Legislative Action in the Age of Vehicle Automation: Industry Update

Southern Legislative Conference
Biloxi, Mississippi
July 29, 2017
About WSP

— Global professional services firm with over 35,000 employees
— Portfolio in Transportation, Buildings, Power/Energy and Environmental sectors
— Over ten years of active practice in connected/automated vehicle market

Mcity
Ann Arbor, Michigan
(Source: University of Michigan)
Technology Overview
The Race to Driverless
Traffic Safety

What if cars (and trucks, and buses...) no longer crashed?
Changes in Roadway Capacity

Under low-volume conditions, vehicles travel at high speeds with sufficient spacing.

As volume increases, speed decreases as vehicle headways decrease.

If AVs could operate at high speed with low headways, huge potential capacity increases.
IS THIS OUR FUTURE?
AV Changes in Vehicle-Miles Traveled (VMT)

When driving time is “regained”, how far might you ride in your car to work?
Will new segments of the population become “drivers?”
Changes in Car Ownership Model

What if this...

...increasingly became this
Potential to Change the Car Ownership Paradigm
Dizzying Web of Players
Ford plans to have a “Level 4 vehicle in 2021, no gas pedal, no steering wheel...”

- Former Ford Motor Company CEO Mark Fields

“We believe we have the chance to make level three, level four and level five doable [in 2021]”

- BMW

“Bosch said it saw level three vehicles being released...at the end of the decade, and level four driving not before 2025”

- Reuters
Levels of Automation

Learn more about SAE J3016 or purchase the standard document: www.sae.org/autodrive
But it’s not just about the technology...

- Initial AV Cost?
- Auto Industry Disruption?
- Legal Liability?
- Revenue Impacts?
- Insurance Industry Disruption?
- Federal and State Regulation?
- Acceptance of “Computer Driver”?
Federal Role and Activities
Federal AV Policy Guidance

— Issued by USDOT and NHTSA in September 2016

— Creates key definitions:
  — Highly Automated Vehicle (HAV) - SAE Levels 3, 4 or 5
  — Operational Design Domain (ODD) - conditions under which the HAV is designed to operate

— Voluntary 15-point safety assessment for automakers

— Provides a model state policy for AVs

— New administration has not indicated next action
Federal vs. State Roles

— **FEDERAL**
  - Regulate vehicle safety
  - Investigate safety failures
  - Regulate “machine drivers” (hardware/software systems for HAVs)

— **STATE**
  - Licensing human drivers
  - Registering vehicles
  - Performing individual vehicle safety inspections
  - Regulating insurance and liability
  - Update vehicle codes to consider the HAV system the “driver”
  - Address liability framework
Federal Legislation: U.S. House Activity

— Highly Automated Vehicle Testing and Deployment Act of 2017
  — House Committee on Energy and Commerce
  — Passed subcommittee on voice vote
  — Full committee action anticipated this week

— Key policy points:
  — Clarifying NHTSA and State authority
  — Updating FMVSS for HAVs
  — Cybersecurity
  — Testing and evaluation
  — Consumer information related to sale of HAVs
  — Establish HAV advisory council
  — Requirements for alert systems
Federal Legislation: U.S. Senate Activity

— Bipartisan Federal legislation under development in Senate

— Sponsors:
  — John Thune (R – South Dakota)
  — Gary Peters (D – Michigan)
  — Bill Nelson (D – Florida)

— No introduction date announced

— Principles (released June 2017):
  — Prioritize safety
  — Near and long-term regulatory oversight
  — Promote innovation/reduce roadblocks
  — Remain tech-neutral
  — Reinforce separate Federal/State roles
  — Strengthen cybersecurity
  — Educate the public and encourage responsible adoption of AVs
State Legislative Activities
— Legislation considered in 41 states since 2012
— 19 states have passed AV legislation
— Executive orders related to AVs issued in 4 states

Source: National Conference of State Legislatures
What Are Developers Asking For?

— OEMs:
   — Safe Automated Vehicle (SAVE) Act - prevent non-automakers from providing rides in self-driving vehicles
     — Promoted by General Motors and other OEMs to ensure minimum safety standards during introductory period
     — Opposed by Uber, Lyft, Waymo, etc.

— All:
   — Operation allowed without humans in vehicle
   — Operation allowed without a steering wheel
   — Clarification of allowable conditions of operation
What Key Issues are State Bills Addressing?

— Operation without a human occupant
— Platooning/spacing of vehicles
— Role of Transportation Network Companies (TNCs) in automation
— State vs. local roles
— Need for visual indication that AV function is engaged
— Formalize research collaborations/partnerships (and associated reporting requirements to legislatures)
— Protection for mechanics
Where Do We Go From Here?
*Unanswered Questions*

— Next move for USDOT/NHTSA under new Administration
— How does potential Federal legislative action impact states?
— Do timelines for deployment (early 2020’s) hold up?
Questions?

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