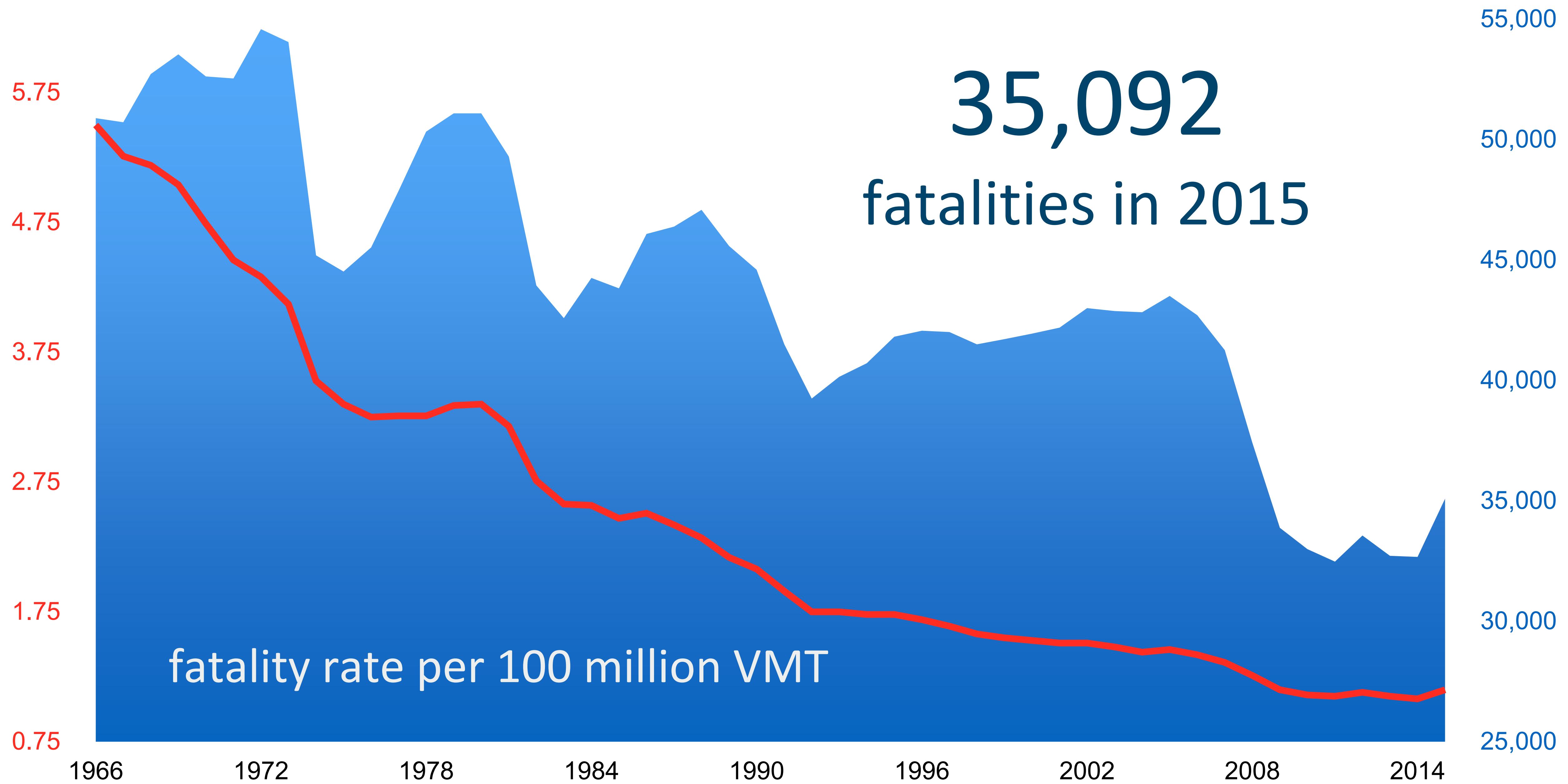




The Road to Self-Driving Cars

Chan D. Lieu
Venable LLP





94% of crashes caused by driver

The background of the image is a dense, overlapping field of US dollar bills, primarily \$100 bills, scattered across the entire frame. The bills are oriented in various directions, creating a textured, chaotic pattern of green and white. A semi-transparent dark grey horizontal band runs across the middle of the image, serving as a backdrop for the large white text.

\$836,000,000,000

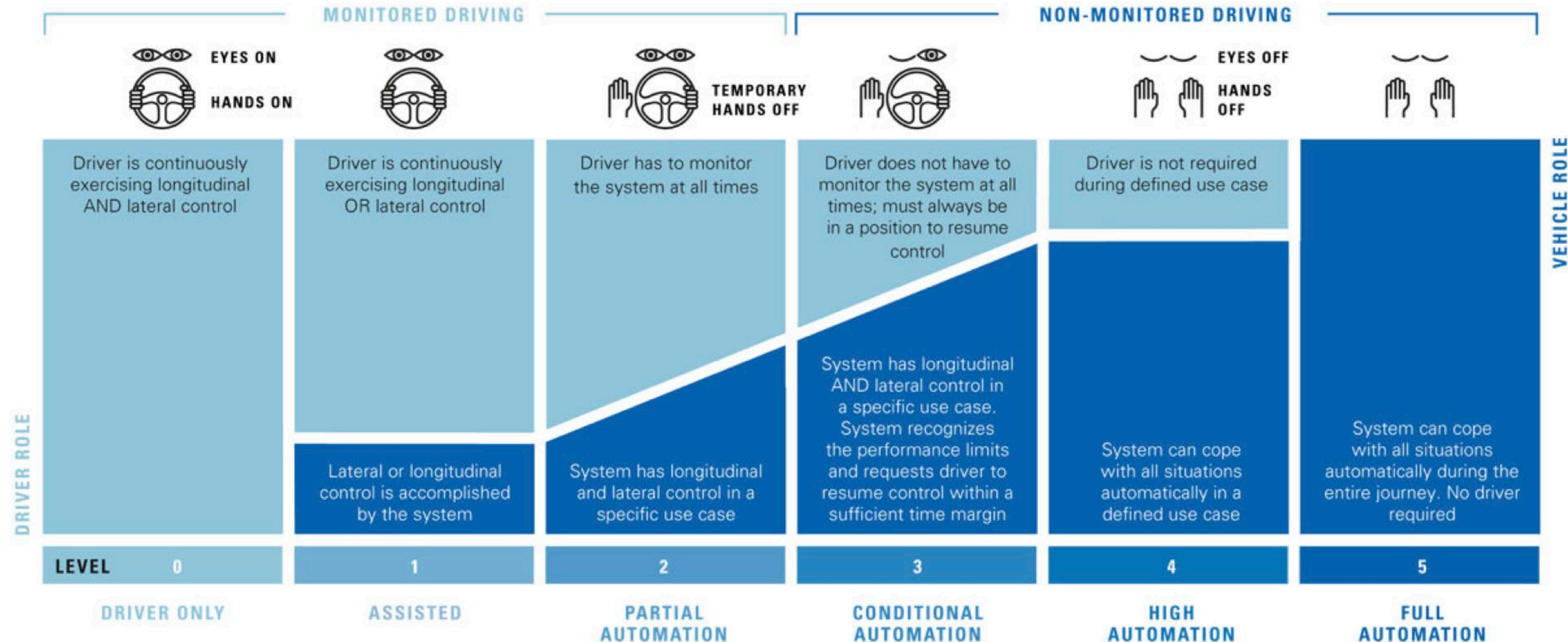
crash worthiness





crash avoidance

Levels of Automation



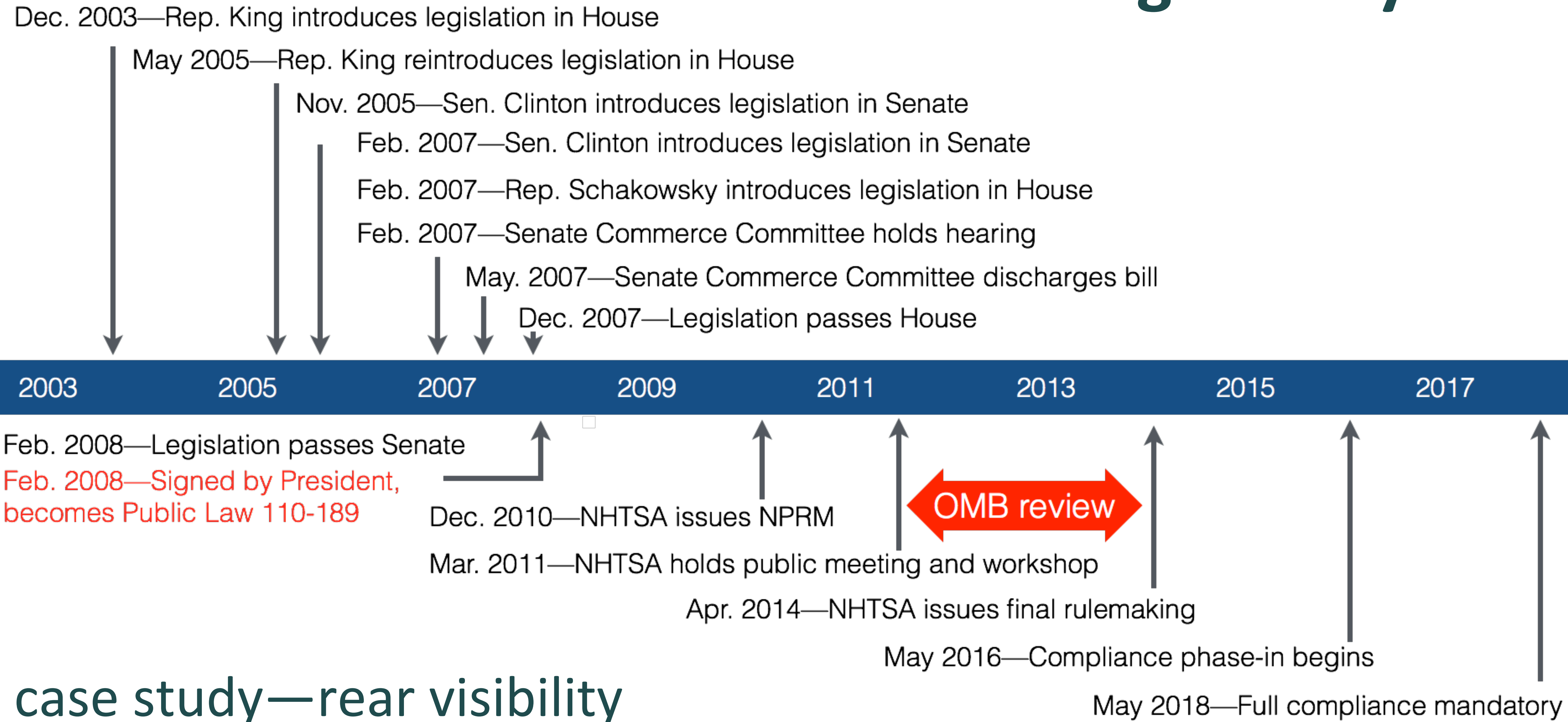
Level 4/5 fully autonomous





Ford announces
intention to deliver
high-volume, fully
autonomous vehicle
for ride sharing in
2021

rulemaking takes years



case study—rear visibility

Pittsburgh Post-Gazette®

A photograph of Barack Obama sitting in the driver's seat of a car. He is wearing a white dress shirt and a dark tie. He is looking out the window with a serious expression. The car's interior and window frame are visible.

“In the seven-and-a-half years of my presidency, self-driving cars have gone from sci-fi fantasy to an emerging reality with the potential to transform the way we live.”

Federal Automated Vehicles Policy

*Accelerating the Next Revolution
In Roadway Safety*



September 2016

I. vehicle performance guidance

outlines a 15 point “Safety Assessment” for the safe design, development, testing & deployment of automated vehicles

II. model state policy

outlines the distinction between federal and state roles in regulating autonomous vehicles

III. current regulatory tools

outlines the agency's current regulatory tools and authorities that modified or streamlined to accelerate autonomous vehicle deployment

IV. modern regulatory tools

identifies potential new regulatory tools and statutory authorities that the agency may consider adopting or requesting

15 point safety assessment

- 🚗 operational design domain
- 🚗 object event detection & response
- 🚗 minimal risk condition
- 🚗 validation methods
- 🚗 registration & certification

 data recording & sharing

 post crash behavior

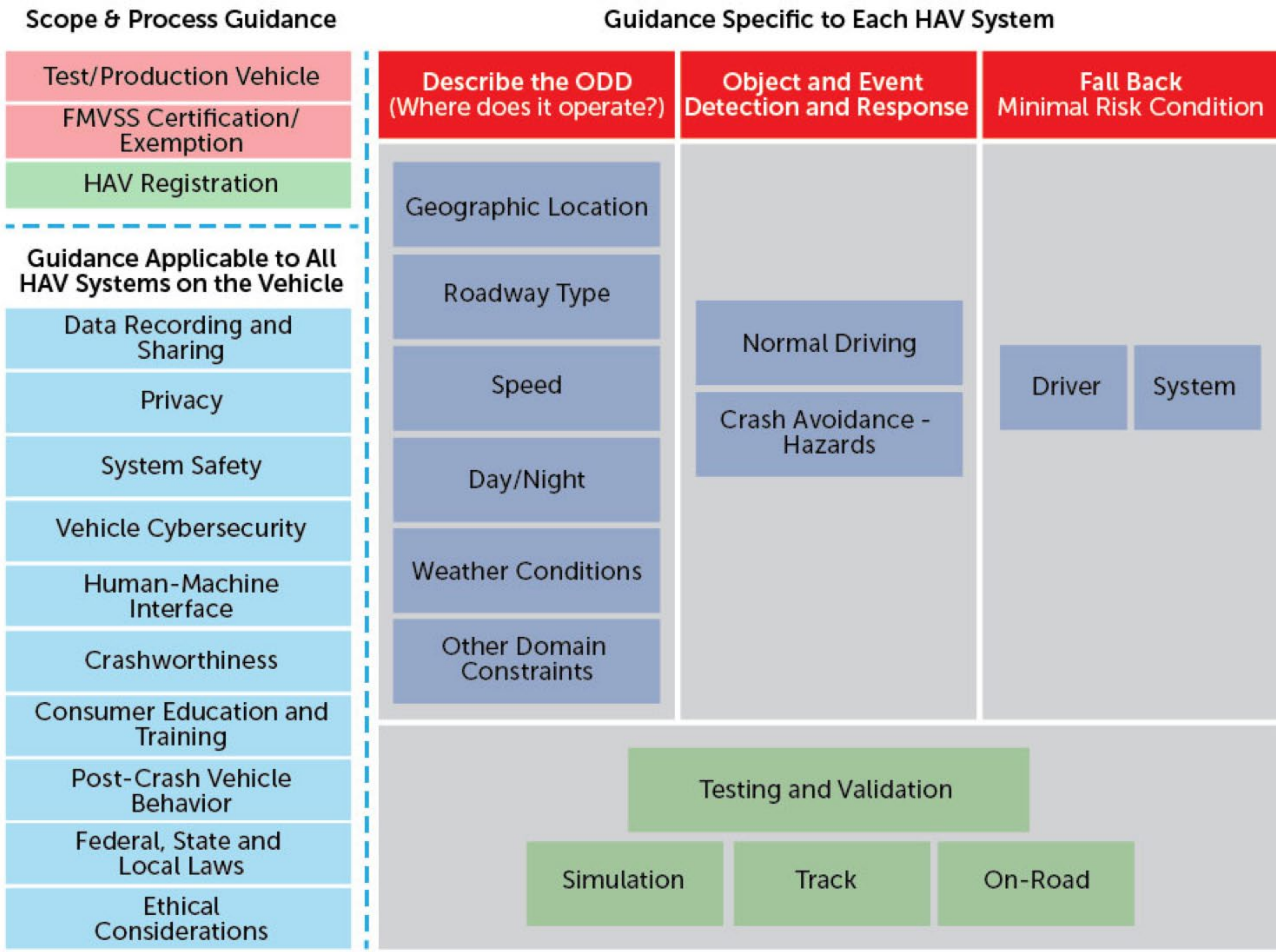
 privacy

 system safety

 vehicle cybersecurity

- 🚗 human machine interface
- 🚗 crashworthiness
- 🚗 consumer education & training
- 🚗 ethical considerations
- 🚗 federal, state, & local laws

framework for vehicle performance guidance



safety assessment letter



Meets the guidance area



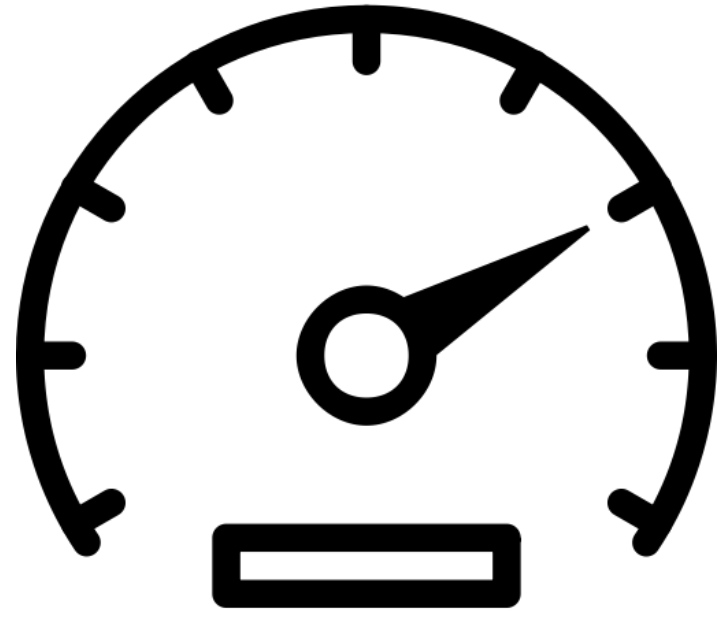
Does not meet the guidance area

n/a

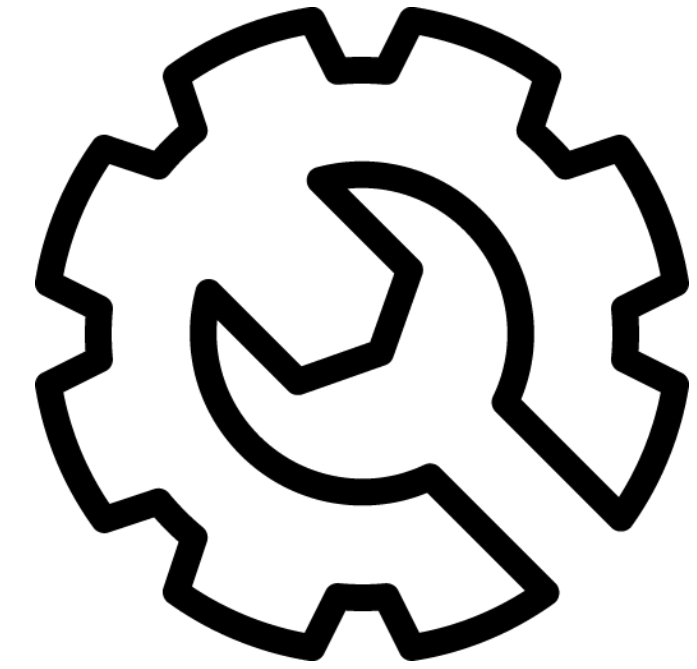
Guidance area not applicable

	operational design domain	✓
	object event detection & response	✓
	minimal risk condition	✓
	validation methods	✓
	registration & certification	✓
	data recording & sharing	✓
	post crash behavior	✗
	privacy	✓
	system safety	✓
	vehicle cybersecurity	✓
	human machine interface	✓
	crashworthiness	✓
	consumer education & training	n/a
	ethical considerations	✗
	federal, state, & local laws	✓

actions for states



foster safe &
rapid deployment



determine servicing
requirements



insurance
requirements

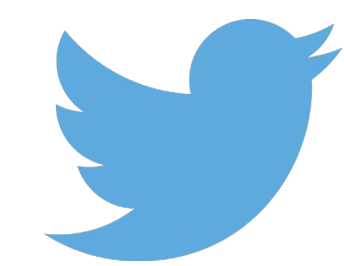


licensing
and registration



compiling
crash data

Chan D. Lieu



@chanalytic

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