Additional Questions for the Record

Subcommittee on Consumer Protection and Commerce
Hearing on
"Autonomous Vehicles: Promises and Challenges of Evolving Automotive Technologies."
February 11, 2020

Mr. Mark Riccobono, President, National Federation of the Blind

The Honorable Tom O'Halleran (D-AZ)

1. Can you please elaborate on how self-driving cars are safe and user-friendly for older Americans and those with disabilities?

I cannot speak to the safety aspect of self-driving vehicles, but I do know that if these vehicles are designed with Americans with disabilities in mind, they will be user-friendly and provide a much-needed transportation option for most older Americans and Americans with disabilities, particularly those in suburban and rural areas, where mass public transportation is often not readily available.

The Honorable Lisa Blunt Rochester (D-DE)

1. With autonomous vehicles, visual impairment is no longer a barrier to transportation, but state licensing requirements could be.

    a. How could state driver license requirements inhibit people with disabilities from using this revolutionary technology?

Current driver license tests include passing a vision test as a requirement to obtain a license. If this requirement were to persist in order for people to operate a fully autonomous vehicle ("fully autonomous" refers to SAE Levels 4 and 5), then any American unable to pass a vision test (i.e. all blind Americans) would be barred from using this revolutionary technology before we were even able to enter the vehicles. This would not only inhibit blind people from using fully autonomous vehicles, it would be outright discrimination.

2. In legislation from the 115th Congress, advisory committees and councils were conceived to improve coordination between stakeholders, regulators, and Congress.

    a. How important is it for self-driving cars legislation to create an accessibility advisability council?

An accessibility advisability council is critical to the creation and passage of any meaningful self-driving cars legislation. Without Americans with disabilities in mind in these early development phases, any fully autonomous vehicles created are likely to exclude an entire population of people who are most likely to experience life-changing benefits from this technology. Blind Americans consider the promise of fully autonomous vehicles as more than just a trendy new gadget or feature, for us, these vehicles represent the ability to travel with privacy, efficiency, and independence.

b. What are some of the top issues this council should advise on?

The top issues this council should consider are a vehicle location system, navigation and maintenance controls, interior environment controls, and exterior environment alerts. Ensuring that these four areas are accessible is paramount for people with disabilities to be able to realize the full potential of fully autonomous vehicles. More information on each of these aspects can be found in the attached document.

3. Crashworthiness standards may affect people differently, including people with disabilities.

    a. Can you please describe some of the crashworthiness and safety issues that may impact the disability community?

With regard to crashworthiness and safety issues, we would leave that up to the researchers and engineers to design a system with restraints, airbags, crumple zones, etc. that would work for all users, including those with disabilities.

    b. Should our crashworthiness standards give specific consideration to people with disabilities, including those in wheelchairs?

For large populations of Americans with disabilities, the same crashworthiness standards for people without disabilities will apply. The safety needs of a person traveling in a vehicle remain the same regardless of whether that person has a disability. However, there should certainly be specific consideration for those in wheelchairs to ensure that the specific measures to keep them safe are researched, designed, and implemented.

    c. Since we are still testing and developing self-driving cars, what can we do to ensure that the federal government properly considers the disability community?

A large part of ensuring that the disability community is properly considered in these early testing and development phases is to do exactly what you are doing now: ask us. More specifically, for issues relating to vision loss, ask the National Federation of the Blind. For issues pertaining to other disability groups we would be more than happy to connect you with other disability run organizations. There is no better way to ensure our participation and success than to involve us early in the process, to hear our suggestions, and to work with us to implement the designs. The creation of the previously referenced accessibility advisory council, which should include individuals with disabilities, would be a tremendous resource in this effort. Additionally, any legislation to create a national framework for testing should mandate nonvisual accessibility in all fully autonomous vehicles.

4. We ought to make sure these cars are usable for every passenger, regardless of auditory, visual, or other impairments. This necessity is perhaps most obvious when the car is communicating emergencies to its passenger, such as evacuation notices and other critical warnings.

    a. Do you believe enough attention has been paid to addressing these concerns?

We do not believe enough attention has yet been given to these issues. I think communicating emergency situations to passengers of fully autonomous vehicles is an aspect that frequently gets overlooked. In order to have truly successful and inclusive autonomous vehicles that can be used by all members of society, the means to communicate emergency instructions in the event of sudden and unintended occurrences must be regarded as an essential safety feature of fully autonomous cars.

b. What can Congress do to ensure these concerns are addressed?

As I previously mentioned, the absolute most important action Congress can take to ensure that the concerns of people with disabilities are addressed is to involve actual people with disabilities in the research, design, and engineering phases of fully autonomous vehicles. Additionally, any legislation to create a national framework for fully autonomous vehicles should mandate the capability to nonvisually communicate emergency situations to passengers.

The Honorable Tony Cardenas (D-CA)

1. How might AVs serve to increase employment and economic opportunities for populations who cannot drive or have access to transit?

One of the biggest barriers to employment for Americans with disabilities is lack of access to reliable transportation. Often times the only available option is public transportation. While this works in some cases, it does not work for all people, particularly those that live in suburban or rural locations. The development and deployment of fully autonomous vehicles ("fully autonomous" refers to SAE Levels 4 and 5) would change all of that by giving people with disabilities in these suburban and rural areas access to reliable transportation. This access would open a host of employment and economic opportunities that are currently difficult or impossible for Americans with disabilities to reach.

The Honorable Richard Hudson (R-NC)

1. Last Congress, Mr. Lance, along with Ms. Dingell and Mr. Rush, introduced H.R. 3408, the EXEMPT Act, which passed the House unanimously as part of the SELF DRIVE Act. The EXEMPT Act created a new exemption category for autonomous vehicles and required a developer to submit robust data to demonstrate their autonomous vehicle met or exceeded the safety of traditional vehicles. I am pleased to see this critical issue part of the ongoing discussions this Congress.

    a. I am proud to see the bicameral, bipartisan working group include a new category this Congress that is specifically designed to promote transportation access for individuals with disabilities. How do you think this technology could benefit the visually impaired community? Are there unique issues we should be aware of as we work to move this legislation forward?

This technology will benefit blind Americans by providing a form of private and reliable transportation that could be used to get to work, school, medical appointments, and social functions just to name a few. Fully autonomous cars ("fully autonomous" refers to SAE

Levels 4 and 5) would be an alternative to mass public transportation, which frequently only operates in urban settings. This revolutionary technology would make it easier for blind Americans living in rural areas, where no public transportation is available, to travel into the nearest town for their doctor's appointment, to get to their place of employment, or maybe just a quick shopping trip. The key issue to keep in mind is to make sure that this technology will be usable by blind people, which means designing and creating systems to operate the vehicle that can be used in a nonvisual manner. Four key areas of nonvisual accessibility that need serious consideration are vehicle location systems, navigation and maintenance controls, interior environment controls, and exterior environment alerts. More information on each of these can be found in the attached document. This kind of inclusive design is paramount to the success of fully autonomous vehicles among the population of blind people in the United States.