

Navigating an Autonomous Future

Prepared for the Federal Advisory Committee
on Insurance (FACI)

May 10, 2018

Mike Nelson

Partner

Meet the presenter



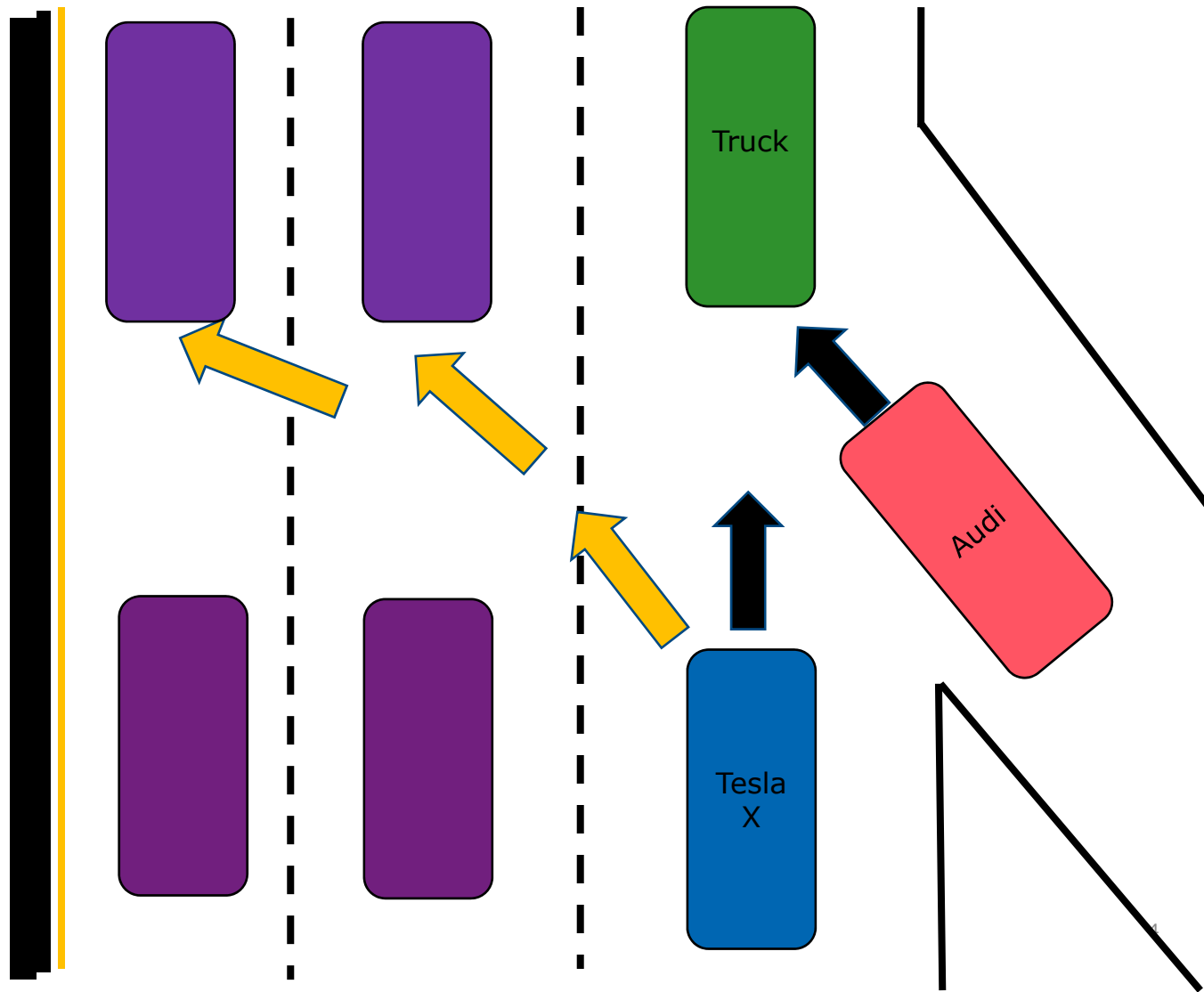
Mike Nelson

Partner, Eversheds Sutherland

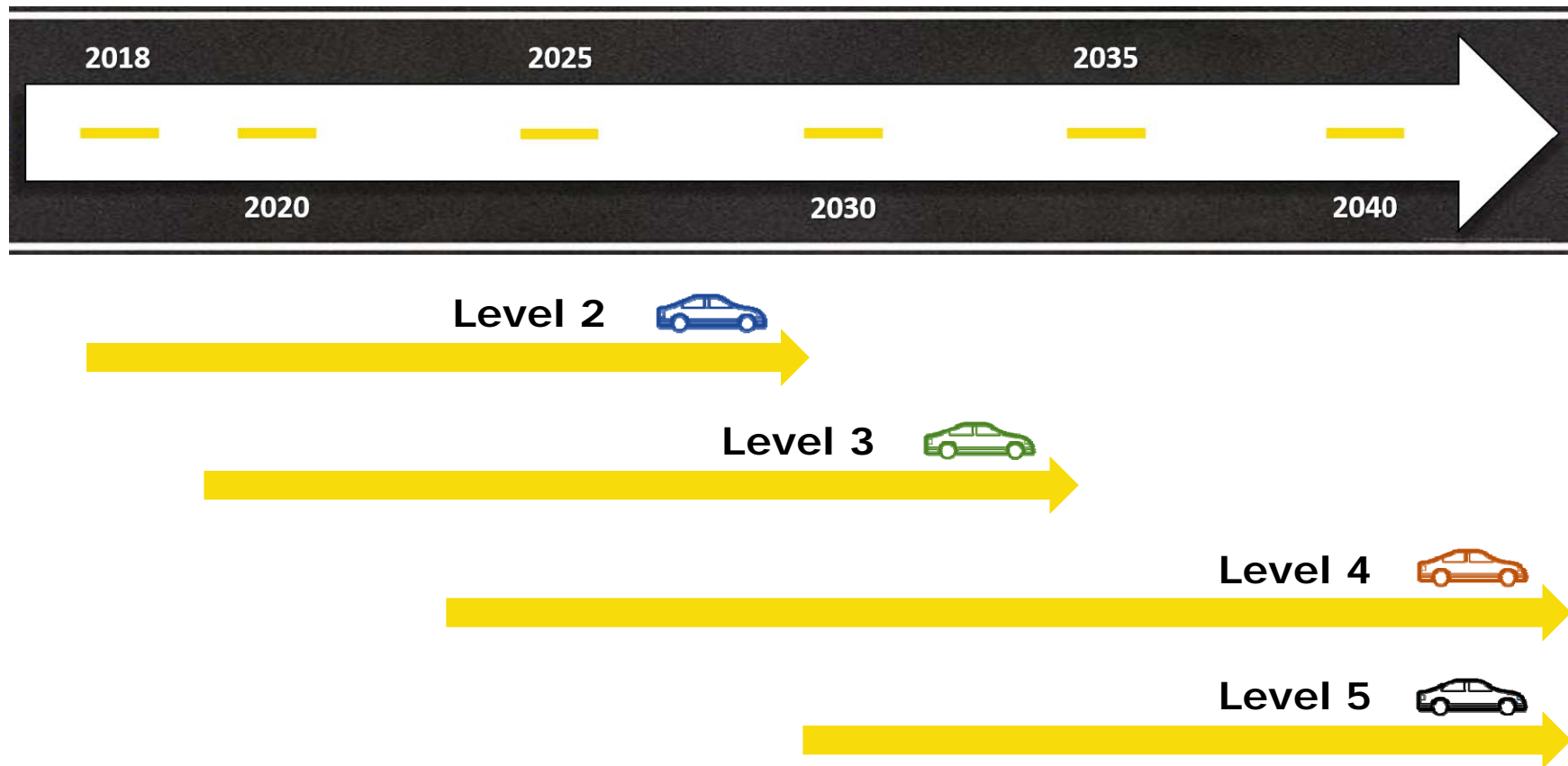
Mike Nelson has more than 35 years of legal, insurance and automotive regulatory experience at the state and federal levels. As automated driving technology has begun to disrupt the insurance and automotive industries, Mike has become involved in helping clients adapt their business strategies to embrace artificial intelligence and Highly Automated

Vehicles (HAVs) and their impact on risk transfer and emerging legal concepts. His work in this area includes automotive products, insurance practices, auto repair processes, data accumulation, storage and transfer, and the impact of the internet's interaction with the future of mobility. Mike owns two Level 2 automated vehicles; regularly attends hearings before the US Senate, the Department of Transportation, the NHTSA and the FTC; and attends industry events such as the Consumer Electronics Show. Mike also received training at the University of Michigan's M-City course on Connected and Automated Vehicles.



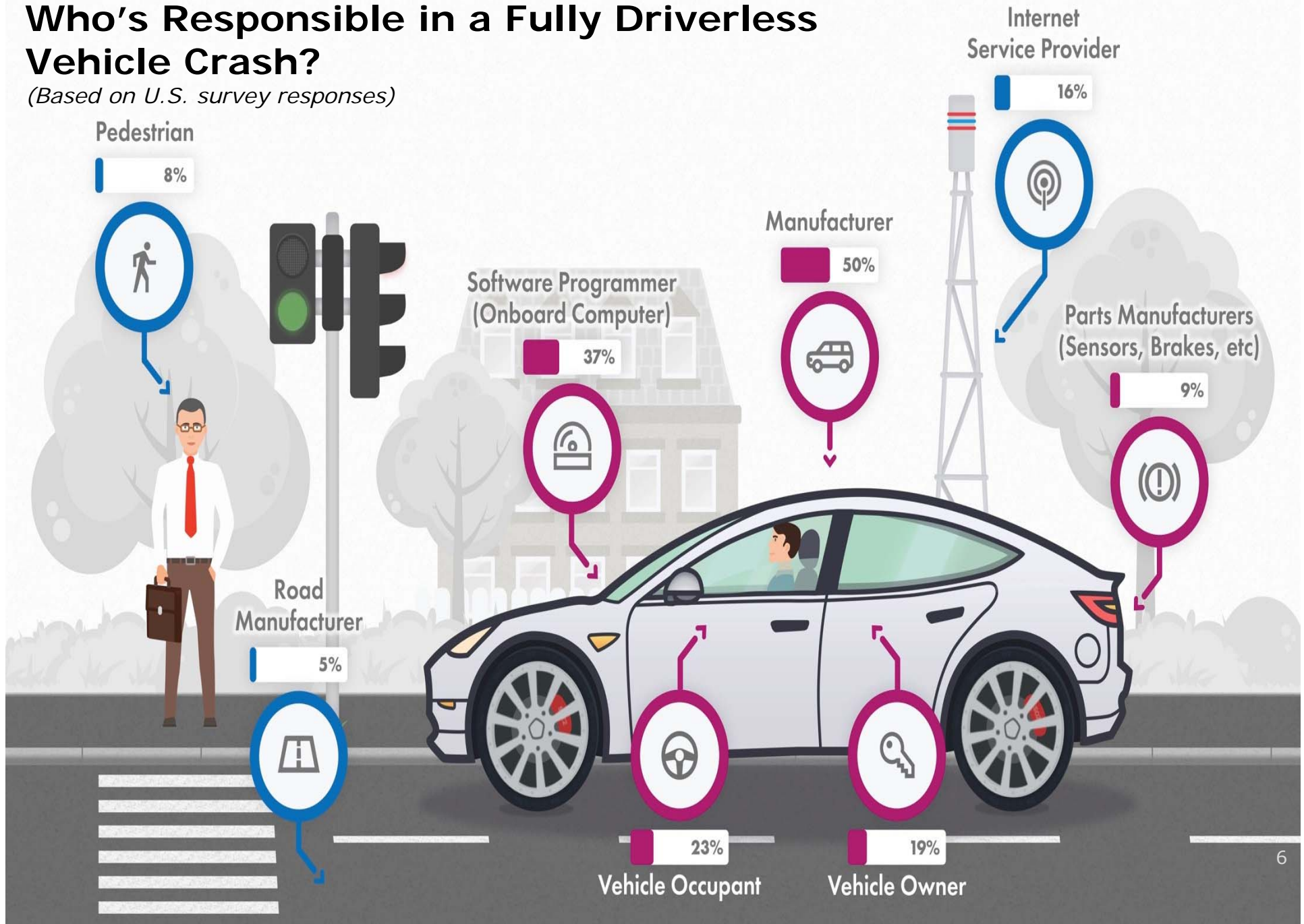


Navigating an autonomous future



Who's Responsible in a Fully Driverless Vehicle Crash?

(Based on U.S. survey responses)



Advances in safety and technology

- V2X Communication
 - DSRC
 - 5G mobile communications
- Solid-state LIDAR
- Electric vehicles
 - 2018 Nissan Leaf expected to have a range of 150 miles and will start at \$30,000
 - 2019 Nissan Leaf expected to have a range of 230 miles
 - GM – all electric by 2030
- Hydrogen fuel cell

} Level 2,
Pro Pilot
Assist

THE WALL STREET JOURNAL.

The Battery Boost We've Been Waiting for Is Only a Few Years Out

Batteries that power our modern world are expected to get a jump in storage capacity of 30% or more



Electric cars are among the products that stand to benefit from new lithium-ion cells that could store as much as 40% more energy. A BMW i Vision Dynamics concept electric automobile, made by BMW AG, on display in September. PHOTO: SIMON DAWSON/BLOOMBERG

Consumer adoption and fleet adoption



End of 2017



Rumored to deploy thousands of self-driving cars in 2018



Self-driving on the highway by 2020



Highway by 2020; urban driving by 2030



Self-driving on the highway by 2020



2020 for autonomous cars in urban conditions; 2025 for truly driverless cars



Nearly fully autonomous by early 2020s – cars as well as freight trucks



Will reach Level 4 by 2021 – skipping Level 3



CEO expects there to be some self-driving vehicles on the road by 2021



Fully self-driving vehicles possible by 2021 – Level 4 or Level 5 is possible



Self-driving on the highway by 2021

Geo fencing and ring fencing

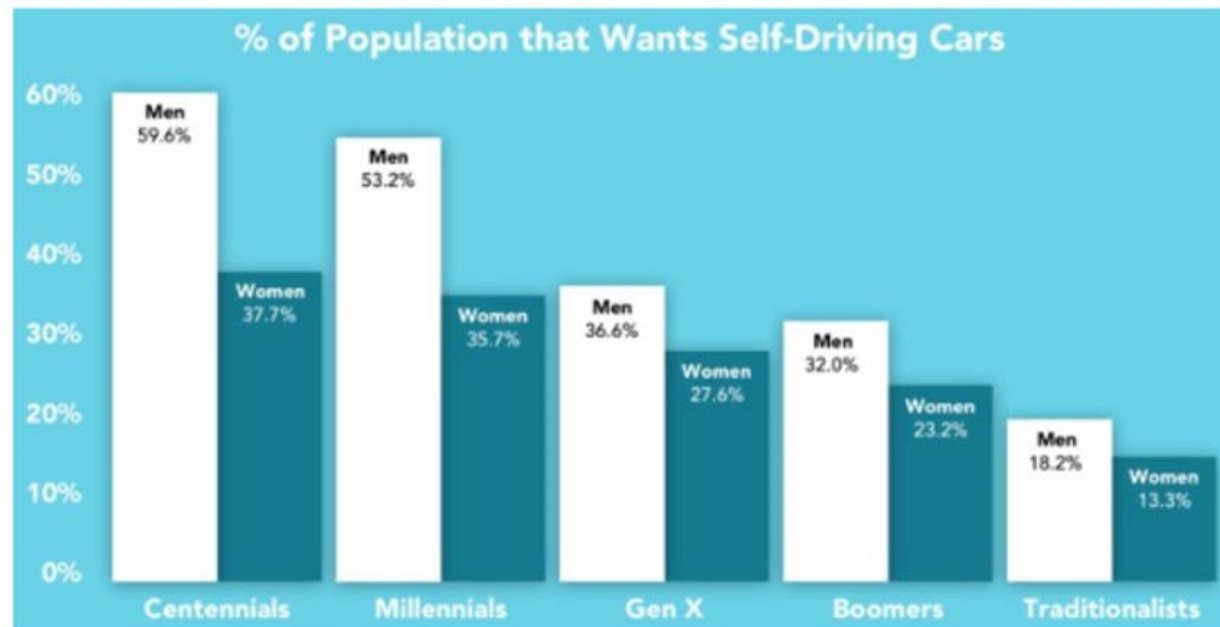
- Limit AVs to certain roadways
- Limit AVs to certain geographic areas
- Navya/Keolis bus – Las Vegas

Consumer adoption and fleet adoption

Millennials and centennials are driving driverless demand, study finds

Around a quarter of centennials (20.9 percent) and millennials (18.9 percent) trust complete autonomy.

AUTOLIST.COM — MAY 26, 2017



OEM – technology partnerships

GM – cruise automation

- Creation of fleet of battery-powered, self-driving Chevrolet Bolts
- Ready for consumer application in “quarters, not years”
 - GM President, Daniel Ammann



International adoption

- Laws and regulations drafted by foreign countries



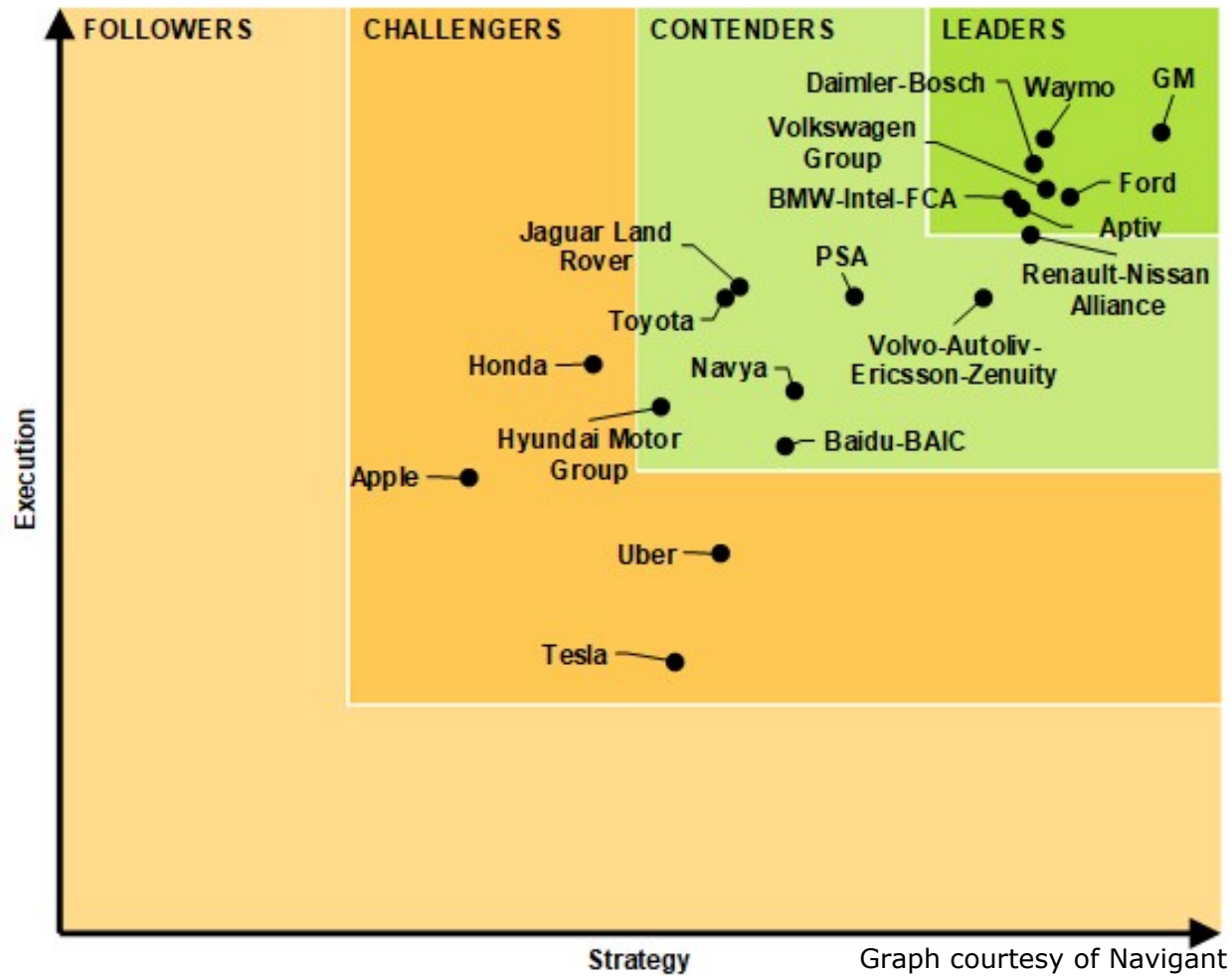
Successful use overseas



Change in politics
and public
perception at home

OEM – technology partnerships

GM – cruise automation



OEM – technology partnerships

- Ford – Lyft
- Fiat/Chrysler – Google/Waymo
- GM – Cruise Automation – Lyft
- Uber – Daimler
- Mobileye – Intel
- Baidu – BlackBerry
- Uber – Volvo
- Lyft – Magna

OEM – technology partnerships

Lyft – Magna

THE WALL STREET JOURNAL.

Lyft, Magna in Deal to Develop Hardware, Software for Self-Driving Cars

Magna is also putting about \$200 million into Lyft, joining other investors in a funding round



A semi-autonomous vehicle in Holly, Mich. PHOTO: GRAHAM WALZER/BLOOMBERG NEWS

By [Greg Bensinger](#)

March 14, 2018 5:15 p.m. ET

Exclusive: Volkswagen in talks to manage Didi fleet, co-develop self-driving cars

Aditi Shah, Norihiko Shirouzu

6 MIN READ



BEIJING (Reuters) - Volkswagen AG ([VOWG_p.DE](#)), the world's biggest automaker, is in talks to form a joint venture with China's Didi Chuxing to manage part of the ride-hailing company's fleet of cars and help develop "purpose-built" vehicles for Didi's services.



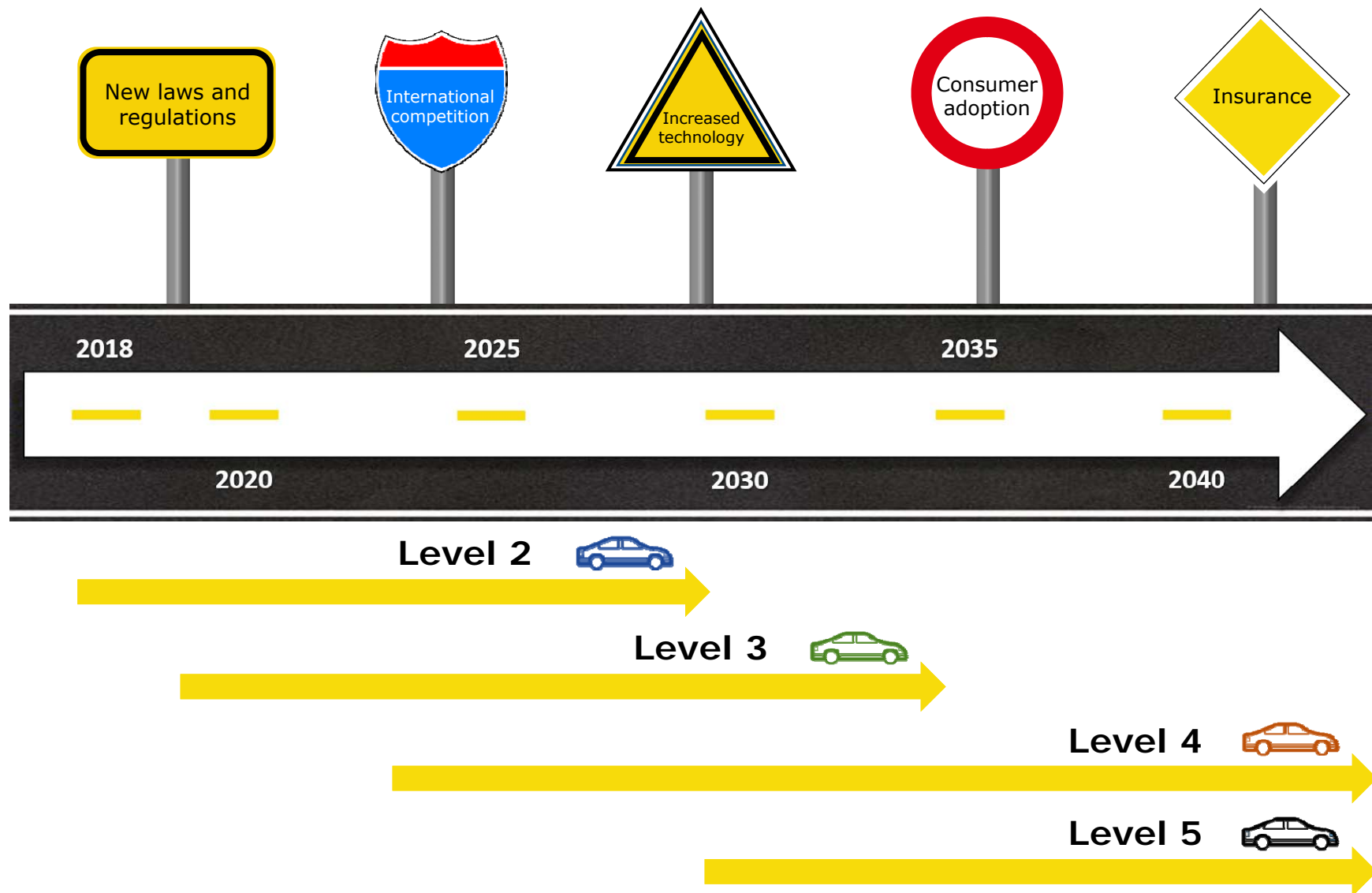
Consumer adoption and fleet adoption



Legal and regulatory framework

- Federal
 - Federal legislation, House and Senate
 - DOT/NHTSA
 - Release of revised, voluntary AV guidelines this coming summer
 - Seeks to eliminate “unnecessary obstacles to the development and integration of new technology”
 - Targeting revision of the FMVSS
- State-based laws and regulations
 - 33 states had passed something
 - Patchwork
 - Product liability and negligence law
- Body of law from other countries is evolving quickly

Navigating an autonomous future



Insurance

- Enhanced analytics
- Consolidation of insurers
- New entrants
- New alliances
- New insurance models (e.g., TNC – ridesharing insurance)
- InsureMyTesla (LMI)
- Care by Volvo (LMI)

Insurance

— "Care by Volvo"

- Vehicle subscription model for the Volvo XC40
- Starts at \$600/month
- Access to a 24/7 Volvo concierge
- 24-month subscription
- Opportunity to upgrade to a new car at 12 months
- **Insurance comes "baked in"**
- Premium Liberty Mutual insurance package
- 15,000-mile allowance
- Factory scheduled maintenance
- Tire and wheel road hazard protection



Transportation as a Service (TaaS)

- Lyft/Uber
- Zoox
- Leasing model (Care by Volvo)
- Fractional ownership
- HAV shuttles
- RethinkX
 - <https://spectrum.ieee.org/cars-that-think/transportation/self-driving/rethinkx-selfdriving-electric-cars-will-dominate-roads-by-2030>
 - TaaS will disrupt, OEM, Energy and Insurance sectors by 2030

Intelligent Machines

Prepare to be Underwhelmed by 2021's Autonomous Cars

Ford, Uber, and BMW promise fully self-driving cars in five years
—but they will probably only work in very limited areas.

by Tom Simonite August 23, 2016



The chaotic middle

**The autonomous vehicle
and disruption in
automobile insurance**

White Paper | June 2017

kpmg.com/insurance





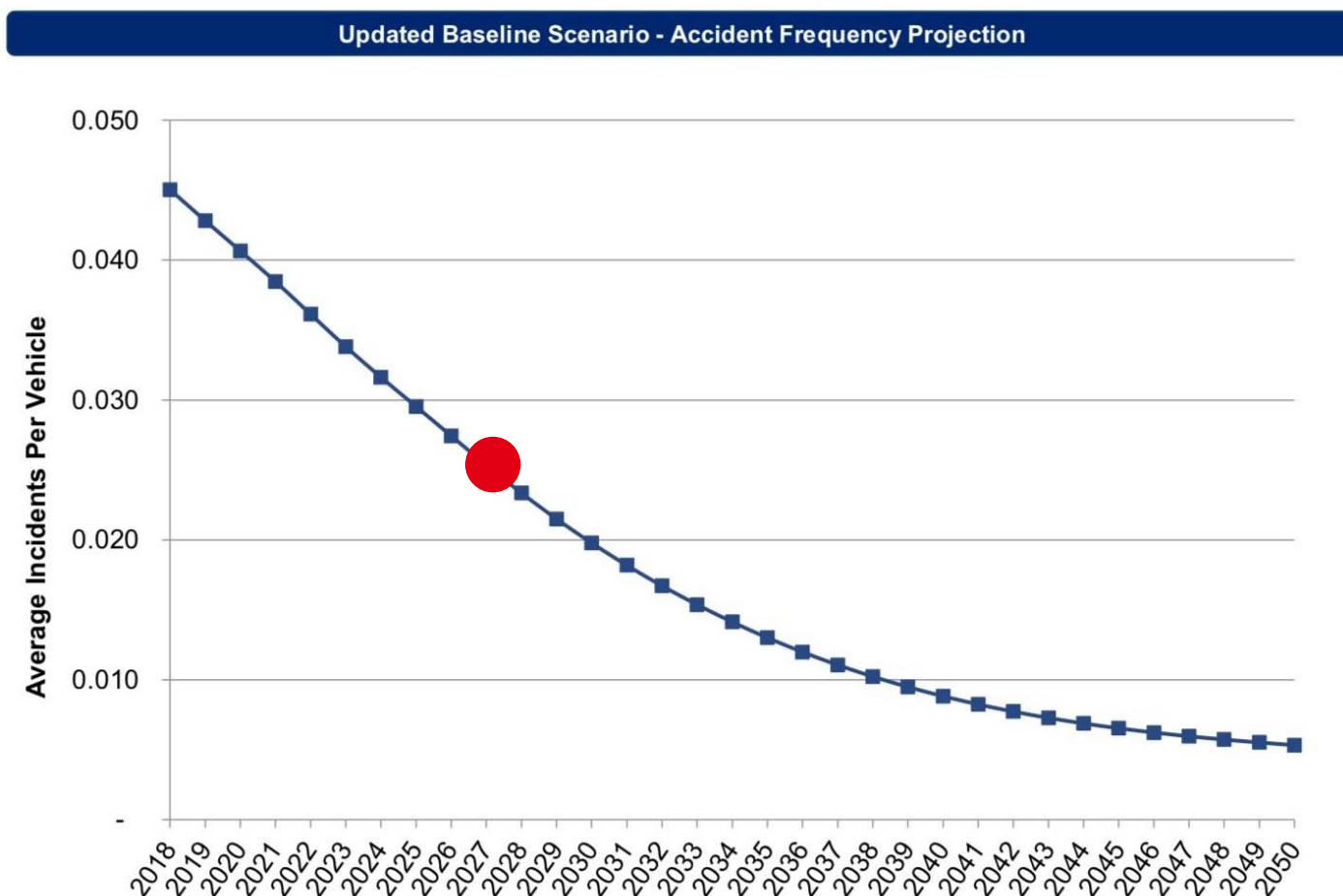
KPMG now believes that the core business models for traditional automobile insurance carriers may be under threat of obsolescence, with automotive manufacturers potentially becoming a viable alternative to cover driving risk. We are entering a period of radical change – the ‘chaotic’ middle’ of a transformation – that promises to reshape the insurance landscape.

— The Chaotic Middle, KMPG White Paper, June 2017



2 Accident Frequency Could Fall Dramatically

The KPMG Actuarial Team estimates by 2050 a potential reduction in accident frequency of almost 90% through additive benefits from technology improvements and car stock conversion.



Source: KPMG LLP – “The Chaotic Middle: Autonomous Vehicles and Disruption in Automobile Insurance” – June 2017

Pilot project for insurers for Level 3 and Level 4 vehicles

Manual driving

Risk: personal auto

Model would operate as it does today, likely at reduced cost

Automated driving

Risk: OEM

Creation of captive insurance company
Opportunity for reinsurance

Insurer would handle all claims administration. To the customer, it would appear as if they were purchasing a single policy through an insurer.

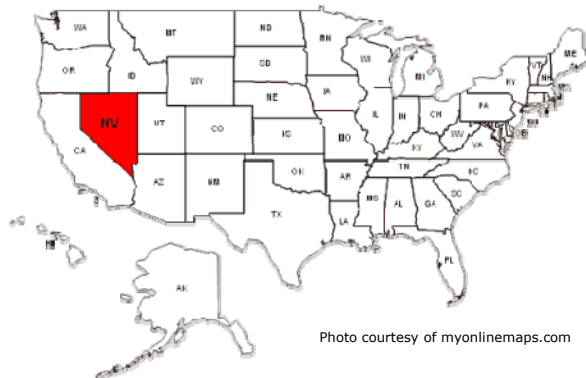
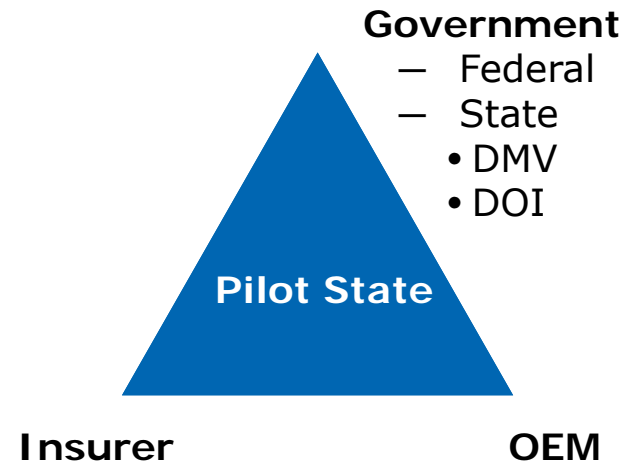


Photo courtesy of myonlinemaps.com



EVERSHEDS
SUTHERLAND

Mike Nelson

Partner

mikenelson@eversheds-sutherland.com

+1.212.389.5061

eversheds-sutherland.com

© 2018 Eversheds Sutherland (US) LLP
All rights reserved.