



A bold voice for transportation workers

December 3, 2018

Mr. Finch Fulton
U.S. Department of Transportation
Deputy Assistant Secretary for Transportation Policy
Office of the Secretary
1200 New Jersey Ave, SE
Washington, DC 20590

**RE: Preparing for the Future of Transportation: Automated Vehicles 3.0
Docket No. DOT-OST-2018-0149**

Dear Mr. Fulton,

On behalf of the Transportation Trades Department, AFL-CIO (TTD), I am pleased to provide comments on the U.S. Department of Transportation's (USDOT) *Preparing for the Future of Transportation: Automated Vehicles 3.0* (AV 3.0) policy. By way of background, TTD consists of 32 affiliate unions representing workers in all modes of transportation, including those who will be impacted by the development and deployment of automated driving systems. We therefore have a vested interest in the policy.¹

AV 3.0 expands upon the guidance laid forth in the National Highway Traffic Safety Administration's (NHTSA) *Automated Driving Systems 2.0: A Vision for Safety*, which purports to guide industry, states, and other key stakeholders as they consider the testing and deployment of automated vehicle technologies (referred to as Automated Driving Systems (ADS) by AV 3.0). To that effect, AV 3.0 seeks to address concerns about workforce disruption, and for the first time, expands the scope of the policy to include commercial vehicles and public transportation.

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



As a general matter, we are concerned that AV 3.0 continues a hands-off approach to desperately needed regulation as ADS are developed and deployed for use in commercial transportation. Frontline workers, passengers, and communities will be placed in harm's way unless we are prepared to adopt a common sense regulatory framework that will address safety concerns, worker displacement issues, and other long-term impacts of automation. What's more, AV 3.0 risks diverting limited resources to the early deployment of ADS at a time when America's capital infrastructure investment and operational needs are already overwhelming our ability to provide safe, effective, and reliable transportation services.

We understand that technological advancements in the transportation sector can offer enhanced services and create new mobility options for passengers and freight. These enhanced services can also create jobs, new businesses, and spur economic development in ways that we cannot fully predict. But how we manage the transition and adoption into ADS matters. Relatively high union density in the transportation space and opportunities to manage change through the collective bargaining process can assist this sector and should be encouraged. History tells us that strong unions and worker engagement are essential to mitigate harms inherent in rapid changes to industries. At the same time, federal regulations that establish a high bar for safety, worker dislocation policies, and assurances that transportation services will meet a basic public service standard must be in place. Fully addressing TTD's concerns offered below about AV 3.0 will help meet this crucial objective.

Public Safety and the Role of NHTSA

While AVs may one day be proven safe to operate on America's streets, numerous incidents have shown that AV 3.0's hands-off approach to safety is a step in the wrong direction. To highlight just a few examples:

- In 2015, one of Google's self-driving Lexus SUVs was in the first accident involving an AV to result in human injury on American soil.
- In 2016, a semi-automated Tesla Model S crashed into an 18-wheel truck and trailer, killing its driver.
- In 2016, a Google self-driving Lexus SUV crashed into a bus on Silicon Valley's El Camino Real.
- In 2018, a self-driving car killed 49-year-old Arizona resident Elaine Herzberg, who was crossing the road at night. In response to this incident, Uber suspended driverless car testing in Pittsburgh, Tempe, Toronto, and San Francisco.
- In 2018, a semi-automated Tesla Model X that was operating on autopilot crashed in Mountain View, killing its driver.

It is no wonder then that the American public remains deeply divided over semi-autonomous and highly-autonomous vehicles. A 2018 poll shows that the number of Americans who feel positively towards AVs has fallen to 43 percent from 53 percent the previous year. This growing distrust in the road-readiness of AV technology is primarily attributed to safety concerns (71 percent in 2018, compared to 65 percent in 2017).²

Despite the above incidents – which are a mere snapshot and do not represent the totality of all crashes involving AVs – and in the face of growing public skepticism, AV 3.0 will carry forward the misguided National Highway Traffic Safety Administration (NHTSA) policy of voluntary safety self-certification.

TTD firmly believes that the existing regulatory regime is inadequate for these vehicles. When Congress passed the National Traffic and Motor Vehicles Safety Act of 1966, the law vested NHTSA with responsibility for protecting the public against accidents created by the improper design, construction, or performance of motor vehicles. For automated vehicles, NHTSA’s voluntary, unenforceable guidelines do not uphold the agency’s founding mission of ensuring safety and protecting the public. By allowing manufacturers to deviate from or otherwise ignore the guidelines, this approach may create a dangerous patchwork regime of noncompliance.

Notably, manufacturers must not be permitted to introduce autonomous buses to public roads using only their own private data as evidence of their safety. These vehicles must be subject to greater and more proactive NHTSA oversight, particularly in the event that the manufacturer is requesting exemptions from existing Federal Motor Vehicle Safety Standards. The most effective regulatory approach is through the adoption of a functional safety standard. This standard would dictate the process by which a vehicle is designed, manufactured, and deployed to ensure the product will function safely as a whole. The FAA currently uses a similar model. Additionally, NHTSA should require the submission of Safety Assessment Letters (SAL) by the manufacturer. Under a functional safety standard, the SAL would require the manufacturer to certify to the agency that the AV will operate properly and safely under the conditions it is designed for. The SAL should include test results and data to prove the AV system functions as designed, including any negative test results and data that may indicate the AV system did not always function as designed along with information and data indicating how these issues were resolved.

Finally, much like NHTSA requires crash test standards, it should also develop and require a comprehensive safety testing procedure for autonomous vehicles. This standard should evaluate the vehicle’s ability to assess its surroundings, including weather, pedestrians and other obstacles, and respond appropriately.

Commercial Vehicles and the Role of FMCSA

AV 3.0 represents a significant shift in USDOT policy regarding the integration of ADS-equipped commercial motor vehicles (CMVs) onto American roads, despite the specific and intentional omission of large commercial vehicles from AV legislation in both the United States House of

² *Self-Driving Cars Hit a Speedbump, Interest in Autonomous Vehicle Technology Slows Down*. Allianz Partners, 19 Sept. 2018, news.cision.com/allianz-global-assistance-usa/r/self-driving-cars-hit-a-speedbump--interest-in-autonomous-vehicle-technology-slows-down,c2621868.

Representatives (H.R. 3388, the SELF DRIVE Act) and the Senate (S. 1885, the AV START Act).³ Specifically, the policy states that, “The best way to accomplish [the Federal Motor Carrier Safety Administration’s (FMCSA)] core mission of reducing fatalities and crashes involving large trucks and buses is to avoid unnecessary barriers to the development of ADS in commercial vehicles.”

First, TTD has serious concerns about driver distraction that may result from the operation of semi-automated vehicles and has previously recommended research and eventual regulation on maintaining situational awareness while operating a SAE Level 2/3 vehicle. A semi-autonomous system may require the human operator to regain control of the vehicle at any time. However, ensuring that the driver maintains the situational awareness required in order to reengage with the traditional driving operations poses a substantial challenge. Researchers at the University of Southampton recently demonstrated that, depending on the circumstances, reengagement with the vehicle may take a driver anywhere from two seconds, to as many as 30 seconds. To that point, it is possible that the deployment of semi-autonomous technology, without regulating its unique complications, could actually increase accidents and fatalities as drivers are left unprepared and ill-equipped. For large commercial vehicles like transit buses, this impact could be devastating.

Second, AV 3.0 states that, “The Department’s policy is that going forward, FMCSA regulations will no longer assume that the CMV driver is always a human, or that a human is necessarily present onboard a commercial vehicle during its operation.” While this policy may lead the reader towards the innocuous conclusion that FMCSA is simply seeking to ensure a clear definition of what is expected from both human and automated drivers, it then further suggests that FMCSA “[avoids] unnecessary barriers to the development of” automated technology in commercial vehicles. To that end, we have significant concerns that AV 3.0 is not seeking regulatory clarity but rather a streamlined integration of automated trucks and buses onto public roads while providing no framework for tests or standards before a computer-operated truck or bus is allowed on our streets.

Rather than advancing FMCSA’s stated core mission of reducing fatalities and crashes involving large trucks and buses, this new treatment of computerized drivers does little more than place the American public at risk by easing regulations on a still unproven technology.

Automation and the Role of FTA

AV 3.0 continues its hands-off approach in the treatment of automated buses by the Federal Transit Administration (FTA). Specifically, the policy suggests that “FTA is not proposing a one-size-fits all approach of providing a paper checklist for safety certification. Rather, FTA will provide transit agencies with tailored technical assistance as they develop an appropriate (Safety Management System) approach to ensuring safe testing and deployment of its automated transit bus system.”

³ At the time these comments were filed, H.R. 3388 passed in the House, and S. 1885 passed in the Commerce Committee and is awaiting further action in the Senate.

While serving as a resource to public transit agencies does not cause TTD specific concern, FTA should remain narrowly focused on ensuring that transit agencies can track and understand the limitations of AV technology as identified in the policy, including “technology limitations, hardware failures, and cybersecurity breaches, [and] subtler human factor issues, such as overreliance on technology and degradation of skills.”

Implementing new technologies in buses has already proven difficult and expensive for local transit agencies. To that end, in November 2018, the city of Albuquerque was forced to return a fleet of unproven electric buses that suffered from battery life issues, brake failures, and other equipment malfunctions. This failure came at a cost of \$135 million in federal funds and represents a major setback for the Albuquerque Rapid Transit project. This example serves to highlight a major financial and operational setback resulting from a relatively unproven technology. Certainly, we can expect even more egregious examples in the future from transit agencies that are rushed into embracing unproven ADS.

Put simply: AV 3.0 again overreaches by suggesting that FTA invest significant resources into ensuring the rapid deployment of ADS equipped buses. This comes at a time when cash-strapped transit agencies around the country have massive capital investment needs and have been forced to cut back services due to tight operating budgets. TTD strongly recommends that FTA focus first and foremost on its core mission of providing safe, reliable, and effective public transportation to the American people as instructed by Congress in Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94).

Intermodal Port Facility Operations

AV 3.0 announces a study on autonomous trucking at ports, which would look at trucking in and out of ports and specifically at automated truck queuing. In short, the report seeks to identify if a driver could remain off-duty while their truck proceeds through lines to load or unload without a driver. TTD is concerned that technology like this may be used to artificially put a driver out of duty during a time they would normally be paid, making it more difficult for drivers to earn a living wage.

More broadly, USDOT and the Maritime Administration (MARAD's) interest causes TTD serious concern that the federal government intends to promote automation of intra-port vehicle traffic, cargo handling, and other port operations on a greater scale. Ports currently have full authority to deploy new technologies and efficiencies per collective bargaining agreements with their workforce. However, the federal government should not be in the business of providing assistance for private employers to automate an already highly efficient workforce out of jobs.

Automation and the Workforce

AV 3.0 correctly identifies the disruption AVs are likely to cause in the American workforce, particularly for those who are mid-career employees in driving-based occupations.

To that effect, AV 3.0 makes two specific recommendations. First, it announces a study of the workforce impacts of automated vehicles in collaboration with the U.S. Department of Labor, U.S. Department of Commerce, and the U.S. Department of Health and Human Services. Second, it recommends that both local governments and public transit agencies begin preparing for workforce changes that will result from automation.

TTD agrees that a primary concern for the USDOT and all policymakers should be the potential for the substantial dislocation of workers from AV adoption. The Bureau of Labor Statistics currently reports that approximately 170,000 Americans drive buses and nearly 6 million total workers are employed in driving-dependent occupations. For operators, the technological change caused by automation threatens to drastically alter the provision of service and the nature of the workplace. The scope and speed of AV adoption will determine the precise level and depth of employment disruption and dislocation. While those variables will play out over time, we believe it is imperative that USDOT must prepare for them at the outset, rather than the end of this process. Waiting is not an option. Recent empirical economic research shows that market disruptions are increasingly difficult for blue-collar workers to navigate.⁴ Most notably, over the previous two decades, U.S. workers who were displaced from employment faced substantial and long-lasting troubles in the labor market, including elevated levels of unemployment, lowered labor force participation, and long-term wage losses. Not only does AV-based displacement create potential problems for workers but it also causes a net drag on the economy from underutilized human capital.

TTD firmly believes that the introduction of autonomous vehicles should be paired with proactive policies designed to minimize harm to those who are employed in fields that would be dramatically impacted. Mitigating the impacts will require active labor market programs and financial support. A failure to thoughtfully assist workers through this process at the front end will needlessly complicate the lives of affected workers and create unnecessary chaos with the introduction of new technologies.

Additionally, FTA and USDOT, in consultation with the frontline labor workforce and Congress, and utilizing the expertise at the U.S. Department of Labor and Employment and Training Administration, should offer robust training and re-training programs to best ameliorate these effects. FTA should focus on retraining employees for existing and new jobs in the transit sector that emerge with the deployment of AVs, including in maintenance and inspection.

It is also important that this training is both continuous and proactive. The rollout of autonomous technology will not happen overnight, and ongoing training efforts to ensure that transit workers have the requisite updated skills to maintain their employment is critical. FTA and the federal government should promote and deploy early response training programs which seek to train workers so they are prepared for an easier transition to other jobs before, not after, their current job is automated.

⁴ Steven J. Davis and Till Von Wachter, "Recessions and the Costs of Job Loss," *Brookings Papers on Economic Activity*, Economic Studies Program, The Brookings Institution, 43(2): 1-72, 2011

Most significantly, this is not the first, nor will it be the last, period in which technological change has changed the mode and means for providing transit service. Indeed, the history of transit is marked by the success with which it has addressed and responded to the changing role of workers as buses and rail transit evolved and improved over many decades. It has been the strong labor management framework embraced by Congress and the agencies that has enabled the industry and its workers to partner together to prepare for and adapt to the introduction of new technology.

The introduction and application of autonomous technology calls for no less. Indeed, the stability in the industry in the face of massive technological changes is due largely to this unique, productive relationship.

For all of these reasons, TTD believes that the announcement of a study, while welcomed, is simply far too little and does not represent a serious interest in addressing the labor disruptions that we know as a matter of fact will come as a result of automation.

Finally, the policy recommends that workforce mitigation be done in consultation with academic institutions, but omits the critically important need to consult with the frontline transportation labor workforce. Transportation unions stand at the forefront of developing and training new segments of the workforce and will continue to do so with the rollout of these new technologies. TTD affiliate unions stand ready to move forward together to ensure that new transitions are successfully addressed, and we hope that USDOT will seek our input and cooperation in this regard.

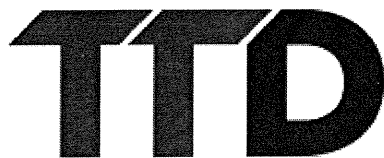
As ADS technology moves forward, USDOT must ensure that any automated technology improves, rather than diminishes the safety, security, and wellbeing of America's road users and workforce. TTD believes that this goal cannot be accomplished with the hands-off regulatory environment outlined by AV 3.0. We encourage USDOT to rethink its approach and to begin engaging the frontline transportation workforce, who are best equipped to help advise the department and its agencies on the safe integration of technology into commercial and transit vehicles.

We thank USDOT for the opportunity to comment on this docket and look forward to working with the department on ADS issues going forward.

Sincerely,

A handwritten signature in cursive script that reads "Larry I. Willis".

Larry I. Willis
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

