

# Research and Technology Deployment



ARA is committed to performing and implementing engineering and scientific research, develop and test rapid prototypes and specialty products, and utilizing evaluation methods and technical support services that help practicing engineers and other transportation professionals solve real-world challenges.

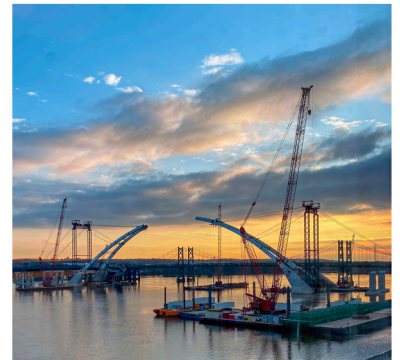
## Technology Deployment

ARA's technology deployment expertise is perhaps best exemplified by our work with the Federal Highway Administration (FHWA). In 2006, ARA began serving the FHWA on the widely acclaimed Highways for LIFE program. A key strategy of Highways for LIFE was getting the word out on innovations and success stories that describe the benefits to highway users and owner agencies. ARA has continued to work with FHWA on contracts related to the Office of Policy, the Office of Infrastructure, Structures and Geotechnical research, the Office of Innovative Program Delivery, Construction and Project Management, Weigh-in-Motion technology, and Pavements and Asset Management. ARA also supports the FHWA and the American Association of State Highway and Transportation Officials (AASHTO) in deploying several Strategic Highway Research Program 2 (SHRP2) products.

ARA also is a prime contractor supporting the FHWA's National Highway Institute, Office of Highway Policy and Information, and Turner Fairbank Highway Research Center. ARA leads a team supporting the Federal Motor Carrier Safety Administration and is also supporting other FHWA offices through team activities. ARA also works with the Federal Aviation Administration in Airport Technology research and development, which displays another facet of our work as a trusted partner with the USDOT.

ARA supports efforts with the National Cooperative Highway Research Program (NCHRP) with research on nondestructive testing in quality assurance, pavement profile measurement, oversize and overweight trucks, intellectual property, 2 CFR 200 compliance, and automated vehicles and shared mobility. We also support State DOTs in a wide range of implementation and research efforts, including the Missouri, Illinois, Wisconsin, Florida, and Ohio research programs related to pavement distress, pavement friction, and cross asset allocation in asset management.

ARA provides software solutions that support transportation engineering by having expertise with key software including AASHTOWare Pavement ME Design software, FHWA Contracting Alternatives Suitability Evaluator (CASE), Illinois Tollway I-MIRS, and Infrastructure Asset Management (iAM).





## Research & Development

ARA's transportation research and training expertise spans many technical areas, including:

- Transportation Policy & Planning
- Commercial Motor Vehicle Safety and Operations
- Pavements & materials
- Construction & specifications
- Research management and technology transfer
- Geotechnical & structures
- Airport & railroad services
- Asset management
- Traffic monitoring & safety
- Operations & maintenance
- Sustainability
- Innovative contracting
- Aviation R&D and technology deployment

For almost 40 years, ARA has conducted leading-edge research for national agencies including the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the National Cooperative Highway Research Program (NCHRP), the Transportation Association of Canada (TAC), and others. ARA has also performed dozens of research studies for State/provincial highway agencies and support research efforts of many key professional associations at state or provincial levels.

Keys to our success include:

- A large staff of subject matter experts (SME)
- A parallel consulting practice to incorporate real-world experience
- Extensive state-of-the-art field data collection capabilities and expertise in data analysis
- High-fidelity computer modeling and simulations technologies to complement business processes

ARA provides a work environment that challenges and rewards efforts, provides employees continued opportunities to grow and to pursue work that matters. The work done by all employees at ARA reflects our core values: Passion, Freedom, Service, and Growth. Additionally, we offer award-winning communications and outreach technologies to ensure research results are appropriately deployed to the transportation community.

Some of our flagship efforts include the development of the Mechanistic-Empirical Pavement Design Guide (MEPDG) and the associated AASHTOWare Pavement ME Design software, the rolling wheel deflectometer (RWD), and the Pavement Health Track analysis tool. We have also made significant contributions to the Long-Term Pavement Performance (LTPP) program and developed guidelines and procedures for dozens of agencies on a variety of topics. ARA manages a Data Visualization Center and completes a wide range of training for continuing learning.

ARA has 30+ years as a leader in providing unique training solutions oriented to the needs of our customers. We have developed courses in a wide variety of topics including Drilled Shafts: Construction Procedures and Design Modes, Geotechnical Fundamentals for Transportation Projects, Utility Coordination for Highway Delivery, Alternative Contracting Methods, and Quality in Asphalt Paving Process. ARA has delivered courses in key areas including geotechnical, pavements, risk management, value engineering, and contracting. This provides engineers and transportation agencies the opportunity for professional development as well as the value of an end-product that can be tailored to their needs for long-term use.

## The ARA Added Value

Our success is based on our proven approach, assigning project staff based on the appropriate subject matter experts within the company, and strategic partnerships. ARA provides full research services leading to measurable and traceable results that communicate value added and return on investment with factual content at different stages of project or program at development, and execution.

We know the obstacles and risks to research implementation and work closely with teaming partners to develop appropriate processes, procedures, and details to demonstrate value of any project outcomes. All our research work is tailored to sponsor needs and goals and consistent with our clients' traditional business and technical culture.

ARA understands the dynamic and changing nature of infrastructure projects and programs and has the depth of experience and knowledge to ensure successful work efforts. ARA provides innovative technologies and solutions to critical human problems that will make our world safer, make us more secure, and make a difference in our daily lives.