Autonomous Vehicles:
Michigan Perspective

Michigan Department of State
Rethinking Mobility

30,000+ Americans die every year in motor vehicle crashes

94% of vehicle crashes are due to human error

49 Million Americans are over 65
53 Million People have some sort of disability

6.9 Billion Hours are spent by Americans in traffic delays

Over $242 Billion in economic activity is spent on motor vehicle crashes

50 Minutes A day can be saved with Autonomous Vehicles

Visit www.planetm.com for all things Michigan & mobility

Information obtained from https://www.nhtsa.gov/technology-innovation/automated-vehicles

Safe Drivers · Safe Vehicles · Secure Identities · Saving Lives
• Public Act No. 332
• Eliminates Test Only Restrictions
• Confidence for Researchers

• Public Act No. 333
• Power to Vehicle Manufacturers
• Provides Standards for SAVE Projects

• Public Act No. 334
• Creating The American Center for Mobility (ACM)

• Public Act No. 338
• Protection for Mechanics

Safe Drivers • Safe Vehicles • Secure Identities • Saving Lives
• Cyber Security
  • “Connected Vehicle Technology” means a device that is installed, embedded, or attached to a road or road infrastructure to deliver traffic and safety information to a vehicle or person, facilitate efficient movement of traffic, or aid vehicle and traffic research.
  • “Motor vehicle electronic system” means a computer, computer system, computer network, vehicle communication system, or other device or system designed to implement, assist, or enhance the manual or autonomous operation of a motor vehicle, provide vehicle telematics services, or ensure the safety of a motor vehicle operator or passenger.
• Cyber Security, cont. – Section 5(1).

(a) Access or cause access to be made to a computer program, computer, computer system, computer network, motor vehicle electronic system, or connected vehicle technology to acquire, alter, damage, delete, destroy, disrupt, impair or otherwise use or gain control of the service of a computer program, computer, computer system, computer network, motor vehicle electronic system, or connected vehicle technology, or other property.

(b) Insert or attach or knowingly create the opportunity for an unknowing and unwanted insertion or attachment of a set of instructions or a computer program into a computer program, computer, computer system, computer network, motor vehicle electronic system, or connected vehicle technology, that is intended to acquire, alter, damage, delete, disrupt, impair, destroy, or otherwise use or gain control of the services of a computer program, computer, computer system, computer network, motor vehicle electronic system, or connected vehicle technology, or other property. This subdivision does not prohibit conduct protected under section 5 of article I of the state constitution of 1963 or under the first amendment of the constitution of the United States.
Testing and Research

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Partnerships

- MDOT/Macomb County
  - 2 Connected Vehicle Signalized Intersections

- General Motors
  - Cadillac CTS Vehicles
  - RLVW Application

- Test Data Transfer
  - Signal Phase and Timing (SPaT)
  - MAP (Intersection Geometry)
  - Phase-to-Lane Mapping
Deployments in Lansing:
Miles Equipped: 10

Deployments in Ann Arbor:
Miles Equipped: 55

MDOT CAV Infrastructure Deployments
- Existing & 2017
- 201: 9
- 8: 8
- 201: 9

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Rethinking Infrastructure

Machine Readable Sign, MI Corridor, Summer 2017
TARDEC PLATOONING TESTING
The Autonomous Vehicle Working Group:

- Established in the Fall 2014
- Consists of 16 jurisdictional members, 2 Canadian representatives, a NHTSA representative, a FMCSA representative and AAMVA staff
- NHTSA sponsored the project for first 2 years, now AAMVA is sponsoring the final year

Three sub-groups focusing on issues impacting:

- Drivers: Licensing & Testing;
- Vehicles: Titling & Registration; and
- Law Enforcement: Concerns & Challenges
1. Provided significant input for the NHTSA Model State Policy - Published September 20, 2016

2. NHTSA – Automated Driving Systems 2.0 - Published September 12, 2017

3. Concurrent with the Model State Policy development and *Automated Driving Systems 2.0*, the Working Group will complete its work by publishing *Guidelines for the Regulation of Highly Automated Vehicles*. This supports the MVA role as highlighted in the Model State Policy. Anticipated release February 2018
House and Senate have competing yet somewhat congruent bill packages before their respective bodies

- Concerns of the AAMVA community:
  - Roles definition – State versus Federal
    - Same as today but “unreasonable restriction”
  - Number of vehicles allowed to be exempted
    - Up to 100,000 vehicles/year
  - Federal rule making speed
    - NHTSA in a difficult position, possibly FMCSA
  - CMVs inclusion not decided but there is push to include them by a number of interest groups
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