

QDN Response to the  
Reform of the Disability Standards for  
Accessible Public Transport:  
Consultation Regulation Impact Statement



April 2021

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## About Queenslanders with Disability Network (QDN)

Queenslanders with Disability Network (QDN) is a state-wide organisation of, for, and with people with disability. QDN's work is centred around a strong network of people with disability across Queensland to inform, connect, lead and influence change to deliver an inclusive Queensland community. Our motto is “nothing about us without us”.

QDN has more than 2,000 members and operates 21 Peer Support Groups across a range of metropolitan, regional, and rural and remote locations in the state. Peer Support Groups are run by people with disability for people with diverse disabilities. QDN members and supporters provide information, feedback, and views from a consumer perspective to inform our systemic disability policy and advocacy.

QDN undertakes a range of work activities and projects as outlined on QDN's website and detailed in our latest 2019-2020 Annual Report. Our systemic advocacy work encompasses a range of responses – from community campaigns, formal submissions, evidence to commissions and inquiries, and membership of roundtables and working groups around national, state, and local government legislative and policy initiatives.

Over the past twenty years, QDN has undertaken a range of work regarding affordable, accessible transport and this is an important issue for Queenslanders with disability.

QDN's work is focused on the rights and full social and economic inclusion of people with disability, along with areas of key importance identified by Queenslanders with disability – the National Disability Insurance Scheme (NDIS), improving mainstream services that people with disability rely on every day, including health, housing, employment and transport, and most recently the impact of COVID-19.

## Introduction

This submission responds to the Department of Infrastructure, Transport and Regional Development and Communications Consultation Regulation Impact Statement with regards to the Reform of the Disability Standards for Accessible Public Transport. The response addresses the questions and inquiry and is informed by feedback from QDN members.

## Staff Training and Communication

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. It is important to note that training comes at a cost and unless mandated, it reduces the likelihood of it occurring in a consistent manner.

What experiences do people with disability have when interacting with frontline staff and employees of public transport networks, including when seeking assistance?

Many people with disability have nothing but praise for the level of assistance received and the courtesy of frontline staff. Regrettably, not all can report this level of satisfaction when interacting with frontline staff. Targeted and appropriate disability awareness training would address this lack of consistency in approach.

For people who have complex communication needs interaction with untrained staff can be stressful. Even people who are quite articulate can find interactions difficult. Misconceptions and poor communication by staff can and have occurred. For example:

- Slurred speech may be interpreted as intoxication or a sign of intellectual disability
- Poor social skills may be interpreted as aggression
- Deaf people may be shouted at in the hope that volume will assist them to hear
- Staff may turn away when addressing people who are lip reading
- Staff may speak to people who are deaf or hard of hearing with exaggerated movement of face and mouth
- Staff may address people with disability patronisingly
- People exhibiting unusual, involuntary movements, utterances or behaviour may be reprimanded for poor behaviour
- Staff may address companions of people with disability rather than the person and may even speak about the person as a third party when interacting with the companion
- Rather than ask how they might assist, staff may simply instruct people in how they will be assisted, regardless of the person's actual assistance needs
- People with intellectual or cognitive disabilities may be given advice or instructions in a manner that is too complex for them to fully comprehend
- People with intellectual or cognitive disabilities may be treated patronisingly

There are countless other ways in which people can be treated poorly due to staff lacking disability awareness training.

How do public transport staff interact with people with disability?

In most cases staff try to be of assistance but do not always understand how this might be achieved. The best of intentions cannot compensate for lack of training and understanding of how best to assist people who have a disability, and particularly those who have complex

communication needs. That said, well trained, customer focussed staff are immensely helpful to people who require any degree of assistance to complete a public transport journey. There are countless examples of staff giving excellent levels of service because they knew how to respond or how to offer assistance.

How have these interactions affected the ability of people with disability to access public transport?

Positive interactions encourage people to use public transport. Negative interactions are a disincentive to public transport use.

How have these interactions affected the sense of safety and confidence of people with disability to use public transport?

Negative interactions, however well intended, are a disincentive to using public transport unless absolutely necessary.

The Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability<sup>1</sup> is uncovering evidence of negligence on the part of staff who are charged with the care of people with disabilities. Negligence on the part of paratransit drivers has been reported in the United States<sup>2</sup>.

How does disability awareness impact interactions with public transport staff?

Staff that understand the issues confronting passengers who have a disability are better able to extend appropriate and effective assistance to these passengers.

How would mandatory disability awareness training impact interactions with public transport staff and overall experience with using public transport?

The quality of service would improve with increased understanding and awareness of disability issues. People would have far more confidence to travel, particularly if the travel involved direct assistance or other staff interaction.

## Mobility Aid Safety

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. Guidance is unenforceable and inconsistent.

What experiences do people with disability have in travelling in a mobility device or travelling with someone using a device on buses, trams, and light rail?

Most of the time people's experiences on public transport are positive. It is only when an incident causes a mobility aid to tip or slide that people become concerned or fearful. Such

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<sup>1</sup> <https://disability.royalcommission.gov.au/>

<sup>2</sup> Frost K, Bertocci G, Smalley C (2018) Wheelchair tiedown and occupant restraint practices in paratransit vehicles. PLoS ONE 13(1): e0186829. <https://doi.org/10.1371/journal.pone.0186829>

incidents can impact on a person's view of a usually trouble-free system, resulting in apprehension apprehensive, and acting as a deterrent to further use of public transport.

What current mobility device safety systems are in place for public transport conveyances?

Any conveyance such as a taxi or coach that requires all passengers to wear seatbelts will have active restraints that comply with Standards Australia AS/NZS 10542.1:2015. Not all mobility aids can be restrained with these systems, for example, scooters lack attachment points. People using scooters would need to transfer to a standard chair and wear a seatbelt.

Ferries and heavy rail have grab rails in allocated spaces. The inertial forces experienced in these conveyances do not warrant active restraints or passive restraints.

Trams and light rail must often operate in public streets and deal with unpredictable traffic conditions. Sudden unexpected stops can occur, which may throw a mobility aid and occupant forward. In most trams and light rail cars weather shields at either end of the allocated spaces act as barriers to forward movement. Unfortunately, these weather shields and their associated stanchions are not padded as are the passive vertical boards and horizontal barrier rails in bus allocated spaces. Padding of the weather shield and stanchion would be a benefit to the safety of a mobility aid user.

Buses may have passive restraints on three sides of an allocated space, but none seem to have a passive restraint on the aisle side of the allocated spaces. It is into the aisle that sliding and tipping of mobility aids occurs, usually during turns though sudden braking or acceleration.

Considering the often-extreme inertial forces experienced in buses it is rather negligent that since 2002 no industry or jurisdictional body has seen fit to develop a passive restraint for the aisle side of an allocated space. At least one death<sup>3</sup> and numerous injuries<sup>4</sup> have resulted from the lack of such a passive restraint.

Would mobility device users be receptive to the installation of active restraints in public transport conveyances?

Most modalities do not need active restraints.

Some mobility aid users have been vociferously calling for active restraint tiedown systems<sup>5</sup> in buses of the type used in the United States buses. Section 38.23(d) of the DOT ADA

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<sup>3</sup> <https://www.coronerscourt.vic.gov.au/wheelchair-users-risk-buses-says-coroner>

<sup>4</sup> <https://www.abc.net.au/news/2015-07-17/accidents-spark-calls-for-improved-bus-safety-for-wheelchair/6608798>

<sup>5</sup> <https://9now.nine.com.au/a-current-affair/bus-rides-potentially-lifethreatening-for-unrestrained-wheelchair-bound-passengers/ffded3f2-c70d-4417-a8f5-1072803a3361>

regulations require all ADA-compliant buses and vans to have a two-part securement system, one to secure the wheelchair, and a seat belt and shoulder harness for the wheelchair user<sup>6</sup>.

Mechanical, passenger-initiated systems also are receiving some attention in North America and Europe<sup>7</sup>.

Other mobility aid users reject the active restraint concept and call for passive restraints as the better option. Their preference is based on speed of application when compared to active restraints and the capacity to face forward or back and still be contained within the allocated space.

Most scooter users will not benefit as their mobility aids usually lack attachment points.

Uniformly though, there is the acknowledgement that for many mobility aid users safe travel in buses is predicated on the provision of a restraint system or systems.

What would be the benefits to mobility device users?

The benefit of active restraints would be enhanced safety for mobility aid users who chose to use them or who could use them while they were in transit.

What are any disadvantages to mobility device users?

Lack of staff training and awareness<sup>8</sup> can result in active restraints not being correctly deployed, nullifying their installation and putting passengers at risk<sup>9</sup>.

People with disabilities have reported that lifts were non-operational, or that a driver could not secure a wheelchair in place for a ride, more than once. These situations can compromise a person's ability to live their life independently, productively and safely.

Anecdotal evidence from the United States suggests that delays while passengers are restrained can cause resentment and even hostility among other passengers<sup>10</sup>.

Passengers with disabilities have reported that drivers, and sometimes other

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<sup>6</sup> [https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div5&view=text&node=49:1.0.1.1.28&idno=49#se49.1.38\\_123](https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div5&view=text&node=49:1.0.1.1.28&idno=49#se49.1.38_123)

<sup>7</sup> <https://www.qstraint.com/en-au/qnews/rear-facing-wheelchair-securement-technology-review-findings-and-benefits/>

<sup>8</sup> Frost K, Bertocci G, Smalley C (2018) Wheelchair tiedown and occupant restraint practices in paratransit vehicles. PLoS ONE 13(1): e0186829. <https://doi.org/10.1371/journal.pone.0186829>

<sup>9</sup> <https://www.ncbi.nlm.nih.gov/books/NBK11420/>

<sup>10</sup> <https://www.cerebralpalsy.org/information/travel/bus-transit>

passengers, have not treated them with respect as they go through the process of boarding a bus or restraining a chair.

Drivers experience this also and can be reluctant at times to board a passenger using a mobility aid<sup>11</sup>.

There is substantial evidence that some drivers were afraid of disabling the bus once it was in service and so refused to cycle the lift at a stop. Or drivers who did not know how to cycle the lift refused to do so, telling a passenger waiting at a stop that the lift was not functional. Other drivers were afraid that taking time to board a passenger with a disability would cause them to run behind schedule—although this rarely happens with well-maintained equipment, trained and experienced drivers (and/or passengers), and the use of proper scheduling algorithms ([Rosenbloom, 1994](#); [TCRP, 1998a](#)). Other drivers would not “kneel” the bus unless a passenger knew to ask (even if system policy required kneeling at all stops). A substantial number would not allow travellers not using wheelchairs to board using the lift. In addition, driver failure to call out stops, as required by the law for travellers with visual impairments, has been a long-term compliance issue.

Scooters lack attachment points and cannot be restrained by most active restrain systems. Scooter users will mostly not be able to travel in their mobility aid but must find a seat nearby.

How will the installation of active restraints impact the likelihood or ability of people with disability to use public transport?

Some people would no doubt benefit from active restraints. Others would see no benefit as they would decline the use of active restraints or have a mobility aid that could not be restrained. Some may even experience disbenefit if drivers insisted on applying restraints against the person’s wishes, drivers avoided stopping for passengers using mobility aids, or other passengers reacted antagonistically over delays while restraints were applied.

Should the installation of active restraints in public transport conveyances be mandatory or discretionary?

Unless seatbelts are compulsory for all passengers the individual should have the option to choose whether to be restrained or not. They should also have access to restraint options, for example active or passive.

Can you provide reasons for why it should be mandatory or discretionary?

Different modalities experience different forces while a conveyance is in motion. For example, a wheelchair or scooter is far more likely to tip into the aisle of a bus than it is a tram. The

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<sup>11</sup> <https://www.ncbi.nlm.nih.gov/books/NBK11420/>



likelihood of a wheelchair or scooter tipping on a train or ferry is minimal.

Within the bus individuals differ in their ability to hold the grabrails firmly or otherwise secure themselves to prevent tipping. A person with quadriplegia or hemiplegia may be unable to grip the grabrail with any strength, while a person with paraplegia may hold it with a force that exceeds the community average. People are able to judge their own level of risk and should have restraint options from which to choose or decline the systems available.

If an active restraint was available without assistance from staff, how likely are people with disability to use the system while in transit?

If it was a four points of attachment system that complied with *AS/NZS 10542.1:2015 Technical systems and aids for people with disability — wheelchair tie down and occupant-restraint systems Part 1: Requirements and test methods for all systems* then passengers would have zero chance of securing their own mobility aids. Companions may or may not have the skills to safely secure a mobility aid with a system complying with AS/NZS10542.1. Since the securement systems are time consuming to apply the companion, even if skilled, would be subject to the impatience of the driver and other passengers. Under these circumstances the disincentive for a companion to secure the mobility aid can be strong.

If the system was not compliant with Australian Standards, for example a seatbelt tether that wrapped around the individual or part of their mobility aid, its crashworthiness would be questionable. Further, only people with good manual dexterity and who could effectively hold the grabrails would be able to self-secure, leaving the group with most need of restraint—people with poor upper body function—with no means of self-securing.

How would using an active restraint without assistance from staff impact an individual's experience?

For unaccompanied passengers a restraint system compliant with AS/NZS10542.1 would be useless unless staff or companions assisted with securement. The system would be available but ineffectual due to the terms and conditions of use on which it was provided. This is a frustrating scenario for any person that would leave the individual humiliated and demeaned.

This treatment may amount to Indirect Discrimination as described in Section 6 of the Australian *Disability Discrimination Act 1992*.

#### *6 Indirect disability discrimination*

- (1) For the purposes of this Act, a person (the discriminator) discriminates against another person (the aggrieved person) on the ground of a disability of the aggrieved person if:
  - (a) the discriminator requires, or proposes to require, the aggrieved person to comply with a requirement or condition; and
  - (b) because of the disability, the aggrieved person does not or would not comply, or

- is not able or would not be able to comply, with the requirement or condition;  
and
- (c) the requirement or condition has, or is likely to have, the effect of  
disadvantaging persons with the disability.
- (2) For the purposes of this Act, a person (the discriminator) also discriminates against another person (the aggrieved person) on the ground of a disability of the aggrieved person if:
- (a) the discriminator requires, or proposes to require, the aggrieved person to  
comply with a requirement or condition; and
- (b) because of the disability, the aggrieved person would comply, or would be able  
to comply, with the requirement or condition only if the discriminator made  
reasonable adjustments for the person, but the discriminator does not do so or  
proposes not to do so; and
- (c) the failure to make reasonable adjustments has, or is likely to have, the effect of  
disadvantaging persons with the disability.
- (3) Subsection (1) or (2) does not apply if the requirement or condition is reasonable,  
having regard to the circumstances of the case.
- (4) For the purposes of subsection (3), the burden of proving that the requirement or  
condition is reasonable, having regard to the circumstances of the case, lies on the  
person who requires, or proposes to require, the person with the disability to  
comply with the requirement or condition.

If device users have a negative experience in using mobility devices, what mechanisms are in place to report the incident to industry or jurisdictions?

This question has multiple answers. A matter involving disability discrimination might be referred to the Australian Human Rights Commission and from there to the Federal Court. Service related matters might be reported to the jurisdictional regulator or the transport operator. Reporting a matter is no guarantee of resolution however.

Anecdotally, many reported incidents go unresolved. For example, despite numerous reported falls in buses over the last 18 years it has taken a death in Victoria to bring the non-compliance with Australian Government *Disability Standards for Accessible Public Transport 2002* (DSAPT) Section 9.11 into the national focus. Reports of falls and incidents have had minimal responses until now.

## Priority Seating

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory, with active enforcement.

For the number of priority seats in the regulatory option, do you prefer: option 1, option 2, option 3 or option 4?

Option 1 is the most logical as passenger capacity and seating capacity can vary greatly in proportion between conveyances or between modalities. Trams have more passengers standing than sitting at peak times while the opposite pertains to rigid-framed buses, which have more sitting than standing at peak times. Further, it seems based on the existing requirement for 5% of seats in a waiting area currently required to be priority (DSAPT Part 9.4)

Option 1—For every 20 passengers or part thereof, one priority seat must be provided. Passenger capacity includes both seated and standing passengers. Minimum provision for conveyances must be two priority seats.

Australia's population is approximately 25 million, with five percent being 1.25 million. The Australian Bureau of Statistics recognised<sup>12</sup>:

Of the 4.4 million Australians with disability in 2018, over three-quarters (76.8%) reported a physical disorder as their main condition (the condition causing them the most problems), similar to 2015 (78.5%). The most common physical disorder was a musculoskeletal disorder (29.6%, down from 31.4% in 2015), including:

- arthritis and related disorders (12.7%, no change from 12.7% in 2015)
- back problems (12.6%, down from 13.8% in 2015).

It seems that 3.4 million Australians with a disability reported a physical disability; 600,000 reported arthritis and related disorders; a further 600,000 reported back problems. Add to this the 131,000 regarded as being blind<sup>13</sup>, an unknown number with medical conditions not regarded as a disability, and the 1.25 million figure is easily exceeded.

Based on these figures the 1 per 20 or part thereof may be inadequate.

The critical figure for any conveyance when considering the provision of priority seating is therefore its passenger capacity not its seating capacity. It is reasonable to assume that in any random assortment of passengers a reasonably consistent proportion reflecting the ABS data will need priority seats. This proportion is independent of seating capacity.

Using seating capacity as the measure for the number of priority seats will skew the provision of seats between modalities and even between conveyance types. For example, a Flexity 2 tram seats 80 passengers but carries 309. By contrast a MAN 18.310 (CNG) [Volgren] seats 44 but carries 62 while an NGR train seats 454 but carries 964. All serve the same southeast Queensland population that has a reasonably static proportion of passengers eligible for

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<sup>12</sup> <https://www.abs.gov.au/statistics/health/disability/disability-ageing-and-carers-australia-summary-findings/latest-release>

<sup>13</sup> <https://www.aihw.gov.au/reports/eye-health/eye-health/contents/how-common-is-visual-impairment>

priority seats.

What experiences do people with disability have in identifying, reaching, and accessing priority seats on conveyances (buses, trains, trams)?

People's experiences are variable.

Queensland Rail trains identify priority seats with colour contrasting upholstery and braille / tactile signs. These are readily identifiable by people with vision or cognitive disabilities. Transport for Brisbane buses also employ colour contrasting upholstery but have signs that are non-tactile decals. City Cat ferries usually have contrasting upholstery but may or may not have any signs. For the sake of consistency and ease of identification colour contrasting upholstery and braille / tactile signs within reach of the priority seats should be standard.

Buses and City Cat ferries locate priority seats mid conveyance. At times of peak crowding this can make it difficult to reach priority seats without the intervention of a bus driver or ferry deckhand. By contrast Queensland Rail trains and the G:Link tram locate priority seats adjacent to entrance door vestibules making the task of reaching a priority seat without assistance at peak times much easier. With staff assistance at peak times the mid-conveyance location of priority seats can work. The constraints imposed by the bus and ferry seating layout are also recognised as a factor in mid-conveyance location of priority seats. The system will fail at peak times though if staff refused or do not offer to assist.

Most passengers readily vacate a priority seat for a person who obviously needs it, however some do not. Where staff or a carer / companion are on hand their intervention is crucial. Where staff or a carer / companion are not on hand public education campaigns building a community expectation that people will vacate priority seats would be useful. Such a campaign should stress that not all disabilities are visible and that apparently mobile individuals may request access to a priority seat.

Section 31.1 of the Transport Standards currently requires two priority seats for each public transport conveyance. Is this number appropriate? If not, what would be a reasonable number of priority seats to be provided?

The current two priority seats per conveyance or rail car is inadequate. Hence the preference for Option 1.

The table below compares passenger capacity of River City ferries<sup>14</sup>, a Transport for Brisbane

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<sup>14</sup> [https://en.wikipedia.org/wiki/RiverCity\\_Ferries](https://en.wikipedia.org/wiki/RiverCity_Ferries)

bus<sup>15</sup>, a Queensland Rail train<sup>16</sup> and a Keolis Downer tram<sup>17</sup> with the ratio of priority seats to passengers. If only the minimum required two seats are provided the ratios fluctuate considerably. But if one priority per twenty passengers or part thereof is provided the ratios are much more uniform.

Option 1 provides a consistent number of priority seats between conveyance and across modalities for the fairly constant public transport proportion of passengers eligible to use them, and is therefore the endorsed option.

	<b>Passenger capacity</b>	<b>Ratio of priority seats to passengers assuming 2 per conveyance</b>	<b>Ratio of priority seats to passengers assuming 1 priority seat for every 20 passengers or part thereof</b>
City ferry single deck	47	1:29	1:16
City hopper double deck	78	1:39	1:20
City Cat first generation	149	1:75	1:19
City Cat second generation	162	1:81	1:18
City Cat third generation	162	1:81	1:18
City Cat fourth generation	170	1:85	1:19
KittyCat	60	1:30	1:20
Flexity 2 tram	309	1:154	1:19
MAN 18.310 (CNG) [Volgren] bus	62	1:31	1:16
NGR rail car	161	1:81	1:18

There is an argument that in some jurisdictions conveyances such as buses have a weight rather than passenger capacity. It is not a realistic approach though because it assumes that a bus driver can accurately estimate the combined weight of passengers in a bus to know when it is at passenger capacity.

Experienced drivers will use the level of crowding and the handling characteristics of the bus to determine when safe passenger capacity has been reached rather than head counting or weight estimation. The *Australian Design Rule 58/00 - Requirements for Omnibuses Designed for Hire and Reward* solves the problem of occupant capacity versus capacity loaded weight and the number of priority seats could be deduced if either weight capacity or passenger

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<sup>15</sup>

[http://brisbanetransport.info/?GoTo=fleetspecs&find=MAN%2018.310%20\(CNG\)%20%5bVolgren%5d&searching=yes](http://brisbanetransport.info/?GoTo=fleetspecs&find=MAN%2018.310%20(CNG)%20%5bVolgren%5d&searching=yes)

<sup>16</sup> <https://www.tmr.qld.gov.au/projects/new-generation-rollingstock/about-the-ngr-trains>

<sup>17</sup> <https://www.railexpress.com.au/new-trams-arrive-for-gold-coast-light-rail/>

capacity was known for a bus:

### 58.3 OCCUPANT CAPACITY

58.3.1. In determining the occupant capacity of an omnibus, the loading condition shall be that in which a mass of 65 kg is located in each of the manufacturer's nominated seating and standing positions for driver, passengers, and crew.

58.3.2. Where luggage space is provided, other than for personal hand luggage, and the vehicle is for carriage of passengers and luggage, a mass of 15 kg shall be added for each passenger and shall be distributed uniformly throughout the luggage space.

How will an increase in the number of priority seats change an individual's experience of public transport?

If other passengers respect the system, then more people who need a seat will get a seat. The overall number of seats would not diminish, and passengers would not vacate them unless requested or they chose to.

What are the benefits and challenges of people with disability wearing identification so that public transport staff and other passengers could recognise and allow them access to priority seats?

For many people such ID would be redundant. Age, walking aids, gait, advanced pregnancy, long white canes, assistance animals, and so on are all obvious and usually represented on the priority seating signs. The signs and obvious disability provide proof of eligibility for access to priority seats.

Hidden disabilities involving chronic pain and fatigue, and particularly hidden disabilities among younger people, are not so easily recognised. A badge system as per Transport for London<sup>18</sup> may appeal to some of these people. Currently these people often experience scepticism when requesting access to priority seats.

Many people who have hidden disabilities are disinclined to disclose their disability. Their reasons are various but include embarrassment, fear of discrimination, fear of persecution, targeting by criminals, higher risk of social exclusion and so on. Most of these people would not wear a badge but some may carry ID.

If a badge or ID was eligibility for access to a priority seat those people with hidden disability who chose not to identify via a visible means could be excluded from priority seating. Even if a badge or carrying ID was voluntary people occupying priority seats might not vacate them until proof of eligibility was provided.

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<sup>18</sup> <https://tfl.gov.uk/transport-accessibility/please-offer-me-a-seat>

People with hidden disability and who were unwilling to disclose their disability may be more inclined towards a flash card that could be produced if required. No doubt some would baulk at this though and would prefer to continue with the current practice of asking or having a carer ask for people to vacate the priority seat.

If a badge or ID was adopted it could not be a mandatory proof of eligibility, and a public awareness campaign would be required to explain the purpose and function of priority seats.

## Allocated Spaces in Transit

### Questions for the disability community

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. 'Ironing boards' have been available as safety features for decades but not all operators fit them.

For the regulatory option, which sub-option do you prefer: sub-option 1, sub-option 2, sub-option 3 or sub-option 4?

Sub-option 3 is preferred. It incorporates not only the ironing board but also a passive restraint on the aisle side of the allocated space. This is relevant to buses rather than other conveyances. The forces experienced in buses are very different to those experienced in trams, trains, and ferries.

Sub-option 3—allocated space grab rails, a signal for requesting the deployment of a boarding device, overhead handrails and hand grips provided for the safety of standing passengers, or forward excursion barriers (ironing boards) and lateral excursion barriers complying with AS/NZS ISO 10865.1-2015.

If the aisle side barrier was in place in buses it is highly likely that at least one death and many injuries resulting from wheelchairs tipping into the aisle would have been avoided.

What experiences do people with disability have in accessing allocated spaces on conveyances from the entry door?

Most buses are accessed via the front door boarding ramp. A sharp 90° turn through the wheel arches is then required. Not all mobility aids can manage the turn. The turn is made more difficult if Go Card readers intrude into the access path at the beginning of the turn point.

Trams are not affected by wheel arches and though not much wider than buses usually offer relatively easy access from door to allocated space.

Trains and ferries usually have more generously proportioned doors, access paths and manoeuvring areas. Also, in the case of trains the allocated spaces will be adjacent to the vestibule allowing easy access for large mobility aids.



Photos following illustrate allocated spaces and access paths.

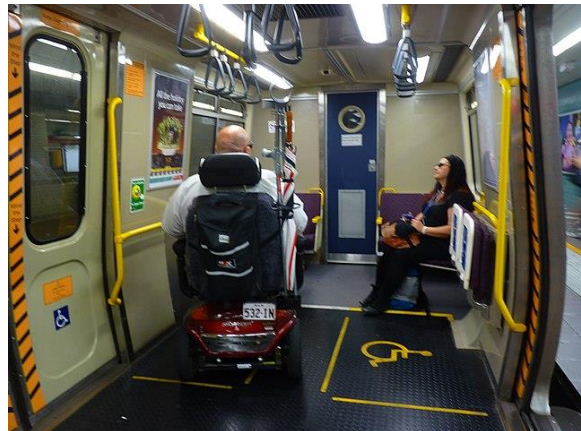
Scooter unable to negotiate the 90° turn through the bus wheel arches.



Go-card reader intrudes into the bus access path



Scooter in EMU rail car allocated space located adjacent to the door and vestibule.

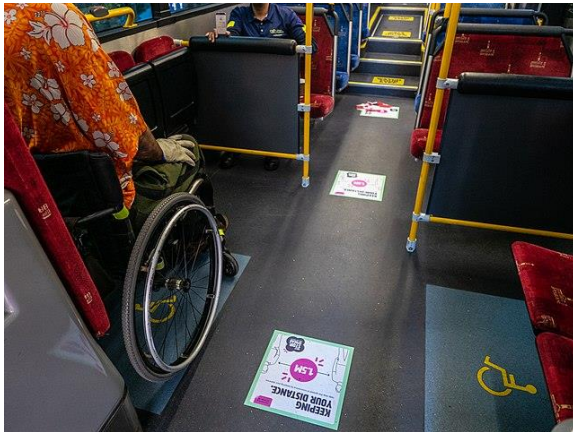


Allocated spaces with easy access from the rail car doors.





Limited manoeuvring space in the aisle between bus allocated spaces.



Reasonable manoeuvring space in a tram, assisted by fold up seats opposite the allocated space.



Wide allocated spaces with wide access paths on City Cat ferry.



Wide allocated spaces with wide access paths on City Cat ferry.



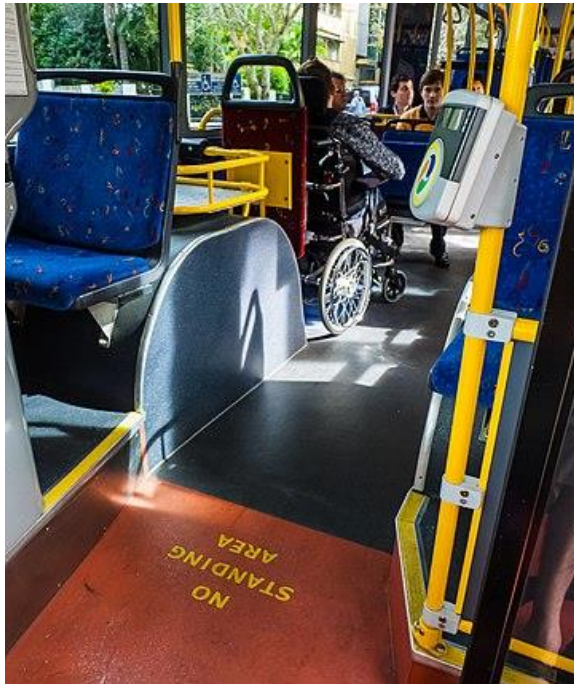
What are the challenges people with disability face when accessing the allocated space (for example do objects project or protrude into the access path or is there enough space to permit turning into an allocated space)?

Dependant on the space available within the conveyance challenges range from few in trains to many in buses. Objects such as smart card readers can intrude into already constrained space as per the placement of Go Card readers on Brisbane buses. Stanchions placed mid vestibule in trams can make turns toward the allocated space difficult for larger mobility aids.

By contrast the space available on trains and most ferries ensures that stanchions, card readers and so on do not intrude into the access path. The photographs following illustrate examples of well-placed and poorly placed stanchions and Go Card readers.



Go-card reader intrudes into the bus access path

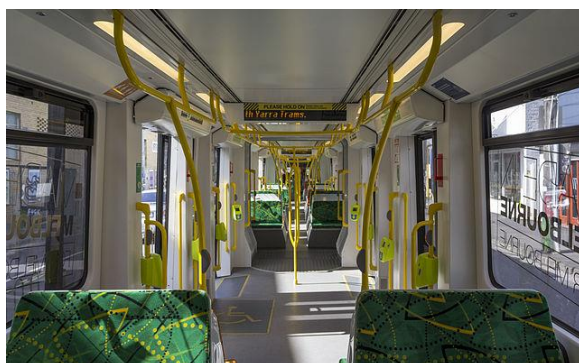


Stanchion located mid-vestibule may partly obstruct access path to allocated space.

Allocated spaces with easy access from the rail car doors.



Go-card reader not intruding into access path on City Cat ferry.



How will changes to requirements around access paths, manoeuvring areas and allocated spaces in conveyances affect an individual's public transport experience?

Keeping access paths, manoeuvring areas and allocated spaces in conveyances clear to the maximum extent permitted by the conveyances' internal dimensions will be beneficial. It will especially benefit people using larger mobility aids. Carefully choosing at design phase where fixtures and fittings should be placed rather than as an afterthought is key.

What are the experiences of people with disability where allocated spaces are occupied by people who do not vacate?

Most people will vacate allocated spaces either on their own initiative or on request. passengers will not vacate the allocated space and stand or sit elsewhere then the passenger using the mobility aid must either travel in the vestibule, the aisle, or not at all. These are far

from satisfactory outcomes.

How have public transport operators responded to such circumstances?

Staff are sometimes reluctant to confront passengers who will not vacate allocated spaces. Many appear to be unaware of the DSAPT requirement for allocated space priorities. As such they are unsure of what they can or cannot ask of a passenger, reinforcing the need for staff training.

At other times staff are unaware that an allocated space is occupied by passengers who will not vacate it. There is no easy answer for this scenario. Public education may help but not cure the problem.

## Digital Information Screens

Which option do you prefer: regulatory, non-regulatory or status quo?

While a regulatory option is preferred the provisions in the CRIS are not all supported. For example:

Luminance

Luminance - The ISO standard 9241-303 Ergonomics of human-system interaction – Part 303: Requirements for electronic visual displays will apply to luminance calculation requirements.

This is not supported.

*AS EN 301 549:2016 Accessibility requirements suitable for public procurement of ICT products and services* is the nationally accepted standard for the accessibility of ICT products. It does not cite *ISO 9241-303 Ergonomics of human-system interaction – Part 303: Requirements for electronic visual displays* as a reference for luminance.

Since Commonwealth<sup>19</sup> and State<sup>20, 21</sup> governments have already adopted conformance with AS EN 301 549 as a policy to ensure the accessibility of ICT products for people with disabilities it seems logical to adopt it as regulation in the DSAPT. Further, the International Organization for Standardization make clear in the Scope for ISO 9241-303 that it is **not** intended to address issues of accessibility for people with disabilities<sup>22</sup>:

### 1 Scope

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<sup>19</sup> <https://www.financeminister.gov.au/media-release/2016/08/22/access-technology-made-easier>

<sup>20</sup> <https://www.digital.nsw.gov.au/digital-service-toolkit/design-standards/design-with-users-for-users/accessibility-and-5>

<sup>21</sup> <https://www.accessibility.sa.gov.au/policy/south-australian-government/online-accessibility-policy>

<sup>22</sup> <https://www.iso.org/obp/ui/#iso:std:iso:9241:-303:ed-2:v1:en>

This part of ISO 9241 establishes image-quality requirements, as well as providing guidelines, for electronic visual displays. These are given in the form of generic — independent of technology, task, and environment — performance specifications and recommendations that will ensure effective and comfortable viewing conditions for users with normal or adjusted-to-normal eyesight.

**This part of ISO 9241 does not address issues of accessibility for people with disabilities.** However, it does take into account aspects of the eyesight of older people and could be of value to people dealing with issues of visual impairment in certain cases: the specification of essential characteristics for normal viewing can be used to gauge the severity of different visual abnormalities so that appropriate solutions can be identified.

ISO 9241-303 is an inappropriate reference for a Disability Standard intended to ensure access for people with disabilities. Rather, AS EN 301 549, and particularly its 2020 edition, is supported. This 2020 Standard draws on the Web Content Accessibility Guidelines (WCAG) 2.1 Guidelines for accessibility requirements for contrast while the earlier 2016 edition only requires WCAG 2.0. Whichever edition is used the AAA success criteria for contrast should apply.

#### Font and typeface

Font and typeface - the heights of letters given in Table 2 of AS 1428.2-1992 are interpreted as capital 'T' heights consistent with AS 1744 Standard alphabets for road signs. For viewing distances not specified in Table 2 of AS 1428.2-1992, the height (h) of letters in millimetres for arbitrary viewing distance (d) in metres is calculated as  $h = 3.2 \times d$ .

This is not supported.

Letter heights in Table 2 of AS1428.2-1992 are inadequate and the Standard is badly dated. At 2 m viewing distance a 6 mm high upper-case letter is scarcely visible for a person with moderately impaired vision (Refer to TABLE 1). New specifications based on credible research and codesign with users are required.

AS 1744:2015 *Standard alphabets for road signs* is not an appropriate Standard for people who have a vision impairment as it is intended for drivers:

Specifies the forms and dimensions of a range of alphabet series, including characters for letters, numerals and text symbols to be used on standard road signs specified in AS 1743 and AS 1742 (series), and, in general, on any other signs used to convey text information to drivers about the driving task.

A proposal to reduce upper case letters to 3.2 mm height at 1 m viewing distance and 1.6 mm at 0.5 m using the  $h = 3.2 \times d$  formula is unsupportable. People with even moderate vision impairments would have no hope of reading numbers or upper-case letters of this heights and even less chance of reading lower case letters (Refer to TABLE 1).

The needs of people who have mild to severe vision disorders must be considered in the specifications for digital screens. The Australian Institute of Health and Welfare released a report on eye health in 2021<sup>23</sup>. Findings from this report were:

- In 2017–18, long-term vision disorders affected 93% of people aged 65 and over
- About 411,000 Australians (1.7% of the population) had cataract and 244,000 (1.0%) had macular degeneration in 2017–18
- Over 13 million Australians had one or more chronic (long-term) eye conditions in 2017–18
- Females (59%) experienced a higher prevalence of long-term vision disorders than males (51%) in 2017–18.

The definition of vision impairment is ‘reduced vision not corrected by glasses or contact lenses. The World Health Organisation categorises distance vision impairment into categories based on the International Classification of Diseases 11 (2018)<sup>24</sup>:

- Mild –visual acuity worse than 6/12 to 6/18
- Moderate –visual acuity worse than 6/18 to 6/60
- Severe –visual acuity worse than 6/60 to 3/60
- Blindness –visual acuity worse than 3/60

The ratios are based on the Snelling eye chart which is the eye chart commonly seen in the consultation rooms of general practitioners. Normal vision is classed as 6/6 (20/20 in US measure). At 6/60 a person can distinguish on the Snelling eye chart at 6m that which a person with 6/6 vision can distinguish at 60m.

TABLE 1 below compares minimum letter heights at various distances according to AS1428.2,  $h=3.2xd$  and several categories of visual acuity. A person with 6/15 visual acuity may be challenged by the AS1428.2 and  $h=3.2xd$  letter heights while a person with 6/24 vision would be unable to read them at the specified distances. For context, 6/15 is only a mild vision impairment while 6/24 is at the better end of the moderate vision impairment range.

**TABLE 1**

	Upper case letter minimum height in millimetres
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<sup>23</sup> Australian Institute of Health— and Welfare 2021. Eye health. Cat. no. PHE 260. Canberra: AIHW.  
<https://www.aihw.gov.au/reports/eye-health/eye-health>

<sup>24</sup> <https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>



Viewing distance	AS1428.2	H=3.2xd	6/6	6/15	6/24	6/48	6/60
0.5 m	—	1.6	0.7	1.8	2.9	5.6	7
1 m	—	3.2	1.5	3.8	6	12.0	15
2 m	6	6.4	2.9	7.3	11.6	23.2	29
4 m	12	12.8	5.8	14.5	23.2	46.4	58
6 m	20	19.2	8.7	21.9	34.9	69.8	87
8 m	25	25.6	11.6	29.0	46.4	92.8	116
12 m	40	38.4	17.5	43.8	70.0	140	175
15 m	50	48.0	21.8	54.5	87.2	174	218
25 m	80	80.0	36.4	91.0	146	291	364
35 m	100	112	51.0	128	204	408	510
40 m	130	128	58.2	146	233	466	582
50 m	150	160	72.7	182	291	582	727
60 m	—	192	87.4	219	350	699	874

As a point of comparison, the *Americans with Disabilities Act 1990* sets the minimum character height at less than 1.83 m horizontal viewing distance at 16mm in Table 703.5.5<sup>25</sup>. This sits comfortably in the 6/24—6/48 range for viewing at 2 m distance and would be read by many people who have a moderate vision impairment.

Table 703.5.5 Visual Character Height

Height to Finish Floor or Ground From Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1015 mm) to less than or equal to 70 inches (1780 mm)	less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1830 mm)
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	less than 180 inches (4570 mm)	2 inches (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4570 mm)
greater than 120 inches (3050 mm)	less than 21 feet (6400 mm)	3 inches (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)

The DSAPT should base number and letter heights on the needs of people with disabilities rather than drawing on material that is either outdated or drawn from Standards for signs that are intended to be read by drivers. Credible research involving co-design principles to determine acceptable specifications for number and letter heights is therefore regarded as a priority.

How do people with disability use digital information displays at public transport sites and on public transport conveyances as part of their public transport journey?

Experience is mixed and depends on a person's disability type. Provided that the screens are at an appropriate height people who have unimpaired vision, hearing, cognition, or intellect will use digital information displays with the same ease or difficulty as most other passengers.

<sup>25</sup> <https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm#c7>

If digital information is purely screen-based text people who have print disabilities, vision impairments or intellectual impairments may not be able to receive the information accurately, if at all. RPH Australia claims that five million Australians live with a print disability caused by vision, cognitive, physical or literacy impairment<sup>26</sup>. Text only digital displays put many of this cohort at a disadvantage. Audio alternative to text is a minimum with Auslan as an inclusion wherever possible.

The worst affected passengers are not able to receive the information displayed as it is not delivered in a format that is accessible to them.

How does this impact the public transport journey?

Information is provided to the travelling public on the understanding that successful journeys are based on correctly understood service-related information.

Among many impacts on people not able to fully comprehend essential information are:

- service disruption information may not be received
- next service information may not be accessible
- stops may be missed
- wrong decisions may be made based on misinterpretation of information provided.

What experiences do people with disability have with digital information displays?

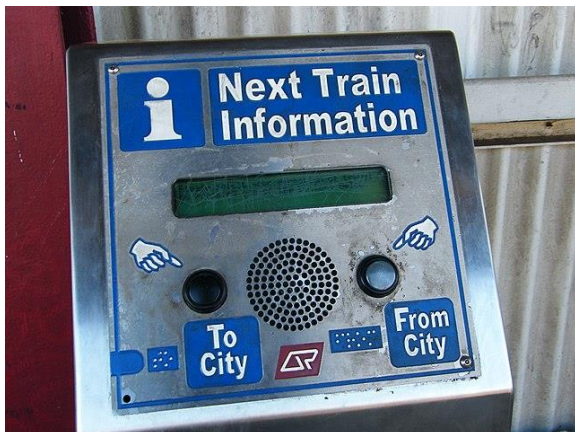
Many people with disability have no issue with digital information screens or presentations on screens. That said, many do face challenges in accessing the information presented. Among the many issues are:

- Audio-visual presentations may have captions, but may not have an audio or Auslan alternative
- Audio alternatives may not have hearing loop functionality
- Text may be too small to be easily read
- Text may not contrast sufficiently with its background
- Overhead lighting may cast glare on the screen
- Text may scroll too quickly for easy reading
- Screens may become opaque if not maintained
- Digital information displays may be located inappropriately and not easily visible or located
- Touchscreen information displays are not easily used by people with vision impairments
- Screen illumination may be insufficient for some people who have vision impairment.

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<sup>26</sup> <https://www.rph.org.au/>

Next train information consoles may have poor text contrast and vandalised screens.



Next train information consoles may be in hard to find locations.



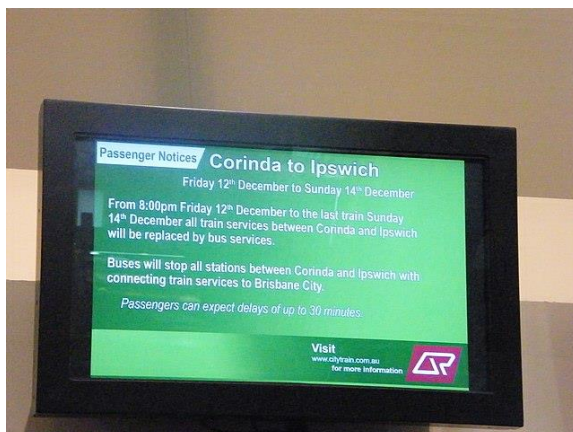
Captioned audio-visuals may not have audio and Auslan alternatives.



Overhead lighting may put glare on the screen.



Text may not contrast sufficiently with its background.



Text based information may not have an audio alternative





A diversity of information is presented on digital screens without audio alternative.



What display features worked well and what don't?

Different features work well for different people. Having accessible text and accessible alternatives to text-based information is key to non-discriminatory information provision. Useful products that are currently in service in Queensland are described in the next section.

How could it be improved?

Products that meet the intent of the DDA are available and some are in service.

Kinetically powered consoles that trigger an audio readout of the overhead digital display are embedded in stop blades of southeast Queensland bus stations. The consoles feature braille and tactile text. The technology is inexpensive and rather dated—but effective, nevertheless.

Technology is moving far more rapidly than regulation. A Papercast e-paper digital product promises legible text, audio alternative, smartphone connection, hearing loop and braille at control buttons in one compact solar and battery powered device<sup>27</sup>. It is designed to comply with WCAG 2.1 AA for accessibility. The device is under trial in Queensland with positive results thus far.

The graphical user interface follows the contemporary responsive website design principles as well as guidelines for accessibility for people with disabilities. All pages and most of the CMS functionality complies with Web Content Accessibility Guidelines 2.1 to level AA as a minimum. The platform has been developed using HTML 5 and marked semantically according to best practices.

For custom components, the Web Accessibility Initiative – Accessible Rich Internet Applications (WAI-ARIA) tags are used to provide a good experience for screen reader users (visually impaired, users with loss of vision or users with learning disability).

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<sup>27</sup> <https://www.papercast.com/product/powering-passenger-information-everywhere-for-everyone/>

For visually impaired users, there's adequate contrast between text and background (WCAG 2.1 AA compliance at minimum) and we comply with other guidelines, such as not using colour alone to convey meaning. Responsive web design also ensures that users can enlarge the text size (use the page at different zoom levels) without any loss of functionality or worsening the experience.

Console embedded in boarding point blade and overhead digital display, Queen Street bus station, Brisbane.



Close up of console with braille and tactile text embedded in boarding point blade, Chermside bus interchange, Brisbane.



E-paper display featuring text, audio alternative and hearing loop.



E-paper display featuring text, audio alternative and hearing loop.





E-paper display featuring text, audio alternative and hearing loop.



E-paper display featuring text, audio alternative and hearing loop.



If audio visual material is presented on digital screens it should conform to WCAG 2.1 AAA. This will include captions, audio description, and Auslan.

How will digital displays with functional requirements which are user friendly for people with disability impact your likelihood or ability to use public transport?

Digital displays that are accessible and comprehensible by all users will greatly increase the confidence of people who undertake public transport journeys. Decisions are based on accessible information, and the ability to make informed decisions during a journey is fundamental.

## Lifts

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. Advice may not be heeded.

What experiences do people with disability have when using lifts at public transport sites?

This is highly dependent on the age and reliability of the lifts.

Reliably functional lifts that allow easy access and which have adequate audio componentry are a pleasure to use. Other lifts may fall short in a number of ways:

- insufficient turning space obliges people using mobility aids to reverse out of the lift
- controls may be located out of easy reach

- lifts may be mechanically unreliable, eroding confidence in the whole of journey system and creating a disincentive to use public transport
- people who are deaf or hearing impaired may not be able to communicate over the emergency intercom.
- people with vision impairments may be disoriented regarding their location due to a lack of audio identification of landings
- lifts may lack braille and tactile markers on control buttons
- mitigating strategies for lift malfunction or service downtime are often cumbersome and time consuming
- lifts may be taken out of service for extended periods for scheduled maintenance, but the actual maintenance work takes but a few days or hours
- lift malfunction is too often reported by passengers rather than by staff
- no real-time information on lift operational status exists, preventing the planning of a journey to avoid non-functioning lifts.

#### What are the barriers to using lifts?

The above dot points highlight many of the barriers. The greatest barrier is probably mechanical unreliability and a lack of real-time communication on the operational status of network lifts.

#### What are the impacts of using lifts?

Functional lifts are essential to the accessibility of any overbridge or subway. In most cases they are the only practical alternative to stairs. As such they are essential the access paths for people who have mobility impairments.

#### What are some of the critical features of lifts?

The critical features for lift accessibility are well captured in AS1735.12-2020 *Lifts, escalators and moving walks, Part 12: Facilities for persons with disabilities*. If this Standard is adopted most issues facing people with disability will be addressed. Wayfinding audio announcements are not covered in AS1735.12-2020 and should be included in the DSAPT.

The proposals in the Consultation RIS are addressed below.

1. Maintain Australian Standard AS1735.12 (1999) as the key standard adopted in Transport Standards and outline that the relevant sections of this standard are overridden by the following accessibility enhancements:

This is not supported. AS1735.12-2020 is the current Australian Standard. It is an adoption of the European Standard EN 81-70:2018 *Safety rules for the construction and installation of lifts - Particular applications for passenger and goods passenger lift - Part 70: Accessibility to lifts for persons including persons with disability* with normative Australian appendices. AS1735.12-2020 improves significantly on the requirements of the 1999 Standard which are dated and sometimes obsolete and even discriminatory due to technical advances.

(a) lift floor dimensions of not less than 1600 mm wide by a clear depth of 2000 mm to accommodate a stretcher, noting that lift sizes can be increased as necessary to meet high projected passenger numbers (AS1735.12 (1999) is currently limited to lift floor dimensions of not less than 1100 mm wide by 1400 mm deep for all lifts)

This is supported but note that AS1735.12-2020 has a Type 3 lift in *Table 3 — Minimum car dimensions for cars with a single entrance or two entrances* that is recommended for public buildings including stations. Type 3 is intended to permit stretcher use and recommends 2100 mm depth rather than the 2000 mm proposed. The 2100 mm figure is strongly advised to avoid non-compliance with the current AS1735.12-2020.

(b) automatic audible information within a lift to identify the level (or platform) each time the car stops as per AS1735.12 (1999) for all lifts serving more than 2 levels (note that AS1735.12 (1999) is currently limited to having automatic audible information within lifts serving more than 3 levels)

This is not supported. The requirements of AS1735.12-1999 above are obsolete. The current standard AS1735.12-2020 requires audio enunciation at every level regardless of the number of levels served.

5.4.2.5.2 When the car stops, a voice in at least one of the official local languages shall announce the car position. The voice announcement shall comply with 5.1.3.

A hearing loop should provide the audible information to hearing aid users.

5.4.2.5.4 An induction loop according to EN 60118-4:2015 should be provided as hearing assistance for alarm systems (see 0.4). If provided, a symbol according to ISO 4190-5:2006, Table C.1, No. 9 shall be placed close to the microphone. The induction loop should also be used for announcements according to 5.4.2.5.2.

The expectation of the disability sector is that all levels will be announced as per AS1735.12-2020 rather than only levels in lifts serving more than two levels as per AS1735.12-1999. The number of lifts located on public transport infrastructure serving more than two levels is vanishingly small. The proposal to require announcements as per AS1735.12-1999 will see negligible improvement on the *status quo*.

(c) audible and visual indication at each lift landing to indicate the arrival of a lift car as per AS1735.12 (1999) for all lifts serving more than 2 levels (note that AS1735.12 (1999) is currently limited to having audible and visual indication at lift landings where there are three or more lifts in a bank)

This is not supported. AS1735.12-2020 requires audible and visual indication at landings regardless of the number of levels served. AS1735.12-1999 is badly dated and compared to the 2020 Standard that supersedes it is discriminatory.

#### 5.4.2.4 Landing signals

5.4.2.4.1 The illuminated signals according to EN 81-20:2014, 5.12.4.3, shall be arrows and shall be placed above or adjacent to the landing doors.

5.4.2.4.2 An audible signal shall accompany the lighting of the arrows. The audible signals shall be one sound for up and two sounds for down. The audible signals shall comply with 5.1.3.

5.4.2.4.3 An audible signal on the landing shall indicate when the doors start opening. The door noise itself is sufficient if the noise level is 45 dB(A) or above.

(d) audible information and audible indication are provided in a range between 20 dB(A) and 80 dB(A) at a maximum frequency of 1,500 Hz (AS1735.12 (1999) is currently required to be in the range between 35 dB(A) and 55 dB(A)).

This is supported. AS1735.12-2020 also recognises the 80dB upper limit on rail platforms.

5.1.3 When an audible signal or voice announcement is required, the sound level shall be adjustable between 35 dB(A) and at least 65 dB(A) and to suit the site conditions. In noisy environments (e.g. on landings in train stations) the maximum sound level shall be adjustable up to 80 dB(A) (see 0.4). The means of adjustment shall be accessible only to authorized persons.

2. Allow the use of inclined lifts and small sized, low speed automatic lifts in limited applications in alignment with the NCC and the Premises Standards (lifts must not travel more than 12 m) in addition to the use of electric passenger lifts and electrohydraulic passenger lifts.

Not supported. Inclined lifts, platform lifts and other small lifts must be regarded as Unjustifiable Hardship solutions. The Premises Standards allow 1100x1400 mm car dimensions for lifts travelling less than 12 m, which seems at odds with the 1600x2000 mm car dimensions proposed in 1(a) earlier. They have no place in the DSAPT. Most lifts associated with infrastructure travel less than 12 m and so these 'exceptions could become the rule.

AS1735.12-2020 hints at this when it states that 'For other types of lifts, e.g. inclined lifts according to EN 81-22, this standard can usefully be taken as a basis.' Accessible lifts comply with AS1735.12-2020 but where this is not possible use it as a basis for an Unjustifiable Hardship solution.

## 1 Scope

This European (Australian) Standard specifies the minimum requirements for the safe and independent access and use of lifts by a wide range of persons, including persons with disabilities.

It is applicable to new passenger and goods passenger lifts according to EN 81-20. For other types of lifts, e.g. inclined lifts according to EN 81-22, this standard can usefully be taken as a basis.

3. Lift downtime, whether for maintenance or repair, must be minimised as far as possible. Work should be scheduled for times that cause least disruption to people's travel.

This is supported and is a common-sense measure.

4. Lift service contracts must state maximum acceptable downtime for scheduled maintenance and inspection work. This is particularly relevant in regional areas that do not have lift technicians or parts locally available.

This is supported and is a common-sense measure.

5. When lifts are out of service unexpectedly, operators and providers must ensure that the lift is returned to service as quickly as circumstances permit. It is accepted that repairs in regional areas may take longer than in metropolitan areas, but contractual arrangements and operational procedures must be in place to minimise the downtime of the lift.

This is supported and is a common-sense measure.

6. Whenever lifts are out of service operators and providers must ensure equivalent means for people reliant on the lift to continue their journey.

This is supported. Equivalent means should acknowledge equivalent journey time. On occasion the wait for a wheelchair accessible taxi is excessive.

How could lifts around public transport sites be improved?

Having an alternate lift as backup in case of a breakdown would be beneficial. This has been achieved at the King George Square bus station, which has two lifts to the concourse and two lifts to each platform. The four underground Cross River Rail stations, such as Albert Street station<sup>28</sup>, will also have a minimum of two lifts connecting concourses, mezzanines, and platforms. New stations in Perth, such as Perth Stadium, also have two lifts per platform<sup>29</sup>.

Lifting the standard for compliance to AS1735.12-2020 will result in substantial improvement.

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<sup>28</sup> <https://crossriverrail.qld.gov.au/stations-routes/albert-street-station/>

<sup>29</sup> <https://www.transperth.wa.gov.au/timetablePDFs/BusStationMaps/Perth%20Stadium%20Station.pdf>



How will these proposed changes to lift requirements affect your public transport experience?

For most people who have a disability, the improved reliability and quicker repair times proposed will solve many of their lift dilemmas. Appropriate communication of future scheduled maintenance would also assist people to plan their journey.

How would they change your current interaction with lifts?

Current interactions would be marginally improved by Proposal 1. Proposal 2 would be a step backwards. The other proposal could potentially improve things considerably.

What experiences do people with disability have when a lift is out of service for maintenance or repair?

Interrupted access path prevents full use of a platform or facility. This can add considerably to the duration of a journey. If the interruption is unexpected it can result in missed appointments, lateness for work and lost opportunity to conduct personal business.

Periodically lifts will be taken out of service for scheduled maintenance. While this is unavoidable it can be timed to minimise disruption. On occasion, lifts will be out of service for some weeks while waiting for scheduled work. They might have remained in service for much of the time.

What equivalent means of access were provided to you to continue on your journey?

People are usually told to travel to the next bus or rail station that has a functioning lift and change platforms there. This results in delays ranging from minutes to hours depending on the frequency of services.

Vouchers for wheelchair accessible taxis may be provided. Response times for wheelchair accessible taxis can be so poor that it is often quicker to take a service in the opposite direction of travel and change platforms at another location.

If a station is not staffed and no contact number to report a lift malfunction is displayed on the lift landing, people can report their situation over a platform emergency phone if one is provided. If the lift is not on a platform or if no platform emergency phone is provided the person is left to their own devices.

## Website Accessibility

Which option do you prefer: regulatory, non-regulatory or status quo?

The regulatory option gives greater certainty of accessibility and consistency of quality for the online products delivered for our members.

For the regulatory option, do you prefer: sub-option 1, sub-option 2, sub-option 3 or sub-option



Sub-option 4 – Websites to meet the current version of WCAG 2.1 AAA is preferred.

Accessibility of websites by mobile devices is non-negotiable as these devices are now ubiquitous. The AAA requirement ensures that the broadest spectrum of users is accommodated and therefore meets the Objects of the DDA.

### *3 Objects*

The objects of this Act are:

- (a) to eliminate, as far as possible, discrimination against persons on the ground of disability in the areas of:
  - (i) work, accommodation, education, access to premises, clubs and sport; and
  - (ii) the provision of goods, facilities, services and land; and
  - (iii) existing laws; and
  - (iv) the administration of Commonwealth laws and programs; and
- (b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and
- (c) to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community.

The other options fail to fully meet the Objects of the DDA as they exclude people who would be accommodated if 2.1 AAA were mandated.

Equivalent Access or Unjustifiable hardship provisions of DSAPT can be activated in the few instances that WCAG 2.1 AAA cannot be met.

How do people with disability use websites to access information on public transport services? They would like to do so with the same convenience as other passengers.

Not all people with a disability access information from public transport websites. This may be because they choose not to, have limited or no digital access or literacy, or due to the website being perceived as difficult to understand or navigate.

However, people who wish to use public transport websites often do so without undue difficulty. As part of the National Transition Strategy 2010<sup>30</sup> all new government websites and web content were meant to comply with the following implementation timeline:

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<sup>30</sup> [https://web.archive.org/awa/20170423124903mp\\_/http://www.finance.gov.au/publications/wcag-2-implementation/docs/wcag-transition-strategy.pdf](https://web.archive.org/awa/20170423124903mp_/http://www.finance.gov.au/publications/wcag-2-implementation/docs/wcag-transition-strategy.pdf)

- WCAG 2.0 A by December 2012.
- WCAG 2.0 AA by early 2015.

The transition has met with mixed results<sup>31</sup> but for many people the results have at least been acceptable.

Results on many sites have been disappointing for people who use screen-reading or screen magnifying software. The architecture of many public transport websites remains hostile to their assistive technology. Work on public transport websites is often placed in the hands of third-party providers who either have no knowledge or no interest in WCAG 2.0. Digital architecture like physical architecture is not easily modified once it is built. Both types of architecture tend to have a long service life.

Audio-visual material on websites sometimes meets WCAG 2.0 AA in that it has captions. Seldom will it have audio description or an Auslan alternative to speech and captions. These are WCAG 2.0 AAA requirements which are easily but seldom incorporated into online audio-visual material.

What are the benefits and challenges of using websites to access information?

The benefits are that websites allow real-time information to be displayed. They also allow a central repository of information and, if linked to associated websites, allow easy transition to the next source of information.

The challenges include keeping the information current, ensuring the information is correctly formatted, and ensuring that the information is easily accessed via a mobile device.

How could websites be improved to meet the needs of people with disability?

A move to WCAG 2.1 AAA, with an eye on WCAG 2.2 AAA (still in draft) would help. Having compliance and acceptance checking mechanisms is essential. User testing before going live would be the ultimate way of testing material prior to publication<sup>32</sup>. Contractual material must require strict WCAG conformance with penalties applicable in the event of failure.

The importance of co-designing material with user groups<sup>33</sup> cannot be overestimated. Time and again co-designed websites have been shown to give the best and most accessible experience to web users with a disability.

How will improved website accessibility impact an individual's public transport experience?

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<sup>31</sup> <https://mediaaccess.org.au/practical-web-accessibility/w3c-column/the-national-transition-strategy-%E2%80%93-is-it-on-track>

<sup>32</sup> <https://www.w3.org/WAI/test-evaluate/involving-users/>

<sup>33</sup> <https://www.w3.org/WAI/planning/involving-users/>

For those people who can use the web, and who choose to do so, well formatted, easily navigated, and accurate websites greatly assist in both journey planning and in accessing information regarding service changes and disruptions. Everyone benefits from easily accessible, accurate, up-to-date information.

## Communication during Service Disruption

Which option do you prefer: regulatory, non-regulatory option 1, non-regulatory option 2 or status quo?

Regulatory. Guidance may be ignored.

What experiences do people with disability have with planned and unplanned disruptions relating to public transport?

If correctly informed via accessible formats, in a timely manner and with accessible alternate means of completing the journey, the experiences of disruptions are no worse than for any other passenger.

This sometimes, but not always occurs. On some occasions people are informed at the last minute, via media they cannot access that they must continue their journey via a conveyance that is not accessible for them. This is a worst-case scenario that does occur, and has particular impact on people with communication difficulties.

Usually though, people experience difficulties that range from mild to moderate, with catastrophic failure only occasionally occurring.

How do planned and unplanned disruptions impact the public transport experience of people with disability?

Planned disruptions that are effectively communicated can be managed. If poorly communicated they can result in considerable difficulty or journey failure.

Unplanned disruptions can also be well handled if appropriately communicated and accessible alternate means of continuing the journey are available. If poorly handled, the scenario ranges once more from mild inconvenience to catastrophic failure.

What communication methods relating to planned and unplanned disruptions on public transport currently work for people with disability and why?

communicating over multiple accessible channels is fundamental and vital.

By way of example, a hypothetical unplanned disruption on a rail network might be conveyed to a train's passengers over the PA system, the hearing loop associated with the PA system, the speech to text capacity of the onboard passenger information display and at a future time via a text to Auslan function of the digital information screen.

Concurrently a smartphone app might update people not on the train with the same information appearing on the rail provider's network. People on platforms could be informed by the same PA, hearing loop and digital screen media.

What communication methods during planned and unplanned disruptions do not work and why?

The most common reason for communication failure is that information is made available in only one or two ways. If the following are the sole means by which a disruption is communicated there will be a failure to inform all passengers:

- putting up A frame signs that people with vision impairment or print disabilities cannot read
- making PA announcements that people who are deaf or hard of hearing cannot hear
- posting the time and date of a planned disruption on a website and assuming that all passengers are constantly monitoring the site
- staff informing people directly, but the person unable to fully understand what is said.

None of these methods of communication are inappropriate but each if used alone excludes some passengers.

What could be improved?

Information should always be provided in multiple accessible formats, which does not always occur. Platform changes may well be announced over the PA system, but no hearing loop or digital screen alternative is available. Last minute changes might not give people who have mobility issues time to move to the new platform. The maximum time buffer should be allowed and if necessary, the service be held until all passengers have changed platforms and boarded the service.

How will improved communication methods for planned and unplanned disruptions affect your sense of safety and security in using public transport?

Nobody enjoys being stranded, particularly if there seems to be no alternative means of continuing the journey at hand. If people could be confident they would receive timely information and be assured that an accessible means of continuing the journey was being made available it would greatly encourage them to use the public transport system.

## Gangways

Which option do you prefer: regulatory, non-regulatory or status quo?

The regulatory option is preferred as it will ensure more consistent outcomes for people with disability.

### 1. Gangways to be defined as access paths

The proposal is supported as gangways are clearly access paths but have their own distinct characteristics, such as gradient variation with the rise and fall of the tide.

## 2. Gangway definition

A definition for gangways is supported.

It is worth noting that there are two competing definitions of gangways currently in use and they refer to very different structures. The gangways referred to in this RIS are defined in *AS3962:2020 Marina design*:

### 1.3.17 gangway

ramp that provides pedestrian access between a fixed jetty or shore and a fixed structure or floating structure

Another definition is in the *National Standard for Commercial Vessels, Part C Design and construction: Section 1 Arrangement, accommodation and personal safety, 2018* (NSCV):

### 1.5 Definitions

*gangway* means a board or walkway used as a removable footway between a vessel and the shore intended for deployment:

- (a) over longer periods; or
- (b) for use by the general public.

The NSCV definition clearly refers to a structure that the DSAPT would regard as a boarding ramp and is not relevant to the RIS.

It will be necessary to clearly differentiate between these two types of gangway in the reformed DSAPT.

## 3. Gangway maximum gradients

Providers and operators must ensure that gangways maintain a 1:14 gradient over the entire range of the high and low tide levels. Many operators and providers will claim that this cannot be done, however it has been achieved in the flood recovery ferry terminals of the Brisbane River, which experiences a 2.7m tidal variation at the Brisbane Bar<sup>34</sup>. By comparison Fort Denison in Sydney Harbour experiences a 2.1m tidal variation<sup>35</sup>.

The gangway ensures that intermediate landings remain horizontal through the range of tides, which vary up to 2.5 metres. In simple terms the gangway will remain at or less than a gradient of 1:14 at all times with level landings at 6m intervals exceeding compliance requirements. These new gangways will be installed progressively at all

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<sup>34</sup> <https://www.ausmarinescience.com/marine-science-basics/tides/highest-astronomical-tide/>

<sup>35</sup> <https://www.coastalconference.com/2013/papers2013/Brad%20Morris%20Full%20Paper.pdf>

terminals throughout the Brisbane City Council Ferry Network<sup>36</sup>.

While it was Aurecon and Cox Architecture that designed Brisbane's flood recovery ferry terminals<sup>37</sup> an employee of GHD has published a paper detailing how with a raised landing and fixed ramps on the pontoon gangway gradients can easily meet the current DSAPT requirements of 1:14 over 80% of the tide range<sup>38</sup>. This was the logic pursued by Aurecon and Cox Architecture with their precedent setting gangway design.

A world first gangway system was developed comprising of a series of suspended floor platforms that respond to the tide, pivoting to achieve a compliant ramp gradient at all times<sup>39</sup>.

Precedents are often unwelcome. The precedent set by the gangways of the flood recovery terminals will no doubt be resented by operators and providers whose own gangways fall far short of the standard set in the Brisbane River. This is unfortunate, but progress is only possible through the setting of precedents that render the *status quo* obsolete.

It now falls to the operators and providers of Australia's ferry terminals to justify why they will not do what is so manifestly achievable. Gangways that provide 1:14 gradients over 100% of the tide range are affordably achievable in the majority of locations where ferry terminals are located.

#### 4. Nationally consistent chart datum and tide tables

The use of lowest astronomical tide (LAT) as the chart datum (CD) point is supported. Too much debate over the tidal range has occurred and so adoption of LAT as CD ends debate satisfactorily. It is the accepted CD for marinas in both *AS3962:2020 Marina design* and its earlier 2001 edition.

Using the national tide charts is eminently sensible as once again we standardise the design of gangways to accommodate known tidal variation.

#### 5. TGSIs associated with gangways

TGSIs are important wayfinding and safety features for people with a vision impairment. AS1428.4.1-2009 does not cover TGSIs on pontoons in tidal environments. In the absence of guidance from Standards Australia the location of warning TGSIs on the gangway treadplate is supported for the sake of consistent location.

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<sup>36</sup> <https://www.spinal.com.au/wp-content/uploads/2015/03/InterComm-March-Final.pdf>

<sup>37</sup> <https://www.aurecongroup.com/projects/transport/brisbane-ferry-terminals>

<sup>38</sup> East, M. (2018) Design for accessibility for floating structures <https://doi.org/10.1680/jmaen.2018.12>

<sup>39</sup> <https://www.archdaily.com/883091/brisbane-ferry-terminals-cox-architecture>

What are the experiences of people with disability in utilising gangways to access ferries?

Steep gangways are a significant barrier to successfully and safely travelling by ferry for people who have mobility impairments. Not only are they arduous to climb but they can be a challenge to descend. At lowest tide (LAT) the gangway gradient might approach 1:10. The National Construction code would limit the length of a 1:10-1:14 ramp to 1.9m. A gangway may be 20m in length.

Lack of any landings on the ascent or descent exacerbates the gradient challenge. Landings at 6m intervals provide a place for resting while climbing and braking or resting while descending. Redlands City Council received the following feedback during public consultation over the Southern Moreton Bay Islands Ferry Terminal Upgrade Project:

The gangway slope can be difficult for those with mobility issues, particularly those using wheeled walking frames - who can struggle to control their descent down gangways<sup>40</sup>.

If other operators consulted their passengers, they would no doubt hear similar accounts. Many operators rely on complaint rather than consultation and then present lack of public complaint as evidence of public satisfaction.

Ferry operators have been adamant that while deckhands will assist passengers using the small boarding gangways, they will not assist passengers up and down the long gangways connecting pontoon to shore. Deckhands are not trained for the task and to do so introduces an OHS risk for both employee and passenger. Direct assistance in ascending and descending the gangway is therefore unavailable.

How can gangways to access ferries be improved?

Having landings on gangways that remain level at all gradients and ensuring a maximum gradient of 1:14 at all tides will greatly improve the accessibility of gangways. Design breakthroughs from a decade ago have made both goals affordably achievable.

Unique gangway floor mechanics maintain level intermediate landings throughout the tidal range provide what is believed to be a world-first solution for achieving compliant disabled access<sup>41</sup>.

Some explanation of the landings' levelling mechanism is provided in another article:

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<sup>40</sup> [https://yoursay.redland.qld.gov.au/upgrade-of-smbi-ferry-terminals/news\\_feed/what-you-have-told-us-so-far1?posted\\_first=true](https://yoursay.redland.qld.gov.au/upgrade-of-smbi-ferry-terminals/news_feed/what-you-have-told-us-so-far1?posted_first=true)

<sup>41</sup> <https://www.aurecongroup.com/projects/transport/brisbane-ferry-terminals>

The difficult task of making the gangway compliant with the DSAPT requirements was also met with a unique solution – a ‘hanging floor’ within its structure.

The hanging floor combines pinned parallelogram frames connected to intermittent fixed triangular frames. The intermittent frames maintain the floor of these segments horizontal, regardless of any variation in slope of the structure. This ensures that the gangway can cope with the tidal range of the river and comply with the DSAPT conditions. Mr Woollard asserts that Aurecon and Cox Rayner believe this to be a world-first technique in addressing accessibility with tidal variations in maritime public transport<sup>42</sup>.

Brisbane City Council has continued installation of these innovative gangways in its ferry terminal upgrades post the flood recovery work, deflating any argument that these gangways present an unjustifiable hardship.

## Assistance Animal Toileting Facilities

### Questions for the disability community

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. Non regulatory will default to *status quo* in most instances.

What experiences do people with disability have in traveling on public transport with an assistance animal with regards to toileting?

Animals like humans have bodily functions. People who experience continence problems plan their journeys around available toilets. People with assistance animals must do likewise in planning around toileting areas.

Travellers familiar with particular routes will know where the grassed areas nearest to the transport nodes are located. Away from their regular travel patterns they may not be aware of the location of a grassy area in which it is permissible to toilet an assistance animal.

Very few operators or providers make assistance animal toileting areas available on their sites and none have a public database of grassy areas near their transport nodes that are suitable for toileting.

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<sup>42</sup> <https://www.roadsonline.com.au/brisbanes-resilient-new-ferry-terminals/>



How does assistance animal toileting areas not being available impact an individual's public transport journey?

Not being able to toilet an assistance animal is a disincentive to the use of a public transport system or at least to particular nodes within a system. Inner urban transport hubs are particularly unlikely to have grassy areas located nearby. They are also major destinations for public transport journeys.

What are the risks when attempting to locate a suitable place to toilet your assistance animal?

An assistance animal cannot independently search for a suitable toileting area in a location that is not familiar to it. If the animal's handler has a vision impairment there is a very real possibility of becoming disoriented or lost while searching for a suitable toileting area.

The risk may be mitigated somewhat if GPS location of appropriate toileting areas is available as open data. Many smartphone apps intended for the orientation of people with a vision impairment are able to accurately guide people to and from locations if the geolocation of the sites is available to the software. Many, but not all, people with disability are competent to use smartphone apps.

A much-discussed but never actioned idea is to document the location of all suitable assistance animal toileting areas of the inner urban areas and make these available as open data geocodes. This would be especially useful if transport nodes were also geocoded and available as open data. Geocodes for Brisbane bus stop<sup>43</sup> and ferry terminals<sup>44</sup> are available as open data, as are parks<sup>45</sup>. Filtering the raw data would allow inner urban transport nodes with adjacent parks to be identified.

What features or design elements of assistance animal toileting areas are good and not so good?

The best assistance animal toileting area associated with a major transport node in Queensland is Brisbane's Anzac Square. The grassy lower Square connects to Central Rail Station via a subway passing under a busy road. People avoid a road crossing and toilet their animals before or after undertaking a public transport journey.

The Brisbane City Council provides rubbish bins at two of the Adelaide St entrances to the Square allowing easy disposal of waste. Immediately on leaving the Square the traveller has available the multiple bus stops of Adelaide St. Because the lawn in Anzac Square has a deep natural subsoil, microorganisms in the soil deal with any odours. As it is a natural surface, animals seem to have no issue with using the lawn. Artificial grass is not always to the liking of animals.

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<sup>43</sup> <https://www.data.brisbane.qld.gov.au/data/dataset/brisbane-bus-stops>

<sup>44</sup> <https://www.data.brisbane.qld.gov.au/data/dataset/ferry-terminals>

<sup>45</sup> <https://www.data.brisbane.qld.gov.au/data/dataset/park-locations>

Anzac Square serves as an exemplar for an assistance animal toileting area associated with a major inner urban transport node. The cooperation of the local authority, which provides the bins and maintains the square, has been key to the success of the facility.

If an assistance animal toileting area was available on the public transport network, would people with disability use it, or seek an alternative location to toilet an assistance animal? If so why?

People will usually take the path of least resistance. If an assistance animal toileting area was well designed and convenient in terms of use and location it would be utilised. If staff had to be found to gain permission to use or unlock a facility it would likely only be used as a last resort, regardless of surface type.

Given the option of an artificial or natural surface many animals prefer the natural surface. The natural surface also has exponentially lower maintenance costs. This being the case an artificial surfaced toileting area would be second choice for both operator / provider and assistance animal handler if a natural surface option was conveniently available.

How will this affect an individual's access to public transport and confidence to use public transport?

Readily available assistance animal toileting areas and readily available information on their location makes journey planning much easier and boosts confidence to use public transport. Conversely, stepping out into the unknown is rather stressful and daunting, acting as a disincentive to use public transport.

What transport precincts or locations would most benefit having an assistance animal toileting area available?

Suburban bus and tram stops that were adjacent to grassy footpaths already have suitable assistance animal toileting areas that they may lawfully use - provided that they clean up after their animal. This is the case in all States and Territories.

Public transport nodes in inner urban areas where footpaths are sealed present more of a toileting challenge. They are also likely to experience high passenger demand. Public parks may be lawfully used as toileting areas but may not be in proximity to the inner urban transport node. Lawns or gardens associated with these transport nodes are potential toileting areas provided that the subsoil allows elimination of odour and waste.

## Emergency Egress

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. The two options presented are endorsed.

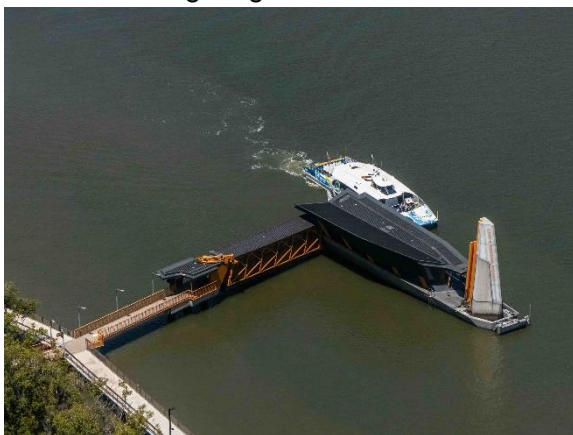
- Passengers must have at least two accessible egress routes that lead away from all public transport infrastructure, or premises that do not form part of a premise that has a building class.
- Paths of travel must consider the required number and dimensions appropriate to consider people with mobility aids and vision impaired persons using a white cane or accompanied by an assistance animal.

If there is an emergency at a public transport site, what is required to ensure that people with disability can safely evacuate?

Fit-for-purpose access paths must be available to allow people with a disability to move away from the emergency situation to a place or distance of safety. This will mean a minimum of two egress options. Suburban bus stops and tram stops can usually achieve this. Bus interchanges on public roads will usually offer two or more egress routes. There are exceptions though where entrapment points have been inadvertently created.

Waiting areas on ferry pontoons or over-water ferry terminals may have only a single gangway or jetty access path to shore. If the emergency was on the jetty or gangway all passengers would be trapped.

Ferry terminal pontoon and jetty waiting areas with single egress route.



Suburban bus stop with single egress route.



What is the experience of people with disability who have been in an emergency situation at a public transport site?

In most instances a vehicle fire or disturbance at a public transport site can be avoided through moving away from it. In this case it is a matter of the egress route being fit-for-purpose and able to accommodate the number of evacuees. Where a single egress route only is available, and if this is blocked, people with disabilities must often wait out the incident or depend on aid to evacuate from fellow passengers.

What is the experience of people with disability who have experienced an emergency situation in other premises?

Many public transport premises have entrapment points. Lifts to island platforms, aboveground

and underground platforms may be shut down during emergencies leaving stairs as the only egress routes. People must then seek a place of refuge on the platform.

In multi-storey buildings people not able to evacuate via the fire stairs usually must wait out the emergency either in a refuge or somewhere on the floor. Few older buildings have fire refuges. A QDN board member was once trapped on the fourth floor of a multistorey building during a fire evacuation. No refuge was available, so the member was obliged to sit out the emergency in the lift foyer. The fire was on a lower floor, so the member was only affected mildly by smoke. No means of contacting the fire warden was available so the member waited on the floor until the lifts were turned back on and staff began to re-enter the building.

As building height increases the number of people not able to evacuate via the fire stairs also increases. Eventually the number of people seeking refuge in a floor's refuges exceeds the capacity of the refuges provided.

Some few buildings have fire rated goods lifts that have a fire rated landing on each floor. These are the ultimate refuge and evacuation facilities as they offer fast, safe evacuation supervised by emergency services personnel.

What lessons can be learnt from that experience?

Fire refuges that serve as landings for fire rated lifts are the ultimate safe place / egress route combination in multi-storey buildings or grade separated and island platforms. These should be compulsory in all situations where lifts are decommissioned during emergencies. Where they are not feasible, safe refuges with communication devices should be available.

## Fit for Purpose Accessways

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory as guidance can be ignored.

For the 'access paths to be the principle pedestrian path of travel' regulatory options, do you prefer: option 1, option 2 or option 3?

Option 3 is probably the most feasible.

Ramps and walkways co-located with stairs must not have less than 50% the pedestrian capacity of the stairs at peak times and during emergency egress.

Ideally the co-located ramp and stair should have the same level of service (LOS), making the equals. If both could maintain LOS C at peak times as per Table 2.1 of the Public Transport Infrastructure Manual, Department of Transport and Main Roads, June 2020<sup>46</sup> option 3 is

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<sup>46</sup> <https://www.publications.qld.gov.au/dataset/public-transport-infrastructure-manual>

easier to support fully.

Design space – Typically, platform areas and access paths, during peak periods, should be at a LOS C. Further guidance is available in John J Fruin's *Pedestrian Planning and Design* publication.

For the 'access paths to be kept clear at all times' regulatory options do you prefer: option 1, option 2 or option 3?

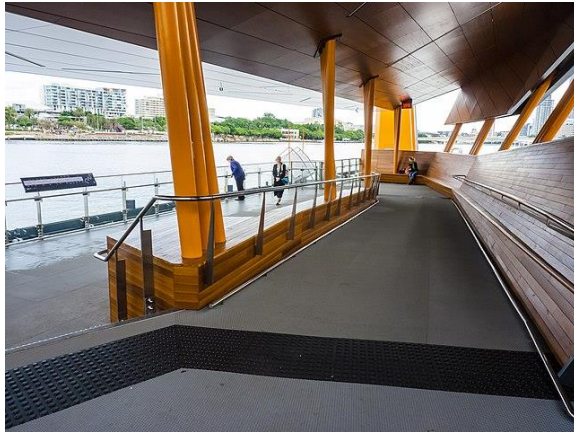
Option 2 is the more reasonable. For a location that is in service 24/7 option 1 will be automatically captured.

- during the operational hours of the particular infrastructure.

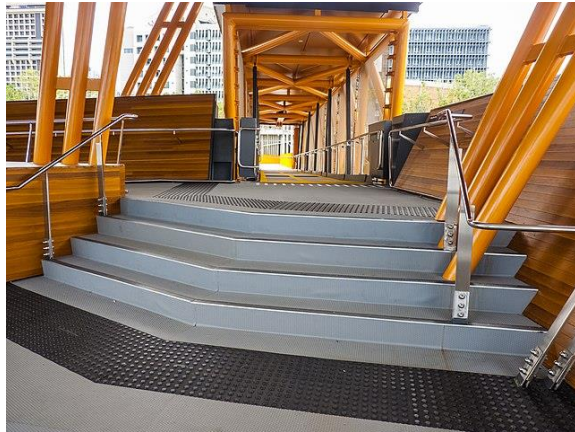
What is the experience of people with disability when entering or exiting public transport infrastructure where both stairs and ramps have been co-located?

If they are well designed, as per the intention of the CRIS section, they can work quite well. Good examples of a stair and ramp combination that maintains LOS C at peak times can be found on the flood recovery terminal pontoons in the Brisbane River. Passengers disembarking at the upstream gate use the ramp as their exit route by preference. Passengers disembarking at the downstream gate use the stairs as their preferred exit. Pedestrian traffic flows freely at the busiest times.

Flood recovery terminal pontoon landing.

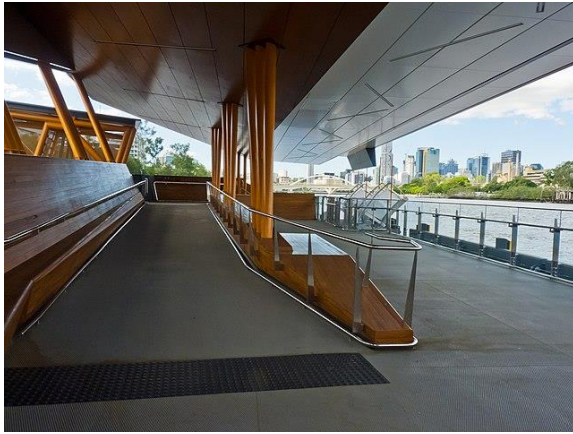


Flood recovery terminal pontoon stairs.





Flood recovery terminal pontoon ramp.



What causes a blocked accessway for people with a disability at public transport sites?

If all paths are accessible and used by all passengers, then blocked access paths rarely occur. The frequent flow of pedestrians discourages people placing themselves or objects in the access path.

Problems occur when the access path is one of two options and is clearly the inferior option. It may have the same length as the stair option and be co-located, but its ill-considered design and infrequency of use encourages people to loiter near it, place signs, coffee carts or other movable material in its entrance or nearby. If perceived as a backwater in the pedestrian flow it may also become a breakout space for smokers or people checking smartphone messages.

What is the impact of a blocked accessway at public transport sites for people with disability?

Blocked access paths impose terms and conditions on passengers with disabilities that verge on indirect discrimination. If people or objects block the path a passage must be negotiated with those people or the people who have inappropriately located objects. This adds to the number of negotiations and challenges many people with disability experience daily.

What makes a public transport site accessway safe and ensures direct navigation for timely egress at all times ('fit for purpose') for people with disability?

At design phase the LOS required of access paths that are also egress routes needs to be considered and the built outcome must accommodate the egress flow at peak times.

How does a 'fit for purpose' accessway meet the needs of people with disability?

It affords them easy and safe entry and exit from the transport node. It affords them the same rights and service extended to other passengers.

How will 'fit for purpose' accessway impact the public transport experience of people with disability?

The experience of people with disability can only improve if they are provided access paths that are as easy to find and use as any other passenger's access paths.

In discussing Equivalent Access the DSAPT mentions equivalence of ‘availability, comfort, convenience, dignity, price and safety.’ Fit for purpose access paths will deliver on these in all outcomes.

## Wayfinding

- Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory.

What experiences have people with disability had with wayfinding? Can you provide examples?

Experiences are both positive and negative.

On occasion people with a vision impairment fall off rail platforms due to a lack of orientation cues. On other occasions they are led directly to a boarding point by a TGSi trail. Most experiences fall between these two extremes.

People can find large gaps in their line of cues and these gaps are a challenge. Alternatively, a proliferation of cues can be confusing, for example TGSIs leading in any direction can baffle people trying to find their way.

How is wayfinding used?

People with vision impairments mostly navigate from memory. They remember cues and use those cues to find the next cue. The less sight a person has the more they rely on memory and cues. People who have no sight are totally dependent on their memory of cues for way finding.

What are the good and bad features of wayfinding approaches taken by providers and operators at public transport sites?

Wayfinding treatments are often haphazard and inconsistent.

Good wayfinding layouts are continuous, intuitive, and as consistent between locations as possible.

What wayfinding guidance or support do people with disability rely on most to ensure they can safely navigate public transport sites?

Means of offering wayfinding support and assistance are:

- warning TGSIs on platform edges, carriageway margins, stair, and ramp entries
- directional TGSIs over open spaces with no other cues
- shorelines where these are easy to follow
- Smartphone beacons
- geocoded reference points accessible as open data
- audio cues on platform information devices

- audio-tactile crossing signals on road crossings
- handrails on stairs, ramps and beside access paths
- changes in surface texture
- luminance contrast between access paths and surrounding surfaces
- easily locatable tactile signs
- high contrast visual signs.
- staff member providing direct assistance.

People will also use informal cues such as floor and ground surface changes, smells, sounds, direction of sunlight, wind direction and so on. Where sight fails, hearing, smell and touch are relied upon.

Orientation and mobility training in public transport sites and conveyances can greatly assist in familiarising people with the wayfinding cues provided. Partnership with vision impairment agencies can be of great assistance in delivering these sessions. Brisbane City Council and Vision Australia have an ongoing, longstanding partnership that provides four such half day sessions per year.

[What needs to be done to improve wayfinding in public transport sites?](#)

Design consistency cannot be over emphasised. The more consistent the layout of transport infrastructure, premises and the conveyances, the less people with people with vision impairments need to remember. They will intuitively know where they are with much less strain on the memory.

Airbus take a similar approach to cabin design for their aircraft. From A320s up to A380s pilots experience a similar layout of instruments and controls. This is both an ergonomic and safety policy as it allows pilots to easily transition between aircraft.

There are multiple cues that can be used in concert that will greatly assist in wayfinding if they are correctly arranged and aligned. Co-designing conveyances, infrastructure and premises with the relevant community stakeholders will ensure that good, well-conceived and well-connected cue lines can be established at new and existing sites and conveyances.

## Tactile Ground Surface Indicators

- [Which option do you prefer: regulatory, non-regulatory or status quo?](#)

Regulatory.

- [How do people with disability interact with directional TGSIs?](#)

For people with a vision impairment, they are regarded as essential wayfinding aids in open areas that offer few other wayfinding cues. People using mobility aids sometimes regard them as a nuisance as the small, solid castor wheels of walking frames and wheelchairs can become caught.

- What are the benefits?

An easily comprehended layout that takes people to essential features but leaves access paths largely unaffected is a benefit to all.

- What are the challenges?

A layout that is too complex will confuse people with a vision impairment and annoy people whose mobility aid wheels are caught by the directional TGSIs. A balance where less TGSIs is regarded as more needs to be struck between the various users of the space.

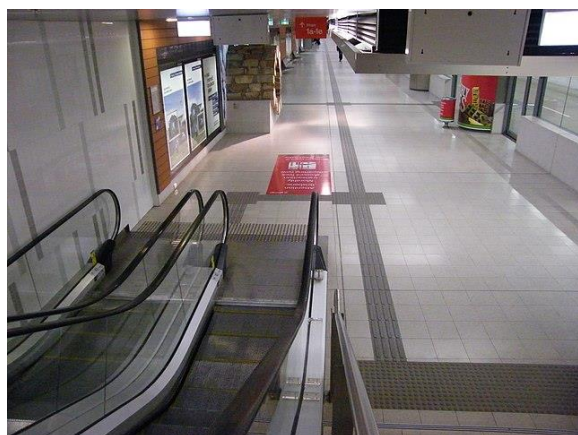
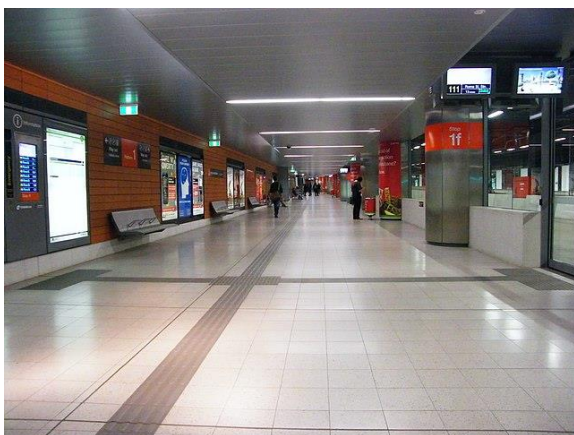
- How should they be applied in public transport networks?

Since each site is likely to be unique directional TGSIs trails should be co-designed with affected users and the site operator. It is important to include people who have mobility impairments in the co-design process as poor layout will be to their disadvantage.

What are the experiences of people with disability where tactile installations have been done well or poorly at public transport sites? This may include particular product/material types.

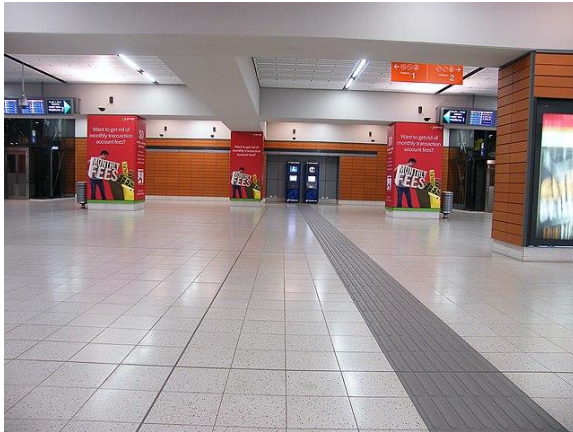
In the King George Square bus station concourse level TGSIs connect touchscreen information kiosks that lack audio alternative to digital screen that have no audio component. The TGSIs trail is seen as a white elephant by people who have a vision impairment and a trip hazard impediment by most other passengers. It does not connect station entrances to escalators, stairs, and lifts to the platforms. but simply bisects the concourse.

By contrast, platform TGSIs lead people to the boarding doors and the real time information audio-visual displays from the stairs, escalators, and lifts. The layout is highly regarded by people with vision impairments and offers little impediment to other users. Planning and co-design of the platform layout contrasts with the lack of planning and consultation on the concourse.

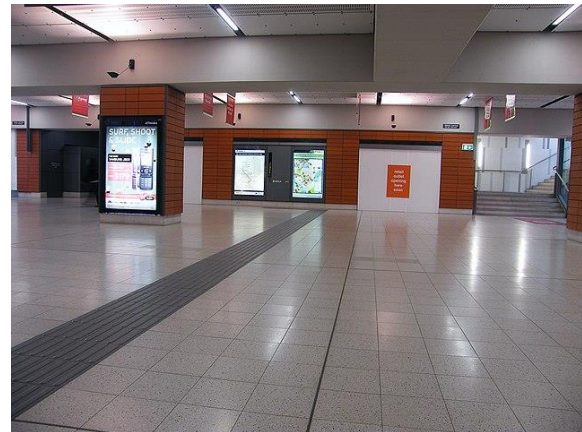




Concourse level TGSIs connect touchscreen information kiosks that lack audio alternative to digital screen that have no audio component.



Concourse level TGSIs connect touchscreen information kiosks that lack audio alternative to digital screen that have no audio component.

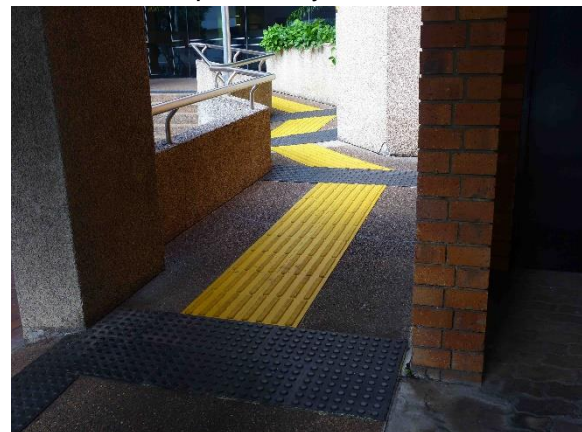


TGSIs can be laid in a manner that offers no guidance but introduces impediments for other users. A handrail on a ramp is as good as TGSIs for wayfinding and causes no impediment to other pedestrians.

TGSIs on ramp 61 Mary St Brisbane.



TGSIs on ramp 61 Mary St Brisbane.



• If the proposed regulatory approach is adopted, how will this impact your decision to travel by public transport and the overall transport experience?

If the TGSIs layout gives people with a vision impairment greater confidence they will most likely be encouraged to use public transport more often. A well-considered layout that does not place impediments in the way of other users of the transport node will not discourage their use or lead to falls.

• If directional TGSIs are adopted in the absence of other cues, what key facilities or destinations are required to be identified as a minimum?

As a minimum. There should be TGSIs trails connecting exits and entries with:

- boarding points
- core assistance and seating areas
- toilets
- lifts and stairs



- staffed locations.

Broad, open concourses and public squares particularly benefit from directional TGSIs

- In the absence of directional TGSIs, how can guidance to facilities be provided through technology solutions such as smart phone applications?

Beacons have been successfully installed in Melbourne railway stations and in Brisbane's King George Square bus station. For the people competent to use the systems they have been very helpful.

- Are there any barriers that need to be considered in a technology approach?

By no means all people have smartphones and of those who have them not all are competent to use wayfinding apps. Beacons should certainly be installed at key locations but not relied upon as the sole means of orientation.

## Passenger Loading Areas

### Questions for the disability community

- Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory. Taxi ranks are already covered by the DSAPT and few are accessible due to a lack of technical specification. Regulation of technical specifications will solve the problem. Passenger loading zones are boarding points for Wheelchair Accessible Taxis (WATs) and also require regulated technical specification.

Taxi ranks and passenger loading zones that are off-street should be separated from those that are on-street. Off-street taxi ranks and loading zones are on land that is the property or lease holding of the site manager, which may or may not be a transport operator and provider. They are at liberty to sign the spaces as they see fit but have limited, if any, powers to regulate them.

On-street taxi ranks and passenger loading zones are on public roads and are covered by state and local laws. They must be correctly signed as Taxi Zones and Loading Zones with signs complying with the Manual for Uniform Traffic Control Devices. The local authority then has the power to regulate use of the facilities and issue infringement notices to offending drivers. The Taxi Zones and Loading Zones on-street are usually assets of the local authority which is responsible for their construction and maintenance in addition to regulation.

Combining off street and on street facilities introduces an unnecessary complexity to the situation. There is a legal distinction between an on-street Taxi Zone and a Loading Zone, and the terms and conditions of their use, that is far less clear off street. A clean division between the on street and off-street facilities would be much more manageable in the DSAPT.

For the regulatory option, which sub-option do you prefer: sub-option 1, sub-option 2 or sub-

option 3?

For taxi ranks Sub-option 3 is preferred in off street locations.

Sub-option 3 - The first and last taxi rank space, as well as 1 space for every 4 spaces between the first and last space where there are more than 5 spaces, must be accessible.

Nothing prevents all taxi spaces being accessible though as per the taxi zone at the Brisbane Domestic Terminal.

What experiences do people with disability have with alighting or loading at a taxi rank or passenger loading zone?

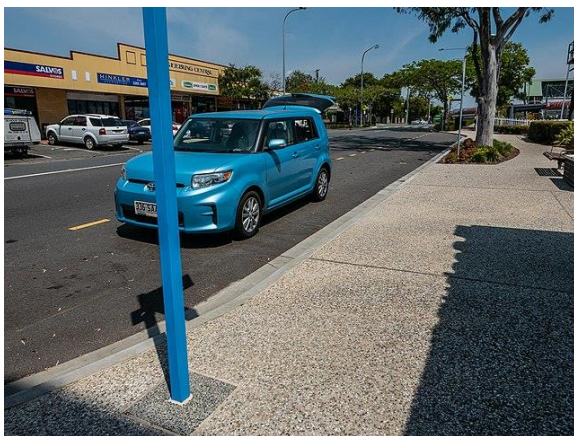
Few taxi ranks and fewer passenger loading zones at transport nodes are accessible to people who use mobility aids. Most have unbroken kerbs that prevent loading or unloading from WATs. This imposes restrictions and some risk on passengers arriving or departing by WAT.

What are the challenges faced and why do they occur?

The challenge is the lack of a kerb ramp where there is a kerb at the taxi rank or passenger loading zone. WATs unload from the rear. Without a kerb ramp in the kerb or the taxi space being at the same grade as the access path mobility aid users are trapped on the carriageway of the taxi space or loading zone. Equally, access to the carriageway from the access path to load is not possible.

The following photographs illustrate a loading zone on a public street that is adjacent to a Brisbane railway station. The station's recent refurbishment included upgrading the footpath, but did not include installing kerb ramps in the newly constructed kerb.

On-street passenger loading zone at rail station with unbroken kerb.



On-street passenger loading zone at rail station with unbroken kerb.



How can this be improved?

Installing kerb ramps into vehicle spaces as per the proposal or constructing Taxi Zones and

Loading zones that are at the same grade as the footpath.

What are the flow-on impacts for a person as a result of not being able to alight or load at a taxi rank or passenger loading zone?

People unload from WATs in driveways, car parks, disability parking spaces and any other area that they can find and which the driver is willing to use. This can be quite unsafe at times. The risk is a disincentive to the use of those facilities that do not have accessible taxi zones or loading zones.

How many accessible passenger loading spaces (including taxi-specific) should be provided at public transport premises or infrastructure?

Numbers would reflect the level of service required by the premises or infrastructure.

International airports would no doubt have multiple taxi zones and loading zones. A suburban railway station might have a single space loading zone.

If all taxi ranks and passenger loading zones at public transport premises and infrastructure were accessible, how would this affect the public transport experience of people with disability?

If taxi ranks and passenger loading zones were all accessible unloading and boarding could occur in a safe and fit for purpose location. The same locations used by all other members of the public.

This would be an incentive to use the public transport system, as WATs can be an important part of the first and last mile. They are also an important stop-gap in the event of an unplanned service disruption.

What features are critical to making passenger loading zones accessible?

The specifications for accessible parking spaces in AS2890.6 -2009 *Parking facilities Part 6; Off-street parking for people with disabilities* and AS2890.5-2020 *Parking facilities Part 5 On-street parking* should suffice for both taxi ranks and passenger loading zones, depending on whether they were on-street or off-street.

The TGSIs delineating at grade taxi or loading spaces should also have a bollard treatment as per AS1428.4.1-2009 Figure 2.5(b). Bollards should be spaced at least 1200 mm apart.

Bollards prevent vehicles from driving onto access paths or footpaths and blocking them. Local authorities will no doubt take a dim view of vehicles on footpaths.

The 18 m proximity to an entrance may be rather optimistic but if it can be achieved in some locations it would be useful. Perhaps this could be better offered as guidance.

If passenger loading can only be provided on one side of a public transport premises or infrastructure, what is the impact on passengers?

If the access paths to all parts of the premises or infrastructure are fit for purpose it is likely that

there would be little or no impact. The most accessible taxi rank in Brisbane is located at the Domestic Terminal. It is on the arrival side of the building only.

## Provision of information in multiple forms

Which option do you prefer: regulatory, non-regulatory or status quo?

Regulatory.

What is the critical information needed in a timely manner in order to make a successful public transport journey or trip?

Comprehensive information to allow people to plan and consider options and alternatives are useful to all people.

What are the current ways that information is received in relation to public transport services?

Information is disseminated in a variety of ways, such as websites, print and television, radio, social media, online documents, audio files, flyer handouts, digital screens, and A frame signs. Depending on their disability, people will find all, some, or none of these media accessible.

What is the preferred format for people with disability? Is information available in this format?

There is no single preferred information format. People's preferred format will vary with their sensory, intellectual, and cognitive ability.

Most of the accessible formats are publicly available, but not from a single operator. Rather, each will provide some accessible options but not all.

How does the format requirements change depending on the type of information (e.g. accessibility information and facility maps, timetables, service information)?

Formats must change to suit the needs of the person who needs the information.

What are the barriers in trying to access information on public transport services that is only online?

Barriers include:

- webpage accessibility
- PDF file accessibility
- not having easy or any internet access
- not constantly monitoring websites for updates or changes.

How does this impact an individual's ability to access information and affect your overall public transport experience?

If information is provided only on a website people may miss vital information regarding a planned or regular journey. If the information is poorly formatted the information may not be found despite searching for it. Any of these scenarios can mean journey failure or undue hardship while completing the journey.

Have you had to ask for information to be supplied to you in another format that was only available online?

People often ask for large print, easy or simple English, braille, or audio formats. These are either not online or cannot be put online.

How was your request handled and how did the outcome meet your needs?

Requests for the above formats are often met with polite refusal. Staff often have no idea of how to fulfil the request or who to contact regarding production of alternate formats.

How can communication related to public transport services be improved?

Co-designing information distribution systems and information formats with impacted stakeholders will greatly improve the situation.

## References to Australian Standards Amendments

Do you support the changes to the references to Australian Standards?

All updates are supported.

Do you find domed buttons at the end of a staircase to be helpful as a warning indicator?

Domed buttons are useful, particularly where handrails are not continuous or must terminate at the last tread rather than providing a 300 mm extension as per the AS1428.1-2009 requirement.

Would it be helpful if section 21.2 (Controls – passenger-operated devices for opening and closing doors) and section 21.3 (Controls – location of passenger operated controls for opening and locking doors) in the Transport Standards are consolidated as a single provision?

Since the requirements of 21.3 are already captured in 21.2 it would seem reasonable to combine them.