ITS STRATEGIC PLAN 2015–2019
INTEROPERABILITY

ABOUT INTEROPERABILITY

The U.S. Department of Transportation (USDOT) will continue to focus on interoperability to ensure effective connectivity among devices and systems. Interoperability will be more critical than ever before with the implementation of connected vehicle systems and the introduction of automated transportation systems as system interdependencies increase, not only in number but also in complexity. Standards and architectures must continue to evolve to reflect technological advancements and maintain the required backward compatibility and interoperability.

Photo Courtesy of USDOT

Testing and certification will become more important as connected vehicle systems are implemented on a broader scale. Interoperability is especially important on a national basis to ensure that transportation system users and travelers, regardless of their vehicle type, transportation mode, or route, can depend on the consistent, reliable performance of their transportation systems

THE BENEFITS OF INTEROPERABILITY

There are several potential benefits of interoperability, including:

- Increased efficiency in communications and information sharing between transportation agencies and users

- Nationwide interoperability for vehicles and other participants in intelligent transportation systems (ITS)

- Maintenance of the forward and backward interoperability of ITS equipment and reduced need for re-investment over time

- Greater adoption rates with reduced anxiety over obsolescence

- More efficient transportation usage based on innovations and new commercial applications

- Transportation solutions that resolve interoperability among developers, users, agencies, and modes to increase efficiencies, reduce costs, and provide real-time and effective information

- Increased efficiencies in the economic enterprise.

ITS Strategic Plan Program Areas:

- Connected Vehicles
- Automated Vehicles
- Emerging Capabilities
- Enterprise Data
- Interoperability
- Accelerating Deployment

ITS 2015–2019
STRATEGIC PLAN

Intelligent Transportation Systems (ITS)
Joint Program Office (JPO)

View the *ITS Strategic Plan* at:
www.its.dot.gov/strategicplan
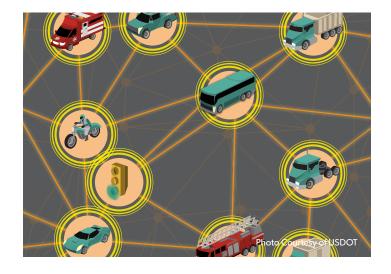
U.S. Department of Transportation

RESEARCH ACTIVITIES

Interoperability is essential to ensure effective connectivity among devices and systems. Interoperability focuses on enabling ITS elements in vehicles, devices, infrastructure, and applications to effectively communicate with other parts of the system as needed, regardless of where or when they are built and used. Interoperability will be critical with the implementation of connected vehicle systems and the introduction of automated transportation systems as system interdependencies increase in number and complexity. Standards and architectures must continue to evolve to reflect technological advancements and maintain the required backward compatibility and interoperability.

Connected vehicle standards are a key part of the Interoperability research program. These standards provide the software programming codes, definitions, and formats needed to create interoperable, consistent, and seamless communication exchange among shared information systems and devices. To accelerate the deployment and adoption of connected vehicle systems, preclude redundancy, and reduce costs and complexity, the USDOT seeks to harmonize ITS standards. This process involves stakeholders, including vehicle and equipment manufacturers, standards organizations, and governments, working together to agree on harmonized standards across multiple regions.

The USDOT's ITS Standards program aims to enable interoperable connected vehicle and ITS services within a complex, multimodal, connected transportation network, including both vehicles and infrastructure. To do so, the program is participating in and facilitating the development of standards and protocols that establish the rules for how ITS (and, specifically, connected vehicle) devices, vehicles, and operations centers communicate and exchange information with one another. The program is also partnering with the National Highway Traffic Safety Administration and other interested modal administrations to participate in international standards harmonization activities.

Photo Courtesy of USDOT

LOOKING AHEAD:
What's Next for Interoperability?

Interoperability is especially important on a national basis to ensure that transportation systems provide travelers—regardless of their vehicles, transportation mode choice, or route—with consistent, reliable performance.

Increasing the nation's ITS interoperability will increase the ability of distinct technologies to work together and will help transportation agencies and users communicate and share information more seamlessly.

ABOUT THE *ITS STRATEGIC PLAN*
The USDOT has long been a leader and strong supporter of research, development, adoption, and deployment of ITS around the nation.
Learn more about the *ITS Strategic Plan 2015-2019.*

For questions about the USDOT's Interoperability program, contact:
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