Driving Forward: Autonomous Vehicles in Claims and Litigation

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SAE Classification Levels

SAE level	Name	Narrative Definition	Execution of Steering and Acceleration/ Deceleration	Monitoring of Driving Environment	Fallback Performance of <i>Dynamic</i> <i>Driving Task</i>	System Capability (Driving Modes)
Human driver monitors the driving environment						
0	No Automation	the full-time performance by the <i>human driver</i> of all aspects of the <i>dynamic driving task</i> , even when enhanced by warning or intervention systems	Human driver	Human driver	Human driver	n/a
1	Driver Assistance	the <i>driving mode</i> -specific execution by a driver assistance system of either steering or acceleration/deceleration using information about the driving environment and with the expectation that the <i>human driver</i> perform all remaining aspects of the <i>dynamic driving task</i>	Human driver and system	Human driver	Human driver	Some driving modes
2	Partial Automation	the <i>driving mode</i> -specific execution by one or more driver assistance systems of both steering and acceleration/deceleration using information about the driving environment and with the expectation that the <i>human driver</i> perform all remaining aspects of the <i>dynamic driving task</i>	System	Human driver	Human driver	Some driving modes
Automated driving system ("system") monitors the driving environment						
3	Conditional Automation	the <i>driving mode</i> -specific performance by an <i>automated driving system</i> of all aspects of the dynamic driving task with the expectation that the <i>human driver</i> will respond appropriately to a <i>request to intervene</i>	System	System	Human driver	Some driving modes
4	High Automation	the <i>driving mode</i> -specific performance by an automated driving system of all aspects of the <i>dynamic driving task</i> , even if a <i>human driver</i> does not respond appropriately to a <i>request to intervene</i>	System	System	System	Some driving modes
5	Full Automation	the full-time performance by an <i>automated driving system</i> of all aspects of the <i>dynamic driving task</i> under all roadway and environmental conditions that can be managed by a <i>human driver</i>	System	System	System	All driving modes

Testing

- Uber / Volvo: Suspended testing after Arizona crash resulted in fatality to pedestrian (Level 4)
- Toyota: Suspended testing on public roads after fatal Uber crash
- Waymo (Google) / Toyota Prius, Lexus, Chrysler Pacifica: Testing fully autonomous vehicles (Level 5)
- Lyft / Chevrolet Bolt: Testing fully autonomous vehicles (Level 5); Expected release of GM Cruise (Level 5) in 2019
- Audi: Expected 2018 release of Level 3 Traffic Jam Pilot; developing Level
 4 Highway Pilot (expected 2020 release) and Level 5 concept cars now.
- Ford: Expected 2021 release of Level 5 vehicle
- Volkswagen / Aurora Sedric Level 5 concept car to begin testing in 2018
- Apple, Lyft, Samsung, Bosch: Received permits from California DMV to begin testing autonomous vehicles

Market Availability

- Tesla Level 2 AutoPilot
- Audi Level 2 Traffic Jam Assist
- Cadillac CT6 with Level 2 Super Cruise
- Mercedes Benz Level 2 Drive Pilot System
- Acura Level 2 Driver Assist
- Volvo Level 2 Pilot Assist



Safety Implications and Ethical Considerations

- Accident / Fatality Statistics (Tesla)
- Driving in a Highway of Autonomous Vehicles
 - Average Age of Vehicles
 - Interactions Between Different Levels of Autonomous Vehicles
- The Human Factor
 - As the User
 - As the Third Party
- Ethical Considerations



Autonomous Vehicle Claims

- What Happened?
 - System malfunction / defect

Componentmalfunction / defect





Autonomous Vehicle Claims

- What Happened?
 - User Error
 - Operating system in wrong type of environment
 - Not being attentive to the roadway
 - Not responding to an emergency situation / triggering event

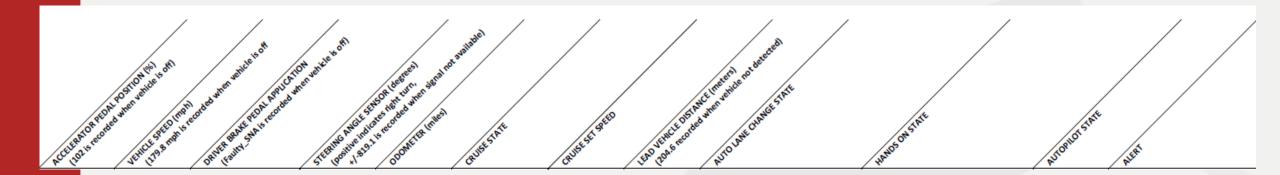


Autonomous Vehicle Claims

- Evidence Preservation
 - Where is the data kept?
 - SD Cards / Computer
 - Cameras
 - Air bag Recorder
 - Transmitted directly to manufacturer
- Data Accessibility
 - How is the data interpreted?



Diagnostic Logs





Litigating Claims Involving Autonomous Vehicles

- Who is the Defendant?
 - Vehicle Manufacturer
 - Component Manufacturer
 - Other Driver
 - Third Party Vehicle Owner



Litigating Claims Involving Autonomous Vehicles

- Costs of Litigation
 - Experts:
 - Software Engineer
 - Accident Reconstructionist
 - Human Factors
 - Discovery
 - Proprietary information
- Considering the Cost of Litigation and the Size of the Claim



Claims and Claim Issues / Defenses

- Negligence and Product Liability Claims
 - Economic Loss Doctrine
- Breach of Contract and Breach of Warranty Claims
 - State Law Warranty Issues
- Comparative Negligence / Proportionate Responsibility
 - When a driver is rarely asked to respond, the driver will rarely respond when asked to respond



Contact Information

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