*Intelligent transportation systems (ITS) research enables mechanisms for jurisdictions to have ubiquitous, consistent, trusted access to data to support accelerated integration of automation, artificial intelligence applications, and transportation service data with other essential public services. Transportation organizations and ITS deployments will adopt innovative, accessible, and secure information technology best practices.*

ITS DATA ACCESS AND EXCHANGES
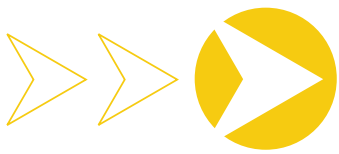
ITS JPO High-Priority Research Areas

➤ Automation
➤ **Data Access and Exchanges**
➤ Emerging and Enabling Technologies
➤ Cybersecurity for ITS
➤ ITS4US Deployment
➤ Accelerating ITS Deployment

Alignment with U.S. DOT Strategic Goals

Safety

Economic Strength and Global Competitiveness

Equity

Climate and Sustainability

Transformation

Organizational Excellence

Access to ITS data is critical for public agencies, private companies, and academia to conduct research and create new ITS innovations and services. Consistent and timely access to data increases the return on federal investment in ITS research and demonstration projects while helping to inform future investment decisions, which speeds deployment of innovative ITS technologies and produces widespread benefits.

The **ITS Data Access and Exchanges Program** focuses on enabling access to and use of core transportation data across the ITS ecosystem. Harmonized, reliable, and well-documented data are essential to the integration of connected and automated vehicles into the transportation ecosystem and the application of advanced techniques, such as artificial intelligence (AI), to enhance the safety and efficiency of the transportation network through innovations such as improved predictive analyses. This program area fosters the adoption of modern technology best practices essential to trusted data exchanges. As vehicles and travelers cross jurisdictional boundaries, exchanges are a key component of today's transportation system interoperability and are crucial for the next generation of interoperable transportation.
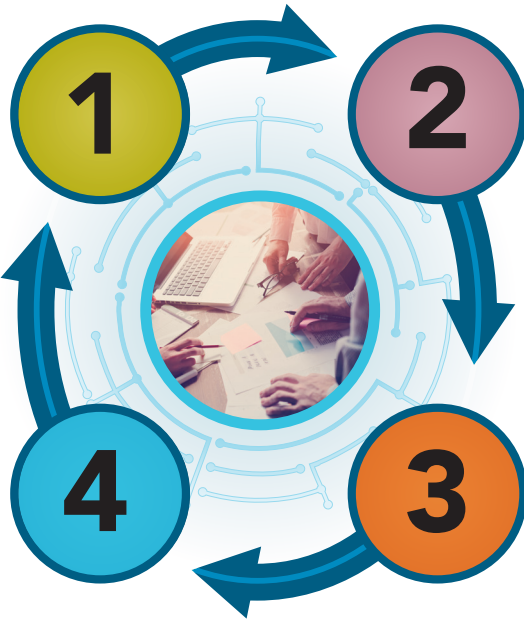
RESEARCH ACTIVITIES

The ITS Joint Program Office (JPO) is positioned to work across the U.S. Department of Transportation (U.S. DOT) modes and Office of the Secretary offices to develop and coordinate research on data access and exchanges, including:

- Helping to eliminate data silos and establish interoperable interfaces between infrastructure owners and operators (IOOs), original equipment manufacturers, and data brokers
- Researching scalable solutions for trusted data exchanges across jurisdictional boundaries
- Providing technical assistance to IOOs to help them conform to data best practices
- Supporting the development of Data and Artificial Intelligence (AI) strategies
- Understanding the intersection of data and AI and roadmapping collaborative efforts to use AI and Machine Learning (ML) techniques to develop solutions
- Determining additional value of data by exploring reuse or secondary use of data
- Assessing institutional capability maturities in data management and compliance and providing resources for building core capabilities

Intelligent Transportation Systems Joint Program Office

U.S. Department of Transportation

Identify needs for data exchange — **1**

Prioritize data exchanges — **2**

Monitor emergence of market-based solutions — **3**

Address barriers or market failures preventing priority data exchanges — **4**

WORK ZONE DATA EXCHANGE (WZDx)

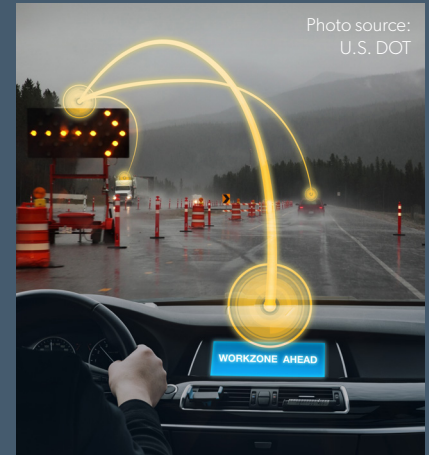

Photo source: U.S. DOT

The U.S.DOT launched the WZDx Specification to jumpstart the voluntary adoption of a basic work zone data specification through collaboration with data producers and data users. The WZDx Specification enables IOOs to make harmonized work zone data available for third-party use. It intends to make travel on public roads safer and more efficient through ubiquitous access to data on work zone activity. Specifically, the project aims to integrate work zone data into vehicles to help automated driving systems and human drivers navigate more safely.

The Data Access and Exchanges program continues to explore the development of additional operational data exchanges where harmonizing information shared between IOOs, vehicles, and third-party systems can improve safety and reliability for our nation's transportation network.

Access to Data

The U.S. DOT is committed to providing timely access to public research data to support third-party research, evaluation, and application development to maximize the ITS JPO's investment in ITS research initiatives. ITS DataHub provides a single point of entry to discover the U.S. DOT's publicly available ITS research data, including connected vehicle data. By providing access to these data, the U.S. DOT aims to enable third-party research into the effectiveness of emerging ITS technologies, preliminary development of third-party applications, and harmonization of data across similar collections. Data accessible through ITS DataHub is quality-checked, well-documented, and freely available to the public.

To discover reusable, open ITS data and contribute to ITS DataHub, visit: *https://www.its.dot.gov/data*

To learn more about this program, visit: *https://its.dot.gov/research_areas/data_access/*

ITS Data Support
data.itsjpo@dot.gov

U.S. Department of Transportation