

November 30, 2018

Submitted Online

U.S. Department of Transportation
Docket Operations
1200 New Jersey Avenue SE
Washington, DC 20590

Re: Comments Concerning Preparing for the Future of Transportation: Automated Vehicles 3.0
Docket Number: DOT-OST-2018-0149

The Disability Rights Education and Defense Fund (DREDF) is pleased to submit comments in response to the US Department of Transportation (USDOT) Office of the Secretary's request regarding the recent guidance, Preparing for the Future, AV 3.0. DREDF recognizes Secretary Chao's expressed commitment to ensuring improved mobility for disabled travelers. DREDF also commends the Office of the Secretary and all agency staff for the particular attention paid to AV accessibility for disabled passengers over the course of the year, their work with the US Department of Labor (USDOL) Office of Disability Employment Policy (ODEP), and their willingness to engage. AV 3.0 raises awareness, and calls on the industry and policymakers to prioritize accessibility. Additional and immediate measures must be taken to fulfill the promise of innovation and mobility for all.

DREDF is a leading national civil rights law and policy center directed by individuals with disabilities and parents who have children with disabilities. Our mission is to advance the civil and human rights of people with disabilities through legal advocacy, training, education, public policy and legislative development. DREDF demonstrated an early interest in the development of equitable autonomous vehicle (AV) policy in its drafting of the 2015 National Council on Disability (NCD) report, *Self-Driving Cars: Mapping Access to a Technology Revolution*.ⁱ The report examines the challenges and advances in AV technology, and proposes directions for research, development, and necessary infrastructure changes. The report also explores potential policies and legislation needed to ensure full access. DREDF maintains an ongoing interest, is participating in a California Public Utilities Commission Accessible AV working group, has attended and provided comments at USDOT events, and has provided a fully accessible vehicle working checklist on our website for discussion purposes.

As USDOT has identified, AVs have the potential to dramatically improve the lives of people with disabilities. More than half a million people with disabilities never leave home and cite transportation difficulties.ⁱⁱ Many people with disabilities cannot drive or lack access to a personal vehicle. Only 45% of rental households with individuals who use wheeled mobility devices own a personal vehicle.ⁱⁱⁱ Ensuring access is easier, and cheaper in the long run, if it is integrated at the outset, yet news accounts of AV testing and deployment timelines often fail to mention accessibility.^{iv,v,vi} The disability community knows well that if access is not baked into technology, history will likely be repeated. Accessible vehicles will be required, and retrofitting will be more expensive for providers in the long run.^{vii}

DREDF views this moment as an opportunity to reimagine mobility in line with principles of transportation and community inclusion as a civil right. The promise of AVs can be realized if accessible, integrated service is provided to all people with disabilities, and safety elements are taken into account. To that end, we provide the following in response to AV 3.0.

In Summary, DREDF notes and supports:

- Continued USDOT convened stakeholder meetings
- ATTRI involvement and partnerships, research and funding
- Inclusion of disabled passengers and pedestrians, and accessible vehicles in concept images
- Recommendations to transit agencies to adopt needs-based deployment, educate and engage communities, and incorporate complete streets policies
- NHTSA's continued authority to establish and enforce safety standards and address defects
- State and local early engagement with the disability community on AV policies
- Private industry proactively incorporating universal design with disability community guidance

DREDF urges USDOT to commit to:

- Integrated, equivalent service
- Prioritizing safe and accessible securement
- Subsidies when needed
- Updated disability transportation surveys
- Compiling USDOT accessibility resources
- Equitable access for all transit users
- Accessibility in pilots, partnerships and across vehicle types
- Engagement regarding the FTA Strategic Transit Automation Research (STAR) plan
- Safety and crashworthiness standards for disabled passengers and accessible vehicles
- Recommending state commitments to accessibility
- Highlighting the need for anti-discriminatory licensing policies
- Highlighting the need for anti-discriminatory insurance & liability policies
- Anti-discriminatory data requirements
- Shared data for transit planners
- Accessibility across vehicle types
- Accessibility assessments

On the Federal Government's Roles in Automation

USDOT

USDOT Convened Stakeholder Meetings - DREDF strongly supports USDOT's first automation implementation strategy to engage stakeholders and the public.^{viii} Broad stakeholder meetings that include representatives of the disability, older adult, low income communities, and communities of color will be necessary going forward to ensure needs are addressed, and industry stakeholders are aware of challenges and potential solutions. Participants should include NCD and U.S. Access Board representatives.

Accessible Transportation Technologies Research Initiative (ATTRI), Research & Funding - We are encouraged by USDOT's efforts to partner, through ATTRI, with USDOL, the Department of Health and Human Services, and the broader disability community to "focus research efforts and initiatives on areas where market incentives may otherwise lead to underinvestment."^{ix} In addition to continued research on HMI, research and initiatives are needed to develop safe, accessible securement options for disabled passengers. DREDF recommends that USDOT work closely with, and provide funding to, the U.S. Access Board in the coming years to identify challenges and solutions to accessibility.

Representation - DREDF acknowledges USDOT support of accessibility for disabled passengers throughout the AV 3.0 guidance, and applauds the inclusion of wheelchair users in the images provided as a pedestrian in a connected environment and a shuttle passenger.^x Reimagining what's possible begins in our collective depictions of future mobility.

To ensure access DREDF recommends:

Committing to Integrated, Equivalent Service - The promise of mobility cannot be realized unless accessibility and safety are prioritized across all AV types - including passenger vehicles, shuttles and buses - and equitable, integrated, equivalent service is provided. DREDF recommends strong messaging to the industry and transit agencies, as well as consideration of policies, to ensure access to low income communities and passengers of color. The National Highway Traffic Safety Administration (NHTSA) should work with OEMs to encourage testing of AVs accessible to people with physical, sensory and cognitive disabilities. Additional safety exemptions, or a percentage of existing exemptions, could be granted to test fully accessible vehicles and features.

Accessible, Safe Securement - Prior to AV service provision, with or without an employee to assist, the securement must be strenuously tested. Automatic securement, such as the Q'straint Quantum, should be reviewed. Developers must address the issues of whether wheelchair users can reach and operate seat and shoulder belts, and any controls needed to deploy automatic securement. Existing rear-facing securement standards should be highlighted.^{xi}

Subsidies when Needed - Subsidies should be granted to low income communities, and people with disabilities, to ensure that all Americans have access. Subsidies and community ownership of vehicles could allow for those in rural areas without access to transit to benefit.

Updated Disability Transportation Surveys – The AV 3.0 guidance highlights the results of a travel patterns survey of disabled Americans.^{xii} DREDF strongly urges USDOT to continue to explore the disabled experience, and identify measures to improve access by updating a 2003 Bureau of Transportation Statistics (BTS) study that was designed to add to data for planning purposes. The study identified if and how people travel, problems they experience, and levels of satisfaction with transportation.^{xiii}

While the travel patterns survey provides a glimpse into how disabled travelers compensate and adapt, the questions and findings may lead the reader to believe impairment is the chief barrier to transportation and community inclusion. The survey does not consider additional factors such as inaccessible infrastructure, vehicles, or income. An update of the 2003 BTS study could identify barriers to transportation that could be addressed by the industry and USDOT.

Centralized USDOT Accessibility Resources - As USDOT seeks steps to provide guidance on accessibility and AVs, DREDF recommends providing a webpage that compiles resources. USDOT could provide FAQs and guidance on transit requirements, ADA and Title VI compliance, vehicle design, accessibility considerations or an accessibility assessment. Reference to complete streets and infrastructure resources could be provided, as well as links to standards being developed, committees, grant opportunities, and experts and stakeholders who wish to be listed. Providing stakeholder contact information could increase engagement.

Federal Transit Administration (FTA) & Agencies

Needs-Based Implementation, Community Education & Engagement - DREDF strongly supports guidance provided in AV 3.0 for transit agencies regarding a needs-based implementation approach. As USDOT has noted, “new technologies and service models should not be based merely on novelty.”^{xiv} Automated vehicle testing and deployment with transit agencies must respond to the community’s needs, particularly those in the disability community, low income, and communities of color that are often underserved. Agencies must engage these communities to identify problems and solutions, acknowledge the wealth of knowledge derived from experience, and incentivize participation in the planning and testing process. Agencies must educate and engage its ridership regarding AV plans, testing and deployment, remain flexible, and respond to questions, concerns, and feedback.

Complete Streets - DREDF supports the AV 3.0 guidance for agencies to review complete streets policies and practices when planning and deploying automation.^{xv} Agencies must take the opportunity to ensure complete streets policies are embraced and implemented, including ensuring accessible sidewalks, curb cuts, transit stops and stations, installing audible pedestrian signals, and crosswalks as prescribed in the US Access Board’s 2011 public rights of way proposed guidelines.^{xvi} Agencies, MPOs and local governments should seek input and guidance from their disability communities, as well as low-income and communities of color to create and implement plans that benefit all.

Access for All - DREDF agrees that agencies must ensure accessibility to the disability community.^{xvii} In addition to ensuring vehicle accessibility, measures must be taken to ensure access to service for unbanked individuals or those without a smartphone, and access in all neighborhoods where a need has been identified. The Americans with Disabilities Act, Title VI of the Civil Rights Act, and Executive Order 12898 provide essential protections against discrimination and a roadmap for ensuring full access.

DREDF recommends the following regarding transit guidance:

Accessibility in Pilots, Partnerships and Across Vehicle Types - AV 3.0 states that agencies must ensure accessibility in revenue service.^{xviii} Where agencies partner with AV service providers and pilot free programs full accessibility must also be ensured. The FTA suggests that it is available to provide guidance and technical assistance. DREDF recommends that the FTA be ready to guide agencies through provision of accessible and safe securement technology in AV service across all vehicle types, including passenger vehicle fleets, low speed shuttles and buses, and all services, including first mile/last mile, on demand shared rides, and paratransit.

Equivalent, integrated service must be the standard in transit versus tiered service that would lead to segregation and lower quality service for mobility device users and transit’s essential riders. Without integrated, equivalent service the gap between those who have access and those who do not will continue to grow. Those in the most need will be left without transportation during emergencies when traditional fixed route or rail breaks down or needs repair, or in times of inclement weather. Full access is necessary for a truly resilient transit system.

DREDF recommends looking to the equity of service delivery principle adopted by the FTA for the Mobility on Demand Sandbox program to ensure access.^{xix} In addition, the shared mobility Dear Colleague letter should be updated and refined to clarify AV accessibility principles.^{xx}

FTA Strategic Transit Automation Research (STAR) Plan - DREDF commends the FTA for taking the initiative and publishing its STAR plan to identify research and programmatic needs, and for highlighting

accessibility.^{xxi} We note that the disability and civil rights communities are not listed as stakeholders that were engaged during the plan's conception. We encourage USDOT to immediately begin engagement with communities, to outline goals and timelines, known and planned research studies, and identify ways communities can support FTA's efforts. In addition, DREDF strongly urges the FTA to update the Transit Automation Bus Overview fact sheet to reflect its commitment to equity and accessibility, and to identify challenges and potential solutions.^{xxii}

NHTSA

Safety & Crashworthiness Standards – DREDF supports NHTSA's continued authority to establish and enforce Federal safety standards, and address safety defects. DREDF supports setting standards and studying crashworthiness safety features for any vehicles where the current driver or front passenger seats are not facing forward. In addition, crashworthiness standards should also be set and studies completed on safety features for passengers who travel in their wheelchairs in the vehicle.

DREDF recommends highlighting the work between NHTSA and the University of Michigan Transportation Research Institute, recent wheelchair occupant safety studies and reports.^{xxiii} NHTSA's presentation on its own wheelchair safety testing should be considered in future guidance.^{xxiv}

On States, Local and Tribal Government's Roles in Automation

State and Local Convenings & Commitments - DREDF supports AV 2.0 best practice guidance recommending state highway safety officials convene ADS technology committees, including state offices representing seniors and disabled individuals. DREDF recommends these committees include all interested advocates, including disability representatives.^{xxv} DREDF also supports AV 3.0 guidance to local governments to engage with citizens, ensure automation supports local needs, and consider how land use and curb space will be affected.^{xxvi} It is vital to engage with and follow the leadership of communities before plans are developed so that needs are met and neighborhoods are not divided.

DREDF encourages USDOT to extend engagement guidance to state departments of transportation, state policymakers, metropolitan planning organizations and transit agencies, and to include members of the disability community, low-income communities, and communities of color in these advisory groups. We also encourage adoption and implementation of principles that clarify and require a commitment to access from all stakeholders and partners.

DREDF looks to government and transit agencies at all levels to prioritize equity, to ensure access to all modes as they roll out across the country - through policy and standards that recognize and uphold transportation as a civil right for all.

In addition, DRED recommends the following:

Highlighting the Need for Anti-Discriminatory Licensing Policies - DREDF recommends highlighting and enforcing existing ADA requirements that prohibit refusal of service because of insurance company conditions coverage or rates.^{xxvii} Research, discussions and steps should be undertaken to ensure insurance rates for vehicles with ramps, lifts and additional accessibility features are not prohibitive and do not stall testing and deployment.

Highlighting the Need for Anti-Discriminatory Insurance & Liability Policies - If passengers of Level 4 or 5 passenger vehicles are ultimately required to obtain insurance, rates and coverage must not discriminate against those who might not otherwise drive (including blind and low vision passengers).

DREDF recommends research and discussions that would identify liability issues that may arise in the case of a crash when people with disabilities are a passenger or pedestrian. Issues that might be considered include, but are not limited to: who is liable if the wheelchair securement did not function properly, who is liable if the vehicle left a passenger off at an unsafe or inaccessible stop, who is liable if an assistive device is damaged as the result of a crash?

On the Private Sector's Role in Automation

Proactively Incorporating Universal Design Principles - DREDF strongly supports USDOT's recommendation to private industry that they work with the disability community to ensure products and technologies are designed with "usability by a broad spectrum of travelers in mind," and to "improve mobility as a whole, not just from curb to curb, but also from door to door."^{xxviii}

Anti-Discriminatory Data Requirements - USDOT suggests to private stakeholders that passenger data be kept private.^{xxix} DREDF recommends that passenger data, including disability status and locations served, be kept private unless permission has been granted explicitly by the passenger.

In addition, DREDF recommends:

Shared Data for Transit Planners - AV operator data should be shared with agencies so they can make transportation planning, and mobility management decisions, and ensure access for all communities.

Accessibility Across Vehicle Types - DREDF notes USDOT's sixth automation principle, to "protect and enhance the freedoms enjoyed by Americans," including driving their own vehicles.^{xxx} As passenger vehicles are designed and placed on the market, accessible HMI, ramps and securement devices, including rear-facing, must be provided. DREDF strongly urges USDOT to clarify its support for development of accessible passenger vehicles, as well as shuttles and buses. DREDF urges private industry to commit and lead in order to ensure a truly inclusive future that improves quality of life for all.

Accessibility Assessments – DREDF recommends USDOT provide a template for private industry that could be used to undertake an accessibility assessment for all new vehicles. The assessment could be similar to the voluntary safety assessment.

Thank you, again, for the opportunity to provide comment. As USDOT implements the 3.0 framework we hope you will take these recommendations into account. Please contact Carol Tyson, Government Affairs Liaison, at (202) 878-9186 or ctyson@dredf.org with any questions. DREDF looks forward to continuing to work with the USDOT Office of the Secretary and the broader AV stakeholder community to ensure access and safety for all are realized.

Sincerely yours,



Susan Henderson
Executive Director

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- ^{viii} AV 3.0, page 35.
- ^{ix} AV 3.0, page 12.
- ^x AV 3.0, pages xii and 12.
- ^{xi} 49 CFR § 38.23(d)
- ^{xii} AV 3.0, page 29.
- ^{xiii} USDOT Bureau of Labor Statistics [Issue Brief #3] (April 2003)
- ^{xiv} AV 3.0, page 23.
- ^{xv} AV 3.0, page 23.
- ^{xvi} US Access Board (July 2011). Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way. Retrieved from <https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines>
- ^{xvii} AV 3.0, page 23.
- ^{xviii} AV 3.0, page 23.
- ^{xix} <https://www.transit.dot.gov/funding/applying/notices-funding/mobility-demand-mod-sandbox-program>
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- ^{xxvii} 49 CFR § 37.5(g)
- ^{xxviii} AV 3.0, page 30.
- ^{xxix} AV 3.0, page 32.
- ^{xxx} AV 3.0, page v.