Report to Congress

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NHTSA Rulemakings Related to Automated Driving System-Equipped Vehicles

NHTSA

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Report No. 117-402—incorporated by reference into the Joint Explanatory Statement accompanying the Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, 2023 (Division L of the Consolidated Appropriations Act, 2023, Pub. L. 117-328)—requests that the National Highway Traffic Safety Administration (NHTSA) provide a report regarding current rulemakings related to Automated Driving System-equipped vehicles (AVs). Specifically, the report states that, "[w]hile the Committee notes that NHTSA recently completed its first rulemaking on autonomous vehicles, much work remains to modernize existing Federal motor vehicle safety standards, including congressionally-mandated rulemakings and rulemakings related to autonomous vehicles, innovative vehicle safety technologies, and zero-occupant delivery vehicles," and requests that NHTSA "complete and deliver a report to the House and Senate Committees on Appropriations within one year of enactment of this Act on the impediments to meeting these requirements, and what is required to finalize these rulemakings around the safe deployment of new technology that will improve safety outcomes, and incorporate novel vehicle designs that improve mobility and access for all."

I. Introduction

As codified in 49 U.S.C. Chapter 301, the National Traffic and Motor Vehicle Safety Act (the "Safety Act") tasks NHTSA with reducing traffic accidents, deaths, and injuries resulting from traffic accidents. NHTSA carries out this mission through a combination of rulemaking, enforcement, and research activities. NHTSA issues Federal Motor Vehicle Safety Standards (FMVSS), pursuant to its authority at 49 U.S.C. 30111, that are practicable, meet the need for safety, and are stated in objective terms. NHTSA also has broad enforcement authority to conduct investigations and require recall and remedy of vehicles and motor vehicle equipment that do not comply with applicable FMVSS or contain safety related defects. NHTSA also conducts research to support both its rulemaking and enforcement activities.

Currently, there are no Federal laws or regulations that prohibit the testing or deployment on public roads of an AV that complies with all applicable FMVSS. That said, NHTSA has identified a need to modernize existing FMVSS with consideration for AVs. When developed and deployed with the appropriate safeguards and consideration of broader societal impacts, AVs have the potential to lead to better outcomes across the transportation system. These outcomes, however, are not intrinsic to the technology. The net effects on safety, mobility, emissions, labor, and other considerations will be the result of engineering, deployment, and policy choices. This is why the U.S. Department of Transportation and NHTSA's approach

centers on their core policy priorities and the belief that safety is fundamental to unlocking the technology's potential for broader positive outcomes.

As the technology develops, the Department and NHTSA will advance their research and policy agendas to identify areas of economic benefit and risk and give workers a seat at the table in shaping innovation to create benefits for workers and prevent workforce disruption. During this critical period of technological maturation, NHTSA is committed to using the full scope of its authorities to monitor and analyze emerging safety issues and ensure robust oversight of AVs operating in the United States. NHTSA is increasing its capacity to do so with the establishment of new offices to gather data on AVs and to manage rulemakings related to automation.

As referenced in the Report No. 117-402, NHTSA has completed its first rulemaking on AVs.[1] This report discusses four additional rulemakings NHTSA has initiated to address issues related to AVs, as well as the challenges associated with completing rulemaking on AVs.

II. Current AV Rulemakings

In general, issuing new regulations on AVs, or any new technology, is difficult until the technology reaches maturity. Due to the technology's continually evolving nature and complexity, there is currently no settled approach to evaluating the safety performance of AVs, though this is an active area of research for government, industry, and academia. NHTSA continues to conduct research to better understand the technology and explore possible methods and metrics for evaluating AV safety.

The following provides a status of NHTSA's four current AV-related rulemakings as reflected in the Fall 2023 Unified Agenda of Regulatory and Deregulatory Actions.[2] Of NHTSA's four planned rulemakings, two focus on adapting current requirements for AVs to maintain the current level of safety afforded by FMVSS while providing manufacturers the opportunity to develop novel designs. NHTSA's other two rulemakings look toward the future of evaluating AV performance.

1. RIN 2127-AM00 – Facilitating New Automated Driving System Vehicle Designs for Crash Avoidance Testing

NHTSA is currently analyzing comments received on the May 2019 Advance Notice of Proposed Rulemaking (ANPRM), conducting continued research, and considering next steps. NTHSA already completed a rulemaking, as mentioned previously, which related to AVs and the 200-series crashworthiness FMVSSs; instead, this notice focused on the 100-series crash-avoidance FMVSSs. Through the ANPRM, NHTSA sought comment on crash avoidance test procedures to facilitate the safe

[1] RIN 2127-AM06 - Occupant Protection for Vehicles With Automated Driving Systems, Docket No. NHTSA-2021-0003 which can be accessed at https://www.regulations.gov.
[2] Fall 2023 Agenda of Regulatory and Deregulatory Actions (last accessed January 2024)

introduction and certification of new AV designs. NHTSA is assessing what requirements may be necessary to maintain (or exceed) existing levels of safety while enabling innovative vehicle designs and removing or modifying those requirements that would no longer be appropriate if a human driver will not be operating the vehicle.

2. RIN 2127-AM07 – Considerations for Telltales, Indicators, and Warnings in Vehicles Equipped with Automated Driving Systems

NHTSA is currently performing additional research to further develop this ANPRM. This ANPRM would seek comments on amending the FMVSS to address the applicability and appropriateness of safety messaging (telltales, indicators, and warnings) in new vehicle designs without conventional driver controls. The discussion could include a focus on the existing telltales and displays listed in FVMSS No. 101 (which provide a driver with information relating to, for example, the current transmission gear, electronic stability control system status, low tire pressure, door closure status, and airbag systems) as well as what new vehicle messaging might be necessary for AVs. NHTSA is currently developing the ANPRM.

3. RIN 2127-AM15 – Framework for Automated Driving System Safety

NHTSA is currently analyzing comments received on the December 2020 Advance Notice of Proposed Rulemaking (ANPRM) and considering next steps. This ANPRM requested comment on the development of a framework to objectively define, assess, and manage AV safety performance while ensuring the needed flexibility to enable further innovation. The notice posed a number of questions related to the substance of a safety framework, its administration and interaction with NHTSA's authorities, and what additional research that could support its development.

4. RIN 2127-AM60 - Exemption and Demonstration Framework for Automated Driving Systems

NHTSA is developing an NPRM that would propose a framework for the review and assessment of AVs in order to evaluate operations or requests for exemptions involving such technologies, while also informing the agency's approach to future rulemaking and oversight.

III. Next Steps

In order to continue developing appropriate AV regulatory actions that effectively improve safety, NHTSA is building its capacity to ensure AV safety with enhanced real world data collection, research, and the establishment of new offices to focus on AV enforcement activities and rulemakings.

NHTSA has a variety of ongoing research projects aimed at advancing the body of knowledge on AV safety and informing future agency decision-making. NHTSA also continues to consider how it might heighten the value and effectiveness of data collection, such as through AV STEP, to inform rulemaking and enforcement activities.

In 2023, NHTSA's Office of Enforcement established the Advanced and Emerging Technology Division (AETD) within the Office of Defects Investigation. This new division has been hiring staff and developing approaches to coordinate enforcement activities for driving automation systems and other areas of rapid technological growth. Data gathered through AETD programs are shared across offices to ensure NHTSA's activities in research, rulemaking, and safety communications to the public can account for the latest real-world understanding of advanced and emerging technologies.

To consolidate several ongoing AV efforts, NHTSA also established the Rulemaking Office of Automation Safety in 2023. This new organization will develop and manage AV exemptions, special projects to address emerging automation safety needs, and regulations and safety standards related to AVs. Dedicated personnel will improve the effectiveness, coordination, and efficiency of these activities. In combination with the agency's existing expertise, the establishment of this new office will continue to build the agency's capacity on AV technology. The agency is currently moving forward with recruiting efforts for the Office of Automation Safety.