



TRANSPORTATION RESEARCH BOARD

Aviation Overview

TRB at a Glance

The mission of the Transportation Research Board (TRB) is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal.

A resource to the nation and to the transportation community worldwide, TRB provides an extensive portfolio of services:

- Opportunities for information exchange on current transportation research and practice,
- Management of cooperative research and other research programs,
- Analyses of national transportation policy issues and guidance on federal and other research programs
- Publications and access to research information from around the world.

More info at www.trb.org

TRB's Transportation Research Information Services (TRIS)

TRIS includes the TRB Library and the TRIS Databases (listed below) which are available for free on TRB's website.

The TRB Library provides information services to TRB staff, sponsors, TRB Committee members and panels and researchers. Access to the TRB Library is a benefit to TRB sponsors and TRB committee members.

In cooperation with your State DOT Library or Information Service, the TRB Library provides:

- Reference and research assistance
- Literature searches
- Articles for TRB Committee work

The TRB Library provides training on effective and efficient use of the following TRIS resources:

TRID – The world's largest and most comprehensive bibliographic source on all modes and disciplines of transportation
trid.trb.org

Practice Ready Papers (PRP) Database - Papers with information that is ready for immediate implementation or requires minimal additional research or implementation effort.
prp.trb.org

Publications Index (PubsIndex) Database – The papers, articles and reports published by the Transportation Research Board, Highway Research Board, Strategic Highway Research Programs or the Marine Board
pubsindex.trb.org

Research in Progress (RiP) Database – Current or recently completed transportation research projects
rip.trb.org

Research Needs Statements (RNS) – Research needs as identified by TRB Technical Activities standing committees
rns.trb.org

More information about TRIS is available online at: <http://www.trb.org/InformationServices/InformationServices.aspx>
Contact the Library at TRBLibrary@nas.edu or 1 (202) 334-2989

Upcoming Events

- Conferences:
 - June 26, 2016 Houston, Texas **American Society of Civil Engineers (ASCE) 2016 International Conference on Transportation and Development**
 - August 14, 2016 Portland, Oregon **Use of Scenario Planning in Transportation Planning**



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- September 4, 2016 Guimarães, Portugal **3rd International Conference on Transportation Geotechnics**
- Webinars:
 - March 17, 2016 **Identifying and Developing New Sources of Airport Revenue**

View TRB webinars here: <http://www.trb.org/ElectronicSessions/ConferenceRecordings.aspx>

Technical Committees

- Standing Committees:
 - Aviation Group (AV000)
 - Intergovernmental Relations in Aviation (AV010)
 - Aviation System Planning (AV020)
 - Environmental Impacts of Aviation (AV030)
 - Aviation Economics and Forecasting (AV040)
 - Airport Terminals and Ground Access (AV050)
 - Airfield and Airspace Capacity and Delay (AV060)
 - Aircraft/Airport Compatibility (AV070)
 - Light Commercial and General Aviation (AV080)
 - Aviation Security and Emergency Management (AV090)
- Council:
 - Young Member Council (A0040T)

To become Friend of any committee visit MyTRB.org

Cooperative Research Program (CRP)

- ACRP Reports
 - ACRP Report, Issue: 142 - Effects of Airline Industry Changes on Small- and Non-Hub Airports.
 - ACRP Report, Issue: 141 - Renewable Energy as an Airport Revenue Source.
 - ACRP Report, Issue: 140 - Guidebook on Best Practices for Airport Cybersecurity.
 - ACRP Report, Issue: 139 - Optimizing Airport Building Operations and Maintenance Through Retrocommissioning: A Whole-Systems Approach.
 - ACRP Report, Issue: 138 Volume 2: Guidebook. - Preventive Maintenance at General Aviation Airports.
 - ACRP Report, Issue: 138 Volume 1: Primer. - Preventive Maintenance at General Aviation Airports.
 - ACRP Report, Issue: 137 - Guidebook for Advancing Collaborative Decision Making (CDM) at Airports.
 - ACRP Report, Issue: 136 - Implementing Integrated Self-Service at Airports.
 - ACRP Report, Issue: 135 - Understanding Airport Air Quality and Public Health Studies Related to Airports.
 - ACRP Report, Issue: 134 - Applying Whole Effluent Toxicity Testing to Aircraft Deicing Runoff.
 - ACRP Report, Issue: 133 - Best Practices Guidebook for Preparing Lead Emission Inventories from Piston-Powered Aircraft with the Emission Inventory Analysis Tool.
 - ACRP Report, Issue: 132 - The Role of U.S. Airports in the National Economy.
 - ACRP Report, Issue: 131 - A Guidebook for Safety Risk Management for Airports.
 - ACRP Report, Issue: 130 - Guidebook for Airport Terminal Restroom Planning and Design.
 - ACRP Report, Issue: 129 - Evaluating Methods for Counting Aircraft Operations at Non-Towered Airports.
 - ACRP Report, Issue: 128 - Alternative IT Delivery Methods and Best Practices for Small Airports.
 - ACRP Report, Issue: 127 - A Guidebook for Mitigating Disruptive WiFi Interference at Airports.
 - ACRP Report, Issue: 126 - A Guidebook for Increasing Diverse and Small Business Participation in Airport Business Opportunities.
 - ACRP Report, Issue: 125 - Balancing Airport Stormwater and Bird Hazard Management.
 - ACRP Report, Issue: 124 - Airport Parking Garage Lighting Solutions.
 - ACRP Report, Issue: 123 - A Guidebook for Airport Winter Operations.
 - ACRP Report, Issue: 122 - Innovative Airport Responses to Threatened and Endangered Species.



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- ACRP Report, Issue: 121 - Innovative Revenue Strategies – An Airport Guide.
- ACRP Report, Issue: 118 - Integrating Aviation and Passenger Rail Planning.
- ACRP Synthesis of Airport Practice Reports
 - ACRP Synthesis of Airport Practice, Issue: 68 - Strategies for Maintaining Air Service.
 - ACRP Synthesis of Airport Practice, Issue: 67 - Airside Snow Removal Practices for Small Airports with Limited Budgets.
 - ACRP Synthesis of Airport Practice, Issue: 66 - Lessons Learned from Airport Sustainability Plans.
 - ACRP Synthesis of Airport Practice, Issue: 65 - Practices to Develop Effective Stakeholder Relationships at Smaller Airports.
 - ACRP Synthesis of Airport Practice, Issue: 64 - Issues Related to Accommodating Animals Traveling Through Airports.
 - ACRP Synthesis of Airport Practice, Issue: 63 - Overview of Airport Fueling Operations.
 - ACRP Synthesis of Airport Practice, Issue: 62 - Cell Phone Lots at Airports.
 - ACRP Synthesis of Airport Practice, Issue: 61 - Practices in Preserving and Developing Public-Use Seaplane Bases.
 - ACRP Synthesis of Airport Practice, Issue: 60 - Airport Emergency Post-Event Recovery Practices.
- ACRP Web-Only Documents
 - ACRP Web-Only Document, Issue: 22 - Passenger Value of Time, Benefit-Cost Analysis and Airport Capital Investment Decisions. Volume 3: Appendix A: Background Research and Appendix B: Stated Preference Survey.
 - ACRP Web-Only Document, Issue: 22 - Passenger Value of Time, Benefit-Cost Analysis and Airport Capital Investment Decisions. Volume 2: Final Report.
 - ACRP Web-Only Document, Issue: 22 - Passenger Value of Time, Benefit-Cost Analysis, and Airport Capital Investment Decisions. Volume 1: Guidebook for Valuing User Time Savings in Airport Capital Investment Decision Analysis.
 - ACRP Web-Only Document, Issue: 21 - Quantifying Aircraft Lead Emissions at Airports.
- ACRP Legal Research Digests
 - ACRP Legal Research Digest, Issue: 26 - Regulations Affecting the Exercise of First Amendment Activities at Airports.
 - ACRP Legal Research Digest, Issue: 24 - Sovereign Immunity for Public Airport Operations.
 - ACRP Legal Research Digest, Issue: 23 - A Guide for Compliance with Grant Agreement Obligations to Provide Reasonable Access to An AIP-Funded Public Use General Aviation Airport.
 - ACRP Research Results Digest, Issue: 22 - Synthesis of Information Related to Airport Practices.
- ACRP Impacts on Practice Reports
 - ACRP Impacts on Practice - Planning for Recovery of Disabled Aircraft.
 - ACRP Impacts on Practice - Airports and Aging Travelers.
 - ACRP Impacts on Practice - Improving Emergency Response at Airports.
- Other Report
 - Airport Cooperative Research Program - Estimating Takeoff Thrust Settings for Airport Emissions Inventories.
- Current research
 - Developing a Database-Driven Web Application for Benchmarking Airport Performance (ACRP 01-13)
 - Assessing and Implementing Innovative Revenue Strategies--A Guide for Airports (ACRP 01-15)
 - Improving the Airport Customer Experience (ACRP 01-26)
 - NextGen--A Primer (ACRP 01-27)
 - NextGen—Guidance for Engaging Airport Stakeholders (ACRP 01-28)
 - Enhancing the Airport-Industry SAGA Website (ACRP 02-30)
 - Climate Change Risk Assessment and Adaptation Planning at Airports (ACRP 02-40)

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- Development of a NO_x Chemistry Module for EDMS/AEDT to Predict NO₂ Concentrations (ACRP 02-43)
- Helicopter Noise Modeling Guidance (ACRP 02-44)
- Methodology to Improve EDMS/AEDT Quantification of Aircraft Taxi/Idle Emissions (ACRP 02-45)
- Improving Ground Support Equipment Operational Data for Airport Emissions Modeling (ACRP 02-46)
- Assessing Aircraft Noise Conditions Affecting Student Achievement--Case Studies (ACRP 02-47)
- Assessing Community Annoyance of Helicopter Noise (ACRP 02-48)
- Addressing Significant Weather Impacts on Airports (ACRP 02-49)
- Deriving Benefits from Alternative Aircraft-Taxi Systems (ACRP 02-50)
- Evaluating Methods for Determining Interior Noise Levels Used in Airport Sound Insulation Programs (ACRP 02-51)
- Improving AEDT Noise Modeling of Hard, Soft, and Mixed Ground Surfaces (ACRP 02-52)
- Interpreting Airport Water Monitoring Results (ACRP 02-53)
- Measuring and Understanding Emission Factors for General Aviation (GA) Aircraft (ACRP 02-54)
- Enhanced AEDT Modeling of Aircraft Arrival and Departure Profiles (ACRP 02-55)
- Developing an Airport Business Case for Renewable Energy (ACRP 02-56)
- Reducing the Impact of Lead Emissions at Airports (ACRP 02-57)
- Dispersion Modeling Guidance for Airports Addressing Local Air Quality Health Concerns (ACRP 02-58)

- Water Efficiency Management Strategies for Airports (ACRP 02-59)
- Use and Potential Impacts of AFFF Containing Per- and Polyfluoroalkyl Substances (PFASs) at Airports (ACRP 02-60)
- Airport Stormwater Management Electronic Resource Library and Training Materials (ACRP 02-61)
- Green Stormwater Infrastructure Strategies for Airports (ACRP 02-62)
- Quantifying Airport Ground Access Vehicle Activity for Emissions Modeling (ACRP 02-63)
- Guidance for Usage of Pervious Pavement at Airports (ACRP 02-64)
- Tracking Alternative Jet Fuel (ACRP 02-65)
- Commercial Space Operations Noise and Sonic Boom Modeling and Analysis (ACRP 02-66)
- Airport Air Quality Management Guidebook and Resource Library (ACRP 02-67)
- Guidelines for Air Cargo Facility Planning and Development (ACRP 03-24)
- Effects of Airline Industry Changes on Small- and Non-Hub Airports (ACRP 03-29)
- Aligning Community Expectations with Airport Roles (ACRP 03-31)
- Guidance for Preparing and Using Airport Design Day Flight Schedules (ACRP 03-32)
- NextGen—Airport Planning and Development (ACRP 03-33)
- NextGen—Understanding the Airport's Role in Performance-Based Navigation (PBN) (ACRP 03-34)
- Improving Airport Services for International Customers (ACRP 03-35)
- Using Disaggregated Socioeconomic Data in Air Passenger Demand Studies (ACRP 03-36)
- Using GIS for Collaborative Land Use Compatibility Planning Near Airports (ACRP 03-37)
- Generating Revenue from Commercial Development On or Adjacent to Airports (ACRP 03-39)
- Evaluating the Airport Emergency Response Operations Simulation (AEROS) Tool (ACRP 04-04A)
- Runway Protection Zone (RPZ) Risk Assessment Tool (ACRP 04-18)
- Establishing a Coordinated Local Family Assistance Program for Airports (ACRP 06-03)
- Enhancing Airport Wayfinding for the Elderly and Persons with Disabilities (ACRP 07-13)
- Improving Intelligibility of Airport Terminal Public-Address Systems (ACRP 07-14)
- Airport Passenger Terminal Design: Electronic Resources Library (ACRP 07-15)
- Airport Maintenance Roles in Planning, Design, Construction, Commissioning, and Activation (ACRP 09-07)
- Benchmarking and Profiling Airport Terminal Energy End Uses (ACRP 09-10)
- Pavement Maintenance Guidelines for General Aviation Airport Management (ACRP 09-11)
- NextGen—Leveraging NextGen Spatial Data to Benefit Airports (ACRP 09-12)
- Considering Life Cycle Costs in Airport Asset Procurement (ACRP 09-13)
- Guidance for Planning, Design, and Operations of Airport Communications (ACRP 10-20)
- Complying with Federal Regulations: An Integrated Approach (ACRP 10-21)
- Improving Stakeholder Engagement in Aircraft Accident Planning (ACRP 10-22)

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- IROPS Stakeholder Communication and Coordination (ACRP 10-23)
- Guidance for Developing Ramp Control Facilities (ACRP 10-24)
- Legal Aspects of Airport Programs (ACRP 11-01)
- Operational and Legal Issues with Fuel Farms (ACRP 11-01/Topic 06-01)
- Legal Risks of Operating a Public Airport (ACRP 11-01/Topic 08-02)
- Quick Response for Special Needs (ACRP 11-02)
- Synthesis of Information Related to Airport Problems (ACRP 11-03)
- Graduate Research Award Program on Public-Sector Aviation Issues (ACRP 11-04)
- Planning for Operational Recovery at Small Airports (ACRP Synthesis 11-03/Topic S01-11)
- Airport Sustainability Practices-Drivers and Outcomes of Green Initiatives for Small Commercial and General Aviation (GA) Airports (ACRP Synthesis 11-03/Topic S02-12)
- Helicopter Noise Information for Airport and Communities (ACRP Synthesis 11-03/Topic S02-13)
- Airport Sustainability Practices (ACRP Synthesis 11-03/Topic S02-14)
- Airport Safety Risk Management Panel Activities and Outcomes (ACRP Synthesis 11-03/Topic S04-14)
- Flight Operations Advisories at Non-Towered Airports (ACRP Synthesis 11-03/Topic S04-15)
- Emergency Communication Planning for Airports (ACRP Synthesis 11-03/Topic S04-16)
- Table Top and Full-scale Exercises for General Aviation, Non-hub and Small Hub Airports (ACRP Synthesis 11-03/Topic S04-17)
- Building Information Modeling for Airports (ACRP Synthesis 11-03/Topic S09-07)
- Upcoming projects
 - State Aviation Data Collection and Analysis (ACRP 01-29)
 - Airport Managers Guide to Providing Aircraft Fuel Services (ACRP 01-30)
 - Technology Solutions to Facilitate ADA Travelers (ACRP 01-31)
 - Update Guidebook for Managing Small Airports (ACRP 01-32)
 - Preparing for the Connected Airport and the Internet of Things (ACRP 01-33)
 - Addressing Local Stormwater Utilities and MS4s for Airports (ACRP 02-68)
 - Integrating Airport Sustainability Plans with Environmental Analyses (ACRP 02-69)
 - Wetland Mitigation: An In-depth Look for Airports (ACRP 02-70)
 - Update Deicing Planning Guidelines for Airport Stormwater Management Systems and Alternative Deicing/Anti-Icing Formulations (ACRP 02-71)
 - Developing A Renewable Resource Strategy at Airports (ACRP 02-72)
 - Guidebook for NEPA and Environmental Reviews at General Aviation Airports (ACRP 02-73)
 - Integrating Climate Resiliency into Airport Management Systems (ACRP 02-74)
 - Benefit-Cost Analyses for Airport Stormwater Infrastructure (ACRP 02-75)
 - Understanding FAA Grant Assurance Obligations (ACRP 03-38)
 - Air Demand in a Dynamic Competitive Context with the Automobile (ACRP 03-40)
 - Airport Metrics and Impacts of Air Traffic Control Restrictions (ACRP 03-41)
 - Airport Emergency Planning Template: NIMS - Incident Command System Compliance (ACRP 04-19)
 - Airport Emergency Operations Centers Design Guide (ACRP 04-20)
 - Identifying and Evaluating Airport Workforce Requirements (ACRP 06-04)
 - Advanced Computer Maintenance Management Systems Integration for Airports (ACRP 09-14)
 - Public-Notification Programs at Airports (ACRP 10-25)
 - Contract Risk Management for Airport Agreements (ACRP 11-01/Topic 06-02)
 - Impact of Firearms Laws on Airports (ACRP 11-01/Topic 07-01)
 - Preemption of Worker Retention and Labor Peace Agreements at Airports (ACRP 11-01/Topic 07-02)
 - Legal Issues Related to the Implementation and Operation of Safety Management Systems at Airports (ACRP 11-01/Topic 08-01)

Panel Member nominations accepted (<http://www.trb.org/TCRP/CRPInfoPanelMembers.aspx>)

Second Strategic Highway Research Program (SHRP 2)



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- **Safety Research**

The SHRP 2 Safety study collected an unprecedented amount of objective data on driver behavior. Its analysis will provide a clearer understanding of the causes of crashes and what can be done to avoid them. Analysis of the SHRP 2 Safety data will prevent injuries and save thousands of lives. More information about the data and about data access is available through the [InSight website](https://insight.shrp2nds.us/) (<https://insight.shrp2nds.us/>).

- **Renewal Research**

SHRP 2 Renewal research filled gaps in research and development to produce user-friendly tools so that innovative design and construction methods can be applied more broadly. It tested and objectively evaluated alternative methods to provide transportation agencies with information they need to deliver projects faster. Renewal research products simplified access to information on successful practices in performance specs, utilities, and interaction with railroads, which can speed project delivery and address causes of delay.

- **Reliability Research**

SHRP 2 Reliability research advanced the state of the practice of transportation system management and operations (TSM&O) and helped build a TSM&O profession. It provided the foundational tools for transportation agencies to address system reliability, both organizationally and analytically.

- **Capacity Research**

SHRP 2 Capacity research identified keys to success in planning and obtaining approvals for complex transportation projects. It demonstrated how to systematically apply that knowledge to increase the probability of success and the timely delivery of projects through the planning, NEPA, and permitting processes. Most products of the research are available in [PlanWorks](http://www.fhwa.dot.gov/goshrp2/Solutions/Capacity/C01/PlanWorks_Better_planning_Better_projects) (http://www.fhwa.dot.gov/goshrp2/Solutions/Capacity/C01/PlanWorks_Better_planning_Better_projects).