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August 29, 2022

Administrator Steven Cliff  
National Highway Traffic Safety Administration  
U.S. Department of Transportation  
1200 New Jersey Ave, SE West Building, Ground Floor, Room W12 – 140  
Washington, DC 20590

**RE: Docket No. NHTSA-2022-0067**

Dear Administrator Cliff,

SAFE is pleased to submit the following regarding the request for comments on the General Motors, LLC – Petition for Temporary Exemption.

SAFE is a Washington, D.C.-based non-ideological, bipartisan nonprofit focused on accelerating the real-world deployment of secure, resilient, and sustainable transportation and energy solutions of the United States, and its partners and allies, by shaping policies, perceptions, and practices that create opportunity for all.

This mission has been pursued in partnership with the [Energy Security Leadership Council](#) (ESLC), which is chaired by Adam Goldstein, Former Vice Chairman, Royal Caribbean Cruise Lines, and General James T. Conway, the 34th Commandant of the U.S. Marine Corps. It was founded in 2005 by Frederick W. Smith, Chairman of FedEx who remains involved, and the 28<sup>th</sup> Commandant of the U.S. Marine Corps General P.X. Kelley. SAFE believes that automated vehicle technology will serve the national interest by accelerating the adoption of electric vehicles and reducing oil consumption, along with a range of other significant public benefits. As such, we support policies that will catalyze the deployment of automated vehicle technology and maximize the societal benefits of the technology.

## **I. Introduction**

Automated vehicles (AVs) transfer responsibility for driving tasks from human drivers to machines. As the technology continues to evolve, policymakers have been faced with the challenge of developing a regulatory framework that appropriately balances the exciting opportunities offered by AVs with one that assures confidence in the safety of these vehicles.<sup>1</sup> SAFE has worked with the Department of Transportation on its Automated Driving Systems 2.0 and AV 3.0 policy guidance and looks forward to building on this collaboration in the current process. SAFE has a long history of advocating for policies to advance national welfare and we are following the development of AV safety regulations with keen

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<sup>1</sup> "Autonomous Vehicles In 2019: Rise Of Safety Assurance," Intelligence Squared US, accessed August 15, 2022, [https://www.intelligencesquaredus.org/research\\_items/autonomous-vehicles-in-2019-rise-of-safety-assurance/](https://www.intelligencesquaredus.org/research_items/autonomous-vehicles-in-2019-rise-of-safety-assurance/).

interest. We appreciate the agency’s interest in promoting both innovation and the development of safety practices in relation to AVs.

Over the last several years, SAFE has taken a leadership role in studying, promoting, and working with government, industry, and other stakeholders to advance sound public policy solutions. We have found that AVs can supply various societal advantages once they are used in the passenger transportation industry. Early analyses suggest that the most considerable gains could be fewer crashes,<sup>2</sup> less congestion,<sup>3</sup> reduced vehicle emissions,<sup>4</sup> reduced urban parking requirements,<sup>5, 6</sup> and increased productivity.<sup>7</sup> The outcome of this proceeding and related exemption petitions will have a direct bearing on the industry’s investment in safety development and innovative vehicle designs that unlock the full benefits of AVs.

At the federal level, earlier policy guidance from the Department stated that AVs are legal on public roads, specifying that, “if a vehicle is compliant with the existing [Federal Motor Vehicle Safety Standards (FMVSS)] regulatory framework and maintains a conventional vehicle design, there is currently no specific federal legal barrier to an HAV (highly automated vehicle) being offered for sale.”<sup>8</sup> Certain states have implemented additional requirements related to registration and reporting requirements, and operating conditions.<sup>9</sup> In short, if a company retrofits a car or truck with sensors and computation to give it AV functionality, the vehicle will remain legal if there were no other design changes made. As AV technology continues to advance, developers are considering how to redesign vehicles to better fit the needs of markets and consumers. This proceeding has been initiated because an AV developer has proposed a vehicle design that would render its vehicles noncompliant with FMVSS. The request for an exemption stems not from the ADS technology – developers do not need specific permission to deploy an AV – but the desire to bring to market an AV with a modified design.

The exemption process has already been applied to waive certain FMVSS standards not applicable to AV design. The first exemption was granted by the Department in 2020 for Nuro.<sup>10</sup> NHTSA (National

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<sup>2</sup> Allanté Whitmore et al., “Integrating Public Transportation and Shared Autonomous Mobility for Equitable Transit Coverage: A Cost-Efficiency Analysis,” *Transportation Research Interdisciplinary Perspectives* 14 (June 1, 2022): 100571, <https://doi.org/10.1016/j.trip.2022.100571>.

<sup>3</sup> Daniel J. Fagnant and Kara M. Kockelman, “Dynamic Ride-Sharing and Fleet Sizing for a System of Shared Autonomous Vehicles in Austin, Texas,” *Transportation* 45, no. 1 (January 1, 2018): 143–58, <https://doi.org/10.1007/s11116-016-9729-z>.

<sup>4</sup> Todd Litman, “Evaluating Public Transit Benefits and Costs: Best Practices Guidebook” (Victoria Transport Policy Institute, 2018).

<sup>5</sup> Corey D. Harper, Chris T. Hendrickson, and Constantine Samaras, “Exploring the Economic, Environmental, and Travel Implications of Changes in Parking Choices Due to Driverless Vehicles: An Agent-Based Simulation Approach,” *Journal of Urban Planning and Development* 144, no. 4 (December 1, 2018): 04018043, [https://doi.org/10.1061/\(ASCE\)UP.1943-5444.0000488](https://doi.org/10.1061/(ASCE)UP.1943-5444.0000488).

<sup>6</sup> Becky Steckler et al., “A Framework for Shaping the Deployment of Autonomous Vehicles and Advancing Equity Outcomes,” January 1, 2021, <https://rosap.nhtsa.gov/view/doc/60206>.

<sup>7</sup> Fagnant and Kockelman, “Dynamic Ride-Sharing and Fleet Sizing for a System of Shared Autonomous Vehicles in Austin, Texas.”

<sup>8</sup> U.S. Department of Transportation, “Federal Automated Vehicles Policy,” September 2016, <https://www.transportation.gov/sites/dot.gov/files/docs/AV%20policy%20guidance%20PDF.pdf>.

<sup>9</sup> “Autonomous Vehicles State Bill Tracking Database,” accessed August 15, 2022, <https://www.ncsl.org/research/transportation/autonomous-vehicles-legislative-database.aspx>.

<sup>10</sup> National Highway Traffic Safety Administration, “Nuro, Inc.; Grant of Temporary Exemption for a Low-Speed Vehicle with an Automated Driving System [Docket No. NHTSA–2019–0017],” February 2020, [https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/nuro\\_grant\\_notice\\_final-unofficial.pdf](https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/nuro_grant_notice_final-unofficial.pdf).

Highway Traffic Safety Administration) has the authority to grant exemptions from FMVSS subject to specific criteria, and the petitioner has submitted its explanation for why it believes its vehicle qualifies for exemption. The Administration has requested public comment on whether the petitioner has satisfied the requirements of the basis for exemption, if additional information ought to be submitted, and, if so, what information would allow NHTSA to make a determination regarding the vehicle design. At the close of the comment period, NHTSA will review submitted comments and determine if and under what conditions an exemption may be granted.

## **II. Exemption Proceeding and Public Interest**

As noted, this is not the first time NHTSA has assessed the safety of novel designs for a car driven totally by an autonomous driving system (ADS). In 2020,<sup>11</sup> the Department granted an exemption to Nuro, removing requirements for mirrors, windshields, and backup cameras for up to 5,000 vehicles over a two-year testing period. Exemptions from the Nuro petition were granted on two bases presented by Nuro, specifically, low-emission vehicle development and safety. First, the Department agreed that the development or field evaluation of a low-emissions vehicle was easier by granting the exemption. Second, the Department concurred in granting the exemption that the Nuro R2 design would not unreasonably lower the safety level of that vehicle. Finally, the Department added its own reasoning for granting an exemption, citing 49 U.S.C. 30113(b)(3)(B)(iv) which states, “compliance with the standard would prevent the manufacturer from selling a motor vehicle with an overall safety level at least equal to the overall safety level of nonexempt vehicles would not unreasonably lower the safety level of that vehicle.” By granting the exemption the Department demonstrated the exemption status as a workable temporary mechanism for the development of AVs with non-compliant design. The petitioner and other industry stakeholders continued investing in innovative vehicle designs that may better meet market needs and increase the social benefits of the technology. This particular proceeding is extremely significant and is being widely watched as a window into the Department's thinking about exemptions for purposefully built vehicles with human riders.

Now Cruise has presented a petition under the same exemption process to build and test their purpose-built vehicle, the Cruise Origin. As a zero-emission, shared, electric and autonomous vehicle, the Origin offers additional improvements and societal benefits through its design and operation. The innovative design of the Cruise origin takes passenger comfort into consideration as consumers are no longer responsible for the driving task. Further, passenger comfort is central to building consumer acceptance of AVs. As such, granting the exemptions outlined in the pending petition is in the public interest. First, the Department's examination expands the approval pathway to include passenger use cases of ADS technology. Second, the efforts from both industry and government can continue the path toward a regulatory framework that supports widespread deployment. Conversely, if the Department does not outline a clear pathway to approval for this or other petitions, it would increase the regulatory risk of investing in AV technology, with potential adverse consequences for industry, society, and American innovation as a whole. Development of business models or use cases dependent on new vehicle designs will significantly slow or be ceded to international markets, including China who have prioritized autonomous and electric technology. In our view, this would not be in the public interest, as there will certainly be key use cases and benefits that will be tied to the need for an exemption until the Department develops a more comprehensive regulatory framework.

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<sup>11</sup> National Highway Traffic Safety Administration.

Granting this exemption provides an opportunity for the United States to maintain its position as the global leader in AV development, testing, and deployment. AV development is tied to multiple areas of technology and policy and depends on U.S. leadership in areas such as advanced manufacturing, artificial intelligence and machine learning, and STEM education and workforce development. It is critical for the U.S. government to continue enabling private-sector innovation in this nascent field. While U.S. companies have made great progress, the AV market faces many uncertainties and challenges that must be overcome. Concurrently, China is striving to close the gap with the United States as leader in AV development, testing, and deployment; with policies in place to support its efforts. If China outcompetes the United States in future transportation technologies and becomes the global automotive innovation and manufacturing hub, this could irreparably harm the American auto industry and its workers. The most significant threat is to American jobs. In a worst-case scenario, it could cause the near collapse of the U.S. industry—erasing hundreds of thousands of direct jobs, and many of the nearly ten million indirect jobs dependent on vehicle manufacturing.

The comments are organized as follows: We have discussed the vital role that this procedure will play in the long-term development of AV regulation and design in this section. In Section III, we continue to make the case that the development of AVs, and more specifically, a clear path to FMVSS exemptions, serves the public interest. We also outline some broad legal and public interest concepts that, in our opinion, should guide NHTSA's response to this and comparable petitions. In Section IV, we finally put these ideas into practice by answering the questions the Department raised in response to the Petition.

### **III. Principles Governing Exemption Petitions**

While the Section 555 exemption process was not designed to be the primary means of regulating a broad new set of vehicle functionalities such as ADS, if deployed properly it can be used as an effective interim framework to promote both innovation and safety. Exemption petitions should be decided by a combination of legal interpretations and value judgments as to what is in the public interest. The Department has posed numerous questions related to its decision and data requirements for the exemption petition. To aid in this decision, SAFE has formulated key principles that are relevant to many of the Department's questions. For the remainder of this section, we articulate our philosophy for evaluating exemption petitions. In the next section, we apply these principles to as many questions as possible.

#### **a. The Relevant Safety Baseline is a FMVSS-Compliant AV, Not A Human-Driven Vehicle**

The Section 555 exemption petition process has generally been used when the development of a new vehicle technology – whether a safety feature or a low-emissions technology – leads to non-compliance with FMVSS. In this case, equipping a vehicle with ADS does not necessitate or directly lead to non-compliance with the standard. The vehicle in this petition and in similar ones are non-compliant with FMVSS not because it is an AV, but because its automation has allowed for differing design philosophies. The Department expressed this understanding in a 2016 letter to Chris Urmson, then at Google, stating, “While L4 automation is the impetus behind these design decisions, it is Google’s design decisions [and not automation itself] that create the uncertainty over how to apply FMVSS to Google’s proposed vehicle.”

It bears repeated emphasis that AVs do not require exemptions before testing or even commercial deployment on public roads. If AVs are designed to be FMVSS-compliant, that is sufficient for them to be legal on public roads in the eyes of the federal government. The safety of these vehicles is regulated

through the Department’s recall and rulemaking authorities and has been the subject of enforcement bulletins and policy guidance. As such, the plain reading of the relevant statutes laying out the bases for exemption suggests that, for the bases suggested in petitions thus far, an exemption would be considered based on the differential in safety between a FMVSS-compliant and non-compliant vehicle. The language for the “safety feature” exemption (49 U.S.C. 30113(b)(3)(B)(ii)) requires demonstration that the “level of safety of the features is equivalent to or exceeds the level of safety established in the standard from which exemption is sought.” Exemptions sought on the grounds of “development or field evaluation of a low emission motor vehicle” (49 U.S.C. 30113(b)(3)(B)(iii)) are statutorily required to establish that an exemption would not “unreasonably lower the safety level of that vehicle”; in both cases, the language implies that the key consideration is the safety implications of non-compliance as it relates to the specific standards for which an exemption is being requested.

That said, the public interest is served by a level of transparency on the part of developers on the safety of ADS systems, and this will be addressed in a separate principle later in this section. In short, to meet the legal requirements for this standard, the relevant baseline for comparison is an AV that complies with FMVSS. Since such vehicles are currently permitted on public roads – and even for commercial deployment – without any premarket burden of proof for the ADS performance, the plain reading of the statute implies that AVs seeking exemptions need to demonstrate their safety relative to those FMVSS-compliant vehicles.

This distinction has been emphasized in past proceedings, such as the agency’s response to Nuro’s petition in 2020. In this petition, Nuro sought and was granted a temporary exemption from FMVSS 205 and 211 which include exterior and interior mirrors, windshield, backup camera linger time, and testing. Similarly, the Petitioner is requesting the same FMVSS exemptions as well as more that are applicable to the Origin’s purpose-built vehicle design. Thus, exemption proceedings do not target ADS but rather the design decisions that were made in the context of the ADS. The public interest is best served through a clear pathway toward the flexibility offered by exemptions; therefore, we urge the Department not to unduly burden petitioners with requests with respect to documentation of ADS that exceed requirements for AVs with conventional designs.

**b. The Safety of the ADS is Appropriately Governed by the Department’s Recall, Enforcement, and Rulemaking Authorities**

SAFE believes that the Department has an interest in assuring public safety as AVs continue to increase their presence on public roads. This interest is manifested through the Department’s recall authorities, enforcement bulletins, and rulemaking authorities, as well as its ability to set policies such as requesting Voluntary Safety Self Assessments (VSSAs). We urge the Department to continue to develop these authorities, which may in time result in a rule on ADS safety. The exemption petition is a key step in the Department’s learning process on the workings of ADS and its interface with the regulatory system. As part of this proceeding, the petitioners have offered information on the safety of the ADS in their vehicles and the Department is considering requesting additional information on their safety. Requiring petitioners to demonstrate ADS safety to a level considerably beyond that required by AV developers who are not requesting exemptions has the potential to harm the public interest. Denying an exemption petition for a vehicle will not remove its ADS from public roads – the same ADS could legally be used in FMVSS-compliant vehicles. Our recommendation is that the Department continue to consider avenues other than exemption petitions as the primary means by which to regulate the safety of ADS technology.

**c. The Department Should Balance Required Level of Detail Regarding ADS Safety with the Public Interest Served by Granting Exemptions Which Meet the Statutory Basis**

As outlined above, the granting of exemption petitions, if they meet the requirements of the statute, is in the public interest. At the same time, the public interest is also served by the Department's oversight of AV safety. To some extent, these priorities can and should overlap. Exemption petitions represent important opportunities for the exchange of information and views between petitioners, the Department, other stakeholders, and the public. Precisely because it is in the public interest for these exchanges to continue, the Department should seek to maximize these exchanges without unduly burdening petitioners to provide documentation far beyond what is required by statute.

The Department should continue to encourage petitioners to submit documentation demonstrating that, given the totality of considerations including ADS functionality, the granting of an exemption is in the public interest. At the same time, the Department should refrain from requiring specific ADS performance and operational requirements as a precondition for an exemption. Such requirements would be better advanced through rulemaking or enforcement Bulletins.

**d. The Department's Requests for Additional, Publicly Disclosed Information Should Be Limited to Information Required to Meet a Specific Regulatory Need**

As AVs are a new and highly anticipated technology, there is considerable demand to better understand the technology by capturing information through the regulatory process. SAFE believes companies should only be required to reveal sensitive information when doing so will feed directly into immediate regulatory enforcement or other compelling and clearly articulated need. Generally, we have found that requiring frequent reporting of sensitive data without a clear mechanism for their use imposes high compliance costs without proportionate public benefit. The 2021 Standing General Order (SGO) is such a reporting requirement that meets a specific regulatory need. The Department's SGO requires manufacturers and operators to report crashes involving Level 2 ADAS (Advanced Driver Assistance Systems) or Level 3-5 ADS. These entities are required to report any incident that resulted in a vulnerable road user, fatality, vehicle tow away, air bag deployment, or medical treatment. The Standing General Order is meant to provide the Department with data to identify risks or trends from vehicles equipped with ADAS (advanced driver-assistance system) or ADS. We recommend that the Department carefully consider the costs and benefits of proprietary information that might be required as part of any ongoing or future exemption petition.

**e. The Department Should Consider Exploring New Uses and Markets as a Legitimate Component of Developing a Low-Emission Vehicle**

History is replete with examples of innovations that were technologically viable but did not achieve success because of poor market fit. There is more to innovation than developing technology; the Department has previously recognized promoting consumer choice and technology dissemination as legitimate grounds in an exemption petition.<sup>12</sup> Petitioners may seek exemptions because a new vehicle design may foster better consumer engagement with AVs, improve the economic viability of specific business models, accommodate individuals with disabilities, or enable a ride with greater comfort. All of these are legitimate market functions and could be represented as a legitimate attempt to enable the

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<sup>12</sup> National Highway Traffic Safety Administration, "Wheego Electric Cars, Inc.; Grant of Petition for Temporary Exemption From the Electronic Stability Control Requirements of FMVSS No. 126, Docket No. NHTSA-2012-0013," August 10, 2012.

market development of a low-emission vehicle. As such, AVs would contribute significantly to the market viability and uptake of low-emission vehicle technology. We recommend that the Department consider the public interest inherent in the success of low-emission transportation, rather than merely its technological development, when considering the public interest requirement for exemption petitions.

#### **IV. Responses to Specific Questions**

**Question 10. If the agency were to require the reporting of data, for what period should the agency require it to be reported—the two-year exemption period or the vehicles' entire normal service life?**

As ADS technology continues to develop and advance, there may be considerable improvement in safety over time. These advances can take the form of software, hardware, or vehicle design changes which may not be captured in these first iterations of nonexempt vehicles. If the petition is granted, SAFE recommends required data reporting for the two years of exemption status.

**Question 11. Given estimates that vehicles with ADS would generate terabytes of data per vehicle per day, how should the need for data be appropriately balanced with the burden on manufacturers of providing and maintaining it and the ability of the agency to absorb and use it effectively?**

As discussed in Section III, the SGO is an existing mechanism where companies report pertinent information. Reporting all data without a clear purpose is resource intensive for both the agency and petitioner without a proportionate public benefit.

**Question 12. As explained in the section above, NHTSA has broad authority to determine whether the public interest and general goals of the Safety Act will be served by granting an exemption. NHTSA seeks to understand the many diverse effects of the exemption, including: the overall safety of the transportation system beyond the analysis required in the safety determination; how an exemption will further technological innovation; whether the exemption will address transportation accessibility and equity; economic impacts, such as consumer benefits; and environmental effects.**

It is promising to see the Department consider the public interest beyond technological development when considering the public interest requirement for exemption petitions. Innovation is more than developing technology as AVs hold the promise of improved mobility—critical for economic growth and quality of life. AVs can dramatically improve the lives of communities underserved by our current transportation system and those most vulnerable to its inefficiencies, namely Americans with disabilities, seniors, and wounded veterans.

Significant economic benefits from the widespread adoption of AVs could lead to nearly \$800 billion in annual social and economic benefits by 2050.<sup>13</sup> First, ADS technology has the potential to reduce the toll of vehicle crashes and improve traffic flow, thus commuters are likely to experience less congestion getting productive time back. Second, improving energy security by reducing dependence on oil, provides a myriad of environmental benefits.<sup>13</sup> Finally, passenger AVs are being developed with electric

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<sup>13</sup> Securing America's Future Energy, "Fostering Economic Opportunity through Autonomous Vehicle Technology" (Securing America's Future Energy, July 2020), <https://2uj256fs8px404p3p2l7nvkd-wpengine.netdna-ssl.com/wp-content/uploads/2020/07/Fostering-Economic-Opportunity-through-Autonomous-Vehicle-Technology.pdf>.

batteries for both technological and business purposes. If the exemption is granted, the petitioner's electric, shared AVs will contribute to the uptake of electric vehicles, precipitating the shift away from petroleum as the dominant fuel source and reducing America's reliance on oil.

In summary, AVs offer significant safety, energy security, and environmental benefits. All these factors combined will produce economic growth and increases in quality of life throughout the nation. If the Department grants the petitioner an exemption, it is a starting point for better consumer engagement with AVs, improve the economic viability of specific business models, accommodate individuals with disabilities, or enable a ride with greater comfort.

**Question 13. With regard to environmental impacts, how should NHTSA use the part 555 exemptions to learn about the interplay between fuel efficiency and ADS technologies? Should the agency adopt reporting requirements that would allow the agency to better understand the energy use of the vehicles throughout their service life and possibly better assess, and quantify, the environmental impacts of ADS-equipped vehicles? Should NHTSA require an entity whose petition has been granted to provide data about, for example, how often and how far its vehicles are driving around unoccupied v. occupied? Is there other information related to the environmental consequences and effects of the vehicles covered by the petition that NHTSA should require from entities granted an exemption?**

AVs may not only improve the economy and society but also the environment, depending on technologies and policies. Various studies assess the positive impacts of shared AVs in a city and discovered road and economic efficiencies. Changes in vehicle usage, vehicle design, and transportation systems can reduce energy consumption and GHG (greenhouse gas) emissions.<sup>14</sup> Eco-driving and collision avoidance could save fuel usage by up to 25 percent.<sup>15</sup> Improved road capacity through platooning and more efficient driving patterns<sup>16</sup> are examples of transportation system modifications. Increased throughput allows for more efficient use of road space allowing for more pedestrians, cyclists, and public transportation.<sup>17</sup> In summary, the positive effects of AVs are feasible when they are shared but many models necessitate rapid and significant regulatory changes that allow for scale. As described in Section III, the Department should define and articulate a specific regulatory need before requiring environmental impact reporting from any entity.

**Question 14. How should NHTSA consider accessibility in applying appropriate conditions to an exemption if it were granted? As noted above, many proponents of ADS technology often claim that ADS-equipped vehicles could help advance greater transportation accessibility for persons with disabilities. Should NHTSA impose conditions on grants of part 555 exemptions to learn more about specific actions that manufacturers and operators of ADS-equipped exempted vehicles are planning, or have taken, to further the attainment of accessibility and equity goals? Should NHTSA seek**

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<sup>14</sup> Zia Wadud, Don MacKenzie, and Paul Leiby, "Help or Hindrance? The Travel, Energy and Carbon Impacts of Highly Automated Vehicles," *Transportation Research Part A: Policy and Practice* 86 (April 2016): 1–18, <https://doi.org/10.1016/j.tr.a.2015.12.001>.

<sup>15</sup> Nicholas Chase, John Maples, and Mark Schipper, "Autonomous Vehicles: Uncertainties and Energy Implications," Issue in Focus from the Annual Energy Outlook 2018 (U.S. Energy Information Administration, 2018).

<sup>16</sup> James M. Anderson et al., "Autonomous Vehicle Technology" (Santa Monica, CA: RAND Corporation, 2016), [https://www.rand.org/pubs/research\\_reports/RR443-2.html](https://www.rand.org/pubs/research_reports/RR443-2.html); Daniel J. Fagnant and Kara Kockelman, "Preparing a Nation for Autonomous Vehicles: Opportunities, Barriers and Policy Recommendations," *Transportation Research Part A: Policy and Practice* 77, no. Supplement C (July 1, 2015): 167–81, <https://doi.org/10.1016/j.tr.a.2015.04.003>.

<sup>17</sup> David C Rouse et al., "Preparing Communities for Autonomous Vehicles" (Chicago, IL: American Planning Association, 2018).



**information from manufacturers granted an exemption as to how they ensure that their ride-hailing services comply with any applicable Americans with Disabilities Act (ADA) requirements, how many vehicles would be wheelchair accessible, how they reach people with disabilities to offer access to ride sharing services, or whether the exempt vehicles provide other accommodations for individuals with disabilities, such as communication and/or human-machine interface (HMI) features designed for individuals with sensory disabilities (such as sight or hearing) or cognitive disabilities? Should NHTSA require grantees to report on efforts, such as research or community outreach, that the manufacturer is planning, or has taken, to increase the likelihood that accessibility goals will be met? Comments are requested on whether there is other information related to accessibility that NHTSA should require from an entity when granting its petition.**

Autonomous vehicles offer increased potential for reducing transportation barriers for Americans with disabilities. Capitalizing on these technologies will help a large segment of the population reach its full potential and increase their contributions to society, in turn strengthening our social fabric and economy. However, minimum safety standards in FMVSS do not include accessibility and thus, these concerns are out of scope for general consideration of part 555 or the Safety Act. Requiring reports on accessibility as a condition to granting exemption would not be appropriate. As described in Section III, the Department should define and articulate a specific regulatory need before requiring accessibility reporting from any entity. In the meantime, it may be appropriate to create a voluntary guidance and reporting database to inform future reporting requirements.

***Question 15.* How should NHTSA consider equity in applying appropriate conditions to an exemption if it were granted? For example, should NHTSA require entities receiving a grant of their petition to report how the exempted vehicles will be used to improve accessibility and equity in serving underserved communities? Should such an entity be required to provide plans about how it intends to ensure that access to its services is equitable in terms of neighborhood, income levels, race and ethnicity, age (etc.), and/or provide reports of how it achieved those objectives through use of the exempted vehicles? Should entities receiving a petition grant be required to report on barriers they encountered to deploying ADS-equipped vehicles in underserved communities and how those barriers could be overcome? Should such an entity be required to provide demographic data about its services, or report on efforts, such as research or community outreach, that the manufacturer is planning or has taken to ensure better that equity goals will be met? Comments are requested on whether there is other information related to equity that NHTSA should require when granting a petition.**

Many modes of current transportation remain inaccessible, unreliable, unaffordable, or unsuitable for many people, including seniors, economically disadvantaged and differently abled individuals. AVs in conjunction with shared and electric mobility, have the potential to provide affordable, reliable, and accessible transportation options.

Studies show that it is vital that seniors have access to transportation choices for their health and aging in place.<sup>18, 19</sup> The same is true for the six million differently-abled individuals in the United States.<sup>20</sup> Transportation issues disproportionately affect the economically disadvantaged population, highlighting a systemic barrier that may contribute to lower rates of employment, education, and income. There is an incredible opportunity to capture the positive social benefits of AVs. The equitable distribution of these benefits however depends on how AVs enters the market.

If shared autonomous mobility is offered as a service as the petitioners are proposing, positive equity impacts can be actualized. However, Part 555 limits vehicle production to 2,500 vehicles per year, constraining the scale of deployment needed to accurately quantify or track equity impacts. Requiring equity reporting at this point in deployment could result in a “false negative” where minimal equity impact due to the lack of scale being misinterpreted as nonmaterial. A data misinterpretation can thwart AV innovation and deployment. As such, requiring reporting at this point is not recommended but submitting a voluntary plan is advised.

**Question 16. How should NHTSA consider economic impacts when applying appropriate conditions to an exemption if it were granted?**

The actions of AV manufacturers and related industry partners, as well as the interest from policymakers and researchers, point towards the likely initial deployment of autonomous vehicles as shared autonomous mobility services as AV companies are ready for a return on investment. However, the variability in operating costs leads to uncertainty regarding the profitability of shared AVs. Policymakers need pragmatic information to form AV policy but are still grappling with uncertain technology costs and operation costs, fleet sizing, and other factors.<sup>21</sup>

Without policy in place, AV companies could develop business models that compete with existing transit and exclude low-income individuals from the benefits of the technology. For example, policymakers are concerned that shared AVs may arrive on U.S. streets and leave an impact like Transportation Network Companies like Uber and Lyft. Some cities have embraced these companies’ presence, finding that public transit ridership and access have improved.<sup>22</sup> Other cities have experienced the complete opposite—declining ridership leading to shrinking budgets that ultimately diminish transit access for those with the greatest need.

However, profitability and flexibility in business models is paramount now for AV companies that have invested billions in research and development of ADS technology. If economic viability is not confirmed, AV companies could suspend the deployment effort and the potential lifesaving, access-improving,

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<sup>18</sup> Todd Litman, “Autonomous Vehicle Implementation Predictions: Implications for Transport Planning,” January 9, 2020, <https://trid.trb.org/view/1678741>.

<sup>19</sup> National Association of Area Agencies on Aging, “Transportation,” 2022, <https://www.usaging.org/transportation>.

<sup>20</sup> Abdullah Khan et al., “Net-Societal and Net-Private Benefits of Some Existing Vehicle Crash Avoidance Technologies,” *Accident Analysis & Prevention* 125 (April 1, 2019): 207–16, <https://doi.org/10.1016/j.aap.2019.02.003>; Securing America’s Future Energy et al., “SELF-DRIVING CARS: THE IMPACT ON PEOPLE WITH DISABILITIES,” *Securing America’s Future Energy*, 2017, 35.

<sup>21</sup> Santhanakrishnan Narayanan, Emmanouil Chaniotakis, and Constantinos Antoniou, “Shared Autonomous Vehicle Services: A Comprehensive Review,” *Transportation Research Part C: Emerging Technologies* 111 (February 1, 2020): 255–93, <https://doi.org/10.1016/j.trc.2019.12.008>.

<sup>22</sup> Jacob W. Ward et al., “The Impact of Uber and Lyft on Vehicle Ownership, Fuel Economy, and Transit across U.S. Cities,” *IScience* 24, no. 1 (January 22, 2021): 101933, <https://doi.org/10.1016/j.isci.2020.101933>.

emissions-reducing benefits will not be achieved. Thus, uncovering the middle ground where social benefits are maximized, social costs minimized, and financial feasibility achieved, is of interest to both policymakers and AV companies but arguably goes beyond the scope of this request for an exemption of a limited number of vehicles at a moment of this nascent technology. It is a decision that will need to be addressed in the coming years.

## **V. Conclusion**

SAFE looks forward to working with the Department on safety, equity, accessibility, and other topics as they relate to AVs. We welcome the opportunity for further discussion.

Thank you for considering SAFE's comments. Should you have any questions related to these comments, please direct them to Dr. Allanté Whitmore at [awhitmore@secureenergy.org](mailto:awhitmore@secureenergy.org).

Sincerely,



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SAFE