

Risk Analysis, Safety Assessments, and Safety Management Systems



Risk Analysis



ARA provides technical risk modeling for various components of the airport system, including runway safety areas, runway protection zones, and runway incursions. We are a leading airport safety research organization that has completed five studies with the Airport Cooperative Research Program (ACRP) for safety risk modeling and safety management systems

(SMS). Our risk assessment tools provide step-by-step procedures that use historical aircraft performance, weather data, and airfield configuration to quantitatively evaluate the risk of each operation and its probability distribution.

Safety Assessment



ARA works with airports, the Federal Aviation Administration (FAA), and key stakeholders to complete FAA-standard safety assessments. We help airports plan and manage a process that engages airport users

and operators for a thorough investigation of hazards, potential risks, and mitigation measures for various types of airport planning and construction projects. Our process

complies with FAA Airports and FAA Air Traffic Organization requirements and folds into project formulation without delaying the final product. In fact, our services help projects remain on schedule by engaging key stakeholders and identifying potential safety concerns early in the project formulation process, when they can be addressed in a judicious manner.

Safety Management Systems



ARA works with individual airports to develop complete safety management systems. SMS is a holistic approach that integrates the entire organization around a single safety management process. ARA provides services to

help airports document identified hazards and mitigations; monitor and measure the airport's ongoing safety experience; establish a voluntary, non-punitive safety reporting system that can be used by employees of the airport operator, airlines, and tenants; and improve the entire airport's safety culture. We also provide training that helps to ensure that SMS becomes a permanent fixture for the airport. ARA's high-quality, state-of-the-art products and services help airports build a sound safety culture through training programs that build knowledge and understanding through simulated experiences and practical examples.



For more information on ARA's airport safety capabilities, visit www.ara.com.



The ARA Advantage

ARA solves problems of global importance in transportation safety, providing clients with the products and services they need to protect and maintain critical infrastructure and resources. Our research and training projects keep us at the cutting edge of technology, and our evaluation, design, and management projects keep us in touch with real-world concerns in the airport community. This combined knowledge allows ARA to use the latest technologies to develop cost-effective, practical solutions for our customers' needs.



Recent Airport and Aviation Safety Accomplishments

- Development of a Guidebook for Airport Safety Management Systems under ACRP Project 04-05
- SMS programs for Dallas/Fort Worth International, Jacksonville (Florida) International, and Lexington Blue-Grass (Kentucky) airports
- Analysis of the risk of aircraft overrun and undershoot events for the runway protection zone at Baltimore Washington International Airport
- Risk assessment for runway safety areas at San Francisco International Airport
- Safety risk assessment for George Bush Houston Intercontinental Airport taxiway reconstruction
- Safety risk assessment for Dallas/Fort Worth International Airport winter weather operations, terminal renewal plan, and airport operations area construction in a non-movement area
- Safety assessment for Seattle Tacoma International reconstruction of Runway 16L/34R
- Safety assessment for TF Green Airport (Providence, RI) extension of Runway 5
- Safety assessment for Charlotte Douglas International for the airport capacity enhancement plan
- Safety assessment for the Albuquerque Sunport runway incursion mitigation study (Hot Spot #1)
- Development of a risk assessment tool for runway protection zones under ACRP Project 04-18
- ACRP studies (reports 3 and 50) for qualitative assessment and modeling of runway safety area risk for specific airport conditions