



Comments submitted to: National Highway Traffic
Safety Administration (NHTSA)

Docket Number: NHTSA-2019-0016

Submitted by: Community Transportation
Association of America (CTAA)

Date: May 9, 2019

Comments – [General Motors, LLC-Receipt of Petition for Temporary Exemption From Various Requirements of the Safety Standards for an All-Electric Vehicle With an Automated Driving System](#)

Only by working in partnership can the public and the private sector improve the safety, security, and accessibility of automation technologies, address the concerns of the general public, and prepare the workforce of tomorrow.

[Automated Vehicles 3.0: Preparing for the Future of Transportation](#) (Oct. 2018), p.26.

<u>CTAA AV PRINCIPLES</u>
Accessibility
Equity
Rural Connectivity
Safety

Introduction

The [Community Transportation Association of America](#) (CTAA) supports AV-related exemptions from the FMVSS. Our organization is submitting this comment because we have concerns related to the General Motors, LLC-Receipt of Petition for Temporary Exemption From Various Requirements of the Safety Standards for an All-Electric Vehicle With an

Automated Driving System (Docket Number: NHTSA-2019-0016) (hereinafter referred to as the “GM Petition”).

CTAA is a leader in providing resources and analysis of automated vehicles (AVs) and their impact on mobility options. We are educating transportation professionals across the United States, providing AV technical assistance, presenting at conferences, and engaging in discussions with companies developing different aspects of AVs and associated software. We monitor AV issues daily to stay abreast of technological, legislative, and regulatory updates. We have connected with other national organizations with an interest in how AV development affects their constituencies. Our work increasingly integrates emerging business models, public-private partnerships, and shared-use experimentation and advances.

CTAA members are in the business of moving people – efficiently and cost-effectively – by transit, paratransit, volunteer transportation, and specialized transportation. Many of these rides are provided in conventional buses, cars or vans, or, when necessary, in vehicles retrofitted to be accessible for persons with disabilities. Our members’ transportation, therefore, spans multiple modes and a variety of populations with special needs. AVs have the potential to greatly enhance the mobility of millions of Americans who rely on CTAA members to provide their transportation.

CTAA represents the public and community transportation industry, which has an exemplary track record for safety, but CTAA is well aware that we are not experts in vehicular or technology engineering,

testing, or standards. Like most Americans, we rely on NHTSA's expertise and protection for improving the safety of motor vehicles of all types. As the Association works to support the advent of AVs, our goal is to increase the safety of the American transportation network, which unfortunately still witnesses thousands of deaths and injuries each year.

CTAA's [AV principles](#) call for AVs to provide: (1) Accessibility, (2) Equity, (3) Rural Connectivity, and (4) Safety. CTAA recommends that NHTSA exercise its statutory authority to impose exemption conditions that relate to our [AV principles](#). Following our statement recommending the statutory basis for granting the GM Petition (with conditions), this comment is divided into sections according to those principles. In addition, CTAA offers its expertise related to public engagement and makes recommendations relating to data reporting and sharing, and processing of future petitions for exemptions for AVs and AV technology.

Statutory Basis for Exemption: The request for comment asks whether to recommend granting the GM Petition pursuant to one of two different subsections of §30113, either (b)(3)(B)(ii) or (b)(3)(B)(iii).¹ CTAA strongly supports the choice of §30113 (b)(3)(B)(ii) for these reasons:

- The novel technology being tested is the AV technology;
- The new business model that GM proposes depends upon the AV technology (and ultimately not having a driver or backup operator at all); and
- The electric vehicle (EV) technology to be used is not the most innovative aspect of what the GM Petition proposes.

Accessibility Recommendations: NHTSA Should Exercise its Statutory Authority to Grant an Exemption with Conditions that the AV Be Physically Accessible and Provide Accessible Human Machine Interfaces.

CTAA responds to NHTSA's request for comment about whether the GM Petition would serve the public interest by highlighting General Motors' legal obligations pursuant to the Americans with Disabilities Act (ADA), Pub. L. No. 101-336, 104 Stat. 328 (1990), and USDOT regulations promulgated pursuant to the ADA.² CTAA recommends that NHTSA require any exempted AV be accessible for people with disabilities

¹ The Secretary of Transportation is given authority pursuant to 49 U.S.C. §30113 to grant exemptions to OEMs when an exemption would be in the public interest and where at least one of four conditions are met. Under 49 U.S.C. §30112(b)(10), in contrast, an OEM is permitted – without compliance with FMVSS and without an exemption – to introduce a vehicle into interstate commerce “solely for purposes of testing or evaluation by a manufacturer that *agrees not to sell or offer for sale* the motor vehicle at the conclusion of the testing or evaluation.” (Emphasis added.) A distinction between §30112(b)(10) and §30113 is that §30113 presumes that an exempted vehicle will be offered for sale and sold, whereas §30112(b)(10) expressly requires an OEM to agree not to sell those vehicles. Presumably, an exemption granted under §30113 could prohibit the sale of the AV or other particular reuse, such as leasing, rental, or charging ridehailing fares.

A primary benefit for the public to granting an exemption pursuant to §30113 is that the Secretary has the authority to impose conditions on the granting of an exemption; these could relate to AV design, operation, capability to reach a minimal risk condition, ridehailing fares, limitations on vehicle speed, public engagement, and/or cybersecurity.

² Title VI and USDOT regulations declare that “no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the Department of Transportation.” (49 CFR 21.1; see also 42 U.S.C. § 2000d et seq.) USDOT regulations proscribe that “Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) as amended, to the end that no otherwise qualified individual with a disability in the United States shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any

and older adults. We further recommend that NHTSA should use its exemption authority to require embedding accessible, universal design in AVs themselves and in HMIs so that that we can achieve the USDOT's stated goal for AVs to vastly improve the quality of life for people with disabilities and older adults.

The designs and technology for accessibility already exist; therefore, we would not be requiring that GM or any other original equipment manufacturer (OEM) invent or create anything new. Rather than retrofitting our vehicles and transportation infrastructure in the future, it makes sense to embed accessibility now.

Accessibility Is Already Required for Proposed Business Model in Petition

The GM Petition expresses the intention to use the exempted AVs for a "rideshare" program. *GM Petition*, 84 Fed. Reg. 10182, at 10185 (Mar. 19, 2019). CTAA prefers the term ridehail because it expresses the reality that the GM will be entering its proposed exempted vehicles into interstate commerce, whether fares will be charged or not, during the exemption period, and whether ridehailing is performed via app, by phone, and/or on the street. Like taxis, microtransit, and existing ridehailing businesses (most familiar of which are currently Uber and Lyft), the transportation service model that the GM Petition contemplates would be subject to the ADA.³

The AV that the GM Petition proposes for an exemption will be operating on the cusp of the next transportation revolution both in terms of the vehicle it concerns and the business model it contemplates. GM proposes to act in the roles of a traditional OEM and a provider of transportation service.

program or activity receiving Federal financial assistance." (49 CFR 27.1) Section 508 of the Rehabilitation Act requires that any electronic and information technology used, maintained, developed, or procured by the Federal government allow persons with disabilities comparable access to information and technology. (29 U.S.C. § 794 (d)) AV communication interfaces and the vehicles themselves implicate these laws and regulations so that people with disabilities will be provided with both physical accessibility and with technological accessibility for ordering, interacting with, and, in dire situations, stopping the operation of an AV.

While General Motors is a private company and the GM Petition does not propose that it will be participating in a federal program or receiving federal funds, NHTSA should be adhering to all federal laws, including the ADA, as well as protecting the interests of all Americans, including those with disabilities, people who are older adults, and people who use shared-use transportation of all types because they cannot afford to own or maintain a vehicle.

³ The situation presented in the GM Petition is analogous to *Stafford v. Wallace*, 258 U.S. 495 (1922), in which the Supreme Court upheld federal regulation of meatpacking operations. In *Stafford*, the High Court recognized that a small group of commercial enterprises controlled a major industry. The major OEMs, like the stockyard businesses involved in *Stafford*, act as "great national public utilities to promote the flow of commerce." 258 U.S. 495 at 516. For the vast majority of Americans, for whom OEMs provide the vehicles they use each day for transportation, the OEM-produced vehicles "are but a throat through which the current [of transportation] flows." *Id.* at 516.

In the current auto industry, the limited competition locks out a significant percentage of Americans who are unable to drive or who, if they use a wheelchair or similar conveyance, are unable to transfer by themselves into a passenger seat of an automobile or a light truck. It would be a reasonable exercise of authority for NHTSA to declare that it is in the public interest that the GM Petition be granted under the condition that AVs be accessible for people with disabilities and older adults to be able to board and to connect with the AV's HMIs.

As we discuss later in this comment, current ridehailing companies have acted in tandem to avoid their obligations under federal law to equally serve people with disabilities.

NHTSA has a unique opportunity at the advent of the AV age to remedy the *separate but equal*⁴ transportation system that we have today. Current vehicles and ridehailing services entrench a *separate but equal* transportation system – indeed inherently unequal and substantially inferior – for people with disabilities and older adults. Any accessibility condition that NHTSA imposes will also benefit travelers with luggage, people with strollers, and people transporting soccer gear, groceries, or other heavy items.

For people with mobility-related disabilities to be afforded their civil right to move freely about the US, for them to contribute to our communities and to our economic progress, it is critical that NHTSA adhere to our civil rights laws and mandate that all AVs and all future exempted AVs be accessible.

ADA Requirements

Within Title III, § 12184 prohibits private entities “primarily engaged in the business of transporting people” from discriminating against people with disabilities in the use and enjoyment of “specified public transportation” services.³⁶ Discrimination under this section includes: (1) failing to make a reasonable modification required for extending service to an individual with a disability when the modification would not fundamentally alter the nature of provider’s the service;³⁷ (2) excluding individuals from using a service due to a lack of auxiliary aids that the service provider could offer without undue burden;³⁸ and (3) leaving in place readily removable physical or communication barriers that limit an individual with disabilities’ ability to use the provider’s transportation service.³⁹

[Disability Rights in the Age of Uber: Applying the Americans With Disabilities Act Of 1990 to Transportation Network Companies](#), R. Reed, 33 Ga. St. U. L. Rev. 517, 522 (2017)⁵ (find citations included herein in footnote 5).

Were GM to provide ridehailing, or what it refers to as “rideshare,” services, the company would further immerse itself into the business of providing transportation. It would therefore provide services that are

⁴ *Plessy v. Ferguson*, 163 U.S. 537, 552 (Harlan, J., dissenting, 1896). *Plessy* was a transportation case that revolved around “providing two or more passenger coaches for each passenger train, or by dividing the passenger coaches by a partition so as to secure separate accommodations.” *Id.* For decades after *Plessy*, our nation saw segregated policies that provided substantially unequal services to a significant portion of Americans in transit, intercity transportation, housing, loans, and education, to name a few examples.

Later in his dissenting opinion, Justice Harlan articulated an idea that the US Supreme Court later embraced: “The arbitrary separation of citizens on the basis of race while they are on a public highway is a badge of servitude wholly inconsistent with the civil freedom and the equality before the law established by the Constitution. It cannot be justified upon any legal grounds.” *Id.* at 562. So it is currently with people with particular disabilities who are unable to operate a motor vehicle or, in many cases, even to be a passenger in vehicles that are OEM products (including those of petitioner GM). Across the US, there are substantial gaps in transit service and intercity transportation that effectively segregate and isolate persons with disabilities, rendering it impossible for a portion of our population to earn a living, to access medical care, and to engage in the civic lives of their communities.

⁵ Citing: Fn. 36: 42 U.S.C. § 12184 (2012). “Specified public transportation” is defined as “transportation by bus, rail, or any other conveyance (other than by aircraft) that provides the general public with general or special service (including charter service) on a regular and continuing basis.” 42 U.S.C. § 12181(10) (2012). Fn. 37: 42 U.S.C. § 12184(b)(2)(A), 12182(b)(2)(A)(ii) (2012). Fn. 38: 42 U.S.C. § 12184(b)(2)(B), 12182(b)(2)(A)(iii). Fn. 39: 42 U.S.C. § 12184(b)(2)(C), 12182(b)(2)(A), 12183(a)(2) (2012).

clearly within the purview of the ADA. Would GM then perpetuate the separate and quite unequal service to people with disabilities by arranging for separate vehicles (and probably not AVs) for that second class of passenger?⁶

Although taxi companies are not required by federal law or regulation to purchase or operate a particular number or percentage of accessible vehicles (*Id.* at 33 33 Ga. St. U. L. Rev. 517, 523, n. 42), GM will be in a very different position because it will not only be operating the equivalent of a taxi service, but it will also be the manufacturer of the vehicles to be operated, and therefore also the designer of the vehicle and HMIs. Indeed, the US Supreme Court has held in an analogous situation that a cruise ship company offers “public accommodations and transportation” within the meaning of the ADA.

Cruise ships flying foreign flags of convenience offer *public accommodations and transportation* services to over 7 million United States residents annually, departing from and returning to ports located in the United States. Large numbers of disabled individuals, many of whom have mobility impairments that make other kinds of vacation travel difficult, take advantage of these cruises or would like to do so. *To hold there is no Title III protection for disabled persons who seek to use the amenities of foreign cruise ships would be a harsh and unexpected interpretation of a statute designed to provide broad protection for the disabled.* §12101.

Spector et al. v. Norwegian Cruise Line Ltd., 545 U.S. 119, 132 (2005) (Emphasis added.)

The ADA itself conceives generally of the current situation. It provides that:

No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of specified public transportation services provided by a private entity that is primarily engaged in the business of transporting people and whose operations affect commerce.

42 U.S.C. §12184(a).

⁶ In New York City, for example, a study found that 0.5 percent - half of one percent - of all for-hire vehicles are accessible. The study noted, according to an article in [Intelligent Transport](#), that “Via, Juno and Gett do not offer any wheelchair-accessible vehicle (WAV) services in New York, leaving only Uber and Lyft with the necessary vehicles for transporting PRMs [persons with reduced mobility]. However, an investigation found that 70 per cent of the time, there were no available WAVs from either ride-hailing company.” The seven-page report, entitled, [Left Behind: New York's For-Hire Vehicle Industry Continues to Exclude People With Disabilities](#) was prepared by [New York Lawyers for the Public Interest](#). The study showed, however, that Uber’s WAV service significantly outperformed Lyft’s accessible service.

A lawsuit filed in Alameda County, Calif., alleged that Uber and Lyft both deny rides to people who use wheelchairs and to people with other mobility disabilities. “Similar suits have been filed in New York, Texas and Illinois.” Showing the critical need for transportation for people with disabilities, the lawsuit is seeking only equal transportation service and not monetary damages. In a nutshell, as one person who uses a wheelchair said, “It is devastating and disheartening that in this day and age, Lyft has completely excluded people like me.” Kerr, D., [Lyft fails to provide wheelchair access, lawsuit says](#), cnet.com (Mar. 15, 2019).

A class action lawsuit, filed in federal court in Westchester County in New York alleges that Lyft denies rides to people who use non-foldable wheelchairs. Though Lyft advertises itself and has described itself in filings submitted to the Securities and Exchange Commission as being in the business of providing transportation, the company has claimed in response to the lawsuit complaint that it is not in the transportation business. Sadwque, S., [Lyft says it's ‘not in the transportation business to avoid complying with disability law](#), The Daily Dot (May 4, 2019)

It would be quite ironic and a grave injustice were the largest OEM in the US not to be deemed as “primarily engaged in the business of transporting people” if it entered into the ridehailing business.

The ADA speaks of the “purchase or lease” of a “new vehicle.” 42 U.S.C. §12184(b) (3) and (5). One commentator argues that the traditional taxi companies have spent decades exploiting this language as loophole to avoid the clear purpose of the ADA.

In light of this broad mandate to promote accessibility, one may wonder why—more than twenty-six years after the ADA’s passage—“only a very small percentage of taxis nationwide are accessible.” The answer lies in an obscure provision, buried deep in the ADA, which exempts virtually all taxicabs from vehicular-accessibility requirements, except for taxis that are “new van[s] with a seating capacity of less than 8 passengers, including the driver.”

This somewhat convoluted carve-out—phrased as a double negative exemption—traces its origins to the ADA’s early congressional negotiations. In theory, the provision was intended as a stopgap measure, allowing pre-ADA transportation services a grace period during which they could acquire new, fully-accessible vans in a piecemeal fashion without incurring debilitating liabilities for those already within their fleets. In practice, however, it has proven to be the opposite of a stopgap. In the quarter century since the ADA’s passage, this seemingly unassuming exemption has grown into a “gaping loophole” large enough for taxi companies to drive entire fleets through.

Faced with the costly requirement that any “new van” purchased for service in their fleets be fully accessible, cab companies in the post-ADA era zeroed in on a single adjective within the mandate’s wording that offered the legal equivalent of an escape hatch. The operative modifier—as far as taxi companies were concerned—became the word “new.” And the escape hatch? To evade Title III’s vehicular-accessibility requirements by purchasing used vehicles instead of new ones.

A Loophole Large Enough to Drive an Autonomous Vehicle Through: The ADA’s “New Van” Provision and the Future of Access to Transportation, Casey, B., 69 Stan. L. Rev. Online 73 (2016) (footnotes omitted).

It is time, with the creation of truly new vehicles envisioned in the GM Petition, now decades after transit agencies have fully transitioned to accessible vehicles, that GM provide its envisioned ridehailing (or sharing) business with accessible vehicles. It is time for NHTSA and the USDOT to make possible the full promise of the ADA.⁷

Recommendations for Equity and Rural Connectivity

CTAA understands that while it is not the role of NHTSA to pick winners and losers in terms of developing technology, the entire USDOT should be encouraging those who do and will provide AV transportation to ensure that it will be available to Americans wherever they live, whatever their income, and whatever their level of ability or disability.

⁷ As President George Bush pronounced in his signing statement to the ADA, “Today we’re here to rejoice in and celebrate another ‘[I]ndependence [D]ay,’ one that is long overdue. With today’s signing of the landmark Americans for Disabilities Act, every man, woman, and child with a disability can now pass through once-closed doors into a bright new era of equality, independence, and freedom.” [Remarks of President George Bush at the Signing of the ADA](#), July 26, 1990.

CTAA therefore recommends that the GM Petition be granted on the conditions that GM operate its proposed ridehailing service with the AV in a wide range of different types of communities that would include rural environments and low-income communities that are not well served in terms of transit or vehicle ownership.

Given the significantly higher rate of crashes on rural roads, AVs present the potential to save a disproportionate number of lives in these areas. The GM Petition should be granted on the condition that its AV ridehailing operation equally benefit rural and small-urban areas as well as their urban counterparts. Moreover, due to the unique topographies and road conditions in sparsely populated areas, data collected in such places will guarantee that technology tested in those environments will contribute greatly to the safe operation of AVs.

Recommendations for Data Reporting and Sharing Requirements

The request for comment also asks for guidance about the duration of the exemption,⁸ specifically, whether data reporting requirements should be extended beyond the period of the exemption, with the presumption being that the AV will be operated for many years after the exemption ends. GM is the first company to request such an exemption and technological advances among other companies is to be encouraged. NHTSA must therefore strike a balance between imposing requirements and fostering innovation.

To place all companies on an even playing field, NHTSA should impose the same conditions for all AV exemptions. In recognition that AVs are a new technology and it is unknown how AVs will perform over time, NHTSA should require that conditions for data reporting be imposed for the lifespan of the AV.

Recommendation for Quick Turnaround of Future Petitions

CTAA is hopeful that the GM Petition is the first of many that will usher in the age of AVs. There is no need to require each time that companies reinvent the wheel. It makes more sense to develop or adopt standard safety benchmarks, data reporting requirements, and any other requirements that will be imposed whenever an exemption proposes AV-related technology or business models that depart from the conventional OEM-to-dealer-to-consumer supply chain.

By creating performance and data reporting standards, NHTSA will be able to check off its boxes, as it were, and quickly review exemption petitions. CTAA would support exceptions to the requirement for a

⁸ The request states:

[I]f NHTSA were to grant an exemption, in whole or in part, it could establish, for example, reporting terms to ensure a continuing flow of information to the agency throughout the normal service life of the exempted vehicles, not just during the two-year period of exemption. Given the uniqueness of GM's vehicles, its petition, and public safety concerns, and especially given GM's expectations that the capabilities of the ZEAVs would evolve over their lifetime, extended reporting may be appropriate. Since only a portion of the total mileage that the vehicles, if exempted, could be expected to travel during their normal service life would have been driven by the end of the exemption period, the data would need to be reported over a longer period of time to enable the agency to make sufficiently reliable judgments. Such judgments might include those made in a retrospective review of the agency's determination about the anticipated safety effects of the exemption.

comment period and individualized assessment of each petition where NHTSA impose a performance analysis or testing prior to an exemption allowing for operation of AVs on public roads.⁹

As NHTSA considers the GM Petition, there are already AVs operating on public roads. By virtue of low speeds or retrofitting of vehicles, the companies involved have not subjected their AVs to the NHTSA exemption process.¹⁰ We should be careful not to penalize companies that request exemptions. CTAA encourages innovation and we are in favor of an exemption process that is seamless for similar technologies and for the companies that work to improve safety and mobility.

Recommendations for Public Engagement

The request for comment goes beyond NHTSA's core expertise of safety engineering assessment when it asks for suggestions related to public engagement.¹¹ CTAA has expertise in public engagement related to all types of community transportation and especially relating to small urban and rural areas, and transportation-challenged populations of older adults and people with disabilities. Among [CTAA's work with federal agencies](#), our organization is the lead partner in [Transit Planning 4 All](#), an inclusive transportation planning [grant program](#) from the [Administration for Community Living](#) at the US Department for Health and Human Services.

CTAA rejects the idea that public engagement be limited to public meetings. Too many people are unable to attend meetings and engagement opportunities should not be limited to those individuals with the time and the means to show up.

A commentator at [Strong Towns](#) observed that a "[study](#)" from Boston University confirms that formal public hearings held by local governments have exactly this shortcoming. The problem: the "public" that

⁹ NHTSA has previously integrated knowledge gained from its exemption authority to issue rules relating to a whole class of vehicles. In *Exemption From the Make Inoperative Prohibition*, 66 Fed. Reg. 12638 (Feb. 27, 2001) (rule codified at 49 CFR §595.7), NHTSA replaced a case-by-case exemption approach for the purpose of adopting one exemption rule for accommodating the needs of people with disabilities to retrofit vehicles. NHTSA acknowledged that retrofitting for people with disabilities, given the increasing numbers of older adults, was a "growing phenomenon" and it further sought in its new rule to balance safety with the intent of the ADA to allow greater access for people with disabilities to "pursue employment, travel, and recreational opportunities." *Id.* at 12639.

¹⁰ We should not penalize those companies that petition for an exemption while other companies are permitted to purchase and then retrofit existing vehicle models to be AVs without undergoing any federally-mandated performance testing or being subject to any conditions. CTAA would support NHTSA using its authority pursuant to require that companies obtain an exemption before being allowed to operate a new or retrofitted vehicle to be an AV. Currently, many companies are testing or piloting AVs on public roads in the US that have been purchased or otherwise supplied by OEMs. See [NHTSA Interpretation No. 001646dm](#) (in the context of retrofitting school buses, NHTSA explained that there is a "limit in Federal law on the modifications that certain commercial businesses may make to vehicles for compensation"). In a different instance, Tesla is manufacturing partially automated vehicles, updating their software, and collecting vehicle and user data – all without an exemption permitting it to sell experimental technology that arguably presents a danger to the public. Tesla has recently been sued in the aftermath of crashes involving alleged serious malfunctions. See Petterson, E., and Hull, D., [Tesla Sued Over Fatal Crash Blamed on Autopilot Malfunction](#), Bloomberg (May 1, 2019).

¹¹ The request for comment states:

For vehicles that would be deployed only within very limited operating areas, go beyond seeking public comment by hosting public meetings or otherwise providing for targeted and transparent public engagement in the intended geographical operating area to allow for full and transparent public discussion of novel safety issues and concerns, emergency response considerations, or other issues of interest to state and local stakeholders regarding the exemption requested and relevant to NHTSA's review of the petition

shows up doesn't look that much like the whole public, in terms of either their demographics or their attitudes." Instead, the study finds that who shows up are homeowners - not renters, but rather people with relatively higher incomes, men, and longer-term residents. These are people who have strong opinions and the time to organize, which is fine, except that most other people do not participate. And the strong opinions expressed at meetings, according to the study's large database, are not representative of the public.

We make a mistake if we assume that only those who attend a meeting have an interest in the next transportation revolution. Other people are busy and, even if interested, they are unable or unwilling to commit an evening or lose hours at work to attend a meeting. For the study authors, in the words of the Strong Towns post, "The public in the room probably doesn't look quite like the public outside the room- so be aware of whose interests aren't represented in the meeting minutes. In a truly effective public engagement process, testimony at formal hearings needs to be only one source of information among many."

NHTSA must recognize that public engagement must embrace a no-wrong-door approach that allows for meaningful discussion and input. This should include a presence at community events and at trusted community institutions (such as schools, libraries, houses of worship, and community centers). Public engagement should include Twitter, Facebook, texting, emails, listserves, and face-to-face engaging where people actually gather or where interested people are every day. Any public engagement strategies or requirement must also include people who participate remotely, whether through a hard copy letter, a phone call, or a post on a social media platform.

Safety Recommendations: NHTSA Should Exercise its Statutory Authority to Grant an Exemption with Conditions Related to Safety and Data

CTAA recommends that the GM exemption be granted with these conditions relating to safety:

- (1) Prior to operation on public roads, any AV granted an exemption be tested for general safety within the proposed operational design domain (ODD) and in any specific geo-fenced area where the AV will be operated;
- (2) GM documents or otherwise demonstrates that the exempted AV is capable with the ODD and any specific geo-fenced area of safely reaching a minimal risk condition;
- (3) Any AV granted an exemption be fitted with speed-limiting and emergency braking technology;¹²
- (4) Cybersecurity information about the exempted AV would be either made public or shared with a professional community or governmental body that is working to establish such standards;
- (5) GM collect and share with a professional community or governmental body data related to safe operation and any crashes or near crashes; and
- (6) GM equip the exempted AV with a data recorder that produces a video record of operation, and that GM retain any record of a crash, which would specifically include data recordings of operations between 10 seconds prior to a crash through five seconds following.

¹² The European Union will be requiring the installation of "speed-limiting and emergency braking technology in all new car models starting in 2022, along with dozens of other technical features to improve road safety." P. Karasz, [If You Won't Stop Speeding, Your Car Will Do It for You, E.U. Tells Drivers](#), N.Y Times (Mar. 27, 2019).

Federal Motor Vehicle Safety Standards

CTAA further recommends that the GM Petition be granted with the following conditions related to Federal Motor Vehicles Safety Standards (FMVSS) so that AVs retain the following safety equipment that is currently required. These FMVSS affect passenger perception of safety and actual safety in emergency situations. All of the regulations discussed below are located in Title 49 of the Code of Federal Regulations.

Brakes

The FMVSS include several regulations related to brakes (i.e., [§ 571.121 Standard No. 121; Air brake systems](#); [§ 571.105 Standard No. 105; Hydraulic and electric brake systems](#); [§ 571.106 Standard No. 106; Brake hoses](#); [§ 571.116 Standard No. 116; Motor vehicle brake fluids](#)). If the GM Petition is granted, conditions should attach that set performance standards for AVs that require emergency braking “buttons” or other technology that passengers would be able to activate in case of emergency. Every elevator and transit railcar is equipped with emergency brakes and AVs should also include this type of equipment in case of AV system failure or emergency circumstances exterior to a vehicle.

Windshield and Windows

The GM Petition should be granted with a condition that the AV be designed so that passengers have the opportunity to see outside of the AV, whether through a windshield or a window. We therefore support the imposing the condition that the GM’s AV adhere to these FMVSS: [§ 571.103 Standard No. 103; Windshield defrosting and defogging systems](#); [§ 571.104 Standard No. 104; Windshield wiping and washing systems](#); [§ 571.212 Standard No. 212; Windshield mounting](#); and [§ 571.219 Standard No. 219; Windshield zone intrusion](#).

Displays

CTAA recommends that the GM Petition be granted on the condition that GM comply with FMVSS in [§ 571.101 Standard No. 101; \(Controls and displays\)](#) regarding displays, but that the specifications should be reconsidered for AVs because a display and other interface devices will no longer be geared for a human driver, but instead be designed for passengers. It might be necessary, for example, for an interface with emergency instructions to be available when a vehicle system malfunctions.

Any AV-related exemption should take into consideration that some passengers have disabilities (perhaps visual, auditory, and/or cognitive), or that passengers may be quite young or be frail older adults. It is completely foreseeable that the sole passenger or group of passengers in an AV could be persons with a disability. Furthermore, any human machine interface (HMI), must, according to federal law, be universally accessible and therefore equipped with redundant HMIs for those individuals with cognitive, visual and auditory disabilities.

CTAA also recommends that the GM Petition be granted with a condition that the AV come equipped with some type of signaling technology to alert pedestrians, bikers, and similar roadway users whether the AV is slowing down and whether a person has been detected in the roadway. This required equipment would replace the eye contact that drivers currently engage in to communicate with pedestrians and bikers.

In conclusion to the safety portion of the CTAA comment, lack of vehicle safety was the motivating factor in the creation of NHTSA. As the first administrator of NHTSA, Dr. [William Haddon, Jr., MD, stated](#), “It is time for society to decide to promote and demand nothing less than vehicle packages and roadside environments that protect people.” AVs offer our nation an opportunity to vastly improve the safety record of vehicular surface transportation. Safety conditions for granting the GM Petition will be an appropriate and effective strategy for ensuring that AVs will provide safe transportation from their inception.

Conclusion

AV exemptions will allow for testing of vehicle and technology design on real roads as AVs interact with other road users and with the road network. AV exemptions will also introduce the public to a new form of transportation. We urge NHTSA to carefully consider the aspects of AV transportation discussed above, while also encouraging technological innovation.

CTAA is very excited to be part of the transformation that is just beginning and we pledge to contribute our efforts to ensuring a safer, more accessible, more equitable, and more connected US transportation system. We recommend that the GM Petition be granted according to the conditions recommended above.