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April 2, 2020

The Honorable Elaine Chao
Secretary of Transportation
Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

The Honorable Michael Kratsios
United States Chief Technology Officer
Office of Science and Tech. Policy
1650 Pennsylvania Ave, NW
Washington, DC 20504

Re: Docket No. DOT-OST-2019-0179. FR Doc. 2020-02332. Notice of Request for Comments: *Ensuring American Leadership in Automated Vehicle Technologies 4.0* (posted 02/06/2020).

Dear Secretary Chao and CTO Kratsios:

The Transport Workers Union of America (TWU) is pleased to submit the following comments in response to *Ensuring American Leadership in Automated Vehicle Technologies (AV 4.0)*, posted on February 6, 2020. TWU represents more than 151,000 members across the airline, railroad, transit, university, utility, and service sectors. Our members include bus and subway operators, mechanics, station agents, airline ramp workers, and many others with a direct interest in ensuring our country implements pro-worker, pro-user policies for autonomous vehicle (AV) technology development, testing, and deployment.

The TWU and our members are on the frontlines of transportation innovation. Over the past few years, our industries have transformed in ways that seemed unimaginable decades ago. We've adapted during periods of major technological change by adhering to a set of core principles for innovation: maintaining high quality jobs, achieving the highest levels of safety and security, and ensuring that our transportation systems offer reliable service to connect people to their families, their jobs, and everywhere else they need to go.

AV 4.0 – like its earlier iterations – fails to live up to these principles. Rather than address the new issues presented by AVs, this document presents a worldview espoused by AV technology firms – one that is all upside and that completely ignores the tough questions related to employment, public safety, security, or the mobility needs of our communities. The document also fails to establish enforceable standards for AV technology or explain its value to the public. Frankly, these principles read like a marketing brochure rather than a strategic plan to prepare our nation, our workers, and our communities for the dramatic changes that AVs represent.



AV 4.0 reflects a fundamental misunderstanding of the historic role of regulators in ensuring the safe deployment of new mobility technologies. Our history reminds us that without vigorous regulation and enforcement, our transportation system can quickly become unsafe to the traveling public. This document abdicates the government’s oversight responsibility, instead declaring: “the role of the U.S. Government is to create an environment in which innovators can iterate new technologies to meet market needs. As such, The U.S. Government has resources available to support AV innovators.” This stands in stark contrast to the DOT’s mission statement, “to ensure our Nation has **the safest** . . . transportation system in the world, which **improves the quality of life for all American people and communities...**” (emphasis added).¹

This cheerleading is hardly the role of government. It is the role of industry and its investors to use their resources to seek new ways to “meet market needs.” The role of our government is to protect the public and ensure our transportation system is safe, accessible, and affordable for all Americans. Achieving these outcomes as automated vehicles are developed will require strong federal rules and regulations, not loose guidance like the kind envisioned in AV 4.0.

To help develop these rules, the TWU offers the following policy framework, which can be adopted immediately and will ensure that the future of transportation is pro-worker, pro-safety, *and* pro-innovation.

Address Job Loss and Re-skilling

We know that the introduction of new technologies such as AVs will both change and eliminate jobs. Some workers will be deskilled; others will be required to learn new skills as jobs evolve and as new jobs emerge; and many workers may lose their jobs altogether as technology and markets evolve. Addressing this structural change to our transportation workforce must be a top priority for policymakers.

AV 4.0 should propose specific policies, strategies, and resources – including comprehensive workforce development and training programs – which will lessen impacts on workers who face an uncertain future. These programs must address both the systemic issues related to the evolving nature of work, as well as the needs of specific communities that will be disproportionately affected by these changes. For instance, people of color are overrepresented in driving occupations. African Americans comprise 12.3% of the total employed population in the U.S., but represent over 29% of bus operators.² Transitioning to fully automated buses will require workforce development strategies tailored to populations like this in order to ensure no one is left behind as we move to a 21st century transportation network.

¹ DOT Mission Statement as updated January 29, 2020.

² U.S. Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, 2018; <https://www.bls.gov/cps/cpsaat11.htm>



Ensure Public Safety is the Top Priority

AVs pose significant safety challenges and many new, unanswered questions regarding how existing safety standards will be implemented in the promised new, driverless world. While technology advocates call for the rapid deployment of AV technology on our roads and in our public transit systems, their promised reductions in injury and death rates due to this technology remain untested and hypothetical. The limited tests that have been conducted so far demonstrate that this technology is hardly ready for widespread implementation. Even though available crash data is uneven and incomplete (a gaping hole in our data collection capability that must be closed by federal policy), the data that is publicly available is not reassuring. For example, the number of autonomous vehicles permitted in California increased from 326 in 2017 to 658 in 2018 (102%), while collisions involving AVs increased from 29 to 67 (131%).³ On average, then, the rate of AVs involved in crashes increased from 8.9% in 2017 to 10.2% in 2018.

Further, autonomous vehicle companies operating in California reported 101 collisions⁴ over 2.88 million vehicle miles traveled (VMT)⁵ between December 1, 2018 and November 30, 2019 – an average of one collision per 28,515 VMT. While not a direct comparison, in 2017, nationally, there were 6,452,000 motor vehicle crashes reported in over 3.2 trillion VMT⁶ – an average of one crash for every 498,000 VMT.

AV 4.0 should make a strong commitment to develop and implement regulations focused on the unique safety questions raised by new technology. The current commitment to “facilitate the safe integration of AV technologies” falls far short of this mark. Additionally, creating effective safety regulations requires good, complete data. The AV policy statements must include a mandate requiring robust data collection and reporting as a pre-condition of eligibility for any waiver request related to AVs.

Prioritize Worker Involvement at the Local Level

While there is little disagreement that new technology – specifically automated vehicles – will create major changes across all modes, the successful integration of new equipment and services requires direct input from the frontline workforce. It is frontline workers who have the knowledge and experience to pressure test new technologies and assess their utility. These workers also will be responsible for using, maintaining, and repairing these new technologies once implemented.

³ December 10, 2018. As Calif. AV Population Doubles, So Do Crashes, Automotive News.

⁴ State of California Department of Motor Vehicles, Report of Traffic Collision Involving an Autonomous Vehicle; https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/autonomousveh_01316

⁵ Wiggers, Kyle, February 26, 2020. California DMV Releases Autonomous Vehicle Disengagement Reports for 2019, VentureBeat; <https://venturebeat.com/2020/02/26/california-dmv-releases-latest-batch-of-autonomous-vehicle-disengagement-reports/>

⁶ NHTSA Traffic Safety Facts Annual Report, April 23, 2019; <https://cdan.nhtsa.gov/tsftables/National%20Statistics.pdf>



It is non-sensical for the federal government to undertake a multi-million dollar investment of taxpayer dollars to develop, promote, and deploy automated vehicles without embracing the critical role of frontline workers. Bus drivers, subway operators, station agents, mechanics, and others must be included in this discussion both for their technical expertise and as the group that will be most directly affected by these changes. Unfortunately, while AV 4.0 sends a message of strong support to “AV innovators and entrepreneurs,” the document fails to mention workers as part of the government’s preparation for AV deployment. This omission sends a chilling signal to the working people in this industry who are critical to the future of mobility in America.

The TWU already is pursuing local agreements through the collective bargaining process which will ensure that workers have a say in how or if AV and other transportation technology is tested and eventually implemented in our transit systems. This approach should be replicated at the national level. The DOT must create more seats for workers’ representatives on all AV-related working groups, more actively solicit the expertise of our members in their policy development (including in the eventual AV 5.0), and prioritize workers’ concerns in all final proposals.

Require Cyber Security Protections at the Base of New Technology

Cybersecurity is one of the biggest threats associated with AVs. Our current security regime, built for un-connected vehicles which provide little to no opportunity for hackers to co-opt the operational controls, is not adequate to address the new threats presented by AVs. The DOT, in conjunction with DHS and other stakeholders, must develop specific regulatory benchmarks and enforce them as checkpoints that must be crossed before new technology can be deployed into our public space.

The approach enumerated in AV 4.0 is a recipe for disaster. It puts industry as the “primary mover and leader in this field” while minimizing the role for our government to merely offering “best practices” through the National Highway Traffic Safety Administration. Security is one of the most important duties of our federal government and one that cannot be outsourced to the private sector. Protecting the travelling public from cyber threats must be a required, demonstrated deliverable at every stage of AV development. OEMs, software developers, transit agencies and other operators must all have clear performance metrics and the federal government must enforce those metrics as mandatory minimums prior to the introduction and expanded deployment of these vehicles.

Conclusion

As drafted, AV 4.0 is not a blueprint for the future of mobility; it is an attempt to ignore the very real concerns and threats that AVs present to the current transportation system. The government must see past the glossy, rose-colored version of this technology presented by the AV industry and take serious steps to prepare our transportation sector for the negative consequences these vehicles will have if left unregulated. The federal government has a responsibility to take actions and establish a strong framework that ensures any transition to AV transportation technologies



does not fuel large scale, lasting unemployment, undermine the safety and security of our system, or degrade service to the travelling public.

Thank you for the opportunity to express our views. We look forward to working with you to build upon the policy platform we have outlined here and moving forward together into a pro-worker, pro-user 21st century transportation system.

Sincerely,

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