



Transportation Task Force Autonomous Vehicle Principles

Last updated May 2022

At least 1 in 4 people in the U.S. has a disability (more than 61 million). While 99% of public buses are equipped with ramps, significant barriers to accessible, affordable transportation remain across modes. Many people with disabilities are unable to obtain a driver's license or cannot afford to purchase both a vehicle and the retrofitted adaptations to make it accessible.

Without affordable, accessible transportation, people with disabilities are unable to travel to work, to school, to contribute to and participate in their communities, to support and spend time with family and friends, and to live their lives to the fullest. In addition, transportation is a critical social determinant of health, defined as those environments in which we are “born, live, learn, work, play, worship and age.”

The National Council on Disability has published a report and recommendations on self-driving cars. The US Department of Transportation (USDOT) has released Automated Vehicles (AV) 4.0 guidance, and manufacturers and transportation providers are racing to develop, test and deploy autonomous shuttles and passenger vehicles. The present and future of mobility is changing.

As we approach the 32nd Anniversary of the Americans with Disabilities Act (ADA), we recognize that AVs have the potential to drastically improve access to transportation for people with disabilities, including members of the blind and low vision, Deaf and hard of hearing, intellectual, developmental, and cognitive disability communities; people with physical disabilities, including wheelchair users; and people with neurological conditions, including epilepsy and seizure disorders. However, the promise and safety of AVs will only be realized if the vehicles and the surrounding infrastructure are fully accessible, and the safety elements consider the needs of people with disabilities. Prioritizing accessibility will increase safety for people with disabilities and all riders.

To this end, the undersigned members of the CCD Transportation Task Force and partner advocacy organizations adopt the following AV principles and recommendations in the areas of: autonomous vehicle accessibility; costs; data; infrastructure; legislation; licensing and

insurance; research and funding; resiliency, regulation, equivalent and integrated service; safety; and workforce.

Autonomous Vehicle Accessibility

- All human machine interface (HMI) systems on AVs must be fully accessible to people with disabilities, including people with sensory, cognitive, and physical disabilities.
- Lifts, ramps and wheelchair securement must be available on common use and public transit AVs, including those operated by transportation network companies. Developers must address the issues of whether shoulder belts, and any controls needed to deploy securement, are accessible and usable for all wheelchair users. Rear-facing securements, which require far less outside assistance than other securement systems in use today, should be explored.
- It is widely accepted that AVs will be electric. As electric vehicles (EVs) are designed and deployed they should take in to account the needs of passengers and drivers with disabilities. EVs, especially public use EVs, must ensure equal access for wheelchair users and all people with disabilities.ⁱ

Costs

- In 2018, 26% of people with disabilities in the U.S. were living below the poverty line, and likely would not have the funds to purchase an AV.ⁱⁱ Low-interest loans, subsidy programs, financing, and tax credits (among other examples) should be considered to help people with disabilities and low-income individuals and families afford to purchase or benefit from fully accessible AVs, including those operating as part of an on-demand service.
- Accessible AVs and on-demand services must not cost more than inaccessible vehicles and services.
- AVs, both for personal ownership and for shared use, should be made available for people who are unbanked and for people without smartphones. Concierge services for those without smartphones, similar to services provided for on-demand users, should be made available for all publicly funded AV services.

Data

- Passengers' health, disability status and locations visited must not be shared or used for commercial or tracking purposes without permission of the individual.
- AV service providers and policies must not discriminate based on health or disability status.

- Consistent federal privacy practices must be established as well as enforcement mechanisms.
- As software is developed to make decisions about harm in unavoidable collisions, the lives of disabled passengers, older people, Black, Indigenous and people of color (BIPOC), and pedestrians must be equally valued.ⁱⁱⁱ Collected data should be used and studied to ensure increased safety of passengers with disabilities, BIPOC, and pedestrians, including wheelchair users.

Infrastructure

- The introduction of autonomous shuttles, buses, and passenger vehicles requires improved accessibility of Public Rights-of-Way (PROW), including sidewalks, accessible pedestrian signals, curb cuts, road diets, and crosswalks. Safe and accessible pick-up and drop-off locations must be reimagined. As roads and facilities are planned and developed, ADA accessibility requirements must be adhered to, and improved upon, in order for cities and states to work towards meeting goals of zero traffic deaths and serious injuries. Funding and PROW improvements should be directed towards the areas of greatest need, prioritizing disadvantaged and underserved neighborhoods.^{iv}
- The ADA provides a baseline, but not a ceiling, for accessible PROW and infrastructure. Incentives, federal grants, ADA and 504 transition plans, and disability community engagement and leadership should be utilized to maximize accessibility, not meet the minimum standards.
- Advances in connected curb and infrastructure technology must rigorously adopt and meet, or better yet exceed, accessibility standards and integrate with existing or future wayfinding systems.
- Charging infrastructure for electric vehicles and AVs must take in to account the needs of disabled passengers and include fully accessible stations and parking.^v
- Any infrastructure-related direct communication mode, such as 5G network communication, should be developed and deployed to maximize the safety and accessibility of AV passengers, including people with disabilities. 5G should greatly enhance safe and seamless transportation between different modes of transportation as well as wayfinding for door to door travel.

Legislation

- In enacting the ADA, Congress sought to “provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities”.
- Legislation should require full accessibility for all types of common and public use AVs.

- Legislation should define a process that includes engagement with manufacturers; legal and insurance industry representatives; disability, civil rights, safety and workforce advocates; the U.S. Department of Labor, and USDOT.
- A USDOT AV Advisory Committee should be established and should include an accessibility subcommittee.^{vi} Members should include organizations representing individuals with disabilities and seniors, and standard setting organizations. Individual representatives should include, but not be limited to, individuals who are blind and who have visual impairments; individuals who are Deaf and who have hearing loss; individuals with intellectual, cognitive, or developmental disabilities; individuals who have physical disabilities, including wheelchair users; and individuals with neurological conditions including epilepsy and seizure disorders.
- Congress should pass legislation requiring that, as a matter of civil rights, all new technology be accessible to people with disabilities. Many new technologies are inaccessible to people with vision, hearing, physical and/or other disabilities because accessibility was not considered during research and development.
- Congress should require that people with disabilities are part of the design and testing of new technologies in order to ensure the accessibility and usability of the technology.

Licensing and Insurance

- There is currently a patchwork of proposed and enacted policies for the testing of autonomous vehicles – some requiring operators of Level 4 or 5 AVs to hold drivers licenses. Many individuals with disabilities who are unable to obtain a driver’s license, or an unrestricted license in order to operate a traditional motor vehicle, would be able to safely operate a Level 4 or 5 AV. Regulation of AVs should consider the needs of people with disabilities and not unnecessarily restrict their use through licensing requirements.
- Legislation for AVs should prohibit discrimination on the basis of disability by states, and any other governmental authorities, in licensing and insurance.

Research and Funding

- Federal funding for the research or development of AV technology should require all resulting products be fully accessible for people with disabilities.
- Congress should increase funding to USDOT’s ATTRI program, the Intelligent Transportation Systems’ Joint Program Office, and the FTA to promote research and development of accessible AV technology.
- Congress should increase funding for the Federal Transit Administration to ensure its technical assistance and training are available to promote the availability and

accessibility of AV transportation options for older adults, people with disabilities, and caregivers.

- Congress should increase funding for NHTSA to ensure robust accessible vehicle standards and testing are developed for the safety of passengers and pedestrians with disabilities, including wheelchair users who remain in the vehicle. Funding should be provided for adequate FTEs who have expertise in accessibility and engineering.
- Congress should increase funding for the U.S. Access Board to ensure robust standards are developed for the safety and accessibility of disabled passengers and pedestrians, including wheelchair users who remain in their wheelchairs in the vehicle.
- Research should be conducted into how AVs could affect transportation and land-use patterns, congestion, pollution, road safety and public transit, members of low-income, indigenous, and disability communities, and communities of color. Results should be shared with Congress and the public and guide future USDOT AV efforts.
- Research should be conducted into whether a transportation provider employee should be present to assist passengers when needed on all public vehicles without a driver. Disability, senior and civil rights advocates should be consulted. This and similar research could be conducted through the Transit Cooperative Research Program.

Resiliency, Regulation, Equivalent and Integrated Service

- The ADA and Title VI of the Civil Rights Act and Executive Order 12898 provide essential protections against discrimination and provide a roadmap for ensuring access to public transit.
- Exemptions should not be granted for development and testing of any AV vehicles that could be utilized for transit, paratransit, microtransit, first mile/last mile or circulator service that are not equitable and fully accessible.
- Equivalent, integrated service must be the standard in transit, versus tiered service that would lead to segregation and lower quality service for wheelchair users and those who depend on transit. Without equivalent service, those most in need will routinely be left without transportation, especially during emergencies when traditional fixed route or rail breaks down or needs repair, or in times of inclement weather. Compliance with the ADA and Title VI is necessary for a truly resilient transit system.
- USDOT should update its 2016 Dear Colleague letter on Shared Mobility. The letter reminded agencies partnering with transportation network companies and other private entities that they have an obligation to ensure equity and access. The updated guidance should direct agencies to adhere to their obligation and include partnerships with AV service providers.^{vii}

Safety

- AV standards should ensure adequate safety and crashworthiness for all people with disabilities, including wheelchair users who remain in their wheelchairs in the vehicle.
- A redundant accessible communications system to report emergencies, and ensure timely response and safe extraction from the vehicle, should be required.
- AV standards should require automated driving systems (ADS) to be able to identify all road users, including people of all complexions, races and ethnicities, and people who use canes and service animals, wheelchairs and other assistive devices.^{viii}

Workforce

- Federally-funded programs and plans to develop and train the AV workforce should include workers with disabilities.
- Public sector agencies at federal, state and local levels must develop recruitment and human resource programs to attract, train and retain employees with disabilities across the workforce.

With these principles adhered to, and recommendations adopted, AVs can deliver on the promise of safer mobility and opportunity for all.

Signatories

Access Ready

American Academy of Physical Medicine and Rehabilitation

American Council of the Blind

American Foundation for the Blind

American Therapeutic Recreation Association

Association of Assistive Technology Act Programs

Autistic Self Advocacy Network

Autistic Women & Nonbinary Network (AWN)

Disability Rights Education and Defense Fund

Easterseals

Epilepsy Foundation

Muscular Dystrophy Association

National Association of Councils on Developmental Disabilities

National Disability Rights Network

Paralyzed Veterans of America

Perkins School for the Blind

TDI

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The Consortium for Constituents with Disabilities (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.

ⁱ The Task Force notes the USDOT 2022 Strategic Plan's inclusion of climate and environmental justice efforts. The agency aims to "reduce exposure, waste and harmful emissions on disadvantaged communities, and increase availability and access to clean transportation options, including affordable EVs, charging stations, transit, and bicycle and walking paths. We urge USDOT and policymakers to ensure disabled people, especially those multiply-marginalized, benefits from these efforts.

ⁱⁱ 26.0% of non-institutionalized persons aged 21 to 64. *Disability Statistics from the American Community Survey (ACS)*. Cornell University Yang-Tan Institute, 2022. www.disabilitystatistics.org

ⁱⁱⁱ The devaluing of people with disabilities and marginalized communities' lives is reflected in the COVID pandemic healthcare policies. According to a National Council on Disability report, informal and formal crisis standards of care guided scarce healthcare resource decisions and targeted people with certain disabilities in denial of care. See NCD's report on *The Impact of COVID-19 on People with Disabilities*, available at <https://ncd.gov/progressreport/2021/2021-progress-report>.

^{iv} Prioritizing infrastructure improvements in disadvantaged communities is in line with the Biden-Harris Administration's Justice40 Initiative which aims to deliver 40 percent of the overall benefits of federal investments in climate and clean energy, including sustainable transportation, to disadvantaged communities.

^v For detailed recommendations please see the January 2022 CCD Transportation comments on EV infrastructure in response to docket number: FHWA-2021-2022. Available at: <https://www.c-c-d.org/fichiers/CCD-Transp-TF-Comments-FHWA-2021-0022-022822-updated.pdf>

^{vi} For our previous recommendations on inclusion of disability issues and advocates in an advisory committee please see the November 2019 CCD Transportation Task Force feedback on bicameral bipartisan AV legislation. Available at: <https://www.c-c-d.org/fichiers/CCD-Transp-TF-Feedback-on-AV-Sections-110419.pdf>

^{vii} *Reference recent DOJ MBTA TNC violation*

^{viii} Kea Wilson (June 2020). Study: AVs May Not Detect Darker-Skinned Pedestrians as Often as Lighter Ones. *Streetsblog*. Available at: <https://usa.streetsblog.org/2020/06/17/study-avs-may-not-detect-darker-skinned-pedestrians-as-often-as-lighter-ones/>