



July 24, 2023

Submitted via regulations.gov

Federal Transit Administration
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

RE: Bus Compartment Redesign and Bus of the Future Initiatives, Docket No. FTA-2023-0013

The Co-Chairs of the Consortium for Constituents with Disabilities (CCD) Transportation Task Force appreciate the opportunity to provide a response to the questions posed during the June 22, 2023 meeting on Bus Compartment Redesign and Bus of the Future Initiatives. CCD is the largest coalition of national organizations working together to advocate for Federal public policy that ensures the self-determination, independence, empowerment, integration and inclusion of children and adults with disabilities in all aspects of society free from racism, ableism, sexism, and xenophobia, as well as LGBTQ+ based discrimination and religious intolerance.

The CCD Transportation Task Force advances the rights of people with disabilities – including physical, sensory, and cognitive disabilities – in the area of transportation. We urge the FTA to make full accessibility for all people with disabilities a primary consideration and prerequisite to a redesign of bus compartments and bus of the future initiatives. When buses and transit infrastructure are fully accessible they are safer, more convenient and enjoyable to use and all travelers reap the benefits. Increased accessibility and user experience could also lead to increased ridership overall.

Please see responses to select questions shared during the June 22nd meeting below. Additional considerations are provided.

Question 3. What safety features would be important for vulnerable road users such as pedestrians and bicyclists? For example, cameras on the outside of the bus.

Quiet Buses Addressed - We recommend ensuring quiet buses are addressed similar to quiet cars.¹ Minimum standards requiring audible cues are needed to alert blind and low vision pedestrians of a quiet buses' presence. Any pedestrian traveling outside the vehicle, including a wheelchair user or bicyclist, would benefit from audible cues and reduce the potential for bus and pedestrian collisions.

Question 4. Are there any additional safety features that should be considered? For example, blind spot detection and advanced driver assistance automation such as automatic braking.

Object & Pedestrian Detection - We support inclusion of blind spot detection, automatic emergency braking and any other methods to decrease bus collisions with pedestrians with disabilities and all vulnerable road users. Travelers with disabilities, including wheelchair users, may ambulate at a slower pace or need to travel in the road when a sidewalk is missing or inaccessible. These travelers may be difficult for a driver to see. All possible methods should be employed to ensure pedestrian and object detection and reduce risk of traffic fatalities and severe injury. The FTA and the transit industry should also consider looking to technologies being developed and tested in autonomous vehicles for object detection. We also recommend developing standards to ensure systems relying on AI and algorithms are not replicating bias and are able to detect all travelers.²

Smooth Rides – We support consideration of electric propulsion and optimized input or other methods to make acceleration and slowing as smooth as possible for passengers with balance or other mobility disabilities.

Question 5. What accessibility features and functions are critical to improve access to buses by people with a variety of disabilities?

All standards currently set by the U.S. Access Board and Americans with Disabilities Act (ADA) requirements regarding bus accessibility must be upheld to ensure continued access. We support and encourage webinars and trainings to review current requirements, and additional outreach to agencies and advocates to identify current accessibility barriers. In addition, we recommend the following:

Improved Announcements, Communication & Maps

- Clear audible and visual announcements in all areas of the bus and outside the bus, as well as low-latency real-time vehicle location information and next stop(s) information that is integrated with accessible transit apps .
- Automated stop announcements – According to an article published in the *Journal on Visual Impairment & Blindness*, when bus drivers were required to accomplish a bus journey as a passenger without the benefit of vision they finally understood why it was important for them to call out all stops along their route. If an automated system were employed bus operators wouldn't have to call out stops, they'd be announced. We note, as was shared in the FTA presentation, that U.S. Access Board bus and van guidelines will require large transit entities to have automated stop and route ID announcement systems on all buses over 22 feet in length.³ We strongly encourage adoption of these requirements as best practice for all agencies. USDOT does not need to wait for U.S. Access Board guidelines that are provided as a minimum standard. Automated announcements could and should also be deployed on smaller buses and by all transit entities whenever possible.

- Utilize additional variable message displays/signs and audio speakers so that passengers in the back of a very crowded bus can see and hear the stop notifications. These signs could be especially useful for Deaf passengers.
- Increased availability of tactile maps on buses and at stops, as well as integrating stops and individual buses with wayfinding devices and apps. For example, if multiple buses are at the same stop it may be difficult to locate the correct bus especially for a blind or low vision passenger. Likewise, currently blind passengers may know they are near a stop but may not know which sign post has a bus stop sign at the top. Additional tactile maps and wayfinding could also assist disabled passengers in orienting themselves to an unfamiliar neighborhood when they get off the bus.
- Clear signage on the interior and exterior of the bus and in maps that is accessible to and developed in tandem with people with intellectual and developmental disabilities, including autistic travelers. Look to the guidance provided regarding rear door entry during COVID-19 as an example.⁴

Increased Access to Doors

- Consider wider central doors on each end or the front and center.
- Doors labeled with lights indicating the entrance.
- Permitting all door boarding and offboarding for buses that make stops in the street away from sidewalks or where there are no raised sidewalks.
- Clear audio notifications at all doors and sound cues for ramps.
- Buses that do not require use of steps. This would help ensure access for wheelchair users. People who have limited strength or hip flexibility, and all passengers with strollers or luggage or who are tired from a long work day would benefit.

Question 6. How can we facilitate better bus cabin designs for wheelchair securement and access?

We urge you to consider:

Improved Seating & Securement Options

- Automated securement for all types of wheelchairs.
- Additional flexible seating for more wheelchair users as an option for systems on which wheelchair users experience being refused boarding because one or both wheelchair spaces on a bus are in use.
- Interior versus exterior designs that allow for greater space for all types of passengers to ride together, including wheelchair users, people with strollers that remain open and luggage or small grocery carts. Some transit agencies are reversing open stroller policies to encourage families to use transit and increase ridership, and this is leading to fewer spaces available for wheelchair users. Bus designs that allow for greater space for all rider types, similar to the Circulator bus used in Washington, D.C. versus the traditional Washington Metropolitan Area Transit Authority (WMATA) buses, could be considered.

Question 7. How can bus interiors be designed for greater passenger comfort and convenience?

We urge you to consider:

Safety & General

- Standardization and/or consistency of accessible emergency call systems on transit vehicles. In many systems a call button may be available to provide voice access to an operator. These systems are not consistently accessible to riders who have physical disabilities, who are Deaf, hard of hearing, or do not speak clearly.
- Some means to reduce the intensity of the sun in early morning and evening times to allow passengers to see out of the bus, facilitating situational awareness and improving the experience for passengers with light sensitivity.
- Improved air filtration and use of self-cleaning technologies.

Question 9. Do you see your organization investing in emerging technologies in the future, such as transit bus automation, driver assist and lane departure systems, etc.? What are the potential drawbacks or challenges that need to be considered?

The CCD Transportation Task Force has a long history of advocating for accessible, safe and affordable autonomous vehicles (AVs) of all sizes and uses. We have provided comments to USDOT on AV 3.0 and 4.0 comprehensive plans and transit bus automation research and demonstrations requests.⁵ This week we will be submitting a letter for the record to Congress for a hearing on AVs being held on July 26th.

AVs can improve mobility and quality of life for the disability community, including for those with physical, sensory, intellectual and developmental disabilities and neurological conditions such as epilepsy. For the full potential of AVs to be realized we are calling for, among other items, accessibility and the needs of all disabled travelers to be addressed in each USDOT AV-related rulemaking, including federal motor vehicle safety standards (FMVSS) updates; ensuring USDOT and the U.S. Access Board have the resources and staffing to adopt and implement necessary research, rulemaking and standard setting; and ensuring AVs will complement and improve public transit.

Of note, current draft legislation proposed by Congresswoman Dingell includes a provision prohibiting exemptions for AVs in use for public transportation. A NHTSA exemption allows entities to test and / or deploy vehicles that do not meet current FMVSS standards. We are currently recommending that any AV legislation allow use of and permit exemptions of vehicles used in public transportation. AV use in public transportation ensures AV rideshare providers are under clear civil rights law obligations, including the ADA. Without transit and paratransit providers adopting accessible AVs a significant market for AVs is lost.

In addition, permitting AVs to be used in public transit could create opportunities for AV rideshare and transit to work together to ensure on demand service is complementing rather

than replacing transit. Studies have shown that when rideshare service enters a market and provides what some view as a more convenient alternative to public transit, transit ridership can decrease.⁶ Transit agencies are already struggling. Additional decreased ridership could lead to cuts in fixed bus routes and service hours which also leads to potential cuts in required paratransit service. Finally, many AVs are likely to be electric vehicles. We must ensure that transit and paratransit riders can fully realize the health benefits of zero-emission, all-electric vehicles.

We note, as the FTA did in its presentation that the ADA requires transportation provider's personnel to assist with the use of securement systems, lifts and ramps among other assistance.⁷ Drivers also provide communication and wayfinding assistance for disabled passengers. Regardless, stakeholders may be concerned that use of AVs in transit could lead to loss of driver jobs. We encourage the FTA to clearly state that whether automated transit buses or shuttles that do not require a driver for bus operation will still require transit personnel on board to assist passengers with disabilities. We recommend research into whether a transit employee should be on every transit vehicle to focus on customer service for all passengers including emergency response. We are also very interested in research focused on independent securement options for all passengers, including those with disabilities.

Additional Comments

Disabled passengers can only benefit from an accessible bus when the bus stops, surrounding infrastructure and overall system are accessible, safe and affordable. We encourage you to consider:

Bus Stops & Infrastructure

- Displays on bus shelters that show bus times both audibly and visually. This is present at many Washington, DC, and Arlington, Virginia, bus stops but hasn't been implemented consistently either regionally or nationwide. In addition, information about the bus route and stop should be provided in braille and large print at eye or hand level to facilitate finding the appropriate stops.
- Universally designed accessible and protected bus stops that are easily identifiable and recognizable to all. Covers and benches and wheelchair spaces will help people endure increasingly extreme weather, including heavy rain and heat without forgoing travel.
- Bus stops and access to these stops must be prioritized during snow removal or in response to other extreme weather events.

Fare payment & Apps

- Touchless fare payment woven into apps and smart card capability.
- Ways for passengers who are unbanked or who cannot use electronic payment systems to continue to use cash if needed.
- Affordable and even fare free transit.

Reliable bus and transit apps

- Apps that provide information to blind & low vision passengers including how much money is left on the fare card. In some systems this information is only visible on a digital display that is not accessible. Being able to swipe a phone over the farebox would be more convenient than counting correct change.
- As noted above, blind and low vision passengers along with many other people benefit from being able to track their current location and real-time bus information for both planning purposes and wayfinding on-route.

Frequency

- Reliable and on time buses.
- On Demand transit buses and paratransit pilots that allow for an increased number of stops and more convenient service.
- Increased frequency can be very beneficial to the passenger experience and its impact on the rest of their lives; however, it is important that increases in frequency not excessively reduce service areas since smaller service areas limit whether people with disabilities can travel at all.

Advocate and User Led Expertise & Engagement

- We recommend referring to the U.S. Access Board proposed rail guidelines for additional ideas regarding increased accessibility in terms of communication and design needs to increase access and comfort.
- We encourage continued engagement with experts in the field of accessible transit and safety such as Miriam A. Manary at the University of Michigan Transportation Research Institute (UMTRI) as well as Jordana Maisel at the University of Buffalo, and Aaron Steinfeld at Carnegie Mellon, authors of *Accessible Public Transportation: Designing Service for Riders with Disabilities* (Routledge), and with the Transportation Autism Project at Rutgers University.⁸
- We strongly encourage continued engagement with organizations representing travelers with disabilities and disabled travelers themselves to guide the work and holding additional initiatives to engage the experience and lived expertise of disability stakeholders.

Conclusion

FTA and all transit stakeholders must take advantage of this opportunity to set a high bar for equity, accessibility, and safety for people with disabilities, as well as drivers, the general public and people traveling outside the bus.

Thank you again for this opportunity to provide comments regarding bus compartment redesign and bus of the future initiatives. We look forward to continuing to work with FTA and industry stakeholders to ensure the full potential of transit is achieved, and accessibility and equity are woven throughout transit and paratransit services. Please contact Carol Tyson at ctyson@dredf.org and CCD Transportation Task Force Co-Chairs with any questions.

Sincerely,

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¹ National Highway Traffic Safety Administration (December 14, 2016). Federal Motor Vehicle Safety Standards: Minimum Sound Requirements for Hybrid and Electric Vehicles. Federal Register Number 2016-28804. Available at <https://www.regulations.gov/document/NHTSA-2016-0125-0001>

² See findings and recommendations in Ian Moura's brief for the Disability Rights Education and Defense Fund on Addressing Disability & Ableist Bias in Autonomous Vehicles: Ensuring Safety, Equity & Accessibility in Detection, Collision Algorithms & Data Collection. November 2022. Available at <https://dredf.org/wp-content/uploads/2023/03/DREDF-Moura-AV-AI-Brief-Nov-2022-UPDATE.pdf>.

³ US Access Board. Updated ADA Accessibility Guidelines for Buses and Vans. Published in the Federal Register December 14, 2016. Available at <https://www.access-board.gov/ada/vehicles/update/buses-vans/>.

⁴ Implementing New COVID-19 Rear Door Policies for People with Disabilities (March 30, 2020). Memo to Transit agencies, labor unions and other transportation providers from Access Living, American Council of the Blind, American Foundation for the Blind, Autistic Self Advocacy Network, Disability Rights Education and Defense Fund, National Association of the Deaf, Rooted in Rights, The Arc of the United States. Available at <https://dredf.org/wp-content/uploads/2020/03/Rear-Door-COVID-Policy-Disability-Recommendations-033020-FINAL.pdf>

⁵ CCD Transportation Task Force comments to USDOT Autonomous Vehicle plans 3.0 and 4.0, available at <https://www.c-c-d.org/fichiers/CCD-Transp-TF-Comments-DOT-OST-2018-0149-AV-3.0-120318.pdf> and <https://www.c-c-d.org/fichiers/CCD-Transp-TF-Comments-AV40-DOT-OST-2019-0179-0001-040220.pdf>. Comments concerning transit bus automation research and demonstrations available at: <https://www.c-c-d.org/fichiers/CCD-Transportation-TF-RFI-FTA-2022-0012.pdf>

⁶ UrbanismNext, University of Oregon (2021). Do Transportation Network Companies Increase or Decrease Transit Ridership? Empirical Evidence from San Francisco. Available at <https://www.urbanismnext.org/resources/do-transportation-network-companies-increase-or-decrease-transit-ridership-empirical-evidence-from-san-francisco-2>.

⁷ 49 CFR 37.165(f)

⁸ Transportation Autism Project. Rutgers University. Learn more at <https://cait.rutgers.edu/autism-project/>