



A bold voice for transportation workers

July 17, 2017

Ms. Shannon Watson
Senior Policy Advisor,
Federal Motor Carrier Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590-0001

RE: Federal Motor Carrier Safety Regulations: Highly Automated Commercial Vehicles
Docket No. FMCSA-2017-0114

Dear Ms. Watson:

On behalf of the Transportation Trades Department, AFL-CIO (TTD), I am pleased to provide comments on the Federal Motor Carrier Safety Administration's (FMCSA) solicitation for comment regarding highly automated commercial vehicles (HACV). By way of background, TTD consists of 32 affiliate unions representing workers in all modes of transportation who will be impacted by the development and deployment of automated transportation.¹ We therefore have a vested interest in the rulemaking.

Through this notice, FMCSA in anticipation of the continued development of HACVs, seeks comment on the application of its safety regulations to autonomous technology. FMCSA states that it is doing so in order to ensure that its regulations continue to provide appropriate standards for the safe operation of HACVs through testing and deployment. The agency also identifies several sections of the Federal Motor Carrier Safety Regulations for which it particularly seeks feedback.

As TTD has stated in previous comments to several federal agencies, it is critical that the deployment of any kind of autonomous vehicle technology not be premature. To date, and despite untold billions in investment and research, AV technologies have clearly demonstrated a lack of readiness to be integrated into the nation's transportation systems. Collisions causing injury, damage, and even death; inability to detect large hazards including passenger buses; and failures to heed red lights have been par for the course. Last year in California alone, manufacturers reported 2,474 separate incidents in which human drivers had to take over the controls from autonomous technology because of technology error. Furthermore, the vast majority of these incidents have involved passenger vehicles which generally represent less of a risk to life when involved in an accident compared to a commercial vehicle such as a bus full of passengers, or a truck transporting radioactive hazardous materials.

¹ Attached is a complete list of TTD's 32 affiliate unions.

Transportation Trades Department, AFL-CIO

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Edward Wytkind, President / Larry I. Willis, Secretary-Treasurer



To this end, we support FMCSA in making sure that regulations are not outpaced by technology, and that new technologies are not permitted to flaunt the spirit of current requirements because they involve scenarios not considered when the agency's regulations were promulgated. Below we discuss some potential intersections between current regulations and HACV technology as identified by FMCSA in the notice, as well as additional issues throughout 49 CFR 300-399.

Flexibility

As FMCSA notes, its definition of HACV encompasses three tiers of SAE Levels of Driving Automation. These levels denote the level of autonomy of the vehicle, and in this case range from Level 3, in which the system can conduct some parts of the driving task and monitor the driving environment but a human driver must be ready to take back control, to Level 5, or full autonomy. These levels of autonomy likely require different levels of safety regulation, and come with unique concerns. FMCSA must determine how it plans to regulate non-uniform and evolving technology. If the agency proposes a method to regulate with flexibility to allow for these developments, it must ensure that this flexibility is not exploited by entities that may place unsafe vehicles on the road.

Operations of a Commercial Motor Vehicle

Technology which allows for some or complete control of a vehicle may fundamentally change the nature of operating a vehicle and how FMCSA regulates operations. As FMCSA identifies, Parts 383 (Commercial Driver's Licenses) and 391 (Qualifications of Drivers) may be subject to changes going forward. Currently, §383(a) requires that every person who operates a commercial motor vehicle (CMV) in interstate, foreign, or intrastate commerce must acquire a CDL through the successful passage of road tests (391, Subpart D) and a knowledge and skills test (383 Subpart E). These tests require applicants to show proficiency on many of the operating actions that automation seeks to manage. For example, §383.111 requires a driver to be able to back up in a straight line, and complete turns.

Regardless of which actions can or cannot be automated TTD believes strongly that CMV operations will continue to require a skilled and certified driver operating the vehicle. As TTD unions' members who operate and repair CMVs know, technology can and will fail. In scenarios in which automated technology fails – a reality on our public roads today – a human operator will need to intervene and immediately regain control of the vehicle. When such situations occur, the human operator must have the knowledge and proper certification to reassume control of the vehicle safely. The consequences of an unqualified human operator suddenly assuming full control of a CMV with malfunctioning automated technology could be catastrophic to those traveling in or near the vehicle. To avoid dangerous incidents, FMCSA must continue to ensure that human operators obtain a CDL and that drivers with a Commercial Learner's Permit (CLP) be accompanied at all times by a CDL holder as required in §383.71. Allowing drivers with only a CLP to operate a vehicle, even with high levels of autonomy, would be reckless and pose serious safety concerns.

Further, FMCSA must take a holistic view of operating a CMV when determining how to alter its regulations to accommodate HACVs. While some technical operations of a CMV may become automated, FMCSA's regulations make it clear that safe operation of a CMV goes far beyond a driver's ability to turn the wheel, apply brakes and change speed. As an example, FMCSA's recent Minimum Training Requirements for Entry-Level Commercial Motor Vehicle Operators rule (Part 380, Subpart E) sets training requirements for all new CDL applicants. The rule requires that CMV drivers seeking a passenger endorsement learn skills including obtaining emergency medical assistance, deploying external warning devices in the event of a crash, and preventing fires. Similarly, school bus drivers must develop the abilities to safely load and unload students at a bus stop, and manage student behavior and operators hauling hazardous materials must acquire specialized driving skills for safely transporting hazmat. These skillsets demonstrate the unique need for trained and certified vehicle operators, regardless of future technical advancements. FMCSA must take into consideration the whole of operating a CMV in any future rulemakings and regulate thusly.

Additionally, FMCSA must not allow the adoption of AV technology to be used as reason to harm workers and strip them of critical protections, including Hours-of-Service (HOS) requirements found in Part 395. These protections guard against the dangerous consequences of operating a CMV without proper rest and will continue to be relevant regardless of automation level. The connection between fatigue and increased risk is well documented. In fact, NTSB has previously identified driver fatigue as cause of more than one-third of intercity bus crash fatalities.

Given that the first four SAE automation levels all require some degree of operation and focus by the driver, and all five levels are subject to needing an alert driver in the event of technological failure, FMCSA must ensure that drivers are not unduly subjected to long shifts and crippling fatigue simply because some of the driver's duties may be automated. Furthermore, when a driver is required to perform one of the non-driving duties described above, or monitor the HACV systems, drivers must be alert to properly conduct their responsibilities. The installation of a technology which may take over some driving functions does not eliminate the need for drivers to be well rested, or the necessity for dignified working conditions.

In addition to not weakening current HOS regulations, we also urge FMCSA review with prejudice any petitions for exemptions filed by motor carriers seeking to increase the amount of hours its employees can be on duty for given the presence of AV technologies.

§350.101 Motor Carrier Safety Assistance Program

The Motor Carrier Safety Assistance Program (MCSAP) provides financial assistance to States to reduce the number and severity of accidents and hazardous materials incidents involving commercial motor vehicles. It is possible that States may apply for MCSAP funds for the purpose of making investments or conducting research into HACV technology. However, the FAST Act established a separate program, the Advanced Transportation and Congestion Management Technologies Deployment Program, which funds the testing and implementation of AV

technology. Given that there are many immediate needs concerning CMV safety, we recommend that FMCSA not spend limited MCSAP funds on initiatives involving AV or HACV technology. FMCSA should not pay for potential and unproven safety improvements tomorrow at the cost of more immediate safety improvements today.

§376 Lease and Interchange

Under this part, carriers may lease and interchange vehicles from other carriers in order to perform authorized transportation in equipment it does not own. FMCSA must determine how it will regulate the lease and interchange of HACVs, particularly during any period of time in which both HACV and traditional CMVs share the roads. Depending on how the agency proceeds with training requirements for operators, it may not be appropriate or safe for a carrier who uses HACVs to lease a traditional CMV or vice versa, and FMCSA should prevent carriers from leasing vehicles their drivers cannot safely operate.

§381 Subpart E Administrative Procedures for Pilot Programs

§381.505(a) requires that before granting exemptions for a pilot program, FMCSA will ensure that the safety measures in a pilot program are designed to achieve a level of safety that is equivalent to, or greater than, the level of safety that would be achieved by complying with the regulations. It is TTD's understanding that FMCSA is currently in the process of designing one or more pilot projects concerning HACV technology. The agency must therefore ensure that any proposed FMCSA-led pilot which cannot be shown to unequivocally improve or maintain current levels of safety is rejected under this subpart. The agency must not be responsible for promoting unsafe operations on the nation's highways, and reducing the system's overall safety.

§396 Parts and Inspection

Currently, FMCSA's Parts and Inspection regulations give significant responsibility to the driver with regard to safe operation and accident prevention. §396.7 requires that a motor vehicle shall not be operated in such a condition that may likely cause an accident. In order to support that mandate, FMCSA further requires drivers to inspect a vehicle before driving to ensure that it is in safe operating condition (§396.13) and complete a driver inspection report after operating the vehicle, listing any defect or deficiency discovered which would affect the safety of operation of the vehicle (§396.11). However, a technical malfunction or glitch affecting the computerized automated technology may not be observable to a driver in the same way as worn brakes or a broken windshield wiper. Much as an individual can continue to operate a personal computer without being aware of the presence of a virus, a driver may not be aware of failures of the autonomous system until it caused an accident. Therefore, FMCSA must ensure that drivers are not held responsible for failing to observe and report issues with automated technology that are likely impossible to note from the driver's vantage point.

Additionally, §396.17 requires annual periodic inspections of CMVs. We encourage FMCSA to consider if the frequency of that requirement remains appropriate. Particularly during any future rollout of HACV, or the rollout of HACVs with increasing SAE levels, it may be incumbent on the agency to increase its periodic inspections for these vehicles until it can be confirmed beyond a doubt that they offer equal or greater safety compared to traditional CMVs.

In connection to the above, FMCSA must determine how its regulations will address the issue of cyber security. By computerizing operating functions, and connecting vehicles to one another wirelessly through practices like platooning, HACVs will be exposed to malicious and dangerous cyber-attacks in a way that current CMVs are not. Further, unlike risks associated with underinflated tires, risks from cyber-attacks will continuously develop and evolve over time, presenting new challenges and dangers. Future regulations must be aware of this issue, and take steps to mitigate these risks.

§397 Transportation of Hazardous Materials

FMCSA regulations on the transportation of hazmat are deeply important for ensuring the safe transit of toxic, flammable, and radioactive materials. Given the sensitive nature of hazmat loads, FMCSA enforces additional security requirements on these transportation operations that must not be undercut because a vehicle has some autonomous capabilities. For example, §397.5 requires that hazmat must be attended at all times by its driver or a qualified representative of the motor carrier. There is no level of automation that should supersede this requirement. Similarly, §397.15 contains requirements regarding the fueling process for hazmat vehicles, a delicate process that should be left in the hands of capable human operators. Both of these requirements are common sense safeguards which help prevent potentially catastrophic incidents involving hazmat, and must not be altered. To this point, FMCSA should deny any application from a motor carrier seeking a hazardous material certification under §385 Subpart E, which seeks to operate without a person in the vehicle.

Additionally, §397.101 sets forth several requirements for real-time routing decisions made by hazmat drivers transporting certain hazardous material, that includes a multitude of factors like population density, terrain conditions, traffic patterns, and situations in which a law enforcement official requires the driver to take an alternative route. Given the complexity of these decisions, FMCSA should exercise extreme caution in determining if it will ever be appropriate to turn over these choices to automation.

Training and Jobs

Depending on how FMCSA and other DOT agencies approach autonomous technology regulations, the decisions they make may threaten millions of jobs in the transportation industry. In considering its regulations going forward, FMCSA must not ignore their impact on working Americans and must take into account job displacement concerns as it develops rules and regulations. The agency must further stand against companies wishing to eliminate good-paying jobs at the expense of safety through the rollout of HACVs.

FMCSA also has the opportunity to promote job training and growth in these emerging fields. As discussed above, HACV technology will need to be inspected, repaired and adapted just as their traditional CMV counterparts. FMCSA should take an active role in promoting and developing this workforce, particularly for current workers wishing to expand their skills to cover new technology.

For both of the above circumstances as well as the other items discussed here, we urge FMCSA to include the voice of transportation labor as this technology is developed, regulated, and potentially deployed. Our unions offer FMCSA a powerful resource for understanding the realities of CMV operation as well as the consequences of lowering safety standards and job displacement. Further, transportation unions have for decades stood at the forefront of developing and training new segments of the workforce, and will continue to so with rollout of these new technologies. We hope to continue to cooperate with FMCSA in this regard.

We appreciate the opportunity to comment on FMCSA's solicitation, and look forward to continue working with the Agency as it evaluates its regulations.

Sincerely,

A handwritten signature in black ink, appearing to read 'Edward Wytkind', with a large, stylized flourish at the end.

Edward Wytkind
President



Transportation Trades Department, AFL-CIO
A bold voice for transportation workers

TTD MEMBER UNIONS

Air Line Pilots Association (**ALPA**)
Amalgamated Transit Union (**ATU**)
American Federation of Government Employees (**AFGE**)
American Federation of State, County and Municipal Employees (**AFSCME**)
American Federation of Teachers (**AFT**)
Association of Flight Attendants-CWA (**AFA-CWA**)
American Train Dispatchers Association (**ATDA**)
Brotherhood of Railroad Signalmen (**BRS**)
Communications Workers of America (**CWA**)
International Association of Fire Fighters (**IAFF**)
International Association of Machinists and Aerospace Workers (**IAM**)
International Brotherhood of Boilermakers, Iron Ship Builders,
Blacksmiths, Forgers and Helpers (**IBB**)
International Brotherhood of Electrical Workers (**IBEW**)
International Longshoremen's Association (**ILA**)
International Organization of Masters, Mates & Pilots, ILA (**MM&P**)
International Union of Operating Engineers (**IUOE**)
Laborers' International Union of North America (**LIUNA**)
Marine Engineers' Beneficial Association (**MEBA**)
National Air Traffic Controllers Association (**NATCA**)
National Association of Letter Carriers (**NALC**)
National Conference of Firemen and Oilers, SEIU (**NCFO, SEIU**)
National Federation of Public and Private Employees (**NFOPAPE**)
Office and Professional Employees International Union (**OPEIU**)
Professional Aviation Safety Specialists (**PASS**)
Sailors' Union of the Pacific (**SUP**)
Sheet Metal, Air, Rail and Transportation Workers (**SMART**)
SMART-Transportation Division
Transportation Communications Union/ IAM (**TCU**)
Transport Workers Union of America (**TWU**)
UNITE HERE!
United Mine Workers of America (**UMWA**)
United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service
Workers International Union (**USW**)

These 32 labor organizations are members of and represented by the TTD

