



September 21, 2022

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Acting Administrator Ann Carlson
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: GM Petition for Temporary Exemption from Various Requirements of
FMVSS (NHTSA-2022-0067-0030)

Dear Acting Administrator Carlson,

On behalf of the National Association of City Transportation Officials (NACTO), I am pleased to offer the following formal response to NHTSA's response to requests from General Motors for exemptions from Federal Motor Vehicle Safety Standards (FMVSS).

NACTO brings the collective expertise and experience of 92 major cities and transit agencies to inform Autonomous Vehicle (AV) policy that improves safety, transparency, and mobility outcomes. As the creators of the Blueprint for Autonomous Urbanism, our organization is at the forefront of guiding cities on leveraging new technology to deliver a transportation system that serves all people and modes. From San Francisco to Detroit to Pittsburgh, multiple NACTO cities have years of experience hosting AV testing operations on their streets. This firsthand experience informs NACTO's recommendations to NHTSA concerning the request for exemption from various requirements of FMVSS for vehicles proposed to operate on urban streets.

NACTO opposes the granting of the petition.

1. The FMVSS exemption process is insufficient to ensure safety of vehicles operated by an Automated Driving System (ADS).
2. The Petition does not meet the legal standard to receive an exemption.
3. The exemption sought is not necessary to achieve the Petitioner's claimed public benefits and the exemption sought will **not** further the Safety Act's objectives nor advance other public interests.

If NHTSA should decide to grant the exemption, then NHTSA must also strengthen its conditions for operations, use and reporting. Updated testing conditions and reporting standards are essential to advance the safe testing of AV technology while serving the public interest and avoiding potential negative impacts on congestion, equity and mobility.

I. The FMVSS exemption process is insufficient for vehicles operated by an Automated Driving System (ADS). Approval for exemption to physical safety features of the vehicle should not be divorced from review and approval of the operating system itself. NHTSA should instead use its rulemaking authority to establish new performance standards specific to ADS with all speed and diligence.

A basic assumption of the FMVSS is that a reasonable and licensed human driver is controlling the vehicle who will effectively use physical vehicle components such as mirrors and respond appropriately to conditions in the immediate driving environment, as well as to appropriately minimize risks when telltales identify degraded vehicle performance. The problem with applying FMVSS standards to vehicles controlled by Automated Driving Systems (ADS) is that the vehicle itself is both a system of physical components *and* a driving system, yet NHTSA is only considering the physical components of the vehicle when reviewing the Petition. The current exemption process was not designed for ADS; rather, it was designed for human-operated vehicles. This results in an “square peg, round hole” situation when reviewing whether to grant an exemption for an ADS operated vehicle.

Forcing ADSs into the existing regulatory scheme is inappropriate. NHTSA should pursue with all speed and diligence the work started with the 2020 Advanced Notice of Proposed Rulemaking and develop a framework for ADS safety that objectively defines, assesses, and manages the safety of ADS performance. NHTSA should also be working to expeditiously update Standing General Order 2021-01 *Incident Reporting for Automated Driving Systems (ADS) and Level 2 Advanced Driver Assistance Systems (ADAS)* to strengthen the data sharing requirements for these nascent technologies and vehicles.

NACTO recognizes the time required for rulemaking and the need to allow for continued vehicle evolution concurrent with the development of performance standards specific to ADS. NHTSA must accelerate the rulemaking process and ensure that cities, with their intimate experience of ADS in urban settings, are at the table.

II. The Petition does not meet the legal standard to receive an exemption.

Should the current FMVSS exemption process be used while rulemaking is taking place, the exemption process needs to be strictly applied and interpreted to account for the significant differences between human-driven and ADS vehicles. Petitions for FMVSS exemptions must clearly meet the statutory burden of proof through data and demonstration, and *not* simply theoretical arguments.

NHTSA has authority to issue exemptions from existing standards to provide some flexibility to the general requirement that manufacturers must comply with applicable FMVSS. Exemptions provide for limited exceptions to the obligation to comply with the FMVSS in certain circumstances specified in the Vehicle Safety Act. ***However, these exemptions are not to be used to excuse non-compliance with applicable safety standards simply because doing so would be inconvenient or inconsistent with the manufacturer’s preferred design.***

GM seeks exemption under two alternative bases, stating that its Origin vehicle meets both bases. The first basis is that an exemption would make the development or field evaluation of a low-emission vehicle easier without unreasonably lowering the safety of that vehicle. The second basis is that the non-compliant vehicles they are seeking to introduce into commerce have an overall safety level at least equal to the overall safety level of nonexempt vehicles.

The Petition includes no evidence or data to support GM's assertion that the subject vehicles, operated by their proprietary ADS, have an overall safety level at least equal to the overall safety level of non-compliant vehicles, nor that the exemption would make the development or field evaluation of a low-emission vehicle easier without unreasonably lowering the safety of that vehicle. In fact, the Petition includes purely theoretical arguments for granting the exemption.

Thus, Petitioner has failed to meet their burden of proof and the Petition should be denied until such time that the Petitioner can provide evidence or data to demonstrate that the subject vehicle, including the automated driving system, can provide an overall safety level at least equal to the overall safety level of a non-compliant vehicle driven by a reasonably prudent, licensed driver.

The Petitioner must not only establish that the controls and devices aren't needed for vehicles controlled by an ADS, but also prove that the ADS can successfully respond in a manner *at least as safe as a nonexempt vehicle with a human driver would*.

Taking rear-view mirrors as an example, the intent of the rear-view mirror is to provide full visibility to a human driver of the vehicle's surroundings. When an ADS is in control of the vehicle, NHTSA's role is to understand and regulate the full system by which the ADS sensors and computer recognizes and responds appropriately to people, objects, or roadway conditions surrounding the vehicle. NHTSA should require the manufacturer to ***physically demonstrate*** to NHTSA officials how the technology identifies people, objects, and roadway conditions and what backup measures are in place if the sensors or software fails.

The goal of the FMVSS is safety, regardless of the control or devices used. In the case of an ADS, the goal should also be to provide safety information to the passengers so a passenger can identify whether or not they are in a defective vehicle. The burden is on the Petitioner to show that the safety outcome intended by the FMVSS will still be achieved without the subject control, telltale, or indicator. Petitioner fails to meet its burden in this case.

III. The Petition does not demonstrate that it furthers the Safety Act's objectives nor advances other public interests.

In its Petition, GM asserts that the "Origin is ***poised*** to generate benefits to the public related to on-road safety, transportation emissions reductions, economic development, accessibility, transportation equity, and long-term U.S. industrial competitiveness." GM notably uses the term "poised" as none of these benefits have been realized, nor does the GM petition

document how GM is clearly working toward many of these benefits, such as accessibility and transportation equity.¹

The claim is that public interest will be served through a vehicle use case of shared rides (ride hail) and personal delivery of goods. Numerous evaluations of the outcomes of ride hail services have found that ride hail increases total vehicle miles traveled (VMT) and does not meaningfully improve transportation security for underserved populations. Evidence suggests that older adults are less likely to use app-hailed transportation services and share their associated personal information. Further, lacking local regulations that require a substantial portion of the shared fleet to be wheelchair accessible vehicles (WAVs), equitable services for persons with disabilities is largely unrealized.

The Petitioner claims, but fails to provide any evidence, that a FMVSS exemption for the proposed vehicles will promote uses that serve the public interest. The FMVSS exemption must be closely tied to the use cases presented, with very specific performance metrics for service delivery to the alleged target populations. Given the significantly greater weight (mass) of the vehicle, and greatly increased cost, the exempted vehicles are expected to have a greater propensity for injury and death, should a crash occur and great uncertainty in delivering outcomes of lower overall household transportation burden, especially for low-income households.

IV. If NHTSA grants the Petition, strict terms should be incorporated to promote the public interest and enable full participation by local officials in contributing to the continued prudent development, and eventual deployment, of vehicles adapted for ADS.

NACTO asserts once more that the Petition should not be granted on the grounds that 1) rulemaking, not exemptions, is the appropriate process to develop new standards for vehicles adapted for operation by Automated Driving Systems and 2) that, even so, Petitioner failed to meet the legal standard for an exemption.

Should NHTSA decide to grant the Petition, NHTSA should place the following terms and conditions on the exemption approval:

- A. The number of allowable vehicles to be introduced into commerce per year should be lowered to 1,000 vehicles and should be limited to 250 vehicles per city in total over the duration of the exemption period.
- B. The operating area for the exempt vehicles should be confined geographically and reasonable notice to local governments within the geography should be required.

¹ In its petition, GM does reference the development of a wheelchair accessible ADS vehicle; however, there is no indication that these vehicles will be available at the same time and in equitable proportions to non-accessible vehicles. NHTSA should require that all exempt ADS vehicles be accessible in order to serve the public benefits GM states that their vehicles are poised to provide.

- C. The exempt vehicles operational design domain (ODD) should be confined to the ODD Petitioner has reasonably demonstrated with a safety driver in the vehicle at the time the Petition was submitted, as expansion of the ODD after an exemption is granted creates unnecessary risk because the expansion of the Petitioner’s ADS ODD can be tested in non-exempt vehicles with human safety drivers.
- D. Petitioner should be required to share all of the following data with NHTSA and local governments, in addition to states:
 - 1. All crashes at time of occurrence
 - a) Conditions around the crash - exact locations, day, time,
 - b) Changes made, if any, to correct errors (software or otherwise) that contributed to the crash
 - 2. All occurrences of minimal risk condition with GPS coordinates and the duration of each incident.
 - 3. Response time to vehicle requests for remote advisor assistance²
 - 4. Report on response time to first responder requests for assistance
 - 5. Vehicle miles traveled, both with and without passengers or goods in the vehicle.
 - 6. Cybersecurity incidents or fleet defects
 - 7. Emissions and energy use data per vehicle
 - 8. Costs per trip and *price* per trip (to indicate equity benefit)
 - 9. Passenger demographic data (to indicate accessibility and equity benefit)
- E. Local access to existing and future data NHTSA holds or obtains. If the intent of collecting crash and other data is to identify patterns of dangerous behavior by an ADS, it is unhelpful for NHTSA alone to hold that information; local governments responsible for public safety and managing public streets should have access to data that indicates unsafe conditions for the public.
- F. Number of accessible vehicles in the fleet of exempt vehicles by unique geography.
- G. A phone number that is conspicuously visible on every exempt vehicle from which the company can receive reports in response to crashes and to support “how’s my driving” input. The volume of calls and details of the feedback should be shared with NHTSA.
- H. All safety indicators should remain visible to passengers so they are informed if they are riding in a defective vehicle and can take necessary steps to request an emergency stop.

Conclusion

NACTO greatly appreciates NHTSA’s consideration of these comments. Although NACTO is hopeful that the ADS industry’s promises - safety, accessibility, equity, sustainability - will come to fruition, it’s the industry’s responsibility, including the Petitioner, to be transparent and share data and information that proves the benefits of ADS technology. Until that time, NHTSA should

² Many cities today are seeing high levels of disengagements and remote operator takeovers of ADS vehicles. This data can provide insight to NHTSA and cities regarding the ADS’s maturity and reliability.

not permit nascent technology on our streets through FMVSS exemptions that could exacerbate the safety crisis happening on our city streets today. We welcome further opportunities to guide collaboration with NHTSA and the ADS industry to ensure this technology can be tested, demonstrated, and deployed in a responsible manner that advances city priorities of safety, accessibility, equity and sustainability.

Sincerely,

A handwritten signature in black ink, appearing to read 'Corinne', with a long horizontal flourish extending to the right.

Corinne Kisner, Executive Director