



Living Mobility

by Mobility & Transportation

Living Mobility is Inclusive Spotlight on 5G- enabled accessibility

In conversation with Ari Fitzgerald, partner

Inclusive Living Mobility encompasses equity and transparency in the use of mobility-improving technologies. Service providers, disability advocates, and automakers are working together to address some of the mobility challenges experienced by people with disabilities. Potential solutions include automated and standardized transit functions that otherwise require the assistance of other people. But automating and standardizing functions require a reliable signal and the lower latency made possible by 5G. Ari Fitzgerald discusses a few of the challenges specific to 5G and accessible transport options.

What are some of the policy considerations relating to 5G that the mobility and transportation industry should keep in mind?

Fitzgerald: As a policy matter, the mobility and transportation industry should be thinking in advance about the accessibility of its designs. At the highest level of automation, an autonomous system will make it safe for people who are physically incapable of ever operating a standard automobile to be transported in the vehicle without any other person being present. We should strive to make sure that those with physical disabilities that prevent them from taking over control of a vehicle in which they are being transported have essentially the same ability to benefit. This is similar to

a concept long embraced by the communications industry called universal design.

What is universal design?

Fitzgerald: Universal design establishes as a primary goal for any developer of products or services that they be universally accessible. The communications industry has embraced universal design for many years. While it may seem intuitive now, it was not so when cell phones were first introduced. Initial cellphone designs made it difficult for many people with physical disabilities to use them. Individuals with hearing loss, for example, were unable to use early generation cellphones without attaching clunky TTY devices, which essentially eliminated the benefits of mobility. The first generation of digital mobile phones could not be used by people who wore hearing aids. They also could not be operated simply via voice commands and brail was not included on their keypads, making use by the blind virtually impossible.

This led Congress to pass Section 255 of the Communications Act in 1996. That law required that telecommunications services and equipment be made accessible to people with disabilities if “readily achievable.”

In 2010, the Twenty-First Century Communications and Video Accessibility Act (CVAA) expanded upon these congressional efforts and updated the law for modern communications.

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Fitzgerald: As the mobility and transportation industry moves towards autonomous vehicles, revenue generation will depend largely on selling the experience. Automakers should think of ways to import universal design concepts into their vehicle interiors in particular. Broadly speaking, the mobility and transportation industry should be thinking in terms of universal design (i.e., ensuring at the conceptual stage that the total experience is designed in a way that makes it accessible to the greatest number of people possible at the outset of the offering, as opposed to later through accommodations and adjustments) and incorporating this concept into whatever tech-based mobility offerings they are developing.

What is the role of government subsidies in expanding 5G to rural areas?

Fitzgerald: Many expect 5G to soon enable faster and more reliable communications within cities. Theoretically, the same benefits could be realized in rural areas – but deploying advanced communications networks in sparsely populated areas is very expensive. From the very beginning, the U.S. Congress and regulators recognized that bringing new infrastructure (roads, electricity and, yes, communications) to rural areas would be more expensive than bringing that same infrastructure and services to cities. Yet, they decided that as a public policy matter it would not be appropriate to leave rural infrastructure deployment exclusively to the whims of the marketplace. That is why government subsidies were provided to ensure that a basic level of infrastructure and service would be affordable to people in rural as well as urban areas. So should it be with 5G because 5G will not reach rural areas based on market forces alone.

What regulatory hurdles might impede the development of 5G-enabled accessible mobility?

Fitzgerald: For many years, the FCC has focused on getting licenses to operate over large chunks of the radio spectrum required to support 5G in the hands of commercial mobile providers in the hope that they would deploy advanced networks broadly. More recently it has focused on breaking down other barriers to 5G deployment, including local governmental regulatory barriers that make densification of communications infrastructure (and the capacity gains created thereby) more cumbersome, and the sheer cost of deployment in sparsely populated areas.

The FCC's role is to do everything in its power to get 5G networks deployed to as many places as possible. We have a recent smart example. In May, the FCC proposed to redefine the amount of subsidy it provides to support rural mobile broadband through the use of

reverse auctions, which essentially award the subsidies to those companies that are willing to submit the lowest bid in the auction to cover and serve a particular rural area. In this way, the FCC is adding an important competitive element to its rural subsidy program, which should help ensure that limited government subsidy funds are stretched as far as possible. If the lowest-cost provider doesn't end up serving the communities it indicated it would serve in the reverse auction, it can be sanctioned and forced to repay the government subsidy.

It is important to remember that the FCC focuses most of its efforts on directly regulating communications services and the infrastructure used to provide those services. For the most part, the FCC will not be involved in directly regulating the mobility and transportation industry. With that said, the mobility and transportation industry will increasingly be affected by the FCC's decisions, especially in the areas of spectrum, 5G, and accessibility, as it continues to roll out autonomous vehicle technology.

Featured Speaker



Ari Q. Fitzgerald

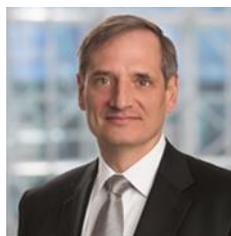
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