



Advocacy for Inclusion

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National Transport Commission

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RE: Automated vehicle safety reforms consultation

Thank you for the opportunity to make a submission in response to the Automated Vehicle Safety Reforms Consultation Paper. This submission focuses on ensuring the regulatory framework surrounding automated vehicles incorporates the needs, priorities and concerns of people with disability. It also canvasses some broader safety issues and questions raised by vehicle automation for people with disability.

About us

Advocacy for Inclusion (AFI) is an independent organisation delivering systemic advocacy informed by our experience in individual advocacy and community and government consultation. We provide dedicated individual and self-advocacy services, training, information and resources in the ACT.

As a Disabled People's Organisation, the majority of our organisation, including our Board of Management, staff and members are people with disabilities. AFI speaks with the authority of lived experience. We are strongly committed to advancing opportunities for the insights, experiences, and opinions of people with disabilities to be heard and acknowledged.

AFI operates under a human rights framework. We uphold the principles of the United Nations Convention on the Rights of Persons with Disabilities and strive to promote and advance human rights and inclusion of people with disabilities in the community. AFI is a declared public authority under the Human Rights Act 2004.

Automated vehicles: Opportunities and challenges

Transportation plays a pivotal role in daily activities and community involvement. In theory, fully automated vehicles present significant opportunities and advantages for people with disability. People with disability face multiple logistical challenges often having to rely on fragmented and fixed public transport networks and services. More often, there is a need to rely on friends and relatives, or to spend limited budgets on taxis which are a highly expensive transport modality. These expenses interfere with the ability of a person with disability to go shopping, travel to work, attend medical appointments, socialise, or go to entertainment venues.

People with certain disabilities, such as people who are blind or with some cognitive disabilities, are not permitted to drive at all, even in adapted vehicles. This could change, however, with the advent of driverless cars. Fully automated vehicles could offer the ability to travel independently.

The advent and introduction of driverless vehicles holds promise for enhanced mobility, but we are also mindful of the unintended consequences of transport disruptions including higher levels of vehicle automation. Consider the example of community transport and vulnerable transport users. Human drivers have an inherent and irreplaceable value proposition to some transport users, often aiding in point-to-point transport and ensuring a seamless journey.

For instance, a community transport driver will know their passenger, assist them to get safely from the vehicle to their door and can also manage unanticipated events – like a person who is confused and can't recall their address or a transport user who requires some assistance to negotiate a steep curb ramp to get into the doctors office after leaving a vehicle. This face-to-face contact is critical, especially for people with speech impairments, memory problems or who lack the ability to communicate. As such, governments and public transport systems must retain and continue to regulate a fleet of community transport vehicles and their drivers in the future.

Some of the challenges related to AV's using AI are critical and relate to the safety of vulnerable users. It is our view that AV's should not be allowed a widespread take up on Australian roads before these issues are ironed out. AV's must be accessible, safe and be able to be controlled by users with disability. They must be able to recognise and avoid atypical pedestrians.

A human element will always be appropriate and important in some transport situations – AV's should not be used in the wholesale replacement of point to point transport in government, public transport and community fleet.



Recommendation 1:

Transport authorities should use available policy, regulatory and funding settings to ensure that point to point vehicle fleets, including taxis and community transport, always maintain some vehicles with human drivers for purposes like community transport

Transport innovations and mobility solutions are constantly changing and there are important lessons to be drawn from the introduction of ridesharing as well as micromobility devices. These innovations have had perverse outcomes which people with disability feel first. Micromobility devices, such as e-scooters, are often discarded with little regard, creating trip and collision hazards, blocking paths, kerb ramps, and access pathways.

The discrimination people with disability experience from rideshare services is pervasive but was not planned for and has not been addressed. It is possibly too late to address them. A key lesson is that moving forward, the unintended consequences of automated vehicles for people with disability must be interrogated and accounted for *before* AV's become ubiquitous or even dominant.

There are also several concerns that need to be addressed to ensure these technologies are inclusive and safe for everyone. These concerns fall under the broader themes of accessibility and safety. For example:

1. Physical accessibility

Autonomous vehicles (AVs) must be designed to accommodate various physical disabilities, such as ensuring sufficient space for wheelchairs and mobility devices, providing ramps or lifts for easy entry and exit, and securing devices to keep mobility aids safe during transit. This is important when considering how people will interact with an automated driving system, specifically when considering vehicle control, seating configurations, and specific requirements about seating position.

Accessibility concerns extend beyond the vehicle itself, especially to public and private charging infrastructure.

Recommendation 2:

Disability accessibility standards should be developed and applied to vehicles by Standards Australia, including autonomous vehicles but also going to issues like height adjustable seats, wheelchair entry, seating configurations and the accessibility of the interior. These should be informed by lived experience.

2. Communication and interaction

In terms of control interfaces, the controls within the vehicle (such as touchscreens or buttons) also need to be accessible. It will be necessary to have voice-activated systems, visual alerts and notifications within the vehicle, and alternative control methods. This will be particularly important for people with visual and hearing impairments.

There is also a need to consider the driving and non-driving obligations on fallback ready users (level 3 automation) as these will have significant implications for people with disability. There are different risks and concerns when considering higher levels of automation.

For example, there is a risk for people with disability to become stranded when a Level 4 or higher driving automation vehicle brings itself to a minimal risk condition, that is in a stable, stopped position. In this situation, the ability to communicate and interact with the vehicle and potentially with remote assistance is critical. In addition, there are also non-driving obligations that are not part of the dynamic driving task. It is critical that these are also considered from a disability perspective in the regulatory framework.

Recommendation 3:

*The controls used by autonomous vehicles **must** have accessibility features and manual overrides to ensure people with disability are not trapped in vehicles, are unable to stop vehicles, unable to communicate with the vehicles or experience serious unintended outcomes. There must be accessible buttons and voice activation as well as touchscreens. There must be ways of manually stopping and exiting vehicles.*

Blind users must be able to use all the features within autonomous vehicles and should be prioritised as one of the groups of people with transport disadvantage most likely to benefit from AV's.

3. Addressing safety concerns

Artificial intelligence (AI) systems are being rapidly integrated into core social domains, making sensitive determinations that shape who receives resources and opportunities and who does not. Systems marketed as capable of making smarter, better, and more objective decisions have been shown to repeatedly produce biased and erroneous outputs.

When confronted with an unavoidable collision, for example, the algorithm governing the AVs actions might value the lives of people with disability less than others or not recognise that a person with a disability is a pedestrian and not another vehicle.

There is a pressing need to ensure AV design and safety testing and trials explicitly consider and confront scenarios which disproportionately present risk to people with

disability. There is a great risk for an AI system to not 'see' or 'recognise' bodies that deviate from an established normative category. For example, people with disability who do not match typical size, pedestrian speed, or height profiles. It is imperative that someone who does not 'look like a pedestrian' when crossing a street does not face a greater risk of being killed.

There is another side to this. If AI systems are not built and implemented in ways that put people with disabilities safety first, there is a risk of discriminatory logics being reproduced and amplified within such systems. The lack of disability representation within datasets creates a significant risk for people with disability as AVs become a reality.

There are other issues which potentially arise which relate to how AV's relate to road and parking rules. For instance, a human driver might make a temporary decision to mount a curb or stop in a no parking zone to temporarily enable a high frail person to safely exit a vehicle without having to mount a curb or interact with traffic while standing up in a walker. These small brief breaches of the rules are sometimes reasonable and necessarily. An AV programmed through AI might 'refuse' to make these decisions and adjustments meaning that a passenger has a fall or cannot safely exit the vehicle.

Recommendation 4:

Camera's and AI systems must be tested and trained to recognise non walking pedestrians and people with atypical body shapes as pedestrians.

These pedestrian profile issues must be ironed out prior to governments allowing the widespread sale and use of AV's on Australian roads.

Passengers should have the ability to override the AI in some circumstances.

AI systems must be built with decision making logics and laws guided by human rights including the UN Convention on the Rights of People with Disability including the Rights to Life and Bodily Integrity.

Concluding remarks

New modes of transport do not just add another play to the game. They change the game and its rules.

Australia is an early adopter of new technology – our city of Canberra especially so.

Transport is a public good – the efficacy and effectiveness of new transport modalities should be judged on whether it advances the ability of vulnerable users to overcome transport disadvantage and obtain transport equity. Some groups of people – like people who are blind, have much to gain and should be prioritised in access to AV's. Those at risk from unintended outcomes should also be prioritised.

We know, from ridesharing or micromobility devices, what happens when these issues are not addressed prior to a new technology reaching critical mass and being generally adopted – people with disabilities, the frail and elderly lose.

There are real safety concerns – both in front of us, like inaccessible voice control, and on the horizon, like AI's making value based judgments about different groups of pedestrians during an accident. The rapid advance of AI means scenarios once labelled as distant or dystopian are now plausible.

Ensuring that AV's enhance the lives of users with disability and addressing safety and accessibility concerns requires a collaborative approach involving technology developers, disability advocates, regulatory bodies, and the users themselves to ensure that automated vehicles can serve as a safe and inclusive mobility solution for all.

Please feel free to contact Jo Luetjens, AFI Policy Officer - Data and Research [REDACTED] [REDACTED] or myself [REDACTED] to discuss this submission further.

Regards



Craig Wallace
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Advocacy for Inclusion

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