



# Integrated Corridor Management

Southwest Research Institute® (SwRI®) has been a leader in intelligent transportation systems (ITS) for over 25 years, currently providing traffic management support in 15 U.S. states. SwRI develops integrated corridor management (ICM) solutions to optimize the performance of a regional transportation system as an integrated network rather than independently operated assets. ICM systems coordinate across freeways, surface streets, and transit systems to balance traffic flow and improve performance of the entire corridor.

SwRI ICM systems are capable of enhanced response plan coordination through next-generation decision support systems (DSS). The DSS continuously reevaluates roadway conditions and recommends a diversion route that avoids congested areas, including other potential diversion routes that may have become overly congested. These systems rely on fusing tremendous amounts of data from various public and private sources, including third party, crowdsourced, and connected vehicle data.





## Recent ICM Projects

### Florida Department of Transportation (FDOT)

#### *Central Florida Regional Integrated Corridor Management System (R-ICMS)*

SwRI is the prime contractor and system integrator on the FDOT District 5 R-ICMS project on 12 miles of the I-4 corridor through Orlando. Live and operational since early 2021, the R-ICMS has three primary features:

- **Data Fusion Engine (DFE):** Provides long-term data storage for transportation systems management and operations (TSM&O), future data analytics opportunities, and third-party consumer access to historical and live data.
- **Decision Support System (DSS):** Provides the intelligence behind the system, including event management, response plan selection, and a traffic signal optimization tool.
- **Information Exchange Network (IEN):** Provides the user interface to view changing conditions, interface with the DFE and DSS to control events and response plans, and provide performance analysis and reporting.

### Tennessee Department of Transportation (TDOT)

#### *Artificial Intelligence-Powered Decision Support Tools for ICM*

SwRI recently worked with TDOT to successfully apply for an Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant to implement an artificial intelligence (AI)-powered ICM.

- Machine learning (ML) will be used to recommend dynamically generated diversion routes based on historic operator behavior and decision-making.
- The TDOT ICM will operate within ActiveITS™. SwRI solutions can be standalone or integrated with existing systems.

## SwRI Capabilities and Expertise

SwRI's ICM solutions are informed by multidisciplinary expertise in traffic management, connected and autonomous vehicles, big data, vehicle-to-everything (V2X), cybersecurity, AI/ML, cloud and edge computing, powertrain engineering, and more.

**Innovation is our business.** Our R&D problem solvers push the boundaries of science and technology to develop solutions based on the unique needs of our clients.



*SwRI's test track and ITS corridor are equipped with infrastructure and devices to facilitate R&D.*

SwRI's ICM systems can be seamlessly integrated with our other transportation technology offerings:



*Public agency-owned fully integrated ATMS platform for traffic management*



*Cloud-based data platform for real-time decision support and predictive analytics to enable transportation operations and planning*



*Vendor-agnostic video analytics technology that can be applied to any modern traffic camera feed*

SwRI's project delivery methodology complies with our Capability Maturity Model Integration (CMMI) Level 3 appraised and ISO 9001:2015 certified quality systems. Capability Maturity Model Integration and CMMI are registered in the U.S. Patent and Trademark Office by CMMI Institute.

**We welcome your inquiries. For more information, please contact:**

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## SOUTHWEST RESEARCH INSTITUTE

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