INTELLIGENT TRANSPORTATION SYSTEMS (ITS)
PROGRAM OVERVIEW

LIMIT 35 SAFETY   MOBILITY   ENVIRONMENT

The U.S. Department of Transportation (USDOT) ITS Joint Program Office (ITS JPO) is responsible for conducting research on behalf of the Department and all major modes to advance transportation safety, mobility, and environmental sustainability through electronic and information technology applications, known as ITS.

Mission

The USDOT's ITS program focuses on intelligent vehicles, intelligent infrastructure, and the creation of an intelligent transportation system. The program supports the overall advancement of ITS through investments in major research initiatives, exploratory studies, and a deployment support program including technology transfer and training.

ITS Strategic Plan

The *ITS Strategic Plan 2015-2019* outlines the direction and goals of the USDOT's ITS program and provides a framework around which the ITS JPO and other Department agencies will conduct ITS research, development, and adoption activities to achieve the program's outcomes and goals.

The *ITS Strategic Plan's* framework is built around two key ITS program priorities—realizing connected vehicle implementation and advancing automation. The priorities reflect stakeholder feedback on the need for the ITS program not only to conduct research, but also to help with deployment and implementation of specific technologies related to connected vehicles and automation.

- *Realizing Connected Vehicle Implementation:* Builds on the substantial progress made in recent years around design, testing, and planning for deployment of connected vehicles across the nation.

- *Advancing Automation:* Shapes the ITS program around the research, development, and adoption of automation-related technologies as they emerge.

ITS 2015–2019
STRATEGIC PLAN
Intelligent Transportation Systems (ITS)
Joint Program Office (JPO)

The Future of Connected Vehicles

Based on the successful results of the connected vehicle research program and the National Highway Traffic Safety Administration (NHTSA) decision to pursue vehicle-to-vehicle (V2V) communications safety technology for light vehicles, the USDOT is pursuing a robust Connected Vehicle Pilot Deployment Program. This program serves as a mechanism to expedite the implementation of connected vehicle technology. The USDOT has awarded up to $42 million to New York City; Tampa, FL; and Wyoming for the pilots. The locations were selected in a competitive process to go beyond traditional vehicle technologies to help drivers better use the roadways to get to work and appointments, relieve the stress caused by bottlenecks, and communicate with pedestrians on cell phones of approaching vehicles.

U.S. Department of Transportation

Learn more at: www.its.dot.gov/landing/strategicplan2015.htm

Connected Vehicle Research

The USDOT's connected vehicle research is a multimodal initiative to enable safe, interoperable networked wireless communications among vehicles, infrastructure, and passengers' personal communications devices. The USDOT and others are sponsoring connected vehicle research to leverage the potentially transformative capabilities of wireless technology to advance transportation safety, mobility, and environmental sustainability. USDOT research supports the development and testing of ITS connected vehicle technologies and applications, to determine their potential benefits and costs. If successfully deployed, connected vehicles will ultimately enhance the safety, mobility, and quality of life of all Americans, while helping to reduce the environmental impact of surface transportation.

Research Focus Areas

Safety

According to the National Highway Traffic Safety Administration (NHTSA), there were 6.1 million crashes in 2014. The number of fatalities from vehicle crashes is falling but still accounted for 32,675 deaths. Vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) wireless communications based safety applications enable vehicles to inform a driver of roadway hazards and dangerous situations that they can't see.

These applications have the potential to reduce or eliminate crashes through:

- Driver Advisories
- Driver Warnings
- Vehicle and/or Infrastructure Controls.

Mobility

According to the Texas Transportation Institute, U.S. highway users wasted 6.9 billion hours stuck in traffic in 2014. Connected vehicle mobility applications will enable system users and system operators to make smart choices that reduce travel delay.

The applications will provide a connected, data-rich travel environment using information transmitted anonymously from thousands of connected vehicles in the transportation system. This could help transportation managers monitor and manage transportation system performance taking actions like adjusting traffic signals and dispatching emergency services. This information could also help transportation agencies and fleet owners manage crews and use resources more efficiently.

Environment

According to the Texas Transportation Institute, the total amount of wasted fuel topped 3.1 billion gallons in 2014. Connected vehicle environmental applications can advise drivers on how to optimize their vehicle's operation and maintenance for maximum fuel efficiency. Data from connected vehicle systems can also provide traffic management centers with detailed, real-time information on traffic flow, speeds, and other vehicle conditions. This can be used to optimize system operation.

Integrating Innovative Technologies: The Smart City Challenge

The USDOT wants to show what is possible when emerging data and ITS technologies and applications are integrated with existing systems in a city to improve safety, enhance mobility, and address climate change. Thus, the USDOT has pledged up to $40 million to one city to help it define what it means to be a "Smart City" and become the country's first city to fully integrate innovative technologies—self-driving cars, connected vehicles, and smart sensors—into their transportation network. In addition, Paul G. Allen's Vulcan Inc. is offering an additional $10 million to the winning city to support infrastructure for electric vehicles, and the winning city's public bus system will receive Mobileye's Shield +TM technology on its entire bus fleet.

See more at: https://www.transportation.gov/smartcity.

The U.S. Government's Role

The ITS JPO is housed within the USDOT's Office of the Assistant Secretary for Research and Technology. The ITS JPO fosters the development and future deployment of connected vehicle technologies. But connected vehicle research involves all agencies within the USDOT including NHTSA, the Federal Highway Administration, the Federal Motor Carrier Safety Administration, the Federal Transit Administration, and the Federal Railroad Administration. The USDOT and its public and private partners are working to address the technical, safety, and policy challenges and are helping to create the standards and the wireless architecture that will be the backbone of the system. Connected vehicle research will leverage the potentially transformative capabilities of wireless technology to make surface transportation safer, smarter, and greener. If successful, connected vehicles will ultimately enhance the mobility and quality of life of all Americans, while helping to reduce the environmental impact of surface transportation.

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