government, airports, airlines, and more gathered virtually to present current and ongoing best practices as well as personal experiences to aid in restoring traveler confidence.

ACRP Virtual Workshop: Planning and Responding to Communicable Disease Threats at Airports

Prior to the onset of COVID-19, ACRP had begun research on airport roles in reducing communicable disease transmission with the goal of compiling case studies and best practices into a guidebook to help airports respond to these threats. To continue moving important research forward, in March, 2020, ACRP convened airport and public health officials to provide their input in a virtual workshop where practitioners heard real-world accounts of how airports prepare for communicable disease outbreaks, participated in Q&A sessions, and provided their own input via one-on-one sessions with ACRP.

Case Study: Seattle-Tacoma International Airport

At the onset of the COVID-19 pandemic, reduced demand for travel hit all airports hard and Seattle Tacoma International Airport (SEA) was no exception. Normally one of the 10 busiest airports in the United States, it faced a 95 percent reduction in traffic and substantial airport dining and retail closures. In response, the airport developed a multi-layered approach to recovery, ensuring passenger and worker safety. SEA has implemented innovative solutions to maintain a healthy airport environment, renew enthusiasm for air travel, and return economic vitality including:

- Temperature sensors,
- Ultraviolet light cleaning,
- Physical distance sensors, and
- Touchless technology such as facial and voice recognition.



A sign promotes social distancing during the COVID outbreak on the ticketing level of Seattle-Tacoma International Airport. Photo Credit: Port of Seattle.



ACRP Events and Activities

ACRP uses a variety of interactive events, competitions, and programs to engage industry practitioners. In 2020, ACRP continued to grow these efforts to connect with stakeholders while simultaneously adapting to the challenge of gathering people to share ideas when physical gathering is not possible.

INSIGHT EVENTS

To address the ever-evolving issues the aviation industry must navigate, ACRP launched the Insight Event series in 2018 to bring together subject-matter experts and industry practitioners to share their experiences and best practices in a collaborative, innovative setting, or to begin conversations when there isn't yet enough data for quickly evolving topics. Since the program was launched, ACRP has convened six events covering a range of issues, from implementing successful land use strategies at airports to public-private partnerships. Insight Events are typically held as one- or two-day face-to-face meetings. COVID-19 made these in-person meetings all the more challenging. As previously discussed, ACRP convened its first ever virtual Insight Event—*Flight Plan to Recovery: Preparing Airports and Their Business Partners for the Return of the Flying Public* in May.

ACRP convened another virtual Insight Event: *Introduction to Blockchain and Airport Operations in a COVID-19 Environment*, in August. Blockchain

technology and airport operations experts gathered online for the two-day event to discuss blockchain technology and its potential applications in the aviation industry. Experts and industry stakeholders presented use cases in provenance tracking, data sharing, and privacy, as well as the technology's potential to address challenges associated with public health concerns, including COVID-19.

Two additional ACRP Insight Events have been selected for 2021, *Future of Aviation* and *On-Demand Aviation Services for Passengers and Goods*.



Banner Photo: The erection of structural steel for the Rental Car Center Station at Phoenix Sky Harbor International Airport. Credit: Gannett Fleming.

UNIVERSITY DESIGN COMPETITION

The ACRP University Design Competition serves as a platform to engage students in addressing issues related to airports and the National Airspace System. The competition challenges individuals and teams of undergraduate and graduate students working with a faculty advisor to create innovative design solutions to address issues in the areas of airport operation and maintenance, runway safety/runway incursions/runway excursions, airport environmental interactions, and airport management and planning. Students can win cash prizes, and first place winners are given the opportunity to present their work at a national award ceremony. In 2020, the following teams received honors:

- **School of Aviation and Transportation Technology at Purdue University**, *A Cost-Effective Approach to Predict Noise Impacts for Non-Towered GA Airports*—First place, Airport Environmental Interactions Challenge.
- **School of Aviation and Transportation Technology at Purdue University**, *Aircraft Portable Stair and Accessible Loader (PSAL)*—First place, Airport Operation and Maintenance Challenge.
- **Civil and Environmental Engineering Department at Michigan Technological University**, *Runway Intersection Marking*—First place, Runway Safety/Runway Incursions/Runway Excursions Challenge.
- **School of Aviation and Transportation Technology at Purdue University**, *Commercial Space Advancement through Venture and Operations (CSAVO) Initiative*—First place, Airport Management and Planning Challenge.

GRADUATE RESEARCH AWARDS

The Graduate Research Awards provide an opportunity to stimulate thought, discussion, and research from graduate students who are likely to become future managers, operators, designers, and policy makers in aviation. The graduate student research program focuses on applied research to address issues at airports and related aviation systems to help the public sector continue to improve the quality, reliability, safety, and security of the civil aviation system. Award recipients are offered stipend funding to conduct their unique research projects and present their final research papers at the TRB Annual Meeting. They also are considered for publication in the *Transportation Research Record: Journal of the Transportation Research Board*. The 2020 award winners' projects are listed below:

- **Daniela Betancourt Jimenez, Purdue University**: "Use of Enhanced PCM Microcapsules to Melt Ice and Snow on Airport Pavements."
- **Christopher Cummings, Northwestern University**: "Evaluating the Potential of Urban Air Mobility Service to Airports."
- **Ebenezer Duah, Arizona State University**: "Critical Distresses Analytics to Develop Performance Prediction Models for Small Hub Airfield Pavements."
- **Javier García Mainieri, University of Illinois at Urbana-Champaign**: "Leveraging Environmental Impact and Elasticity of Plastics in Sustainable Flexible Airfield Pavements."
- **Fiona Greer, University of California, Berkeley**: "Life-Cycle Approach to Healthy Airport Terminal Buildings: A Spatial-Temporal Analysis of Mitigation Strategies for Addressing Climate Change and Human Health."
- **Mingu Kang, University of Illinois at Urbana-Champaign**: "Airport Pavement Stiffness Monitoring and Assessment of Mechanical Stabilization Using Bender Element Field Sensor."
- **Mark Kotwicz Herniczek, Georgia Institute of Technology**: "Integration of Urban Air Mobility into Existing Airport Operations."
- **Maryssa Loehr, Washington University in St. Louis**: "Measurement of Ultrafine Particles During Aircraft Descent for Dispersion Modeling Validation."
- **Lamiya Noor, Oregon State University**: "Developing a New Decision-Making Tool for Selecting Rapid Repair Material for Concrete Airfield Pavement."
- **Drew Taplin, Arizona State University**: "Analysis of Ultra Low-Cost Carriers and Airport Choice."
- **Pengyu Xie, Rutgers University**: "Impact of Climate Change on Airfield Pavement Temperature and Field Performance."
- **Chuyang Yang, Purdue University**: "Developing a Cost-Effective Assessment Method of Noise Impact for Non-Towered Airports: A Case Study at Purdue University Airport."



ACRP Strategic Initiatives

DIGITAL ENGAGEMENT AND DISSEMINATION

Over the years, ACRP has continued to expand the platforms it uses to disseminate its research to as many practitioners as possible. ACRP uses several web-based channels to reach new practitioners and keep existing users updated and engaged.

IdeaHub

IdeaHub serves as a collaborative online platform to help airport practitioners share ideas and develop

ACRP research that addresses important issues facing the aviation industry. The platform's interactive design aims to improve research ideas through engagement and discussion. IdeaHub fosters cooperation amongst practitioners by allowing the industry to provide feedback on research ideas and collaborate with others to turn those ideas into problem statements with the goal of receiving ACRP research funding. Successful problem statements identify an issue, describe research needs, and justify how the research will help the airport industry. In 2020, ACRP selected 29 projects from 68 problem statements to fund in fiscal year (FY) 2021.

| IdeaHub: Key Metrics | | | | |
|--|-------------------|-------------------|-------------------|-------|
| Metric | 2018 ¹ | 2019 ¹ | 2020 ¹ | Total |
| Ideas Shared² | | | | |
| Research | 107 | 73 | 110 | 290 |
| Syntheses | 22 | 23 | 12 | 57 |
| Legal ³ | N/A | N/A | 4 | 4 |
| Total | 129 | 96 | 126 | 351 |
| Comments | | | | |
| Research | 295 | 132 | 193 | 620 |
| Syntheses | 64 | 36 | 4 | 104 |
| Legal ³ | N/A | N/A | 4 | 4 |
| Total | 359 | 168 | 201 | 728 |
| Problem Statements/Topics Submitted for Funding Consideration⁴ | | | | |
| Problem Statements | 55 | 77 | 68 | 200 |
| Synthesis Topics ⁵ | 26 | 29 | 12 | 67 |
| Legal ^{3,5} | 9 | 3 | 3 | 15 |
| Total | 90 | 109 | 83 | 282 |
| Community Members | 615 | 215 | 302 | 1,132 |

¹12 months ending September 30.

²New research ideas, synthesis topics, and legal topics added.

³2020 was the first year to collect legal topics using IdeaHub.

⁴Includes resubmitted problem statements, synthesis topics, and legal topics.

⁵2020 values estimated.

Webinars

ACRP's webinar series covers a variety of topics and presents research findings to practitioners across the country. Principal Investigators (PIs) and research teams discuss their findings, lessons learned, and cutting-edge solutions to issues facing the airport industry with a large audience of airport practitioners.

In 2020, ACRP added a feature to its website that allows practitioners to access a complete repository of all past ACRP webinars, summaries of topics and reports discussed, and presentation slides. ACRP also updated its webinar marketing strategy, redesigning marketing flyers and disseminating webinar announcements to ACRP practitioners.

| Webinars: Key Metrics | | | |
|---|--|---|---|
| Number of webinars hosted in 2020 16 | Average webinar satisfaction rating in 2020 94% | Practitioners who have attended at least one webinar 2,550 | Practitioners reached since 2011 28,354 (includes repeat attendees) |

"Great range of speakers that offered useful information and examples. Loved the positive support for including people with disabilities in the decision making process."

— Feedback on *Breaking Down Barriers - Aiding Airport Travelers with Disabilities* webinar

"One of the best ACRP webinars I've seen in a while. As an FAA employee who works with airport planning, I've seen several presentations on airspace and they are usually inaccurate at best, wrong or dangerous at worst. This captured everything a sponsor should know and identified many of the nuances that can trip up sponsor best attempts at protecting the utility of their airport. Well done and thank you."

— Feedback on *Protecting Your Airspace - Implementing Obstruction Management Plans* webinar

"One of the better ACRP webinars I've participated in - very knowledgeable and articulate panel of presenters, and very well structured presentation. As usual, more time needs to be devoted to grasp and learn enough for the material to be applicable to my job and usable."

— Feedback on *Greener in Two Ways - Innovative Sustainability Solutions for Airports* webinar

"This was a very impressive webinar session. Good materials for newcomers and seasoned experts alike. Good overview of means and methods, rationale and reporting techniques. That North Dakota interactive website was impressive."

— Feedback on *Smooth Road Ahead - Applying Pavement Condition Data for Airports* webinar

Social Media

Social media provides a relevant and accessible platform for ACRP to reach new practitioners and stakeholders, engage with its existing network,

and highlight events and accomplishments. ACRP maintains an active presence on Facebook, Twitter, and LinkedIn.

| Social Media Engagement | | | |
|-------------------------|---|---|--|
| Month | Twitter Impressions <i>The number of interactions a tweet receives</i> | Twitter Engagements <i>The number of times a tweet is displayed online</i> | LinkedIn Impressions <i>The number of unique users who see a post or page</i> |
| 19-Nov | 7,117 | 48 | 0 |
| 19-Dec | 7,409 | 45 | 0 |
| 20-Jan | 9,136 | 56 | 0 |
| 20-Feb | 6,096 | 57 | 0 |
| 20-Mar | 9,760 | 156 | 2,466 |
| 20-Apr | 8,396 | 91 | 3,259 |
| 20-May | 9,121 | 94 | 4,177 |
| 20-Jun | 6,700 | 90 | 3,294 |
| 20-Jul | 9,529 | 137 | 3,063 |
| 20-Aug | 6,307 | 120 | 3,407 |
| 20-Sept | 3,675 | 31 | 1,783 |
| 20-Oct | 5,872 | 81 | 1,538 |

Website

ACRP's website is a complete repository of ACRP updates, activities, and products. The website is integral for providing up-to-date program information, announcing events and deadlines, and accessing ACRP research and other publications. ACRP continues to improve its website, which recently underwent a comprehensive overhaul that included a new design, user-friendly navigation, and enhanced search functionality.

In 2020, ACRP updated its website with new branding and program icons, a page dedicated to sharing the evolving industry information and guidance on COVID-19, a redesigned MyACRP dashboard, the newly launched Champion portal, new engaging web banners, and revitalized and refined content for ACRP subprograms.

| | |
|----------------------------------|--------|
| Total research product downloads | 94,836 |
| Total page views | 36,827 |
| Total users | 16,843 |

updated: 2 Sept 2020

ACRP is seeking nominations to serve on our new FY 2021 project panels. [Click here](#) to see the list of projects and for information on how to submit a nomination. The deadline for nominations is September 21st.

ACRP's NOVEL CORONAVIRUS DISEASE (COVID-19) RESPONSE
Updated: 29 June 2020
Following the situation of our parent organization the National Academy of Sciences, Engineering, and Medicine, the majority of our staff are working from home, until at least January 4, 2021. Business is continuing as usual, and we have worked out procedures to replace most of our paper-based correspondence with electronic distribution. Pending RFPs have been extended for four weeks and will be submitted electronically. There may be a few delays as we all get familiar with the new working environment, and your patience is appreciated. Our staff thanks all of our sponsors, volunteers, and contractors who make this program work. For more information, please contact Chris Hedges (Director, CRP) at chedges@acrponline.org.

ACRP RESOURCES RELATED TO INFECTIOUS DISEASES
Updated: 29 June 2020
ACRP has several resources that address public health preparedness, communicable disease and airports, emergency response, and other relevant topics. [Check out the list of resources.](#)

GET NOTIFIED OF ACRP RFPs AND PUBLICATIONS
RFPs for research projects are posted within a couple of weeks of the first panel meeting. To be notified of an RFP's posting and other ACRP news, subscribe to our listserv. To subscribe send an email to LISTSERV@acrponline.org and type: SUBSCRIBE ACRP ANNOUNCE in the body of the email.

Engage with ACRP (registration required)

- ACRP IdeaHub
- MyACRP
- SurveyZone

Represent ACRP

- ACRP Ambassadors
- ACRP Champion

Learn From ACRP

- Insight Events
- Webinars
- Impacts on Practice

ACRP Research Resources

- Research Roadmaps
- Web Resources

Excerpt from the ACRP Website.

PEER-TO-PEER OUTREACH

In addition to disseminating research online, ACRP prioritizes peer-to-peer communication and engagement. ACRP's Ambassador program and ACRP Champion program continue to foster meaningful, face-to-face interactions. The Ambassador and Champion programs target different sectors of aviation professionals and offer opportunities to meet new industry members, share ACRP research products, and learn how airports can benefit from ACRP research.

Champions

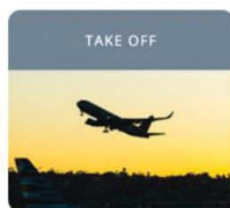
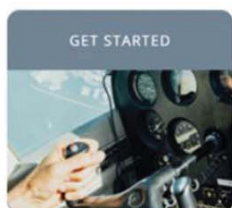
The ACRP Champion program provides opportunities for early- to mid-career professionals to grow their professional networks, facilitate and initiate research, and develop valuable ACRP expertise. ACRP Champions must be sponsored by their respective organization and complete a series of "missions" designed to build knowledge and drive engagement in ACRP's research and dissemination activities over a two-year period.

In 2020, ACRP revamped the Champion program to make the program more accessible, increase transparency, provide more opportunities for Champions to develop their professional network,

and get involved in ACRP research. To achieve these goals, ACRP launched the Champion portal on MyACRP. The new online platform presents the Champion program missions in a more transparent and user-friendly format, reduces dependence on email, and allows Champions to track and save their progress and easily report back to ACRP.

The newly restructured Champion "Flight Plan" features five missions that encourage Champions to accomplish tasks that relate to ACRP or ACRP research.

- **Get started:** Building a foundation of knowledge about ACRP, its research process, products, and ways to get involved.
- **Get connected:** Meeting and interacting with fellow Champions, ACRP Ambassadors, and other practitioners.
- **Take off:** Understanding the ACRP research process and how research impacts practice.
- **Mentor co-pilots:** Sharing ACRP solutions and inspiring others to get involved.
- **Onward and upward:** Forging new opportunities for Champions and their peers.



ACRP Champions must complete five missions throughout the program.

Ambassadors

The ACRP Ambassador program comprises a select group of experienced airport professionals that volunteer to attend conferences across the country to help amplify ACRP's reach. Ambassadors

staff exhibit booths and present ACRP research to encourage implementation, engage fellow practitioners in ACRP's research process, and share information and key messages about the program.



2020 Ambassadors (left to right). Top row: Matthew Dowell, Paul Khera. Middle row: Yvonne Chenevert, Diane Hofer, Rohini Kumarage, Chelsea Treboniak, Gary Schmidt, Gaël LeBris. Bottom row: Amber Leathers, Daphne Fuller, Adam Cohen, John Walewski, Andrew Ndolo. Not pictured: Erin Cooke.

Since its inception in 2012, the Ambassador program has facilitated Ambassadors in engaging thousands of practitioners at over 200 events across the United States and Canada.

Ambassador Event Attendance Since 2012



Impacts on Practice

ACRP's Impacts on Practice (IOP) series provides case studies on how industry practitioners have applied ACRP research results to assist with their work. Airport practitioners across the country have utilized ACRP publications to help improve airport administrative practices, develop safer and more effective operational procedures, and increase

performance efficiency. To generate new leads to develop into full case studies, ACRP administers surveys to learn how airports across the country implement its research. In recent years, ACRP has received hundreds of survey responses and testimonials. In 2020, ACRP published three IOPs.

IOPs published in 2020

Impacts on Practice: Measuring Success at Raleigh-Durham International Airport

Raleigh, North Carolina is one of the fastest growing metropolitan areas in the United States, and Raleigh-Durham International (RDU) has correspondingly experienced record growth since 2011. To address this growth, RDU used *ACRP Report 19: Developing an Airport Performance Measurement System* and *ACRP Report 19A: Resource Guide to Airport Performance Indicators* to develop a strategic plan outlining three main strategies. With the help of ACRP research, RDU then developed a Balanced Scorecard to measure the airport's performance and translate the plan's conceptual strategies into targeted actions for reaching their goals.

Impacts on Practice: ACRP in the Classroom: Reimagining the Textbook at the University of North Dakota Department of Aviation

Due to the constantly changing nature of the aviation industry, academic aviation textbooks can quickly become outdated as technologies, regulations, and standards evolve. This edition of ACRP's Impacts on Practice series shares the story of Dr. Kim Kenville, a professor in the Department of Aviation at the University of North Dakota, who decided to use *ACRP Research Report 16: Guidebook for Managing Small Airports* as a textbook in her classes as a way to offer her students free access to the latest industry best practices.

Impacts on Practice: Ensuring Safe Paramotor Operations at Emmet Municipal Airport

After receiving several complaints from pilots over the safety concerns of paramotors (ultralight, engine-powered paragliders), Emmett Municipal Airport in Emmett, Idaho needed to find a way to incorporate paramotor activities into its current air traffic operations to prevent airplane-paramotor accidents. Jennifer Schildgen, of the Idaho Transportation Division of Aeronautics, implemented research presented in *ACRP Synthesis 74: Combining Mixed-Use Flight Operations Safely at Airports* to provide recommendations for the City of Emmett to develop local procedures for all types of aeronautical activities. Since incorporating these procedures into its operations, Emmett Airport has not received any further complaints from airline pilots about the safety of airplane-paramotor interactions.

Appendix A: Publications of the Airport Cooperative Research Program

Publications of the Airport Cooperative Research Program (2007–2020)

Research Reports

| No. | Proj. No. | Title, Pages, Publication Year |
|-----|--------------|---|
| 1 | 11-02/Task 4 | 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 3 | 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 2 | Ground Access to Major Airports by Public Transportation, 214 p. (2008) |
| 5 | 11-02/Task 5 | 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) |
| 14 | 02-71 | Deicing Planning Guidelines and Practices for Stormwater Management Systems, Second Edition, 70 p. (2020) |
| 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) |
| 16 | 01-32 | Guidebook for Managing Small Airports, Second Edition (& WR 6), 362 p. (2019) |
| 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) |

Research Reports

| No. | Proj. No. | Title, Pages, Publication Year |
|-----|---------------|---|
| 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) |
| 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) |
| 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) |

Research Reports

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| 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) |

Syntheses (Project 11-03)

| No. | Topic No. | Title, Pages, Publication Year |
|-----|-----------|---|
| 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) |
| 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 | Table Top 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 Beverage 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) |
| 86 | S01-15 | Airport Operator Options for Delivery of FBO Services, 100 p. (2018) |
| 87 | S01-12 | Airport Participation in Oil and Gas Development, 90 p. (2018) |
| 88 | S02-16 | Airport Community, Water Quality Events, and the Aircraft Drinking Water Rule, 56 p. (2018) |
| 89 | S02-19 | Clean Vehicles, Fuels, and Practices for Airport Private Ground Transportation Providers, 64 p. (2018) |
| 90 | S04-19 | Incorporating ADA and Functional Needs in Emergency Exercises, 38 p. (2018) |
| 91 | S01-16 | Microgrids and Their Application for Airports and Public Transit (Joint: TCRP Syn. 137), 66 p. (2018) |
| 92 | S02-18 | Airport Waste Management and Recycling Practices, 52 p. (2018) |
| 93 | S02-17 | Sustainability's Role in Enhancing Airport Capacity, 74 p. (2018) |
| 94 | S01-17 | Attracting Investment at General Aviation Airports Through Public–Private Partnerships, 72 p. (2019) |
| 95 | S04-20 | Airport Incident Reporting Practices, 112 p. (2019) |
| 96 | S09-08 | Practices to Mitigate Alkali-Silica Reaction (ASR) Affected Pavements at Airports, 90 p. (2019) |
| 97 | S03-15 | How Airports Plan for Changing Airport Capacity: The Effects of Upgauging, 100 p. (2019) |
| 98 | S03-14 | Simulation Options for Airport Planning, 80 p. (2019) |
| 99 | S04-23 | Emergency Working Groups at Airports, 86 p. (2019) |
| 100 | S02-20 | Airport Greenhouse Gas Reduction Efforts, 118 p. (2019) |
| 101 | S07-02 | Communication Strategies for Airport Passenger Access and Mobility, 84 p. (2019) |
| 102 | S01-18 | Value, Benefits, and Limitations of Qualifications-Based Selection for Airport Project Delivery, 108 p. (2019) |
| 103 | S06-05 | Promoting Aviation Career Education in High Schools and Community Colleges, 166 p. (2019) |

Syntheses (Project 11-03)

| No. | Topic No. | Title, Pages, Publication Year |
|-----|-----------|---|
| 104 | S10-15 | Current Landscape of Unmanned Aircraft Systems at Airports, 114 p. (2019) |
| 105 | S04-22 | Airport Surface Weather Observation Options for General Aviation Airports, 104 p. (2019) |
| 106 | S01-19 | Airport Risk Identification and Prioritization Practices, 80 p. (2020) |
| 107 | S04-21 | Models for Law Enforcement of Airports, 92 p. (2020) |
| 108 | S01-20 | Characteristics of the FBO Industry 2018–2019, 92 p. (2020) |
| 109 | S04-25 | Escalator Falls, 88 p. (2020) |
| 110 | S02-21 | Airport Renewable Energy Projects Inventory and Case Examples, 124 p. (2020) |
| 111 | S01-22 | Last Mile in General Aviation – Courtesy Vehicles and Other Forms of Ground Transportation, 126 p. (2020) |
| 112 | S10-16 | Airport Operations Training at Small Airports, 154 p. (2020) |
| 113 | S06-06 | Airport Workforce Programs Supporting Employee Well-Being, 74 p. (2020) |
| 114 | S01-21 | Visual Arts Programs at Airports, 50 p. (2020) |

Web-Only Documents

| No. | Proj. No. | Title, Pages, Publication Year |
|-----|---------------|---|
| 1 | 01-03 | Analysis and Recommendations for Developing Integrated Airport Information Systems, 80 p. (2008) |
| 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) |
| 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. |
| 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) |

Web-Only Documents

| No. | Proj. No. | Title, Pages, Publication Year |
|-----|-------------------|--|
| 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), 91 p. (2018) |
| 34 | 02-47 | Assessing Aircraft Noise Conditions Affecting Student Learning—Case Studies, 257 p. (2017) |
| 35 | 02-80 | State of the Industry Report on Air Quality Emissions from Sustainable Alternative Jet Fuels, 41 p. (2018) |
| 36 | 02-55 | Enhanced AEDT Modeling of Aircraft Arrival and Departure Profiles, Vol. 1: Guidance Document, 47 p. (2018) |
| 36 | 02-55 | Enhanced AEDT Modeling of Aircraft Arrival and Departure Profiles, Vol. 2: Research Report, 74 p. (2018) |
| 37 | 11-02/Task 29 | Research Roadmap in the Area of Airport Operations and Maintenance, 34 p. (2019) |
| 38 | 03-40 | Technical Appendix to Air Demand in a Dynamic Competitive Context with the Automobile (& Rep. 204), 91 p. (2019) |
| 39 | 11-02/Task 33 | Policy and Planning Issues Roadmap Report, 42 p. (2019) |
| 40 | 11-02/Task 30 | Airport Design and Construction Narrative Research Roadmap, 34 p. (2019) |
| 41 | 02-80 | Alternative Jet Fuels Emissions: Quantification Methods Creation and Validation Report, 122 p. (2019) |
| 42 | 03-42 | Toolkits and Resource Library for Airports and Unmanned Aircraft Systems (& Rep. 212), 275 p. (2020) |
| 43 | 02-79 | Improving AEDT Modeling for Aircraft Noise Reflection and Diffraction from Terrain and Manmade Structures, 123 p. (2019) |
| 44 | 03-38 | Understanding FAA Grant Assurance Obligations, Vol. 1: Guidebook (& Rep. 184), 275 p. (2017) |
| 44 | 03-38 | Understanding FAA Grant Assurance Obligations, Vol. 2: Technical Appendices (& Rep. 184), 185 p. (2017) |
| 44 | 03-38 | Understanding FAA Grant Assurance Obligations, Vol. 3: Research Report (& Rep. 184), 43 p. (2017) |
| 44 | 03-38 | Understanding FAA Grant Assurance Obligations, Vol. 4: Summary of AIP Grant Assurance Requirements (& Rep. 184), 207 p. (2017) |
| 45 | 11-02/Task 32 | Airport Environmental Research Roadmap Narrative Report, 43 p. (2020) |
| 46 | 11-02/Task 28 | Recovering International Recyclables from In-flight Service, 52 p. (2020) |
| 47 | 02-81 | Commercial Space Operations Noise and Sonic Boom Measurements, 103 p. (2020) |
| 48 | 02-84 | Evaluating the Use of Spatially Precise Diurnal Population Data in Aviation Noise Studies, 81 p. (2020) |
| 49 | 11-02/Task 35 | Research Roadmap on Airport Administration & Human Resource Issues, 52 p. (2020) |
| 50 | 11-02/Task 36 | Research Roadmap on Safety Issues, 45 p. (2020) |

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) |
| 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) |

CDs

| No. | Proj. No. | Title, Publication Year |
|-----|----------------------|--|
| 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) |
| 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 Appendixes 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) |

CDs

| No. | Proj. No. | Title, Publication Year |
|-----|-----------|--|
| 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) |

WebResources

| No. | Proj. No. | Title, Pages, 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) |
| 3 | 02-71 | Airport Stormwater Electronic Resource Library and Training Materials: Update (2020) |
| 4 | 02-67 | Airport Air Quality Resource Library (& Rep. 185) (2018) |
| 5 | 01-27 | Tools and Case Studies for NextGen for Airports (2018) |
| 6 | 01-32 | Resources for Managing Small Airports (& Rep. 16 Second Edition) (2018) |
| 7 | 09-16 | Best Practices for Airport Obstruction Management Library (& Rep. 195) (2019) |
| 8 | 04-23 | Integrating Social Media with Emergency Management at Airports (2020) |
| 9 | 04-19A | Airport Emergency Plan Development Tool (2020) |

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) |
| 55 | 11-08B (16-03) | Airport Roles in Reducing Transmission of Communicable Diseases: Proceedings of a Workshop of the Airport Cooperative Research Program's 2018 Insight Event, 31 p. (2019) |

Conference Proceedings on the Web

| No. | Proj. No. | Title, Pages, Publication Year |
|-----|----------------|--|
| 23 | 11-08A (16-02) | Social/Economic Sustainability at Airports: Proceedings of a Workshop of the Airport Cooperative Research Program's 2018 Insight Event, 21 p. (2019) |
| 24 | 11-08 | Challenges to Implementing Successful Land Use Strategies at Airports: Proceedings of a Workshop, 31 p. (2019) |
| 26 | 11-08 (16-04) | Public–Private Partnerships—What Are the Lessons Learned?, 46 p. (2020) |
| 27 | N/A | Flight Plan to Recovery: Preparing Airports for the Return of the Traveling Public, 84 p. (2020) |

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.

Appendix B: Summary of Project Status Through December 31, 2020

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|---------------------------|---|---|-----------------|---------------------------------|------------|------------|--|----------------|---------------|
| 01: Administration | | | | | | | | | |
| 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 | | |
| 01-12 | A Primer for Information Technology Systems at Airports | \$350,000(09) | \$348,843 | Faith Group, LLC | 7/7/2009 | 5/31/2011 | Completed - Published as Report 59 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|---|---------------------------------|-----------------|--------------------------------------|------------|------------|--|----------------|---------------|
| 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 - 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 - 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 - Published as Report 69 | | |
| 01-17 | Guidebook for Developing General Aviation Airport Business Plans | \$400,000(10) | \$398,350 | Aviation Management Consulting Group | 6/28/2010 | 6/1/2012 | Completed - Published as Report 77 | | |
| 01-18 | Application of Enterprise Risk Management at Airports | \$350,000(10) | \$350,000 | Marsh, USA | 6/30/2010 | 3/30/2012 | Completed - Published as Report 74 | | |
| 01-19 | Airport Capital Improvements: A Business Planning and Decision-Making Approach | \$400,000(11) | \$400,000 | MCR Federal, LLC | 7/13/2011 | 7/31/2014 | Completed - 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 - Published as Report 87 | | |
| 01-21 | A Guidebook for Airport-Airline Consortia | \$400,000(12) | \$387,642 | AVAirPros | 6/1/2012 | 4/1/2014 | Completed - 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 - Published as Report 116 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|--|---------------|-----------------|-------------------------------------|------------|------------|---|--|----------------|
| 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 WebResource 5 | | |
| 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 | 3/29/2019 | Completed - database provided to NASAO | | |
| 01-30 | Airport Management Guide for Providing Aircraft Fuel Services | \$350,000(16) | \$350,000 | KRAMER aerotek, Inc. | 10/1/2016 | 6/30/2018 | Completed - Published as Research Report 192 | | |
| 01-31 | Innovative Solutions to Facilitate Accessibility for Airport Travelers with Disabilities | \$350,000(16) | \$349,973 | Open Doors Organization | 6/16/2016 | 4/15/2019 | Completed - Published as Research Report 210 | | |
| 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 | Completed - Published as WebResource 6 | | |
| 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 | Completed - Published as Research Report 191 | | |
| 01-34 | Developing Innovative Strategies for Aviation Education and Participation | \$400,000(16) | \$350,000 | Mead & Hunt Inc. | 9/21/2016 | 12/31/2018 | Completed - Published as Report 202 | | |
| 01-35 | Transportation Network Companies (TNC's): Impacts To Airport Revenues and Operations | \$500,000(18) | \$498,512 | Ricondo & Associates | 2/14/2017 | 9/30/2019 | Completed- Published as Report 215 | | |
| 01-36 | Guidebook for Developing State Aviation System Plans | \$300,000(18) | \$299,999 | Kimley-Horn & Associates | 4/29/2019 | 10/31/2020 | Research in Progress | A. Velayos C. Nutting J. Raymond | M. Griffin |
| 01-37 | Performance Measures for State Aviation Agencies | \$250,000(18) | \$250,000 | Mead & Hunt Inc. | 6/18/2018 | 3/20/2020 | Completed- Published as Researc Report 223 | K. Erhard B. Gearhart C. Fields | M. Greenberger |
| 01-38 | Market Characteristics for Property at Small Airports | \$200,000(18) | \$200,000 | Aviation Management Consulting Inc. | 5/9/2018 | 3/20/2020 | Completed - Published as Report 213 | G. Loftus A. Walter R. Etter | M. Greenberger |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|---|----------------|-----------------|--------------------------------|------------|------------|----------------------|----------------|---------------|
| 01-39 | Creating Marketing Techniques to Improve Revenue Generation Partnerships | \$300,000 (19) | \$300,000 | Global Dynamics Group | 10/6/2019 | 10/5/2020 | Research in Progress | D. Duchow | J. Navarrete |
| 01-40 | Evaluating the Traveler's Perspective to Improve the Airport Customer Experience | \$500,000 (19) | \$500,000 | IOS Partners, Inc. | 5/1/2019 | 10/31/2020 | Research in Progress | J. Raymond | T. Schatz |
| 01-41 | Blockchain Technology and Airports -A Primer | \$330,000 (19) | \$0 | | | | In Development | | T. Schatz |
| 01-42 | Review of Airport Governance Structures | \$300,000 (19) | \$300,000 | Crawford, Murphy & Tilly, Inc. | 4/24/2019 | 7/23/2020 | Research in Progress | M. Vasconcelos | M. Griffin |
| 01-43 | Conducting Consumer Research of Air Passengers | \$450,000 (19) | \$450,000 | JD Frantz Research, Inc. | 6/10/2019 | 12/9/2020 | Research in Progress | W. Reinhardt | J. Navarrete |
| 01-44 | Airport Insurance Requirements | \$300,000 (20) | \$299,133 | Eastern Research Group | 7/20/2020 | 10/19/2021 | Research in Progress | C. Gillette | M. Griffin |
| 01-45 | Updated Guidebook for Airport Project Delivery Systems | \$450,000 (20) | \$450,000 | HKA Global | 5/8/2020 | 11/08/2021 | Research in Progress | S. Scott | M. Griffin |
| 01-46 | Geospatial Data Governance—Organization Factors and Best Practices for Airports | \$450,000 (20) | \$0 | Arora | | | In Development | | M. Griffin |
| 01-47 | Guide to Airport Innovation—Creating an Organizational Fit for the Future | \$300,000 (20) | \$300,000 | Barich, Inc | 9/11/2020 | 12/10/2021 | Research in Progress | J. Phy | M. Griffin |
| 01-48 | Assessing the Effectiveness of Airport Services and Programs for Passengers with Disabilities | \$500,000 (20) | \$500,000 | IOS Partners, Inc | 5/5/2019 | 11/03/2021 | Research in Progress | W. Major | T. Schatz |
| 01-49 | Knowledge is Power: Knowledge Management Guidelines to Help Airports Thrive | \$350,000 | \$0 | | | | In Development | | T. Schatz |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|------------------------|---|---------------|-----------------|--------------------------------------|------------|------------|---|----------------|---------------|
| 02: Environment | | | | | | | | | |
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|---|-------------------------------|-----------------|---|------------|------------|---|----------------|---------------|
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------|---|---|-----------------|------------------------------------|------------|------------|--|----------------|---------------|
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|---|---------------|-----------------|------------------------------------|------------|------------|---|----------------|---------------|
| 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 | | |
| 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 | | |

| 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 | Completed- Published as Web doc 36 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|---|--------------------------------|-----------------|---|------------|------------|---|----------------|---------------|
| 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. | 5/1/2015 | 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 - Published as Report 183 and Web Doc 33 | | |
| 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 - Published as Report 185 and WebResource 4 | | |
| 02-68 | Strategies for Reducing Local Stormwater Utility Fees for Airports | \$350,000(16) | \$325,000 | The Cadmus Group, LLC | 9/21/2016 | 6/29/2018 | Completed - Published as Report 193 | | |
| 02-69 | Integrating Airport Sustainability and the NEPA Process | \$400,000(16) | \$400,000 | Vanasse Hangen Brustlin, Inc. | 9/29/2016 | 1/31/2019 | Completed - Published as Research Report 209 | | |
| 02-70 | Wetland Mitigation—A Guidebook for Airports | \$400,000(16) | \$399,996 | The Smart Associates, Environmental Consultants, Inc. | 9/29/2016 | 12/31/2018 | Completed-- Published as Research Report 198 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|---|---------------|-----------------|--|------------|------------|--|----------------|----------------|
| 02-71 | Guidebook and Decision Tool for Managing Airport Stormwater Containing Deicers | \$500,000(16) | \$400,000 | Mead & Hunt, Inc. | 8/19/2016 | 12/31/2018 | Completed- Publication Published as Report 14 | | |
| 02-72 | Developing a Comprehensive Renewable Resources Strategy | \$300,000(16) | \$300,000 | Cadmus Group, LLC | 9/29/2016 | 8/31/2018 | Completed- Publication Published as Report 197 | | |
| 02-73 | Interactive Tool for Understanding NEPA at General Aviation Airports | \$250,000(16) | \$249,864 | RS&H, Inc. | 8/5/2016 | 3/31/2019 | Completed - Published as Research Report 211 | | |
| 02-74 | Using Existing Airport Management Systems to Manage Climate Risk | \$400,000(16) | \$399,971 | ICF Incorporated | 9/23/2016 | 10/31/2018 | Completed- Published as Research Report 188 | | |
| 02-75 | Benefit-Cost Analyses Guidebook for Airport Stormwater | \$450,000(16) | \$325,000 | The Cadmus Group, LLC | 9/21/2016 | 12/31/2018 | Completed - Published as Research Report 208 | | |
| 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 | 3/8/2019 | Completed - Published as Research Report 207 | | |
| 02-77 | Revolving Funds for Sustainability Projects at Airports | \$350,000(17) | \$350,000 | Rocky Mountain Institute | 6/6/2017 | 2/5/2019 | Completed - Published as Research Report 205 | | |
| 02-78 | Climate Resilience and Benefit Cost Analysis--A Handbook for Airports | \$450,000(17) | \$450,000 | GRA, Inc. | 5/18/2017 | 1/14/2019 | Completed - Published as Research Report 199 | | |
| 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 | 8/30/2019 | Completed - Published as Web-Only Doc 43 | | |
| 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 | 5/31/2019 | Completed - Published as Web-Only Doc 41 | | |
| 02-81 | Commercial Space Transportation Noise Measurements | \$600,000(17) | | Blue Ridge Research and Consulting LLC | 8/1/2017 | 3/31/2020 | Completed-Published as Web-Only Document 47 | | |
| 02-82 | Developing a Roadmap to to Achieve Zero-Emissions Status | \$350,000(18) | \$350,000 | Cadmus Group, LLC | 6/20/2018 | 10/19/2019 | Completed- Published as Report 220 Pre-Pub | | M. Greenberger |
| 02-83 | Measuring Quality of Life in Communities Surrounding Airports | \$400,000(18) | | Harris Miller, Miller, & Hanson Inc. | 4/30/2018 | 12/31/2019 | Completed- Published as Report 221 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------------------------------|---|---------------|-----------------|--|------------|------------|---|--------------------------------|---------------|
| 02-84 | Evaluating the Use of Spatially Precise Diurnal Population Data in Aviation Noise Studies | \$300,000(18) | | Metron Aviation, Inc. | 5/8/2018 | 5/29/2020 | Completed- Published as Web-Only Document 48 | | |
| 02-85 | Commercial Space Vehicle Emissions Modeling | \$450,000(18) | \$449,973 | Blue Ridge Research and Consulting LLC | 6/1/2018 | 11/30/2020 | Research in Progress | R. Halthore J. Johnson | J. Navarrete |
| 02-86 | Measuring the Impact of Temporary Flight Restriction on Airports | \$400,000(18) | \$400,000 | Metron Aviation, Inc. | 5/25/2018 | 11/30/2019 | Completed- Published as Report 224 | | |
| 02-87 | Determining Airfield Pavement Deice and Anti-Icer Contributions to Airport Stormwater | \$400,000(18) | \$350,000 | LimnoTech Inc. | 6/1/2018 | 12/31/2020 | Research in Progress | M. Lamprecht J. Barrilleaux | J. Navarrete |
| 02-88 | Techniques for Modifying NextGen Flight Track Design to Reduce Noise Exposure and Annoyance | \$400,000 | \$0 | | | | Cancelled | | |
| 02-89 | Industry Survey—Benefits and Costs for Airport Noise and Operations Monitoring Systems | \$250,000 | \$249,940 | Landrum & Brown | 4/27/2020 | 10/27/2021 | Research in Progress | B. He | J. Navarrete |
| 02-90 | Update the Airport Construction Emission Inventory Tool (ACEIT) | \$350,000 | \$350,000 | | | | In Development | T. Cuddy | J. Navarrete |
| 02-91 | Development of Forensic Guidelines and Tools for PFAS Source Differentiation at Airports | \$490,000 | | | | | In Development | | J. Navarrete |
| 02-92 | General Aviation Airports and Resilience: Complete Toolkits for Self-Directed Planning | \$320,000 | \$0 | | | | In Development | | M. Griffin |
| 02-93 | Guidebook for Environmental Management of PFAS at Airports | \$350,000 | \$0 | | | | In Development | | J. Navarrete |
| 03: Policy and Planning | | | | | | | | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|--|---------------|-----------------|--------------------------------|------------|------------|---|----------------|---------------|
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|--|---------------|-----------------|-------------------------------------|------------|------------|---|----------------|---------------|
| 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 | | |
| 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 85 | | |
| 03-22 | Addressing Uncertainty About Future Airport Activity Levels in Airport Decision Making | \$350,000(10) | \$350,000 | InterVISTAS Consulting Group | 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 | CDM/Wilbur 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 Multi- Airport Regions | \$250,000(11) | \$250,000 | InterVISTAS Consulting Group | 8/4/2011 | 9/30/2013 | Completed - Published as Report 98 | | |

| 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 | 6/28/2018 | Completed - Published as Report 194 | | |
| 03-37 | Using GIS for Collaborative Land Use Compatibility Near Airports | \$350,000(15) | \$350,000 | Grafton Technologies | 8/26/2015 | 8/31/2018 | Completed- Published as Report 200 | | |
| 03-38 | Understanding FAA Grant Assurance Obligations | \$150,000(15) | \$150,000 | Unison Consulting, Inc. | 7/28/2015 | 5/2/2017 | Completed - Published as Research Report 184 | | |
| 03-39 | Generating Revenue from Commercial Development On or Adjacent to | \$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 | 1/15/2020 | Completed - Published as Research Report 204 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|--|-----------------|-----------------|-----------------------------|------------|------------|--|----------------------------|----------------|
| 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 | Completed - Published as Research Report 190 | | |
| 03-42 | Airports and UAS | \$1,000,000(17) | \$999,957 | Booz Allen Hamilton | 2/3/2017 | 6/1/2019 | Completed - Published as Pre-pub Research Report 212 | | |
| 03-43 | Integrating Airport Ground Access and Metropolitan Surface Transportation Planning Efforts | \$500,000(17) | \$326,173 | WSP | 4/27/2017 | 1/29/2020 | Completed - Published as Research Report 216 | | |
| 03-44 | Best Practices in Building Air Service Through Incentive Programs | \$400,000(17) | \$324,863 | GRA, Inc. | 4/11/2017 | 1/29/2020 | Completed - Published as Research Report 218 | 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 | 2/28/2020 | Completed- Published as Research Report 222 | P. Davenport S. Gardner | M. Greenberger |
| 03-46 | Implementing Privatization: Guidance for Airport Decision- Makers | \$350,000(18) | \$349,985 | WSP | 4/24/2018 | 6/30/2020 | Completed- Publication Pending | C.Cason | T. Schatz |
| 03-47 | Rethinking Airport Parking Facilities to Protect and Enhance Non-Aeronautical Revenue | \$450,000(18) | \$450,000 | Intervistas | 4/18/2018 | 5/15/2020 | Completed- Publication Pending | L. McDonald | T. Schatz |
| 03-48 | Advanced Ground Vehicle Technologies (AGVT) for Airside Operations | \$250,000(18) | \$250,000 | Purdue University | 7/9/2018 | 10/8/2019 | Completed- Published as Research Report 219 | M.Woods | M. Greenberger |
| 03-49 | Effective Collaboration to Plan and Respond to Communicable Disease Threats | \$600,000 (19) | \$600,000 | Eastern Research Group, Inc | 3/15/2019 | 03/31/2021 | Research in Progress | | M. Greenberger |
| 03-50 | An Airport-Centric Study of the Urban Air Mobility Market | \$350,000 (19) | \$350,000 | Ascension Group | 7/3/2019 | 03/14/2021 | Research in Progress | N.Sizou M. Washington | J. Navarrete |
| 03-51 | Electric Aircraft on the Horizon-an Airport Planning Perspective | \$450,000 (19) | \$449,820 | WSP USA, Inc. | 6/14/2019 | 03/14/2021 | Research in Progress | C. Nutting | J. Navarrete |
| 03-52 | Airport Common Use Program Development Guidebook | \$400,000 (20) | \$400,000 | Barich, Inc. | 4/30/2020 | 12/29/2021 | Research in Progress | L. Loarte | T. Schatz |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------------------|---|----------------|-----------------|--------------------------------|------------|------------|-----------------------------------|----------------|---------------|
| 03-53 | Development of Baggage Handling System Decision Making Framework Based on Total Cost of Ownership | \$340,000 (20) | \$344,666 | Studdiford Technical Solutions | 5/20/2020 | 11/20/2021 | Research in Progress | C. Nutting | J. Navarrete |
| 03-54 | General Aviation Airports Runway Length Analysis | \$300,000 (20) | \$300,000 | Virginia Tech | 6/12/2020 | 12/11/2021 | Research in Progress | K.Duffy | J. Navarrete |
| 03-55 | Airport Biometrics—A Primer | \$250,000 (20) | \$250,000 | InterVistas | 5/7/2020 | 02/08/2021 | Research in Progress | | T. Schatz |
| 03-56 | Airside Planning, Design, and Operations: Electronic Resource Library | \$300,000 (20) | \$300,000 | Hanson, Inc | 5/5/2020 | 10/31/2021 | Research in Progress | K.Kennedy | T. Schatz |
| 03-57 | Understanding Coming Improvements and Transformations in Wireless Connectivity: Concepts for Smarter Airports | \$400,000 (20) | \$400,000 | Skymanatics, LLC | 6/22/2020 | 12/22/2021 | Research in Progress | R. Sanchez | T. Schatz |
| 03-58 | Measuring the Effect of Changes in Air Service Connectivity on Regional Economic Development | \$500,000 (20) | \$500,000 | InterVistas | 5/18/2020 | 11/17/2021 | Research in Progress | S.Glasgow | J. Navarrete |
| 03-59 | Airports and the Homeless | \$400,000 | \$0 | | | | In Development | | J. Navarrete |
| 03-60 | Incorporating Shock Events into Traffic and Forecasting and Airport Planning | \$450,000 | \$0 | | | | In Development | | M. Griffin |
| 03-61 | Assessing and Improving Data Analytic Capabilities in Airports | \$300,000 | \$0 | | | | In Development | | M. Griffin |
| 03-62 | Scenario-Based adaptive Airport Catchment Area Mapping | \$300,000 | \$0 | | | | In Development | | T. Schatz |
| 03-63 | Modernizing Air Cargo Operations in U.S. Airports | \$300,000 | \$0 | | | | In Development | | T. Schatz |
| 04: Safety | | | | | | | | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|---------|---|---------------|-----------------|---|------------|------------|--|----------------|---------------|
| 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 Simulations, 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 | 3/30/2018 | Completed-Published as Report 187 | | |
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------|---|----------------|-----------------|---------------------------------------|------------|------------|-------------------------------------|-------------------------------|---------------|
| 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 | | |
| 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 | 8/31/2018 | Completed- See 04-19A | M. Tonnacliff | J. Navarrete |
| 04-19A | Airport Emergency Planning Template Tool Enhancements | \$190,000 (19) | \$190,000 | Ankura Consulting, Inc. | 3/15/2019 | 8/21/2021 | Research in Progress | M. Tonnacliff J. Showalter | J. Navarrete |
| 04-20 | Design Considerations for Airport EOCs | \$400,000(16) | \$249,900 | Faith Group, LLC | 8/23/2016 | 3/30/2018 | Completed - Published as Report 189 | | |
| 04-21 | Emergency Communication Models for Persons with Disabilities and Non-English Speakers | \$400,000(17) | \$400,000 | Innovative Emergency Management | 5/18/2017 | 11/18/2018 | Completed- Published as Report 201 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|---------------------|--|---------------|-----------------|----------------------------|------------|------------|--|------------------------------|----------------|
| 04-22 | Evaluating Compatibility Zoning at General Aviation Airports | \$350,000(17) | \$350,000 | Mead & Hunt | 5/23/2017 | 1/31/2019 | Completed - Published as Research Report 206 | | |
| 04-23 | Guidebook for Creating and Maintaining Social Media for Emergency Management at Airports | \$350,000(18) | \$350,000 | Barich Inc | 3/12/2018 | 02/15/2020 | Completed - Published as WebResource 8 | J. Showalter M. Tonnaciff | M. Greenberger |
| 04-24 | Airport Contributions to the Study, Investigation, and Interdiction of Human Trafficking | \$500,000 | \$400,000 | | 6/8/2020 | 6/8/2022 | Research in Progress | E. Black | J. Navarrete |
| 04-25 | Airports and Pandemics---Reducing the Spread of Communicable Diseases | \$900,000 | \$0 | | | | In Development | | J. Navarrete |
| 04-26 | A Framework for Airport Evacuation: Assessment of Landside Capacity Using Micro-Meso Simulation Tool | \$400,000 | \$0 | | | | In Development | | M. Griffin |
| 04-27 | Effective Practices for Monitoring and Managing Tree Growth Off the Airport | \$300,000 | \$0 | | | | In Development | | T. Schatz |
| 04-28 | Investigating the Potential Alternative Materials and Configurations for EMAS Design | \$575,000 | \$0 | | | | In Development | | T. Schatz |
| 04-29 | Transportation Emergency Response Application (TERA): Migration Options Beyond 2020 | \$50,000 | \$0 | | | | In Development | | S. Parker |
| 05: Security | | | | | | | | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|----------------------------|---|--------------------------------|-----------------|------------------------------------|------------|------------|--|----------------|---------------|
| 06: Human Resources | | | | | | | | | |
| 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 | | |
| 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 | 4/15/2018 | Completed - Published as Report 186 | | |
| 06-05 | Guidance for Diversity in Airport Businesses Contracting and Workforce Programs | \$500,000(18) | | The Cadmus Group | 5/25/2018 | 9/24/2019 | Completed- Published as Report 217 | | |
| 06-06 | Cultivating Talent in the Airport Environment | \$250,000(19) | \$250,000 | ICF Incorporated | 5/24/2019 | 11/23/2020 | Completed - Publication Pending | R. Didio | T. Schatz |
| 06-07 | Enhancing Academic Programs to Cultivate Future Airport Industry Professionals | \$300,000 (19) | \$300,000 | The Ohio State University | 6/1/2019 | 11/23/2020 | Completed - Publication Pending | T. Cuddy | T. Schatz |
| 06-08 | Human Factors in Airport Operations | \$400,000 (19) | \$0 | Futron Aviation | 7/19/2019 | 3/21/2021 | Research in Progress | | M. Griffin |
| 07: Design | | | | | | | | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------|---|---------------|-----------------|---------------------------------------|------------|------------|--|-----------------------------|---------------|
| 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 | | |
| 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 | | |
| 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 | | |
| 07-15A | Airport Passenger Terminal Design Library-Updates to ACRP WebResource 2 | \$250,000(19) | \$250,000 | Intermodal Logistics Consulting, Inc. | 5/24/2019 | 5/23/2022 | Research in Progress | W. Reinhardt | T. Schatz |
| 07-16 | Airport Terminal Ancillary Service Spaces and Restroom Planning and Design | \$350,000(18) | \$349,837 | Alliance | 2/28/2018 | 5/29/2020 | Completed- Publication Pending | W. Reinhardt M. Sedarous | J. Navarrete |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------------------------|--|----------------|-----------------|---|------------|------------|---|----------------|---------------|
| 07-17 | Update ACRP Report 40: Airport Curbside and Terminal Area Roadway Operations | \$500,000 (20) | \$500,000 | InterVISTAS Consulting Incorporated | 10/1/2020 | 03/31/2022 | Research in Progress | P. Mandle | M. Griffin |
| 07-18 | Develop Airfield Design Guidelines for Unmanned Aerial Vehicles | \$400,000 (20) | \$399,918 | Woolpert, Inc. | 5/11/2020 | 09/10/2021 | Research in Progress | J. Schroeder | T. Schatz |
| 08: Construction | | | | | | | | | |
| 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 | Guidebook for Integrating Collaborative Partnering into Traditional Airport Practices | \$350,000(17) | \$350,000 | Michigan State University | 5/1/2017 | 1/31/2019 | Completed - Published as Research Report 196 | | |
| 08-03 | Construction Safety and Phasing Plans | \$250,000(19) | \$250,000 | Garver | 8/21/2019 | 11/20/2020 | Completed- Publication Pending | | M. Griffin |
| 09: Maintenance | | | | | | | | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-------|--|---------------|-----------------|---|------------|------------|---|----------------|----------------|
| 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-Publication Pending | | |
| 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 | | |
| 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 | 1/30/2020 | Completed - Published as Report 214 | | |
| 09-16 | Best Practices for Airport Obstruction Management | \$300,000(17) | \$299,981 | Hanson Professional Services | 2/15/2017 | 12/31/2018 | Completed- Published as Research Report 195 and WebResource 7 | | |
| 09-17 | Collecting, Applying, and Maintaining Pavement Condition Data at Airports | \$250,000(17) | \$250,000 | Applied Pavement Technology, Inc. | 4/17/2017 | 12/31/2018 | Completed- Published as Report 203 | | |
| 09-18 | Rapid Airfield Concrete Pavement Slab Replacement and Patching | \$400,000(19) | \$400,000 | Nichols Consulting Engineers | 4/24/2019 | 3/15/2021 | Research in Progress | | M. Greenberger |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-----------------------|--|--|-----------------|------------------------------------|------------|------------|---|----------------|---------------|
| 09-19 | Airfield Pavement Markings- Effective Removal and Temporary Application Techniques | \$450,000(19) | \$450,000 | Texas A&M Transportation Institute | 6/1/2019 | 11/30/2020 | Research in Progress | J. Carlini | M. Griffin |
| 09-20 | Consequences of Delayed Maintenance of Airport Assets | \$300,000 (20) | \$0 | | | | In Development | | M. Griffin |
| 09-21 | Guidelines for the Effective Transition of Asset Data from Design/Construction to Operations and Maintenance | \$400,000 (20) | \$400,000 | | | | In Development | | M. Griffin |
| 10: Operations | | | | | | | | | |
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------|--|---------------|-----------------|------------------------------|------------|------------|--|----------------|---------------|
| 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 | | |
| 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 | | |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------|--|----------------|-----------------|--------------------------------|------------|------------|---|---------------------------------|---------------|
| 10-20 | Guidance for Planning, Design, and Operations of Airport Communications | \$300,000(13) | \$251,700 | TranSecure, Inc. | 8/9/2013 | 1/15/2015 | Completed - Published as Report 182 | | |
| 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 | | |
| 10-26 | Airport Microgrid Implementation Toolkit | \$450,000(18) | \$450,000 | Rocky Mountain Institute | 6/22/2018 | 5/31/2020 | Completed- Publication Pending | J. Wolfers-Lawrence T. Cuddy | T. Schatz |
| 10-27 | Using Collaborative Decision Making to enhance the Management of Adverse Conditions, IROPS, and Crises | \$300,000(19) | \$300,000 | WSP | 7/8/2019 | 9/15/2020 | Completed- Publication Pending | E.Cole S. Gardner | T. Schatz |
| 10-28 | Guide for Integrating Crisis Management and Business Continuity at Airports | \$500,000 (20) | \$499,973 | Hagerty Consulting, Inc | 5/27/2020 | 02/26/2022 | Research in Progress | P. Van Horn | M. Griffin |
| 10-29 | Development of Predictive Model for Jet Blast Exposure | \$450,000 (20) | \$449,983 | | 8/1/2020 | 02/01/2022 | Research in Progress | R.Bale | J. Navarrete |
| 10-30 | Guidelines for Systematically Evaluating the Effectiveness of an Airport's Wildlife Hazard Management Plan | \$400,000 (20) | \$400,000 | | | | In Development | J. Weller | T. Schatz |
| 10-31 | Remote Airport Ramp Control Facilities—Guidelines for U.S. Airports | \$350,000 (20) | \$350,000 | | | | In Development | K. Duffy | T. Schatz |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|-----------------------------|--|---|-----------------|-------------------------------|------------|----------|-------------------------------------|----------------|----------------|
| 10-32 | Airside Automated Ground Vehicle Technology (AGVT) Demonstration to Support Airport Operations | \$450,000 (21) | \$0 | | | | In Development | | M. Griffin |
| 11: Special Projects | | | | | | | | | |
| 11-01 | Legal Aspects of Airport Programs | \$200,000(06) \$475,000(07) \$300,000(08) \$600,000(09) \$500,000(10) \$50,000(11) \$200,000(12) \$50,000(13) \$200,000(14) \$350,000(15) \$200,000(16) \$75,000(17) \$240,000(18) \$240,000(19) | | Transportation Research Board | 2/1/2006 | | Continuing Project: See 11-01 Table | D. Fuller | T. Schatz |
| 11-02 | Quick Response for Special Needs | \$590,000(06) \$467,000(07) \$1,000,000(08) \$25,000(09) \$250,000(10) \$100,000(11) \$40,000(12) \$216,000(13) \$123,576(14) \$250,000(15) \$149,500(17) \$230,000(18) \$300,000(19) | | Various | 2/1/2006 | | Continuing Project: See 11-02 Table | L. Miller | M. Greenberger |
| 11-02/ Task 39 | Quick Response: Identifying and Implementing Contact-Less Technologies at Airports | \$100,000 | \$0 | | | | In Development | | T. Schatz |
| 11-02/ Task 40 | Quick Response: Organizational Redesign | \$100,000 | \$0 | | | | In Development | | M. Greenberger |

| 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) \$ 495,000(19) | | Transportation Research Board | 2/1/2006 | | Continuing Project: See 11-03 Table 3, 4, 8, 12, 13, 17, 18, 22, and 23 | P. Magnotta | K. Ahearn |
| 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) \$595,000(19) \$300,425(20) | | 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) (19) (20) | | Old Dominion University Research | 5/9/2014 | 1/31/2022 | 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) \$900,000(19) \$1,173,473(20) | | Various | | | Continuing Project | J. Showalter | M. Greenberger |

| No. | Title | Allocation | Contract Amount | Contractor | Start Date | End Date | Status | FAA Liaison(s) | Staff Officer |
|--------------|--|--------------------------------|-----------------|-------------------------------|------------|------------|---|----------------|----------------|
| 11-06 | Evaluating ACRP Processes | \$250,000(10) | | Transportation Research Board | | | Completed - Results to AOC | | |
| 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. Greenberger |
| 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 | Completed - Published as CPW 24 | | |
| 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 | Completed-Published as CPW 23 | | |
| 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 | Completed- Published as Conference Proceedings 55 | | |
| 11-08(16-04) | Public Private Partnerships - What Are the Lessons Learned? | \$100,000(16) | \$119,994 | Eastern Research Group | 10/13/2017 | 12/11/2019 | Completed- Published as CPW 26 | | |
| 11-08(19-01) | Blockchain Technology and Airports | \$120,000 | \$119,929 | Eastern Research Group | 3/21/2019 | 12/31/2020 | Research in Progress | | T. Schatz |
| 11-08(20-01) | Future of Aviation | \$120,000 | \$119,932 | HMMH | 1/31/2020 | 01/31/2023 | Research in Progress | | J. Navarrete |
| 11-08(20-02) | On Demand Aviation Services for Passengers and Goods | | \$119,963 | Eastern Research Group | 3/23/2020 | 03/22/2021 | Research in Progress | C. Gillette | M. Griffin |
| 11-08/ 21-01 | ACRP Insight Event – Future of Airport Finances | \$170,000 | \$0 | | | | In Development | | M. Griffin |
| 11-08/ 21-02 | ACRP Insight Event –Issues on Systemic Racism | \$170,000 | \$0 | | | | In Development | | J. Navarrete |
| 11-11 | Facilitating Implementation of ACRP Products | \$500,000 | \$0 | | | | In Development | | M. Greenberger |

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, 2018 | 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 | |
| 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 | |

ACRP PROJECT 11-01 (continued)

| No. | Title | Consultant | Start Date | Estimated Completion Date | Staff Officer |
|-------|---|-----------------------------|----------------|--|---------------|
| 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 | CDM | 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) | |
| 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 | |

ACRP PROJECT 11-01 (continued)

| No. | Title | Consultant | Start Date | Estimated Completion Date | Staff Officer |
|-------|---|---------------------------------|----------------|---|----------------|
| 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 | Completed - Published as Legal Research Digest 36 | |
| 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 | |
| 08-04 | Legal Consideration in the Funding and Development of Multi-Modal Facilities | Timothy Karaskiewicz | May 2016 | Completed - Published as Legal Research Digest 35 | |
| 09-01 | Airport Public Health Preparedness & Response: Legal Rights, Powers & Duties | University of Arizona | February 2017 | Completed - Published as Legal Research Digest 34 | |
| 09-02 | Legal Issues Relating to Airports Promoting Competition | Kaplan Kirsch Rockwell, LLP | February 2017 | Completed- Published as Legal Research Digest 37 | |
| 09-03 | Permitted Airport Involvement in Economic Development Efforts | William J. Estes | April 2017 | Terminated | M. Greenberger |
| 10-01 | Update of Compilation of FAA/DOT Airport Legal Determinations | Ravich Law Firm, PA | April 2018 | Research in Progress | M. Greenberger |
| 10-02 | Legal Issues Relating to Large Scale Airport Construction Projects | University of Nevada, Las Vegas | October 2017 | Completed - Published as Legal Research Digest 38 | M. Greenberger |

ACRP PROJECT 11-01 (continued)

| No. | Title | Consultant | Start Date | Estimated Completion Date | Staff Officer |
|-------|---|--------------------------------|----------------|---|---------------|
| 10-03 | Legal Issues Relating to Airport Commercial Contracts | Parker, Poe, Adams & Bernstein | June 2018 | Research in Progress | T. Schatz |
| 10-04 | Updated Survey of Laws and Regulations Applicable to Airport Commercial Ground Transportation | Carlos Sun | November 2018 | Completed - Published as Legal Research Digest 39 | T. Schatz |
| 11-01 | Permissible Uses of Airport Revenue and Property | Kaplan Kirsch, Rockwell, LLP | September 2018 | Completed - Published as Legal Research Digest 40 | T. Schatz |
| 11-02 | Accommodation of Federal Agencies Rights and Obligations of Host Airports | | | Terminated | |
| 11-03 | Analysis of Laws, Regulations, and Case Laws Regarding Airport Customer Facility Charges | | | In Development | T. Schatz |
| 12-01 | Legal Implications of Data Collection at Airports | CrowzNest | December 2019 | Research in Progress | T. Schatz |
| 12-02 | Developing Lease Terms for New General Aviation Development | | April 2020 | In Development | T. Schatz |
| 13-01 | Legal Considerations for Telecommunications at Airports | | | In Development | T. Schatz |

ACRP PROJECT 11-02

Quick Response for Special Needs

| No. | Title | Contractor | Start Date | End Date | Status | Staff Officer |
|---------|--|--|------------|------------|--|----------------|
| Task 39 | Quick Response: Identifying and Implementing Contact-Less Technologies at Airports | | | | In Development | T. Schatz |
| Task 40 | Quick Response: Organizational Redesign | | | | In Development | M. Greenberger |
| 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 | GRA, 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 | |

ACRP PROJECT 11-02 (continued)

| No. | Title | Contractor | Start Date | End Date | Status | Staff Officer |
|---------|--|--|------------|------------|---|---------------|
| 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 | |
| Task 14 | Helping Airports Understand the Payment Card Industry Data Protection Standard (PCI DSS) | Haggerty | 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 | |

ACRP PROJECT 11-02 (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 | 2/28/2019 | Completed -Published as Web-Only Document 46 | |
| Task 29 | ACRP Research Roadmap on Airport Operations and Maintenance | Harris Miller Miller & Hanson Inc. | 7/17/2017 | 7/16/2018 | Completed - Published Roadmap | |
| Task 30 | ACRP Research Roadmap on Airport Design & Construction | Harris Miller Miller & Hanson Inc. | 7/6/2017 | 12/25/2019 | Completed - Published as Web-Only Document 40 | J. Navarrete |
| Task 31 | ACRP Oversight Committee Workshop on Emerging Issues | VHB | 1/1/2018 | 9/30/2018 | Completed - Published as Research Results Digest 28 | |
| Task 32 | ACRP Research Roadmap on Environmental Issues | Harris Miller Miller & Hanson Inc. | 5/9/2018 | 11/29/2019 | Completed- Published as Web-Only Document 45 | J. Navarrete |
| Task 33 | ACRP Research Roadmap on Policy and Planning Issues | Steer Davies & Gleeve | 2/12/2017 | 3/31/2019 | Completed - Published as Web-Only Doc 39 | |
| Task 34 | Business Process Review for TRB's Cooperative Research Program | | | | Completed | |
| Task 35 | Research Roadmap on Administration and Human Resources Issues | ICF Incorporated | 4/2/2019 | 6/1/2020 | Completed- Published as Web-Only Document 49 | |
| Task 36 | Research Roadmap on Safety Issues | Futron Aviation | 5/1/2019 | 7/31/2020 | Research in Progress | T. Schatz |
| Task 37 | Periodic Report on Transformative Technology for Airports | Barich, Inc. | 6/6/2019 | 12/5/2021 | Issue 1 Completed-Pub Pending | M. Greenberger |
| Task 38 | Problem Statement Development from Thought Leader Forum, Roadmaps, and Insight Events | | | | Completed- Published as Research Results Digest 25 | |
| Task 39 | ACRP Environment Products Update | | 7/21/2020 | 03/20/2021 | Research in Progress | J. Navarrete |

ACRP PROJECT 11-03

Synthesis of Information Related to Airport Practices

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|---------------------------|---|---------------------------------|---------------|---------------------------------------|----------------|---------------|
| 01: Administration | | | | | | |
| 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 | Completed - Published as Synthesis 87 | | |
| S01-13 | Food and Beverage and Retail Operators: The Costs of Doing Business at Airports | Unison Consulting, Inc. | June 2016 | Completed - Published as Synthesis 81 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|------------------------|---|--|--------------|--|----------------|---------------|
| S01-14 | Funding Industrial Aviation Development | Smith-Woolwine Associates, Inc. | May 2016 | Completed - Published as Synthesis 79 | | |
| S01-15 | Airport Operator Options for Delivery of FBO Services | KRAMER aerotek, Inc. | June 2016 | Completed - Published as Synthesis 86 | | |
| S01-16 | Microgrids and Their Application at Airports | Arup North America | June 2017 | Completed - Published as Synthesis 91 | | |
| S01-17 | Attracting Investment at General Aviation Airports Through Public-Private Partnerships and Leasing | Texas A&M Transportation Institute | May 2017 | Completed - Published as Synthesis 94 | | |
| S01-18 | Value, Benefits, and Limitations of Qualifications Based Selection (QBS) for Airport Project Delivery | Gransberg & Associates | June 2018 | Completed - Published as Synthesis 102 | | |
| S01-19 | Data Acquisition and Protocols for Risk Management | Dubuque-Snyder Aviation Consulting LLP | June 2018 | Completed - Published as Synthesis 106 | | |
| S01-20 | Compilation of Data on the State of FBOs | Kramer Aerotek, Inc. | June 2018 | Completed - Published as Synthesis 108 | | |
| S01-21 | Benefits of Arts Programs to Airports and Stakeholders | Tim Karaskiewicz | June 2019 | Completed- Published as Synthesis 114 | T. Cuddy | G. Staba |
| S01-22 | Last Mile in General Aviation - Courtesy Vehicles and other forms of Ground Transportation | AirportAdmin, LLC | June 2019 | Completed- Published as Synthesis 111 | W. Reinhardt | G. Staba |
| S01-23 | Procuring Software Solutions at Airports | Critical Ops LLC | October 2020 | Research in Progress | S. Austin | G. Staba |
| S01-24 | Examples of Airports Providing Facility Space for Community Use | Midwest Airport Consultants | October 2020 | Research in Progress | L. Loarte | G. Staba |
| S01-25 | Airport Parking Pricing Strategies | InterVISTAS | October 2020 | Research in Progress | J. Jamison | G. Staba |
| 02: Environment | | | | | | |
| 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 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|--------|--|--------------------------------------|------------|---------------------------------------|----------------|---------------|
| 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 | | |
| 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 | Completed - Published as Synthesis 85 | | |
| S02-16 | Airport Experience with Implementing Notifications Required by the Aircraft Drinking Water Rule | The Cadmus Group, LLC | April 2016 | Completed - Published as Synthesis 88 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|--------------------------------|--|-------------------------------------|--------------|--|----------------|---------------|
| S02-17 | Sustainability's Role in Airport Growth | The Cadmus Group, LLC | June 2017 | Completed - Published as Synthesis 93 | | |
| S02-18 | Airport Waste Management and Recycling Practices | Mead & Hunt | June 2017 | Completed - Published as Synthesis 92 | | |
| S02-19 | Clean Vehicles, Fuels, and Practices for Airport Private Ground Transportation Providers | University of South Florida | June 2017 | Completed - Published as Synthesis 89 | | |
| S02-20 | Lessons Learned from Airport Greenhouse Gas Reduction Efforts | Barrett Energy Resources Group | June 2018 | Completed - Published as Synthesis 100 | | |
| S02-21 | Practices in Airport Renewable Energy Projects | Barrett Energy Resources Group | June 2019 | Completed- Published as Synthesis 110 | | |
| 03: Policy and Planning | | | | | | |
| 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 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|-------------------|--|---------------------------------|--------------|---------------------------------------|----------------|---------------|
| 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 | | |
| S03-14 | Simulation of Airside and Landside Operations in Airport Planning | Resource Systems Group, Inc. | May 2017 | Completed - Published as Synthesis 98 | | |
| S03-15 | How Airports Plan for Changing Aircraft Capacity-the Effects of Upgauging | DY Consultants | June 2017 | Completed - Published as Synthesis 97 | | |
| S03-16 | State Aviation Funding: Project Prioritization and Selection Processes | | | In Development | C. Nelmes | K. Ahearn |
| 04: Safety | | | | | | |
| 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 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|--------|--|--|---------------|---------------------------------------|----------------|---------------|
| 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 | | |
| S04-13 | Combining Mixed Use Flight Operations Safety 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 | Completed - Published as Synthesis 90 | | |
| S04-20 | Airport Incident Reporting Practices | AMQ Airport Services | | Completed - Published as Synthesis 95 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|----------------------------|--|---|---------------|--|----------------|---------------|
| S04-21 | Models for Law Enforcement at Airports | Hickory Ridge Group LLC | February 2019 | Research in Progress | | T. Helms |
| S04-22 | Airport Surface Weather Observation Options for General Aviation Airports | Delta Airport Consultants, Inc. | June 2018 | Completed - Published as Synthesis 105 | | |
| S04-23 | Airport Emergency Working Groups | Smith-Woolwing Associates, Inc. | July 2018 | Completed-Published as Synthesis 99 | | |
| S04-24 | Practices in Airport Emergency Plans | Tidal Basin Government Consulting | June 2019 | Research in Progress | M. Tonnacliff | T. Zwahlen |
| S04-25 | Escalator Falls | Katherine Hunter Zaworski | June 2019 | Completed-Published as Synthesis 109 | | |
| S04-26 | Managing an Emergency or Incident Associated with a Flight Diversion at Airports | | | In Development | K. Duffy | K. Ahearn |
| 05: Security | | | | | | |
| S05-01 | Intelligent Transportation System (ITS) Sensor Technology for General Aviation | | | Canceled | | |
| 06: Human Resources | | | | | | |
| S06-01 | Aviation Workforce Development Practices | International Aviation Management Group | March 2009 | Completed - Published as Synthesis 18 | | |
| 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 | DPrather Aviation Solutions LLC | May 2018 | Completed - Published as Synthesis 103 | | |
| S06-06 | Airport Workforce Programs Supporting Employee Well-being | ICF Incorporated | June 2019 | Completed - Published as Synthesis 113 | | |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
|-------------------------|---|----------------------------------|---------------|--|----------------|---------------|
| 07: Design | | | | | | |
| S07-01 | Impacts of Aging Travelers on Airports | Corgan Associates, Inc. | February 2013 | Completed - Published as Synthesis 51 | | |
| S07-02 | Communication Strategies for Airport Passenger Access and Mobility | Indiana University | June 2018 | Completed - Published as Synthesis 101 | | |
| S07-03 | Airfield Apron/Ramp Paint Markings | | | In Development | M. Rottinghaus | K. Ahearn |
| 08: Construction | | | | | | |
| S08-01 | Airport Terminal Facility Activation Techniques | Arup | March 2009 | Completed - Published as Synthesis 20 | | |
| 09: Maintenance | | | | | | |
| 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 | | |
| 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 | June 2019 | Completed - Published as Synthesis 96 | | |
| S09-09 | Automated Pavement Condition Survey Practices at Airports | | | In Development | M. Brynick | K. Ahearn |

ACRP PROJECT 11-03 (continued)

| No. | Title | Topic Consultant | Start Date | Status | FAA Liaison(s) | Staff Officer |
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| 10: Operations | | | | | | |
| 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 | | |
| 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 | | |

ACRP PROJECT 11-03 (continued)

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| 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 | Dprather Aviation Solutions LLC | June 2018 | Completed - Published as Synthesis 104 | | |
| S10-16 | Airport Operations Training at Small Airports | Dprather Aviation Solutions, LLC | June 2019 | Research in Progress | D. Williams | T. Zwahlen |
| S10-17 | Agricultural Operations on Airport Grounds | AirportAdmin, LLC | October 2020 | Research in Progress | J. Weller | G. Staba |
| S10-18 | Improving Native and Honey Bee Foraging on Airports | VHB | October 2020 | Research in Progress | | G. Staba |



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