Paralyzed Veterans of America

801 18th Street NW
Washington, DC 20006-3517
(O) 202.872.1300
www.PVA.org

501(C)(3) Veterans Non-Profit

October 17, 2025

Michael A. Halem,
Acting Assistant Secretary for Research and Technology,
U.S. Department of Transportation

Re: DOT-OST-2025-1029, Request for Information: Research Ideas to Support Nationwide Automated Vehicle Deployment

Dear Acting Assistant Secretary Halem:

Paralyzed Veterans of America (PVA) submits the following comments in response to a request for information (RFI) from the U.S. Department of Transportation (DOT), seeking information to inform coordinated national research supporting Automated Driving Systems (ADS) transportation technology deployment and realizing safe efficient operations on our nation's roadways, published on August 18, 2025. PVA is a congressionally chartered veterans service organization with nearly 16,000 members. All PVA members are honorably discharged veterans who have incurred a spinal cord injury or disorder, such as MS or ALS. Virtually all members use wheelchairs or other assistive devices for mobility. PVA members have a significant interest in ensuring automated vehicles (AVs) are accessible for disabled veterans and others who use wheelchairs or other mobility devices and that pedestrians who use mobility assistive devices are kept safe.

Currently, most AVs – especially those used for rideshare purposes – are not wheelchair accessible. The Americans with Disabilities Act prohibits transit operators from denying people with disabilities, including mobility device users, from their services.[1] However, since most AVs are not wheelchair accessible, people who use wheelchairs or scooters, including disabled veterans, are denied services. Furthermore, there are significant safety risks for pedestrians who use wheelchairs and scooters that must be addressed. For safe and efficient operations of ADS and AVs, research on wheelchair accessible AVs and the safety for pedestrians who use mobility assistive devices should be prioritized.

There remains an overwhelming need for funding and research on wheelchair accessible AVs, especially on mobility device securement. People with disabilities are less likely to own private vehicles.[2] Without access to private vehicles, people with disabilities rely more heavily on public transit or other modes of transportation. However, almost all AV rideshare companies' vehicles are not wheelchair accessible. For mobility device users to independently use an AV, the vehicle must have a mobility device securement and restraint system that the

[1] 49 CFR 37.5.
[2] *See* U.S. Department of Transportation, Bureau of Transportation Statistics, Technical Report: Travel Patterns of Adults with Travel-Limiting Disabilities (April 2024) ("In 2022, 14.3 percent of persons age 18 to 64 with travel-limiting disabilities lived in zero-vehicle households; a significantly larger share, by 9.4 percentage points, than those without disabilities in the same age group.").

rider can use without assistance. To encourage an increase in developing, manufacturing, and operating of AV wheelchair accessible vehicles (WAVs), research must be expeditiously conducted to advance universal securement systems. In addition, all research for WAVs must include safe boarding and disembarking methods, including how to accommodate ramps.

Although some companies have developed securement systems, they are not compatible with all types of mobility devices, and have not been adopted by all AV companies.[3] Since most AV companies do not have WAVs, disabled veterans and others who use wheelchairs and scooters are excluded during their swift deployment. Research should advance development of a safe securement system for all types of mobility devices, including, but not limited to, manual wheelchairs, power wheelchairs, and scooters. Only with an independent mobility device securement system can AVs meet the potential of providing a safe transportation option for disabled veterans who use a wheelchair or scooter. Research should be focused not simply on finding a single solution, but on making these solutions as simple, cost-effective, and scalable as possible.

In addition, ADS must be thoroughly researched and tested to ensure detection of pedestrians who use mobility devices. The fatality rate for pedestrians who use wheelchairs is 36 percent higher than the general pedestrian population.[4] In addition, due to the lack of complete, accessible sidewalks and public rights-of-way, wheelchair and scooter users may be forced to traverse through the roadway, escalating safety concerns. In addition, traveling in the street may be a different pedestrian behavior than those who can use non-accessible sidewalks or simply walk on the side of the street where there is no sidewalk. In all ADS research for the detection of pedestrians and understanding pedestrian behavior, ADS must specifically be researched and tested for the detection of pedestrians who use wheeled mobility assistive devices to reduce safety risks and potential injuries and fatalities.

1. Data Standards and Integration: What comprehensive data frameworks could be studied, piloted/demonstrated or otherwise tested that could inform standardization of data on AV interactions and impacts on transportation system operations (e.g., obstructions to traffic, behaviors that are not expected of human-driven vehicles, etc.) and how it is categorized, reported to agencies and the public, and validated for normal and anomalous events based on the factors below?

An increase in safety for disabled pedestrians who use wheelchairs or scooters is essential for safe nationwide AV deployment. Due to the high fatality rates of pedestrians who use wheelchairs, ADS must be specifically studied to determine how AVs interact with pedestrians who use mobility assistive devices. The National Highway Traffic Safety Administration (NHTSA) requires manufacturers and operators to report to the agency certain crashes involving property or injuries for vehicles equipped with ADS or Society of Automotive Engineers (SAE) Level 2 advanced driver assistance systems.[5] To improve reporting standards, any ADS or SAE Level 2 accident with a pedestrian who uses a wheelchair or scooter must be immediately reported and categorized as such. Accidents involving injuries or fatalities for pedestrians who use a wheelchair or scooter must be

[3] *See* U.S. Access Board, Public Forum on Inclusive Design of AVs: Summary Report (July 2021).
[4] Kraemer JD, Benton CS, Disparities in road crash mortality among pedestrians using wheelchairs in the USA: results of a capture–recapture analysis, BMJ Open (2015), available at https://bmjopen.bmj.com/content/bmjopen/5/11/e008396.full.pdf.
[5] National Highway Traffic Safety Administration, Third Amended Standing General Order 2021-01, https://www.nhtsa.gov/sites/nhtsa.gov/files/2025-04/third-amended-SGO-2021-01_2025.pdf.

separately categorized and reported to agencies and the public to fully illustrate whether these vehicles and systems are safe for pedestrians.

Research and data frameworks must include detection and response testing specifically for non-ambulatory pedestrians. AVs are programmed to understand human behavior, including pedestrians. However, when there are no sidewalks or accessible public rights-of-way, wheelchair and scooter users often have to travel in the road itself – a traveling behavior different than many pedestrians. Thus, AVs must also be programmed to respond accordingly. Research and testing should indicate how ADS performs on all aspects of driving on roadways when a pedestrian who uses a wheelchair or scooter is detected, including braking, turning, merging lanes, signaling, and taking evasive action. These details will also illustrate the behavioral competencies of AVs, to keep pedestrians who use wheelchair and scooters safe. Research should be specifically conducted to develop driving and safety testing standards for manufacturers to demonstrate that their AVs can reduce the number of fatalities for pedestrians who use wheelchairs and scooters.

(a) What new or enhanced statistical methodologies, including but not limited to metrics, confidence intervals, significance thresholds, and negative control events, can be applied to create benchmarks for AV impacts on transportation system performance, and considerations relating to appropriate human driver baseline(s)?

Since pedestrians who use wheelchairs have the highest fatality rates, the number of accidents or crashes involving pedestrians who use mobility devices must be specifically examined to lower that statistic. A benchmark should be set on whether an ADS is safe specifically based on the number of pedestrian accidents and fatalities involving pedestrians who use wheelchairs or scooters. As previously discussed, reports should separately categorize accidents involving pedestrians who use wheelchairs or scooters for safety analysis. Repeated incidents, across all AV operators, will indicate a need for more in-depth research on how AVs interact with wheelchair and other mobility device users.

(b) What specific data, and methods to publish that data via open-data portals or protocols (dynamic/real-time and non-real-time), designed to meet the needs of operations, maintenance, research, policy, and the general public across all operating scenarios and environments and interactions with other road users, is needed?

Once the databases reflect the number of crashes, accidents, or incidents with pedestrians who use mobility devices, these numbers should be reported to both the appropriate federal and local government entities, such as NHTSA and state transit regulators, and the public. Data should be reported to the agencies immediately after the incident, without delay, and an investigation should be conducted. However, the numbers and incident reports should also be available to the general public. Data reporting will provide necessary information on how AVs operate and whether the safety of pedestrians who use wheelchairs and scooters is protected. In addition, reporting may influence the need for more research, comprehensive guidelines or standards, and advise the general public on how AVs safely operate. Reporting may also impact the general public's perception on the overall safety of AVs and ridership. In addition, public reporting will hold AV operators accountable to maintain and improve safety standards. Public reporting should occur monthly and be posted in an accessible format that meets accessibility requirements under applicable disability laws.

(c) What additional research is needed to improve understanding of operational needs related to automated fleet operations (including both commercial motor vehicles and non-CMV fleets such as ride hailing), e.g. transcontinental automated truck trips, including fueling, inspection, emergency maintenance and other services. What interoperable digital data would be valuable in supporting these services for automated fleets?

As AVs are being operated for rideshare and public use, it is important that there are WAVs to meet the needs of people who use wheelchairs and scooters. Without WAVs, wheelchair and scooter users are denied access to this emerging mode of transportation. However, a major barrier in manufacturing AV WAVs is a lack of full research on automated restraint and securement systems to allow a person using a wheelchair or scooter to independently ride in an AV. Research must be completed on securement systems to ensure WAVs are available and scalable for nationwide use. This research must also include a universal docking system. Many AV companies are not independently researching, developing, and testing these types of restraint or university docking systems. Thus, DOT should conduct research to test and develop a system for an automated wheelchair securement system. All universal docking systems must be useable for all wheeled mobility devices, including manual and power wheelchairs. In the past, DOT awarded grants for research on inclusive AV design.[6] However, sufficient research has not been continued by DOT. The Department should continue to thoroughly research universal docking systems. Only with additional research and testing can the number of AVs deployed nationwide meet the needs of the community. For any questions, please contact Danica Gonzalves, PVA Senior Advocacy Attorney, at DanicaG@PVA.org or 202-416-7790.

Thank you for the opportunity to comment on this important matter.

Sincerely,

Heather J. Ansley

Heather Ansley, Esq., MSW
Chief Policy Officer

Paralyzed Veterans of America
1875 Eye Street, NW; Ste. 1100
Washington, DC 20006

[6] *See* U.S. Department of Transportation, On Anniversary of ADA, USDOT Announces Winners of its First-Ever Inclusive Design Challenge (July 26, 2022), available at https://www.transportation.gov/briefing-room/anniversary-ada-usdot-announces-winners-its-first-ever-inclusive-design-challenge.