GUEST FEATURE

Accessible Autonomous Vehicles & Transportation: Initial Consumer Views

NMEDA Conference Speaker
Innovation & Technology Track

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In much of America, the capacity to drive opens the door to greater participation, job opportunities, access to healthcare and education. Driving is regarded as an important aspect of personal freedom and autonomy; however, access is very restricted for non-drivers, especially if they live outside the largest metropolitan areas with limited access to public transportation. An estimated 25.5 million Americans experience a travel-limiting disability, there is an increasing need for accessible and enabling personal transportation. The transportation industry is in the middle of one of its largest transformations, with unprecedented investment and advancements in electric and autonomous vehicle (AV) technologies. Since 2009, the vast majority of the $14 billion invested in AV technology has been spent in pursuit of mass market driverless cars. These efforts have produced significant advances, but the technological, psychological, and regulatory constraints that remain will likely make wide-spread AV market adoption a decade or more away. Therefore, despite the billions invested and rapid technological advances, the transportation options for older adults and persons with disabilities remains largely the same.

The National Council on Disability in its report entitled "Self-Driving Cars: Mapping Access to a Technology Revolution" explored the "emerging revolution in automobile technology and the promise it holds to for people with disabilities, as well as the obstacles the disability community faces to realize that promise." The report makes several key recommendations: research and development of AVs and their components should include a requirement that demonstrates that any resulting products incorporate accessibility of people with diverse disabilities, and these technologies should be required to comply with Section 508 of the Rehabilitation Act; guidelines are needed for how people with disabilities can safely interact with and use AVs; and all types of common and public use AVs must be fully accessible. Mitigating transportation related barriers for people with disabilities would enable new employment opportunities for approximately 2 million people with disabilities and save $19 billion annually in healthcare expenditures from missed medical appointments alone.

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Most people with disabilities have only three viable transportation options: (1) operate a personal vehicle; (2) rely on the services of others; and (3) use accessible public transportation. For people with disabilities that do not live in urban areas, owning and operating a personal vehicle or relying on friends and family are the only realistic options. We along with colleagues in the Human Engineering Research Laboratories surveyed the opinions of over 1,000 users of mobility devices and assistive technology to prepare a research and development road map. The survey focused on advancements in mobility-related assistive technologies and asked about the importance of developing futuristic technologies related to transportation. This work indicates that advancements in technologies related to transportation are very important to individuals with disabilities and represent a significant unmet need. Over 60% of respondents rated the importance of technology in meeting their personal mobility needs (e.g., home, work, neighborhood) as "critical," and over 40% felt that traveling freely (e.g., vacation, cruise, airline, bus, taxi, train) was also "critical." Of those participants who provided additional comments, approximately 12% mentioned transportation, with "self-driving" vehicles representing nearly 50% of the comments. To be successful, AV technology needs extreme reliability, especially if it is the only means of a person to drive safely. Cost is a notable issue – devices and systems that are too costly will essentially be inaccessible to many people with disabilities. Moreover, purchasing a new vehicle is a significant hurdle for many people with disabilities.

Dr. Cooper will be presenting on the Innovation & Technology track at the 2021 NMEDA Annual Conference. His session is titled, "Pimp My Ride: Accessible Self-Driving Vehicles."

He will also be a panelist at the opening general session presentation, "Return of the Rolling Disrupters." ***See more on pg 29.***