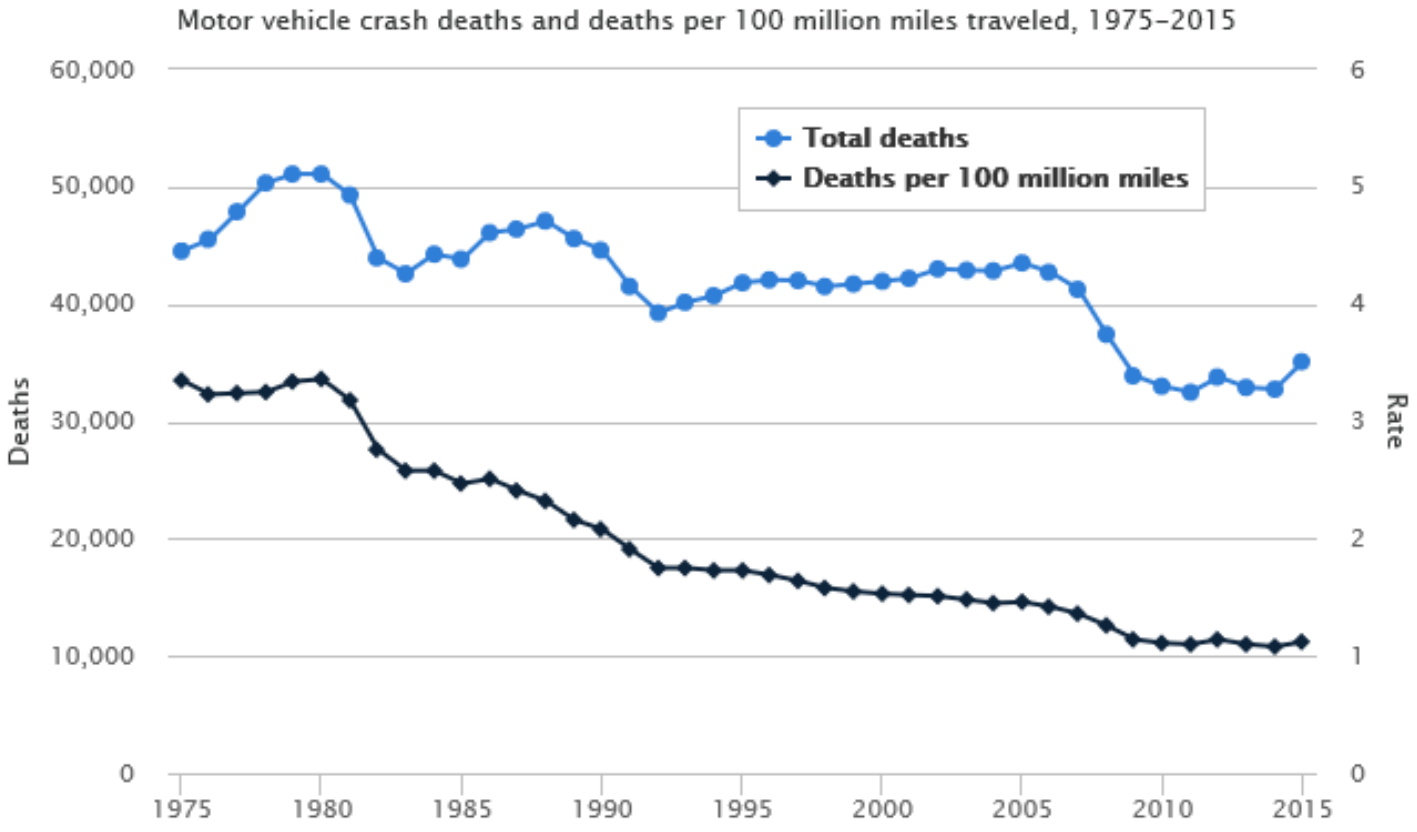
Michael Baker
INTERNATIONAL

We Make a Difference

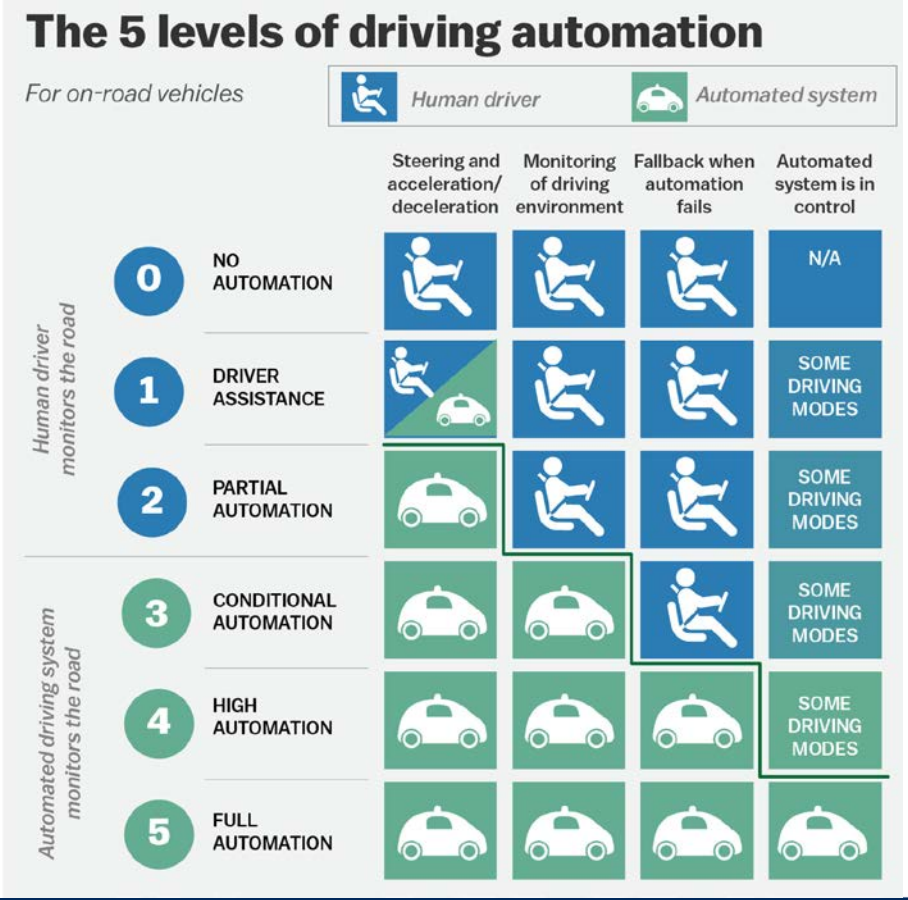
Connected and Automated Vehicles: Deployments

Matthew Smith, P.E.

Penn State TESC 2017



Source: Insurance Institute for Highway Safety



Source: SAE International

What is a Highly Automated Vehicle?

Highly Automated Math

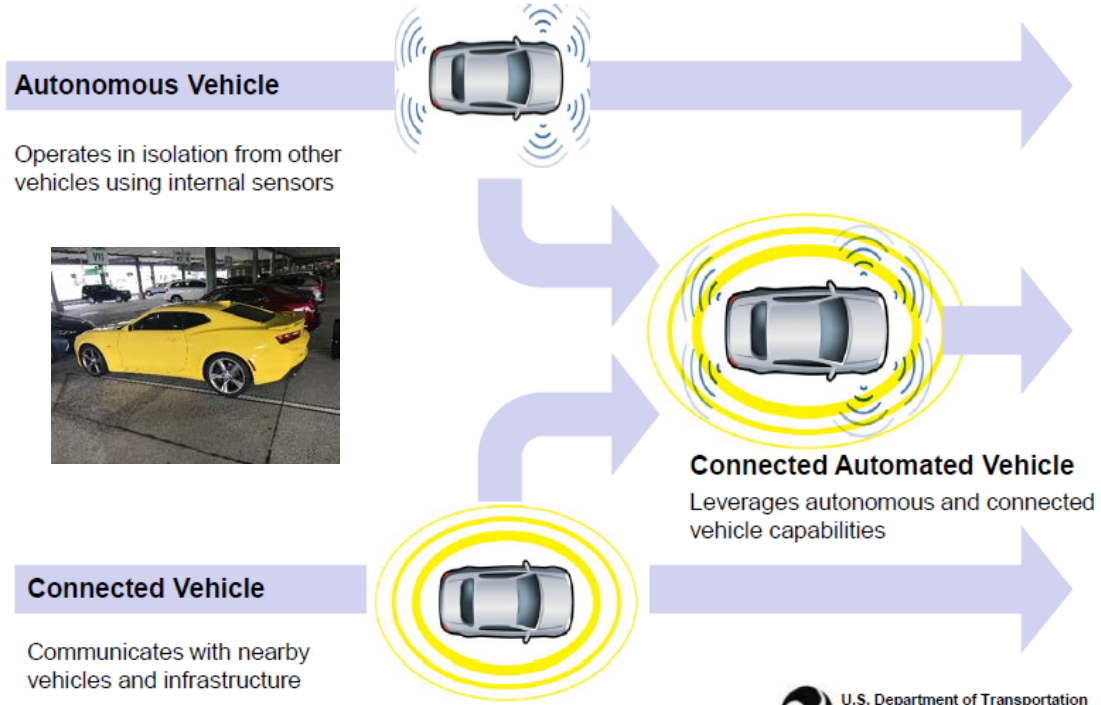
Input Variables

- Level 5 Capabilities = 2018
- Level 5 Passenger Vehicles =
- Level 5 Every new passenger vehicle = 2030
- Median Fleet Age = 11.5 years
- Fleet Turnover = 23 years

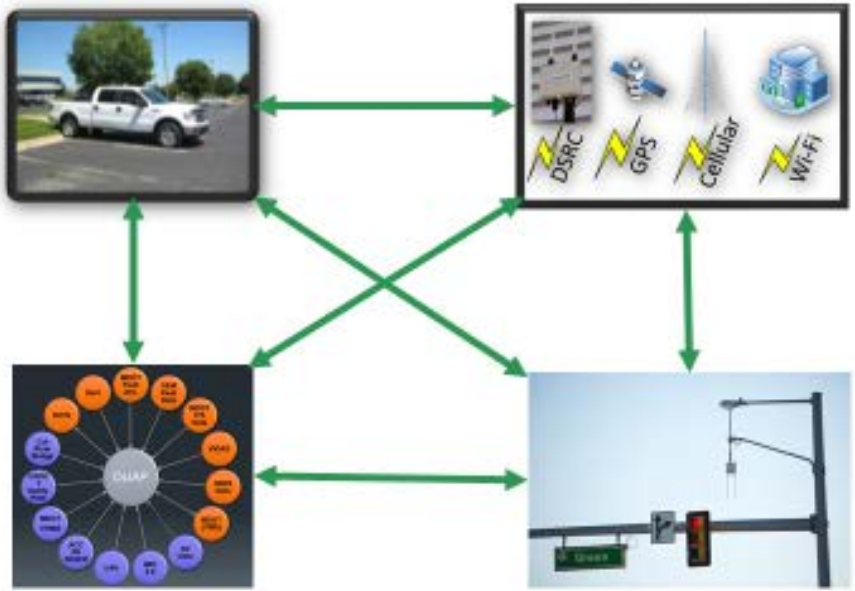
Equation

2030 + 23 = ……2053

Connected Automation for Greatest Benefits

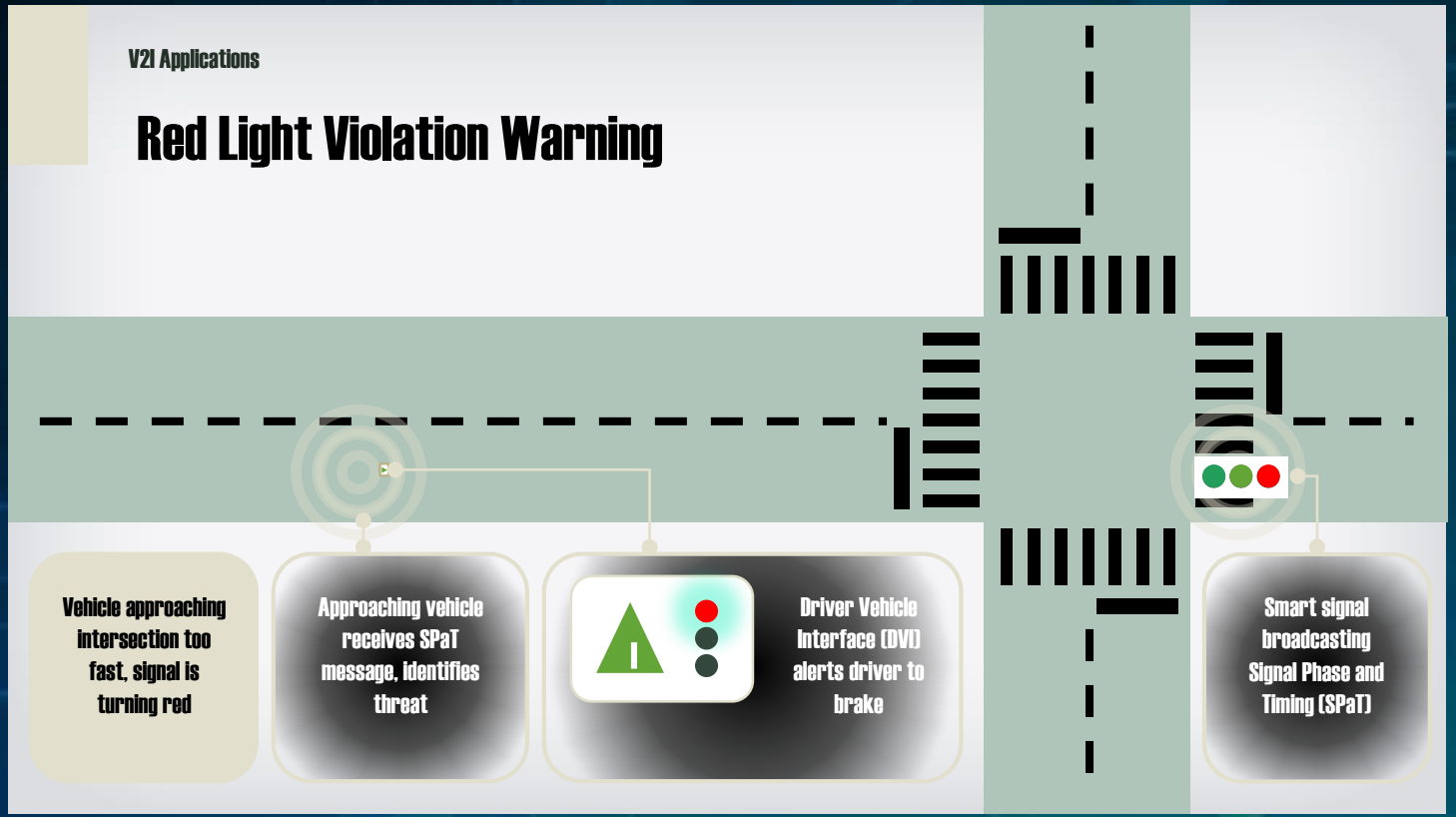


Components of a V2I System

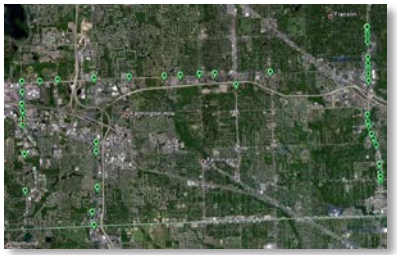


V2I Applications

Red Light Violation Warning

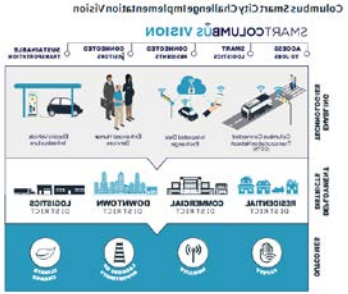


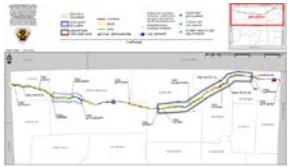
“Connected” Vehicle Evolution



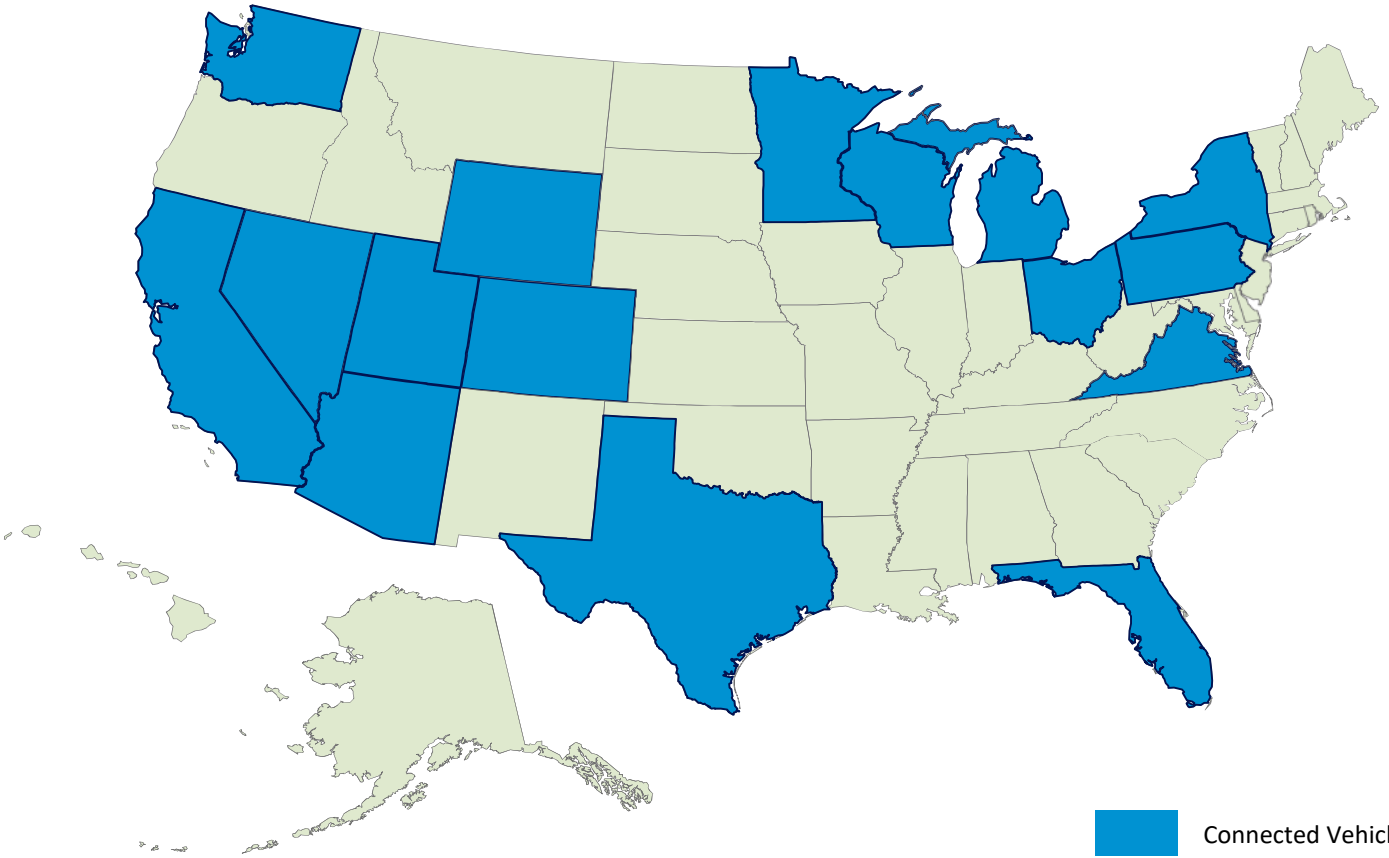
U.S. Department of Transportation

SAFETYPILOT
CONNECTED VEHICLE TECHNOLOGY





Connected Vehicle Deployments



Cooperative Work

VEHICLE TO INFRASTRUCTURE DEPLOYMENT COALITION

AASHTO
THE VOICE OF TRANSPORTATION
ITS AMERICA
ite

AASHTO
SUBCOMMITTEE ON TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS

TRB
TRANSPORTATION RESEARCH BOARD
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What does the future look like?

- More Congestion?
- Less Congestion?
- More Urban Living ?
- More Sprawl ?
- Increased Mobility and Access ✓
- Car Ownership ✓
- Changing Travel Patterns ✓
- Mixed Fleets ✓
- Technology! ✓
- Partnerships! ✓

Challenges (Opportunities) for Public Agencies

- Vehicles
- Communications Networks
- Data Management
- Workforce Development
- Business Processes
- Cybersecurity
- Partnering
- Technology Advancement
- Regulatory Developments
- Financing/Business Models

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Questions?

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