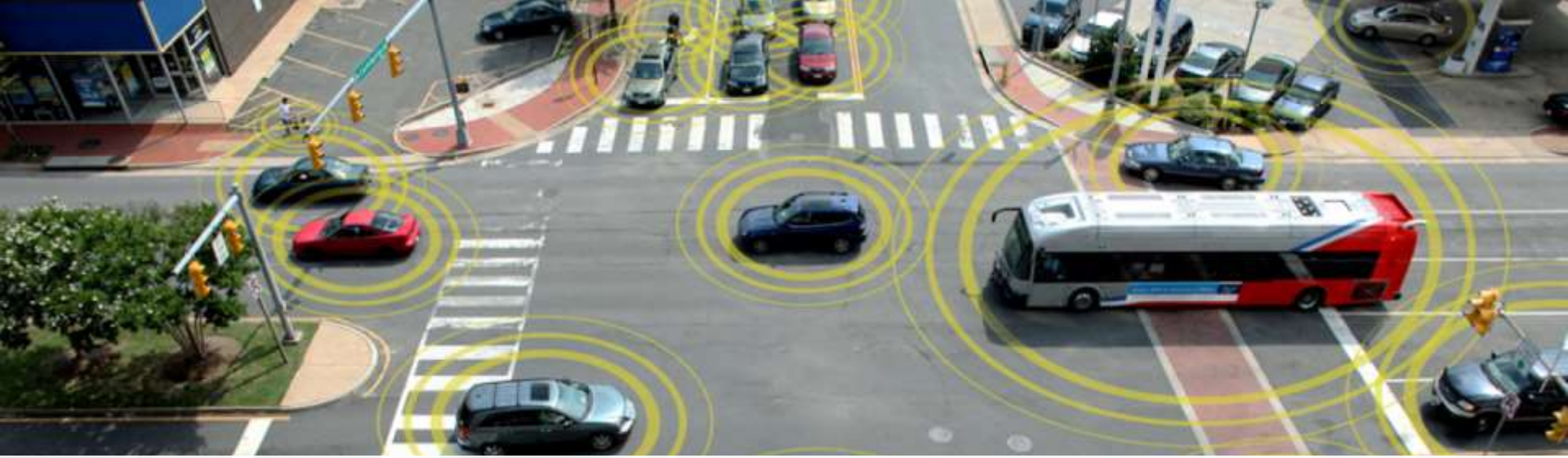


How Talking Cars will Transform the Way We Travel

Mike Pina
Program Manager
Office of the Assistant Secretary for Research & Technology
U.S. Department of Transportation

Photo Source: U.S. DOT

http://www.nbcnews.com/video/nightly-news/54263850#54263850

NBC – Nightly News
February 3, 2014

The Problems Today

Photo Source: Thinkstock and Wikimedia Commons

Connected vehicles can help.

They use wireless communication between vehicles and infrastructure to help prevent crashes, make travel easier, and curb pollution.

Photo Source: Thinkstock

All vehicles, regardless of type, will communicate with each other using a wireless technology called Dedicated Short-Range Communications (DSRC).

Connected vehicles have the potential to address up to 81% of unimpaired crash scenarios.

Connected vehicles will provide drivers with warnings to help them avoid crashes.

Trucks, transit, and emergency vehicles are connected vehicles too.

Imagine if the cars in front of you could send you information about dangerous road conditions ahead, such as icy roads, fog, heavy rain, and snow.

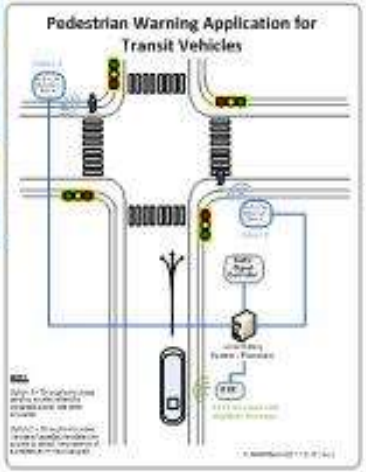
The vehicle information communicated does not identify the driver or vehicle, and technical controls have been put in place to help prevent vehicle tracking and tampering with the system.

V2I Communications Will Improve Safety

Curve Speed Warning

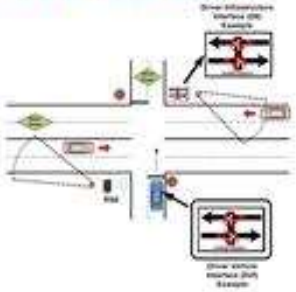
Smart Roadside

Pedestrian Warning Application for Transit Vehicles



Red Light Violation Warning

Stop Sign Gap Assist

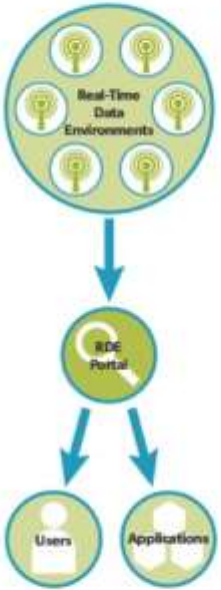


Connected vehicles - V2I safety applications will assist in overall roadway safety.

U.S. Department of Transportation
Federal Highway Administration

NHTSA
www.nhtsa.gov

Connected Vehicle TEST BED



What's Next

Program Goals

Spur Early CV Tech Deployment + Measure Deployment Benefits + Resolve Deployment Issues

CV Tech: Wirelessly connected vehicles, mobile devices, and infrastructure

Safety, Mobility, and Environment

Technical, Institutional, Financial

Connected Vehicle Pilot Deployment Program

ITS Joint Program Office

Proposed Program Schedule

- Summer-Fall 2014: Regional Pre-Deployment Workshops/Webinars
- Early 2015: Solicitation for Wave 1 Pilot Deployment Concepts
- Early 2017: Solicitation for Wave 2 Pilot Deployment Concepts
- September 2020: Pilot Deployments Complete

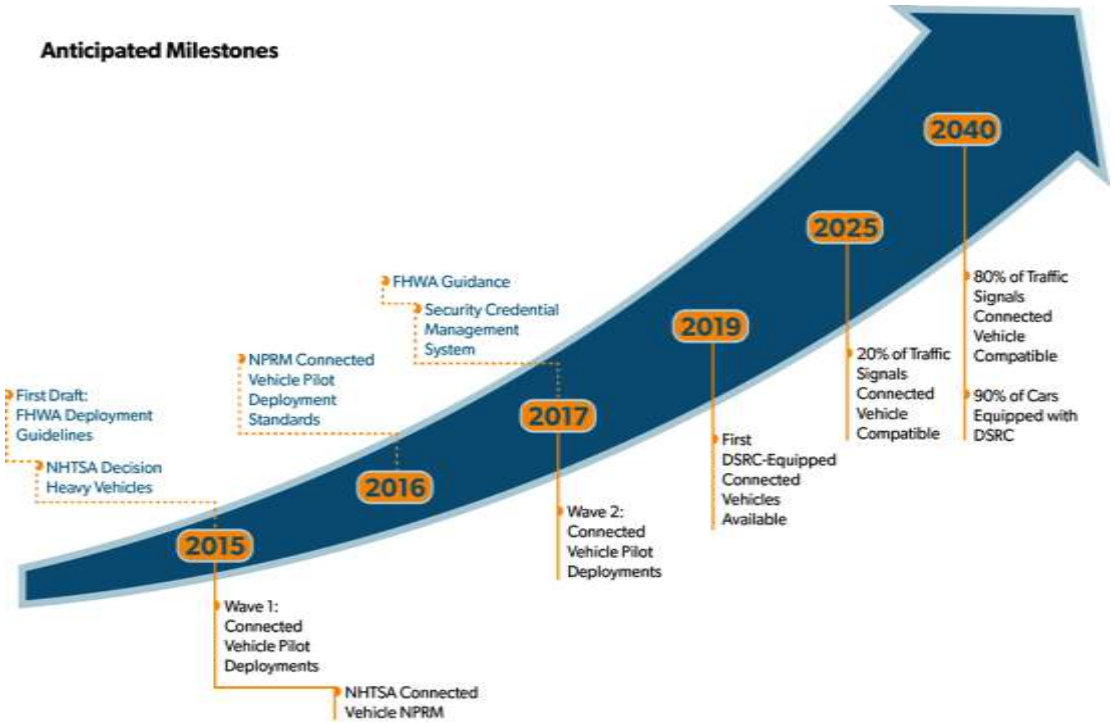
Resources

- ITS JPO Website: http://www.its.dot.gov/
- CV Pilots Program Website: http://www.its.dot.gov/pilots

How Planners Can Prepare for Connected Vehicles

1. Understand the Unique Challenges of Your Community
    a. Traffic Congestion
    b. Pollution
    c. Pedestrian Safety
    d. Protecting Work Zones and First Responders
    e. Improved Public Transit
    f. Road Weather

2. Understand which How Connected Vehicle Applications can help your community
    a. Mobility applications
    b. Environmental Applications
    c. Safety Applications
    d. Pedestrian Applications
    e. Road Weather Management applications
    f. Transit Applications
    g. Emergency responders applications



How Planners Can Prepare for Connected Vehicles

3. Understand the Proposed Timeline and integrate it into your planning
   a. 2016: NHTSA proposed rule for light vehicles
   b. 2017: First wave of connected Vehicle Pilots operating
   c. 2019: Second Wave of connected vehicles operating
   d. 2020: first mandated connected vehicles available to the public
   e. 2025: 20% of traffic signals are connected are DSRC compatible
   f. 2040: 90% of traffic signals and 90% of vehicles are DSRC compatible
4. Stay connected to USDOT for continuous updates on connected vehicle research.

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