AUTONOMOUS VEHICLES
Legislative Comparisons, Observations and Recommendations

The Technology Law and Public Policy Clinic
at the University of Washington School of Law
Who We Are

- UW Law Clinic
- 2Ls, 3Ls and LLMs
- Public policy + Technology = Lawyer/Technologists
- Algorithms, Drones, Privacy Policy
- Autonomous Vehicles
What Are They? When Will They Be Here?

• **Autonomous vehicle** - a vehicle capable of sensing the environment around it and navigating without human input
  • Includes trucks, busses, boats, agricultural equipment
What Are They? When Will They Be Here?

• Assistive technologies
  • Adoptive cruise control
  • Forward collision alert
  • Lane Departure Warning and Correction Automatic lane centering
  • Volvo City Safety (stop and go)
Tesla CEO Elon Musk has clarified the plans this week and now predicts that true level 5 autonomy is about 2 years away –

GM Level 4 self-driving vehicle-filed Safety Petition to be able to deploy its completely driverless version of Chevy Bolt in 2019

Volvo company is planning to sell a Level 4 self-driving crossover SUV in 2021.

Heavy-duty trucks that don’t need a driver behind the wheel could be on the road in as little as three years.

Industry statements on when we shall see Level 4 and Level 5 technology
What Are They? When Will They Be Here?
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Up to 15% of all new vehicles sold in 2030 could be fully autonomous, subject to progress on the technical, infrastructure, and regulatory challenges.

- High-disruption scenario entails:
  - Regulatory challenges overcome in key markets
  - Safe and reliable technical solutions fully developed
  - Enthusiastic consumers who are willing to pay

- Commercial introduction of full autonomy by new tech players and premium OEMs

- Mass-market leaders introduce full autonomy

- Manufacturing capacity for tech players ramps up gradually

- Technical and regulatory barriers delay commercial-scale introduction of autonomous vehicles

- Ramp-up as AV availability spreads across popular consumer models

- Slow consumer uptake driven by perceived low value proposition or negative publicity following critical incidents

- High scenario for conditional or better autonomy (L3+)
- High scenario for full autonomy (L4/L5)

Low scenario for conditional or better autonomy (L3+)

Low scenario for full autonomy (L4)

Fully autonomous vehicle share of new vehicle market

Percent

2020 25 30 35 2040

15%
What is Happening Around the Country?

- 29 states have enacted legislation
- 10 Executive Orders issued
- State laws and model legislation
  - Arizona, California, Florida, Georgia,
  - Michigan, New York, Ohio, Washington
- Uniform Law Commission
- Self Driving Coalition for Safe Streets
What is Happening Around the Country?

- **Common features**
  - Definitions
  - Testing Procedure (pilot programs)
    - Oversight agency(ies)
    - Application process (self-certification)
    - With and without human operator onboard
    - Operator qualifications
  - Insurance and liability
  - Policy Making Body
  - Miscellaneous
Washington State Actions

• Executive Order 17-02, June 2016
  • No definitions
  • Testing Procedure (pilot programs)
    • Department of Licensing
    • Application Process (self-certification)
    • With or without human operator onboard
      • With (valid driver’s license, financial responsibility, etc.)
      • Without (compliance with M/V laws, financial responsibility etc.)
  • Working group established
Washington State Actions

- **Legislation 2018 House Bill 2970**
  - No definitions or testing procedures
  - Working group established
    - Track developments in autonomous vehicle technology
    - Explore approaches to modifying state policy
    - Share information with interested parties
  - Report to Legislature by November 15
Washington State Actions

• Self-certified companies in Washington State
  • Dooblai LLC (small, Bellevue based)
  • May Mobility (Ann Arbor based fleet mobility company)
  • Navya Inc. (international company, offices in Michigan)
  • NVIDIA Corporation (computer company, office in Redmond)
  • Simple Solutions (unclear information)
  • TORC Robotics (retrofitter, Blacksburg, Va.)
  • Waymo LLC (Google spinoff)
Other States
New York

- **2017 and 2018 Legislation**
  - Definitions
    - Autonomous vehicle technology, Dynamic driving task
  - Testing procedures
    - Approval by Commissioner of Motor Vehicles
    - Under direct supervision of New York State Police
    - Must be human onboard at all times
    - Must have valid driver’s license
    - Vehicle must be able to comply with federal and state law
    - Proof of financial responsibility $5m
  - Reporting requirement
Other States
New York

- Law enforcement interaction plan
  - Included with application
  - Directed to law enforcement and first responders
  - “How to interact with such a vehicle in emergency and traffic enforcement situations.”
    - Waymo plan for California
Other States
Arizona

- **Executive Order 2015 and 2018**
  - Definitions
    - Dynamic driving task, Fully autonomous vehicle, Minimal risk condition,
  - Testing procedures
    - Arizona Department of Transportation
    - Self-certification (submission of written statement)
      - Operator need not be onboard
      - Vehicle compliant with federal and state law
      - Failure of A/V system vehicle will go to minimal risk condition
      - Meets insurance requirements
      - Operator must have license
Other States
Arizona

- **State agency cooperation**
  - Law enforcement interaction protocol
    - Developed by Arizona Department of Public Safety with assistance of applicants
    - Educate law enforcement agencies and first responders on how to interact with autonomous vehicles
  - Reporting
    - Department of Transportation and Department of Public Safety identify regulations not applicable to A/Vs or need updating
    - Department of Transportation review title and registration procedures and recommend how law enforcement and general public shall have pertinent information in event of collision with an autonomous vehicle
Other States
Ohio

- **Executive Orders 2018**
  - Definitions
    - Autonomous vehicle (any vehicle equipped with Level 3-5 technology)
  - Testing
    - Drive Ohio (see below)
    - Register and provide
      - Vehicle and operator identification information
      - Proof of financial responsibility
      - Locations where testing shall take place
      - Report on how company plans to insure public safety
    - Operator not required to be onboard
Other States
Ohio

• **Drive Ohio** “statewide center for advancing smart mobility solutions…”
  • Executive Director appointee of Director of Ohio Department of Transportation
    • Bring together those who are responsible for building infrastructure with those who are developing autonomous vehicles
    • Eight working groups created
    • Serve as single point of entry for those wishing to test or build “smart mobility technology”
  • Develop policy objectives and goals
  • Develop recommendations to assist workforce for transition of transportation
Other States
Ohio

- **Drive Ohio**
  - Government Advisory Board established to assist Drive Ohio
    - Report on activities of local governments aimed at preparing for smart mobility technology
    - Provide recommendations on policies to be established to assist localities in integrating smart mobility technology
  - Expert Advisory Board
    - Report on technological advancements in field of smart mobility, data security research developments
    - Provide guidance and strategic direction to Drive Ohio
Other States
Florida

• In Florida, no permit needed for driverless cars, Florida senator says

"Unlike California, we in Florida welcome driverless cars - no permit required."
— Jeff Brandes on Thursday, December 22nd, 2016 in a tweet
Other States
Florida

• Legislation 2016
  • Definitions
    • Driver Assistive Truck Platooning, Operator
  • No permit required; registration sufficient
    • Department of Highway Safety and Motor Vehicles
    • Operator not required to be onboard
    • Individual with valid driver’s license may operate A/V on state roads
  • Vehicle must be able to comply with state and federal laws
  • Have safety system which alerts operator of system failure
Other States
Florida

• The Department of Transportation, in consultation with the Department of Highway Safety and Motor Vehicles, shall study the use and safe operation of driver assistive truck platooning .... for the purpose of developing a pilot project ....
Other States
Misc. Issues

• Privacy
  • The manufacturer of the autonomous technology .... shall provide a written disclosure to the purchaser ...... that describes what information is collected by the autonomous technology equipped on the vehicle (California)

• Liability
  • A manufacturer of automated technology .... immune from civil liability for damages that arise out of any modification made to .... an automated motor vehicle ... by another person....without manufacturer’s consent (Michigan)
Recommendations
Washington Laws

• Insurance – sufficient for autonomous vehicles?

• Civil liability-sufficient when party or entity at fault can be clearly identified
  • Strict liability for manufacturer in unclear cases?

• Cybersecurity-
  • Computer Fraud and Abuse Act, Washington Cybercrime Act, Computer trespass

• Privacy (Electronic Data Recorders)
  • RCW 46.35
Recommendations
Questions to Consider

• Vision
  • Should A/V policy attract industry? Maximize public protection?

• Reporting
  • What information should industry be required to submit to regulators?

• Insurance
  • Washington $50,000, California and New York $5m is it time for increase?

• Public usage of A/Vs
  • Should Washington permit individuals to own and operate advanced A/Vs?
Recommendations
Insert Definitions

• Definitions
  • Autonomous Vehicle or Fully autonomous vehicle
  • Dynamic Driving Task
  • Minimal Risk Condition
  • On Demand Automated Vehicle Network
  • Operator
  • Upfitter
Recommendations
Recognize, Prepare for Other Forms of Autonomous Transit

• Platooning
  • *Coordinated platoon* group of motor vehicles traveling in the same lane utilizing vehicle-to-vehicle communication technology to automatically coordinate the movement of such vehicles." (Georgia)
  • *Platoon* group of individual motor vehicles that are traveling in a unified manner at electronically coordinated speeds. (Michigan)
Recommendations
Using Policy to Build Confidence in the Technology

• 1. Explore testing regimes and other methods of convincing the public technology is safe
Recommendations
Take a Holistic Approach to Policy Making

2. Consider how A/V Policy impacts
   • Simultaneous or near simultaneous development of autonomous commercial vehicles
   • Public transportation
   • Municipal policies aimed at reducing number of vehicles
   • Taxes
   • Future of car ownership
Recommendations
Insure all Key Players are Heard

3. Insure all key players are in the room when policy is made
   • Drive Ohio Model?
   • Seniors? Bicyclists? Labor? Disabled?
   • Caution-danger of too large a group
Recommendations
Examine and Where Necessary, Adjust Motor Vehicle Code

• RCW 46.04.370 Operator or driver. “Operator or driver" means every person who drives or is in actual physical control of a vehicle.

• 4. Clean up Motor Vehicle Code
  • What about DUI and distracted driving laws?
5. Consider current and future infrastructure needs of A/Vs; smart highways, V2V
Recommendations
Monitor and Learn From Other States

- Keep an eye on what other states and other nations are doing
Autonomous Transportation Future
Questions