

Summary of AV START Act (S.1885)

Section 2: Definitions

Defines terms “automated driving system”, “dedicated highly automated driving system”, and “highly automated vehicle”, but definitions fail to include level 2 HAVs as well as aftermarket equipment.

- **Level 2 AVs should not be excluded from the scope of this legislation. The NTSB identified deadly failures of the SAE Level 2 Autopilot system in the 2016 fatal crash of a Tesla Model S. The NTSB stated that similar problems exist in other Level 2 AVs across many manufacturers. Level 2 AVs are already on American roads and will likely constitute the majority of the AV fleet in the immediate future. The legislation must require that manufacturers address known and solvable problems for all levels of AVs.**

Section 3: Relationship to Other Laws

Precludes States and localities from regulating Highly Automated Vehicle (HAV) systems and vehicle equipment related to HAV systems even though no federal safety standards have been issued. The provision otherwise maintains the traditional regulatory roles of the National Highway Traffic Safety Administration (NHTSA) and the States. States retain the right to regulate such matters as licensing, enforcing traffic laws, conducting crash investigations and administering safety and emissions tests.

- **The NHTSA’s statutory mission is to regulate the safety performance of motor vehicles by issuing federal motor vehicle safety standards. Until NHTSA issues comprehensive standards, states must retain the traditional legal role to ensure public safety. States also have the right to require AV compliance with traffic laws.**

Section 4: Expedited Resolution of Highly Automated Vehicles Conflicts With Standards

The U.S. Department of Transportation (U.S. DOT) Volpe Center is required to issue report within 180 days of enactment that identifies each provision, requirement, specification or procedure in a safety standard that references performance of a dynamic driving task by a human driver or includes a reference to the position of a human driver. The report shall suggest alternative references for automated driving systems and indicate those instances where an alternative reference is not practicable. Secretary can maintain alternate test procedures for highly automated vehicles that can be operated by a human driver when not in automated mode.

Within 90 days of the delivery of the report, Secretary shall initiate a rulemaking incorporating the suggested alternative references to automated driving systems into the text of the FMVSS. Final rule shall be issued within one year. If rulemaking is not completed within one year then the report’s contents are incorporated into the standards by reference. Secretary may omit alternative references that are determined not to be objective, practicable or meet the need for motor vehicle safety.

- **Support public rulemaking to amend FMVSS.**

Section 5: Highly Automated Vehicle Testing

Permits testing of autonomous vehicles by an individual, partnership, corporation or education institution as long as the testing is conducted by employees, agents or contracted fleet management of the entity and the entity agrees not to sell or lease the vehicle as conclusion of testing. Entity must submit proper documentation required by 49 CFR part 566.

- **The need to broaden the definition of entities which can test AVs may have merit; however, considering the expanding universe of parties which could be eligible for these exemptions, a limit of 2,500 vehicles per manufacturer on the number of AVs permitted for testing should be established to reduce exposure of the public to uncontrolled testing of unproven systems.**

Section 6: HAVs Exemptions

Adds new category of exemption for “new motor vehicle safety feature” which means “an innovative feature that is not available as standard equipment on any non-exempted model . . . and specifically includes any feature that enables a highly automated vehicle or an automated driving system on any motor vehicle. . .”

An application for an exemption for HAVs is determined under existing exemption procedures but must be granted or denied by the Secretary within 180 days of receipt of the application. Manufacturers may apply for exemptions from FMVSS for HAVs for up to 50,000 vehicles to be sold in the United States in the first 12 months after enactment of the bill. In the second year after enactment of the bill, the exemption is expanded to 75,000. After the second year, the exemption expands to 100,000.

Manufacturers may submit petition to expand exemption to more than 100,000 HAVs to be sold in any 12 month period after the exemption has been in place for a period of five years.

Manufacturers are no longer eligible for an exemption after the Secretary issues a new or revised standard applicable to the same aspect of performance as that for which an exemption is sought.

Criteria for Exemptions

- **Any exemption granted under this section must not diminish the level of occupant protection established under the regulations from which an exemption is being sought. For example, removing the steering wheel should not eliminate the requirement to protect the occupant from injury using safety systems such as airbags and seatbelts.**
- **Additionally, the time period for the exemption should commence upon the granting of the initial exemption and should not be tied to the date of enactment. If this change is not made, a manufacturer could wait just over two years after enactment and then petition for an exemption for 100,000 AVs, evading the purpose of the stair-step approach.**

Volume of Exemptions

- **The proposed numbers of exemptions are excessive and endanger public safety. No demonstrable evidence has been put forth to justify increasing the number of exemptions for sale beyond the current limit of 2,500. The initial number of exemptions should be no more than 2,500 vehicles per manufacturer per 24-month period.**
- **Before any subsequent increase in the number of exempted vehicles above 2,500 is permitted, NHTSA must determine that the on-road safety performance of the previously exempted vehicles is at least equal to the on-road safety performance of non-exempted vehicles. Subsequent expansions of exemptions must be predicated on a safety performance determination by the agency. Without such oversight, manufacturers could be granted increasing numbers of exemptions for inherently dangerous products whose hazard has not yet been identified.**
- **Additionally, responding to an exponentially larger number of exemption applications will increase the burden on already scarce agency resources. Determinations of this magnitude should**

be made based on sound review and evaluation, not simply rubberstamped because of a lack of staff capacity to meet the 180-day deadline.

Section 7: Inoperative Wheels and Pedals

49 USC 30122(b) is amended to allow manufacturers to make a device, element of design to equipment inoperable during the time that an automated driving system is performing the entire dynamic driving task. This permits manufacturers to deactivate the operation of any equipment governed by the FMVSS during operation by the automated driving system without having to apply for exemptions to remove those items of equipment.

- **Manufacturers are prohibited by law from rendering safety systems inoperable. However, the AV START Act allows manufacturers to shut down any system or piece of equipment during autonomous operation. This is a stunning change in procedure that could render safety equipment, such as airbags, inoperable and thus ineffective at the discretion of the manufacturer.**

Section 8: Levels of Driving Automation

Directs Secretary to use the definitions of automated driving systems set forth in Society of Automotive Engineers (SAE) International Surface Vehicle Recommended Practice J3016 issued on September 30, 2016 and to consider future updates adopted by SAE.

- **The NHTSA must validate the accuracy of each manufacturer designation of a vehicle automation level using the taxonomy and definitions set forth in SAE International standard J3016.**

Section 9: Safety Evaluation Report

Requires that each entity introducing a HAV or HAV system into interstate commerce submit a safety evaluation report (SER) to the Secretary. The report shall be submitted 90 days before the manufacturer begins selling, offering for sale or otherwise commercializing a HAV or HAV systems. Manufacturers shall submit updated reports annually. Secretary may review and request additional information, but there is no pre-market approval.

The report shall “describe” how entity is addressing nine topics and the manufacturer shall include their documented process for assessment, testing, validation and if applicable, evaluation and steps to address unreasonable risk due to foreseeable hazards. The 9 topics include: System Safety, Data Recording & Sharing, Cybersecurity, Human Machine Interface (HMI), Crashworthiness, Capabilities, Post-Crash Behavior, Compliance with Applicable Laws, and Automation Function. Manufacturers’ obligation to provide information on a topic ends upon issuance of applicable standard by the Secretary.

The Secretary shall make any report available to the public but may redact any information for trade secrets or confidential business information. Report must be signed by knowledgeable senior official of the entity filing the SER.

- **The legislation should be more specific in requiring the SER to include the data and documentation necessary to adequately detail the subject areas.**

Section 10: HAVs Technical Safety Committee

Not later than 180 days after enactment of the bill, the Secretary shall establish a HAV Technical Safety Committee. Voting members consist of one SAE representative, two representatives from the AV proving grounds designated by DOT, and 12 other individuals. Those 12 other individuals may represent industry, safety, and government organizations directly or indirectly impacted by NHTSA regulations and are specially qualified to serve because of their technical knowledge of autonomous driving systems, vehicle-to-vehicle infrastructure systems or the impact of such systems on FMVSS. There will also be a Chair who does not have voting authority unless there is a tie vote.

The Committee may establish temporary working groups including at least one member representative of the HAV industry and other individuals who are subject matter experts.

The Committee will make recommendations on rulemakings for performance standards and harmonization with international standards. Not later than five years after enactment, the Committee shall submit a report with recommendations consensus-based for potential rulemakings governing HAVs. The Secretary shall make the recommendations and the report available to the public.

The Committee will meet at least four times a year and the meetings will be open to the public. The Committee is not subject to Federal Advisory Committee Act (FACA).

- **It is egregious for substantial technical issues involving the safety of AVs to be assigned to an advisory committee comprised of only 15 members. Moreover, the committee, which will be industry-driven, is being given the authority to issue recommendations that will govern AV safety moving forward. The NHTSA should be given adequate financial and staff resources.**

Section 11: HAVs Rulemaking

Secretary shall seek public comment on recommendations for rulemakings made by the HAV Technical Safety Committee. Not later than one year after recommendations are received, the Secretary must determine whether to approve one or more recommendations based on a determined risk to motor vehicle safety and commence rulemaking on the recommendations. This provision does not limit the authority of the Secretary to issue other rules or standards.

- **Technical issues involving the safety of AVs should not be left to an advisory committee.**

Section 12: Consumer Education

Within 180 days after enactment, the Secretary shall establish a working group on consumer education efforts for advanced driver assist systems (ADAS) and automated driving systems. The committee is to identify educational and responsible marketing strategies that may be voluntarily employed by industry to inform consumers, vehicle owners and other stakeholders about ADAS and automated driving systems. The Committee is to issue a report to Congress on its findings and recommendations. The Secretary shall appoint individuals with expertise in ADAS including representatives of: vehicle manufacturers; equipment manufacturers; dealers; fleet managers; consumer advocacy groups; AV proving grounds; public health organizations; marketing professionals, entities with national experience in consumer education, enabling technology companies, the FTC and any other members the Secretary deems appropriate. The Committee shall terminate 2 years after enactment of the legislation.

- **Under the bill, consumers will not be given appropriate safety information until a committee has completed its work, which could take years. Even then, the adoption of the recommendations is voluntary. Consumers must have access to clear and concise information about the capabilities and limitations of an AV at the point of sale. During the NTSB hearing, Chairman Sumwalt correctly criticized the lack of adequate consumer information about the capabilities and limitations of AV systems. Manufacturers must be required to provide such information at the point of sale and in the owner's manual for all new AVs without delay.**

Section 13: Traffic Safety and Law Enforcement

Coordination of Safety: Secretary in coordination "with relevant entities from the states and law enforcement" shall research traffic safety implications of HAVs including intersection of conventional vehicles and HAVs as well as law enforcement impacts. Secretary in coordination with states may develop process for states and local entities to provide information on a voluntary basis to assist Secretary in identifying defects.

Crash Data: Secretary shall research data necessary to determine whether HAV is performing driving task at the time of the crash. Not later than 3 years after enactment, Secretary shall revise crash investigation data collection system to include collection of crash report data elements that distinguish whether vehicle involved is a HAV.

- **Manufacturers should be required to submit information on all crashes involving AVs to NHTSA.**

Section 14: Cybersecurity

Not later than 18 months after enactment of the legislation, each manufacturer of an HAV or AV systems shall develop and execute a written plan for identifying and reducing cybersecurity risks to the motor vehicle safety of such vehicles and systems.

The plan shall include the following processes:

- A. risk-based prioritized identification and protection of safety-critical vehicle control systems.
- B. efficient detection and response to potential vehicle cybersecurity incidents in the field.
- C. facilitate expeditious recovery from incidents when they occur.
- D. institutionalize methods for accelerated adoption of lessons learned across industry through voluntary exchange of information pertaining to cybersecurity incidents, threats, and vulnerabilities, including consideration of a coordinated cybersecurity vulnerability disclosure policy or other related practices for collaboration with third-party cybersecurity researchers .
- E. the identification of the individual of the manufacturer as the point of contact with responsibility for the management of cybersecurity.
- F. the use of segmentation and isolation techniques in vehicle architecture design, as appropriate.
- G. to support voluntary efforts by industry and standards-setting organizations to develop and identify standards and guidelines relating to vehicle cybersecurity, consistent, and to the extent appropriate, with the cybersecurity risk management activities described in section 2(e) of the National Institute of Standards and Technology.

The Secretary may work cooperatively with the manufacturers of highly automated vehicles and automated driving systems to incentivize manufacturers to adopt a coordinated vulnerability disclosure policy and practice where a security researcher privately discloses information related to a discovered vulnerability to a manufacturer and allows the manufacturer time to confirm and remediate the vulnerability.

All federal agencies undertaking research on cybersecurity risks associated with highly automated vehicles shall coordinate with the Secretary on their findings.

- **The NHTSA should be required to issue a minimum performance standard for cybersecurity, through public rulemaking, within three years of enactment.**

Section 15: Savings Provision

Excludes motor vehicles with a gross vehicle weight of 10,001 pounds or more from the bill.

- **Many transportation analysts expect commercial use of autonomous commercial motor vehicles (ACMVs) will come before widespread deployment of AVs in the passenger vehicle fleet. ACMVs should be subject to rigorous federal regulation.**