

Department of Transportation

Ensuring Lawful Regulation; Reducing Regulation and Controlling Regulatory Costs

“Regulatory Reform RFI”

[Docket No. DOT-OST-2025-0026]

May 5, 2025

The Alliance for Automotive Innovation (Auto Innovators)¹ hereby submits comments to the U.S. Department of Transportation’s (DOT) request for information (RFI) on “Ensuring Lawful Regulation; Reducing Regulation and Controlling Regulatory Costs.”²

Auto Innovators members continue to invest billions of dollars in the development and deployment of innovative technologies. We appreciate the Department’s RFI initiative that seeks:

“...information to assist DOT in identifying existing regulations, guidance, paperwork requirements, and other regulatory obligations that can be modified or repealed, consistent with law, to ensure that DOT administrative actions do not undermine the national interest and that DOT achieves meaningful burden reduction while continuing to meet statutory obligations and ensure the safety of the U.S. transportation system.”³

Taking into consideration DOT’s regulatory reform objectives above, Auto Innovators’ recommendations relate to the federal motor vehicle safety standards (FMVSS), automotive fuel economy requirements, and other agency actions administered by the Department’s National Highway Traffic Safety Administration (NHTSA). These comments include recommendations on both general practices and specific regulations.

The two trade associations that preceded Auto Innovators, the Alliance of Automobile Manufacturers and the Association of Global Automakers, responded to a similar regulatory review request in 2017.⁴ Auto Innovators also requests the administration reconsider all relevant areas of those responses for regulatory review, many of which are re-emphasized in this document.^{5,6}

Members of Auto Innovators are committed to improved safety on our nation’s roadways. Whether those are crashworthiness systems to protect occupants in a crash, crash avoidance technologies to

¹ Auto Innovators represents the full auto industry, including the manufacturers producing most vehicles sold in the U.S., equipment suppliers, battery producers, semiconductor makers, technology companies, and autonomous vehicle developers. Our mission is to work with policymakers to realize a cleaner, safer, and smarter transportation future and to ensure a healthy and competitive auto industry that supports U.S. economic and national security. Representing approximately 5 percent of the country’s GDP, responsible for supporting nearly 10 million jobs, and driving \$1 trillion in annual economic activity, the automotive industry is the nation’s largest manufacturing sector.

² <https://www.federalregister.gov/documents/2025/04/03/2025-05557/ensuring-lawful-regulation-reducing-regulation-and-controlling-regulatory-costs>

³ <https://www.federalregister.gov/documents/2025/04/03/2025-05557/ensuring-lawful-regulation-reducing-regulation-and-controlling-regulatory-costs>

⁴ <https://www.federalregister.gov/documents/2017/10/02/2017-21101/notification-of-regulatory-review>

⁵ <https://www.regulations.gov/comment/DOT-OST-2017-0069-2700>

⁶ <https://www.regulations.gov/comment/DOT-OST-2017-0069-2772>

prevent a crash from occurring in the first place (or mitigating a collision that does occur) or driver support features designed to reinforce safer driving behaviors, automakers and suppliers have conceived of, designed, developed and introduced innovative safety features without a government mandate. The perceived conflict between safety and minimizing regulatory burden is often a false trade-off. We recommend DOT, via NHTSA, take the following deregulatory steps as soon as possible:

1. FMVSS 127, Automatic Emergency Braking (AEB)/Pedestrian Automatic Emergency Braking (PAEB) Final Rule
 - Revise rule to align with intent of Congressional mandate and align requirements with current system capability and technology maturity.
2. Part 563, Event Data Recorder (EDR) Requirements
 - Reduce the regulatory cost burden by reducing the required EDR recording duration to five seconds and granting the three-year lead-time and four-year phase-in implementation requirements (year 1 25%, year 2 50%, year 3 75%, year 4 100%) as outlined in Auto Innovators' petition for reconsideration.
3. FMVSS 208, Seat Belt Reminder Systems
 - Reduce regulatory burden associated with late-stage design changes by extending the lead time provided for complying with the updated front and rear seat belt reminder system requirements; modify the rule to provide clarification on the requirements for visual warnings associated with multiple front outboard seats.
4. FMVSS 228, Pedestrian Head Protection
 - Reduce regulatory burden through alignment with international standards. Amend rulemaking proposal to align with comparable requirements in other markets (e.g., UNECE R127, India AIS 100, Brazil CONTRAN Res. No. 752).
5. Part 581, Bumper Standard Requirements
 - Reduce regulatory burden through alignment with international standards or repeal requirements altogether. Alternatively, address regulatory conflicts with other FMVSS and consumer information program requirements.
6. FMVSS 208, Unbelted Requirement
 - Grant Auto Innovators' petition and initiate rulemaking to update FMVSS 208 to provide a compliance option alternative for the current unbelted test requirement or repeal the requirement.
7. FMVSS 108, Adaptive Driving Beams
 - Align regulatory approaches with international standards, significantly reducing the regulatory burden on industry while maintaining (and even improving) safety.
8. Early Warning Reporting (EWR) NPRM
 - Per Auto Innovators' comments,⁷ reconsider if NHTSA should extend the collection of information collection activity. The existing process has been identified by the agency as being low utility and removing some of the current aggregated data would reduce burden without hampering NHTSA because the data is of very low utility.
9. NCAP Implementation Delay

⁷ <https://www.regulations.gov/document/NHTSA-2025-0004-0001>

- Delay implementation of final decision on the NCAP ADAS and pedestrian protection program updates by at least one year; review potential opportunities to streamline the program and ensure a comparative ratings structure is in place.

General Practices to Support Regulatory Reform

Increase Public Notice Time and Stakeholder Collaboration

NHTSA should issue research, guidance, and rulemaking actions to allow as much public notice and comment response time as possible. The agency should consider Advance Notices of Proposed Rulemaking (ANPRMs) whenever possible to give ample awareness of issues that are becoming an agency focus. Granting longer public comment lead times for notices would vastly improve the ability for all stakeholders to respond with meaningful and constructive technical feedback. Major notices of proposed rulemaking (NPRMs) are often issued with 30- or 60-day comment periods, making substantive responses on complex engineering requirements and test procedures very difficult. In addition, NHTSA should issue Supplemental Notices of Proposed Rulemakings (SPNPRMs) whenever a substantial level of information is received in response to an NPRM. The issuance of an SNPRM can publicly reflect NHTSA's progress in understanding complex technical nuances, especially when related data may be rapidly developing. It also reaffirms the agency's commitment to considering public comments thoughtfully before a final rule is published. NHTSA should provide the public with regular, timely, and detailed updates on the progress of its rulemaking activities throughout each calendar year.

NHTSA should also consider leveraging less commonly used tools such as negotiated rulemaking processes for developing FMVSS.⁸ Involving industry, academia, and advocacy organizations during the development of a rule allows for a continuous exchange of critical information such as technical feasibility, costs, and expected implementation challenges. This practice supports the issuance of more balanced regulations with less ambiguity and less unintended consequences.

NHTSA should expand its proactive exchange of safety information with the public, including to discuss research results,⁹ hold action forums,¹⁰ and launch safety campaigns.¹¹ To improve its understanding of public information that can help shape rules and policies, NHTSA should continue to conduct structured listening sessions, organize research public meetings,¹² and form technical advisory committees.¹³ It is important for the agency to interact and collaborate with a range of vehicle safety stakeholders often and openly.

⁸ <https://www.congress.gov/crs-product/R46756>

⁹ <https://www.nhtsa.gov/events/nhtsa-safety-research-portfolio-public-meeting-fall-2024>

¹⁰ <https://www.transportation.gov/briefing-room/usdot-tackles-distracted-driving-gains-new-safety-allies>

¹¹ <https://www.nhtsa.gov/press-releases/put-the-phone-away-or-pay-campaign-2025>

¹² <https://www.nhtsa.gov/events/human-subjects-biomechanical-research-workshop-2023>

¹³ <https://www.transportation.gov/priorities/transformation/transforming-transportation-advisory-committee/transforming>

Increase Compliance Lead Times

The lead times for complying with final rules are often overly aggressive and very burdensome for industry. Regulations must include realistic timelines and clear requirements so all stakeholders can properly prepare for changes during the vehicle development process. NHTSA routinely underestimates the complexity of vehicle design and production and, in turn, underestimates the costs, development, and manufacturing times required to meet the final rule. Regulatory lead times that are misaligned with normal vehicle development schedules affect long-term labor and production plans, which unnecessarily adds to business complexities and, again, increases costs. In several recent rulemakings, the agency has underestimated the hardware and software changes that need to be implemented to meet a regulatory requirement in the provided compliance period, particularly for vehicles that are either in the late stages of development or that have already been introduced in the US market.^{14,15}

In some cases, it may not be possible to meet the final rule requirements due to the state of a given technology or nature of the vehicle design lifecycle. NHTSA should consider that many new equipment requirements will require tooling, assembly, production facility, and/or supplier changes, and set lead times that accommodate those needs. To support safety and efficiency while balancing industry product cycle complexities, phase-in periods with early compliance options should always be considered when issuing a rule. Sufficient lead times are especially critical for small volume manufacturers (SVMs) who lack the agility of larger manufacturers. Responding to changes in regulation requires substantially longer lead time and planning, as SVMs will typically introduce models that will be available over a longer period of time without the need for significant changes in architecture.

Expedite Responses to Petitions and Legal Interpretations

A significant burden can arise from the inordinately long durations that NHTSA takes to process responses to petitions for reconsideration. To minimize this burden, adequate agency resources should always be dedicated to responding to petitions for reconsideration or rulemaking within 120 days of their receipt.¹⁶ Once a final rule is issued, Auto Innovators members must begin the process of implementing potentially expensive revisions to vehicles to meet compliance deadlines. These revisions must be approved, financed, and designed with significant lead-time prior to introduction. Vehicle manufacturers must decide to commit significant resources to meet the final rule well in advance of required compliance dates. If a ruling on the petition for reconsideration is not issued before the necessary decision point, any relief granted essentially becomes meaningless since the manufacturer has already finalized vehicle designs and expended resources and to meet the original requirements.

Similarly, the NHTSA timeline for receiving answers to formal legal interpretations requests from the NHTSA Office of Chief Counsel is long. In addition, following the issuance of an interpretation there is little or no communication to the public regarding its availability. NHTSA should consider process changes to more quickly develop legal interpretations and to make the interpretation database more user-friendly. Furthermore, it would be beneficial for NHTSA to clearly identify and regularly update the

¹⁴ <https://www.regulations.gov/document/NHTSA-2024-0084-0005>

¹⁵ <https://www.regulations.gov/document/NHTSA-2024-0071-0006>

¹⁶ <https://www.ecfr.gov/current/title-49/section-552.8>

legal interpretations already submitted by manufacturers, along with their current status. This transparency would help avoid duplicative efforts by enabling companies to reference existing interpretations submitted by others, particularly when similar questions or compliance approaches are being considered.

Modernize Cost-Benefit Analyses

NHTSA should improve its cost-benefit determinations to include more holistic and modern considerations of the burdens associated with a final rule. New vehicle regulations should demonstrate a net positive impact on safety and/or fuel efficiency and should be issued such that any related or ensuing costs to consumers are reasonable and justifiable.

Cost-benefit analyses should be modernized to incorporate full lifecycle compliance costs, including development and certification testing. In addition to OEM component costs, supplier and manufacturing equipment, retooling, and other engineering and production costs should be considered.

Future cost benefit analyses should also include more robust sensitivity analyses with realistic uncertainty ranges in both cost and benefit estimates. Benefits projections should wholly account for real-world effectiveness, especially where behavioral assumptions (like 100% seatbelt use) are unrealistic. NHTSA should also conduct assessments of how any added regulatory costs will eventually affect vehicle pricing and consumer affordability.

Overall, NHTSA should more actively engage with automotive manufacturers, suppliers and trade associations to collect direct feedback on the costs and burdens of proposed rulemakings. This includes allowing enough time in the rulemaking process for the public to conduct surveys, collect information, or perform additional research to provide DOT with substantive, data-driven responses to guidance, requests for data collection, or rulemakings. Releasing cost-benefit assumptions early in the rulemaking process allows for sufficient public vetting and correction, if needed.

Responses to Specific RFI Questions on Regulatory Reform

Auto Innovators' responses to certain specific questions posed in the RFI are presented below. Auto Innovators focused on the NHTSA regulations, guidance, and reporting requirements that are especially time-sensitive for industry. The FMVSS and other requirements identified are neither exhaustive nor comprehensive; rather, they indicate the most pressing and immediate opportunities DOT can take to remove regulatory and cost burdens limiting further improvements in vehicle safety and efficiency. Regulations and requirements indicated are especially illustrative of the RFI questions but in many cases support several deregulatory goals.

In some cases, these legacy requirements impose unnecessary regulatory burdens with questionable added safety benefits; in others, they actively limit the adoption of proven lifesaving technologies in the United States. In all cases, these requirements raise both the cost and complexity of production, make it increasingly difficult to maintain reasonable levels of vehicle affordability for consumers, and impede the export of certain vehicles and equipment that could be internationally compliant.

As always, in the absence of a specific applicable FMVSS, NHTSA maintains its authority to identify defects and pursue recalls for vehicles and equipment that pose an unreasonable risk to safety. This oversight capability ensures that vehicle safety remains enforceable, and industry is held accountable without overly prescriptive or costly regulatory requirements.

Auto Innovators welcomes ongoing opportunities to identify additional areas of regulatory reform for DOT to consider pursuing.

Responses to RFI questions:

- (1) Are there any regulations or guidance commenters can identify that fall within the seven categories outlined in Executive Order (EO) 14219?¹⁷ If so, how does any particular regulation or guidance fall within one or more of those categories? Would repeal or modification (and if so, please describe what modification) advance the policies of the order, consistent with law?**

Auto Innovators has identified several regulations, guidance, and reporting requirements that conform to the categories outlined in EO 14219. The regulations and guidance that Auto Innovators' members must follow most commonly fall under EO 14219 categories iii, v, and vi.

(iii) regulations that are based on anything other than the best reading of the underlying statutory authority or prohibition

Regulations that deviate from the best reading of underlying statutory authority often result in requirements that are misaligned with Congressional intent, impose unnecessary compliance burdens, or expand agency mandates beyond what the law intended to permit. These misalignments create legal uncertainty, drive up costs, and can inhibit innovation.

Auto Innovators supports regulation that is grounded in data driven, clear statutory language, with a direct and traceable connection between what Congress has authorized and what the agency mandates. When regulations are issued differently than the original mandates intended, unintended policy outcomes can result.

Some regulations that may conform to this category are as follows. For additional supporting details and background information, please see Appendix A:

- FMVSS 108: NHTSA issued Adaptive Driving Beam (ADB) requirements that deviated from a mandate allowing for and defining these headlamps as meeting "the performance requirements specified in SAE International Standard J3069, published on June 30, 2016. SAE 3609."¹⁸ NHTSA also declined to align its ADB requirements with widely accepted international standards already deployed in other markets.¹⁹
- FMVSS 127: Pedestrian Automatic Emergency Braking (PAEB) requirements were promulgated despite mandate specifying different systems (Forward Collision Warning (FCW) and Automatic Emergency Braking (AEB)).²⁰

¹⁷ <https://public-inspection.federalregister.gov/2025-03138.pdf>

¹⁸ Section 24212 of Public Law No. 117-58 <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>

¹⁹ Such as [https://eur-lex.europa.eu/eli/reg/2010/123\(2\)/oj/eng](https://eur-lex.europa.eu/eli/reg/2010/123(2)/oj/eng)

²⁰ Section 24208 of Public Law No. 117-58 <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>

(v) regulations that impose significant costs upon private parties that are not outweighed by public benefits

Auto Innovators supports regulatory frameworks that promote safety and innovation. However, to be durable and effective, regulations must be calibrated to ensure costs imposed on private entities are proportional to the public benefits achieved, especially since consumers are ultimately affected. DOT must develop a more realistic and rigorous approach to cost-benefit analyses for both existing and proposed regulatory and guidance. NHTSA must ensure the expected safety benefits of a requirement are based on the best data available and clearly justify the ensuing and ongoing financial and operational burdens placed on manufacturers, suppliers, and eventually consumers. After issuing regulations, NHTSA must continue to evaluate their effectiveness to ensure costs are only being imposed when resulting in proven safety benefits.

Some regulations that impose significant costs upon private parties that are not outweighed by public benefits are as follows. Though NCAP is not a regulation, Auto Innovators' members support the objectives of the voluntary program and have also provided some suggestions for its improvement. For additional supporting details and background information, please see Appendix A:

- Light-Duty Vehicle Corporate Average Fuel Economy Credit Transfer Limits
- FMVSS 108, Lamps, reflective devices, and associated equipment
- FMVSS 127, Automatic emergency braking (AEB) systems for light vehicles
- FMVSS 208, Seatbelt Reminder Systems
- FMVSS 208, Repeal Unbelted Requirements or Provide Alternatives
- FMVSS 209, Seat Belt Elongation Requirements
- FMVSS 219, Windshield Zone Intrusion
- FMVSS 225, Child restraint anchorage systems
- FMVSS 228, Pedestrian Head Protection
- FMVSS 305a, Electric-Powered Vehicles
- FMVSS 307 and 308, Fuel System Integrity of Hydrogen Vehicles
- Part 563, Event Data Recorder (EDR) Requirements
- Part 581, Bumper Standard Requirements
- Permitting Electronic Owner's Manuals as an Alternative to Printed Manuals
- Standing General Order (SGO) on Crash Reporting, Advanced Driver Assistance Systems (ADAS) and Automated Driving System (ADS)
- Increased Lead Time, NCAP Implementation

(vi) regulations that harm the national interest by significantly and unjustifiably impeding technological innovation, infrastructure development, disaster response, inflation reduction, research and development, economic development, energy production, land use, and foreign policy objectives

Auto Innovators represents the unified voice of the modern auto industry—an industry undergoing the most profound transformation in generations, driven by new technology and

connectivity. These advances will define the future of American transportation, manufacturing, and mobility along with our global standing in the 21st-century industrial economy. DOT must examine and reform regulations that unjustifiably impede technological innovation, research and development, economic competitiveness, and America's ability to lead on the international stage—especially in light of intensifying strategic competition with foreign nations and related policy objectives. NHTSA should better leverage its leadership in the United Nations Economic Commission for Europe (UNECE) World Forum for Harmonization of Vehicle Regulations to inform its potential rulemakings that affect automotive companies, who manufacture vehicles and related products for the global market.

NHTSA should make efforts to incorporate into FMVSS or test procedures the voluntary standards already in use elsewhere which already have proven safety benefits. FMVSS intended to incorporate Global Technical Regulation (GTR) requirements are often issued with just enough deviation from those requirements that existing designs, test procedures, and compliance results cannot be leveraged. This disincentivizes or even prevents certain safety equipment from being deployed on U.S. vehicles, which denies American roadways access to safety improvement features available elsewhere. It also prevents manufacturers from being able to develop and export automotive designs compliant in both US and other markets.

Some regulations that should be modified to more closely align with other standards and regulations are as follows. For additional supporting details and background information, please see Appendix A:

- FMVSS 108, Lamps, reflective devices, and associated equipment
- FMVSS 228, Pedestrian Head Protection
- FMVSS 305a, Electric-Powered Vehicles
- FMVSS 307 and 308, Fuel System Integrity of Hydrogen Vehicles

(2) How can DOT best promote meaningful regulatory cost reduction while achieving its regulatory objectives, and how can it best identify those regulations, guidance, or reporting requirements that might be modified, streamlined, or repealed?

When issuing new regulations, NHTSA should take more care when setting lead times and recognize that getting this wrong can overwhelmingly impact cost burdens. DOT should also modernize its approach to conducting cost benefit analyses to more holistically consider the hardware and software costs associated with any new equipment requirement. A number of recent agency actions have severely underestimated the costs and timelines required to deploy systems to the vehicle fleet. The regulations listed in the response to Question 1 of this RFI discussing EO 14219 (v) should all be considered for modification, streamlining, or repeal to promote regulatory cost reduction.

One method for DOT to streamline regulatory requirements is to adhere closely to the requirements of existing standards and well-established international regulations. Several recently issued final rules deviate from their related GTRs in burdensome ways that are not proven to advance safety. NHTSA has also declined to adopt many other international requirements and reference standards into FMVSS industry and others have recommended.

Regulatory divergence between the U.S. and other major global automotive markets requires manufacturers to design, test, and certify vehicles and components to meet multiple, nearly redundant requirements. This increases costs for industry and consumers without adding safety benefits and delays the deployment of improved equipment to the fleet.

NHTSA should also consider, through incorporation by reference or other means, how to increase its use of existing technical standards into federal requirements rather than developing new criteria. Finally, DOT should explore ways to recognize or accept UN-compliant components or vehicle systems as alternatives to FMVSS if technical justifications can support equivalent performance.

- (3) How can DOT best obtain and consider accurate, objective information and data about the costs, burdens, and benefits of existing regulations, guidance, and reporting requirements? Are there existing sources of data DOT can use to evaluate the post-promulgation effects of regulations, guidance, or reporting requirements over time? DOT invites interested parties to provide data that may be in their possession that documents the costs, burdens, and benefits of existing requirements.**

When proposing rules, it is important to allow sufficient comment periods so that, if needed, accurate industry cost data can be gathered and provided to DOT. When cost information is provided,²¹ thoughtful and thorough consideration of that data should be reflected in any related regulatory impact analyses. Having an accurate foundational understanding of the costs, burdens, and benefits of existing regulations, guidance, and reporting requirements will lead to the most accurate ongoing understandings of the burden.

A given automaker's product line can be varied and complex, containing vehicles from sports cars to heavy-duty trucks. Fleet mixes require careful long-term planning and resource allocation to manage effectively. Regulatory actions that properly consider established cycle planning processes are crucial for industry to manage vehicle program workloads and optimize limited resource utilization. The regulatory design and implementation process typically takes 5-6 years for major program changes, allowing for a robust development cycle, technology readiness, and a phased implementation plan. Adequate lead times, such as 3 years for minor changes and 5-6 years for major ones, are essential for effective resource planning and sustainable growth.

Depending on the regulation's focus and performance requirements, this may include considerations for smaller, lighter vehicles and/or larger vehicles in the 8,500 to 10,000-pound range. The impact of new regulations on vehicles is greatly varied across the fleet mix, and as a result some portions of the fleet may require more innovative solutions to meet new requirements. This can result in substantial cost increases. DOT should take into account the fleet's variety and consider additional lead time and phase-in requirements when issuing rules that disproportionately impact a specific segment of the vehicle fleet.

DOT should develop a periodic regulatory review process to evaluate the effectiveness of promulgated rules. Reviews could consider aspects like actual versus projected compliance

²¹ <https://www.regulations.gov/comment/NHTSA-2023-0021-1062>

costs, whether the regulation resulted in unforeseen burdens or consequences. Public private partnerships involving industry and NHTSA, like the Partnership for Analytics Research in Traffic Safety (PARTS)²², can be a nimble way to explore the safety benefits and effectiveness of technologies being deployed by vehicle manufacturers and encouraged by agency initiatives like NCAP.

(4) Are there regulations, guidance, or reporting requirements that simply make no sense or have become unnecessary, ineffective, or ill-advised? If so, please identify them. Are there regulations, guidance, or reporting requirements that can be repealed without impairing DOT's ability to comply with its statutory obligations? If so, please identify them.

Auto Innovators has identified several regulations, guidance, and reporting requirements that make no sense or have become unnecessary, ineffective, or ill-advised. Aspects of these can be repealed without impacting DOT's ability to comply with its statutory obligations.

Set forth below are some regulations, guidance, and reporting requirements that should be repealed in full or part. For more supporting details and background on these items see Appendix A:

- FMVSS 108, Lamps, reflective devices, and associated equipment
- FMVSS 129, New non-pneumatic tires for passenger cars
- FMVSS 201, Occupant protection in interior impact
- FMVSS 208, Repeal Unbelted Requirements or Provide Alternatives
- FMVSS 219, Windshield Zone Intrusion
- Part 572, Anthropomorphic Test Devices
- Part 581, Bumper Standard Requirements
- Standing General Order (SGO) on Crash Reporting, Advanced Driver Assistance Systems (ADAS) and Automated Driving System (ADS)

(5) Are there regulations, guidance, or reporting requirements that have become outdated and, if so, how can they be modernized to better accomplish their objectives?

Auto Innovators has identified several areas where regulations, guidance, or reporting requirements have become outdated and how they can be modernized to better accomplish their objectives. Though NCAP is a voluntary program and not a regulation, Auto Innovators members support its objectives but see areas for improvement.

Some regulations, guidance, and reporting requirements that should be modernized to better accomplish their objectives and accommodate modern technology include those listed below. For more supporting details and background on these items see Appendix A:

- Review FMVSS 100 Series Regulations to Accommodate ADS
- FMVSS 111, Camera Monitoring Systems (CMS) for Rear Visibility

²² <https://www.nhtsa.gov/parts-partnership-for-analytics-research-in-traffic-safety>

- FMVSS 124, Accelerator control systems
- FMVSS 135, Light vehicle brake systems
- FMVSS 208, Modernize and Clarify Regulation
- FMVSS 209, Seat Belt Elongation Requirements
- Generate NCAP Ratings Using Manufacturer Self-Evaluations
- Modernize Optional NCAP Testing Process
- Modernize Driver Distraction Guidelines

(6) Are there regulations, guidance, or reporting requirements that are still necessary, but have not operated as well as expected such that a modified, or slightly different approach at lower cost is justified?

The requirements of FMVSS 141 are still necessary, but certain technical specifications must be updated to ensure compliant vehicles in the U.S. are not subject to enforcement in error and with no safety rationale. Upgrading the background noise acceptance criteria would reduce manufacturer and federal testing costs. NHTSA should also incorporate some of the latest technical improvements from related international standards and regulations and consider allowing optional compliance with UNECE R138.²³

(8) Does DOT currently collect information that it does not need or use effectively?

Auto Innovators has identified several information collection streams that DOT does not need or use effectively including:

- Standing General Order (SGO) on Crash Reporting, Advanced Driver Assistance Systems (ADAS) and Automated Driving System (ADS): Data being collected is ineffective in identifying defects or for supporting regulatory pathways.²⁴
- New Car Assessment Program (NCAP) information collection request (ICR): Auto Innovators recently provided comments²⁵ discussing its concerns about whether NHTSA effectively uses this information collection. NHTSA should specifically consider reducing the amount of side airbag out of position test data it collects.
- Early Warning Reporting (EWR) proposal²⁶: Auto Innovators recently provided comments²⁷ expressing our concern that the agency's proposal to extend the collection of information collection activity does not include any proposed modifications to the existing process for elements that have been identified by the agency as being low utility.

(9) Are there regulations, guidance, or reporting requirements, or regulatory processes that are unnecessarily complicated or could be streamlined to achieve statutory obligations in more efficient ways? If so, what changes should be made?

²³ <https://unece.org/transport/documents/2021/02/standards/un-regulation-no-138-rev1-amend2>

²⁴ <https://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting>

²⁵ <https://www.regulations.gov/comment/NHTSA-2024-0017-0003>

²⁶ <https://www.regulations.gov/document/NHTSA-2025-0004-0001>

²⁷ <https://www.regulations.gov/comment/NHTSA-2025-0004-0002>

If similar standards exist in other markets, NHTSA issuing a unique regulation likely is unnecessarily complicating vehicle requirements. Manufacturers often have experience with international standards and regulations by the time NHTSA is considering a rule. Issuing FMVSS that deviate from existing requirements may require manufacturers to follow new compliance processes to demonstrate nearly identical performance requirements that achieve similar safety benefits. FMVSS 108 and FMVSS 127 are two examples of regulations that are more complicated to comply with than they would have been if NHTSA had promulgated rules more closely aligned with existing international standards. NHTSA complicated the regulatory process for industry by deviating from existing ECE and SAE standards that have been proven effective and would still meet related Congressional mandates. NHTSA should strive to align FMVSS requirements with other standards to achieve statutory obligations in more efficient ways.

(10) Are there regulations, guidance, or reporting requirements that have been overtaken by technological developments? Can new technologies be leveraged to modify, streamline, or rescind existing regulations, guidance, or reporting requirements?

Auto Innovators has identified several new technologies that could be leveraged to modify, streamline, or rescind existing regulations. Listed below are some regulations, guidance, and reporting requirements that have been overtaken by technological developments. For more supporting details and background on these items see Appendix A.

- Review FMVSS 100 Series Regulations to Accommodate ADS: Modernize outdated FMVSS requirements to accommodate technological developments in automated driving systems (ADS).
- FMVSS 108, Lamps, reflective devices, and associated equipment: Modify to allow internationally compliant advanced lighting technology such as adaptive driving beams (ADB).
- FMVSS 111, Camera Monitoring Systems (CMS) for Rear Visibility: Modify to include a compliance alternative that allows camera monitoring systems (CMS) to replace mirrors for rear visibility.
- FMVSS 135, Light vehicle brake systems: Rescind the requirement for parking brakes to be of a “friction type” to accommodate more robust modern designs.
- FMVSS 208, Repeal Unbelted Requirements or Provide Alternatives: Modify to allow advanced seat belt interlock systems as a compliance option instead of meeting unbelted testing requirements.
- FMVSS (various), Permitting Electronic Owner’s Manuals as an Alternative to Printed Manuals: Provide compliance options that permit electronic owner’s manuals as an alternative to printed manuals.
- Parts 541 and 543, Amendment Proposal for Immobilizer Exemptions, Anti-Theft Labels: Exclude all vehicle models equipped with advanced technology like immobilizers from the scope of Part 541 and automatically exempt from parts marking requirements.

- Part 572, Anthropomorphic Test Devices (ATDs): Advanced crashworthiness test devices are expensive to develop and implement, and have limited ability to drive major crashworthiness improvements in modern vehicles. Innovative and flexible technologies like simulation tools should be leveraged instead of continuing to advance new ATDs.
- Part 581 Bumper Standard Requirements: Remove requirements because innovations in parking sensors and automatic braking systems address this issue already by limiting low speed collisions.

Conclusion

Auto Innovators thanks DOT for the development of this RFI. We are happy to answer any specific questions that you may have related to these recommendations, and we look forward to working with you to ensure the safety, competitiveness and efficiency of the US Automotive sector. We stand ready to work with the Administration to assist in further identifying existing regulations, guidance, paperwork requirements, and other regulatory obligations that can be reconsidered to support DOT's goal to achieve meaningful regulatory burden reduction while continuing to meet statutory obligations and ensure the continued safety of the U.S. transportation system.

Respectfully submitted,



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Appendix A: Regulations, Guidance, and Reporting Guidance for Regulatory Reform

Department of Transportation

Ensuring Lawful Regulation; Reducing Regulation and Controlling Regulatory Costs

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Fuel Economy

Light-Duty Vehicle Corporate Average Fuel Economy Standards

Recommendation Reassess the feasibility of light-duty CAFE regulations respecting 49 USC 32903(h) prohibitions on the consideration of electric vehicles in setting CAFE standards; reflect maximum feasible improvements for non-alternative fueled vehicles consider passenger cars and light trucks separately; duly consider technological feasibility and economic practicability for legacy automakers; and account for any changes to the Department of Energy's petroleum equivalency factor for electric vehicles; and ensure that manufacturers that comply with the Environmental Protection Agency's greenhouse gas regulations are not assessed civil penalties.

Regulatory Impact RFI Q9
Background NHTSA statutes require the agency to "not consider" the fuel economy of dedicated or dual fueled automobiles when setting standards. 49 USC 32903(h). Such dedicated or dual fueled automobiles include battery electric and plug-in hybrid electric vehicles (EVs). Yet, NHTSA included existing EVs and assumed expanded production of them in response to the California ZEV Mandate in its analysis fleet, which informed the final rule. 89 Fed. Reg. 52540 (Jun. 24, 2024). Furthermore, the presence of EV-only manufacturers in the analysis fleet skews overall industry averages, making more stringent regulations appear feasible while remaining very challenging for legacy automakers to meet without rapidly increasing their transition to electric and electrified vehicles.

Light-Duty Vehicle Corporate Average Fuel Economy Credit Transfer Limits

Recommendation Promulgate regulations under 49 CFR Part 536 that would interpret 49 USC 32903(g) limits on the transfer of CAFE credits in terms of gallons of oil savings as was done for other aspects of 49 USC 32903(g).

Regulatory Impact RFI Q2
Background Congress specified limits on the transfer of CAFE credits between compliance fleets in terms of miles per gallon. As CAFE standards and performance increase, the oil savings represented by those caps decrease, limiting and all but eliminating the flexibility intended by Congress. Congress specified that NHTSA consider CAFE credit trades (between manufacturers) in the context of oil savings. NHTSA applied the same consideration of oil savings in calculating the value of credits transferred between fleets, but (inconsistently) did not apply the same consideration to the caps on credit transfers. Applying an oil savings approach to credit transfer limits would be consistent with the goals of the CAFE statutes and related regulations. Doing so would result in greater flexibility for manufacturers to increase fuel economy in fleets where it is most cost-effective to do so. A detailed concept for this action was shared with NHTSA by Auto Innovators and is available at Regulations.gov, Docket ID NHTSA-2023-0022-60652, "Attachment 0 – Appendices to Comment from Auto Innovators at p. 43 et seq. (Appendix E).

Safety Regulations, Guidance, and Reporting Requirements Referenced in RFI Response

Review FMVSS 100 Series Regulations to Accommodate ADS

Recommendation	Advance rule to determine where regulatory updates are needed to accommodate testing and modernize outdated requirements for automated driving systems (ADS)
Regulatory Impact	RFI Q5, RFI Q10
Background	NHTSA issued an ANPRM in May 2019 focused on identifying near- and long-term challenges of testing and verifying ADS compliance with existing crash avoidance regulations (FMVSS 100-series). ¹ NHTSA should advance that work to better facilitate technological innovation and support the expedient introduction of ADS technology to the fleet. Appendix 1 of the Alliance’s response to the 2017 deregulatory review suggests an initial roadmap detailing potential FMVSS barriers for highly automated vehicles. ²

FMVSS 108, Lamps, reflective devices, and associated equipment

Recommendation	Modernize current, outdated lighting standards and allow advanced technology the compliance option to meet other international and voluntary standards as intended by Congressional mandate
Regulatory Impact	EO 14219 (iii), EO 14219 (v), EO 14219 (vi), RFI Q4, RFI Q9, RFI Q10
Background	On December 30, 2024, NHTSA denied ³ Auto Innovators’ petition ⁴ to the NHTSA final rule ⁵ on FMVSS 108 (“Vehicle Lighting”), along with several other petitioners. The unique requirements in many aspects of FMVSS 108 make the standard more complicated than requirements in other markets and does not follow the original Congressional mandate. If not adjusted, parts of this rule stand as an obstacle to the cost-effective deployment of important safety technology in the U.S. market like Adaptive Driving Beams (ADB). Limiting deployment runs counter to the public’s best interest – particularly with respect to affordability, equity and ensuring the technology is more widely accessible to consumers. FMVSS 108 also contains outdated requirements such as for intensity values that make headlamps less effective than they otherwise could be. ADBs minimize "glaring" and should be given higher max intensity thresholds (e.g. UN ECE vs. US thresholds).

¹ <https://www.federalregister.gov/documents/2019/05/28/2019-11032/removing-regulatory-barriers-for-vehicles-with-automated-driving-systems>

² <https://www.regulations.gov/comment/DOT-OST-2017-0069-2700>

³ <https://www.govinfo.gov/content/pkg/FR-2024-12-30/pdf/2024-31141.pdf>

⁴ <https://www.regulations.gov/comment/NHTSA-2022-0013-0013>

⁵ <https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-02/ADB-Final-Rule-02-01-2022-web.pdf>

FMVSS 111, Camera Monitoring Systems (CMS) for rear visibility

Recommendation Reduce regulatory burden by modernizing regulations that are outdated and supporting the introduction of innovative safety technology.

Regulatory Impact RFI Q5, RFI Q10

Background NHTSA issued an ANPRM in 2019 seeking public comment to inform the development of a rule that would support the introduction of CMS as an alternative to rear view mirrors.⁶ Rear view mirrors, as prescribed within regulation, have played an important role in improving safety. However, advancements in vehicle technology present new opportunities to both meet and exceed the existing requirements through the exclusive use of CMS – an approach that is not currently permitted within the standard. NHTSA should remove current regulatory barriers that limit the introduction of these innovative camera monitoring systems as an alternative to conventional rearview mirrors.

FMVSS 124, Accelerator control systems

Recommendation Revise outdated rule to align with modern technology.

Regulatory Impact RFI Q5

Background FMVSS No. 124 was designed to ensure that mechanical accelerator control systems returned to idle when released by the driver or otherwise disconnected. Since the final rule was promulgated in the 1970s, the fundamental underlying technology has dramatically changed. As NHTSA acknowledged in its withdrawn NPRM on the standard, nearly all vehicles required to comply with that standard use sensors and electronic control systems to ensure safe operation, making many of the mechanical requirements of FMVSS No. 124 overly burdensome.⁷ It does not account for newer technology and creates unnecessary compliance costs without public benefits.

⁶ <https://www.federalregister.gov/documents/2019/10/10/2019-22036/federal-motor-vehicle-safety-standard-no-111-rear-visibility>

⁷ <https://www.federalregister.gov/documents/2019/05/14/2019-09820/federal-motor-vehicle-safety-standards-accelerator-control-systems>

FMVSS 127, Automatic emergency braking (AEB) systems for light vehicles

Recommendation	Revise rule to meet intent of Congressional mandate and align requirements with current system capability and technology maturity at a reasonable cost when compared to the expected public benefits.
Regulatory Impact	EO 14219 (iii), EO 14219 (v)
Background	NHTSA issued a final rule mandating Automatic Emergency Braking (AEB) and Pedestrian Automatic Emergency Braking (PAEB) in new vehicles beginning in 2029.⁸ The related Congressional mandate⁹ only required Forward Collision Warning (FCW) and Automatic Emergency Braking (AEB) systems, but NHTSA also issued requirements for the much more technologically challenging and costly PAEB systems. Rather than leverage a voluntary commitment¹⁰ automakers made to NHTSA in 2016 to deploy AEB technology, the final rule mandates technology that is inconsistent with regulations implemented in other parts of the world and likely to result in aggressive and unpredictable braking that will frustrate drivers. Auto Innovators filed a petition for reconsideration¹¹ in June of 2024, but with the exception of sound suppression concerns, our substantive technical concerns were denied in NHTSA's response.¹² Codifying the requirements of the voluntary commitment would have met the statutory intention of with no cost to industry or consumers for net positive safety benefits. Harmonizing FMVSS 127 with R152 would result in improved performance over the voluntary commitment while also keeping costs down.

FMVSS 129, New non-pneumatic tires for passenger cars

Recommendation	Reduce compliance costs and remove unnecessary requirements by repealing the rule.
Regulatory Impact	RFI Q4
Background	FMVSS 129 regulates a type of equipment, non-pneumatic spare tires, that is not widely available in the light vehicle fleet. This creates a regulatory obligation with no safety benefit. It may also inadvertently limit the innovation of new equipment.

⁸ https://www.nhtsa.gov/sites/nhtsa.gov/files/2024-04/final-rule-automatic-emergency-braking-systems-light-vehicles_web-version.pdf

⁹ Section 24208 of Public Law No. 117-58 <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>

¹⁰ <https://www.nhtsa.gov/press-releases/nhtsa-announces-update-historic-aeb-commitment-20-automakers>

¹¹ <https://www.autosinnovate.org/posts/agency-comments/petition-for-reconsideration-on-aeb-rule>

¹² <https://public-inspection.federalregister.gov/2024-27349.pdf>

FMVSS 135, Light vehicle brake systems

Recommendation Reduce regulatory burden by modernizing regulations that are outdated and supporting the introduction of innovative safety technology.

Regulatory Impact RFI Q5, RFI Q10

Background NHTSA's FMVSS 135 parking brake provision S5.2. is based on an antiquated braking standard developed at a time when total brake system failure was a relatively common occurrence. Originally developed to address both hill holding and emergency stopping, the standard required the parking brake system to be of a "friction type." The "friction type" specification was established to ensure the parking brake (provided to prevent vehicle roll-away) could also be used to stop the vehicle in an emergency.

Emergency stopping functionality is provided today via electronic stability control (ESC) systems.¹³ There is a reduced need for the parking brake to play a role in emergency stopping and no need for the design of a parking brake to be restricted to a "friction type." If this obsolete "friction type" provision was deleted, manufacturers would be free to implement even more robust and reliable parking brakes. Absent the "friction type" provision, modern solutions (e.g., double locking gear systems) could be implemented. Such systems have the added safety advantage of not being susceptible to extreme temperature, usage, or environmental conditions (e.g., ice buildup).

AFAI recommends NHTSA update FMVSS's parking brake requirements by removing the requirement in Section 5.2 which requires the parking brake to be of a "friction type." In the interim, AFAI recommends NHTSA respond favorably to the interpretation request on this matter, which was filed by Porsche Cars North America, Inc. on January 12, 2024. A copy of the Porsche request for interpretation is attached as Appendix B.

¹³ <https://www.law.cornell.edu/cfr/text/49/571.126>

FMVSS 141, Minimum sound requirements for hybrid and electric vehicles

Recommendation	Revise rule to allow multiple compliance options to support economic competitiveness and innovation
Regulatory Impact	RFI Q6
Background	No updates to the sound level requirements are necessary, however, there are areas of improvement needed to ensure compliant vehicles in the U.S. are not erroneously subject to enforcement activities, such as upgrading the background noise acceptance criteria. NHTSA should incorporate some of the latest technical improvements from ISO 16254 ¹⁴ (and SAE J2889-1 ¹⁵ , when updated), and improve the alignment of FMVSS 141 with the recently updated UN Regulation No. 138 for Quiet Road Transport Vehicles (QRTV) (UNECE R138 ¹⁶). To increase regulatory flexibility, and decrease compliance costs, NHTSA could also permit optional compliance with UNECE R138 and certain other test methods and standards.

FMVSS 201, Occupant protection in interior impact

Recommendation	Repeal costly upper interior testing requirements to allow allocation of engineering resources to improve head restraint designs.
Regulatory Impact	RFI Q4
Background	Sections S6-S10 of FMVSS 201 were issued prior to the ubiquity of head side airbags in the fleet, making the energy-absorbing requirements redundant and potentially ineffective. Designing interior structures to these specifications limits engineering ingenuity and creates a compliance burden with little to no safety benefits since vehicles meet or exceed the FMVSS 201 head acceleration performance criteria with modern head side airbags. These requirements are also unique to the U.S., which creates additional cost and design burdens.

¹⁴ <https://www.iso.org/standard/80707.html>

¹⁵ https://www.sae.org/standards/content/j2889/1_201511/

¹⁶ <https://op.europa.eu/en/publication-detail/-/publication/84e9768e-d95c-11e6-ad7c-01aa75ed71a1/language-en>

FMVSS 208, Seat Belt Reminder Systems

Recommendation Reduce regulatory burden associated with late-stage design changes by extending the lead time provided for complying with the updated front and rear seat belt reminder system requirements and including a phase in period. Modify the rule to provide clarification on the requirements for visual warnings associated with multiple front outboard seats.

Regulatory Impact EO 14219 (v)

Background NHTSA issued a final rule to require seat belt reminder systems in rear row seating positions.¹⁷ However, several requirements are misaligned with established international regulations. The agency adopted a unique approach whereby several aspects of the rule are not economically practical and will require costly redesign. NHTSA has underestimated the engineering costs required to design and implement the necessary hardware and software changes required to meet the rule. Specifically, high seating capacity vehicles may necessitate additional technology and a robust Human-Machine Interface (HMI) to manage reminders for numerous occupants, thereby increasing complexity and cost. Auto Innovators also anticipates the proposed requirements will result in significant consumer acceptance issues and filed a petition for reconsideration on the rule.¹⁸

¹⁷ <https://www.nhtsa.gov/sites/nhtsa.gov/files/2024-12/SBRS-Final-Rule-12162024-web-version.pdf>

¹⁸ <https://www.regulations.gov/document/NHTSA-2024-0071-0006>

FMVSS 208, Repeal Unbelted Requirements or Provide Alternatives

Recommendation Repeal costly unbelted testing requirements to allow allocation of engineering resources to improving belted occupant restraint outcomes or provide a compliance option alternative that supports regulatory flexibility and the introduction of innovative safety technology.

Regulatory Impact EO 14219 (v), RFI Q4, RFI Q10

Background Seat belt use rates are over 91% nationally, creating opportunities to deemphasize the regulatory requirements surrounding unbelted occupant protections. Repealing the unbelted requirements of FMVSS 208 would allow manufacturers and suppliers to allocate increased design resources to systems that improve outcomes for the majority of occupants who are belted.¹⁹ Unbelted testing requirements impose significant vehicle development costs and force automakers to allocate resources to scenarios (e.g. crash tests with unbelted dummies) that no longer reflect real-world safety needs and can result in tradeoffs when ensuring the safety of belted occupants in the real world.

On July 2, 2020, Auto Innovators submitted a petition²⁰ to NHTSA to modify aspects of FMVSS No. 208 ("Occupant crash protection") to add a compliance option for vehicles equipped with Seat Belt Assurance System (SBAS) technology to be exempt from the current unbelted test requirements. Providing this additional compliance option will enable interior and restraint system designs that can further reduce injuries for properly restrained front seat occupants and help address regulatory burden associated with the unbelted test. Given that the fitment of the SBAS systems will be voluntary, it also provides an opportunity to introduce the systems in a gradual manner.

¹⁹ <https://www.nhtsa.gov/vehicle-safety/seat-belts>

²⁰

<https://www.autosinnovate.org/posts/letters/Auto%20Innovators%20FMVSS%20208%20Seat%20Belt%20Petition%20for%20Rulemaking%20July%202%2020%20%28ID%202516%29.pdf>

FMVSS 208, Modernize and Clarify Regulation

Recommendation	Reduce burden by modernizing and clarifying the regulation as well as incorporating extensive legal interpretations.
Regulatory Impact	RFI Q5
Background	FMVSS 208 includes several unclear requirements that require extensive, costly, and time-consuming agency interpretations. A streamlined and simplified standard that more cleanly conveys the restraint requirements for modern vehicles would remove regulatory inefficiencies surrounding these legal interpretations and enable OEMs to deploy innovative product designs with increased certainty. • <u>Section 4.5.1(e) – Dashboard label:</u> The content of the non-permanent label on the dashboard overlaps substantially with the content of the permanent label on the sun visor and should be repealed. • <u>Section 4.1.5.5.2 – Use of seat belt release mechanism at folding seats:</u> NHTSA should provide additional design flexibility to allow for new seat belt release mechanisms when detachable lap and shoulder belts are provided for inboard folding rear seats. More specifically, the standard should be revised to no longer specific design-restrictive criterion such as "key or key-like object" if a manufacturer can provide similar levels of protection through other means.

FMVSS 209, Seat Belt Elongation Requirements

Recommendation	Reduce regulatory burden and modernize outdated requirements through alignment with international standards by including a new compliance option to permit the use of seat belt pretensioners and load limiters in rear row seating positions.
Regulatory Impact	EO 14219 (v), RFI Q5
Background	There are several outstanding petitions for rulemaking to modernize the requirements of FMVSS No. 209 such as through aligning with UNECE Regulation No. 16 (ECE R16). Current rules limit the fitment of seat belt pretensioners and load limiters in rear row seating positions. Favorable resolution of these petitions will help support innovative restraint system designs, improve safety, and to be responsive to recent changes to the IIHS test procedures for evaluating rear row occupant protection in frontal impacts.

FMVSS 219, Windshield Zone Intrusion

Recommendation Reduce compliance and testing costs and remove unnecessary requirements by repealing the rule.

Regulatory Impact EO 14219 (v), RFI Q4

Background On July 7, 2008, NHTSA issued a regulatory proposal²¹ to repeal FMVSS 219. The agency stated in its proposal that “NHTSA tentatively concludes that the windshield zone intrusion standard is no longer necessary because other FMVSSs are now in place to meet the safety need that the standard had addressed.” Per that proposal, the dummy performance requirements of FMVSS 208 are expected to “reflect any blunt impact injuries due to zone intrusions at the windshield” and “the air bag will aid in preventing any lacerative injuries.”

FMVSS 225, Child restraint anchorage systems

Recommendation Revise requirements for locating top tether that have no added safety benefit.

Regulatory Impact EO 14219 (v)

Background Changes to top tether (via routing under/over the head restraint) were shown not to impact child restraint kinematics,²² yet NHTSA forces costly changes to manufactures without proven safety benefit. The final rule mentions that routing over a head restraint improves access to the hardware. The final rule requires adjustable head restraints to comply with the minimum distance of a tether anchorage from R-Point but does not have similar requirements for vehicle seats with fixed head restraints.

FMVSS 228, Pedestrian Head Protection

Recommendation Reduce regulatory burden through alignment with international standards. Amend rulemaking proposal to align with comparable requirements in other markets (e.g., UNECE R127,²³ India AIS 100, Brazil CONTRAN Res. No. 752).

Regulatory Impact EO 14219 (v), EO 14219 (vi)

Background In September 2024, NHTSA issued a notice of proposed rulemaking to establish a new FMVSS for pedestrian head impact protection. As noted in Auto Innovators response²⁴ to the agency, there are several fundamental issues with the proposal which stem from the agency’s deviation from the GTR. Fundamentally, the NPRM substantially underestimates the extent of the design changes, lead time, and research and development costs needed to meet the proposed requirements, and would prohibit many vehicles such as work trucks and SUVs from being sold in the United States.

²¹ <https://www.regulations.gov/document/NHTSA-2008-0124-0001>

²² <https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/effect-tether-routing-anchor-location-child-restraint-kinematics-812467.pdf>

²³ <https://eur-lex.europa.eu/eli/reg/2020/638/oj/eng>

²⁴ <https://www.regulations.gov/comment/NHTSA-2024-0057-5841>

FMVSS 305a, Electric-Powered Vehicles

Recommendation Reduce regulatory burden through alignment with international standards by allowing component-level testing for certification purposes; provide exclusions for certain hybrid systems.

Regulatory Impact EO 14219 (v), EO 14219 (vi)

Background On December 20, 2024, NHTSA finalized FMVSS No. 305a,²⁵ which replaces FMVSS No. 305, “Electric-powered vehicles: Electrolyte spillage and electrical shock protection.” Among other changes, FMVSS No. 305a would apply to light and heavy vehicles and would have performance and risk mitigation requirements for the propulsion battery. Auto Innovators supports NHTSA efforts to establish FMVSS No. 305a. However, per our NPRM comments²⁶, we have outstanding concerns regarding the extent to which the agency proposal deviates from the established Global Technical Regulation (GTR No. 20) on Electric Vehicle Safety’s allowance of component-level testing as an option for certification purposes. The incongruence of NHTSA requiring a vehicle-only certification approach adds unnecessary cost and testing complexities for OEMs and, ultimately, provides consumers with de minimis, if any, added safety benefits. In addition, the standard should introduce physical protection requirements that accommodate mild hybrid vehicles given the agency’s NPRM acknowledgement their design strategies ensure a low likelihood of electric shock.

²⁵ <https://www.federalregister.gov/documents/2024/12/20/2024-28707/federal-motor-vehicle-safety-standards-fmvss-no-305a-electric-powered-vehicles-electric-powertrain>

²⁶ <https://www.regulations.gov/comment/NHTSA-2024-0012-0027>

FMVSS 307 & 308, Fuel System Integrity of Hydrogen Vehicles

Recommendation	Reduce regulatory burden through alignment with international standards by revising labeling and testing requirements.
Regulatory Impact	EO 14219 (vi)
Background	NHTSA finalized a rule to establish two new FMVSS specifying performance requirements for all motor vehicles that use hydrogen as a fuel source. ²⁷ Auto Innovators supports NHTSA efforts to establish FMVSS for both fuel system and storage system integrity. However, we have concerns regarding the extent to which the agency proposal deviates from certain aspects of the established Global Technical Regulation (GTR No. 13) on Hydrogen and Fuel Cell Vehicles. ²⁸ While we generally support the areas of the final rule where the agency has aligned its proposal with the GTR, areas of misalignment around labeling requirements and a deviation from certain GTR testing requirements may create compliance testing inconsistencies. These create regulatory uncertainty and increase the cumulative burden due to the need to certify and/or modify vehicles to meet US-specific design and testing requirements. This incongruence adds unnecessary cost for OEMs and, ultimately, provides consumers with de minimis, if any, added safety benefits.

Parts 541 and 543, Amendment Proposal for Federal Motor Vehicle Theft Prevention Standard Immobilizer Exemptions

Recommendation	Reduce parts-marking costs and incentivize installation of more technologically effective™ immobilizers by expanding parts marking exemptions for multiple vehicle lines per model year if immobilizers are standard.
Regulatory Impact	RFI Q10
Background	The existing Parts 541 and 543 allows only one car line per model year to receive an exemption from anti-theft label placement requirements if equipped with immobilizers. Expanding these exemptions would streamline compliance for U.S exported and domestically or in U.S. produced vehicles, addressing both safety and anti-theft priorities without compromising regulatory intent. Ideally, NHTSA would exclude vehicles which are equipped with an immobilizer from the scope of Part 541, so that these vehicles will be automatically exempt from parts marking requirements, and avoiding the need for the Part 543 petition for exemption process. A statutory amendment may be required, per Global's comments ²⁹ to the 2017 regulatory review, but DOT should seek to support legislation that would allow these changes.

²⁷ <https://www.federalregister.gov/documents/2025/01/17/2024-31367/federal-motor-vehicle-safety-standards-fuel-system-integrity-of-hydrogen-vehicles-compressed>

²⁸ <https://www.regulations.gov/comment/NHTSA-2024-0006-0025>

²⁹ <https://www.regulations.gov/comment/DOT-OST-2017-0069-2772>

Part 563, Event Data Recorder (EDR) Requirements

Recommendation Reduce the regulatory cost burden by reducing the required EDR recording duration to five seconds and granting the lead-time of 3 years and phase-in implementation requirements (year 1 25%, year 2 50%, year 3 75%, and year 4 100%) as outlined in Auto Innovators' petition for reconsideration.

Regulatory Impact EO 14219 (v)

Background On December 18, 2024, NHTSA issued a final rule on changes to the Part 563 EDR requirements.³⁰ The final rule did not address industry concerns that the rule will significantly increase both the EDR size (requiring repackaging) and cost to consumers, with questionable and unquantified safety benefits. Auto Innovators submitted a petition for reconsideration to this rule.³¹

Part 572, Anthropomorphic Test Devices

Recommendation Reduce the regulatory cost burden by incorporating any new Anthropomorphic Test Devices (dummies) to Part 572, in particular THOR 50th or THOR 5th, as options for compliance or consumer information program use and not as testing requirements.

Regulatory Impact RFI Q4, RFI Q10

Background Dummy development has and continues to be inordinately costly. The costs associated with ensuring compliance to a standard requiring the use of a new device are also enormous and are completely disproportional to safety benefits. For example, NHTSA has focused on demonstrating the biofidelity of the THOR dummy without showing how it will improve frontal crash protection, which NHTSA has not shown an advanced dummy can improve. The cost of a THOR dummy is an order of magnitude higher than that of the currently used test devices. These increased costs will be difficult to absorb for major OEMs and nearly impossible for smaller OEMs. Independent test houses would have to greatly increase the cost of testing with the THOR because of its added data collection complexity. Rather than advance increasingly outdated technology like crash test dummies, DOT should instead focus its research resources on improving more innovative and flexible technology like simulation tools.

³⁰ <https://www.federalregister.gov/documents/2024/12/18/2024-29862/event-data-recorders>

³¹ <https://www.regulations.gov/document/NHTSA-2024-0084-0005>

Part 581, Bumper Standard Requirements

Recommendation Reduce regulatory burden through alignment with international standards or repeal requirements altogether. Alternatively, address regulatory conflicts with other FMVSS and consumer information program requirements.

Regulatory Impact EO 14219 (v), RFI Q4, RFI Q10

Background On December 5, 2018, as part of the initial push to install AEB into vehicles voluntarily, Auto Innovators' predecessor trade associations filed a petition³² to harmonize the current bumper test requirements with UNECE R42. The current Part 581 requirements continue to prioritize vehicle damageability over pedestrian protection. Alignment or increased harmonization with UNECE R42 will reduce regulatory burden and permit manufacturers to reduce the stiffness of bumper systems to help improve pedestrian safety.

As technology improves, Part 581 requirements may also become unnecessary as a result of parking sensors and related automatic braking systems deployment. Continuing to require Part 581 bumper designs hinders design advancements and prevents optimization of sensing and perception technologies. The requirements often force sensors to be mounted in locations suboptimal for their performance.

Permitting Electronic Owner's Manuals as an Alternative to Printed Manuals

Recommendation Reduce regulatory cost and environmental impact of producing current vehicle owner's manuals by updating owner's manual requirements within all applicable FMVSS/regulations to permit the use of electronic owner's manuals as a compliance alternative to requiring printed manuals.

Regulatory Impact EO 14219 (v), RFI Q10

Background The vehicle owner's manual is an important tool for providing owners with relevant information related to the safety, performance, and maintenance of a motor vehicle. However, the agency has discretion in terms of the information that must be provided in "printed matter" to the first purchaser of the vehicle. We recommend that NHTSA consider the development of new compliance options to permit digital format owners' manuals in lieu of hard copy (printed) owners' manuals. The use of electronic means of storing and communicating vehicle owner's manual information can improve the quality, utility, and clarity of information, by providing features and functionality that allow consumers to access relevant information more easily. These technological solutions ensure robust alternatives are provided while not compromising consumer access to relevant and up-to-date vehicle information.

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<https://www.autosinnovate.org/posts/letters/Joint%20Alliance%20Global%20MEMA%20Part%20581%20Petition%20Phased%20Approach%20Dec%205%2018.pdf>

Standing General Order (SGO) on Crash Reporting, Advanced Driver Assistance Systems (ADAS) and Automated Driving System (ADS)

Recommendation	Reduce cost burdens by repealing the SGO requirements to provide NHTSA data and information that is used ineffectively.
Regulatory Impact	EO 14219 (v), RFI Q4, RFI Q8
Background	In June 2021, NHTSA first issued the SGO ³³ requiring identified manufacturers and operators to report to the agency certain crashes involving vehicles equipped with either automated driving systems or SAE Level 2 advanced driver assistance systems. The data being collected for Levels 2 through 4 ADAS and ADS cannot effectively support regulatory pathways or identify defects. Reports typically include items that are non-actionable from a regulatory perspective, such as curb strike incidents.

Increased Lead Time, NCAP Implementation

Recommendation	Delay implementation of final decision on the NCAP ³⁴ ADAS and pedestrian protection program updates by at least one year; review potential opportunities to streamline the program and ensure a comparative ratings structure is in place.
Regulatory Impact	EO 14219 (v)
Background	In November 2024, NHTSA issued two final decision notices on the inclusion of crash avoidance ³⁵ and pedestrian impact protection ³⁶ ratings in NCAP, with program updates going into effect for MY2025 vehicles. These final decisions introduced a substantial number of new test procedures that will add significant time and resource burdens for both manufacturers and NHTSA, and will likely impact the overall number of vehicles that can be rated each year. We support updates to the program; however, several aspects of the agency's final decision should be reconsidered in order to improve the efficiency of the program and address any outstanding technical concerns. Delaying the start of the new program enables more effective use of both NHTSA and industry resources by ensuring that (1) any outstanding technical issues identified during preliminary testing are addressed, (2) areas where significant misalignment between FMVSS and NCAP test requirements exist can be resolved to minimize test burden, and (3) the ratings structure is updated to ensure consumers are provided with more relevant comparative safety ratings information.

³³ <https://www.nhtsa.gov/document/sgo-crash-reporting-adas-ads>

³⁴ <https://www.federalregister.gov/documents/2024/12/03/2024-27447/new-car-assessment-program-final-decision-notice-advanced-driver-assistance-systems-and-roadmap>

³⁵ <https://www.federalregister.gov/documents/2024/12/03/2024-27447/new-car-assessment-program-final-decision-notice-advanced-driver-assistance-systems-and-roadmap>

³⁶ <https://www.federalregister.gov/documents/2024/11/25/2024-27446/new-car-assessment-program-final-decision-notice-crashworthiness-pedestrian-protection>

Generate NCAP Ratings Using Manufacturer Self-Evaluations

Recommendation Modernize program by considering additional ways to accept and incorporate voluntary vehicle manufacturer-generated test results for use in calculating NCAP safety ratings.

Regulatory Impact RFI Q5

Background NHTSA allows vehicle manufacturers to submit self-certification data to demonstrate FMVSS compliance. NCAP currently uses OEM data for crash avoidance testing to determine whether a system meets the agency's requirements for recommendation. For its well-established tests, including crashworthiness evaluations, the IIHS uses a similar process. Vehicle manufacturers provide IIHS with data from sanctioned in-house tests that are used to formulate a vehicle's safety score. This allows the IIHS to develop and subject vehicles to more challenging sanctioned safety tests with its limited resources while preventing a regression in vehicle safety levels.

NCAP, with its similarly limited resources, could allocate its resources towards more complex or cutting-edge safety evaluations if more self-evaluation data from OEMs was incorporated to the program. This would maximize the number of vehicles that can be rated each year, without imposing additional testing costs on the agency. This may have the added benefit of keeping the program focused and efficient.

Modernize Optional NCAP Testing Process

Recommendation Reduce regulatory and cost burdens by updating the optional NCAP testing process. Modernizing the requirements would accelerate testing and rating, reduce burdens on NCAP staff, and facilitate more effective use of agency resources.

Regulatory Impact RFI Q5

Background The agency's current optional NCAP testing³⁷ process is outdated and potentially underutilized because of its structural limitations, particularly with respect to the requirement that testing is only permitted at NHTSA contract laboratories. NHTSA can develop laboratory requirements and a vetting process for third party labs to conform to and guarantee the credibility of NCAP.

³⁷ https://www.nhtsa.gov/sites/nhtsa.gov/files/52_fr_31691.pdf

Modernize Driver Distraction Guidelines

Recommendation Modernize outdated distraction guidelines to reflect both the current distraction problem and the state of vehicle technology.

Regulatory Impact RFI Q5

Background The Alliance issued driver distraction guidelines in 2012 and NHTSA issued further guidance in 2013.³⁸ Neither reflects the current state of the art. Distracted driving has increased and many changes in vehicle technology and related human factors have occurred since then. As a result, updates are needed to this guidance. To update those guidelines, NHTSA can consider leveraging more recent work in Europe (EU's November 2019 General Safety Regulation). Insights from the NHTSA Distraction Action Forum and other workshops can also aid in their modernization.

³⁸ <https://www.federalregister.gov/documents/2013/04/26/2013-09883/visual-manual-nhtsa-driver-distraction-guidelines-for-in-vehicle-electronic-devices>

Appendix B: Regulations, Guidance, and Reporting Guidance for Regulatory Reform



January 12, 2024

National Highway Traffic Safety Administration
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Porsche Cars North America, Inc. Request for Interpretation of FMVSS 135, S5.2 Parking Brake System.

Dear Mr. Donaldson,

Porsche submits this request for interpretation seeking NHTSA's concurrence that the parking brake system discussed in this letter is, by design, capable of satisfying Section 5.2 of FMVSS 135 which requires vehicles subject to the standard to be equipped with a parking brake system of a friction type with solely mechanical means to retain engagement.

1. Overview of FMVSS 135, S5.2, Parking Brake System Requirement

FMVSS 135 S5.2 reads as follows:

Each vehicle shall be equipped with a parking brake system of a friction type with solely mechanical means to retain engagement.

In FMVSS 135, it is stated that compliance with S5.2 is to be verified in accordance with **S.7, Road test procedures and performance requirements**. S7.12 contains the test procedure and performance requirements for the parking brake system. It reads as follows:

S7.12.3 Performance requirement: The parking brake system shall hold the vehicle stationary for 5 minutes in both a forward and reverse direction on the grade.

As described in S7.12.2 (parking brake system test procedure), the performance of the parking brake system is tested with the vehicle driven onto a slope having a grade of 20%. The vehicle is placed into neutral gear, the service brake is applied, the parking brake is applied, then the force on the service brake control is released. The start of the time measurement then commences.

Compliance with S5.2 of FMVSS 135 can be confirmed using NHTSA's Laboratory Test Procedure for FMVSS 135 Light Vehicle Brake Systems, Dec. 2, 2005 (TP-135-01). Consistent with S5.2 of FMVSS 135, S14.24.3 of TP-135-01 calls for the tester to *verify that each vehicle is equipped with a parking brake system of a friction type with solely mechanical means to retain engagement*.

2. The History of the S.5.2 Parking Brake System Requirement

FMVSS 135 (*Passenger Car Brake Systems*) was originally published in the Federal Register on February 2, 1995 (60 FR 6411). FMVSS 135 replaced FMVSS 105, *Hydraulic Brake Systems*, as it applies to passenger cars. The requirement in FMVSS 135 which states that the parking brake system is to be of a friction type had its origin in the first version FMVSS 105 which was established February 3, 1967¹. To understand the intent of the "friction type" requirement, it is useful to examine the original language of FMVSS 105 as it existed in 1967.

When FMVSS 105 was created in 1967, the stated purpose of the standard was to prevent a rupture or leakage-type failure of the service brake system from resulting in a complete loss of function of the brakes. It was, in essence, an acknowledgement that brake systems of that era were susceptible to complete system failure. FMVSS 105 contained a parking brake system requirement (S4.3) which read as follows:

S4.3 *Parking brake system*. A parking brake system of a friction type with a solely mechanical means to retain engagement shall be provided that will hold the vehicle loaded in accordance with SAE Recommended Practice J843a, June 1966, to the limit of traction of the braked wheels in both forward and reverse directions on clean, dry, smooth, *Portland cement concrete pavement* (or other surface with equivalent coefficient of surface friction) of a 30 percent grade.

Had the Department only been concerned with rollaway prevention, S4.3 could have been written in a different manner. First, it could have been written as a requirement for the "parking brake" instead of "parking brake system." Second, it could have omitted the "friction type" language as there is no engineering basis for specifying a design requirement such as "friction type" for purposes of rollaway prevention. A mechanical means to lock the axles would have been sufficient. The Department instead specified a more complex "system" requirement acknowledging the reality that brake systems of that era were prone to total failure. In establishing a "parking brake system" requirement and by specifying it be of a "friction type," the Department provided an additional means of bringing a vehicle to a stop in an emergency situation while also establishing a performance standard for rollaway prevention.

¹ February 3, 1967, 32 FR 2408

In 1985 (18 years after the establishment of FMVSS 105), NHTSA proposed to establish a dynamic stopping test for the parking brake (identical to an existing UNECE test procedure). This was clearly evidence that in the period leading up to this proposal (especially in the '70s), the parking brake system continued to be designed to be used for emergency braking (hence the friction requirement). Twenty-four years after NHTSA established the parking brake system requirement in FMVSS, it published in SNPRM in 1991 indicating that complete brake system failure was no longer a concern and that establishing an additional dynamic parking brake system performance requirement was unnecessary². That SNPRM included a statement to the effect that the parking brake is for static situations such as parking and not dynamic ones and that it is not designed to act in dynamic emergencies. We believe that this statement was later taken out of context by then NHTSA Chief Counsel Franke Seales, Jr. when responding to a letter from Mr. Peter Bohm, Manager Regulations, ITT Automotive Europe GmbH asking whether a parking brake system being developed by ITT might comply with the requirements in paragraph 5.2 of FMVSS 135. In telling ITT that their interlock device designed to prevent vehicle rollaway would not satisfy Section 5.2 of FMVSS 135, Mr. Seales referenced opinions of commenters to the 1985 NPRM who stated that the purpose of the parking brake is to statically hold a vehicle in place, not to decelerate a moving vehicle. While it was true that the parking brake's main function was to statically hold a vehicle in place, it was false, misleading, and ignoring decades of history to ignore the fact that the parking brake had a secondary purpose, emergency deceleration (which required the parking brake system to be of a friction type).

In his response to ITT, Mr. Seales also wrongly wrote that "Standard No. 135 requires the parking brake to be of a friction type." This statement was false. As we discuss in Section 2 above, FMVSS 135 S5.2 reads as follows:

*Each vehicle shall be equipped with a parking brake **system** of a friction type with solely mechanical means to retain engagement.*

Contrary to the statement made by Mr. Seales, S5.2 does not require the "parking brake" to be of a friction type. Instead, it requires the "parking brake **system**" to be of a friction type. This is further evidence that, in formulating his response to ITT, he failed to comprehend the full history of the parking brake system requirement and the exact purpose and intent of the authors when they created FMVSS 105 in 1967.

3. Conventional Parking Brake Systems

Most of today's conventional parking brake systems continue to rely on the service brake system components to prevent vehicle roll-away. Typically, vehicles use either a hand-operated parking brake lever or an electronic control to actuate braking mechanisms (e.g., calipers or shoes) to prevent the vehicle from rolling. While these systems are highly reliable, performance degradation can occur when the friction linings are worn or under fluctuating operating conditions which may cause the friction brake components to expand and contract. Component temperature changes (which can impact

² Wednesday, July 3, 1991, page 30537

component dimensions and friction characteristics) can reduce the applied clamping force and result in a reduced ability to hold the vehicle on a severe grade.

Because conventional parking brake systems rely on the service brake system components, the potential for design and performance conflicts exists, especially in consideration of advanced technology vehicles. In the case of vehicle electrification, the addition of vehicle batteries tends to increase vehicle weight (compared to conventional powertrain variants). Weight increases are also realized because of the demand for Advanced Driver Assistance Systems (ADAS) which requires more sensors, cameras, wiring, computers, etc. All of the additional life-saving and fuel saving technologies increase weight which requires parking brake systems to have a more robust design. Fortunately, there are weight savings to be realized with electric vehicles. For example, with regenerative braking, some of the vehicle's momentum is reduced via the regenerative braking system components. This means that the demand on the electric vehicle's conventional service braking components is reduced, thus allowing parts such as brake rotors to be lighter. However, this cannot be realized given the parking brake system components must be larger and heavier to handle the overall increased weight associated with batteries and other components on advanced technology vehicles.

Hence, for both safety and fuel efficiency reasons, there is a desire to have a parking brake system that does not rely on the friction components of the service brake system for roll-away prevention.

4. Porsche's next generation parking brake system

Porsche's next generation parking brake system would be comprised of two sub-systems, one of which is a friction type system. The parking brake system, in totality, can thus be said to be of a friction type design. For roll-away prevention, the system would rely on two locking devices. One locking device would be the gear shift interlock (pawl) applied to the drive axle (as is currently the case on conventional vehicles). A second locking device would prevent the wheels from rotating relative to one another, to prevent rollaway when one wheel is on ice. Alternatively, each wheel could have its own mechanical locking device. Unlike the service brake friction components relied on for today's roll-away prevention, the performance of the positive lock (i.e., a highly reliable, time-tested, durable mechanism) augmented by the secondary lock would not be susceptible to extreme temperature, usage, or environmental conditions (e.g., ice buildup).

The parking brake locking device would be activated by the driver via a hand-operated control (as found in conventional vehicles today). Like with electric parking brakes of today, the brake cable running from the conventional hand-operated parking brake lever to the service brake system components would be eliminated.

Not unlike what is already available on Porsche vehicles in production today, Porsche's next generation parking brake system would also include a separate subsystem that would rely on the Electronic Stability Control (ESC) system to decelerate the vehicle using traditional friction-type components (e.g., rotors and pads or brake shoes and drums) of the service brake system in emergency situations. This feature is activated via the driver-operated parking brake control. The amount of deceleration available for emergency braking via the ESC system (activated via the parking brake control) is significantly greater than what is achievable with parking brake systems that do not rely on the ESC system for

decelerating the vehicle via the parking brake control. Such a system can be used in unusual events when, for example, the driver is unable to apply force to the foot pedal that activates the service brake system.

5. Compliance with S5.2

As discussed above, S5.2 of FMVSS 135 states that each vehicle shall be equipped with a *parking brake system* of a friction-type with solely mechanical means to retain engagement.

The question arises, does the future parking brake system described above in Section 6 satisfy this requirement? In other words, does the *parking brake system* contemplated include a friction-type component and have a solely mechanical means to retain engagement? We believe the answer to be "yes."

As discussed above, the ***parking brake system*** would be comprised of two sub-systems. One of the sub-systems would rely on the actuation of friction-type components of the service brake system (via the ESC system). Considering the friction-type requirement of S5.2 exists not because of the grade holding requirement (see Section 3 history discussion), but instead because of the indirect desire to provide backup emergency braking capability, we believe that friction-type components used to provide emergency stopping functionality in modern parking brake systems satisfy the original intent of the standard. As evidence that the friction-type requirement was in fact only of importance to NHTSA for emergency braking, we reference the preamble discussion found in the 1973 final rule (38 FR 13020) responding to petitions for reconsideration filed in response to the 1972 final rule establishing FMVSS 105a. As discussed there, both General Motors and Chrysler requested NHTSA eliminate the friction type requirement. NHTSA, however, denied the request in 1973 on the grounds that a pawl type parking brake cannot provide the residual stopping capability that may be useful in the case of complete loss of service brake capability (see 38 FR 13020). NHTSA did not deny the request on the grounds that the friction type requirement had any importance or relevance to the actual purpose of the parking brake requirement, roll-away prevention. In the preamble, NHTSA went on to say that if the friction type requirement appears design restrictive of other types of parking brake systems that would provide equivalent capability, they would be receptive to suggestions for substitute language with adequate supporting information. At the time (1973), NHTSA of course had no way of knowing that fifty years into the future there would exist technology (e.g., ESC) that can be activated by an electric parking brake control to provide emergency stopping capability via the parking brake control in an emergency situation. Of course, that technology, which uses friction type components of the service braking system, is commonly used on production vehicles today. For these reasons discussed above, we believe that the subsystem described here satisfies the portion of S5.2 which calls for the *parking brake system* to be of a friction type.

Separately, we believe that Porsche's next generation *parking brake system* described in Section 5 would satisfy the requirement that the *parking brake system* possess solely mechanical means to retain engagement. It would fulfill this portion of S5.2 by incorporating a positive lock (pawl). When tested in accordance with S7.12 of the FMVSS 135, the vehicle would be held stationary for more than 5 minutes.

6. Confirmation of our Interpretation of S5.2 is Requested

For the reasons discussed above, we request confirmation that you are in agreement with our assessment that a *parking brake system* as described in Section 5 would, by design, be capable of satisfying the requirement of S5.2 in FMVSS 135. We respectfully request that, in responding to our letter, you consider the complete history of the parking brake provision (going back to 1967) and carefully review our discussion of what was clearly a flawed opinion given by Mr. Seales in 1998. We ask that you independently consider the full history of the requirement and the reason why the original authors worded the parking brake **system** requirement as they did in 1967. When doing so, we are confident that you will concur with our views as set forth in this letter.

7. Closing

We appreciate your time and consideration of this matter and respectfully request your prompt consideration and resolution of this matter. Any questions that you may have regarding the content of this letter should be directed to Nick Tamborra at (248) 464-1836.

Sincerely,

Michael Scott

Director, Regulatory Affairs

A handwritten signature in black ink, appearing to be 'Michael Scott', with a stylized flourish at the end.

CC: Dale Kardos, Kardos & Associates, LLC