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# **Accessibility to public transport: a best practice guide**

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## Contents

<b>B1</b>	<b>Introduction to the best practice guide</b>	<b>4</b>
B1.1	Overview	4
B1.2	Definitions	4
B1.2.1	Users	4
B1.2.2	Modes, services and routes covered	5
B1.2.3	Source of best practice factors	5
B1.3	Structure of the guide	5
<b>B2</b>	<b>Getting to the service by self</b>	<b>5</b>
B2.1	Introduction	5
B2.2	Footpath	6
B2.2.1	Changes in surface level of accessible footpath	6
B2.2.2	Measuring slope/gradient	8
B2.3	Pedestrian facilities	8
B2.4	Kerb cut and ramps	8
B2.5	Tactile ground surface indicators	9
<b>B3</b>	<b>Getting to the service by car</b>	<b>10</b>
<b>B4</b>	<b>Waiting for service – bus stop</b>	<b>11</b>
B4.1	Landing and kerb	12
B4.2	Bus shelter and seating	14
B4.3	Bus stop signs and service information	15
B4.4	Lighting	17
<b>B5</b>	<b>Waiting for service – station</b>	<b>17</b>
B5.1	Entrance and doorways to the station	17
B5.2	Ramps	18
B5.3	Steps and staircases	19
B5.4	Handrails	20
B5.5	Lifts	20
B5.6	Platform	20
B5.7	Ticketing	21
B5.8	International sign of access	22
B5.9	Signage for service and other information	23
B5.10	Safety and security	23
<b>B6</b>	<b>Being on board – bus</b>	<b>23</b>
B6.1	The effect of vehicle type on the accessible journey	24
B6.2	Provisions for wheelchairs	25
B6.3	Hand holds into/on bus	25
B6.4	Staff training	25
<b>B7</b>	<b>Being on board – train</b>	<b>26</b>
B7.1	Priority seating	26
B7.2	Provisions for wheelchairs	26
B7.3	Access to the train carriage	26

- B7.3.1 General.....26
- B7.4 Horizontal and vertical gaps, ramps and steps .....27
- B7.5 Aisles.....27
- B7.6 ‘Hand holds’ into/on train carriage.....28
- B7.7 Signs on and in carriages.....28
- B7.8 On-board information .....28
- B7.9 Staff training.....28
- B8 Service coverage.....28**
- B8.1 Service area and availability.....28
- B8.2 Services information .....29
- B8.3 Cleanliness and graffiti .....30
- B9 References.....30**
- Annex A: Source of public transport accessibility factors .....32**

# B1 Introduction to the best practice guide

## B1.1 Overview

This document is intended to provide regional councils and others with information about the ‘factors’ that contribute to making a public transport journey accessible to any or all categories of public transport user (as defined in section B1.2.1 below).

This best practice guide has been developed in conjunction with a PT accessibility audit and report card (see appendix A). The methodology used takes a ‘whole-of-journey’ approach. Hence, the ‘barriers to access’ audited include factors affecting:

- service coverage (service availability, frequency, span, area and information)
- accessible routes to stops/stations
- bus stops (including shelters where available)
- bus or rail stations
- accessible parking facilities
- passenger service vehicles and carriages.

The audit excludes ‘affordability’ for users as being too complex to be addressed within this project.<sup>1</sup>

When the audit is complete, a report card rating accessibility (no barriers, slight barriers present, moderate barriers present, severe barriers present) for each user category is made.

## B1.2 Definitions

### B1.2.1 Users

Six broad categories of users have been identified, ranging from ‘able users’ (essentially people with no disability) through to ‘wheelchair users’ (people who possibly experience the greatest difficulty accessing public transport). Table B1 provides a description of the user categories.

**Table B1 Categories of people with disabilities**

Able users	Regular, occasional and new PT users with no disabilities
Wheelchair users	People who are injured or disabled and use a wheelchair for moving from place to place.
Physical limitations	People with ambulatory/physical disabilities, whether temporary or long term (eg pregnant women, elderly people, people on crutches or with a cane; people with babies/small children in pushchairs; people with poor dexterity or little strength)
Comprehension	People with mental/cognitive disabilities, as well as those with language difficulties (eg ethnic minorities and new immigrants)
Visual	People with sight impairments
Auditory	People with hearing impairments

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<sup>1</sup> For a discussion about the decision to exclude affordability, refer to the full project report.

## B1.2.2 Modes, services and routes covered

The focus is on accessibility to the regional council scheduled bus network and ‘large bus’ vehicles<sup>2</sup> and regional council scheduled rail network and carriages.

Ferry services (facilities and vessels) and total mobility scheme vehicles are excluded.

## B1.2.3 Source of best practice factors

Annex A outlines all of the documents used in creating the various sections of this best practice guide, including the summary worksheets for the PT accessibility audit and report card, annotated with the source/reference of the ‘factor’ (eg ‘barrier to access’).

## B1.3 Structure of the guide

This document provides some best practice guidance to facilitate an accessible public transport journey. Each chapter addresses one component of the journey.

For ease of reference to auditors completing the PT accessibility audit and report card (see appendix A), the sections are aligned with the worksheet titles.

**Table 1 Components of the accessible public transport journey addressed**

Chapter 1	Introduction to the best practice guide
Chapter 2	Getting to the service by self (as a pedestrian or wheelchair user)
Chapter 3	Getting to the service by car
Chapter 4	Waiting for the service – bus stop
Chapter 5	Waiting for the service – station
Chapter 6	Being on board – bus
Chapter 7	Being on board – train
Chapter 8	Service coverage
Chapter 9	References

## B2 Getting to the service by self

### B2.1 Introduction

This section provides guidance for creating accessible routes for public transport users who approach on foot or by wheelchair. It draws on the NZTA (2008a) *Pedestrian planning and design guide* (PPDG) and the Barrier Free New Zealand Trust (2008) *Resource handbook for barrier free environments*. Where appropriate, the reader is referred to the PPDG for further details and illustrations of the factors discussed here.

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<sup>2</sup> In the *Requirements for urban buses in New Zealand* (NZTA 2008b), a large bus (LB) is defined as a heavy vehicle with a seating capacity of >39 passengers. ARTA (2009) describes it as a standard single deck tag axle bus vehicle that is 13.5m long and 2.5m wide. A medium bus (MB) seats 21–39 passengers while a small bus (SB) seats 13–21 passengers, including the driver.

Note that accessing public transport stops and stations by bicycle is not addressed as part of this guide.

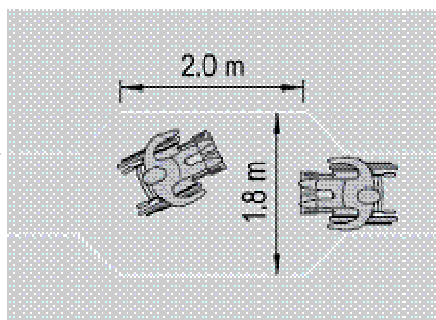
## B2.2 Footpath

Accessible footpaths have a minimum clear width of 1200mm (ie fixtures, rubbish or loose furniture, poles, awnings, litter bins, outward opening windows etc do not impede the route).

The accessible route to the stop or station should be lit between dusk and dawn to eliminate dark or hiding places, and to ensure all users of the route are easily seen.

Where a through route width is constrained to less than 1200mm wide, passing places should be provided so that two wheelchairs can pass each other and walking pedestrians can pass stationary pedestrians (see figure B1 below). Note that in suburban areas, residential driveways may provide such a passing opportunity.

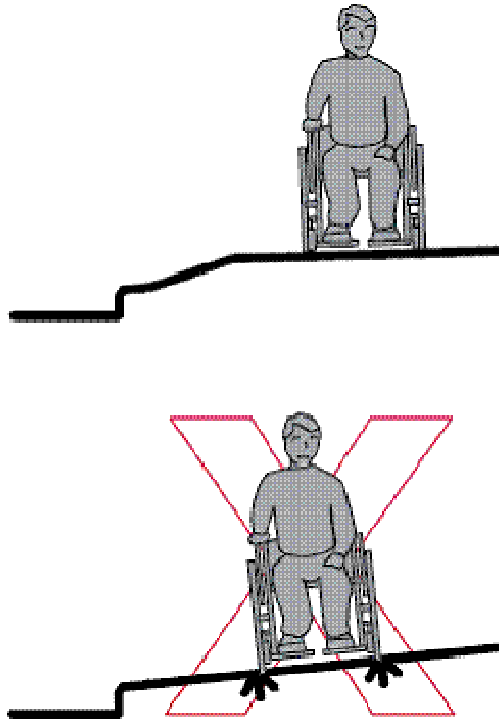
**Figure B1** Width of pedestrian passing places (source: NZTA 2008a)



### B2.2.1 Changes in surface level of accessible footpath

A fully accessible footpath is free of single or isolated steps. The crossfall gradient (slope of the footpath at right angles to the direction of travel) should be less than 2% (1:50) – see figure B2.

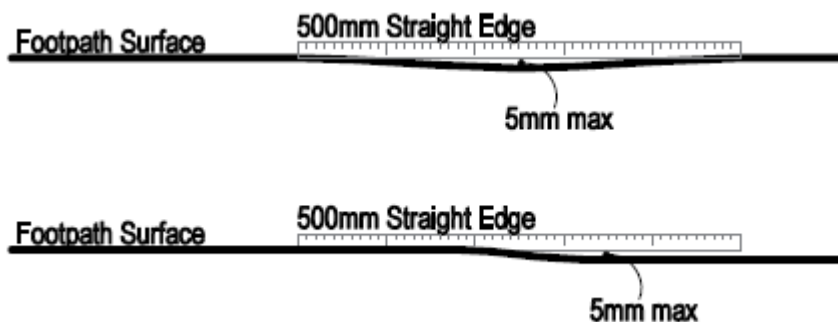
**Figure B2** Correct and incorrect provision of crossfall (source: NZTA 2008a)



Sudden changes in the surface height of an otherwise even footpath surface should be less than 5mm; undulations in such surfaces should be less than 12mm.

Figure B3 illustrates how such deviation can be measured using a 500mm straight edge.

**Figure B3** Measuring changes in surface level (source: NZTA 2008a)

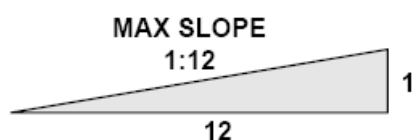


The accessible route should also be free of broken concrete or damaged paving, clean (eg free of litter and dog mess) and have no street furniture that impedes the route (such as rubbish bins, poles, awnings, outward opening windows, benches, signs). A height clearance (measured from footpath surface to intruding object) of at least 2100mm should be maintained throughout. The surface must be stable, firm and relatively slip resistant.

## B2.2.2 Measuring slope/gradient

Figure B4 shows a 1:12 slope (8% gradient). Such slopes/gradient can be measured using a level, a 1 m-long bar and a metric ruler. Resting one end of the rod (held level) on the road at a representative spot, measuring the distance down to the road at the other end in centimetres, gives a direct percentage grade.

**Figure B4** Slope (Source: Kentucky Dept of Vocational Rehabilitation 2000)



## B2.3 Pedestrian facilities

Crossing facilities should generally be provided near bus stops at locations where people want to cross the road. Median islands allow people to cross the road in stages. Signalised crossings should be able to be activated by pedestrians; be audible (for the hard of hearing); and the signal should be long enough to allow pedestrians of varying ages and ability to safely cross.

Crossings should be well lit between dusk and dawn, so that people using them are easily seen by approaching vehicles or other users. Street lights should provide lighting if the crossing does not have its own.

Advice on choosing the most appropriate crossing facility is in chapter 6.5 of the PPDG (NZTA 2008a).

If a subway or overpass is provided, this should be wheelchair accessible (ie maximum slope 1:12 with a handrail on both sides where there is a slope: minimum 2400mm wide). The subway or overpass should also be adequately lit.

Where a traffic island is provided, it should be accessible to wheelchair users (ie level with road surface or equipped with kerb cuts; a minimum path of 1500 by 1800mm). Chapter 15 of the PPDG illustrates several variations of accessible traffic islands, as well as providing the dimensions for accessible pedestrian platform crossings. Requirements for pedestrian (zebra) crossings are found in the PPDG, chapter 15.12.

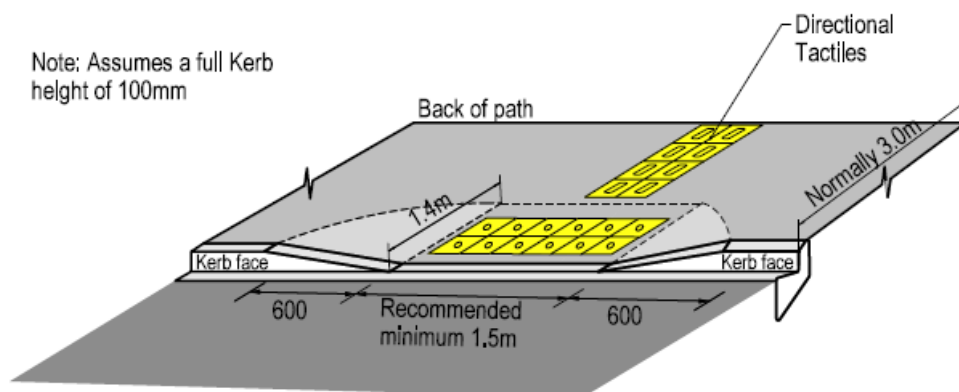
## B2.4 Kerb cut and ramps

The NZTA (2008a) PPDG illustrates accessible kerb ramp design elements (see figure B5). The minimum width of the ramp (exclusive of flared sides) is 1000mm, based on current New Zealand statutory requirements (BF 2008); while the PPDG recommends 1500mm.

The normal maximum gradient/slope of the kerb ramp is generally no greater than 8% (1:12), although steeper gradients are tolerated in constrained conditions:

- a gradient of 10% should only be considered where the vertical rise is <150mm
- a gradient of 12% should only be considered where the vertical rise is <75mm.

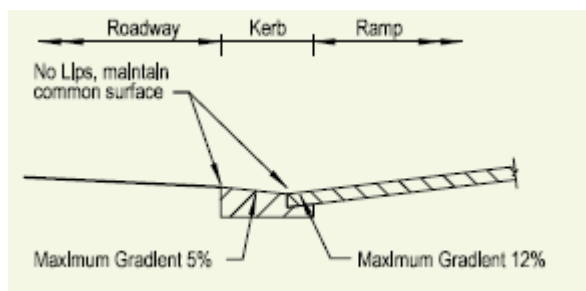
**Figure B5** Characteristics of ‘accessible’ kerb ramps (source: NZTA 2008a)



section B2.5.

The transition between the ramp and the road should be smooth, with no vertical face, as illustrated in figure B6.

**Figure B6** Typical gutter design (source: NZTA 2008a)



As noted above, further design elements for the kerb ramp are found in section 15.6 of the PPDG.

## B2.5 Tactile ground surface indicators

The tactile ground surface indicator guidelines provided in the NZTA (2007) *RTS 14 Guidelines for facilities for blind and vision-impaired pedestrians* require that detectable warning surfaces have the following features:

- The detectable warning surfaces, and their surrounding surfaces, should have a good visual contrast (colour, brightness, hue).
- For a kerb ramp, the detectable warning surfaces should cover the entire width of a kerb ramp, excluding flared sides.
- The detectable warning surfaces should have a depth of at least 600mm, set back at least 300mm from the hazard (usually the roadway).
- In the case of a bus stop, the detectable warning surfaces should be located close to the front entry door of a bus, have a minimum depth and width of 600mm and be installed 300mm back from the front kerb edge.
- Directional indicators 600mm deep should be installed where warning indicators are not located in the direct line of the continuous accessible route, so as to form a continuous path to the warning indicators.

**Figure B7** Examples of tactile warning and directional indicators (source: NZTA 2007)



Warning indicators



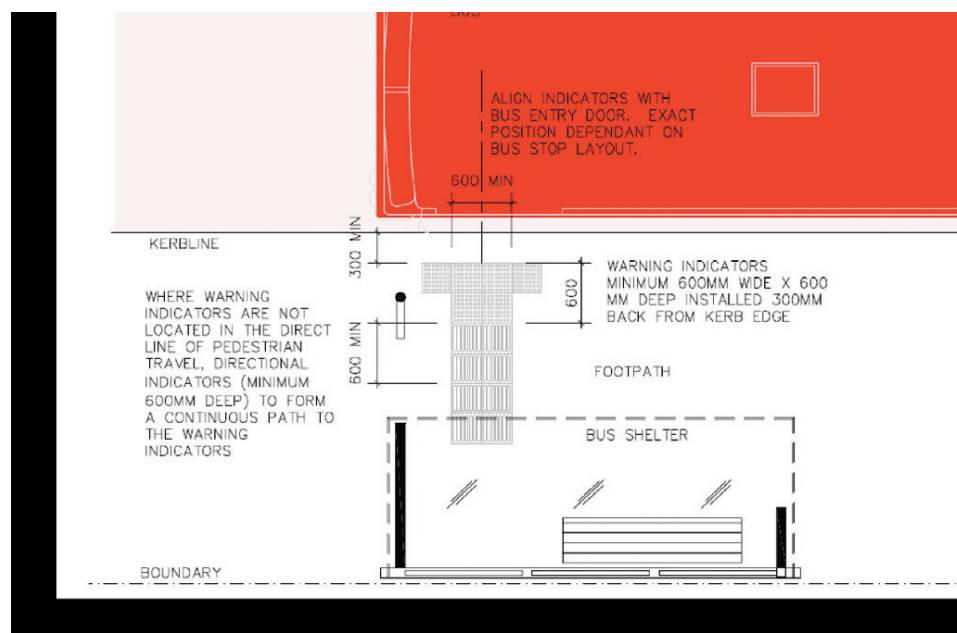
Directional and warning indicators installed at a bus stop

ARTA (2009) has proposed a layout for bus stops, highlighting the location of indicators, as shown in figure B8 below.

Figure B8 Recommended layout for tactile indicator layout at bus stops (source: ARTA 2009)

## B3 Getting to the service by car

Where vehicle parking is provided at an accessible bus or train station, at least one of such parks shall be accessible, ie located near the station, large enough in size, and with physical features that allow



wheelchair and other physically-impaired users to gain access to the station via the accessible (pedestrian) route. If between 10 and 100 parks are provided, the NZ Building Code states that two parks should be accessible, with an additional accessible car park per 50 additional parks provided. Accessible car parks should be clearly marked out and signed with the international symbol of access (refer figure B9). If the accessible park(s) is not visible from the entrance to the parking facility, then directional signage should be provided.

Accessible car parking spaces should have a maximum slope of 1:50; be 3500mm wide; and a minimum of 5000mm (angle park) or 6300mm (parallel park) in length. An accessible park should be level with the footpath or have a kerb ramp for wheelchair users to gain access to the footpath. As with accessible routes, the car park surface should be stable, firm and slip resistant, and the car park area adequately lit between dusk and dawn. The accessible car parks and the accessible route should be covered overhead.

**Figure B9** Examples of accessible car parking (source: accessed August 2009 from [dbh.govt.nz/accessible-carparks](http://dbh.govt.nz/accessible-carparks))



Signage dimensions and requirements are provided in the Land Transport Rule: Traffic Control Devices 2004, including:

<b>A20-S21</b>	<b>Park and ride</b>		
	<i>Indicates a place where motorists park their vehicles to catch public transport (bus, train, tram or ferry).</i>		
<b>Legend</b>	<b>Description</b>	<b>Colour</b>	<b>Size</b>
	'P' alongside a 'symbol of a train, bus, tram or boat as appropriate'	white	360 x 300 mm
<b>A20-S20</b>	<b>Wheelchair access</b>		
	<i>Indicates a place where wheelchair access is provided.</i>		
<b>Legend</b>	<b>Description</b>	<b>Colour</b>	<b>Size</b>
	'symbol of person in wheel chair'	white	240 x 300 mm

## B4 Waiting for service – bus stop

This section does not identify the factors associated with locating the bus stop in the first instance. Rather the focus is on whether or not the existing bus stop is accessible to all users. ARTA (2009) developed guidelines for providing bus stop infrastructure which address bus stop location, layout, spacing and capacity.

'Standard' kerbside bus stop layouts, which are preferred for most urban and suburban streets, are addressed in this best practice guide.

## B4.1 Landing and kerb

The NZTA (2008a) PPDG does not give dimensions for bus stop landing or 'hardstand' area, but the minimum requirements are 1500mm footpath width for accessibility. This width is defined by the space required for a wheelchair to manoeuvre. Transport for London (2006) notes that a skilled manual wheelchair user requires a space of at least 1500mm by 1500mm to complete a 360° turn). This implies a minimum dimension for the bus stop landing of 1500mm by 1500mm where buses are accessible through the front door, which is what is recommended in the PT accessibility audit and 'Barriers to access' report card (see appendix A).

There should be some marking for the bus stop area to indicate to the driver that they have stopped in the correct place for the passengers to easily load on to the bus. This may be through a painted marking on the road (outlining the bus 'park' area – see figure B10). Alternatively, the position of the bus stop sign – at the head of the bus stop, near the edge of the hardstand area could be used as a guide for drivers to position their buses correctly.

Some existing buses are wheelchair accessible through the rear door (which is usually located in the centre of the bus). In these cases, ARTA (2009) recommends an area of 1000mm by 8000–9600mm so that passengers can alight either through the front or rear doors of the bus. It is recommended, in this instance, that the hardstand area be 1500mm by 8000mm, to permit maximum manoeuvrability for wheelchair users.

Note that the *Requirements for urban buses in New Zealand* (NZTA 2008b) states that, for all buses entering the fleet from 1 January 2010, the front door is to be fully accessible, as well as the front part of the bus interior. This implies that the 1500mm by 1500mm landing area to accommodate passengers accessing/alighting from the bus at the front door will be the appropriate dimension in the future.

It is important that the landing pad is unobstructed (eg all street furniture and the bus shelter are set back enough (approximately 1000mm) for a wheelchair user to be able to access the bus; there is no obstruction from trees or other foliage); and there is a well-drained, non-slip surface that connects with the footpath. The landing pad should extend to the kerb, or be near enough for a ramp to be used.

As per the Land Transport Rule: Traffic Control Devices 2004, the bus stop zone should be designated as a no parking and no stopping zone.

**Figure B10** Ideal kerbside stop for 13.5m bus (source: ARTA 2009)

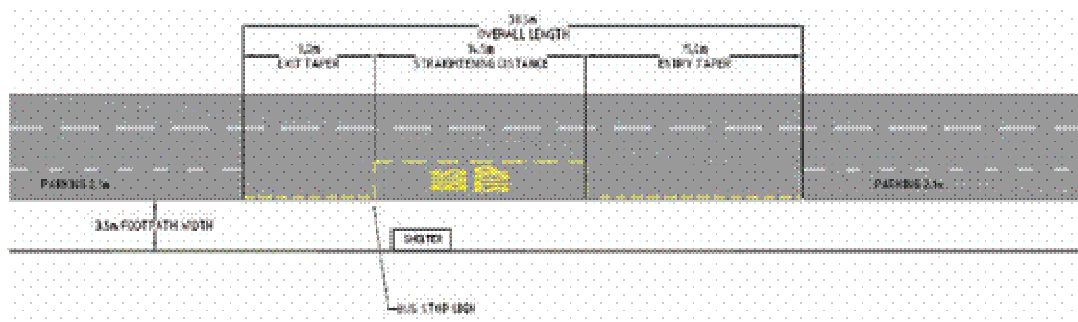
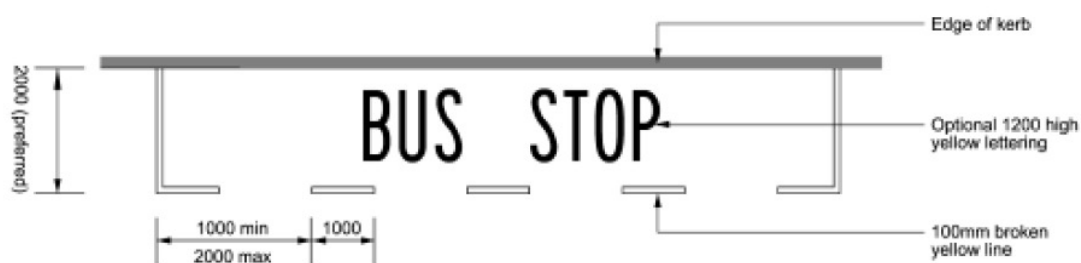


Figure B10 shows a typical bus stop layout, including the length of the bus stopping area, location of the bus stop pole and sign and the location of on-road markings (in yellow). The bus stop layout must allow the bus to stop parallel to, and as close to the kerb as possible (within 20mm, without the bus overhanging or over-running the footpath), to allow users effective access. ARTA (2009) recommends an 'ideal' minimum overall length of zone of 38.5m (9.0m exit taper – 14.5m for the stop itself and 15.0m for entry taper – see figure B10). If this is not feasible, then the minimum necessary space for the stop is a 9m exit taper plus 14.5m for the stop (23.5m in total). Figure B11 shows the on-road markings delineating a bus stop area in more detail.

**Figure B11** On-road markings delineating a bus stop area (source: Land Transport Rule: Traffic control devices 2004)



The kerb at the bus stop should be at least 150mm from the road surface to facilitate a near-level entry and exit from a super-low-floor bus in a kneeling position with a ramp deployed.<sup>3</sup> This is based on several different sources. The UK Department for Transport (UK DFT 2002) recommends a kerb height range of 140mm to 160mm, as is shown in figure B12, which is thought to give the best compromise between ease of access and reduced damage to the bus, while ARTA (2009) recommends a raised kerb height of 150mm. The PNCC (2009) *Bus stop guidelines* suggest that, while the standard kerb height of 150mm is generally adequate, to provide easier access for people with disabilities, the kerb height could range from 15mm to 240mm, depending on the type of kerb (eg raised, guided or Kassel kerb) and the camber of the road (this affects the horizontal gap from the kerb edge to the side of the bus). The aim is to achieve a maximum slope of 1:8 (12%) for a deployed bus ramp (ARTA 2009).

<sup>3</sup> The characteristics of the ramp are addressed in chapter 6 'Being on board - bus'.

For the visually impaired, directional tactile paving should interrupt the accessible route near the bus stop and direct the user to warning tiles which mark the location of the bus entry door (when the bus is pulled up at the stop). Tactile ground surface indicators are discussed in section B2.5 above.

## B4.2 Bus shelter and seating

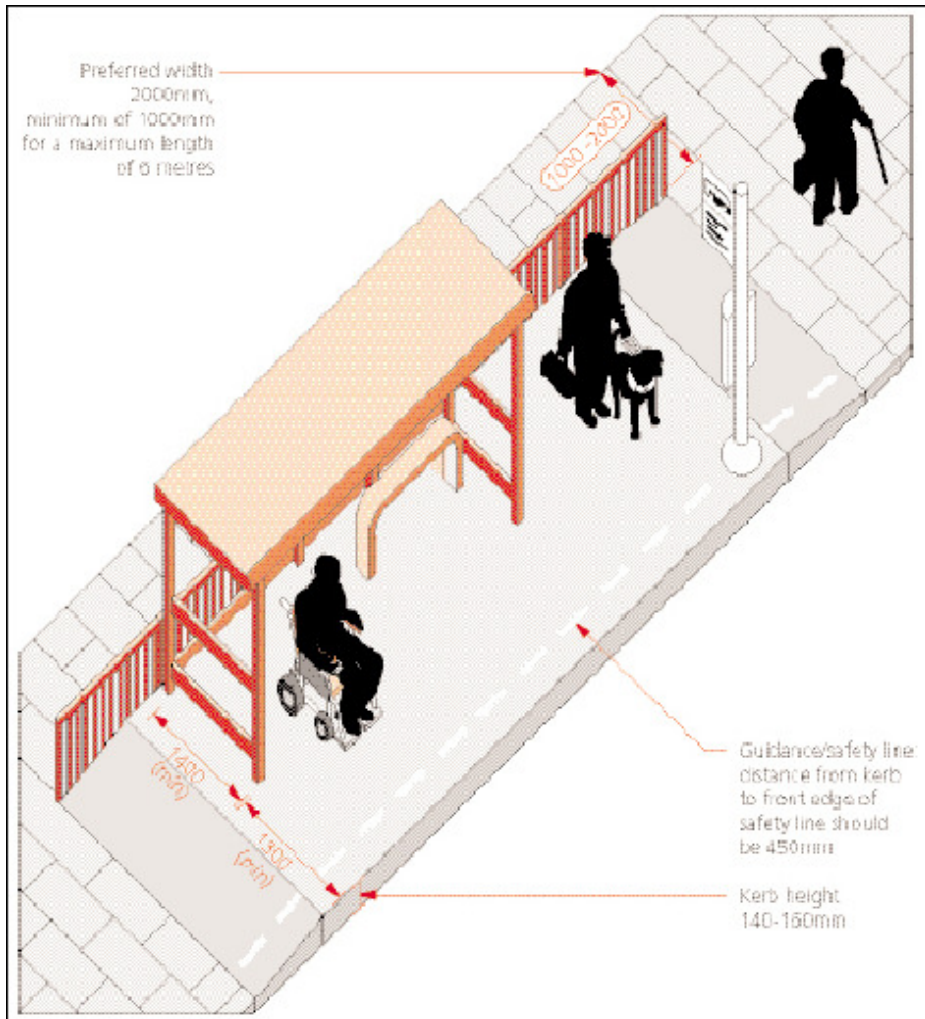
In general, the provision of a seat or bus shelter at a bus stop is dependent on the bus service, its frequencies, the specific use of the stop (ie is it a pickup/set down or set down only stop?) and the number of people waiting per hour per weekday at that stop. The critical point is, where bus shelters are installed, they should be accessible.

Ideally a bus shelter should comprise at least three walls, a roof and an entrance that together provide effective shelter to waiting passengers. Enclosed four-walled shelters, while providing better weather protection, can lead to safety concerns in respect of a restricted enclosure and consequential entrapment. Where four-walls are provided, the entrance way should be at least 800mm wide, to permit wheelchair access, with a clear space of at least 900mm by 1200mm inside for wheelchairs. There should be a clear path of at least 1200mm wide in front of the shelter, again to facilitate wheelchair movement. Figure B12 illustrates some of the key characteristics of an accessible bus shelter.

The bus shelter should be located close to the 'front' of the bus stop, to permit easy access to the entry door of the bus when it is stopped. The location of the shelter should provide for good visibility of approaching buses, the waiting passengers and the surrounding environment – advertising panels on clear glass shelters should not block visibility of waiting passengers. Where a shelter is constructed of glass panels, a contrasting band (at least 150mm wide and 1400mm to 1600mm from the ground) should be provided for the visually impaired.

Any seats within the shelter should have the actual seat between 400mm and 500mm from the floor (700mm for 'perch'-type seating), and should be positioned near the 'front' of the bus stop, close to where the front door of buses using the stop will open.

Figure B12 Bus stop with shelter (source: UK DFT 2002)



Note: The 'clear area for boarding at least 2m x 2m is a UK DFT (2002) guideline – in the New Zealand context this should be 1500mm x 1500mm as explained above.

### B4.3 Bus stop signs and service information

Figure B13 provides an example of an accessible shelter and appropriate bus stop signage found in Palmerston North. Note the bus stop sign is 1500mm away from the shelter, allowing wheelchair access. Ideally, it should also be located further ahead of the shelter (rather than directly opposite the shelter, as shown here), so that the sign does not obstruct wheelchair users who may be in the shelter. Furthermore, there is no tactile paving to warn visually impaired users of the location of the kerb.

The use of existing posts around a bus stop for mounting the bus stop sign is also encouraged, in an effort to minimise obstacles in the path of users.

**Figure B13** Example of accessible bus shelter and bus stop signage (source: PNCC 2009)



Bus stop signage regulations are found in the Land Transport Rule: Traffic Control Devices 2004, as indicated in figure B14 below.

**Figure B14** Bus stop signage regulations (Land Transport Rule: Traffic Control Devices 2004)

<b>R6-71 Bus stop</b>			
The space is reserved for buses to load or unload passengers.			
Shape and size	Rectangle 300 x 440mm		
Background	White		
Border	Red 10mm		
Legend	Description	Colour	Size
	R6-70 legend above	Black, white and red	As for R6-70 120mm diameter circle
	'Symbol of bus (front-on)'	Red	150 x 150mm
	'Bus Stop'	Red	35mm

<b>R6-71.1 Bus stop - with arrow</b>			
A bus stop restriction applies in the direction indicated.			
Shape and size	Rectangle 300 x 500mm		
Background	White		
Border	Red 10mm		
Legend	Description	Colour	Size
	R6-71 legend above	Black, white and red	As for R6-71
	'Arrow pointing left and/or right'	Red	Shaft 10mm

In addition to the bus stop sign, an accessible bus stop should have an information panel providing:

- the names and numbers of bus services using the stop
- direction of travel
- stop-specific timetable (departure times) and, ideally, real-time information signs
- stop-specific routing diagrams
- information telephone number
- fare information.

The panel/sign should be in an easy-to-read format (large print and good colour contrast), and at a height of between 900mm and 1700mm from the bus stop landing.

## B4.4 Lighting

In the absence of a bus shelter, lighting of the bus stop should be provided from street lights or another outside light. If there is a bus shelter, it should be adequately lit (permitting waiting passengers to be easily seen and not allowing any dark/hiding places) between dusk and dawn.

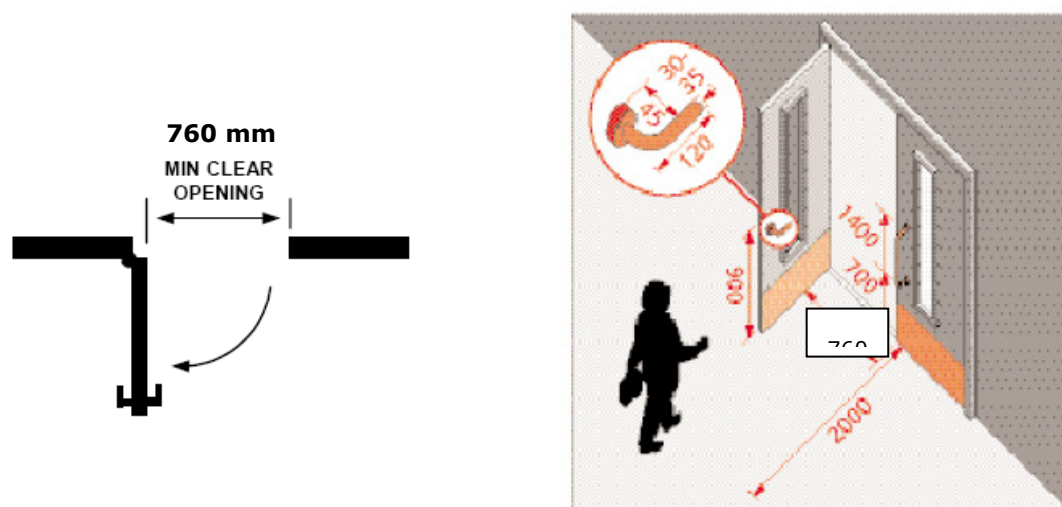
## B5 Waiting for service – station

Apart from stairs and/or ramps up to the accessible entrance, the characteristics of the accessible route to the station are discussed in chapter B2 (by foot) and B3 (by vehicle). This section outlines the characteristics of the station's internal infrastructure.

### B5.1 Entrance and doorways to the station

In a long or large station, it is expected there will be more than one accessible entrance. Ideally doors at accessible entrances will be fully automated. However, figure B15 illustrates the characteristics of accessible manual doors.

**Figure B15** Station entrance doors, doorways and handles (source: adapted from Kentucky Dept of Vocational Rehabilitation 2000 and UK DFT 2002)



A minimum of 1200mm by 1200mm level, clear space should be available on both sides of the entrance/doorway. (Note: if the width of the door itself is included, this would measure approximately 2000mm out from the doorjamb, as shown in figure B15). If there are two or more doors in a series, there should be 1200mm between the two doors, when they are both open, so that a wheelchair can back up and turn clear of a swinging door. Where the entrance to a station has a revolving door or turnstiles, either the accessible doorway should be adjacent to it or have its location clearly signposted.

Both manual and automatic doors should be fitted with delay-action or slow action closure mechanisms that apply minimum closure pressure. Manual doors should be able to be opened with minimal force (38N for exterior hinged doors and 22N for interior hinged doors). Handles, pulls, buttons, or other operating devices should be operable with one hand and located between 900mm and 1200mm from the floor. There should be a clear panel providing visibility through the entrance/doorway, so that people can see people coming from the other direction.

It is important that the thresholds (including any doormats) of accessible entrances/doorways are flush with the floor finish, or if there is a threshold of 20mm or more, that it is bevelled on both sides to a slope of 1:2.

## B5.2 Ramps

Ramps within a station or up to the station entrance should exhibit the same characteristics as ramps found on an accessible route (refer section B2.4). One distinction is that a ramp to or in a building should have a handrail, which meets the same specifications as a handrail for steps and stairs (see section B5.4

Hence, a ramp should have a maximum gradient of 1:12, although over shorter distances (less than 1500mm) steeper gradients may be tolerated:

- a gradient of 10% is permitted over a length of 1.5m
- a gradient of 12% is permitted over a length of 0.75m
- a gradient of 16% is permitted over a length of 0.6m.

Where the gradient is 1:12, a 1200mm level landing or rest area should be provided every 9m of horizontal run. The ramp should have a continuous, slip-resistant surface and have an upstand or low rail to prevent a wheelchair wheel from running off the edge. The landing at both the bottom and the top of the ramp should extend 1200mm beyond any doorway or door swing.

The presence of the ramp should be clearly indicated by the use of signs, colour contrast, lighting, and/or tactile markers.

## B5.3 Steps and staircases

Figure B16 illustrates some characteristics of accessible staircases (handrail characteristics are discussed in section B5.4). Further details about steps are shown in figure B17. While the step riser height can be between 100mm and 170mm (ie no more than 180mm), it is important that the riser height is uniform for the entire flight of stairs. The step tread should be at least 31mm deep; have a rounded, contrasting-coloured leading edge or nosing; and be covered in slip-resistant material. The steps should be at least 900mm wide between handrails for the entire flight (ie at least 1000mm wide from wall to wall or handrail mounting to handrail mounting).

Figure B16 Steps, stairs and handrails (source: UK DFT 2002)

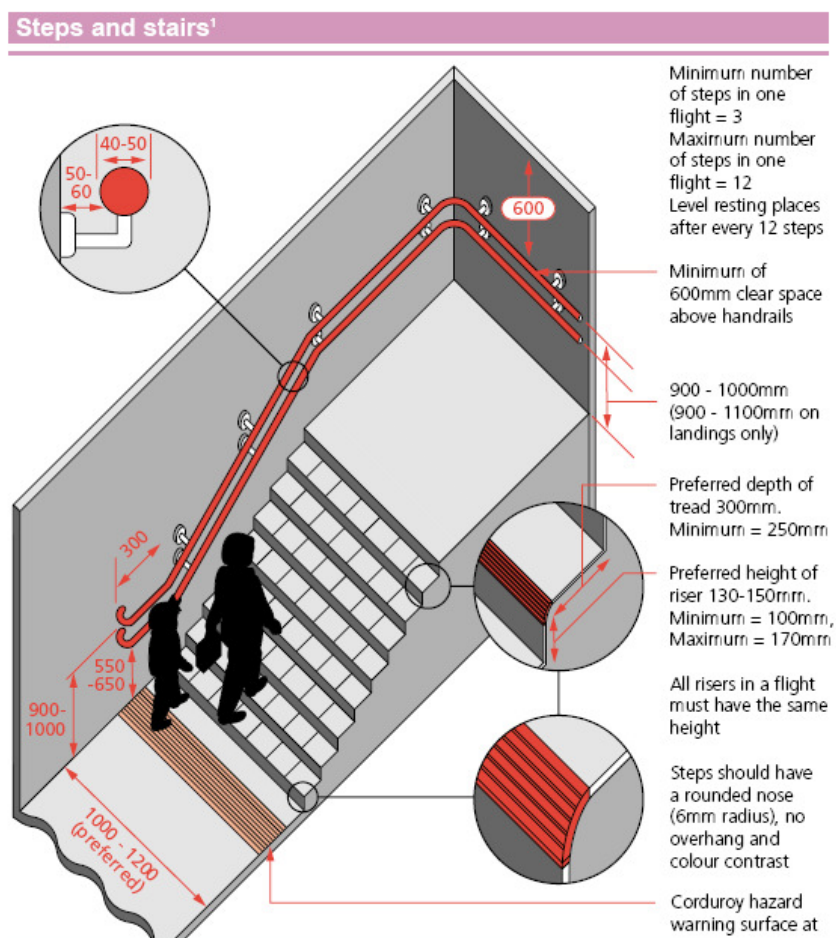
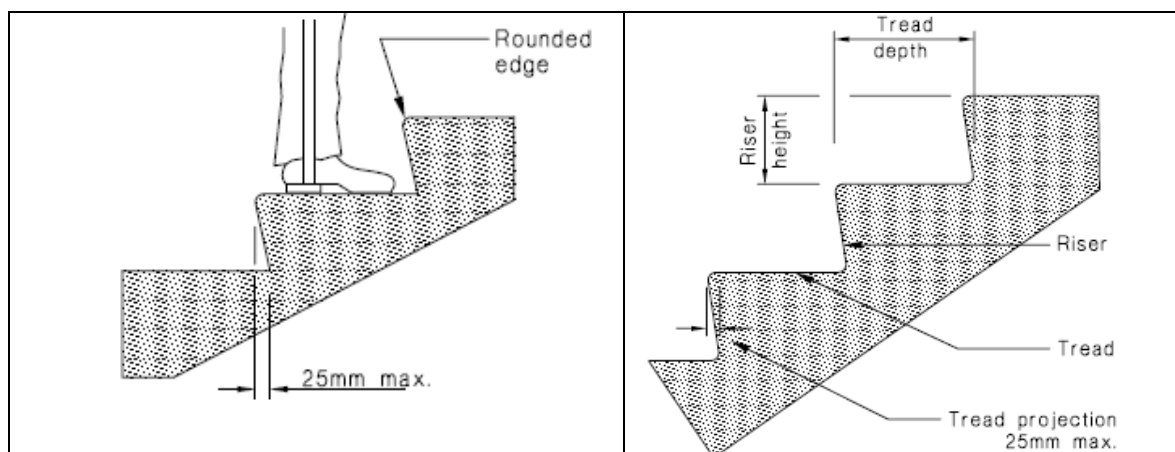


Figure B17 Further details of accessible steps (source: NZ Building Code 2007)



## B5.4 Handrails

Handrails should be provided along both sides of the ramp or stairs, and should be continuous around landings (except at doorways). They should extend no more than 300mm beyond the top and bottom of the ramp or stair segment, and the top surface of the handrails should be mounted between 900mm and 1000mm above the floor. All handrails should be securely fixed and stable in their fittings, and able to carry the full weight of a person. The clearance from the wall is 45mm to 60mm; and their outside dimension is 32mm to 50mm – both dimensions are a slightly wider range than that shown in figure B16 for the UK.

The handrails should be a contrasting colour to their background; graspable (preferably round, rather than a horizontal or vertical plank); and smooth. The end of the handrails should be turned down 100mm or returned fully.

## B5.5 Lifts

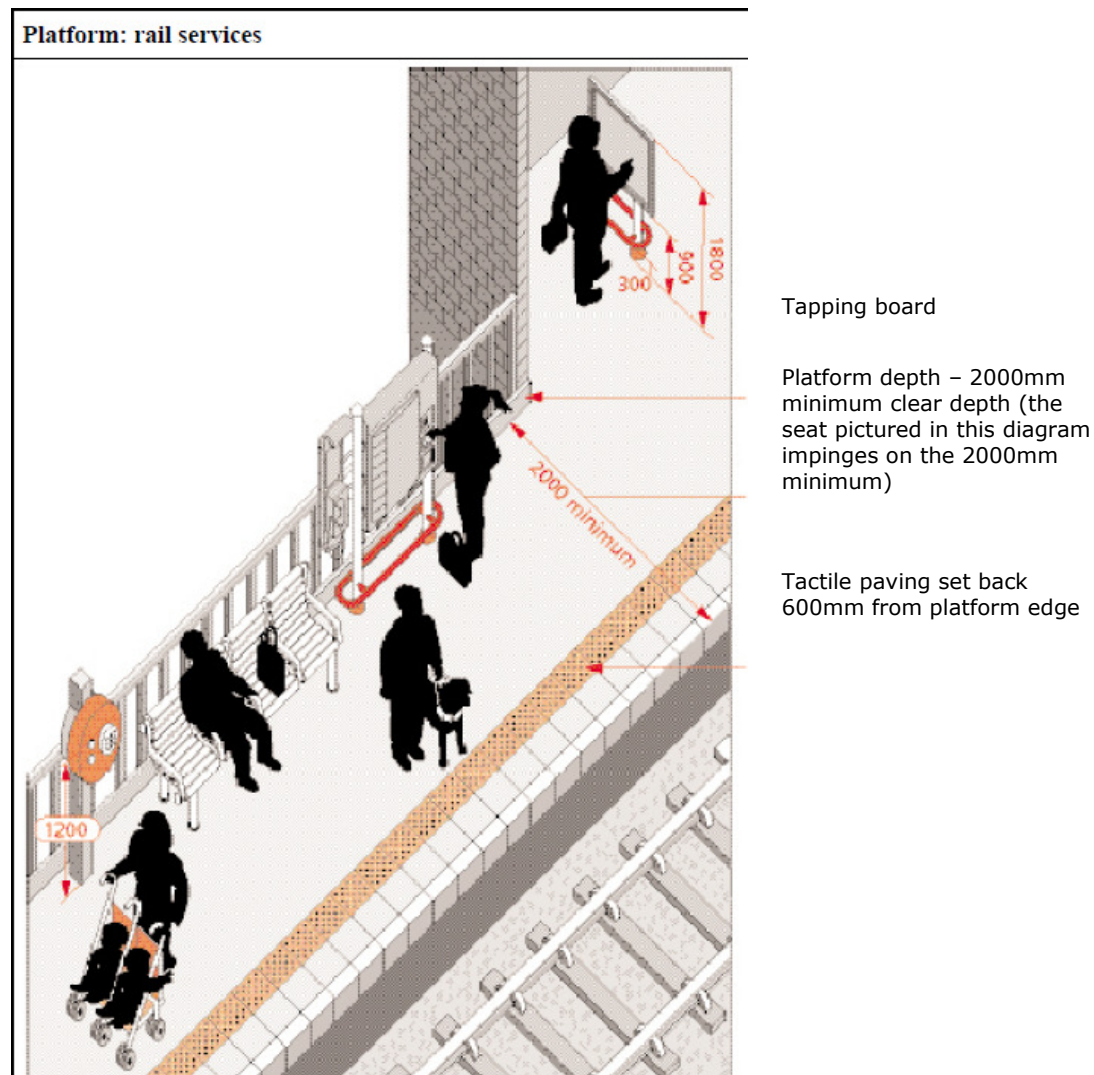
Any lifts in a station will have been constructed to comply with the NZ Building Code (NZBC), which comprises the First Schedule to the Building Regulations 1992. The relevant NZBC clause for lift installations is D2. Lifts complying with the NZBC are, by definition, wheelchair accessible. Lifts are inspected annually for compliance (in accordance with NZ lift standard NZS 4332), and a current certificate should be located within the lift itself.

## B5.6 Platform

The width of platform is influenced by the maximum number of passengers using it, but should have a minimum of 2000mm clear space. Ideally, the 2000mm clear space is in addition to the width of the safety zones (the 600mm wide area beyond the tactile warning strip in figure B18). Where trains or buses are less frequent than every five minutes, seats should be provided for waiting passengers. Any seats should have the actual seat between 400mm and 500mm from the floor (700mm for 'perch'-type seating). The characteristics of tactile ground surface indicators are described in section B2.5.

In the case of a bus station, the 'platform' may be a landing area with a kerb, similar to that of a street-based bus stop. If this is true, then appropriate characteristics from chapter B4 (bus stops) apply.

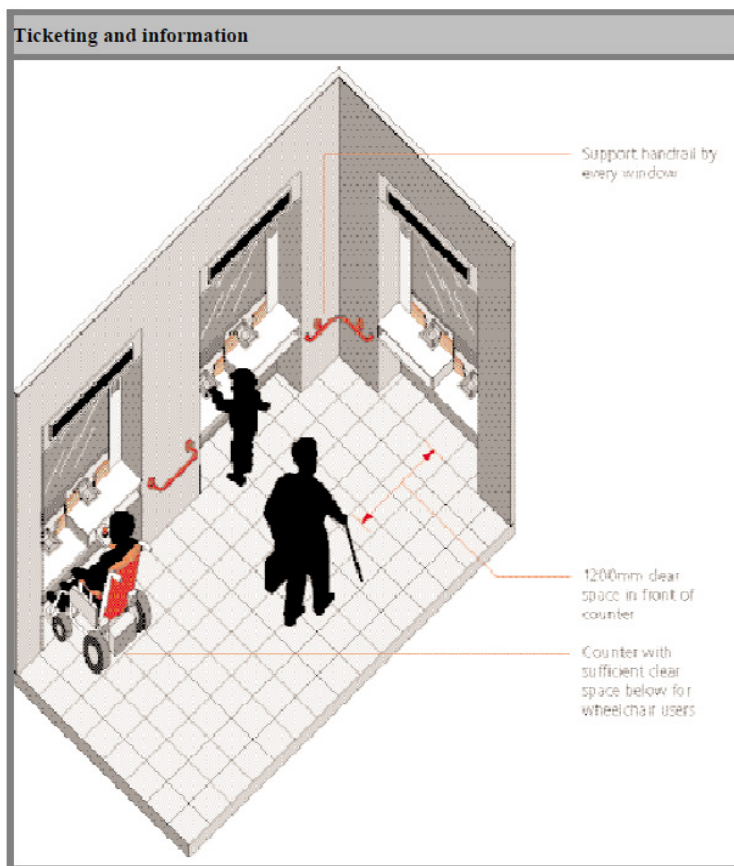
**Figure B18** Station platform characteristics (source: UK DFT 2002)



## B5.7 Ticketing

Where ticketing services are provided at a station, at least one service counter (ie ticketing booth, information desk, or ticket vending machine) should be on the accessible route, and be at a height (775mm) that can be accessed by a person in a wheelchair. There should be a clear space under the counter so that the wheelchair user can come right up to the counter/desk/machine, and a clear space of at least 1200mm by 1200mm in front of it.

Figure B19 Accessible ticketing and information service area (source: UK DFT 2002)



If there is a ticketing machine, it should have tactile controls or buttons for the visually impaired, as well as be operable with one hand for those with other physical disabilities.

## B5.8 International sign of access

All accessible entrances to the station should display the 'international sign of access' at a height of 1500mm from the floor (NZS 4121: 2001 Design for Access and Mobility) as illustrated in figure B20.

Figure B20 International sign of access (Source: adapted from Kentucky Dept of Vocational Rehabilitation 2000)



The Land Transport Rule: Traffic Control Devices 2004 also provides a verbal description of the international sign of access:

<b>A20-S20</b>	<b>Wheelchair access</b>		
	<i>Indicates a place where wheelchair access is provided.</i>		
<b>Legend</b>	<b>Description</b>	<b>Colour</b>	<b>Size</b>
	'symbol of person in wheel chair'	white	240 x 300 mm

## B5.9 Signage for service and other information

For a station to be fully accessible, service and other information has to be provided (eg names and numbers of bus/train services using the station, their schedules and routing, fare costs) in forms that can be easily read or used by people. For printed signage, especially important factors are the size of letters and symbols (which vary depending on the distance from the sign people who are reading it will be located); the font used; colour contrast and the positioning of signs, particularly their distance from the ground. Wall-mounted information panels should be centred around 1400mm from the ground (ie bottom edge not less than 900mm from the ground and top edge up to 1800mm from the ground). The information should be available in at least two different forms (embossed characters, Braille, or by audible 'talking signs' transmitter for people with visual, literacy or audible impairments), so that it is useable by all six categories of users. Changes in services should be announced as early as possible and regularly repeated.

Display stands containing bus and/or train route schedules and maps should be visible and reachable by people with impairments.

## B5.10 Safety and security

Safety precautions should take account of people with disabilities: for example, all emergency exit doors should be clearly marked and have a minimum clear opening width of 760mm. Final exit routes should be accessible to all users, including those in wheelchairs. There should be a visual as well as audible fire alarm system.

In terms of personal security, if there are times when the station has no staff in attendance, an emergency telephone or call button should be available for all users, located between 900mm and 1200mm from the floor, and/or monitored security cameras should be in operation.

## B6 Being on board – bus

The NZTA (2008b) *Requirements for urban buses in New Zealand* which outlines requirements for buses entering service from 2010 (although it is recommended that buses entering in 2009 also meet these requirements) and for existing buses to meet from 2014. As table B2 indicates, the intention of the requirements is to provide for the mobility needs of people with physical, sensory and cognitive impairments and incorporate current best practice. Design and performance criteria (eg fleet age and profile, engine, braking) are also established in the document.

**Table B2 Requirements for urban buses affecting accessibility (source: NZTA 2008b)**

<p><b>Access</b></p> <p>Priority seating area</p> <p>Doors</p> <p>Step height/depths</p> <p>Floors</p> <p>Aisle width</p> <p>Seating configuration</p> <p>Seating luggage/stroller/prams/mobility devices</p>	<p><b>Vehicle interior, entrance and exit</b></p> <p>Stanchions/handrails</p> <p>Grab handles</p> <p>Lighting</p> <p>Security</p>
<p><b>Communication</b></p> <p>Bus stopping signals</p> <p>External destination display</p> <p>Internal information/signs</p>	<p><b>Facilities for passengers with impairments</b></p> <p>Priority seating area</p> <p>Wheelchairs</p> <p>Boarding or alighting</p> <p>Ramp</p>

Buses entering the fleet from 1 January 2010 will have to meet the requirements set out in sections 2 to 7 of the document, and thus will be accessible to all categories of users. Buses in the existing fleet will have to comply with certain requirements by 2014. These will not be wheelchair accessible and, in some cases, may not be accessible to other categories of users either.

While the NZTA (2008b) requirements apply to buses of all sizes – small (13–21 seated passengers, including the driver); medium (21–39) and large (over 39) – the PT accessibility audit and report card (see appendix A) is focused on large buses, as these form the bulk of the New Zealand public transport fleet. The audit contains the criteria for both new buses entering, and existing buses, in the fleet. The report card distinguishes between buses meeting the differing requirements and the effect on accessibility for different types of users.

The requirements form part of the NZTA (2009) *Procurement manual*, which regional authorities are required to use when undertaking procurement of public transport services.

As the requirements reflect current agreed practice with respect to meeting accessibility needs for different types of users, rather than reproduce them here, readers are referred to [www.nzta.govt.nz/resources/requirements-for-urban-buses/](http://www.nzta.govt.nz/resources/requirements-for-urban-buses/).

## B6.1 The effect of vehicle type on the accessible journey

The types of buses operating on a route are crucial to creating an accessible route and journey for users.

Hence, one of the critical factors in assessing the accessibility of an operator’s fleet is to determine how many of the services operating on a given route will be using fully accessible buses (eg buses meeting the 2010 requirements for new buses entering the fleet). If it is less than 100%, it becomes important for a person with impairments to be able to find out whether or not the bus they want to take will be accessible to them (eg can they ring an information service, look on the internet, or see in the timetable printout to find out). Ultimately, if 100% of the buses used on a route are not fully accessible **and** a customer cannot determine what type of bus will be operating at a given time, then there is a severe impact on their ability to use public transport.

Similarly, overcrowding on buses can impact accessibility for some users, even where the passenger service vehicles used on a route are themselves fully accessible. If the service commonly experiences

(over)crowding, it will influence whether people can expect to board the next service which arrives. Where buses on a service are regularly near capacity or full, or if buses 'pass-up' (drive past) waiting passengers, accessibility of the service to users of all types is moderately or severely impacted.

## B6.2 Provisions for wheelchairs

Within the *Requirements for urban buses in New Zealand* (NZTA 2008b), wheelchair parking areas should have the following dimensions:

- The footprint provided for forward/rearward facing stowage is  $\leq 700\text{mm}$  width and  $\leq 1200\text{mm}$  length.
- If stowed transverse and wheelchairs have stowable handlebars and footrests, then the footprint required is  $\leq 700\text{mm}$  width and  $\leq 900\text{mm}$  length.

The ECMT (2006) recommends a slightly larger flat, clear space for wheelchairs, with the minimum dimensions of 750mm by 1300mm.

The combined weight of wheelchair and user to be catered for is  $\leq 240\text{kg}$ .

Characteristics of ramp, wheelchair and wheelchair-occupant restraints to be provided are found section 8.2 and 8.4 of the Passenger Service Vehicles Rule 1999. All passenger service vehicles must be certified for compliance with this rule. Given the requirement that these be fitted for the vehicle to enter into service, ramps and restraints are not further discussed here or in the PT accessibility audit and report card (see appendix A).

## B6.3 Hand holds into/on bus

Hand holds on a vehicle may include hand rails, grab rails, stanchions, grab-handles, ceiling hooks, and seat handles. Their dimensions and characteristics are outlined in the NZTA (2008b) *Requirements for urban buses*.

## B6.4 Staff training

Driver training is not included in the NZTA (2008b) urban bus requirements. The Human Rights Commission (HRC 2005) report, *The accessible journey: report of the Inquiry into accessible public land transport*, recommended that driver licensing and contract service delivery include (mandatory) training requirements. Training should include awareness of transport-related issues for disabled passengers and be provided to all 'front line' staff (drivers, train conductors, station managers and ticket sellers).

The PT accessibility audit and report card (see appendix A) does not specifically ask whether or not the drivers/employees are trained, as their actual behaviour is more relevant and potentially 'auditable'. Clearly, it would not be feasible for every driver to be audited – rather a sample of services could be audited, or there may be information in customer satisfaction surveys that can be drawn on to make some kind of assessment.

The behaviours identified in the audit and report card are drawn from the HRC (2005) report, which proposes that, pending the full implementation of the suitable driver training, action be taken by bus operators and drivers to:

- ensure that all passengers are seated and/or secured before moving off
- ensure that buses stop immediately adjacent to the kerb when picking up passengers

- eliminate 'rough driving'
- ensure that all buses using multiple route bus stops pull up to the front of the stop, or their section of the stop, to check if there are any passengers waiting for their service
- ensure the safe entrance and egress of passengers by providing appropriate assistance where necessary.

It has been assumed that these behaviours form a critical 'core' of behaviours to facilitate accessibility for all passengers.

## **B7 Being on board – train**

While the general characteristics of train carriages are largely based on the recommendations of COST 335 (1999) *Passengers accessibility of heavy rail systems*, many of the measurements (eg doorway dimensions, interior fixture requirements for carriages) draw on the Barrier Free NZ Trust (2008) and NZTA (2008b) *Requirements for urban buses in New Zealand* documents.

Some minor elements of 'Being on board – train' are drawn from the UK Department for Transport's accessibility planning documentation, and the World Bank's *Bus rapid transit guidelines* (Rickert 2007).

### **B7.1 Priority seating**

Priority seating should be provided for elderly and other people with disabilities. As is the case with New Zealand buses, it is recommended that four seats per train carriage be provided near an accessible door. Such seating should be identified with permanently affixed signage, and adequate space under or adjacent to at least one priority seat should be provided for a guide dog.

The height from the floor to the top of the front of the seat cushion should be between 400mm and 500mm, with the minimum seat spacing between forward-facing seats of 670mm (the distance from the top of the back rest of one seat to the top of the back rest of the next seat). The height to the top of the seat back, excluding any grab handle, should be a minimum of 900mm.

### **B7.2 Provisions for wheelchairs**

Wheelchair parking space dimensions and restraint provisions for buses are outlined in section B6.2. It is recommended the same apply for train carriages.

### **B7.3 Access to the train carriage**

#### **B7.3.1 General**

The designated accessible doorway should have a clear width of  $\leq 800$ mm and have access signage (refer to section B5.8) to identify it. The preferred minimum clear width is 850mm. A minimum of 1500mm by 1500mm of level space should be centred in front of the accessible entrance both inside the train carriage and on the train platform.

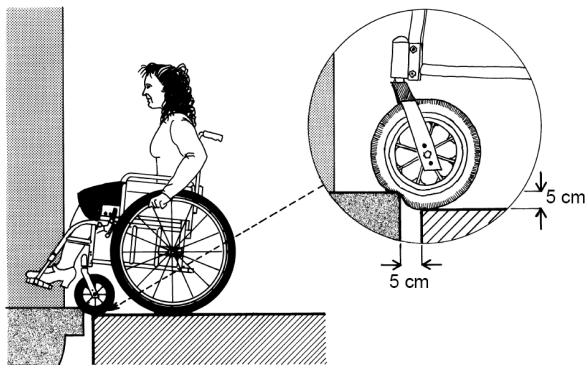
Contrasting colours and tones should be used to provide easy identification of the doors, door control devices, steps and handrails. The spaces between carriages should be marked in a distinctively different way from access doors.

If door operation is not automatic, a simple control (push-buttons, levers etc) that is operable with one hand and minimal force should be available and located between 900mm and 1200mm from the platform floor. An audible signal and a visual signal (flashing light etc) should be provided both inside and outside the coach as a warning that the doors are about to close.

## B7.4 Horizontal and vertical gaps, ramps and steps

The recommended horizontal and vertical gaps between the platform and carriage for wheelchair users are illustrated in figure 21B.

**Figure 21B** Illustration of vertical and horizontal gaps between platform and train carriage (source: COST 335 1999)



If the horizontal or vertical gaps cannot be mitigated, or if there are steps into the carriage, the designated accessible doorway for wheelchairs should be fitted with a wheelchair ramp. The (manual or power-operated) wheelchair ramp should comply with the design, construction and fitting requirements stipulated in section 8.2(2) of the Passenger Service Vehicle Rule 1999. The surface of the ramp should be covered in slip resistant material; should be at least 760mm wide with a 20mm high safety ridge along the side edges or have a conspicuous strip at least 20mm wide along the side edges of the ramp; and be adequately lit during hours of darkness.

Where steps are provided, the vertical gap between the platform and the bottom step, and the height of each step when there are more than one, should be  $\leq 220\text{mm}$ . The depth of the tread should be  $\geq 300\text{mm}$ .

## B7.5 Aisles

There should be a minimum clear width of 800mm from the designated doorway through the wheelchair parking area. The floor should be covered in tactile, non-skid material and all joints welded and fully sealed.

## B7.6 ‘Hand holds’ into/on train carriage

Hand holds on a vehicle may include hand rails, grab rails, stanchions, grab-handles, ceiling hooks and seat handles.

The placement/location of hand holds throughout a train carriage is to be regular (eg on the aisle side of all seat backs). The dimensions and other characteristics of hand olds (finger clearance, cross-sections, surface material etc) are set out in the NZTA (2008b) *Requirements for urban buses in New Zealand*.

## B7.7 Signs on and in carriages

Refer to section B5.8 for examples and details about accessibility signage.

There should be signs on the outside of the carriage indicating 1) the accessible doorway and 2) the location of wheelchair parks and/or priority seating. An international wheelchair symbol for accessibility sign should be posted on the internal side wall of any wheelchair space.

## B7.8 On-board information

Upcoming train stations and any prominent local features (eg recreation centre or shopping centres) should be broadcast to passengers, preferably through a public announcement system, or by train personnel.

## B7.9 Staff training

Refer to section B6.4, substituting ‘train drivers’ or ‘train staff’ as appropriate.

# B8 Service coverage

## B8.1 Service area and availability

HRC (2005) observed that ‘availability’ (that is route service area, hours of operation and frequency) is a criterion for assessing whether or not the journey as a whole is accessible. For example, if users cannot access regional or sub-regional facilities via public transport, or if the service runs very infrequently or only at select times, then public transport is not accessible, as it is not a viable transport option.

In the absence of other criteria, the UK-based criteria, as expounded in annex A of the *Regional planning guidance for the South West* (Government Office for the South West 2001), has been adopted for travel time by public transport to various types of facilities. The guidance proposed that regional and sub-regional facilities should be accessible by public transport within a reasonable travel time (including walking to stop/station, in-vehicle travel time, and walking from the stop/station) as shown in table B3.

**Table B3** Travel time by public transport to regional and sub-regional facilities (in minutes)

	Travel time (minutes) by public transport - including walking to stop/station, in-vehicle travel time, and walking from the stop/station	
	Main urban areas	Other areas

Regional facilities*	30	60
Sub-regional facilities**	25	45

\* Regional facilities include: employment opportunities; convenience and comparison shopping; banking and other personal services; primary, secondary and tertiary education; primary and secondary health care; leisure and other essential facilities.

\*\* Sub-regional facilities include: shopping, banking, primary and secondary education, childcare, and primary health care.

It is also recommended that the following criteria be adhered to in order to create an accessible public transport network:

- The vast majority of the population ( $\geq 90\%$ ) in a given suburb live within 500m walking distance of a **bus or rail** service.<sup>4</sup>
- The *minimum* service frequency is one service per hour.
- The *minimum* hours of operation should be 7am to 11pm on Monday - Saturday and 8am to 10pm on Sunday.
- Sub-regional facilities should be accessible by public transport without having to **transfer between services**.
- Regional facilities should be accessible **with no more than one transfer in the service**.
- Regular customer satisfaction surveys are conducted with the users and these show a high degree of satisfaction with the reliability of the service.

It is anticipated that the NZTA's neighbourhood accessibility assessment tool, once it has been developed, tested and rolled out across New Zealand, will provide some of the service coverage information.

## B8.2 Services information

Journey planning information for the public transport network should be available in at least two different formats (eg via telephone, internet, printed timetables, information panels at stations and bus stops) to meet needs of users. The characteristics of information panels/signs at bus stops and stations are discussed in sections B4.3 and B5.9 respectively.

Internet-based information should be accessible. This implies that:

- website text and non-text content can be converted into other forms people need, such as large print, Braille, speech, symbols or simpler language
- website text content is in 'plain English' (readable and understandable by someone with primary school education)
- text can be resized through browser settings up to 200% without loss of content or functionality
- website text and images of text have a strong contrast, making it easier for users to see content, including separating foreground from background (recommended contrast ratio: 4.5:1 or greater)
- all website content can be accessed or manipulated from a keyboard (no mouse is required).

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<sup>4</sup> This measure is distinct from the one compiled in the Ministry of Transport's Transport Monitoring Indicator Framework, which records the proportion of the population living within 500m (as the crow flies) of a bus route, not a bus stop or rail station.

- seven or fewer 'clicks' are required from input to detailed information (eg home page to bus route by direction and stop)
- passenger information is available on the website for people with disabilities
- fare schedules (to find out how much to pay) should be readily available.

Detailed information about website accessibility can be found on the Worldwide Web Consortium website: [www.w3.org/TR/WCAG20/](http://www.w3.org/TR/WCAG20/).

## B8.3 Cleanliness and graffiti

The cleanliness, including whether or not graffiti or other evidence of vandalism is present, and the condition of the infrastructure and/or vehicles (eg if a bus, seating, or bus shelter is in good condition, with no obvious repairs required) can affect people's willingness to use public transport. Where concerns about the comfort or cleanliness of their journey arise, such users may deem the service inaccessible particularly if these concerns raise issues around personal security.

## B9 References

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## Annex A: Source of public transport accessibility factors

The characteristics for 'Getting to service by self (pedestrians and wheelchair users)' are drawn primarily from Barrier Free (BF) New Zealand Trust (2008) *Resource handbook for barrier free environments* and the NZTA (2008a) *Pedestrian planning and design guide* (PPDG), while those for 'Getting to service by car' are taken solely from the Barrier Free New Zealand Trust (BF 2008) handbook.

The BF (2008) handbook describes the specific requirements for access by people with disabilities in the context of 'universal access design', which improves the usability of the built environment for everyone in the community. It promotes a barrier free environment for everyone, outlines the legal requirements for access and describes various alternative means of complying with the legal requirements for access.

The 'Waiting for service – bus stop' accessibility factors were taken from a variety of New Zealand and overseas sources, as there was no single comprehensive New Zealand-based documentation. Two main sources were the recently published *Bus stop infrastructure design guidelines* (ARTA 2009) and the *Palmerston North bus stop guidelines* (PNCC 2009). The latter had the purpose 'to encourage consistency in the provision of bus stops, while recognising that each site has unique characteristics which must be considered'. The PNCC (2009) took into account the barriers to accessible public transport identified by the Human Rights Commission (HRC) (2005). In the absence of nationally developed guidelines, the best practice guide and the PT accessibility audit and report card have drawn heavily on the ARTA and PNCC guidelines, along with the NZTA (2008a) PPDG and UK DFT (2002) to derive the characteristics of accessible bus stops.

Where feasible, 'Waiting for service – station accessibility' factors were drawn from BF (2008). However, HRC (2005) provided some recommendations for information provision in stations and these have been incorporated in the guide. Some specific transport-related factors (eg platform characteristics and other elements related to bus and train stations) identified by the UK DFT (2002) have also been included.

The parking space requirements in the guide are based on Australian Standards AS 2890.1 and New Zealand Standards NZS 4121.

The requirements for 'Being on board – bus' are drawn almost entirely from NZTA (2008b) *Requirements for urban buses in New Zealand* which outlines requirements for buses entering service from 2010 (although it is recommended that buses entering in 2009 also meet these requirements) and for existing buses to meet from 2014.

Factors referring to bus driver/staff training are drawn from HRC (2005), as driver training is not included in the NZTA (2008b) urban bus requirements. HRC (2005) recommended that driver licensing and contract service delivery include (mandatory) training requirements. The audit and report card does not specifically ask whether or not the drivers/employees are trained, as their actual behaviour is more relevant and potentially 'auditable'.

While the general characteristics of train carriages outlined in 'Being on board – train' are largely based on the recommendations of COST 335 (1999) *Passengers' accessibility of heavy rail systems*, many of the measurements (eg doorway dimensions, interior fixture requirements for carriages) draw on the Barrier Free NZ Trust (2008) *Resource handbook for barrier free environments* and NZTA (2008) *Requirements for urban buses in New Zealand*.

Some minor elements of 'Being on board – train' are drawn from the UK Department for Transport's accessibility planning documentation, and the World Bank's *Bus rapid transit guidelines* (Rickert 2007).

HRC (2005) observed that ‘availability’ (that is route possibilities, timings and frequency) is a criterion for assessing whether or not the journey as a whole is accessible. As suitable New Zealand guidelines (other than most of the population living within 500m of a bus or rail service, as part of the Ministry of Transport’s Transport Monitoring Indicator Framework) were not located, ‘Service coverage’ factors were based on annex A of the *Regional planning guidance for the South West* (Government Office for the South West 2001) for travel time by public transport to various types of facilities, service frequencies, hours of operation and transferring between services. It is anticipated that once the NZTA’s neighbourhood accessibility assessment tool is completed, the UK factors will be replaced by suitable New Zealand-derived ones.

The following tables provide line-by-line documentation of the source of the best practice elements contained in this guide and in the PT accessibility audit and report card (see appendix A).

Key to source documents identified in tables

Abbreviation	Author/date/title of document
ARTA	Auckland Regional Transport Authority (2009) Bus stop infrastructure design guidelines.
BF	Barrier Free Trust (2008) Resource handbook for barrier free environments.
COST 335	European Cooperation in the Field of Scientific and Technical Research. COST 335 (1999). Passengers’ accessibility of heavy rail systems.
DBH	Department of Building and Housing and Barrier Free New Zealand Trust (2008) New Zealand Building Code compliance documents.
DFT	UK Department for Transport (2002) Inclusive mobility.
HRC	Human Rights Commission (2005) The accessible journey.
MCC	Manukau City Council (2004) Bus stops and bus shelter policy guidelines.
NZBC	New Zealand Building Code (2006)
NZTA 2004	NZTA (2004) Land transport rule for traffic control devices.
NZTA 2008b	NZTA (2008b) Requirements for urban buses in New Zealand.
PNCC	Palmerston North City Council (2009) Palmerston North bus stop guidelines.
PPDG	NZTA (2008a) Pedestrian planning and design guidelines.
PSV 2007	Ministry of Transport (2007) Land Transport Rule – Passenger Service Vehicle Amendments 2007.
QLD	Queensland Transport (2006) Pedestrian safety and accessibility audit tools.
RPG10	Government Office for the South West (2001) Regional planning guidance for the South West (RPG 10).
TFL	Transport for London (2006) Accessible bus stop design guidance.
WCAG	Caldwell, B, M Cooper, LG Reid and G Vanderheiden (2008) Web content accessibility guidelines (WCAG) 2.0.

	Route #		SERVICE COVERAGE
			** This worksheet should be reviewed once the neighbourhood accessibility assessment tool (NAAT) has been developed, tested, and is rolled out across New Zealand.
Source	Question #	Category	Factor
RPG10	SC 1	service area	The service provides this residential suburb/development with access to a sub-regional centre and its facilities <b>without changing services</b> . Sub-regional facilities include: shopping, banking, primary and secondary education, childcare and primary health care.
RPG10	SC 2	service area	The service provides this residential suburb/development with access to the regional centre and regional facilities <b>with no more than one change in service</b> . Regional facilities include: employment opportunities; convenience and comparison shopping; banking and other personal services; primary, secondary and tertiary education; primary and secondary health care; leisure and other essential facilities.
RPG10	SC 3	service area	In major suburbs, sub-regional facilities are accessible by public transport within 25 minutes travel time (including walking to stop/station, in-vehicle travel time, and walking from the stop/station. Walking should be no more than 15 minutes of the travel time).
RPG10	SC 4	service area	In minor suburbs, sub-regional facilities are accessible by public transport within 45 minutes travel time (including walking to stop/station, in-vehicle travel time, and walking from the stop/station. Walking should be no more than 1–20 minutes of travel time).
RPG10	SC 5	service area	In major suburbs, regional facilities are accessible by public transport within 30 minutes travel time (including walking to stop/station, in-vehicle travel time, and walking from the stop/station. Walking should be no more than 15 minutes of travel time).
RPG10	SC 6	service area	In minor suburbs, sub-regional facilities are accessible by public transport within 60 minutes travel time (including walking to stop/station, in-vehicle travel time, and walking from the stop/station. Walking should be no more than 15–20 minutes of travel time).
	SC 7	service area	What proportion of the population in this suburb lives within 500m walk distance of a <b>bus or rail</b> service?
	SC 8	reliability	What proportion of customers in the most recent customer satisfaction survey were satisfied with the reliability of this service?
	SC 9	service information	Journey planning information is available in at least two different formats (eg via telephone, internet, printed timetables) to meet needs of users.
WCAG	SC 10	service information	Website text and non-text content is able to be converted into other forms people need, such as large print, Braille, speech, symbols or simpler language.
WCAG	SC 11	service information	All website content can be accessed or manipulated from a keyboard.
WCAG	SC 12	service information	Website text content is in 'plain English' (readable and understandable by someone with primary school education)
WCAG	SC 13	service information	Text can be resized through browser settings up to 200% without loss of content or functionality.

Accessibility to public transport: a best practice guide

WCAG	SC 14	service information	Website text and images of text have a strong contrast, making it easier for users to see content, including separating foreground from background (recommended contrast ratio: 4.5:1 or greater)
WCAG	SC 15	service information	7 or fewer 'clicks' required from input to detailed information (eg home page to bus route by direction and stop)
WCAG	SC 16	service information	Passenger information available on website for people with disabilities
	SC 17	service information	Fare schedules (to find out how much to pay) are readily available on the internet.

**Route #**

**GETTING TO SERVICE BY SELF (ON FOOT, BY WHEELCHAIR, SKATEBOARD, ETC)**

(all access routes within a 200m radius of every bus stop)

Source	Question #	Category	Factor
BF	GTSS 1	footpath	Is the accessible route to the bus stop/station obvious to all users?
BF	GTSS 2	footpath	Do accessibility signs indicate the direction of the accessible path at each place that a path becomes impassable?
BF	GTSS 3	footpath	Do footpaths have a <b>minimum clear width</b> of 1200mm (eg fixtures, rubbish or loose furniture, poles, awnings, litter bins, outward opening windows, etc does not impede the route)?
PPDG	GTSS 4	footpath	Where a footpath has a minimum clear width of less than 1200mm, does it have regularly placed passing/turning areas (1800mm x 2000mm) located no more than 50m apart? Note: in suburban areas, residential driveways may provide such a passing opportunity. (refer to Best Practice Guide for illustration)
BF	GTSS 5	footpath	Is the route free of any single/isolated steps?
BF/ PPDG 14.5	GTSS 6	footpath	Is the transverse or crossfall gradient $\leq 1:50$ (1-2%)? The crossfall is the slope of the footpath at right angles to the direction of travel.
PPDG	GTSS 7	footpath	Where the footpath is on a slope steeper than 1:20 (5%), is at least one handrail provided?
PPDG	GTSS 8	footpath	Is the top surface of any handrail mounted between 800mm and 1100mm above the footpath surface?
BF	GTSS 9	footpath	If the footpath is steeply sloping, are there level landing or rest areas provided no more than 18m apart?
QLD	GTSS 10	footpath	Is the accessible route free of broken concrete or damaged paving etc.?
QLD	GTSS 11	footpath	Is the accessible route clean (free of litter and dog mess)?
	GTSS 12	footpath	Is the street furniture anchored on the accessible route?
BF	GTSS 13	footpath	Is the accessible route stable, firm and relatively slip-resistant under all weather conditions?
PPDG	GTSS 14	footpath	Is footpath free of bumpy surfaces or undulations greater than 12mm (such as due to tree roots or hollows)? Refer Best Practice Guide

Accessibility to public transport: a best practice guide

PPDG	GTSS 15	footpath	On any grates in the accessible route, are all openings more than 10mm wide are perpendicular to the direction of traffic?
BF	GTSS 16	footpath	Where the surface is >25mm above adjacent ground, is protection provided by a 75mm kerb or low barrier rail to prevent falling?
BF	GTSS 17	footpath	Is the height clearance (eg foliage, road signs or other objects protruding from buildings etc) a minimum of 2100mm throughout a route?
BF	GTSS 18	footpath	Where objects are fixed permanently to the ground or side of an access way (display stands, etc), do they have a feature within 150mm of the ground detectable by person using a cane?
BF	GTSS 19	footpath	Projections: Where there are projections, those above 1600mm from ground project <200mm into access route; those within 800mm-1600mm from the floor project <60mm into access route; those <800 mm above the floor/ground project <100mm into access route?
BF	GTSS 20	footpath	Is street furniture painted a colour that provides contrast with background?
PPDG	GTSS 21	driveway	Is there good pedestrian and driver visibility? (eg are there any obstructions, such as fences, foliage, poles, etc, that block vision of traffic exiting busy driveways?)
PPDG	GTSS 22	crossing	If a subway or overpass is provided, is it wheelchair accessible (maximum slope 1:12; minimum 2400mm wide; handrail on both sides where there is a slope)?
PPDG	GTSS 23	crossing	Does the subway or overpass provide for personal security (is it straight, well lit, and clean)?
PPDG	GTSS 24	crossing	Are crossing facilities near bus stops appropriate for the width of the road and the volume and speed of traffic (traffic signals, median islands, zebras)?
PPDG	GTSS 25	crossing	Where a pedestrian (zebra) crossing exceeds 14m in width, is it controlled by traffic signals or 'interrupted' by one or more traffic islands?
PPDG	GTSS 26	crossing	At signalised crossings, do all pedestrians have adequate time to cross the road safely?
PPDG	GTSS 27	crossing	Can road crossing signals be activated by pedestrians?
PPDG	GTSS 28	crossing	Do road crossing signals include audible traffic signals (in working order)?
PPDG	GTSS 29	crossing	Where a traffic island is provided, is the 'path' for users 1500mm by 1800mm (big enough to accommodate a turning wheelchair)?
PPDG	GTSS 30	crossing	Are traffic islands cut to the road surface level or equipped with curb cuts?
PPDG	GTSS 31	crossing	Do traffic islands have a slip resistant and stable surface?
PPDG	GTSS 32	crossing	Are pedestrians (including those in wheelchairs) waiting to cross the road visible to approaching motorists/are approaching motorists visible to pedestrians?
PPDG	GTSS 33	kerb cut & ramp	Does the crossing opportunity have kerb cuts on both sides? Refer Best Practice Guide.
BF	GTSS 34	kerb cut & ramp	Are kerb ramps a minimum of 1000mm wide, exclusive of flared sides?
PPDG	GTSS 35	kerb cut & ramp	Do kerb ramps have a maximum slope of 1:12 (8% gradient)? Some variation is permitted - refer Best Practice Guide.

## Accessibility to public transport: a best practice guide

PPDG	GTSS 36	kerb cut & ramp	If kerb ramp crosses the walking path of pedestrians and does not have a handrail, do the kerb ramps have flared sides with maximum slope of 1:10 (one cm vertical rise to every 10cm of horizontal distance)?
PPDG	GTSS 37	kerb cut & ramp	If kerb ramp does not have flared sides, does the ramp have either a handrail or guardrail?
PPDG	GTSS 38	kerb cut & ramp	Do kerb crossings have tactile ground surface indicators to warn visually impaired users of its presence?
BF	GTSS 39	kerb cut & ramp	Do kerb cuts have slip-resistant tactile surfaces, contrasting in colour and texture with footpath and road?
BF	GTSS 40	kerb cut & ramp	Is the top landing of kerb ramp a minimum of 1000mm wide and 1200mm deep?
BF/PPDG	GTSS 41	kerb cut & ramp	Is the transition between the gutter (at the base of the ramp) and the ramp smooth, with no vertical face?
PPDG	GTSS 42	lighting	Is the crossing well lit between dusk and dawn? Street lights should provide lighting if the crossing does not have its own.
PPDG	GTSS 43	lighting	Is the accessible footpath adequately lit between dusk and dawn (eg there are no dark places or hiding places; users are easily seen)?

### Route #

#### GETTING TO SERVICE BY CAR

Source	Category	Question #	Factor
	GTSC 1	parking	Are park-and-ride facilities available at the station for people with impairments who access the bus or train by car?
DBH	GTSC 2	parking	Are designated parking spaces provided for people with impairments as follows: 1 space for up to 10 total spaces provided; 2 for up to 100 total spaces provided; plus 1 more space per every additional 50 parking spaces?
DBH	GTSC 3	parking	Is parking clearly marked out and signed with the international symbol of access (on ground, wall or post)?
DBH	GTSC 4	parking	Are accessible parking spaces a minimum of 3500mm wide?
DBH	GTSC 5	parking	Are accessible parking spaces a minimum of 5000mm long (angle park) or 6300mm (parallel park)?
DBH	GTSC 6	parking	Is there vertical clearance not less than 2500mm along route and at parking space?
DBH	GTSC 7	parking	Is the park level with the footpath or is there a kerb ramp provided, to permit easy access to footpath by wheelchair users?
DBH	GTSC 8	parking	Is the surface stable, firm and slip resistant under all environmental conditions?
DBH	GTSC 9	parking	Is the international symbol of access painted on the surface of the car park (usually with yellow or white paint)?
DBH	GTSC 10	parking	Are the park-and-ride facilities adequately lit between dusk and dawn (eg there are no dark places or hiding places; other people are easily seen)?
DBH	GTSC 11	parking	Do accessible parking spaces have a maximum slope of 1:50?
DBH	GTSC 12	access	Is the location of the accessible car park visible from a vehicle at the entrance to the park-and-ride facility? If not, is directional signage provided (at the entrance) to indicate the location of the car park?

DBH	GTSC 13	access	Are the accessible parking spaces located as close to an accessible building entrance as possible?
DBH	GTSC 14	access	Is direct pedestrian access provided between park-and-ride facilities and the station? (Are the parking spaces on the accessible route?)
DBH	GTSC 15	access	Do the parking spaces avoid conflict between vehicles and people when approaching an entrance?
DBH	GTSC 16	access	Are the car parks and/or drop-off points on the access route covered overhead?

### WAITING FOR SERVICE - BUS STOP

Source	Route #	Question #	Category	Factor
			location details	Is there a bus shelter?
			location details	If NO, is there an exterior alternative shelter nearby (ie awning, overhangs, underpass)?
TFL	BS 1		landing	Is the kerb height at least 150mm from the road surface?
ARTA/PNCC	BS 2		landing	Is the landing pad/ waiting area identified with tactile indicator tiles?
PNCC/ MCC	BS 3		landing	Is there an unobstructed, minimum 1500mm x 1500mm, landing pad / footpath at bus stop? (where it is known that buses on the route are wheelchair accessible through the rear door, this dimension should be 1500mm by 8000mm).
PNCC	BS 4		landing	Does the landing pad have a well-drained, non-slip surface?
	BS 5		landing	Is the landing pad surface even?
MCC	BS 6		landing	Does the landing pad extend to kerb, or is it near enough to the kerb to make use of an on-board ramp (for all weather and wheelchair access)?
	BS 7		landing	Is there a marker (eg location of bus stop sign / painted bus 'park' on the roadway) that facilitates the driver to stop the bus in the correct position for passengers loading from the landing pad?
ARTA	BS 8		landing	Is landing pad located where front door of bus will be at the bus stop?
	BS 9		landing	Does the landing pad connect with the accessible footpath?
	BS 10		landing	Does the landing pad have a maximum slope of 1:50, measured perpendicular to the roadway?
ARTA/MCC	BS 11		landing	Is all street furniture (including seating or a bus shelter) set back at least 1000 mm from the kerb, to allow a wheelchair user unobstructed access?
NZTA	BS 12		landing	Is the bus stop zone designated as a no parking and no stopping allowed zone?
	BS 13		shelter	Is there enough space (at least 1200mm) for people in wheelchairs to enter from the accessible footpath and rest inside the shelter?
	BS 14		shelter	If the shelter has four walls, is the doorway at least 800mm wide?

Accessibility to public transport: a best practice guide

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MCC/ DFT	BS 15	shelter	Does the placement of advertising panels allow visibility of waiting passengers?
ARTA/DFT	BS 16	shelter	In a shelter with glass or transparent walls, is there a contrasting band at least 150mm wide at a height of 1400mm to 1600mm from the ground?
PNCC/ MCC/ARTA	BS 17	shelter	Is the bus shelter or seating positioned near the 'front' of the bus stop, close to where the front door of buses using the stop will open?
PNCC/ MCC/ARTA	BS 18	shelter	Does the location of the shelter or seating provide for good visibility of approaching buses, the waiting passengers and the surrounding environment?
PNCC/ MCC	BS 19	seating	Do any seats have backs?
NZTA 2008b/ DFT	BS 20	seating	Is the height from the floor to the top of the front of the seat between 400mm and 500mm (perch-type seating height is 700mm)?
MCC	BS 21	information	Is there an information panel providing up-to-date service information (route, schedule, map) for all services stopping at this stop?
DFT	BS 22	information	Is the information sign located no lower than 900mm and no higher than 1700mm from the landing pad?
DFT	BS 23	information	Is the information panel in large print and good colour contrast (to accommodate the visually impaired)?
NZTA 2004	BS 24	information	Is the bus stop signage in accordance with the Land Transport Rule Traffic control devices 2004 or subsequent amendment (refer Best Practice Guide)
PNCC	BS 25	information	Is there a visible large print sign indicating what service numbers use this stop?
	BS 26	information	Are fare schedules (to find out how much to pay) easily visible at the stop?
MCC	BS 27	information	Where an existing street light pole is in the vicinity of a bus stop, is the bus stop signage attached to the pole to minimise the physical obstacles at the bus stop?
NZTA 2004	BS 28	information	Is the sign pole firmly fixed into the ground?
PNCC/ MCC	BS 29	comfort	Is the bus stop clean?
PNCC/ MCC	BS 30	comfort	Is the bus stop graffiti-free?
PNCC/ MCC	BS 31	comfort	Is the bus shelter is in good condition (no obvious repairs required)? If no, indicate the problem(s).
PNCC/ MCC	BS 32	comfort	Is the seating in good condition (no obvious repairs required)? If no, indicate the problem(s).
PNCC	BS 33	landing	Is the landscaping around the bus stop tidy and obstruction free? eg no trees/bushes encroaching on the landing area; no trees/bushes encroaching on the footpath; no tree branches that would hit the bus
PNCC	BS 34	lighting	If there is no bus shelter, is the bus stop adequately lit by a street light or other outside light?
PNCC/ DFT	BS 35	lighting	Is the bus shelter adequately lit between dusk and dawn (eg there are no dark places or hiding places; waiting passengers are easily seen)?

	Route #		
Source	Question #	Category	Factor
NZTA 2004	STN 1	door	Do accessible entrances display a wheelchair accessible sign, as per the Land Transport Rule Traffic Control Devices 2004 (refer Best Practice Guide)?
BF	STN 2	door	Is there a minimum 1200mm by 1200mm level space on both sides of the entrance/doorway?
BF	STN 3	door	Does the primary accessible entrance have a <i>minimum</i> clear opening of 760mm?
DFT	STN 4	door	If door closers/mechanisms are fitted do they have delay-action or slow action closure?
DFT	STN 5	door	If door closers/mechanisms are fitted do they have minimum closure pressure?
BF	STN 6	door	Is there visibility through the entrance/doorway from both sides (eg so that people can see someone coming from the other direction)?
DFT	STN 7	door	Are doormats stationary and flush with floor finish?
BF	STN 8	door	If thresholds are 20mm or more, are they bevelled on both sides to a slope of 1:2?
	STN 9	door	Is there an accessible door adjacent to any revolving doors and turnstiles or is the route to the accessible door clearly indicated?
BF	STN 10	door	Where there are two (or more) doors in a series, is there enough room between the two doors (1200mm plus width of doors) to allow backing and turning space for a wheelchair or other mobility aid to clear the in-swinging door?
BF	STN 11	door	Are the door handle/pulls/buttons/operating devices located between 900mm and 1200mm?
BF	STN 12	door	Are the door handle/pulls/buttons/operating devices easy to grasp and operate with one hand? (refer Best Practice Guide)
BF	STN 13	door	Can doors at accessible entrances be opened with minimal force?
BF	STN 14	ramp	Is the minimum clear width of the ramp 1200mm?
PPDG	STN 15	ramp	Is the maximum gradient of the ramp 1:12 (8%)? Over short distances [less than 1500 mm], greater gradients may be okay - refer Best Practice Guide.
BF	STN 16	ramp	Where the gradient is 1:12, is there a level landing or rest area (<=1200mm in length every 9m of horizontal run)?
BF	STN 17	ramp	Is the ramp surface continuous and slip-resistant?
BF	STN 18	ramp	Does the ramp have an upstand or a low rail to prevent a wheelchair wheel from running off the edge?
BF	STN 19	ramp	Does the ramp have a landing at the top, extending 1200mm beyond any doorway or door swing?
BF	STN 20	ramp	Does the ramp have a landing at the bottom, extending 1200mm beyond any doorway or door swing?
	STN 21	ramp	Is the presence of the ramp clearly indicated (by the use of signs / colour contrast / lighting / tactile markers)?
BF	STN 22	steps	Are the step risers a uniform height (maximum of 180mm) for the entire flight?
BF	STN 23	steps	Are the risers closed? (Note: open risers are not permitted for 'accessible' stairways in the NZ Building Code).
BF	STN 24	steps	Are the steps at least 900mm wide (between handrails) for the entire flight?
BF	STN 25	steps	Is the step tread at least 310mm deep?
BF	STN 26	steps	Is the surface of each tread covered in a slip-resistant material?

Accessibility to public transport: a best practice guide

BF	STN 27	steps	Is the leading edge of the tread/nosing rounded (no sharp edges)?
BF	STN 28	steps	Is the leading edge of the tread/nosing colour contrasted with the rest of the tread?
BF	STN 29	steps	Are the top and bottom landings of any stairs clearly indicated by the use of signs / colour contrast / lighting and/or tactile markers?
BF	STN 30	handrails	Are handrails provided along both sides of the ramp or stairs?
BF	STN 31	handrails	Are handrails continuous around landings (except at doorways)?
BF	STN 32	handrails	Do handrails extend no more than 300mm beyond the top and bottom of the ramp or stair segment?
BF	STN 33	handrails	Is the top surface of any handrail mounted between 900mm and 1000mm above the floor?
BF	STN 34	handrails	Are all handrails securely fixed and stable in their fittings (eg able to carry full weight of a person)?
BF	STN 35	handrails	Are handrails smooth?
BF	STN 36	handrails	Do handrails have a clearance from wall of 45mm to 60mm?
BF	STN 37	handrails	Does the handrail have an outside dimension of 32mm to 50mm?
BF	STN 38	handrails	Are the ends of the handrails turned down 100mm or returned fully?
BF	STN 39	handrails	Are the handrails a contrasting colour to the background?
BF	STN 40	handrails	Is the handrail graspable (round is most suitable - horizontal or vertical planks are not acceptable)?
DFT	STN 41	lift	Is a lift provided as an alternative to stairs or a ramp?
BF	STN 42	lift	Is the lift located on an accessible route?
NZBC	STN 43	lift	Is the lift compliance certificate current/valid?
DFT	STN 44	platform	Is there a minimum 2000mm wide clear space for wheelchair access along the length of the platform?
HRC	STN 45	platform	Are platform edges clearly marked in a contrasting colour?
DFT	STN 46	platform	Are tactile warning indicators located 600mm from the edges of train platforms?
	STN 47	assistance	Is there a designated area for passengers to wait who require boarding assistance?
	STN 48	seating	Where train services are less frequent than every 5 minutes, are seats provided for waiting passengers?
NZTA 2008b; DFT	STN 49	seating	Is the height from the floor to the top of the front of the seat between 400mm and 500mm (perch-type seating height is 700mm)?
BF	STN 50	ticketing	Is at least one service counter (eg ticketing booths / info desks/ ticket vending machine) at a height (775mm) that can be accessed by a person using a wheelchair?
BF	STN 51	ticketing	Is there clear space <i>below</i> the counter so that a wheelchair user can come right up to the counter?
BF	STN 52	ticketing	Does the service counter / ticketing machine / info desk have a clear space in front of at least 1200mm x 1200mm?
BF	STN 53	ticketing	Does the clear floor space in front of the ticketing machine overlap or adjoin an accessible route?
	STN 54	ticketing	Does the ticketing machine have tactile controls/buttons for the visually impaired?

Accessibility to public transport: a best practice guide

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	STN 55	ticketing	Are all ticketing machine controls operable with one hand?
DFT	STN 56	lighting	Is the station adequately lit between dusk and dawn (eg there are no dark places or hiding places; passengers are easily seen)?
DFT	STN 57	lighting	Are any hazards or possible obstacles well lit?
HRC	STN 58	information	Is up-to-date service information (route, schedule, map) for all services using this station posted in at least one highly visible location?
DFT	STN 59	information	Is any wall-mounted information panel centred around 1400mm from the ground (bottom edge not less than 900mm from the ground and top edge up to 1800mm from the ground) ?
HRC	STN 60	information	Is the information panel in large print and good colour contrast (to accommodate the visually impaired)?
HRC	STN 61	information	Is comprehensive up-to-date service information (route, schedule, map) for all services using this station provided in embossed characters, Braille or by audible 'talking signs' transmitter for people with visual or audible impairments?
HRC	STN 62	information	Are changes in services (such as cancellations or replacement information, platform allocations and changes) announced as early as possible and regularly repeated?
	STN 63	information	Where there are display stands containing bus route schedules/maps, are these visible and reachable by people with impairments?
	STN 64	information	Are fare schedules (to find out how much to pay) easily visible at the station?
	STN 65	safety	Is there a visual as well as audible fire alarm system?
	STN 66	safety	Are emergency exit routes accessible to all, including wheelchair users?
	STN 67	safety	Are all emergency exit doors clearly marked, and do they have a minimum opening of 800mm?
DFT	STN 68	safety	If there are times when the station has no staff in attendance, is an emergency telephone or call button available?
	STN 69	safety	Are there monitored security cameras operating in the station when no staff is in attendance?
	STN 70	comfort	Is the station clean?
	STN 71	comfort	Is the station graffiti-free?
	STN 72	comfort	Is the station in good condition (no obvious repairs required)? If no, indicate the problem(s).
	STN 73	comfort	Is the station seating in good condition (no obvious repairs required)? If no, indicate the problem(s).

**Route #**

**BEING ON BOARD – BUS**

◊ - indicates that requirement applies for given type of vehicle

Except where noted, all factors apply to a large bus (seating 39+ passengers)

Source	Question #	Category	Factor	New buses (2010)	Existing buses (by 2014)
NZTA 2008b	BBB 1	bus stop request	Bell push or cord within reach of seated and standing passengers in every second row of seats.		◊
NZTA 2008b	BBB 2	bus stop request	Bell push or cord within reach of seated and standing passengers in every second row of seats on both sides of the aisle.	◊	
NZTA 2008b	BBB 3	bus stop request	Illuminated 'bus stopping' display		◊
NZTA 2008b	BBB 4	bus stop request	Signalling devices easily reached by any person seated in a priority seating area or wheelchair area without having to stand up, eg on side walls or the underside of folding seats.	◊	
NZTA 2008b	BBB 5	bus stop request	Signalling devices readily operated by elderly and disabled people with poor hand and finger function or dexterity.	◊	
NZTA 2008b	BBB 6	bus stop request	Bus stopping request devices are a high-visibility contrasting colour to the surround and with the surface on which surround is mounted.	◊	◊
NZTA 2008b	BBB 7	bus stop request	Location of device: Finger/thumb/knuckle push buttons on (1) the vertical stanchions at a height of >1300mm and <1600mm above floor level or (2) the bus side panels at a height of >850mm and <1050mm particularly in the priority seating area or on the undersides of folding seats.	◊	
NZTA 2008b	BBB 8	bus stop request	Operation of any bell push or bell cord will activate an audible and visual warning for the driver and passengers, and will cause a 'Bus Stopping' sign, mounted at the front of the vehicle, to illuminate and remain activated until the front and/or rear doors are opened.	◊	
RNZFB (ref'd in NZTA 2008b)	BBB 9	bus stop request	Except for the first letter, all letters should be in lower case for greater readability	◊	◊
HRC	BBB 10	bus stop request	Bus drivers announce their service number when they identify a blind or visually impaired person waiting for a ride.	◊	◊
HRC	BBB 11	bus stop request	In the absence of automated on-board announcements, bus drivers announce major stops, stations and intersections.	◊	◊

Accessibility to public transport: a best practice guide

NZTA 2008b	BBB 12	bus stop request	Public announcement system capable of broadcasting driver announcements and pre-recorded messages is provided	◇	
	BBB 13	comfort	Vehicle exterior is in a clean and tidy state and free from any unsightly damage, including graffiti.	◇	◇
	BBB 14	comfort	The vehicle interior is in a clean and tidy state, and free from any unsightly damage, including graffiti.	◇	◇
RNZFB (ref'd in NZTA 2008b)	BBB 15	destination display	Destination displays: All destination words and numbers are clearly readable (70% minimum visual contrast and NOT dot matrix) eg to persons with normal vision, from a distance of 50m.		◇
NZTA 2008b	BBB 16	destination display	Front route no. - three characters $\geq 100\text{mm}$ in height.		◇
NZTA 2008b	BBB 17	destination display $\geq$	Front and side destination characters $\geq 60\text{mm}$ in height.		◇
NZTA 2008b	BBB 18	destination display	Front and rear route number characters shall be $\geq 150\text{mm}$ .	◇	
NZTA 2008b	BBB 19	destination display	Front destination characters shall be $\geq 125\text{mm}$ .	◇	
NZTA 2008b	BBB 20	destination display	Side destination characters shall be $\geq 60\text{mm}$ .	◇	
RNZFB (ref'd in NZTA 2008b)	BBB 21	destination display	Except for the first letter, all letters should be in lower case for greater readability	◇	
PSV 2007	BBB 22	destination display	If a passenger service vehicle is fitted with a sign that incorporates raised lettering or symbols to assist visually-impaired passengers, the letters or symbols must be at least 0.8mm above the surface of the sign.	◇	◇
NZTA 2008b	BBB 23	door	The 'entrance' doorway has a minimum clear width of 700mm		◇
NZTA 2008b	BBB 24	door	The front door clear width is $\geq 1000\text{mm}$ double leaf (excluding grab handles on door) on a medium bus or large bus	◇	
	BBB 25	door	The designated doorway is fitted with a wheelchair ramp.	◇	
NZTA 2008b	BBB 26	door	Medium buses and large buses have kneeling capability.	◇	
NZTA 2008b	BBB 27	floor	Front door entrance, fare paying and turning area, and unimpeded through to rear of priority seating area - aisle width $\geq 760\text{mm}$ .	◇	
NZTA 2008b	BBB 28	floor	Medium bus or large bus with two doors must have a flat floor from front entry to rear door.	◇	
NZTA 2008b	BBB 29	floor	Medium bus with one door must have a flat floor from front entry to immediately in front of rear axle.	◇	
NZTA 2008b	BBB 30	floor	Front and rear door entry/exit areas have a colour contrast to the flooring material in the main saloon.	◇	
NZTA 2008b	BBB 31	floor	Priority seating area has a colour contrast to the flooring material in the main saloon.	◇	
NZTA 2008b	BBB 32	floor	All floor surfaces (including any steps) use a non-slip material.	◇	◇

Accessibility to public transport: a best practice guide

	BBB 33	floor	All joins in flooring are welded and fully sealed.	◇	◇
NZTA 2008b	BBB 34	holds	Hand/grab rail are located on each side of entrance and exit doorways	◇	◇
NZTA 2008b	BBB 35	holds	Grab handles are located on aisle side of all seat backs		◇
NZTA 2008b	BBB 36	holds	Vertical stanchions from either floor to ceiling or seatback to ceiling, as location dictates, are fitted throughout the length of the bus and close to, but not impede movement along, the aisle so that they are spaced at alternate seats left and right of the aisle.	◇	
NZTA 2008b	BBB 37	holds	Stanchions/holds are a high-visibility contrasting colour throughout the vehicle, and provide a strong contrast with the surrounding surfaces	◇	◇
NZTA 2008b	BBB 38	holds	Stanchions are provided immediately adjacent to doorways and in priority seating or wheelchair areas.	◇	
NZTA 2008b	BBB 39	holds	In areas where seating may have been reduced to provide for more people to stand, priority seating or wheelchair positions, or is of the folding style, then overhead handrails are provided.	◇	
	BBB 40	holds	Hand holds have a slip-resistant surface.	◇	◇
NZTA 2008b	BBB 41	holds	Hand holds have a clear space of not less than 45mm finger clearance to the handle	◇	
NZTA 2008b	BBB 42	holds	The cross-section of the handholds on doors and seats have a minimum dimension of 15 mm if one other dimension is at least 25mm; and all other handholds have no dimension smaller than 20mm or greater than 45mm. (PSVR 1999, s6.9)	◇	
NZTA 2008b	BBB 43	holds	Grab handles have a circular or elliptical cross section of 30mm–35mm on the maximum section.	◇	
NZTA 2008b	BBB 44	holds	At least one grab handle is located near or on the corner of each 2-person forward or rearward facing seat.	◇	
NZTA 2008b	BBB 45	holds	A grab handle is provided on the underside of any folding seat located to provide a firm handle to any wheelchair passenger when manoeuvring into, out of or occupying a wheelchair space.	◇	
NZTA 2008b	BBB 46	holds	In addition to grab handles fitted to doors, grab handles are provided in the fare paying area.	◇	
NZTA 2008b	BBB 47	holds	In the priority seating area; located to be readily accessible to any seated or wheelchair passengers, an extra long (≥ 700mm) grab handle mounted horizontally on the bus side wall	◇	
NZTA 2008b	BBB 48	lighting	For the internal entry and exit doorway step areas and externally downwards and outwards for 500mm beyond the step edge, lighting is to a level of > 100 lux. Note: RNZFB recommends this is measured at ground level to ensure maximum visibility.	◇	
NZTA 2008b	BBB 49	lighting	The light goes on only when the doors are opened and the interior lights are on, and is extinguished when the doors close.	◇	
NZTA 2008b	BBB 50	ramp	Wheelchair ramp is provided: either manual or power-operated is confirmed/certified as complying with design, construction and fitting requirements stipulated in PSV Rule 1999 and subsequent amendments (refer Best Practice Guide)	◇	
NZTA 2008b	BBB 51	ramp	Adjacent to front door, a kneel/wheelchair ramp request call button is provided, in contrasting colours to the immediate surrounds.	◇	
NZTA 2008b	BBB 52	ramp	Adjacent to front door, a sign stating 'This bus kneels on request' is provided.	◇	

Accessibility to public transport: a best practice guide

NZTA 2008b	BBB 53	seat	Each seat has a minimum 425mm single seat width; minimum 875mm double bench or paired width	◇	
NZTA 2008b	BBB 54	seat	Minimum seat spacing between forward-facing seats of 670mm (distance from top of back rest to top of back rest of next seat)	◇	
NZTA 2008b	BBB 55	seat	≥50% of the seats in the priority area are forward facing.	◇	
NZTA 2008b	BBB 56	seat	The height from the floor to the top of the front of the seat cushion is ≥400mm and ≤ 500mm.	◇	
NZTA 2008b	BBB 57	seat	The height to the top of the seat back excluding any grab handle is ≥ 900mm.	◇	
NZTA 2008b	BBB 58	seat	At least 4 seats for 'Priority Seating' provided for elderly and/or disabled passengers, located towards the front of the vehicle.	◇	
	BBB 59	seat	Adequate space under or adjacent to at least one priority seat for a guide dog is provided	◇	
NZTA 2008b	BBB 60	seat	Signage to indicate the area and request to vacate seats for use by passengers with impairments, eg 'Priority seating area - Please vacate these seats for elderly or disabled passengers or parents/caregivers with small children.'	◇	
NZTA 2008b	BBB 61	step	No more than two steps in the aisle along whole internal length of vehicle.		◇
NZTA 2008b	BBB 62	step	If the bus is not a super low-floor bus: Maximum first step height ≤370mm.		◇
NZTA 2008b	BBB 63	step	First front step ≤ 370mm - Measured from the ground to top of step nosing (without kneeling in operation). With kneeling, first front step < 280mm	◇	
NZTA 2008b	BBB 64	step	Any additional steps (maximum two) are ≤ 220mm high	◇	
NZTA 2008b	BBB 65	step	Step depth is ≥ 300mm	◇	
NZTA 2008b	BBB 66	step	Any additional steps are ≤ 230mm high		◇
NZTA 2008b	BBB 67	step	All steps at door entry and exits or within the vehicle have full width step edges and faces fitted with a distinctive high-visibility, non-slip/trip style nosing in a solid band, contrasting with the immediately adjacent flooring material.	◇	
NZTA 2008b	BBB 68	step	The nosing dimensions in the horizontal and vertical planes are within the range 45mm-50mm in width.	◇	
NZTA 2008b	BBB 69	step	Highlighter to top edge of nose is provided.		◇
NZTA 2008b	BBB 70	wheelchair park	On large bus, a separate space for at least one wheelchair, forward or rear facing: <b>minimum</b> dimensions of 1200mm by 700mm. (Medium bus: space for one wheelchair, same dimensions)	◇	
NZTA 2008b	BBB 71	wheelchair park	An international wheelchair symbol for accessibility sign is provided on the bus internal side wall of any wheelchair space.	◇	
NZTA 2008b	BBB 72	wheelchair park	Wheelchair and wheelchair occupant restraints are certified as complying with Passenger Service Vehicle Rule 1999.	◇	
NZTA 2008b	BBB 73	wheelchair park	Two international wheelchair symbols for accessibility are provided, one on the front left of the bus and one on the side of the bus by the front door entrance.	◇	
	BBB 74	ticketing	Tickets can be purchased on board the bus and the passenger can get change.	◇	◇
HRC	BBB 75	bus drivers	Bus drivers have received special instructions about the needs of persons with impairments, particularly emergency procedures.	◇	◇

## Accessibility to public transport: a best practice guide

	BBB 76	bus drivers	Bus drivers are friendly and helpful when asked for assistance.	◇	◇
HRC	BBB 77	bus drivers	Bus drivers provide appropriate assistance for passengers entering or leaving the bus when necessary.	◇	◇
HRC	BBB 78	bus drivers	Bus drivers ensure that all passengers are seated and/or secured before moving off.	◇	◇
HRC	BBB 79	bus drivers	Bus drivers stop at all designated stops to check for passengers.	◇	◇
HRC	BBB 80	bus drivers	Bus drivers stop immediately adjacent to the kerb when picking up/letting off passengers.	◇	◇
HRC	BBB 81	bus drivers	Bus drivers practice 'smooth operation' (avoiding abrupt starts and stops, driving slowly at curbs) when driving a bus.	◇	◇
	BBB 82	security	Number of security-related 'incidents' (thefts, beatings/violence, etc) recorded on the service in the past year.	◇	◇
	BBB 83	security	Rating in recent customer satisfaction survey for customers' personal safety and security on-board this service.	◇	◇

### Route #

#### BEING ON BOARD – TRAIN

Source	Question #	Category	Factor
	BBTR 1	comfort	Is the exterior in a clean and tidy state and free from any unsightly damage, including graffiti?
	BBTR 2	comfort	Is the vehicle interior clean and tidy, and free from any unsightly damage, including graffiti?
COST 335	BBTR 3	access	Does signage let patrons know which doorway is accessible for wheelchairs and other disabled users?
PPDG	BBTR 4	access	Is there a minimum of 1500mm x 1500mm of level space centred in the front of the accessible entrance?
BF	BBTR 5	access	If door operation is not automatic, is there a simple control device (push-buttons, levers etc.) that is operable with one hand and minimal force?
BF	BBTR 6	access	Are the operating devices located between 900mm and 1200mm from the platform floor?
BF	BBTR 7	access	Is a contrasting colour and tone used for easy identification of the doors, door control devices, steps and handrails?
COST 335	BBTR 8	access	Are the spaces between carriages marked distinctively different from access doors?
BF	BBTR 9	access	Does the designated doorway for people with impairments have a minimum clear width of 800 mm?
COST 335	BBTR 10	access	Is the vertical gap between the platform and carriage less than 100mm (50mm is preferred)? (refer Best Practice Guide)
COST 335	BBTR 11	access	Is the horizontal gap between the platform and carriage less than 500mm? (refer Best Practice Guide)
COST 335	BBTR 12	access	If the horizontal or vertical gaps cannot be mitigated, or if there are steps into the carriage, is the designated doorway for wheelchairs fitted with a wheelchair ramp?
COST 335	BBTR 13	access	Is the wheelchair ramp certified as complying with design, construction and fitting requirements stipulated in Passenger Service Vehicle Rule 1999? (refer Best Practice Guide)
NZTA	BBTR 14	access	Is the surface of ramp slip resistant?

Accessibility to public transport: a best practice guide

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2008b

NZTA 2008b	BBTR 15	access	Is the vertical gap between the platform and the bottom step, and the height of each step when there is more than one, $\leq$ 220mm?
NZTA 2008b	BBTR 16	access	Is the step depth $\geq$ 300mm?
BF	BBTR 17	access	Is an audible signal and a visual signal (flashing light etc) provided both inside and outside the coach as a warning that the doors are about to close?
NZTA 2008b	BBTR 18	access	Is there a minimum clear width of 800mm from the designated doorway through the wheelchair parking area?
NZTA 2008b	BBTR 19	access	Is the floor covered in tactile non-skid material and all joints welded and fully sealed?
NZTA 2008b	BBTR 20	seat	Is there a minimum seat spacing between forward-facing seats of 670mm (distance from top of back rest to top of back rest of next seat)?
NZTA 2008b	BBTR 21	seat	Is the height from the floor to the top of the front of the seat cushion between 400mm and 500mm?
NZTA 2008b	BBTR 22	seat	Is the height to the top of the seat back excluding any grab handle $\geq$ 900mm?
NZTA 2008b	BBTR 23	seat	Are there at least 4 seats for 'Priority Seating' provided for elderly and/or disabled passengers, located near the accessible doors?
	BBTR 25	seat	Is there adequate space under or adjacent to at least one priority seat for a guide dog?
NZTA 2008b	BBTR 26	seat	Is there permanent signage to indicate the area and request to vacate seats for use by passengers with impairments, (eg 'Priority seating area - Please vacate these seats for elderly or disabled passengers or parents/caregivers with small children')?
HRC	BBTR 27	wheelchair park	Is there a sign on the outside of the carriage to let passengers know that it contains one or more wheelchair spaces?
NZTA 2008b	BBTR 28	wheelchair park	Is a separate space for at least one wheelchair, forward or rear facing: <b>minimum</b> dimensions of 1200mm by 700mm provided?
NZTA 2008b	BBTR 29	wheelchair park	Is an international wheelchair symbol for accessibility sign posted on the internal side wall of any wheelchair space?
NZTA 2008b	BBTR 30	wheelchair park	Are wheelchair and wheelchair occupant restraints certified as complying with Passenger Service Vehicle Rule 1999?
NZTA 2008b	BBTR 31	holds	Are there hand holds on each side of all doorways, both inside and out?
	BBTR 32	holds	Are hand holds located on aisle side of all seat backs or at regular intervals throughout the carriage?
NZTA 2008b	BBTR 33	holds	Are hand holds a uniform colour throughout the vehicle, providing a strong contrast with the surrounding surfaces?
	BBTR 34	holds	Do hand holds have a slip-resistant surface?
NZTA 2008b	BBTR 35	holds	Do hand holds have a clear space of not less than 45mm finger clearance to the handle?
NZTA 2008b	BBTR 36	holds	Do the cross-section of the handholds on doors and seats have a minimum dimension of 15mm if one other dimension is at least 25 mm; and all other handholds must have no dimension smaller than 20mm or greater than 45mm?
NZTA	BBTR 37	holds	Do the grab handles have a circular or elliptical cross section of 30-35mm on the maximum section?

Accessibility to public transport: a best practice guide

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2008b

NZTA 2008b; HRC	BBTR 38	on-board info	Are upcoming train stations and any prominent local features (eg recreation centre; shopping centre) broadcast- either through a public announcement system or by train personnel?
	BBTR 39	ticketing	Are tickets able to be purchased on board the train and get change?
HRC	BBTR 40	staff	Has staff received special instructions about the needs of persons with impairments, particularly emergency procedures?
	BBTR 41	staff	Is train staff friendly and helpful when asked for assistance?
HRC	BBTR 42	staff	Does train staff provide appropriate assistance for passengers entering or leaving the train when necessary?
HRC	BBTR 43	staff	Does train staff ensure that all passengers are seated and/or secured before moving off?
HRC	BBTR 44	staff	Do train drivers practice 'smooth operation' (avoiding abrupt starts and stops, driving slowly at curbs) when driving the train?
	BBTR 45	security	How many 'incidents' have been recorded on the service in the past year?
	BBTR 46	security	What rating does most recent customer satisfaction survey show for customers' personal safety and security on-board this service?