



CCD Transportation Task Force Autonomous Vehicle Principles

December 3, 2018

Nearly 1 in 5 people in the U.S. has a disability (more than 57 million). While 99% of public buses are equipped with ramps, significant barriers to accessible, affordable transportation remain across modes. Many people with disabilities are currently unable to obtain a driver's license, and cannot afford to purchase an accessible vehicle. In 2017, 3.6 million Americans with a disability reported not leaving their homes.ⁱ An earlier Bureau of Transportation Statistics study found half a million homebound citing transportation difficulties.ⁱⁱ

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 live their lives to the fullest.ⁱⁱⁱ

The National Council on Disability has published a report and recommendations on self-driving cars.^{iv} The US Department of Transportation (USDOT) recently released Automated Vehicles (AV) 3.0 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.

AVs have the potential to drastically improve access 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.** To that end, the undersigned members of the CCD Transportation Task Force and partner advocacy organizations adopt the following AV principles and recommendations.

Autonomous Vehicle Accessibility, Licensing & Insurance

- 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. 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.

- 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.
- 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.

Costs

- In 2016, 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.^v 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 fully accessible AVs.

Data

- Passengers’ health and disability status and locations visited must not be shared, or used for commercial or tracking purposes without permission of the individual.
- 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 and pedestrians must not be valued less. Collected data should be used and studied to ensure increased safety of disabled passengers and pedestrians, including wheelchair users.

Infrastructure

- The introduction of autonomous shuttles, buses and passenger vehicles requires improved accessibility of Public Rights-of-Way, including sidewalks, audible pedestrian signals, curb cuts, road diets, drop-off/pickup points and cross walks. As roads and facilities are planned and developed, Americans with Disabilities Act (ADA) accessibility requirements must be strictly adhered to in order for cities and states to work towards meeting goals of zero traffic deaths and serious injuries.
- 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 groups, the U.S. Department of Labor, and USDOT. Existing rules, including Section 504 of the Rehabilitation Act and the ADA, should be recognized as requiring accessible AVs, including the development of any additional needed standards by the U.S. Access Board and regulation by the U.S. Department of Justice.
- An AV Accessibility Advisory Committee should be established and include representatives of national organizations representing individuals with disabilities and people who are elderly, and representatives of 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 people with neurological conditions including epilepsy and seizure disorders.
- Congress should pass legislation requiring that, as a matter of civil rights, all new technology incorporate the needs of people with disabilities at the earliest possible point. Many new technologies are inaccessible to people with vision, hearing, 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.

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. All technology products should be required to comply with Section 508 of the Rehabilitation Act.
- 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 standards and testing are developed for the safety of passengers and pedestrians with disabilities, including wheelchair users who remain in the vehicle.
- 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 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.

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 meant 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 be left without transportation 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.

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

ACCSES

American Academy of Physical Medicine and Rehabilitation

American Association of People with Disabilities

American Council of the Blind

American Therapeutic Recreation Association

Association of University Centers on Disability

Autism Society of America

Autistic Self Advocacy Network

Children and Adults with Attention-Deficit Hyperactivity Disorder

Disability Rights Education & Defense Fund

Easterseals

Epilepsy Foundation

Lutheran Services in America-Disability Network

National Association of Councils on Developmental Disabilities

National Council on Independent Living

National Disability Rights Network

National Down Syndrome Congress

Paralyzed Veterans of America

Perkins School for the Blind

The Arc of the United States

The Advocacy Institute

United Spinal Association

ⁱ In addition, roughly half of respondents 18 to 64 reported living in a household with income under \$25,000. *Travel Patterns of American Adults with Disabilities*. Bureau of Transportation Statistics, 2018.

<https://www.bts.gov/travel-patterns-with-disabilities>

ⁱⁱ *Transportation Difficulties Keep Over Half a Million at Home*. Bureau of Transportation Statistics, 2003.

https://www.bts.gov/archive/publications/special_reports_and_issue_briefs/issue_briefs/number_03/entire

ⁱⁱⁱ According to a National Conference on State Legislature report, in 2012, people with disabilities who were not working reported lack of transportation as one of their biggest barriers to employment. A National Organization on Disability survey conducted with the Kessler Foundation in 2010 found that Income remains a barrier to transportation. *Getting to Work: Effective State Solutions*, May 2015.

<http://www.ncsl.org/research/transportation/getting-to-work-effective-solutions-to-help-people-with-transportation-challenges-access-jobs.aspx>

^{iv} National Council on Disability (2015). *Self-Driving Cars: Mapping Access to a Technology Revolution*. Available at

<https://ncd.gov/publications/2015/self-driving-cars-mapping-access-technology-revolution>

^v 26.6% of non-institutionalized persons aged 21 to 64. *Disability Statistics from the American Community Survey (ACS)*. Cornell University Yang-Tan Institute, 2017. www.disabilitystatistics.org