

Ph 1800 033 660 | E [bca@bca.org.au](mailto:bca@bca.org.au) | W [bca.org.au](http://www.bca.org.au/) | ABN 90 006 985 226

**Response to the Discussion Paper for the 2022 Review of the Disability Standards for Accessible Public Transport 2002**

Lodged via: <https://www.infrastructure.gov.au/have-your-say/2022-review-disability-standards-accessible-public-transport-2002>

Author: Corey Crawford, National Policy Officer

[corey.crawford@bca.org.au](mailto:corey.crawford@bca.org.au)

30th June 2023

Endorsed by:

Logo:
Australian Communications Consumer Action Network (ACCAN) Logo

Description automatically generated

Logo:
Public Interest Advocacy Centre

**Contents**

[Response to the Discussion Paper for the 2022 Review of the Disability Standards for Accessible Public Transport 2002 1](#_Toc138244545)

[Contents 2](#_Toc138244546)

[1. Introduction 2](#_Toc138244547)

[1.1 About Blind Citizens Australia (BCA) 2](#_Toc138244548)

[1.2 About people who are blind or vision impaired 3](#_Toc138244549)

[2. Submission Context 3](#_Toc138244550)

[3. Blind Citizens Australia’s Submission 4](#_Toc138244551)

[3.1 An overview of the Transport Standards and the Transport Standards Guidelines 4](#_Toc138244552)

[3.2 Awareness of the Transport Standards and the Transport Standards Guidelines 5](#_Toc138244553)

[3.3 The effectiveness of the Transport Standards 7](#_Toc138244554)

[3.4 The need for a nationally consistent reporting framework 13](#_Toc138244555)

[4. Recommendations 14](#_Toc138244556)

**1. Introduction**

**1.1 About Blind Citizens Australia (BCA)**

Blind Citizens Australia (BCA) is the peak national representative organisation of and for the over 500,000 people in Australia who are blind or vision impaired. For nearly 50 years, BCA has built a strong reputation for empowering Australians who are blind or vision impaired to lead full and active lives and to make meaningful contributions to our communities. BCA provides peer support and individual advocacy to people who are blind or vision impaired across Australia.

Through our campaign work, we address systemic barriers by promoting the full and equal participation in society of people who are blind or vision impaired. Through our policy work, we provide advice to community and governments on issues of importance to people who are blind or vision impaired. As a disability-led organisation, our work is directly informed by lived experience. All directors are full members of BCA and the majority of our volunteers and staff are blind or vision impaired. They are of diverse backgrounds and identities.

**1.2 About people who are blind or vision impaired**

There are currently more than 500,000 people who are blind or vision impaired in Australia with estimates that this will rise to 564,000 by 2030. According to Vision Initiative, around 80 per cent of vision loss in Australia is caused by conditions that become more common as people age.[[1]](#endnote-1)

Australians who are blind or vision impaired can live rich and active lives and make meaningful contributions to their communities: working, volunteering, raising families and engaging in sports and other recreational activities. The extent to which people can actively and independently participate in community life does, however, rely on facilities, services and systems that are available to the public being designed in a way that makes them inclusive of the needs of all citizens – including those who are blind or vision impaired.

**2. Submission Context**

BCA welcomes the opportunity to make a submission in response to the discussion paper for the 2022 Review of the Disability Standards for Accessible Public Transport 2002 (the Review). BCA’s response addresses the questions for people who use public transport on page five of the discussion paper.

BCA’s submission is based on the following legislation and frameworks, noting gaps in the fulfilment of requirements laid out in existing arrangements:

* Disability Standards for Accessible Public Transport 2002 (Transport Standards)
* Disability Standards for Accessible Public Transport Guidelines 2004 (Transport Standards Guidelines)
* Disability Discrimination Act 1992 (Cth) (DDA)
* Australian Human Rights Commission Act 1986 (Cth)
* Australia’s Disability Strategy 2021–2031 (the Strategy)
* United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)

BCA’s submission to the Review is based on extensive consultations with members and other people who are blind or vision impaired, and our ongoing advocacy work in the disability sector. BCA’s submission aligns with the submission made by the Public Interest Advocacy Centre (PIAC), particularly with regard to recommendations 1, 6, 7, 8, 9, 12 and 13.

**3. Blind Citizens Australia’s Submission**

**3.1 An overview of the Transport Standards and the Transport Standards Guidelines**

Public transport is covered by the DDA. The DDA is supplemented by a series of Disability Standards, including the Transport Standards. Public transport services covered by the Transport Standards include buses, coaches, trains, trams and light rail, ferries, taxis, rideshare and airlines. Public transport infrastructure is also covered, including bus stops and stations, train stations, tram and light rail stops, ferry terminals and airports.

The Transport Standards, which came into effect on 23 October 2002, should compel public transport operators and providers to remove discrimination from public transport services. The Transport Standards are accompanied by the Transport Standards Guidelines. Passengers, operators and providers should consult the Transport Standards Guidelines when interpreting the Transport Standards.

Since 2002, Australia’s formal commitment to the UNCRPD and the development of the Strategy have driven greater engagement by people with disability in determining how they live and are supported. Despite these advances, as noted in the discussion paper, one in six Australians with a disability aged 15 years or over have difficulty using public transport.

Access to public transport enables people to travel to work or study; connect with family, friends and the community; and access critical services such as healthcare. The inability to safely access public transport is itself discriminatory and may lead to further social and economic exclusion for people with disability.

Every five years from 2002 to 2022, the Minister for Infrastructure, Transport, Regional Development and Local Government, in consultation with the Attorney-General, has reviewed the efficiency and effectiveness of the Transport Standards. The public transport landscape has experienced seismic shifts during that 20-year period, including the advent of rideshare services and the proliferation of smartphones and online ticket purchases.

The next review of the Transport Standards will not take place until 2032. Artificial intelligence and other technological advances will abound over the next decade. BCA believes the Transport Standards should be reviewed every three years to account for the rapid advances in technology.

**3.2 Awareness of the Transport Standards and the Transport Standards Guidelines**

A recent BCA consultation revealed people who are blind or vision impaired are typically only vaguely aware of the Transport Standards. There is an even smaller awareness of the accompanying Disability Transport Guidelines.

Though eager enough to attend a BCA consultation session on public transport accessibility on a weekday evening, not one of the nine participants had actually read the Transport Standards.

Two BCA members said they were aware that the Transport Standards existed but had little understanding of the content. Worryingly, one of these members believed the transport operators’ complaints hotline workers they had spoken to were equally perplexed about the content of the Transport Standards.

Two more BCA members first learnt of the Transport Standards’ existence when they signed up for the BCA consultation session. Another member said they were first made aware of the Transport Standards when they lodged a complaint over the phone to the Department of Transport and Main Roads in Queensland.

It is not possible for public transport users to invoke a set of standards and guidelines they do not know exist. It is incumbent on the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the Department) to work with state and territory governments to raise awareness of the Transport Standards and accompanying Guidelines for all people who use public transport, but especially those with a disability.

Public transport users are accustomed to hearing recorded messages at regular intervals informing them of the next departing service and to not leave baggage and personal items unattended. Passengers are also accustomed to pausing their entertainment devices to observe the safety demonstration prior to take off on aeroplanes. This has become a commonly accepted form of information communication at transport hubs.

BCA recommends this approach be replicated with a recorded announcement informing passengers of the Transport Standards played over the speaker system at regular intervals at bus stations, train stations, tram and light rail stops, ferry terminals and airports.

The same message should be played at regular intervals on moving buses, trains, trams and ferries to inform passengers of the existence of the Transport Standards. Regular acoustic analysis of the public transport hubs and vehicles is required to ensure that the messages are clear and audible for public transport users.

Similarly, a message informing passengers of the Transport Standards should be read over the intercom prior to take off and landing on aeroplanes. Drivers for taxi and rideshare services should also inform passengers of the Transport Standards when they are picked up and dropped off.

Public transport operators and providers may be embarrassed to draw attention to the Transport Standards they have repeatedly failed to meet. In practical terms, however, public transport operators and providers would be no more inconvenienced by the requirement to play these recorded messages than commercial television broadcasters are by their requirement to regularly advertise the existence of the Australian Communications and Media Authority’s Code of Practice.

To ensure accessibility for all people with disability, a document summarising the Transport Standards should be made available in standard print format, large print and braille at the information desk of bus stations, train stations, ferry terminals and airports.

Similarly, the website of every Australian public transport operator and provider should feature a prominent link to the document summarising the Transport Standards, as well as a link to the Transport Standards in full and the accompanying Transport Standards Guidelines.

**Recommendations:**

1. Review the Transport Standards every three years to account for rapid advances in technology.
2. Play recorded announcements informing passengers of the Transport Standards on public transport services and over the speaker system at public transport hubs. Regular acoustic analysis of the public transport hubs and vehicles is required to ensure that the messages are clear and audible for public transport users.
3. Provide a document summarising the Transport Standards in standard print format, large print and braille at the information desk of bus stations, train stations, ferry terminals and airports.
4. Prominently display on the website of every Australian public transport operator and provider a link to the document summarising the Transport Standards, as well as a link to the Transport Standards in full and the accompanying Transport Standards Guidelines.

**3.3 The effectiveness of the Transport Standards**

A widespread failure to implement the Transport Standards   
The Transport Standards can only be effective if they are first implemented. Lamentably, public transport operators and providers have failed to meet the full accessibility target set out in the Transport Standards 20 years ago.

All of Australia’s train and tram stations should have been fully compliant with accessibility standards by the end of 2022, but disability experts believe at best only half of the nation’s public transport infrastructure is accessible today.[[2]](#endnote-2) The failure to meet public transport accessibility targets reveals an indifference to the rights and dignity of people with disability.

An engineering expert specialising in disability accessibility has informed BCA that representatives from some international engineering firms have complained to him of a lack of design instruction from Australian public transport operators and providers. This ultimately results in the production of inaccessible trains and buses for the Australian market.

The Queensland government’s roll out of the New Generation Rollingstock trains, which were known to have significant access issues, is but one example of this apathy. Furthermore, with regard to public transport service operations, BCA has encountered local governments seemingly hellbent on avoiding their obligations under the Transport Standards.

Enduring and widespread inaccessibility results in ‘transport disadvantage’ for people with disability. People experiencing transport disadvantage ‘feel they cannot or often cannot get to the places they need to visit.’[[3]](#endnote-3) The significant detrimental effects of public transport inaccessibility on people who are blind or vision impaired are described below.

Buses, trams and trains  
Aside from implementation, the key measure of the effectiveness of the Transport Standards is the extent to which they have reduced discrimination. People who are blind or vision impaired continue to experience discrimination on a regular basis.

Recalling his experiences on buses, trams and trains over the past five years, one BCA member believes discrimination is about the same as it has always been. As this member has experienced significant improvements in accessibility in other facets of his life during this period, he believes the stagnation in public transport accessibility feels more like a regression.

A common theme in BCA members’ responses was the lack of disability awareness demonstrated by staff members from public transport operators and providers. Worse still, many train and tram stations have no designated staff at all. BCA has previously flagged the lack of trained staff as a major impediment for people who are blind or vision impaired using public transport.[[4]](#endnote-4)

The lack of trained personnel has forced one BCA member to rely on kind-hearted members of the public to help her at train stations. Another BCA member said she needed urgent assistance from members of the public when she fell through a gap at a train station.

Despite these perils, some BCA members have found that train services are safer and more reliable than bus services. Bus drivers’ lack of disability awareness has resulted in people who are blind or vision impaired being dropped off at the wrong location, causing great anxiety for the people affected. Another BCA member recalled his distress at being knocked down when a bus driver closed the door on him before he could fully exit the vehicle.

Inadequate public transport in rural and remote communities has often been overlooked by scholars and policymakers because of the high levels of car ownership in these areas.[[5]](#endnote-5) For people who are blind or vision impaired, and thus typically unable to drive a car, living in a rural or remote community makes them particularly susceptible to transport disadvantage.

One BCA member who lives in a rural area, for example, has to book an on-demand bus service the day before he travels to be guaranteed access for a particular time. Service delays and cancellations can instantly curtail, if not eliminate, his ability to travel independently. Another BCA member, who relies on three connecting bus services during his daily travels, is likewise at the mercy of delays and cancellations.

Additional challenges faced by people who are blind or vision impaired when using public transport include the publication of transport documents in inaccessible formats, random and poorly communicated service delays, and the interchangement of train services for bus services in the evenings.

When the above considerations are taken together, it is not surprising that people who are blind or vision impaired often do not feel safe, welcome or respected when using buses, trains and trams. The Transport Standards must be amended to compel public transport operators and providers to specifically train their staff how to better assist people who are blind or vision impaired.

**Recommendation:**

1. Amend the Transport Standards to compel public transport operators and providers to specifically train their staff how to better assist people who are blind or vision impaired.

Air travel  
Air travel is covered by the Transport Standards, though it is not particularly emphasised in the discussion paper. This speaks to the indifference with which people who are blind or vision impaired are treated when travelling by air.

It starts with a lack of accessibility during the ticket booking process, as occasioned by airline websites not designed for screen readers. Subsequent changes to flights and bookings are often not communicated by airlines in an accessible way.

Airport facilities, including carparking and pick-up/drop-off areas, are often inaccessible for people who are blind or vision impaired, especially when the traveller is accompanied by a dog guide. A lack of accessibility and guidance causes problems at self-check-in kiosks, automated bag drops, customer service check-in counters, security screening areas, and when moving through the terminal.

Security screeners have been known to separate people who are blind or vision impaired from their dog guide and/or perform additional ‘pat downs’ on the dog guide.

People who are blind or vision impaired are typically required to board first and deplane last. Once on the plane, inaccessible in-flight information (such as due to a lack of audio description) may prevent a person who is blind or vision impaired from accessing boarding or deplaning information, vital safety information, or in-flight entertainment. People who are blind or vision impaired often have difficulties when seeking to move around the cabin, such as to use the bathroom.

As a result of these many challenges, it is not surprising that people who are blind or vision impaired often avoid air travel wherever possible. As covered in recommendation 5, airport and airline staff require specific training to better assist people who are blind or vision impaired.

Additional regulation for air travel is also required. Australia should take inspiration from the United States, which has some of the world’s strongest disability rights for air travellers. Since March 1990, the United States Department of Transport (DOT) has amended its regulatory ‘Rule’ on the implementation of the Air Carrier Access Act of 1986 some 15 times.[[6]](#endnote-6)

The DOT Rule provides airlines with detailed requirements for preventing discrimination. This has facilitated consistent improvements in access to transportation facilities and services for American air travellers with disability.

Using the American regulatory framework as a starting point, Australia’s Transport Standards should be amended to include specific standards regarding air travel. It is essential that these standards be co-designed with people with disability and disability representative organisations.

Unlike other forms of public transport in Australia, air travel is regulated at the federal level. Accordingly, the Australian Human Rights Commission (AHRC) should be suitably empowered and funded to enforce the specific standards for air travel.

**Recommendations:**

1. Amend the Transport Standards to include specific standards regarding air travel. These standards must be co-designed with people with disability and disability representative organisations.
2. Empower and fund the Australian Human Rights Commission (AHRC) to enforce the specific standards for air travel.

Taxi and rideshare services  
People who are blind or vision impaired are still frequently denied access to taxi and rideshare services when seeking to travel with their dog guide. BCA described this problem in its response to the Reforms of the Disability Standards for Accessible Public Transport (DSAPT) 2002 in August 2022.[[7]](#endnote-7)

In our consultations, we have heard that several BCA members with a dog guide now only travel with Uber Pets – the $5 surcharge considered less bothersome than potentially being argued with or left stranded on the roadside. Others rely on support worker funding to secure reliable transport or have personal contacts with specific taxi drivers, limiting their options and sometimes causing delays. Fear of not being able to return home and dependence on friends and family for transportation are also common concerns. Furthermore, they face reduced access to available taxis and have had to seek alternative means of transportation.

BCA’s position is clear: people who are blind or vision impaired should not have to pay additional sums of money to avoid illegal discrimination.

Additional education is needed for taxi and rideshare providers and drivers, but it will not be a panacea. Even when informed that they are in breach of the DDA, drivers continue to deny service to people with dog guides. Some taxi and rideshare drivers have gone so far as to lock their doors to deny access to dog guides.

Accordingly, the Transport Standards must be amended to explicitly include both taxi providers and rideshare services, and to make companies and drivers responsible for complying with the Transport Standards. The Transport Standards must also be amended to state that a breach of the Transport Standards is unlawful.

The Department has acknowledged that the ‘Transport Standards contain inconsistent braille requirements and this presents challenges to braille readers.’[[8]](#endnote-8) To address this, the Transport Standards must be amended to require all taxi and rideshare providers to affix identifying information on braille and tactile lettering decals to their vehicle door exteriors and within a QR code sticker on the rear windscreen.

Polycarbonate tactile decals are cost effective, lightweight, heavy duty and easy to install. They should incorporate the name of the company and the driver and the licence plate details. The decals should be affixed to the exterior of the passenger doors forward of the handles.

Rideshare providers typically have their brand name advertised on a sticker affixed to the rear windscreen of the vehicle. Incorporating a QR code which, when scanned, provides the company and driver’s names and licence plate details would be straightforward.

Upon passenger request, the driver must provide the same information – the company and driver’s names and licence plate details – in standard print format, large print and braille. Per recommendation 3, the company and driver’s names and licence plate details should be incorporated into a document that summarises the Transport Standards.

Stronger enforcement is also essential. Taxi and rideshare providers will continue to discriminate against people who are blind or vision impaired until such time as there are meaningful consequences for deliberately breaching the DDA and the Transport Standards.

The federal government must, therefore, legislate stronger penalties for any public transport operators and providers, including taxi and rideshare providers, that continue to breach the DDA and the Transport Standards.

**Recommendations:**

1. Amend the Transport Standards to explicitly include rideshare services, and to make both rideshare companies and drivers responsible for complying with the Transport Standards.
2. Amend the Transport Standards to state that a breach of the Transport Standards is unlawful and begin an education campaign to ensure taxi and rideshare providers are aware of their responsibilities under the law.
3. Amend the Transport Standards to require all taxi and rideshare providers to affix identifying information on braille and tactile lettering decals to their vehicle door exteriors and within a QR code sticker on the rear windscreen. The company and driver’s names and the licence plate details should also be included in a readily available standard print, large print and braille document that summarises the Transport Standards.
4. Legislate stronger penalties for any public transport operators and providers, including taxi and rideshare providers, that continue to breach the Disability Discrimination Act 1992 (Cth) and the Transport Standards.

**3.4 The need for a nationally consistent reporting framework**

The federal government must also create a nationally consistent reporting framework to record every instance of discrimination by public transport operators and providers. At present, complaints to the AHRC are siloed from complaints made directly to public transport operators and providers.

This is further complicated by the interplay between local and state governments in the ownership and management of public transport infrastructure, the contracting of different private companies to operate public transport services within each state, and the contracting of private companies to provide ticketing services and smartcards across each state.

In the absence of a nationally consistent reporting framework, public transport users who experience discrimination may not know which agency or company should take responsibility or to whom they should complain.

The national reporting framework should include a one-stop shop where people with disability can lodge a discrimination complaint that can be seen and investigated by federal, state and territory authorities. This should include a telephone hotline, an accessible website and an accessible smartphone app. Discrimination complaints made directly to public transport operators and providers should be automatically funnelled to the one-stop shop for investigation.

The AHRC can serve as the one-stop shop, but it must be empowered and funded to proactively monitor compliance, conducts reviews and audits, investigate potential breaches, issue fines and compliance notices to public transport operators and providers, and apply to the federal courts for orders to direct compliance with the compliance notices.

The risk of receiving an adverse costs order is a significant deterrent when people with disability consider enforcing the Transport Standards in court. To encourage people with disability to make a complaint to the AHRC, the Australian Human Rights Commission Act 1986 (Cth) must be amended to introduce an ‘equal access’ costs model for all discrimination and harassment matters.

Under this model, applicants will not be liable for adverse costs unless their claim is found to be vexatious, or they have acted unreasonably during proceedings and so caused the other party to incur costs.

**Recommendations:**

1. Establish a one-stop shop where people with disability can lodge a discrimination complaint that can be seen and investigated by federal, state and territory authorities. The AHRC can serve as the one-stop shop, but it must be suitably empowered and funded.
2. Amend the Australian Human Rights Commission Act 1986 (Cth) to introduce an ‘equal access’ costs model for all discrimination and harassment matters.

**4. Recommendations**

In order to reduce discrimination against people who are blind or vision impaired when using public transport, the Department must collaborate with state and territory governments to:

1. Review the Transport Standards every three years to account for rapid advances in technology.
2. Play recorded announcements informing passengers of the Transport Standards on public transport services and over the speaker system at public transport hubs. Regular acoustic analysis of the public transport hubs and vehicles is required to ensure that the messages are clear and audible for public transport users.
3. Provide a document summarising the Transport Standards in standard print format, large print and braille at the information desk of bus stations, train stations, ferry terminals and airports.
4. Prominently display on the website of every Australian public transport operator and provider a link to the document summarising the Transport Standards, as well as a link to the Transport Standards in full and the accompanying Transport Standards Guidelines.
5. Amend the Transport Standards to compel public transport operators and providers to specifically train their staff how to better assist people who are blind or vision impaired.
6. Amend the Transport Standards to include specific standards regarding air travel. These standards must be co-designed with people with disability and disability representative organisations.
7. Empower and fund the Australian Human Rights Commission (AHRC) to enforce the specific standards for air travel.
8. Amend the Transport Standards to explicitly include rideshare services, and to make both rideshare companies and drivers responsible for complying with the Transport Standards.
9. Amend the Transport Standards to state that a breach of the Transport Standards is unlawful and begin an education campaign to ensure taxi and rideshare providers are aware of their responsibilities under the law.
10. Amend the Transport Standards to require all taxi and rideshare providers to affix identifying information on braille and tactile lettering decals to their vehicle door exteriors and within a QR code sticker on the rear windscreen. The company and driver’s names and the licence plate details should also be included in a readily available standard print, large print and braille document that summarises the Transport Standards.
11. Legislate stronger penalties for any public transport operators and providers, including taxi and rideshare providers, that continue to breach the Disability Discrimination Act 1992 (Cth) and the Transport Standards.
12. Establish a one-stop shop where people with disability can lodge a discrimination complaint that can be seen and investigated by federal, state and territory authorities. The AHRC can serve as the one-stop shop, but it must be suitably empowered and funded.
13. Amend the Australian Human Rights Commission Act 1986 (Cth) to introduce an ‘equal access’ costs model for all discrimination and harassment matters.

1. Vision 2020 Australia, “Eye Health in Australia,” accessed 31 January 2023,  
   <http://www.visioninitiative.org.au/common-eye-conditions/eye-health-in-australia> [↑](#endnote-ref-1)
2. ABC News, “Australia Misses 20-Year Public Transport Accessibility Target as Many Train and Tram Networks Fail People with Disability,” 17 January 2023, <https://www.abc.net.au/news/2023-01-16/australia-misses-20-year-public-transport-accessibility-target/101858532>   
    [↑](#endnote-ref-2)
3. Kate Rosier, Myfanwy McDonald, “The Relationship Between Transport and Disadvantage in Australia,” Australian Institute of Family Studies, August 2011, <https://aifs.gov.au/resources/policy-and-practice-papers/relationship-between-transport-and-disadvantage-australia>   
    [↑](#endnote-ref-3)
4. Blind Citizens Australia, “Submission on Issues Paper: Promoting Inclusion – Public Transport,” 1 June 2021, [https://disability.royalcommission.gov.au/  
   system/files/submission/ISS.001.00688.PDF](https://disability.royalcommission.gov.au/system/files/submission/ISS.001.00688.PDF)   
    [↑](#endnote-ref-4)
5. Rosier and McDonald, “The Relationship Between Transport and Disadvantage in Australia.”  
    [↑](#endnote-ref-5)
6. United States Department of Transport, “Passengers with Disabilities,” 29 November 2022, <https://www.transportation.gov/airconsumer/passengers-disabilities>   
    [↑](#endnote-ref-6)
7. Blind Citizens Australia, “Stage 2 Consultation Response to Reforms of the Disability Standards for Accessible Public Transport (DSAPT) 2002,” 9 August   
   2022, <https://www.bca.org.au/wp-content/uploads/2022/08/BCA-Stage-2-DSAPT-consultation-submission-v1.0-09082022.docx>   
    [↑](#endnote-ref-7)
8. Department of Infrastructure, Transport, Regional Development and Communications, “Signs, Symbols, Braille: Braille and Tactile Lettering for Signage,” accessed 21 June 2023, [https://www.infrastructure.gov.au/sites/default/  
   files/documents/braille-and-tactile-lettering-for-signage.pdf](https://www.infrastructure.gov.au/sites/default/files/documents/braille-and-tactile-lettering-for-signage.pdf) [↑](#endnote-ref-8)