Photo Source: USDOT

CONNECTEDVEHICLE PILOT DEPLOYMENT PROGRAM

LIMIT 35 **SAFETY**
MOBILITY
ENVIRONMENT

The U.S. Department of Transportation (USDOT) connected vehicle research program is a multimodal initiative to enable safe, interoperable, networked wireless communications among vehicles, infrastructure, and personal communications devices. The USDOT and others are researching connected vehicles because of the potentially transformative capabilities of the technology to make surface transportation safer, smarter, and greener. Federal connected vehicle research has produced a considerable body of work to support pilot deployments, including concepts of operations and prototyping for more than two dozen applications. Concurrent federal research efforts are developing critical cross-cutting technologies and other enabling capabilities required to integrate and deploy applications.

Based on the successful results of the connected vehicle research program, 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 Connected Vehicle Pilot Deployment Program seeks to combine connected vehicle and mobile device

Photo Source: USDOT

technologies in innovative and cost-effective ways to improve traveler mobility and system productivity, while reducing environmental impacts and enhancing safety.

The USDOT selected three pilot sites, who are entering the third phase of the deployment where the tested connected vehicle systems will be operational for a minimum 18-month period and system impact will be monitored on a set of key performance measures.

Vision

The Connected Vehicle Pilot Deployment Program seeks to spur innovation among early adopters of connected vehicle application concepts, using best available and emerging technologies. The pilot deployments are expected to integrate connected vehicle research concepts into practical and effective elements, enhancing existing operational capabilities. The intent of these pilot deployments is to encourage partnerships of multiple stakeholders (e.g., private companies, states, transit agencies, commercial vehicle operators, and freight shippers) to deploy applications

Program Goals

- **Spur early connected vehicle technology deployment.** This is not just through wirelessly connected vehicles but also through other elements that are major players in this connected environment, such as mobile devices, infrastructure, transportation management centers, and other elements. Data can be integrated from these multiple sources to help make key decisions.

- **Target improving safety, mobility, and environmental impacts and commit to measuring those benefits.** Measurement of the impacts and benefits will be gathered from real-world deployments, rather than an isolated test bed or a computer-based simulation testbed. Differentiating and finding these benefits and identifying what can be attributed to connected vehicle applications and technologies is an important component of the activity.

- **Resolve issues of various deployments.** People often first jump to technical areas and focus on getting applications to work together—but that is only part of the concern. Institutional arrangements must be put in place to ensure installation of the technology as well as to manage and govern the sharing of information. Also, financial arrangements must be made that may integrate the technologies into a financially sustainable model.

U.S. Department of Transportation

using data captured from multiple sources (e.g., vehicles, mobile devices, and infrastructure) across all elements of the surface transportation system (i.e., transit, freeway, arterial, parking facilities, and tollways) to support improved system performance and enhanced performance-based management.

The pilot deployments will support an impact assessment and evaluation effort that will inform a broader cost-benefit assessment of connected vehicle concepts and technologies. Pilot deployments offer an opportunity for stakeholders and partners to develop operational systems that exist well beyond the life of the program.

Connected Vehicle Pilot Locations

The USDOT awarded three cooperative agreements collectively worth more than $45 million to three sites for the regional connected vehicle pilots:

- New York City, New York
- Wyoming
- Tampa, Florida.

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.

Photo Source: USDOT

Photo Source: USDOT

New York City Department of Transportation (NYCDOT): The New York City Connected Vehicle Pilot aims to improve the safety of travelers and pedestrians in the city through the deployment of connected vehicle technologies. This objective directly aligns with the city's Vision Zero initiative, which began in 2014 to reduce the number of fatalities and injuries resulting from traffic crashes. Led by the NYCDOT, the pilot aims to reduce crash frequency and severity, manage vehicle speeds (to the regulatory limit), and evaluate the benefits of deploying connected vehicle technology in a dense urban environment with frequent interactions among the participating vehicles.

Tampa Hillsborough Expressway Authority: The Tampa Connected Vehicle Pilot aims to transform the experience of automobile drivers, transit riders, and pedestrians in downtown Tampa by preventing crashes, enhancing traffic flow, improving transit trip times, and reducing greenhouse gas emissions.

Wyoming Department of Transportation: To improve driver safety along the corridor, the Wyoming Connected Vehicle Pilot will use dedicated short-range communications based applications that leverage vehicle-to-vehicle and vehicle-to-infrastructure connectivity to support a flexible range of services such as advisories, roadside alerts, and dynamic travel guidance for freight and passenger travel.

With the Connected Vehicle Pilot Deployment Program, the USDOT is now focusing on accelerating the deployment of the technology in more regions throughout the nation. The USDOT's goals for the program are straightforward—advance deployment, measure impact, and uncover and address the technical and non-technical barriers to deployment in a hands-on way.

Visit the program's website to learn more: www.its.dot.gov/pilots.