

**NHTSA Guidelines for the Safe Deployment and Operation of  
Automated Vehicle Safety Technologies National Session  
John Doan, Self Driving MN  
April 27, 2016**

From my colleagues at Self Driving MN and the millions of American with disabilities, thank you for giving a voice to people with disabilities at your two national sessions.

My name is John Doan and I am a father, brother, engineer and concerned citizen. I am also one of the proud founders and leaders of Self Driving MN. Self Driving MN is a citizen-organized initiative working to ensure that autonomous vehicles deliver equitable, accessible, and affordable transportation independence for people with disabilities and older Americans who are unable to drive. We are a grassroots organization of concerned advocates who see a glaring public need and a way to satisfy that need. I am here today to ask that in every conversation about AVs, in every hearing, we keep the need of Americans with disabilities front and center... and work to make this technology accessible, reliable and affordable for them.

My older brother Roy, who is in his mid-40s has MS and seizures. He was diagnosed about 10 years ago and is no longer able to drive. He works part-time at a retail store in St Paul. Now, while we call Minnesota home and it's a delightful place to live, we have this thing called winter. On a decent day, Roy will ride his bike door to door, which is a 30 to 40 minute trip. During the winter, Roy commutes by walking from his home to the bus stop, transfers to the train then a short walk to work, which can take 45 minutes to an hour. On sub-zero days, with wind chills that cut to the bone, my mom, staff at his group home and I, figure out a ride for Roy. It's not convenient, but we're family and we make it work. I wonder what happens to the Roy's of the world who do not have family close or access to transit or paratransit. It means deciding between having a job, going to the doctor, visiting the library or a myriad of other things most of us take for granted.

I was lucky enough to meet like-minded people through a workshop hosted by the University of Minnesota's Humphrey School for Public Policy. From that chance encounter, we formed the core group that is now Self Driving MN. So what can citizens do regarding an autonomous vehicle industry that by some estimate will grow to be a multi-trillion dollar market? Well, let me tell you.

We can make sure that automated vehicles (AV) are designed and built with everyone in mind, not just those who are able bodied. We can ensure that the diversity of vehicle types, interface and functionality incorporates the diversity of uses and needs. We can promise that my friend and Self Driving MN

partner Michael, who was born blind, has the functionality he needs to safely and comfortably access and interact with an automated vehicle. We can guarantee that my Self Driving MN colleague Joan, whose the Executive Director of the MN Council on Disabilities and uses a wheelchair, does not have to seek out a \$25K retrofit kit to achieve personal mobility.

Self Driving MN wants to make sure that federal, state and local laws and regulations do not hamper, stall or misdirect development of AVs. In MN, we introduced TIM's bill, which is currently working its way through the legislative session. T-I-M is an acronym for Transportation Independence for Many. Coincidentally, it's also the name of my co-founder's 19-year old son who is on the autism spectrum and may never learn to drive. TIM's bill would create a policy task force charged to examine and recommend to the Legislature and Governor, the benefits, costs, business models, liabilities, legal and legislative implications for having SDVs operate in MN to serve people with disabilities, and oversee an Automated Vehicle Pilot Program.

TIM's bill as originally proposed, includes a \$5 M state appropriation primarily to fund the Automated Vehicle Pilot Program. This pilot program would work as a public-private partnership with paratransit services provided by automated vehicles to a pre-qualified group of Minnesotans with disabilities, within a defined geographical area over an extended period of time. Participation guidelines and eligibility requirements would be defined by the taskforce and could include participants from urban, suburban and rural communities.

There is a strong business case for investing public dollars in the development and deployment of automated vehicle technology for paratransit. The Twin Cities paratransit program, known as Metro Mobility, is an award-winning service that is federally mandated for areas where fixed route transit service is provided. In 2015, the region spent over \$62 million in federal and state funds to provide over 2.1 million rides. This resulted in about a \$30 cost per ride. Fares range from \$3 to \$4 per ride, which means the public subsidy is \$26 to \$27 per ride. The math looks even starker, as baby boomers age and demand for Metro Mobility is projected to grow at over 5% annually. The perfect storm occurs as there is a shortage of Metro Mobility drivers to keep pace with current demand. Drivers can't be hired and trained fast enough! All this leads to an immediate and growing need for AV technology to serve people with disabilities and solves this impending imbalance between supply and demand. It's also important to note that paratransit is only federally required where fixed route public transit is provided, so many suburban and rural areas have limited to no paratransit service.

While Self Driving MN is working at the state level, national guidance and funding is also needed. The FAST Act created within the federal 5310 paratransit program, which in FY2016 is funded at nearly \$265 M, a \$2 M per year discretionary set aside fund, which grows to \$3.5 M per year over the life of the FAST Act for financing innovative paratransit projects. We appreciate that nominal resources are being made available through the 5310 Program, but much more innovation funding is needed considering the scale of the paratransit program nationally. In January of this year, Secretary Foxx announced a 10-year, nearly \$4 billion proposed federal investment to accelerate the development and adoption of safe vehicle automation through real-world pilot projects. We support the Administration's proposal and request that when funds are available, USDOT provides flexibility, outreach and priority funding status to projects that serve people with disabilities.

We believe that federal laws and guidance are important, but that there needs to be opportunities for states to identify how this technology can address their social needs and values. Federal preemption may serve the interest of some, but may also foreclose serving the interests of certain communities or society at large. Minnesota's proposed AV pilot program is an example of how and why states can be a powerful laboratory for innovation.

In conclusion, the mobility needs of Americans with disabilities and older adults are real, immediate and ever present. Every day, week, month and year that passes is not only an avoidable death or life changing injury, but a lost opportunity for those who cannot drive themselves to work or be fully mobile, contributing members of our community. I will admit that I do not know the future landscape of a world full of AVs. If car ownership will shift to more of a shared-use or subscription model of mobility, which I believe is a likely scenario. We invite federal officials, car manufacturers, tech companies, service providers and others to contact me personally and connect with us at [SelfDrivingMN.org](http://SelfDrivingMN.org). Whatever that AV future is, Self Driving MN wants to makes sure we all can equally access, use, afford and benefit from it. The arc of AV technology is in full swing and we don't want to be left behind!