



**Key Findings:**

- In many cases, technology systems can offer cost-effective tools to improve traffic flows and reduce operating costs for state departments of transportation.
- Technology enhancements could increase safety and travel efficiencies, especially when combined with dedicated truck lanes.

**Intelligent Transportation Systems (ITS) Tools Help Transportation Work More Efficiently**

ITS helps transportation systems work more effectively and efficiently by integrating users, vehicles and transportation systems through state-of-the-art information and communications technologies. In the process, ITS:

- Improves safety and efficiency;
- Helps shippers and carriers move freight more reliably and efficiently;
- Provides information to first responders so that they can respond faster and more effectively to incidents;
- Improves traffic flows, reducing delays, fuel consumption, noise, and air pollution; and
- Increases efficiencies in the collection of fees and tolls.

**Examples of Potentially Beneficial Technologies:**

**TRAFFIC MANAGEMENT CENTERS** use technology to manage traffic and to inform users of roadway and traffic conditions. Traffic management on highways is typically achieved through devices such as traffic sensors, lane control signs and variable speed limits.

**ELECTRONIC TAGS** enables drivers to pay for tolls, fees and transportation related costs via automated billing, credit or debit cards. For commercial vehicles in particular, this has some very real benefits when payments can be made to authorities without stopping or slowing, which can waste fuel, add time, increase air pollution and increase wear and tear on the vehicles.

**COMMERCIAL VEHICLE INFORMATION SYSTEMS AND NETWORKS (CVISN)** improve motor carrier safety and efficiency by streamlining administrative processes like credentialing, roadside screening, tax filing, compliance review reports, safety inspection reports, corridor-wide HAZMAT routing, automated crash reporting, port operations and oversize/overweight permits.

**EMERGENCY AND INCIDENT MANAGEMENT TECHNOLOGIES** involve tracking, assessing and managing roadway incidents in ways that minimize

impacts to traffic and maximize safety. In situations where traffic must slow or be diverted, a combination of traffic management centers, roadway cameras, sensors, and other tools can be implemented to help ensure that (1) drivers are alerted and/or re-routed to avoid the area and (2) emergency responders have the necessary information before they arrive at the scene.

**ADVANCED TRAVELER INFORMATION SYSTEMS** provide information to travelers about roadway, environmental and traffic conditions. This information helps reduce traveler uncertainty and support travelers in their route and scheduling decisions. Pre-trip, information typically is accessed via phone, computer, radio, etc. En route information is provided by radio broadcasts, dynamic message signs, cell phones, GPS devices, etc.

**Key Findings and Dedicated Truck Lanes**

The usefulness of dedicated truck lanes is based largely on their ability to offer travelers greater efficiencies and safety. Technology may help dedicated truck lanes better achieve those goals. Implementation of ITS technologies for dedicated truck lanes, among other things, depends upon:

- Costs – to both the private and public sectors – for infrastructure investments, equipment, ongoing management and maintenance; and
- Standardizing practices and data management policies, including standards to protect driver privacy.

*This document summarizes one of 12 technical appendices prepared for the first phase (of two) for the I-70 Dedicated Truck Lane Feasibility Study. The study is part of the U.S. Department of Transportation's Corridors of the Future Program, which provided matching funds to Indiana, Missouri, Ohio and Illinois DOTs to evaluate the business case (need, cost, risk, financing and practicality) for dedicated truck lanes on I-70. The 800-mile study area includes I-70 from just east of Kansas City, Missouri, east through Illinois and Indiana to Ohio's eastern state line.*