

**Submission  
No 14**

## **TRANSPORT TECHNOLOGY SECTOR**

**Organisation:** Vision Australia

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# Vision Australia submission

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## **Inquiry into the Transport Technology Sector**

To: NSW Legislative Assembly Transport and Infrastructure Committee,  
[transportinfrastructure@parliament.nsw.gov.au](mailto:transportinfrastructure@parliament.nsw.gov.au)

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Submission approved by: Chris Edwards, Manager Government Relations  
and Advocacy, NDIS and Aged Care, Vision Australia.

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## Introduction

Vision Australia is providing a short response to the NSW Legislative Assembly Transport and Infrastructure Committee's inquiry into the transport technology sector in order to draw the Committee's attention to the positive role that technology can play in making both new and existing modes of transport safer and more accessible for people who are blind or have low vision, and also to emphasise that there must be a strong commitment to accessibility in all aspects of transport technology if this role is to be achieved.

Equal and independent access to public transport is one of the most important areas of independent community participation for people who are blind or have low vision. Over the past two decades or so it has also become one of the most challenging. There have certainly been improvements that have made it easier for the blind and low vision community to access some aspects of public transport. These improvements have resulted from the Disability Standards for Accessible Public Transport and an accompanying recognition that people with disability comprise an important section of the community, and include the greater use of Tactile Ground Surface Indicators on the edges of railway platforms and other potentially dangerous areas, and the increased (though not universal) availability of audio announcements on trains. At the same time, however, there has been a significant increase in the overall complexity of public transport infrastructure and the built environment more generally, and the proliferation of elements such as multi-route bus stops and multi-mode transport interchanges has often occurred without a strong focus on accessibility.

Technology has also evolved rapidly over the past 20 years and this, too, has created both opportunities and challenges for people who are blind or have low vision. On the positive side, research conducted by Vision Australia and Curtin University in early 2020 found that more than 40% of people who are blind or have low vision and who have a smartphone make use of GPS apps to assist them to navigate around the community. However, other technological developments have made community participation and using public transport more difficult, such as the increasing prevalence of inaccessible touchscreen interfaces in lifts, and information kiosks and display screens at public transport hubs that do not incorporate non-visual modes of access. There is every reason to believe that technology will continue its rapid evolution, and that technology will play an increasing, even dominant, role in every aspect of life, including public transport. It is therefore critical that planners, developers and all levels of government are committed to ensuring that technology promotes full inclusion rather than creating ghettos of exclusion, discrimination and isolation.

We believe that new and emerging transport services such as first and last mile services can be beneficial for people who are blind or have low vision by helping to bypass some traditional barriers. For example, a person may live too far from the nearest public transport to make walking to it practical or safe, and even if they live closer to public transport, they may have to negotiate busy and complex road crossings or roundabouts to reach it. But the benefits of innovative approaches to public transport such

as first and last mile services will not be achieved if accessibility is not a non-negotiable design requirements.

Our comments in this response primarily address the need for accessibility to be incorporated into all aspects of transport technology, and they thus directly or indirectly relate to all five of the Terms of Reference.

## **Need for a Holistic and Integrative Approach to Accessibility**

The accessibility and usability of technology by people who are blind or have low vision does not happen automatically, or even by default, as new and emerging technologies are introduced. For example, touchscreen interfaces are not usable by people who are blind or have low vision unless they are specifically designed to incorporate audio or tactile means of access. Companies including Apple, Google and Samsung have clearly shown that with attention to the principles of inclusive design, touchscreens can be made fully accessible and usable by people who are blind or have low vision, as well as other disability groups. However, the vast majority of manufacturers and developers are not incorporating accessibility into their touchscreen interfaces, because there are no legislative, regulatory, or policy requirements for them to do so.

In the area of public transport technology, Accessibility must be all-encompassing, because a failure at any point will cancel any benefits elsewhere. For example, if a person who is blind or has low vision cannot use First and Last mile services because the booking process does not comply with accessibility guidelines, or if there is no accessible way for them to identify and interact with a connected automated vehicle when it arrives at their location, then accessibility of the services on the rest of the person's transport journey will be of little practical value. Conversely, if the first and last mile services are accessible but other aspects of the transport journey are not, then a person who is blind or has low vision will still be unable to use the transport system as a whole. It is no exaggeration to say that an accessibility failure in one element of the transport system amounts to a failure in the system as a whole.

We believe that this whole-of-journey, or end-to-end, approach must form an overarching framework for the development and introduction of transport technology, because only in this way will the benefits of transport technology be equally available to people who are blind or have low vision. The NSW Government has primary responsibility for ensuring that such a framework is maintained and rigorously applied. In fact, it is difficult to see how

It could do otherwise if it wishes to demonstrate a serious commitment to the principles of the Disability Inclusion Act.

But it is imperative that the Government adopt a more directive approach to the private sector to ensure that new and emerging transport technologies are accessible. One reason is that instruments such as the Disability Standards for Accessible Public Transport generally evolve much more slowly than technology, and by the time the standards have caught up with the technology, the technology has already moved on, leaving inaccessibility and disability discrimination in its wake.

The example of inaccessible touchscreens in lifts mentioned earlier illustrates the impact of this widening gap between standards and technology. These inaccessible lift interfaces have been increasing in prevalence for over 10 years, yet there are still no standards governing or prescribing their accessibility, and in the meantime governments have done nothing whatsoever to require manufacturers and building developers to incorporate accessibility.

The software associated with transport technology must also be designed to comply with accessibility guidelines if the system as a whole is to be accessible. We continue to see examples of apps that are not usable by people who are blind or have low vision because they have not been developed in compliance with the internationally-recognised Web Content Accessibility Guidelines 2.1 and the guidelines that have developed by Apple and Google. Governments falsely assume that the market will allow accessible apps to “rise to the top”, and that legislation such as the Disability Discrimination Act is a sufficient guardian of accessibility for people with a disability in general, and people who are blind or have low vision in particular. In reality, inaccessible apps and technologies are proliferating, and they will continue to do so unless governments take a much more proactive approach by requiring the private sector to design for the entire community, not just for certain privileged sections of it.

## **Safety Considerations**

In our 2019 submission to the NSW Government’s inquiry into electric buses in regional and metropolitan public transport networks we drew attention to our significant concerns about the potential impact of electric vehicles in general on the safety of pedestrians who are blind or have low vision. These concerns are worth reiterating, because in practice they remain unaddressed despite the growing number of electric vehicles in public transport networks.

In 2018 Vision Australia commissioned research by Monash University’s Accident Research Centre into the impact of electric/hybrid vehicles and bicycles on the safety of pedestrians who are blind or have low vision. A key finding from this research was that 35% of people who are blind or have low vision have experienced a collision or near-collision with an electric/hybrid vehicle. Further, 75% indicated that the introduction of these vehicles has reduced their confidence to walk and cross roads, because they no longer feel safe.

Electric vehicles are near-silent, and so cannot be detected audibly, especially when travelling at low speeds or idling. People who are blind or have low vision rely on audible cues such as traffic noise for orientation and determining when it is safe to cross a road. Without such cues, crossing a road can be dangerous, because it is easy to walk straight in front of a silent electric vehicle without knowing it is there, giving the driver no time to avoid a collision.

The US and Europe have introduced standards that require all electric/hybrid vehicles to be fitted with Acoustic Vehicle Alert Systems (AVAS) so that they emit detectable levels of noise. This makes it possible for people who are blind or have low vision to detect these vehicles in much the same way that they detect traditional petrol- and diesel-powered vehicles.

Vision Australia has met on several occasions with Federal MPs and also with senior staff in the Department of Infrastructure, Regional Development and Cities. We have received assurances that minimal noise levels achieved via AVAS will be required of all electric/hybrid vehicles entering the Australian market in the future. The COVID-19 pandemic has delayed progress in consultations based on a Regulatory Impact Statement. Vision Australia met recently with senior Departmental staff and are awaiting a response to our request for a timeline for when the Regulatory Impact Statement will be available. Since our original representations on this issue more electric vehicles without AVAS have become available in Australia, and there is a risk that Australia will be seen as a dumping ground for vehicles that do not comply with EU or US standards in relation to AVAS. We believe that it is essential for governments planning for new public transport technologies based on or incorporating electric vehicles to require any new electric vehicles to be fitted with AVAS so that they do not have a negative and potentially catastrophic impact on the safety of pedestrians who are blind or have low vision. We are very confident that Australia will in due course adopt a standard similar to the EU and the US, and it will be much more expensive to retrofit non-compliant vehicles later than building AVAS into the design now.

If governments do not act decisively now to protect the safety of pedestrians who are blind or have low vision, we expect that there will be a significant public backlash from the blindness and low vision sector, who will obviously be very concerned about a systemic failure to protect their right to safety and security when travelling in the community.

## **Real Time Public Transport Journey Management**

We are encouraged that the Committee is examining this area as part of its inquiry, because we believe that there is potential to introduce innovative approaches that will have a significant benefit for people who are blind or have low vision. Traditionally it has been difficult for a person who is blind or has low vision to manage various aspects of their transport journey in real time because it has not been possible to access information about public transport timetables and route maps while travelling. As we noted

above, people who are blind or have low vision are now using smartphone apps to assist with accessing public transport information, including in real time while travelling. However, these apps do not integrate the numerous aspects of real-time journey management into one app. Thus, one app is used to access journey maps and directions, while another app must be used to access timetable information. Each app has a different user interface that people must learn, and the whole process of frequent app switching quickly becomes time-consuming and cumbersome.

We believe that there is an opportunity to introduce an innovative solution to this problem by developing new apps or integrating existing ones, so that travellers who are blind or have low vision would have a seamless way of managing all aspects of their public transport journey planning in real time.

## **Conclusion and Recommendations**

By using figures provided by the Australian Bureau of Statistics, Vision Australia estimates that there are around 384,000 people in Australia who are blind or have low vision. Approximately 120,000 of these are in NSW. As the population ages and people live longer, we estimate that the number will exceed 176,000 by 2030. Having equal, independent and barrier-free access to public transport, including new products, services and transport modes, will become an increasingly essential aspect of the creation of liveable communities. Conversely, the perpetuation of existing barriers and the creation of new ones will have an increasing discriminatory, exclusionary and isolating effect on a significant group in the community.

To ensure that the public transport system is accessible and usable by all sections of the community, including people who are blind or have low vision, as technology evolves and new services and infrastructure are introduced, we recommend that the NSW Government:

1. Require that all technologies and suppliers in the transport technology sector comply with the Australian Standard for Accessible Public Procurement, AS/NZ 301:549;
2. Ensure that all new technologies, services and infrastructure are evaluated by people with disabilities, including people who are blind or have low vision, prior to their introduction;
3. Implement ongoing consultation and feedback mechanisms so that the disability sector has meaningful input into the design and delivery of all aspects of public transport.

## **About Vision Australia**

Vision Australia is the largest national provider of services to people who are blind, deafblind, or have low vision in Australia. We are formed through the merger of several of Australia's most respected and experienced blindness and low vision agencies, celebrating our 150th year of operation in 2017.

Our vision is that people who are blind, deafblind, or have low vision will increasingly be able to choose to participate fully in every facet of community life. To help realise this goal, we provide high-quality services to the community of people who are blind, have low vision, are deafblind or have a print disability, and their families.

Vision Australia service delivery areas include: registered provider of specialist supports for the NDIS and My Aged Care Aids and Equipment, Assistive/Adaptive Technology training and support,

Seeing Eye Dogs, National Library Services, Early childhood and education services, and Felix Library for 0-7 year olds, employment services, production of alternate formats, Vision Australia Radio network, and national partnership with Radio for the Print Handicapped Spectacles Program for the NSW Government Advocacy and Engagement. We also work collaboratively with Government, businesses and the community to eliminate the barriers our clients face in making life choices and fully exercising rights as Australian citizens.

Vision Australia has unrivalled knowledge and experience through constant interaction with clients and their families, of whom we provide services to more than 26,000 people each year, and also through the direct involvement of people who are blind or have low vision at all levels of our organisation. Vision Australia is well placed to advise governments, business and the community on challenges faced by people who are blind or have low vision fully participating in community life.

We have a vibrant Client Reference Group, with people who are blind or have low vision representing the voice and needs of clients of our organisation to the board and management.

Vision Australia is also a significant employer of people who are blind or have low vision, with 15% of total staff having vision impairment.