Connected Vehicles Overview

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What are Connected Vehicles?
Fully Connected Vehicle

**Vehicle Data**
- latitude, longitude, time, heading angle, speed, lateral acceleration, longitudinal acceleration, yaw rate, throttle position, brake status, steering angle, headlight status, wiper status, external temperature, turn signal status, vehicle length, vehicle width, vehicle mass, bumper height

**Infrastructure Messages**
- Signal Phase and Timing
- Fog Ahead
- Train Coming
- Work Zone 35 mph
- 50 Parking Spaces Available
Crash Reduction Potential

81%

Photo Source: NHTSA
Connected Vehicle

Rulemaking to require vehicle-to-vehicle (V2V) communications technology
- Based on data from many sources, including the Safety Pilot Model Deployment
The path toward connected vehicles will ultimately lead to automated vehicles.

- **Connected Vehicle**
  Communicates with nearby vehicles and infrastructure; Not automated

- **Connected Automated Vehicle**
  Leverages autonomous automated and connected vehicles

- **Autonomous Vehicle**
  Operates in isolation from other vehicles using internal sensors
Infrastructure Deployment Planning

V2I Deployment Guidance

• FHWA issue in 2015
Website: http://www.its.dot.gov

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