

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



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Ann Arbor, Michigan

(Source: University of Michigan)

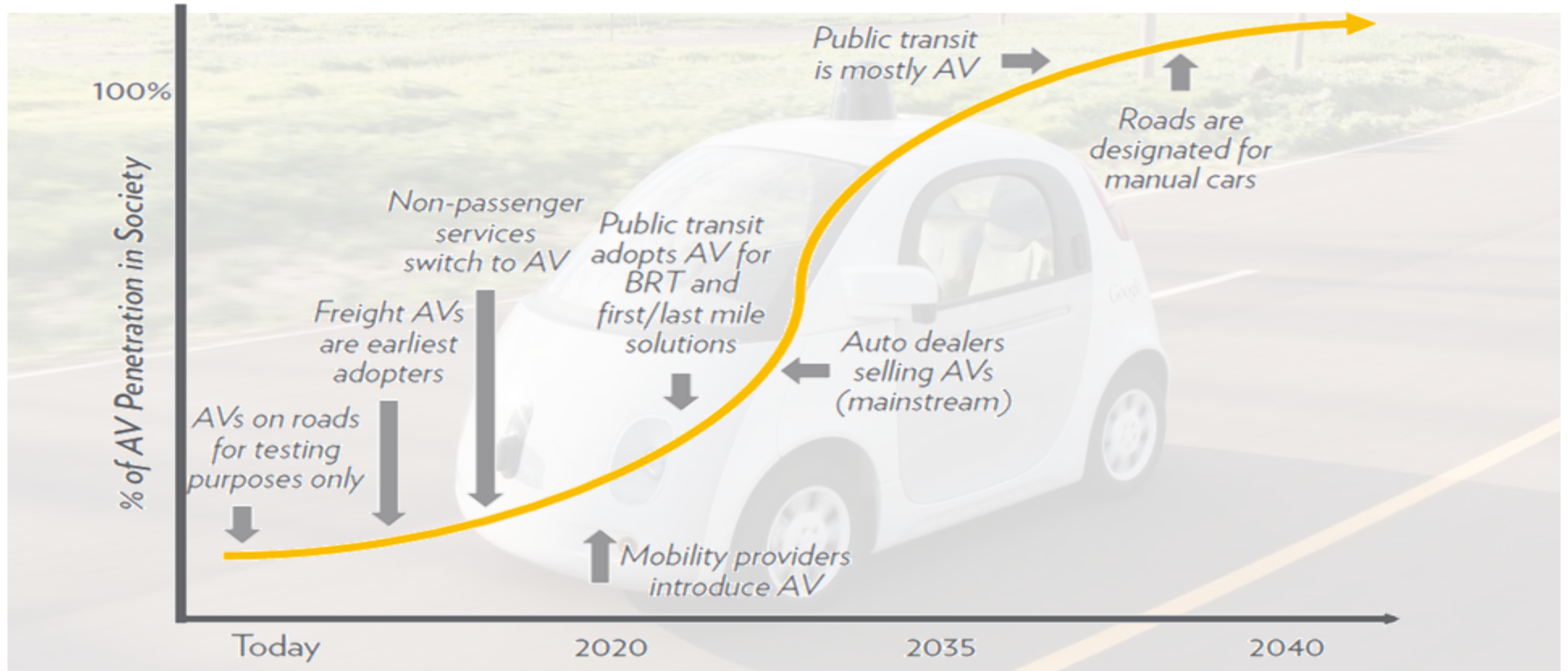
Technology Overview

The Race to Driverless



Source: Google

The Race to Driverless

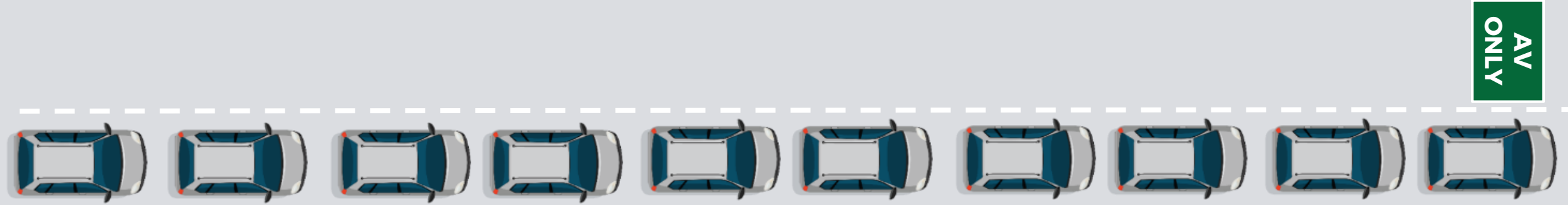


Traffic Safety



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?

Changes in Demand & Opportunity

Will new segments of the population become “drivers?”



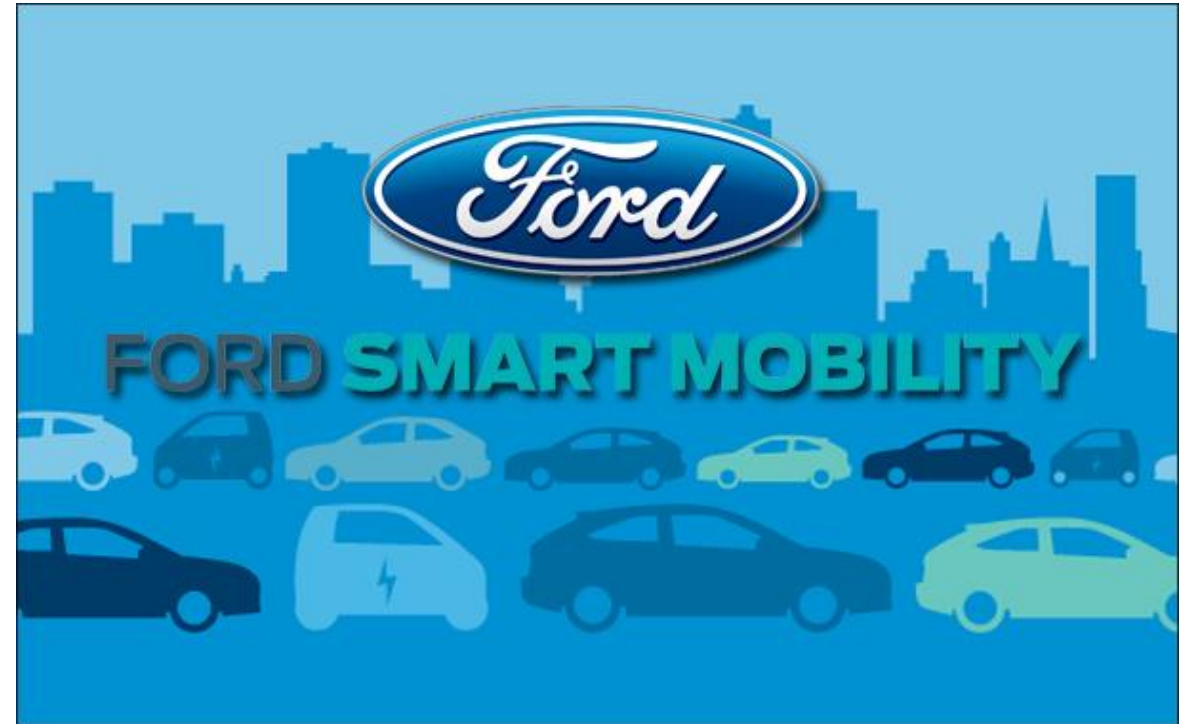
Changes in Car Ownership Model



What if this...

...increasingly
became this

Potential to Change the Car Ownership Paradigm



13



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

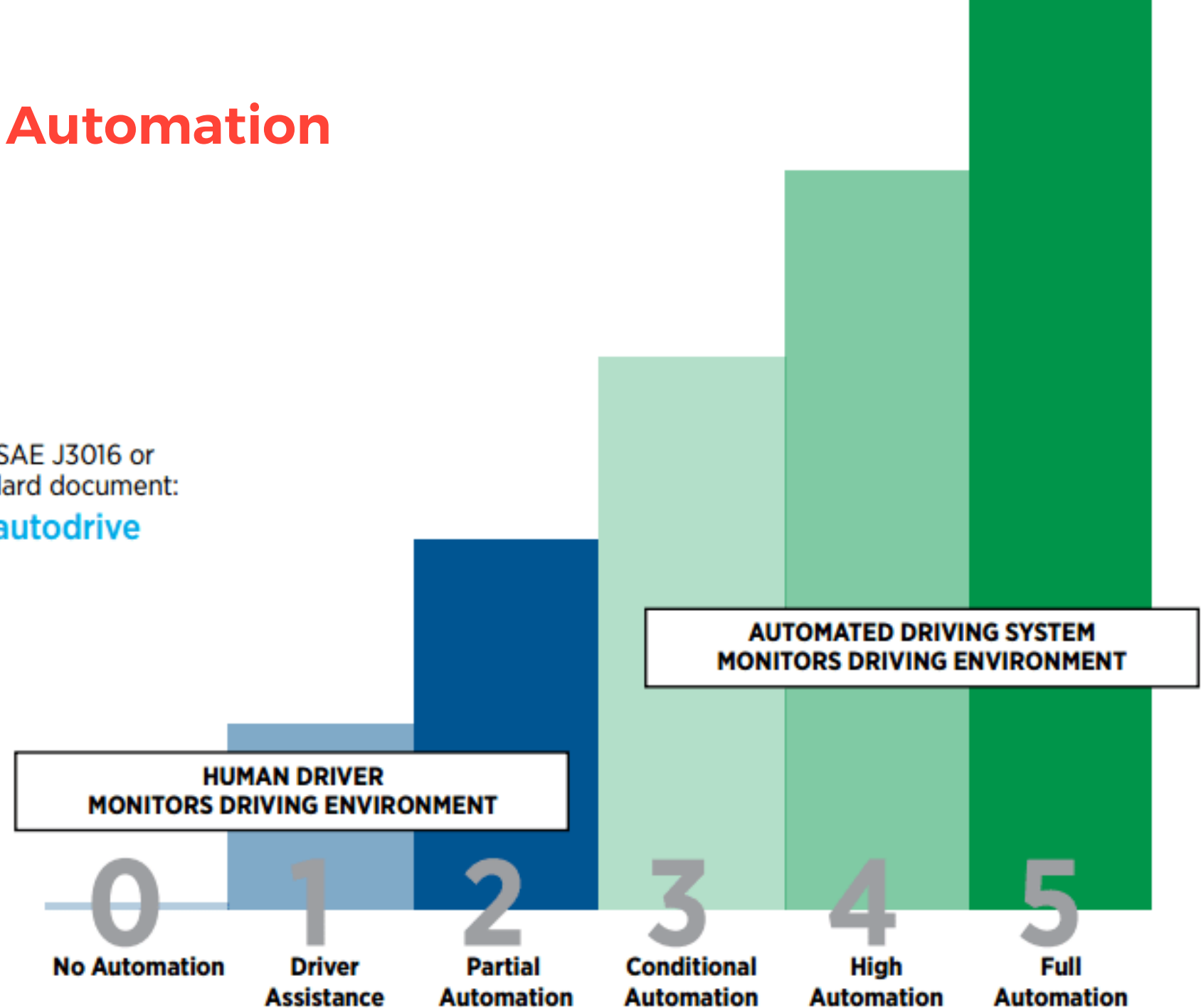
“Bosch said it saw
level three vehicles
being released...at
the end of the
decade, and level
four driving not
before **2025**”

- Reuters

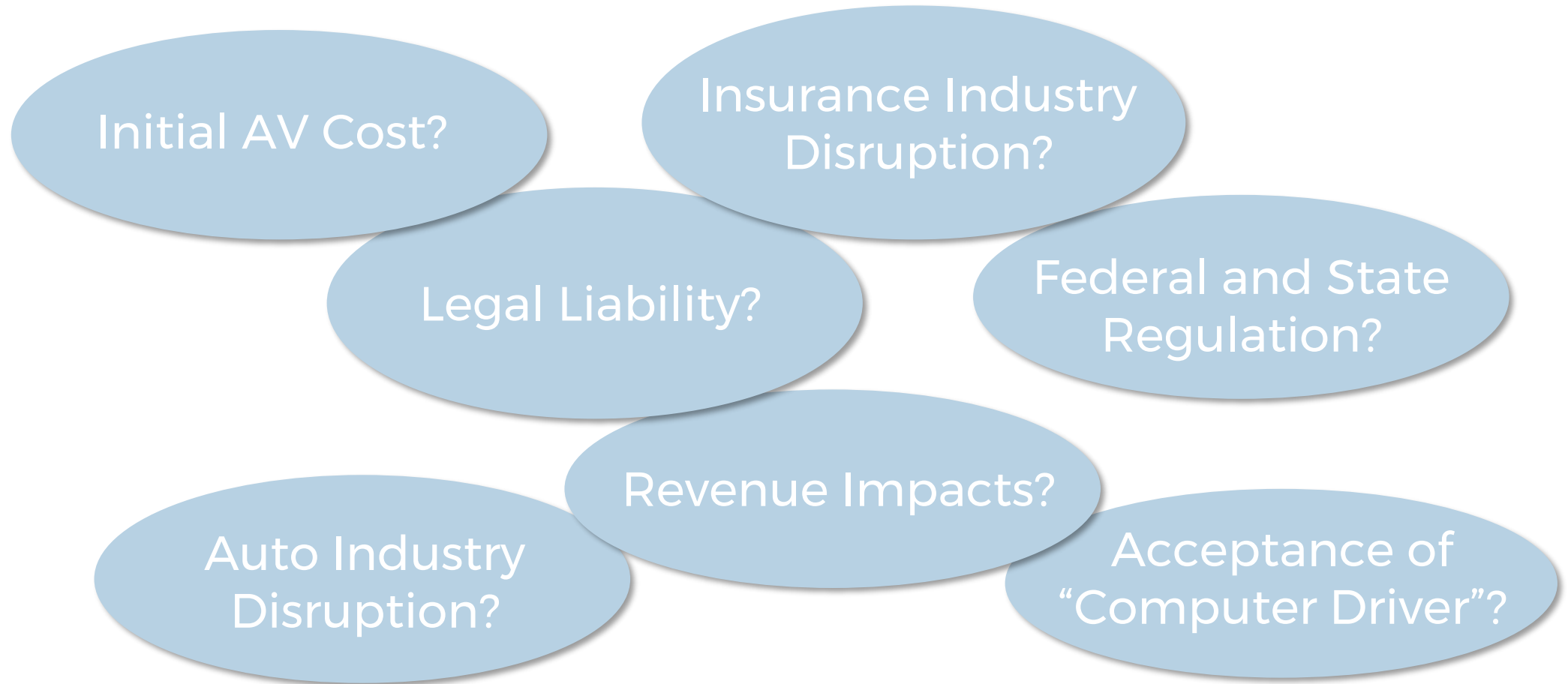
Levels of Automation

Learn more about SAE J3016 or
purchase the standard document:

www.sae.org/autodrive



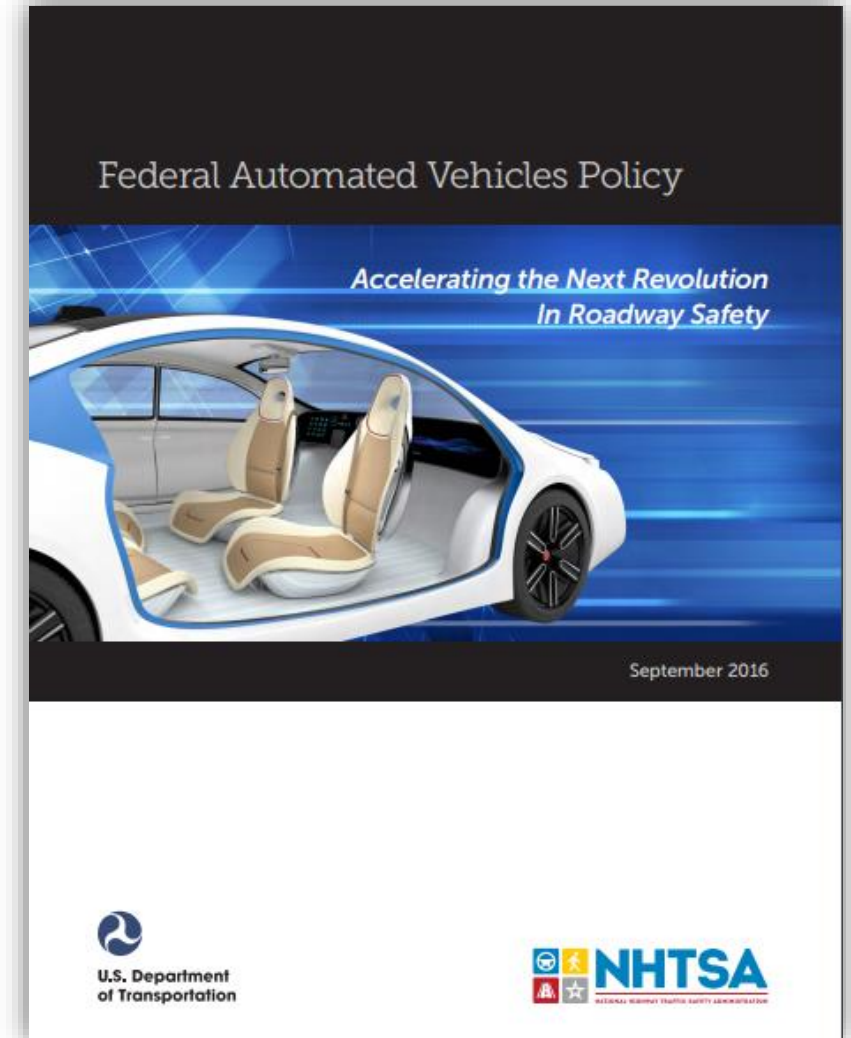
But it's not just about the technology...



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

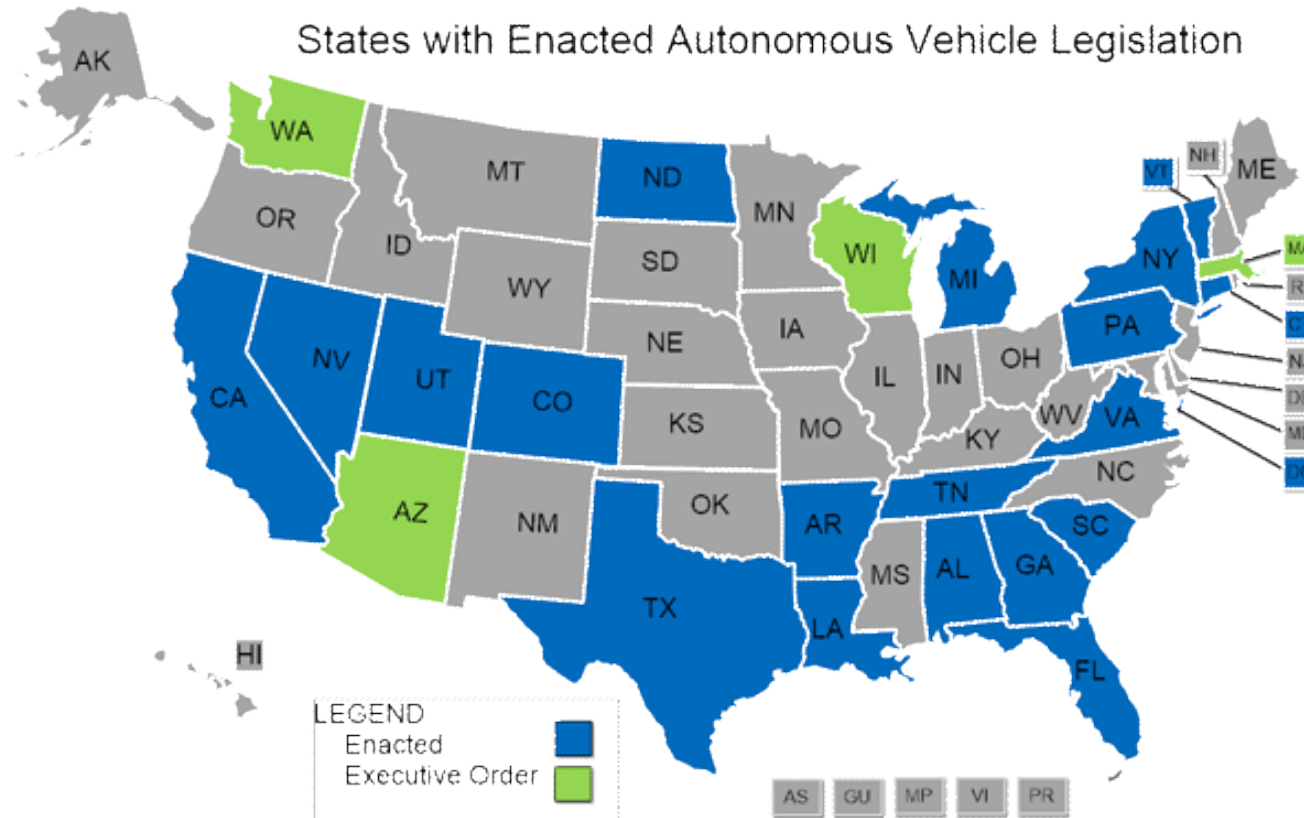
- Key policy points:
 - *Clarifying NHTSA and State authority*
 - *Updating FMVSS for HAVs*
 - *Cybersecurity*
 - *Testing and evaluation*
 - *Consumer information related to sale of HAVs*
 - *Establish HAV advisory council*
 - *Requirements for alert systems*

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

State Legislative/Executive Actions



Source: National Conference of State Legislatures

- Legislation considered in 41 states since 2012
- **19** states have passed AV legislation
- Executive orders related to AVs issued in **4** states

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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