RITA *Intelligent Transportation Systems Joint Program Office*

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Real-Time Data Capture and Management

U.S. DOT

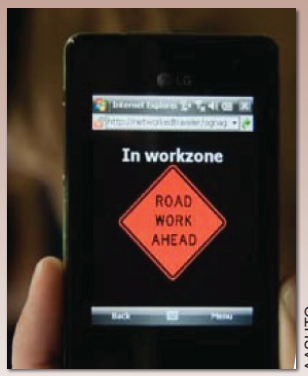
Real-time data can be integrated across modes and made available to users.

Research Goals

- To systematically capture real-time, multi-modal data from connected vehicles, devices, and infrastructure.
- To develop data environments that enable integration of high-quality data from multiple sources for transportation management and performance measurement.

Research Outcomes

- The results of this research program will be used to develop additional data environments and demonstrations that show the value of widespread real-time multimodal information.



AASHTO

Data sharing between modes can be used to improve operational efficiences to transform surface transportation management

INTRODUCTION

The Real-Time Data Capture and Management program enables the creation and expansion of access to high-quality, real-time, multimodal transportation data captured from connected vehicles, mobile devices, and infrastructure. Data Capture Management collects real-time data from single sources and modes, and then it either integrates the data across modes and sources or makes it available for users to incorporate according to their needs.

VISION

The vision of the Real-Time Data Capture and Management program is to enhance current operational practices and transform the future transportation systems management and traveler information through the active acquisition of integrated data from vehicles, travelers, mobile devices and fixed sensors, provided to researchers, application developers, and system operators.

RESEARCH PLAN

The objective of the Real-Time Data Capture and Management program is to develop data environments that support the collection, management, integration, and application of real-time transportation data.

Applications that use real-time data have the potential to increase highway safety and operational efficiency nationwide. The output of the applications will produce data to allow travelers to make better informed travel decisions. Public and private sector data on all modes and roads can be used to transform surface transportation management.

Real-time data sets also have the potential to support a range of multimodal mobility applications. For example, real-time information on parking availability and transit schedules can enable smarter mode choice decisions, and yield time and fuel efficiencies for travelers. Updated freight movement data helps commercial freight operators to optimize operations.

The results of the Real-Time Data Capture and Management program will reveal opportunities for achieving greater efficiencies within our transportation systems. Some of the data types that can be captured and managed include: situational safety; environmental conditions; congestion data; and cost information (derived from both traditional sources, including traffic management centers, Automated Vehicle Location systems; and non-traditional sources, including vehicles, the infrastructure mobile devices and ITS applications). Data can also be collected from toll facilities, parking facilities, and transit stations.

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RESEARCH PLAN-continued

The Real-Time Data Capture and Management program includes the following tracks:

Track 1: Engage stakeholders for input from initial analysis to pilot deployment. Test data sets, data collection, and analysis methodologies will be shared with stakeholders, with information made available to the broader transportation community.

Track 2: Develop data environments to support transportation applications and address technical, institutional, and standards issues surrounding the collection and dissemination of data.

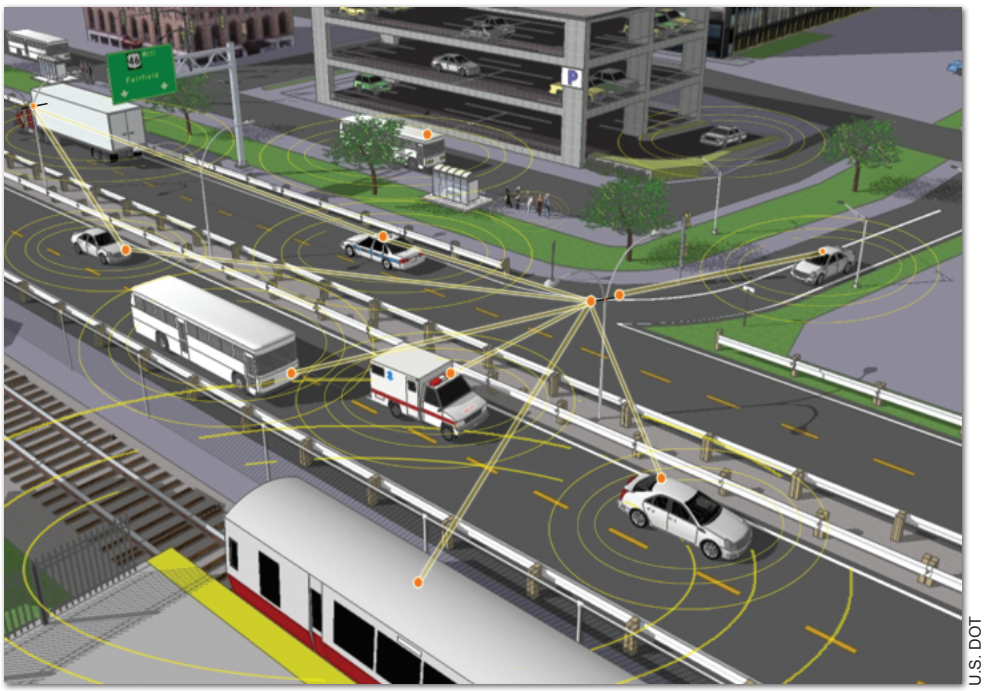
Track 3: Conduct proof-of-concept tests, and test standards, procedures, tools, and protocols to provide implementation guidance for real-world deployment.

Track 4: Conduct pilot deployments and demonstrate the data capture and data management techniques in an operational setting, while providing stakeholders with opportunities to develop systems that will extend beyond the life of the program.

Track 5: Develop evaluation and performance measures to assess benefits of the data environments.

Track 6: Share the program's findings and procedures with stakeholders and the broader transportation community through coordinated outreach activities and technology transfer.

The Real-Time Data Capture and Management research builds on the existing Real-Time Information Market Assessment and the Real-Time System Management Information program.U.S. DOT ITS programs, such as Dynamic Mobility Applications and Applications for the Environment: Real-Time Information Synthesis (AERIS), have been helping to define data requirements, identify information gaps, and use the real-time data sets that are being developed under this program.



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Multimodal data sets have the potential to support a range of mobility applications for real-time information sharing

To learn more about the Real-Time Data Capture and Management program, contact:

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Printed on paper containing recycled post consumer waste paper

FHWA-JPO-11-026