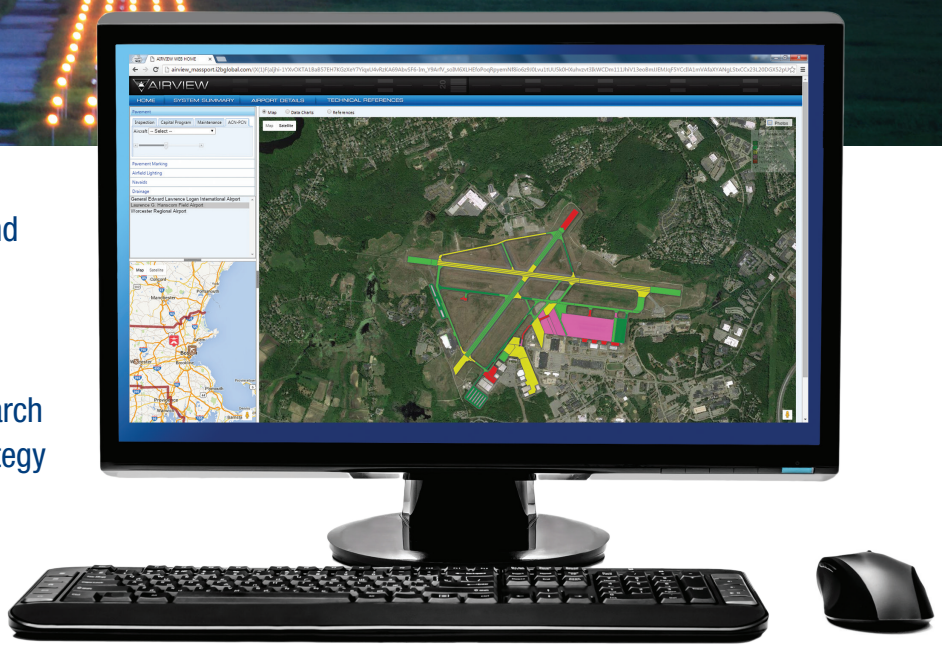
Airport and Airfield Infrastructure Services



ARA supports commercial, general aviation, and military airports worldwide through innovative pavement engineering, airport safety/security, and airfield asset management services and technologies. We combine our decades of research and airport experience to develop the right strategy at the right time for our clients, helping them maintain safe and reliable air travel.

Research & Technology Deployment

ARA has completed numerous studies for the Federal Aviation Administration (FAA), Airport Cooperative Research Program (ACRP), Innovative Pavement Research Foundation (IPRF), state aviation departments, and others. Our researchers have developed innovative yet practical technologies for airport owners and operators, such as a guidebook for airport safety management systems, a risk assessment tool for runway protection zones, the Pavement Condition Index (PCI) procedures, and extended life airfield pavement design procedures. We have provided both on-site and off-site personnel to support the FAA Airport Technology R&D Branch, the FAA Human Factors Laboratory, and the FAA Aircraft Structures Laboratory.

ARA

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

Pavement Evaluation & Design

ARA applies state-of-the-art technologies to assess existing pavement conditions and identify remaining pavement service life. These techniques include a range of nondestructive technologies to assess current pavement conditions, identify the primary causes of distress, determine pavement load-carrying capacity, identify feasible rehabilitation alternatives, and provide inputs for design.

ARA has designed new and rehabilitated pavements for airports of all sizes throughout the U.S. and Canada. We are well-versed with the many available airfield design procedures, and we perform life cycle cost analyses to ensure the most cost-effective designs.

Pavement Management Systems

ARA has implemented airside and landside pavement management systems for hundreds of commercial, general aviation, and military airfields worldwide. To accommodate a range of airfield conditions, we offer both manual and automated pavement evaluation methods. We are one of the largest users of the industry standard MicroPAVER software, and we are assisting the FAA with the development and deployment of the web-based PAVEAIR software.

To further facilitate access to meaningful pavement-related data—without having to search through technical reports or purchase specialized software—ARA offers a web-based application called AirView that allows airports to communicate system-wide airfield information to a diverse set of stakeholders.

Safety & Security

ARA provides technical risk modeling for various components of the airport system, including runway safety areas, runway protection zones, and runway incursions. 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.

ARA also works with airports to develop complete safety management systems. As the developers of the Guidebook for Airport Safety Management Systems, ARA provides services to help 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 safety management becomes a permanent fixture for the airport.

ARA also assists commercial airports in meeting FAA and Transportation Security Administration requirements and developing effective countermeasures for countering the risk of security threats to people and civil aviation assets and operations. ARA has provided these services for more than 100 aviation facilities across the U.S., providing a higher level of protection to facility occupants, and resilience to the national airspace system. ARA has provided similar services to local and international ports across the southeast U.S. to provide protection and resilience of intermodal shipping operations.