

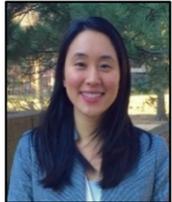
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Automated Vehicles and Policy



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Webinar Outline

- ❖ What is an Automated Vehicle?
- ❖ What are the Policy Implications?
- ❖ What are legal and regulatory aspects?
- ❖ What are current activities at the USDOT?
- ❖ How do I get engaged?

What is an Automated Vehicle?



Key Terminology

- **Automated vehicles** are those in which at least some aspect of a safety-critical control function (e.g., steering, throttle, or braking) occurs without direct driver input.
- **Connected vehicles** are those which use wireless technology to communicate among vehicles, roadside infrastructure, and other road users.
- **Connected automated vehicles** are those which leverage autonomous and connected vehicle capabilities



Levels of Automation: SAE J3016 Definitions

SAE Level	Name	Narrative Definition	Execution of Steering/ Acceleration/ Deceleration	Monitoring of Driving Environment	Fallback Performance of Dynamic Driving Task	System Capability (Driving Modes)
<i>Human driver monitors the driving environment</i>						
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
<i>Automated driving system ("system") monitors the driving environment</i>						
3	Conditional Automation	the <i>driving mode</i> -specific performance by an <i>automated driving system</i> of all aspects of the <i>dynamic driving task</i> 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 <i>automated driving system</i> 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

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Emerging Policy Considerations?

- ❑ How do AVs impact the nature of existing Federal regulations (i.e. they assume a human driver)?
- ❑ How could AVs impact infrastructure, land use and the overall transportation system?
- ❑ What are challenges of varying state regulations regarding AVs? Is greater consistency needed?
- ❑ Do AVs introduce new data privacy concerns and what are implications for public agencies?
- ❑ What are new challenges in testing, certifying and assuring safety of the technology?
- ❑ How compatible are existing liability and insurance models with AVs?

