



## **FACT SHEET: FEDERAL AUTOMATED VEHICLES POLICY OVERVIEW**

The Federal Automated Vehicles Policy sets out a proactive safety approach that will bring lifesaving technologies to the roads safely while providing innovators the space they need to develop new solutions. The Policy is rooted in DOT's view that automated vehicles hold enormous potential benefits for safety, mobility and sustainability.

The primary focus of the policy is on highly automated vehicles (HAVs), or those in which the vehicle can take full control of the driving task in at least some circumstances. Portions of the policy also apply to lower levels of automation, including some of the driver-assistance systems already being deployed by automakers today.

### **Components of the Policy**

- Vehicle Performance Guidance for Automated Vehicles: The guidance for manufacturers, developers and other organizations outlines a 15 point "Safety Assessment" for the safe design, development, testing and deployment of automated vehicles.
- Model State Policy: This section presents a clear distinction between Federal and State responsibilities for regulation of HAVs, and suggests recommended policy areas for states to consider with a goal of generating a consistent national framework for the testing and deployment of highly automated vehicles.
- Current Regulatory Tools: This discussion outlines DOT's current regulatory tools that can be used to accelerate the safe development of HAVs, such as interpreting current rules to allow for greater flexibility in design and providing limited exemptions to allow for testing of nontraditional vehicle designs in a more timely fashion.
- Modern Regulatory Tools: This discussion identifies potential new regulatory tools and statutory authorities that may aid the safe and efficient deployment of new lifesaving technologies.

### **Policy Development and Public Comment**

The Policy is a product of significant public input, including two public meetings and an open public docket. The Policy will be updated annually to ensure it remains relevant and timely, and will continue to be shaped by public comment, industry feedback and real-world experience. DOT is seeking public comment on the entire policy at [www.transportation.gov/AV](http://www.transportation.gov/AV).

Most of the Policy is effective on the date of its publication. However, certain elements involving data and information collection will be effective upon the completion of a Paperwork Reduction Act (PRA) review and process.

The policy outlines a series of next steps that the agency will take to solicit additional public input and to implement the components. The next steps include public workshops, stakeholder engagement, expert review, work plans to implement Policy components, possible rulemakings, and education efforts.



## **FACT SHEET: AV POLICY SECTION I: VEHICLE PERFORMANCE GUIDANCE FOR AUTOMATED VEHICLES**

The Vehicle Performance Guidance for Automated Vehicles (“Guidance”) outlines best practices for the safe design, development and testing of automated vehicles prior to commercial sale or operation on public roads.

The Guidance includes a **15-Point Safety Assessment to set clear expectations for manufacturers developing and deploying automated vehicle technologies.**

For companies, the Guidance describes internal processes and strategies, organizational awareness, record-keeping, testing and validation, engagement with DOT and NHTSA, and improved transparency to support the safe deployment of HAV technology. The industry’s adoption and use of the Guidance, which DOT and NHTSA will review annually and update as necessary, will build public confidence and maintain the U.S. lead on these emerging automotive safety technologies.

### **Application**

- Systems: The Guidance applies primarily to technologies where the system can do the entire driving task without reliance on the driver to pay continuous attention to the driving environment. Portions also apply to lower levels of automated driving systems.
- Vehicles: The Guidance applies to all classes of motor vehicles, including passenger cars, trucks and buses.
- Organizations: The Guidance covers any organization testing, operating, and/or deploying automated vehicles, which includes traditional companies (e.g. auto manufacturers, suppliers) and nontraditional companies (e.g. tech companies, startups, fleet operators).

The information generated from these activities will be shared in a way that allows government, industry, and the public to increase their learning and understanding as technology evolves, while protecting legitimate privacy and competitive interests.

### **15-point Safety Assessment**

The 15-point Safety Assessment outlines objectives on how to achieve a robust design. It allows for varied methodologies as long as the objective is met. The Guidance asks manufacturers and other entities to document how they are meeting each topic area in the guidance. The issues include:

- Operational Design Domain: How and where the HAV is supposed to function and operate;
- Object and Event Detection and Response: Perception and response functionality of the HAV system;



- Fall Back (Minimal Risk Condition): Response and robustness of the HAV upon system failure;
- Validation Methods: Testing, validation, and verification of an HAV system;
- Registration and Certification: Registration and certification to NHTSA of an HAV system;
- Data Recording and Sharing: HAV system data recording for information sharing, knowledge building and for crash reconstruction purposes;
- Post-Crash Behavior: Process for how an HAV should perform after a crash and how automation functions can be restored;
- Privacy: Privacy considerations and protections for users;
- System Safety: Engineering safety practices to support reasonable system safety;
- Vehicle Cybersecurity: Approaches to guard against vehicle hacking risks;
- Human Machine Interface: Approaches for communicating information to the driver, occupant and other road users;
- Crashworthiness: Protection of occupants in crash situations;
- Consumer Education and Training: Education and training requirements for users of HAVs;
- Ethical Considerations: How vehicles are programmed to address conflict dilemmas on the road; and
- Federal, State and Local Laws: How vehicles are programmed to comply with all applicable traffic laws.

Portions of the Guidance also apply to developers of lower level automated systems that are designed to assist the driver but not take the over the driving task. The Guidance outlines a Safety Assessment for these systems as well.



## **FACT SHEET: AV POLICY SECTION II: MODEL STATE POLICY**

State governments play an important role in facilitating HAVs, ensuring they are safely deployed and promoting their life-saving benefits. The Model State Policy confirms that States retain their traditional responsibilities for vehicle licensing and registration, traffic laws and enforcement, and motor vehicle insurance and liability regimes while outlining the Federal role for HAVs. The Model State Policy supports the establishment of a consistent national framework of laws and policy to govern automated vehicles.

### **Division of Federal and State Responsibilities**

Federal responsibilities include:

- Setting safety standards for new motor vehicles and motor vehicle equipment;
- Enforcing compliance with the safety standards;
- Investigating and managing the recall and remedy of non-compliances and safety-related motor vehicle defects on a nationwide basis;
- Communicating with and educating the public about motor vehicle safety issues; and
- When necessary, issuing guidance to achieve national safety goals

State responsibilities include:

- Licensing (human) drivers and registering motor vehicles in their jurisdictions;
- Enacting and enforcing traffic laws and regulations;
- Conducting safety inspections, when States choose to do so; and
- Regulating motor vehicle insurance and liability.

### **The Model State Policy**

The Model State Policy is intended for States that wish to regulate testing, deployment, and operation of HAVs. The model framework addresses State regulation of the procedures and requirements for granting permission to vehicle manufacturers and owners to test and operate vehicles within a State.

Model framework areas covered include:

- Administrative structure and processes that States can set up to administer requirements regarding the use of public roads for HAV testing and deployment in their States;
- Application by manufacturers or other entities to test HAVs on public roads;
- Jurisdictional permission to test;
- Testing by the manufacturer or other entities;
- Drivers of deployed vehicles;
- Registration and titling of deployed vehicles;
- Law enforcement considerations; and
- Liability and insurance.



## **FACT SHEET: AV POLICY SECTION III: CURRENT REGULATORY TOOLS**

This section summarizes how existing regulatory tools will be used to promote the safe development and deployment of automated vehicles, including interpretations, exemptions, notice-and-comment rulemaking, and defects and enforcement authority. NHTSA (the “Agency”) has streamlined its review process and is committing to expediting simple HAV-related interpretations and exemption requests.

### **Letters of Interpretation**

The Agency can use letters of interpretations to explain how existing law applies to specific motor vehicle equipment. Interpretation letters describe the Agency’s view of the meaning and application of an existing statute or regulation. They can better explain the meaning of a regulation, statute, or overall legal framework and provide clarity for regulated entities and the public.

An interpretation may not make a substantive change to the meaning of a statute or regulation or to their clear provisions and requirements. In particular, an interpretation may not adopt a new position that is irreconcilable with or repudiates existing statutory or regulatory provisions.

Historically, interpretation letters have taken several months to several years for NHTSA to issue, but the Agency has committed to expediting simple interpretation requests regarding HAVs to provide responses in 60 days.

### **Exemptions from Existing Standards**

The Agency has authority to provide limited exemptions from existing standards to accommodate alternate vehicle designs. Manufacturers can apply for exemptions that may allow for the deployment of vehicle test fleets with significantly different vehicle designs that would otherwise not be compliant with standards.

Agency rulings on exemptions have historically taken several months to several years. The Agency has committed to expediting simple exemption requests regarding HAVs to provide responses within six months.

### **Rulemakings**

Notice-and-comment rulemaking is the tool the Agency uses to adopt new standards, modify existing standards, or repeal an existing standard. If a party wishes to avoid compliance with a standard for longer than the allowed time period for exemptions, or for a greater number of vehicles than the allowed number for exemptions, or has a motor vehicle or equipment design substantially different from anything currently on the road that compliance with standards may be very difficult or complicated (or new standards may be needed), a petition for rulemaking may be the best path forward.



## **Enforcement Authority**

NHTSA has broad enforcement authority under existing statutes and regulations to address existing and emerging automotive technologies. Part of the agency's mission is to protect against unreasonable risks of harm that may occur because of the design, construction, or performance of a motor vehicle or motor vehicle equipment, and to mitigate risks of harm. As described in the accompanying Enforcement Bulletin, NHTSA's existing authority and responsibility covers defects that create unreasonable risks to safety that may arise in connection with HAVs.

**FACT SHEET: AV POLICY SECTION IV: MODERN REGULATORY TOOLS**

This section identifies potential new tools, authorities and resources that could aid the safe deployment of new automated technologies by enabling DOT to be more nimble and flexible. Some of the identified tools could be created under current law while others would require Congressional action.

Today's governing statutes and regulations were developed before HAVs were even a remote notion. Current authorities and tools alone may be insufficient to ensure that HAVs are introduced safely, and to realize the full safety promise of new technologies. This challenge requires DOT and NHTSA to examine whether the ways in which the Agency has addressed safety for the last several decades should be expanded to realize the safety potential of HAVs over the decades to come.

**Considered New Authorities**

- Safety Assurance: Methods and tools for vehicle manufacturers and other organizations to provide pre-market testing, data and analyses to DOT to demonstrate that organization's design, manufacturing and testing processes apply NHTSA's vehicle performance guidance.
- Pre-Market Approval: Pre-market approval authority, in which the government inspects and affirmatively approves new technologies, would be a departure from NHTSA's current self-certification system. The merits and challenges of implementing some form of a pre-market approval are discussed.
- Cease and Desist: Authority to require manufacturers to take immediate action to mitigate safety risks that are so serious and immediate that they constitute "imminent hazards."
- Expanded Exemptions: Raising the cap on the number of vehicles subject to exemption and/or the length of time of exemptions, to facilitate the safe testing and introduction of HAVs.
- Post-sale Regulation of Software Changes: This authority would clarify the Agency's ability to regulate post-sale software changes in HAVs.

**Considered New Tools**

- Variable Test Procedures: Expand vehicle testing methods to create test environments more representative of real-world environments.
- Functional and System Safety: Make mandatory the 15-point Safety Assessment envisioned in the Vehicle Performance Guidance for Automated Vehicles.
- Regular Reviews: Regular reviews of standards and testing protocols to keep current with the development of technology.
- Additional Recordkeeping and Reporting: Require additional reporting about HAV testing and deployment.
- Enhanced Data Collection: Enhance data recorders and greater reporting requirements about the performance of HAVs.



## **Considered New Resources**

- Network of Experts: Establish a network of experts to broaden the NHTSA's existing expertise and knowledge.
- Special Hiring Tools: Special hiring tools—including direct hiring authority, term appointments, and greater compensation flexibility—to hire qualified applicants with specialized skills.