



Autonomous Vehicles Transportation Technologies

TexITE Spring 2025

James Kuhr

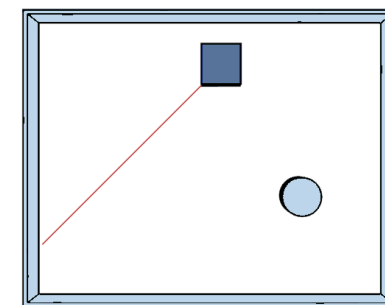
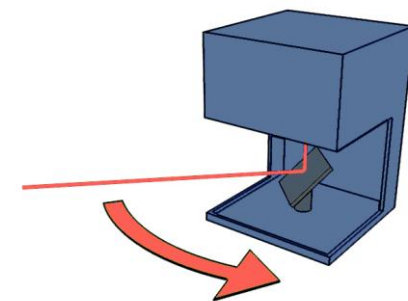
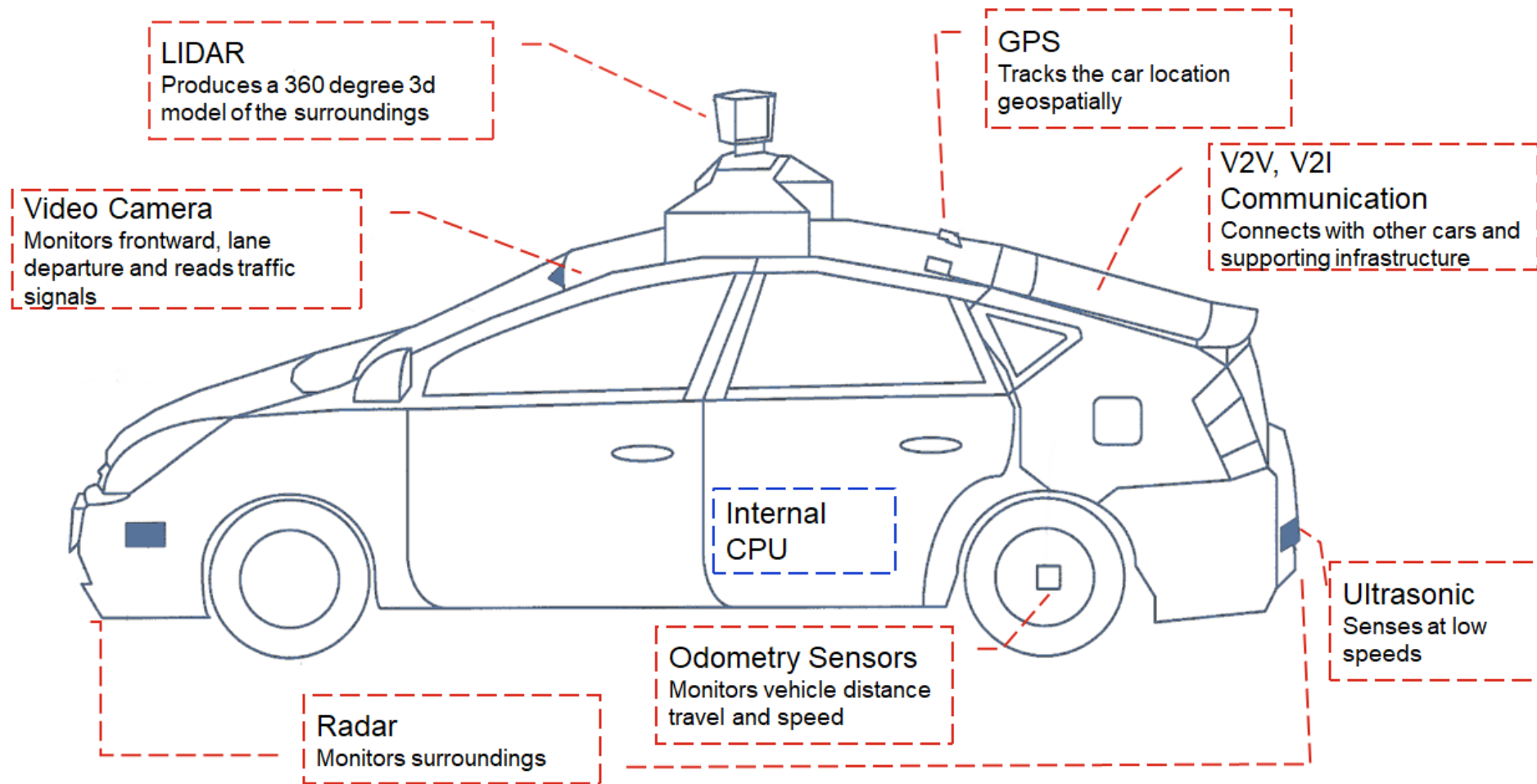
Texas Mobility Technology & Data Solutions Leader



Welcome to Texas

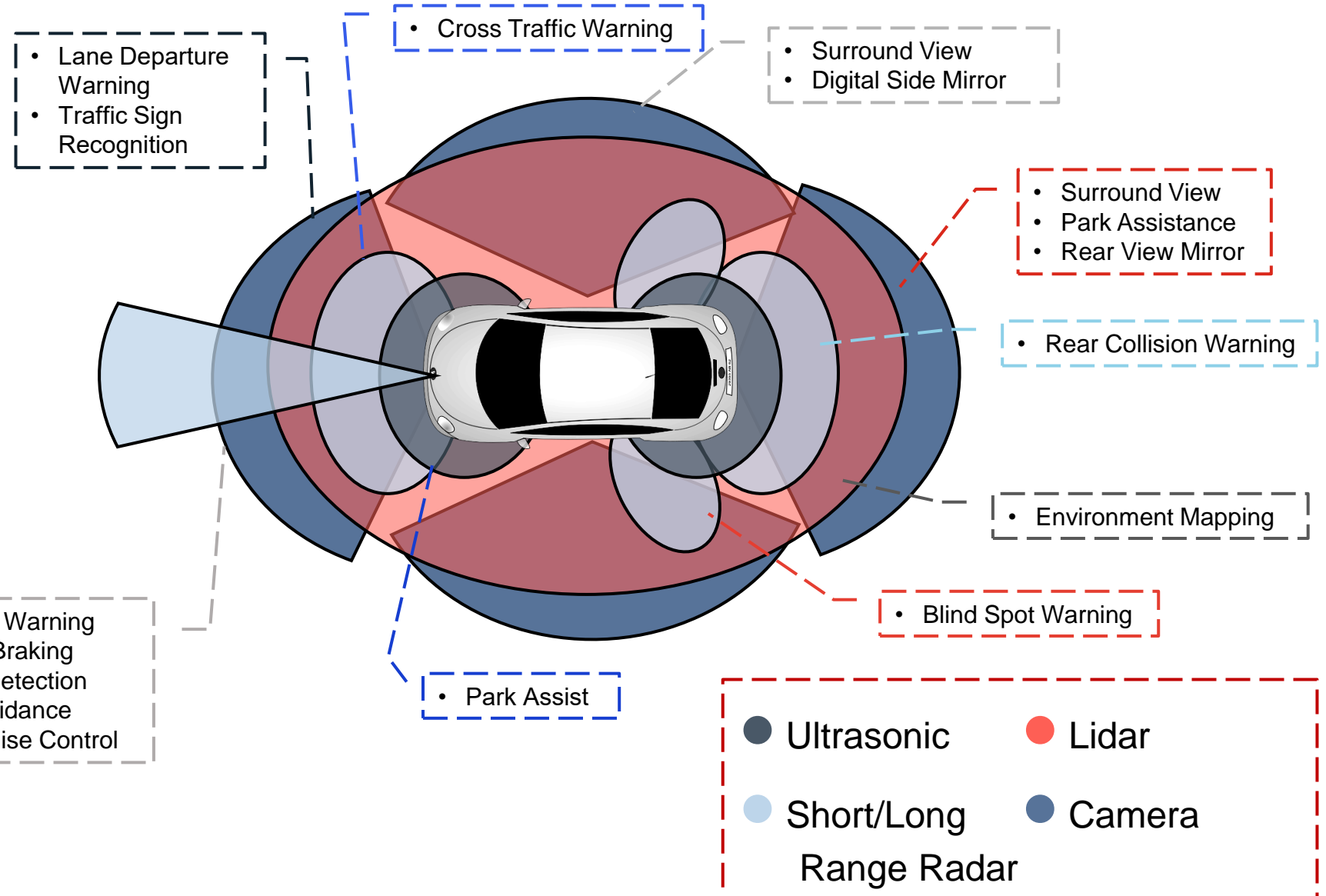
Connected and Autonomous Vehicle Task Force

Thank you for choosing to operate in the state of Texas. Texas is home to a robust automated vehicle ecosystem that continues to expand. In 2017, the Texas Legislature authorized the operation of

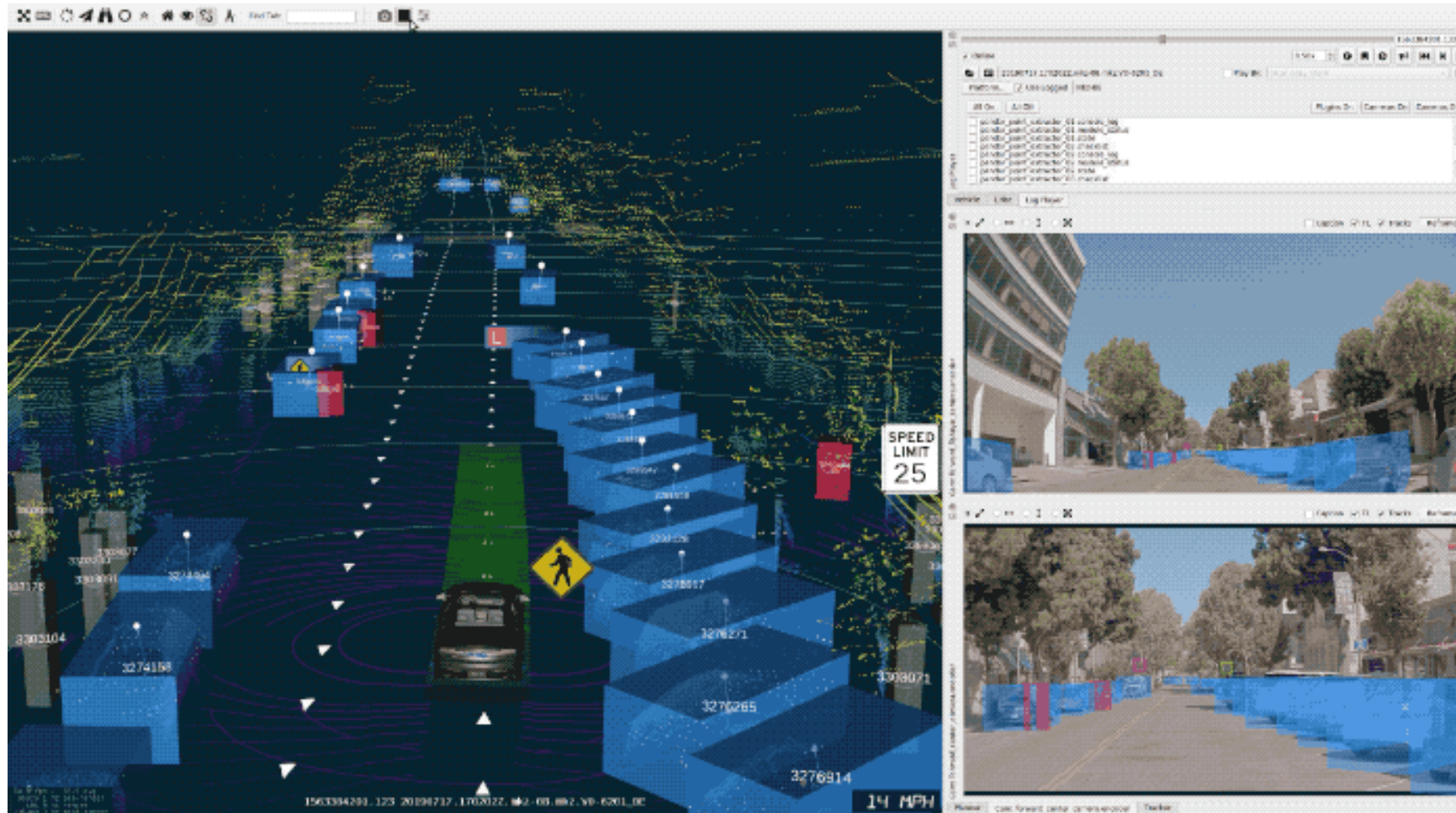


Sensor Requirements

- 1) Traffic-Sign Recognition
- 2) Obstacle Detection
- 3) Lane Detection
- 4) Terrain Mapping
- 5) Vehicle Detection
- 6) Oncoming-Vehicle Detection
- 7) Blind-Spot Monitor
- 8) Parking-Lot Detection
- 9) Scene Classification and Tunnel Detection
- 10) Pedestrian Detection

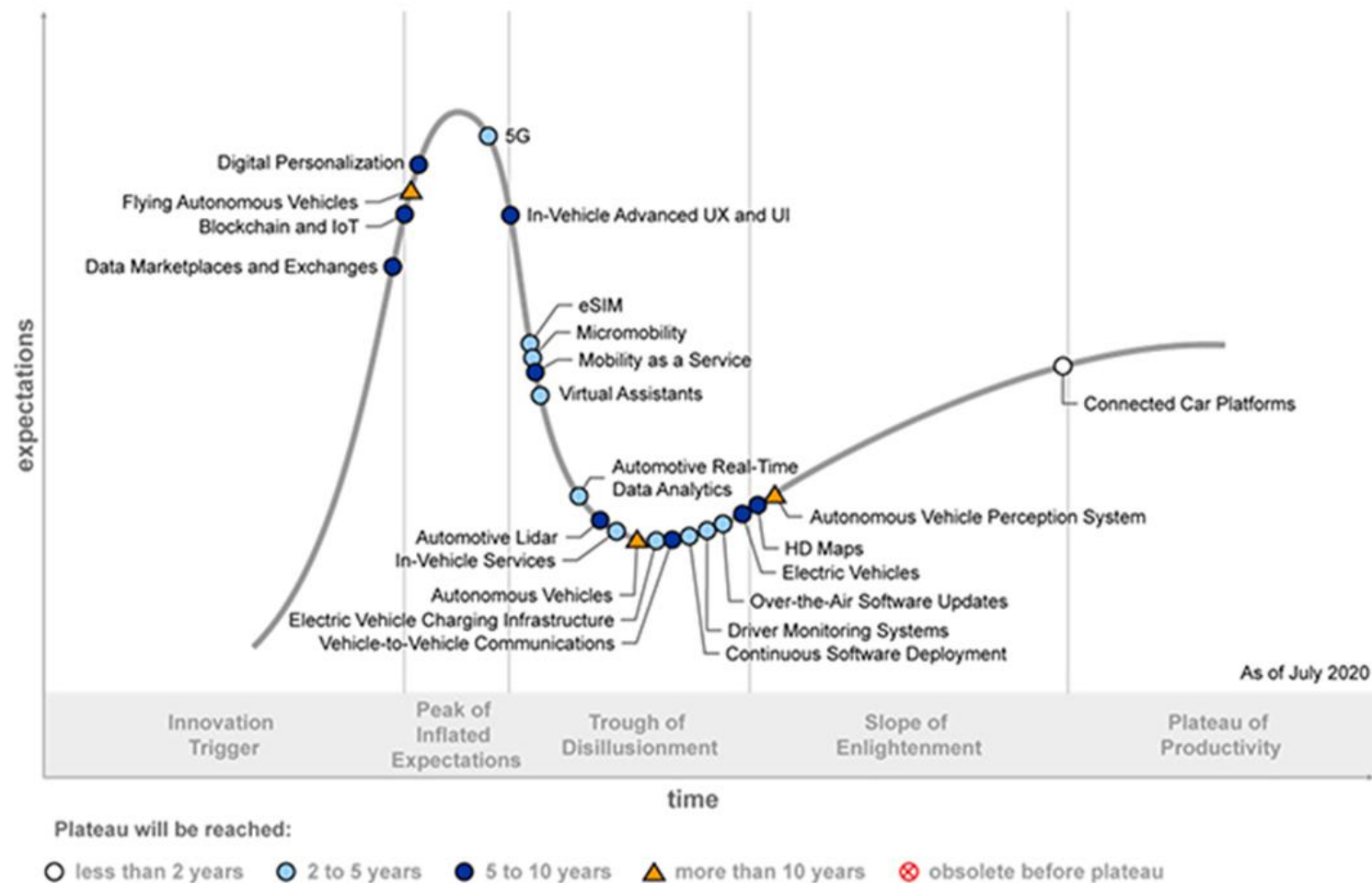


Put it all together



Source: Aurora

Hype Cycle for Connected Vehicles and Smart Mobility, 2020



Source: Gartner

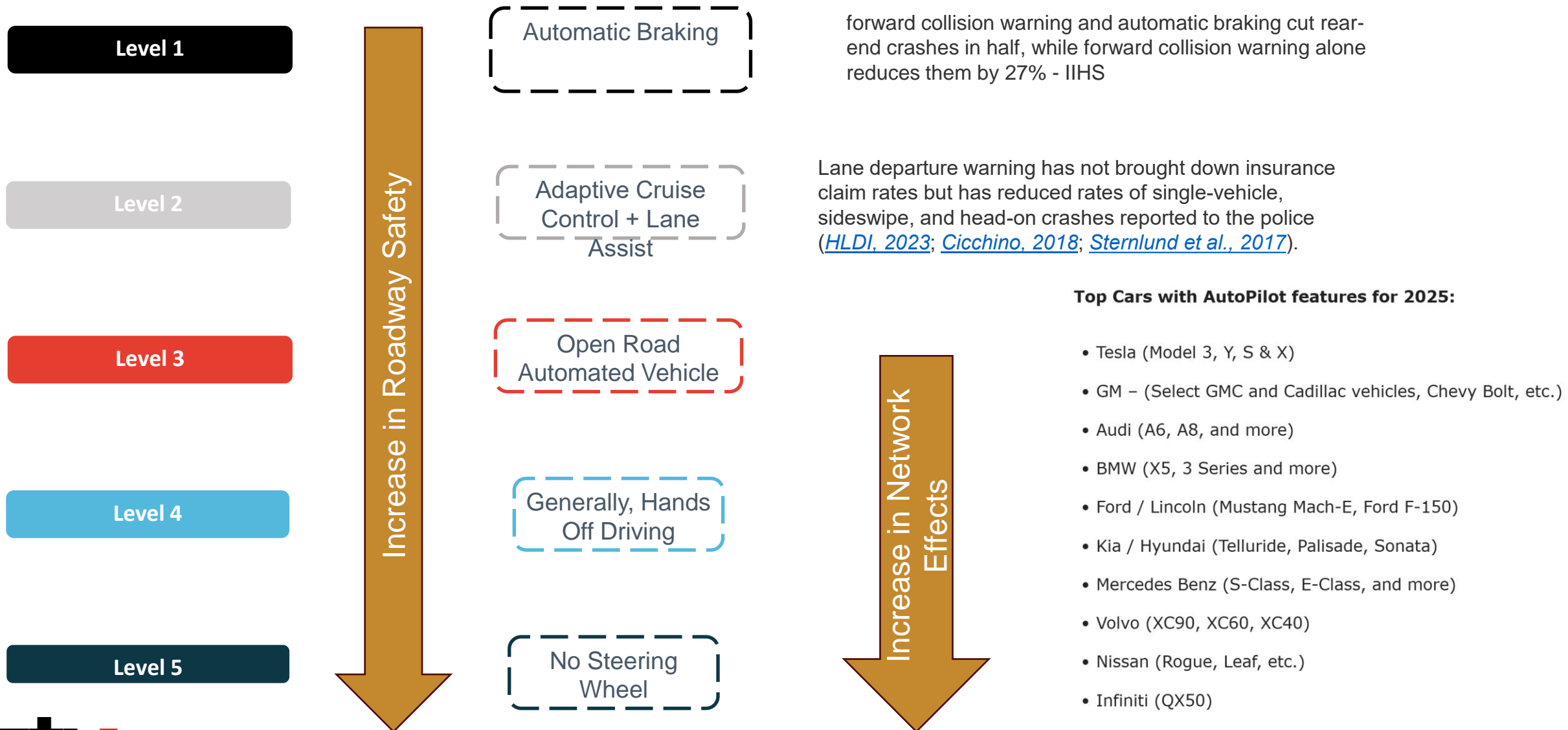
Where are we – really?

Today, Waymo One provides more than 200,000 fully autonomous paid trips each week, helping riders run errands, connect with friends and loved ones, and experience San Francisco, Phoenix, Los Angeles, and Austin in a whole new way. We'll bring this fully autonomous future to riders in Atlanta and Miami next, with Washington, D.C. to follow.





Plus



- Don't Panic, AVs stick to their operation domains
- AVs rely on digital maps, when maps change, they don't work. Work zones, detours change maps. Curb information in dense areas change frequently.
- TIM needs to be coordinated ahead of time
- Watch for push back

Connected Work Zones Implementation Guide and Standard v01.00

Guidance for Setting Up and Operating a Connected Work Zone

December 2024

Previously Work Zone Data Exchange (WZDx)

Developed by: American Association of State Highway and Transportation Officials (AASHTO), ITE—A Community of Transportation Professionals, and National Electrical Manufacturers Association (NEMA)



Supported/Sponsored by: The United States Department of Transportation (USDOT)



FUTURE OF THE OILFIELD: Kodiak's Autonomous Trucks Taking Over

2K views • 7 months ago

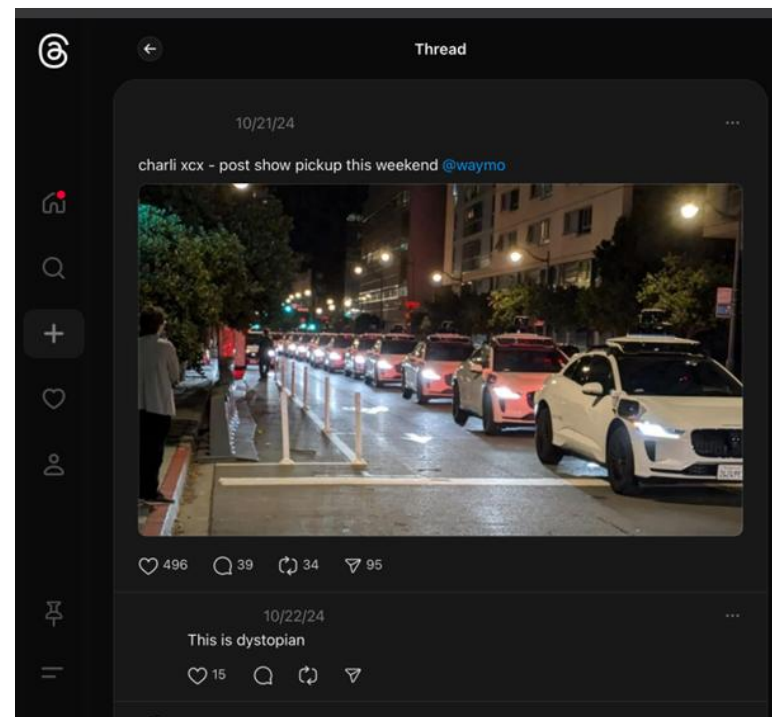


Wero Loco Trucking

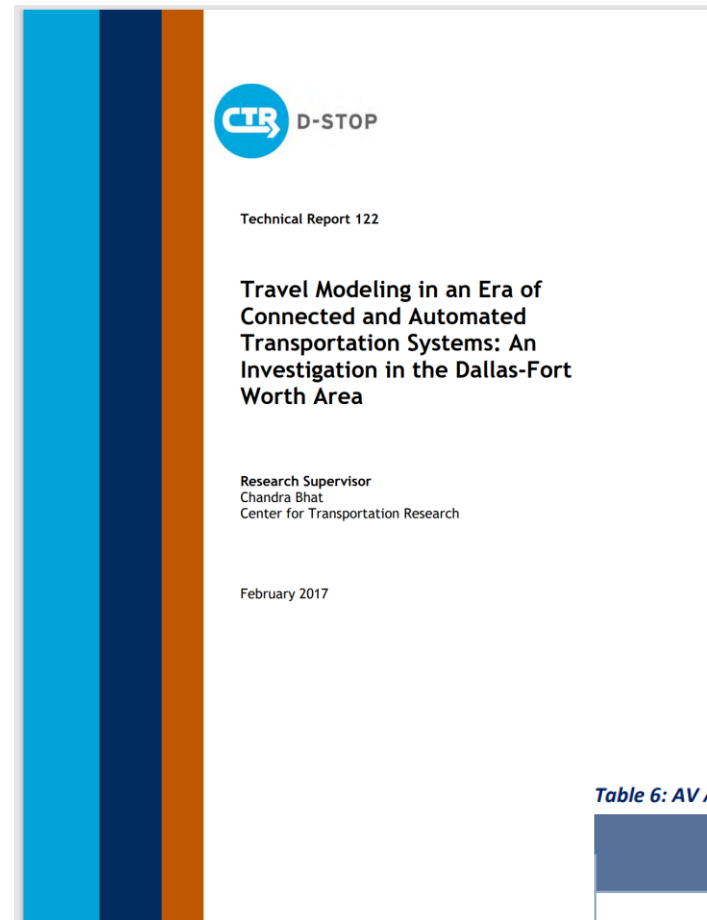
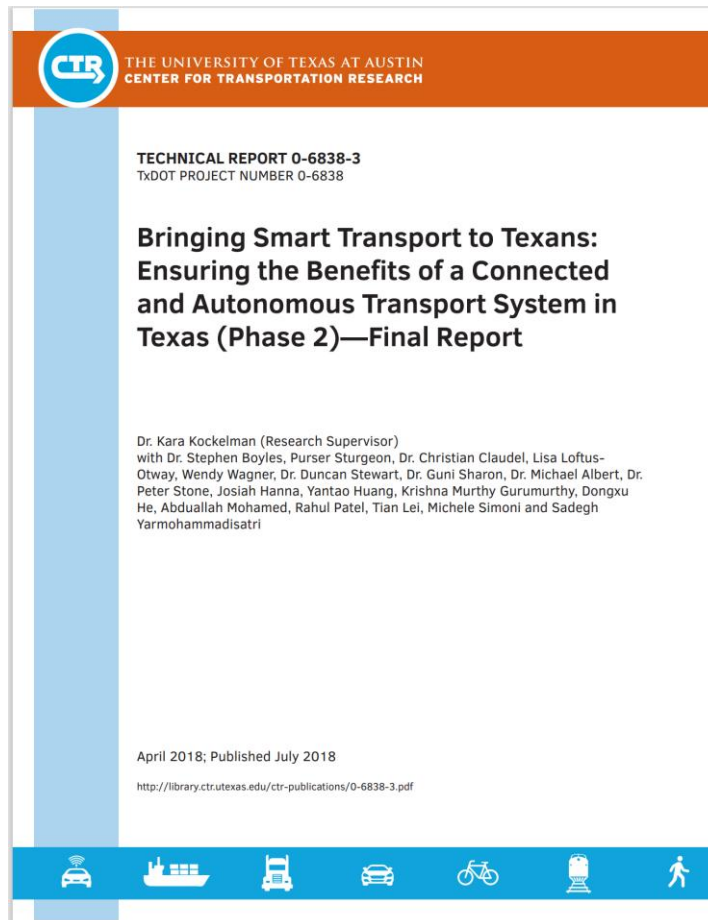
KODIAK ROBOTICS, an autonomous, self driving semi truck company, has just completed their first load of f

TECHNOLOGY

California bill to have human drivers ride in autonomous trucks is vetoed by governor



Time to Dust Off those Old Files

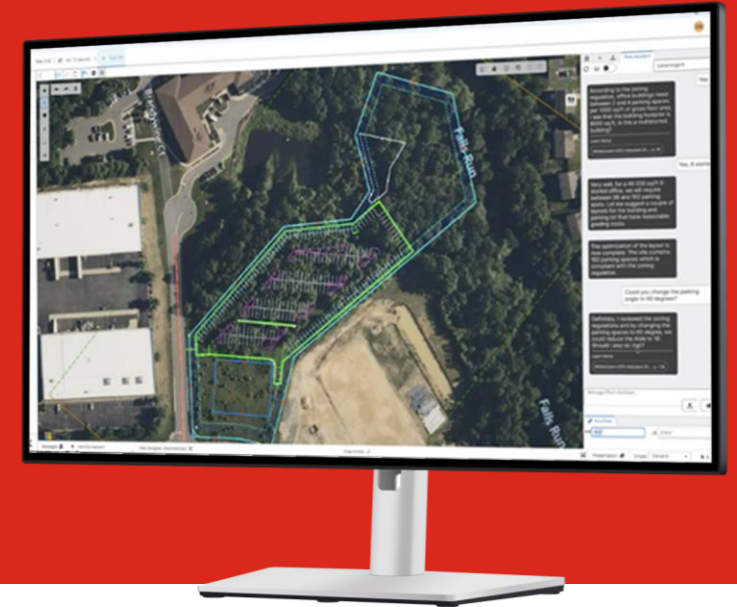


Some “fun” questions:

- Volume vs. efficiency
- Land Use Adjustments
- Safety improvements
- Travel mode changes

Table 6: AV Adoption Assumptions for Conservative and Aggressive Scenarios.

Year	Adoption	
	Conservative	Aggressive
2025	5%	6%
2035	20%	25%
2045	45%	51%



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