Agency: Federal Motor Carrier Safety Administration (FMCSA), DOT

Docket No.: FMCSA-2018-0037

Submitted by: Community Transportation Association of America (CTAA)

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Comments of the Community Transportation Association of America

Introduction

The Community Transportation Association of America (CTAA) staff, board and state/tribal delegates and members are dedicated to ensuring that all Americans, regardless of age, ability, geography or income, have access to safe, affordable and reliable transportation. CTAA members all across the United States are in the business of moving people - efficiently and cost-effectively.

CTAA supports the development of autonomous vehicle technology and programs that will offer accessibility, safety, convenience, and affordability wherever people live and whatever their financial positions, or any physical, sensory or mental disabilities.

We welcome the Federal Motor Carrier Safety Administration's (FMCSA) request for comments to identify and address the challenges of the transition from a regulatory scheme that presumes the presence of a human driver who is operating a commercial motor vehicle (CMV) to a transportation system that integrates CMVs equipped with highly automated driving systems (ADS).

Pursuant to our members' interests in federal motor carrier regulation and in fair, equitable, and safe AV transportation, CTAA is submitting the following comments.

CTAA's comments will explain (1) our focus on and interest in AV transportation; (2) our members' interest in FMCSA regulation and CTAA's concerns about the safety of vehicles equipped to perform at levels 2 and 3 of the SAE International's standard J3016; (3) our statement about civil rights and passenger safety issues raised when reconsidering FMCSA safety equipment regulations for AVs; and (4) a request that the FMCSA consider the need for driver retraining.

Though this is not the direct topic in FMCSA's request for comments, CTAA will briefly address in closing the issue of the driver retraining that will be needed as the US transportation system transitions to a network of mostly AVs.

CTAA's Members' Interests in and Our Focus on Autonomous Transportation Development

FMCSA regulates most interstate van and bus travel. Any transit provider that uses buses or vans – designed for or seating more than eight passengers that cross state lines – wants to understand and comply with Federal Motor Carrier Safety Administration (FMSCA) regulations. Many CTAA members provide interstate public transportation and community transportation services that fall within FMCSA's jurisdiction.

CTAA Focus on AV Developments

CTAA has become a leader in providing resources and analysis of 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 AV development. Our work increasingly integrates emerging business models, public-private partnerships, and shared-use experimentation and advances.

Concerns with Levels 2-3 of the SAE International's standard J3016

Many of the passengers whom CTAA members transport are physically vulnerable due to advanced age, health conditions, and/or disability. Some are challenged as well with cognitive disabilities that render them less able than most people to handle the effects of transportation crashes and other emergencies. Our members and their drivers are protective of these vulnerable passengers. While highly autonomous vehicle (HAV) technology promises to improve transportation for these vulnerable populations, we must consider the details of partially automated technology and recent crashes, now the topic of NTSB investigations, which call into question the safety of the combination of SAE Levels 2 and 3 technology with human driving capability.

Currently, bus transit operations, some of which are subject to FMCA's regulations, are the safest mode of transportation in the United States. In fact, bus transit systems overall, and rural transit in particular, are the safest modes of surface transportation in the United States and have, next to air travel, the best safety record of all transportation modes.

The recent Institute for Transportation Engineers (ITE) Statement on Connected and Automated Vehicles expresses grave concern about SAE levels 2-3 automation:

> At this time, SAE Level 2 systems requiring driver monitoring have not been proven safe for use on the open road, in all intended environments. Additional

> research and testing is needed concerning the driver's ability to remain vigilant and take over the driving task when required.
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> … Currently, there is insufficient evidence that SAE Level 3 systems with partial automation can be safely implemented.[1]

CTAA's concern about SAE levels 2-3 in particular is that human drivers may not be able to immediately assume operation of vehicles when their attention and operation are not needed most of the time. Study after study, as well as the recent Uber and Tesla crashes, reveal that humans need at least two seconds to become aware, to analyze roadway conditions and surroundings, and to assume operation of a motor vehicle when prompted. A CMV of any kind is a large and dangerous machine in the two or more seconds that it will take for even the best, most experienced of drivers to assume control of the CMV from an automated system in dire situations.

We agree with ITE and others who question the safety of vehicles outfitted with SAE levels 2-3 technology.

At the very least, it is incumbent on regulators to require more frequent monitoring of driver skills because drivers who seldom operate commercial motor vehicles (CMVs) will become less experienced at driving when automation operates CMVs on highways for the vast amount of time spent traveling on such roadways.

ITE is not the only skeptic of this technology. Such renowned experts as Prof. Mary Cummings of Duke University,[2] and the Venturer Consortium[3] in the United Kingdom also raise serious questions about whether this type of technology/human interface and division of responsibility undeniably presents a set of situations in which CMVs (indeed the operation of any vehicle) equipped with SAE levels 2-3 technology will increase the danger and severity of crashes.

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[1] The ITE statement endorses the concept of SAE level 4 systems because they "fully automate the driving task under most conditions, but do not preclude the vehicle being operated by a human driver in unusual or emergency situations."

[2] For a summary of Prof. Cummings' opinion, see *The most dangerous stage in self-driving innovation* at https://www.marketplace.org/2018/05/02/tech/most-dangerous-stage-self-driving-innovation.

[3] For a summary of the Venturer Consortium report, see https://www.driving.co.uk/news/new-driving-test-needed-autonomous-cars-say-experts/. The latest full report from the Venturer Consortium is located at

Statement About Civil Rights And Passenger Safety Issues Raised When Reconsidering FMCSA Safety Equipment Regulations for AVs

Civil Rights Implications of AV Regulation, Transportation Service, and Vehicle Design

CTAA urges the FMCSA at this juncture, when AVs are still developing, to embrace a fully accessible transportation system for people with disabilities. We refer specifically to passenger vehicles that fall within FMCSA's jurisdiction. This includes not only physical assess to all buses, however broadly defined, but also access to interfaces used to determine vehicle location, schedules, requests for service, stops, and emergency interactions. At this juncture, while technology is evolving, is the time to make sure that accessibility is fully embedded.

As the FMCSA is well aware, our Civil Rights laws, and USDOT regulations promulgated to implement those laws, mandate the FMSCA and other agencies to carry out their responsibilities, in funding and supporting transportation projects to provide for the full inclusion of all Americans, including people with disabilities. It is incumbent on the FMCSA to adhere to the letter and spirit of the law and USDOT regulations so that AVs improve the lives of people with disabilities instead of leaving these individuals further behind.

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, "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 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. Please be mindful that all disabilities are not alike and that FMCSA should support appropriate regulation relating to interfaces for people with visual, auditory, cognitive, and physical disabilities.

Designing for people with disabilities means better design for everyone. All of the AV shuttle pilots show this with their wheelchair ramps, but, in terms of vehicles designed

for eight or more people, a prime example is the new Olli autonomous shuttle, which was designed with and for people with disabilities as much as for the general public. Not only were people with disabilities invited in, listened to, and asked questions, but even more important is that the Olli team designed to accommodate a range of different types of disabilities. Local Motors, the company that manufactures the Olli, saw its own best interests in taking the time to find out what people need and want and feels comfortable and actively engaging with people with disabilities, who, for the most part, continue to suffer from terrible transportation challenges even with our best transit systems. Another example is the recent concept design from Renault, which incorporates accessible physical design into an attractive shared-use commercial vehicle.

Research that promotes this type of private and public AV design is an endeavor that CTAA strongly supports.

Passenger Safety Issues Raised When Reconsidering FMCSA Safety Equipment Regulations for AVs

We all hope that HAV technology (SAE Levels 4-5) will improve the safety and travel experience of the many passengers who ride on vehicles that the FMCSA regulates in interstate commerce. These include both many transit operations that cross state lines as well as the large intercity bus transportation industry. To analogize for a moment to air travel, which is extremely safe, every passenger aircraft is equipped with emergency equipment that will aid passengers in the event of an emergency. CTAA recommends that as with passenger aircraft, the following FMCSA regulations remain in place so that bus and van passengers will be protected and will be able to help themselves and each other during any emergency.

To be clear, these recommendations refer to CMVs equipped with HAV technology (SAE Levels 4-5).

Lighting: For passengers to see outside of the vehicle at night or in bad weather, which might be necessary in an emergency, CTAA recommends retaining §§ 393.09 and 393.11 and Table 1, which require and establish specifications for lamps and reflectors. Likewise, CTAA recommends retaining § 393.24, which requires that CMVs be equipped with headlamps.

Wind shield: CTAA recommends that the windshield requirement of § 393.60 be retained so that passengers can see out of the window to determine location and conditions in case of emergency.

Emergency exits: CTAA recommends retaining § 363.62. In addition, if there is no trained employee of the vehicle operating company on board, then it will be incumbent on the FMCSA to establish standards and requirements for emergency exits that are

accessible for people with disabilities without the need for a trained employee to operate.

Rear vision mirrors: For the reasons given with respect to § 393.60, CTAA recommends retaining § 393.80.

Horns: CTAA recommends retaining § 393.81 in case the emergency communication device that an autonomous CMV is equipped with fails.

In terms of inspections and monitoring of vehicles, it is possible that tasks could be continuously performed even while a vehicle is in operation. Until the FMCSA is confident of that continuous safety monitoring is possible and is being conducted by each particular company operating CMVs, the regulations regarding inspections and monitoring of vehicles should be retained.

CTAA opposes all CMV operation with partially AV technology (SAE levels 3), as stated above. However, in the interest of maximizing passenger safety if the FMCSA approves of CMV operation at SAE level 3, CTAA recommends that all equipment that is currently required for a human driver to safely operate a CMV will continue to be required. CTAA also recommends that the FMCSA retain current regulation of hours of service (Part 395) and other driver-related requirements and limitations (Parts 391 and 392).

Elimination of Unnecessary Regulation

The current juncture is an opportunity to eliminate unnecessary regulation for those public transportation providers that happen to operate across state lines. Inspections, monitoring, and other regulations that are designed to regulate the intercity bus industry have had the unexpected and negative effect of complicating the operations and service of those public transportation systems that provide service in more than one state and that do not qualify for the commercial zone and other exemptions from FMCSRs.

Though this matter concerns the broader regulatory framework of the FMCSA, CTAA is willing to provide in writing or to discuss in person those regulations that we recommend be removed or revised.

Retraining for Drivers

Though not directly within the FMCSA's request for comments, CTAA recommends that the FMCSA ensure that drivers receive employment retraining. As the FMCSA is already aware, there is a need to research and provide technical assistance for the retraining of CMV drivers. Some of these drivers will be able to fill other positions in freight, intercity, bus, and transit operations, but many other drivers will be compelled to find work

elsewhere, needing education and training to do so. The FMCSA has an obligation to research the employment possibilities within the transportation industry for current drivers, and the percentages of those who would or could become eligible for other industry work.

The FMCSA should research successful practices for retraining large numbers of workers and enabling those workers to find positions with equivalent income and benefit packages. That research should also include possibilities for innovative retraining practices and for determining what other supports drivers will need as they experience a substantial change in their careers.

Conclusion

CTAA respectfully requests that the FMCSA consider the interests of CTAA members and passengers in federal motor carrier regulation and in fair, equitable, and safe AV transportation.

We hope that the FMCSA will seriously CTAA's comments about highly autonomous commercial vehicles (SAE levels 4-5) and partially autonomous commercial vehicles (SAE levels 2-3) that address safety, accessibility and civil rights, and equipment necessary in an emergency.

CTAA also supports the FMCSA's full participation in attending to the transition in employment for all of the drivers who currently transport people and goods.