Auditing public transport accessibility in New Zealand

October 2010

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NZ Transport Agency research report 417

ISBN 978-0-478-36490-3 (print)
ISBN 978-0-478-36491-0 (electronic)
ISSN 1173-3756 (print)
ISSN 1173-3764 (electronic)

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O'Fallon, C (2010) Auditing public transport accessibility in New Zealand. *NZ Transport Agency research report no.417*. 150pp.

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Keywords: accessibility, audit, best practice, bus, guide, New Zealand, public transport, rail, regional council, report card, train, whole of journey.

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Acknowledgements

The authors gratefully acknowledge the funding provided by the NZ Transport Agency without which this research project could not have been undertaken. We thank Adam Lawrence and Anke Kole at Greater Wellington Regional Council for their invaluable assistance and patience as we worked through piloting and refining the audit methodology. Adam, in particular, for his skills in mapping the bus stop routes; automating the Excel worksheets; and developing rating scales.

We would also like to recognise the individuals within these and other organisations whose comments helped us to develop the output from this project to ensure its usefulness to them, particularly our steering group: David Peirse and Bruce Coleman (Human Rights Commission); Anna Southen (Ministry of Transport); Pania Elliott, Balt Gregorius, and Chad Barker (NZ Transport Agency); and Anthony James and his team (Auckland Regional Transport Authority). We also appreciate the input and advice the steering group sought from other colleagues and from their organisation's advisory groups, as this input further enhanced our project output.

We also appreciate the assistance from our peer reviewers: Professor Graham Currie (Chair of Public Transport, Institute of Transport Studies, Monash University, Victoria) and Tim Hughes (Senior Engineer, NZ Transport Agency). Their many valuable comments improved the clarity and accuracy of the final report and accompanying documents.

Last but not least, thanks to Heather Carew, the very thorough and patient NZTA editor, whose work has improved the clarity and consistency of this report and appendices.

Abbreviations and acronyms

ARTA	Auckland Regional Transport Authority
BF	Barrier Free New Zealand Trust
COST	European Cooperation in the Field of Scientific and Technical Research
GIS	geographic information system
GW	Greater Wellington Regional Council
HRC	Human Rights Commission
PT	public transport
NZTA	New Zealand Transport Agency
PNCC	Palmerston North City Council
PPDG	*Pedestrian planning and design guide* (NZTA 2008)

Contents

Executive summary

The purpose of this research project was to review international best practice for auditing public transport (PT) accessibility and to develop and pilot a New Zealand-specific PT accessibility audit methodology.

The accessibility audit takes a whole-of-journey approach to accessibility, thus incorporating the following elements:

- accessing information about the services
- getting to the service
- paying for the service (access to information about the cost of the service and the physical ability to pay for the service. 'Paying for the service' excludes affordability, as beyond the scope of the current project)
- getting on board
- 'enjoying the ride'
- getting to the final destination (including ensuring that services in the network take people where they want to go, when they want to be there)
- making the return trip.

Auditing the accessible journey means that all the steps needed for a person to get from their home to their destination and then home again are regarded as linked and of equal importance. If one link is broken or inadequate, the whole journey becomes impractical or impossible.

Methodology

Developing the audit approach and methodology involved consultation with key stakeholders, the steering group and peer reviewers to scope the parameters for the audit; reviewing international experience with assessing accessibility of PT; drafting the audit framework; piloting it; and refining the framework following the pilot. At the same time, a 'best practice' guide was developed for auditors, regional councils, service operators and others to become familiar with the key determinants or factors facilitating PT accessibility.

Scope of the PT accessibility audit, report card and best practice guide

In addition to taking a whole-of-journey approach, the PT accessibility audit, report card and best practice guide:

- adopt a wide scope, including physical and economic accessibility factors, as well as spatial, temporal, environmental and informational factors
- assess the accessibility of PT services for six broad categories of users, ranging from 'able users' (essentially people with no impairments) through to 'wheelchair users' (people who possibly experience the greatest difficulty accessing PT)

- consider regional council scheduled bus network(s) and 'large bus' vehicles and regional council scheduled rail network(s) and carriages
- are used on a route or corridor basis
- use a simple yes/no checklist approach to assessing accessibility factors and summarise these in a report card which identifies the number of 'Barriers to access' rated as 'severe' (3), 'moderate' (2), and 'slight' (1) on the route/corridor for each of the six user categories.

Although an objective approach was taken in developing the PT accessibility audit and report card, there are some factors within the audit framework that will be subject to an individual auditor's judgement, and in some cases, slightly different results may emerge from different auditors reviewing the same route or corridor. Testing of the audit framework found the results to be quite consistent between different auditors, but the system is undoubtedly not foolproof. The report card is designed to be 'self-completing', and once the auditor has responded 'yes' or 'no' to each question within the audit framework, the Excel workbooks will sum the responses and assign an appropriate rating for each category of PT user.

The PT accessibility audit and report card was developed as an easy-to-use and simple audit tool, providing a useful and reasonably comprehensive, analysis of accessibility. As 'accessibility' is only one aspect of a PT service/system/network that may require auditing, any tool that is too resource intensive or time consuming to use will be under-utilised. Using this audit tool, a bus stop takes about 10 minutes to audit and the access routes around it (assuming a 200m diameter around the bus stop) will usually take less than 30 minutes. Overlap on the access route diameter is likely where bus stops are in close proximity (eg bus stops across the road from each other) and this will cut down on the time taken to complete the accessible routes audit.

While the audit methodology is designed to be conducted on a route/corridor basis, to ensure that PT accessibility is audited in its fullest sense (ie accessibility *of* public transport and accessibility *by* public transport) would require all routes and corridors to be included in an audit programme.

The value of report card output

The report card provides regional councils and operators with:

- a baseline statement of 'accessibility', against which future progress can be monitored through repeated audits
- a basis for comparing the 'accessibility' of PT in different areas and/or for different user groups
- an indication of what particular aspects in a given PT system or network are not 'accessible', that is, where action is required to improve accessibility for a range of user types
- examples of good or best practice with respect to 'accessibility'.

Future developments/improvements to the audit and report card

Future versions of the PT accessibility audit and report card could include some or all of the elements excluded from the current one, such as:

- affordability of PT services for different types of users

- accessibility characteristics of ferry vessels, stations and wharves
- accessibility characteristics of small (seating 13–21 passengers) and medium (seating 21–39 passengers) buses
- accessibility of routes to stops and stations by cycling
- characteristics of accessible 'kiss and ride' facilities at stations
- accessibility of total mobility schemes
- accessibility of long-distance and/or inter-regional PT services (eg airplanes, long-distance rail, inter-city coaches).

In addition, as new information or best practices are developed, it will undoubtedly be necessary to modify the audit and report card to reflect these.

A distinct improvement to the audit and report card methodology would be to develop a web-based assessment tool. This may better facilitate the conducting and completion of the audit.

It would be useful to research user opinions and views relative to the rating scale and ratings applied in the report card to improve their objectivity. Other rating scales and options could be developed and trialled. Likewise, some of the factors within the audit could be refined further to lessen the influence of subjectivity on the overall audit process.

Availability of the audit and report card and best practice guide

The PT accessibility audit, report card, instructions for auditors and best practice guide are available to anyone interested (see the appendices at the end of this report, or the Pinnacle Research & Policy Ltd website www.pinnacleresearch.co.nz where you can also download the original Excel files for the audit and report card).

Abstract

This research project, conducted in 2007–2009, reviewed international best practice for auditing public transport (PT) accessibility, and developed and piloted a New Zealand-specific PT accessibility audit methodology.

The accessibility audit and report card takes a 'whole-of-journey' approach to accessibility, thus including: service coverage, accessing information about the services; getting to the service; paying for the service; getting on board; enjoying the ride; getting to the final destination (where people want to go, when they want to get there); and making the return trip. Affordability of the service has been excluded from the current audit and report card.

The audit uses a simple yes/no checklist to assess accessibility factors and summarises these in a report card which tallies the number of 'Barriers to access' rated as 'severe' (3), 'moderate' (2) and 'slight' (1) on the route/corridor for each of six PT user categories. The audit and report card were piloted on three routes in Greater Wellington.

The audit and report card are supplemented with a best practice guide to the factors that contribute to making a PT journey accessible to any or all categories of PT user.

Possible future improvements include developing a web-based assessment tool; including ferry, total mobility and long distance services; and exploring other rating scales and options.

1 Overview and purpose

1.1 Introduction

The research was conducted by Pinnacle Research & Policy Ltd, as part of the 2007–08 NZ Transport Agency (NZTA) Research Programme. The objectives of the project were two fold:

1 To review international best practice for auditing/monitoring public transport (PT) accessibility.

2 To develop and pilot a New Zealand-specific PT accessibility audit methodology.

Recent research by Booz Allen Hamilton (2006) defined accessibility as: 'the ability or ease with which activities, either economic or social can be reached or accessed' (p3). Accessibility is distinct from mobility, which refers to the 'ease of movement rather than the ease of reach' (p3). Improving accessibility is seen as a key factor in reducing social exclusion, ensuring participation and independence of New Zealand people and their communities.

From the outset, it was intended that a whole-of-journey approach to the accessibility audit be taken, thus incorporating the following elements:

- obtaining information about the services
- getting to the service
- paying for the service
- getting on board
- getting to the final destination (including ensuring that routes take people where they want to go when they want to be there)
- making the return trip.

Auditing the accessible journey means that all the steps needed for a person to get from their home to their destination and then home again are regarded as linked and of equal importance. If one link is broken or inadequate, the whole journey becomes impractical or impossible.

In the context of the audit framework developed, 'paying for the service' includes access to information about the cost of the service and the physical ability to pay for the service. 'Paying for the service' excludes affordability, which is the issue of whether or not the service was priced affordably for the different types of users. This is discussed further in section 3.4.

The purposes of the audit could be fourfold, ie to provide:

1 Initially, a baseline statement of 'accessibility', against which future progress could be monitored through repeated audits

2 A basis for comparing the accessibility of public transport in different areas

3 An indication of what particular aspects in a given PT system/network are not accessible, that is, where action is required

4 Examples of good or best practice with respect to accessibility.

1.2 Project outputs

There are three primary outputs to this research project, namely:

1 Project report (this document) which records the research process for establishing the draft public transport accessibility audit and report card and *Accessibility for public transport: a best practice guide*, its piloting and subsequent refinement.

2 The PT accessibility audit and report card, which comprises three parts:

   a PT accessibility audit: auditor instructions providing an overview of the scope and purpose of the audit and how to use the workbooks

   b PT accessibility audit – an Excel-based workbook for the 'auditor' (person conducting the field audit) (Workbook 1)

   c PT audit summary worksheets – an Excel-based workbook for summarising the audit findings for regional councils and other interested parties (Workbook 2). The report card is included in this workbook under the title 'Barriers to access'.

3 *Accessibility to public transport: a best practice guide* – this provides regional councils and others with information about the 'factors' that contribute to making a PT journey accessible to any or all categories of user.

1.3 Report structure

This report is structured as follows:

- Chapter 2 outlines the project methodology.
- Chapter 3 discusses the scope and content of the PT accessibility audit and report card and best practice guide.
- Chapter 4 describes the piloting of the audit and report card and the pilot findings.
- Chapter 5 outlines the conclusions.
- Chapter 6 provides a reference list for this report.
- Appendix A contains the auditor instructions and reproductions of the two workbooks (including the report card) for the accessibility audit (detailed above in section 1.2). The original Excel files can be obtained from www.pinnacleresearch.co.nz
- Appendix B is the *Accessibility to public transport: a best practice guide*

2 Methodology

2.1 Overview

The first step was to finalise the steering group membership and then develop a scoping paper to better specify the parameters of a PT accessibility audit, including exploring the possible forms the audit could take. The scoping paper was discussed at a workshop with key stakeholders and other research providers working in the area as well as being circulated to a wider group, including the peer reviewers, for comment and feedback. Following this, first drafts of the audit 'checklist' and 'best practice guide' were developed for review and the process for piloting the audit was initiated.

The piloting process was an iterative one: some stops and access routes were audited, the results reviewed, the audit worksheets and report card were revised, and then further audit work was conducted; results reviewed, etc.

Once the pilot was completed, further refinements to the audit worksheets and report card were made, the best practice guide was revised and updated, and this report written.

Each of these steps is discussed in more detail below.

2.2 Finalising the steering/stakeholder group

Originally, the steering group included representatives from five organisations:

- the NZTA
- the Ministry of Transport
- the Human Rights Commission
- Greater Wellington Regional Council
- Auckland Regional Transport Authority.

There was significant interest in the project from special interest groups and task forces, such as CCS Disability Action. However, given that this project was a research project, which *may* ultimately be adopted by the government as part of its policy programme in the area of accessibility, consultation was largely limited to core government agencies. Note that in the case of the NZTA, there were several staff involved from different areas of the organisation.

Rather than ignore other interested parties, the core agencies were asked to consult with these groups as they saw fit, and report their concerns/ideas/comments back to the project team. As a result, there has been direct input from various groups representing disabled New Zealanders.

2.3 Preparing the preliminary scoping paper and consultation

Preliminary consultation with key stakeholders occurred through two mechanisms:

1 A scoping paper was prepared in December 2007 for the steering group, peer reviewers and other key stakeholders input.

2 A half-day workshop with key stakeholders and other research providers, covering PT accessibility-related issues, was organised and facilitated by NZTA staff in December 2007.

The intention of the scoping paper was to:

- specify the scope of the project in greater detail than was feasible in the original project proposal
- focus on the relationships and complementarities between this project and other recent or current projects related to accessibility in New Zealand
- seek agreement from the steering group, peer reviewers and other key stakeholders regarding the scale of the audit (what would be included and excluded) and other definitional issues.

At the same time, discussions were initiated with various regional councils who had expressed interest in being part of the accessibility audit trial.

2.4 Developing a draft set of trial documentation and consultation

Following the receipt of feedback from the stakeholders, the scope of the audit was refined and the first set of worksheets for conducting the audit, along with a guide for those undertaking the audit, was developed. The audit was set up as a checklist with the report card summarising the results.

Initially, the guide contained instructions for undertaking an audit as well as documenting some best practice accessibility features. This was circulated among project stakeholders and peer reviewers in May 2008, with comments being received over the next two months.

A number of refinements were made to the audit worksheets and report card following consultation. In addition, separate documents were created to support the audit – one containing the instructions for auditors and the other outlining best practice for providing accessible PT services.

2.5 Piloting the audit methodology

The audit methodology was piloted on three bus routes contracted by the Greater Wellington Regional Council (GW). Two of the services operate with super low-floor wheelchair accessible buses, while the third operates with a mix of vehicles (including electric trolley buses).

GW provided access to their geographic information system (GIS) so that detailed satellite maps of the bus stops and their surrounding access routes could be made.

As mentioned above, the pilot process was iterative and, in its early stages involved considerable input from GW staff. The primary focus was on deriving an audit methodology that was workable and did not require excessive resources (in terms of time or dollars), rather than on the actual report cards for the three bus routes.

The final versions of the audit worksheets and report card are much simpler and easier-to-follow as a result of GW input and the auditors' experience in the field.

2.6 Preparing the audit documents and report

After piloting the audit methodology, the next step was to further revise the best practice guide, audit worksheets, the 'Barriers to access' report card and the auditor's instructions, and then summarise the pilot results for the three bus routes. This material was circulated to the steering/stakeholder group and peer reviewers. At the same time this report was drafted.

3 The public transport accessibility audit, report card and best practice guide

3.1 Introduction

This chapter outlines the parameters of the PT accessibility audit and report card and the PT accessibility best practice guide. As noted in chapter 2, the contents of these documents were determined after two rounds of consultation with key stakeholders and peer reviewers and following a pilot of the draft audit methodology. Appendix A sets out the accessibility audit process and report card while appendix B contains a copy of the best practice guide.

3.1.1 Establishing parameters for the accessibility audit and report card

Preliminary meetings were held with several key stakeholders in September 2007 to discuss the parameters of the accessibility audit process and report card. During these discussions, some core elements of a PT accessibility audit were identified that required clarification and agreement, including:

- What is the purpose or outcome to be achieved by undertaking a PT accessibility audit?
- What definition of accessibility should be used?
- What is the scope of accessibility to be addressed in the audit?
- Accessible to whom?
- What PT *mode(s)* would be covered in the audit?
- What types of PT *services* would be covered by the audit?
- What aspects of the journey should be addressed through the audit?
- On what geographical scale (eg by route, operator, network) is the audit to be performed?
- What structure should the audit adopt?
- Should the audit develop a rating/ranking of the audited entity?
- What stakeholders will be involved in the development of the audit framework and its New Zealand trial?

The issues around each of these elements, and how they were addressed in the context of the audit/report card and best practice guide, are discussed below.

3.2 Purpose of a public transport accessibility audit

Understanding the purpose or desired outcome to be achieved through performing an audit assists in determining what the scope and content of the audit should be.

While the overall purpose of the *research project* was stated quite clearly in the proposal (to review international best practice for auditing/monitoring PT accessibility and to develop and pilot a New Zealand-specific PT accessibility audit and methodology), the purpose of the *audit* itself was not as clearly defined. A number of possible outcomes and/or outputs were alluded to, including:

- The audit outputs could be used to:
  - promote accessibility of PT
  - profile examples of good practice
  - identify potential work areas for relevant agencies/authorities.
- The strengths and weaknesses identified through the audit process could be used to focus the NZTA's strategic policy development, programmes and funding.
- The accessibility audit could improve the NZTA's performance monitoring of PT.
- The audit could be a means for the government and regional councils to evaluate progress towards the transport-related goals in the New Zealand Disability Strategy.

In discussions with stakeholders it was agreed that the purposes of the audit would be to provide:

- initially, a baseline statement of accessibility, against which future progress could be monitored through repeated audits
- a basis for comparing the accessibility of PT in different areas
- an indication of what particular aspects in a given PT system/network were not accessible, ie where action was required
- examples of good or best practice with respect to accessibility.

3.3 Definitions of accessibility

Halden et al (2005) observed that accessibility can be examined primarily from two viewpoints: that of the individual (origin), and that of the service provider (destination). When considering people, Halden et al (2005) posit that accessibility is about 'the ease with which any individual or group of people can reach an opportunity or defined set of opportunities'; this is known as 'origin accessibility'. When considering service providers, accessibility is 'the ease with which a given destination can be reached from an origin or set of origins'; this is referred to as 'destination accessibility', 'catchment accessibility' or 'facility accessibility'. In the New Zealand strategic context, the emphasis is on the accessibility of New Zealanders, hence the audit definition focused on 'origin accessibility.'

Research by Booz Allen Hamilton (2006) defined accessibility as: 'the ability or ease with which activities, either economic or social can be reached or accessed' (p3). The term 'activities' includes desired goods, services, activities and destinations. The report noted that accessibility is distinct from mobility, which refers to the 'ease of *movement* rather than the ease of *reach*' (p3, emphasis added). This definition mirrors that adopted by the UK Department for Transport (2004) in its accessibility planning documentation: 'accessibility is the ease with which an individual can access services and facilities that he or she needs or desires'. The department further noted that accessibility encompasses the entire journey

from origin to destination; and that it signals the ability of people to get to and use transport services and infrastructure along with 'life enhancing facilities and services'.

The UK Department for Transport (2004) definition: 'accessibility is the ease with which an individual can access services and facilities that he or she needs or desires' was adopted for use in the PT accessibility audit framework.

3.4 Scope of accessibility

It is very common for PT accessibility to be considered purely in terms of *physical* access (eg the availability of low-floor buses or the distance [measured in travel time or metres] from place of residence to the nearest bus stop). Physical accessibility to vehicles and to destinations can be a problem for individuals with disabilities, people carrying things, and people with prams (Department for Transport 2001). Sometimes an economic element, usually affordability, is included in the analysis, and trip costs (eg availability of discount or 'concessionary' fares) are taken into account.

The project team view was that potential barriers to accessibility, which contribute to social exclusion, are more than just physical and economic. For example, Lucas (2002) observed that using the distance to PT stops or stations as a measure of (service) accessibility is 'highly flawed' and hides the truth of a person's actual experience: 'it says nothing about the frequency, reliability, safety or quality of the service or whether routes match people's accessibility needs in terms of coverage and operating times'.

So what could the measurement of accessibility incorporate? Church et al (2000, as summarised by the Centre for Transport Studies 2006) identified seven types of transport-related exclusion that potentially influenced the 'access horizons' of individuals or groups, namely:

1 physical (associated with the individual, eg disability or handicap – addressed through vehicle accessibility measures)

2 geographical (lack of spatial coverage by transport modes)

3 facilities (associated with the ability to access desired activities, facilities, services etc)

4 economic (associated with the cost of transport)

5 time-based (temporal constraints and scheduling conflicts)

6 fear-based (personal safety and security)

7 space (to do with design of transport interchanges, stops/stations and other public spaces).

The Social Exclusion Unit of the UK Government has a very similar classification.

A potential weakness of the categorisation by Church et al (2000) is that information provision and transport horizons are not included as part of the accessibility equation. The UK Department for Transport (2001) asserted that lack of information could make PT too difficult to use for some people, particularly when they were travelling to a new destination and/or using a bus service for the first time.

An alternative representation of the 'barriers' to accessibility is provided by Halden et al (2005):

Table 3.1 Barriers to public transport accessibility (after Halden et al 2005)

Factor	Description	Example of barrier(s) experienced
Spatial	Travel time and/or distances involved in accessing required goods and services	Travel time including walk, wait and in-vehicle in relation to time budget available
		Ability to interchange between all modes within integrated networks
		Availability of a route
Physical	Can be classified in terms of the assistance which people require to make a journey using PT (or any other particular mode) or recognise any physical access restrictions associated with the location of the activity itself	Vehicle designs suitable for users, eg low-floor buses
		Kerb heights
		Topography
Temporal	There is often a match/mis-match between the times at which services are available and people are able to or willing to access them; and when the required travel times exceed some maximum threshold of practicability or acceptability	Transport system and service reliability
		Waiting time/service frequency
		Scheduling of transport and activities
		System capacity
Financial	The focus is usually on affordability, although travel costs themselves are a more significant barrier	Travel cost
		Discounts for traveller groups
Environmental	This includes the comfort and quality of facilities, assistance and helpfulness of staff, and availability of seating	Street lighting
		Interchange/waiting areas
		Safety/security
Information	Availability of information for planning journey and during journey (time to next stop or destination, time of arrival/ departure of next service and where it is going to, signage on bus/train etc)	Information prior to journey/skill levels of travellers
		Information while travelling

Halden et al (2005) observe that the barriers may be interdependent, ie removing one barrier may not improve accessibility until all other barriers are also removed.

With the exception of the financial factor, the factors presented by Halden et al (2005) were incorporated in assessing the barriers to accessibility within the audit and report card.

The decision to exclude affordability as a barrier to PT accessibility does not in any way suggest that affordability is not an important component of the PT journey. What it does recognise is the difficulty in setting a meaningful affordability benchmark or factor. Any affordability measure centred on transport-related expenditure within a household or by an individual is likely to be arbitrary and only provide a very incomplete view of household or individual welfare.

Assessing the presence or absence of subsidies (to make PT more affordable or accessible for different groups in society) was considered as a potential measure, but recent research published by the World Bank has shown that many subsidies do not improve income distribution or make the poorest society members better off (Estupinan et al 2007). The proposed methods for evaluating transport affordability measures required more time and resources than were available for the current research project. Expansion of the PT accessibility audit to include affordability is proposed as part of the conclusions.

3.5 Accessible to whom?

The original research proposal indicated that accessibility for a wider group of people than just those with disabilities (as identified in a 2005 report by the Human Rights Commission (HRC), *The accessible journey: report of the Inquiry into Accessible Public Land Transport)* would be accounted for in the PT accessibility audit. In this wider view, it was proposed that all groups susceptible to social exclusion through issues of accessibility be included.

In the context of social exclusion, the disabled are only one group of many that are identified as being at risk of exclusion. Lucas (2002) identified nine distinct disadvantaged groups and communities:

- children aged 5–11
- young people aged 12–18
- job seekers
- ethnic minorities
- solo parents (usually women)
- disabled people
- older people
- rural dwellers
- urban dwellers.

Essentially, based on Lucas' categorisation, there would be very few members of society that *would not be* subject to some possibility of social exclusion, at some time or other in their lives.

This raised the question of how to ensure that the accessibility requirements of a broad range of people (more or less, the whole New Zealand population) were addressed by the audit framework. In discussions with key stakeholders, it was suggested that focusing on the needs of people with disabilities of different types could ensure that the needs of most other population segments would also be met. There is a huge variation in needs within the group 'people with disabilities': for example, what a wheelchair user requires is very different from what a visually impaired user requires. Those who are employed may also have different needs to the unemployed, in terms of frequency and reliability as an aspect of an accessible PT service.

This left the need to categorise 'people with disabilities'.[1] The United Nations Convention on the Rights of Persons with Disabilities (2007), of which New Zealand is a signatory, provides a definition that suggests four categories: 'Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others' (p4).

[1] To clarify the use of the term disability, the New Zealand Disability Strategy (2001) posited that 'Disability is not something individuals have. What individuals have are impairments. They may be physical, sensory, neurological, psychiatric, intellectual or other impairments. Disability is the process which happens when one group of people create barriers by designing a world only for their way of living, taking no account of the impairments other people have' (p3).

HRC (2005) proposed that New Zealand adopt the definition of disability contained in section 21(h) of the Human Rights Act 1993, which includes seven segments:

1 physical disability or impairment

2 physical illness

3 psychiatric illness

4 intellectual or psychological disability or impairment

5 any other loss or abnormality of psychological, physiological, or anatomical structure or function

6 reliance on a guide dog, wheelchair, or other remedial means

7 the presence in the body of organisms capable of causing illness.

In this light, the UK Disabilities Discrimination Act (1995) provided a helpful clarification of the possible groups of people with disabilities. People with disabilities may include:

- wheelchair users
- ambulant disabled people
- elderly people
- those with poor dexterity or little strength
- those with visual impairment
- those with auditory impairment
- those who lack comprehension.

The UK Act identified 'handicapping conditions' that may arise for individuals who were:

- women in the later stages of pregnancy
- parents or caregivers in charge of small children, particularly where a pushchair is in use
- temporarily injured, sick or ill
- emotionally distressed or unstable
- of excessively small or large stature.

The UK Act also highlighted the importance of acknowledging what groups might not be covered by addressing accessibility for people with disabilities, such as:

- ethnic minorities
- new immigrants (who may have problems with communication in English).

Based on this research, six broad categories of PT users were identified for the accessibility audit framework, ranging from 'able users' (essentially people with no disability) through to 'wheelchair users'

(people who possibly experience the greatest difficulty accessing PT). Table 3.2 provides a description of the user categories that were incorporated into the audit and report card.

Table 3.2 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

3.6 PT modes included

In the scoping paper, it was discussed whether or not the PT accessibility audit should be multi-modal (bus, train and ferry) or focus on one or two modes.

Given that the vast majority of PT users travel by bus, it was proposed that the audit focus exclusively on accessibility vis-à-vis the PT bus system/network. At the same time, it was recognised that, apart from train stations being distinct from bus stops, much of the audit content would be readily applicable to trains.

In the end, the audit was extended to include train carriages, as well as developing the structure to assess bus or train stations.

An accessibility assessment of ferries (vessels or wharves) has been excluded from the audit.

3.7 PT services included

In their broadest sense, PT services or systems include all transport systems in which the passengers do not travel in their own vehicles, ie airplanes, taxis, ferries, buses, trains and, within New Zealand, 'total mobility' services. The PT accessibility audit developed here addresses *scheduled* PT bus and rail services, under the auspices of regional councils or unitary authorities. Total mobility schemes were considered beyond the purview of this research project.

By including only scheduled PT services, the consideration of the accessibility needs of people within most small towns and rural areas was excluded, insofar as these may differ from larger urban areas.

3.8 Journey coverage

Any accessibility audit framework or methodology could take a 'whole-of-journey' approach, namely:

- obtaining information about the services

- getting to the service
- paying for the service
- getting on board
- 'enjoying the ride'
- getting to the final destination (including ensuring that routes take people where they want to go, when they want to be there)
- making the return trip.

Alternatively, specific aspects of the journey (eg the vehicle, bus stops and/or train stations, information provision) could be emphasised.

All of the stakeholders consulted were supportive of adopting a whole-of-journey perspective.

In the context of the audit framework developed, 'paying for the service' includes access to information about the cost of the service and the physical ability to pay for the service. 'Paying for the service' excludes affordability, which is the issue of whether or not the service was priced affordably for the different types of users.

3.9 Geographical scale

In the scoping paper, six potential 'levels' at which the PT accessibility audit could be implemented were identified:

- very fine-grained scale (at the level of individual)
- PT route/corridor – eg the #3 Karori bus route in Wellington; the #506 Glen Innes to Onehunga route in Auckland
- neighbourhood/suburb – eg Karori, Wellington city; Browns Bay, Auckland city
- city/town
- regional (network)
- inter-regional.

In this study, *inter-regional* bus, train or ferry travel was considered out of scope, given that these services are generally provided on a commercial basis by commercial transport operators.

The most useful focus for the PT accessibility audit was considered to be the route/corridor. While not perfect, the route/corridor most closely matched the 'whole-of-journey' approach. It permitted an assessment of how accessible specific corridors were to people with disabilities, rather than providing a high-level overview (eg considering what proportion of the footpaths or bus stops within a network met different accessibility characteristics) that would be the result of a regional or city/town approach to the audit.

In taking a route/corridor approach, it was proposed that the audit focus on the 'whole of journey' using the *particular PT route being assessed*, which may be different from the 'whole of journey' for an

individual who has to transfer between two or more services to reach their destination. The audit of each PT route assesses whether or not people can access their final destination (by identifying whether or not service transfers are reasonably or unreasonably required and how much time it takes to reach particular destinations/facilities), although the components of additional, other PT routes/services (eg stops/stations, vehicles, accessible routes, frequency) that an individual may have to access in completing their journey may not be part of a particular audit.

Thus, while for ease of use the audit methodology is designed to be conducted on a route/corridor basis, to ensure that PT accessibility is audited in its fullest sense (ie accessibility *of* and *by* PT) would require all routes/corridors in the PT network to be included in an audit programme.

It was anticipated that the measures indicating how well people are able to get to their final destination ('where they want to go') would best be derived from the NZTA's neighbourhood accessibility assessment tool, once it was developed, tested and implemented across New Zealand. In the meantime we have drawn on measures developed in the UK.

Where more than one bus route operates in a corridor, clearly the audit of the infrastructure (access/egress points, stops, shelters, information etc) within the corridor would not be re-done for each service. Rather, an audit of the infrastructure in a high-use corridor could be done as a stand-alone exercise.

3.10 Structure of the audit

From the outset, it was stated that the PT accessibility audit methodology would be easy to use and simple, while at the same time providing a useful, reasonably comprehensive, analysis of accessibility. 'Accessibility' was only one aspect of a PT service/system/network that might require auditing and anything too resource intensive or time consuming would be under-utilised.

In this respect, the PT accessibility audit was seen as a tool that could highlight existing, or potential, accessibility concerns. It was anticipated that, for example, if the walking environment was found to be lacking, but there was not enough detail to identify remedial actions, then another more detailed audit (such as the community street review) could be used to fully scope the accessibility limitations. Likewise, if the accessibility of the passenger service vehicle (bus or train carriage) was identified as lacking, the vehicle fleet could be audited separately.

Sypher (1999) created a 'report card' on accessibility, rather than an exhaustive inventory, which permitted a number of bus exchanges ('transit centres') to be compared at the same time on 14 different accessibility criteria. Similar report cards were developed for bus stops and bus shelters. An example of the report card for bus exchanges/transit centres is shown in table 3.3 below. The original report card reviewed 18 transit centres; only 10 are shown here.

Table 3.3 Edmonton Transit Centre accessibility report card (after Sypher 1999)

	Curb ramps to all platforms	Curb ramps to sidewalks	Curb ramps to mall/attractions	Accessible paths to mall/attractions	Shelters accessible 800mm door/no steps	Walkway surfaces smooth and well drained	Walkways discernible	Street furniture anchored	Shelter with windows	Maps, schedules & seating in shelter	Accessible telephones	Circulation unimpeded by furniture/shelters	Way-finding	Adequate seating with armrests
Southgate	√	□	√	√	√	√	X	√	√	√	X	X	X	X
Capilano	X	X	√	√	√	√	X	□	√	√	X	√	X	X
Millgate	X	√	n/a	n/a	√	√	X	√	X	√	√	X	X	X
Lakewood	√	√	√	√	X	√	X	√	√	X	X	X	X	X
Heritage	√	√	√	X	X	√	X	√	√	X	X	□	X	X
University	√	√	√	√	√	√	√	√	√	√	√	√	√	X
Meadowlark	√	√	√	√	X	√	X	□	√	X	X	X	X	X
West Edmonton Mall	√	√	√	□	√	√	X	□	X	√	√	X	X	X
Jasper Place	X	X	√	√	√	X	X	√	√	√	X	X	X	X
Westmount	X	X	X	√	√	√	X	X	√	√	X	X	X	X
Meets guidelines		√	Fails to meet guidelines				X	Partial					□	

Sypher (1999) undertook an overview of the bus stops, as time and resources did not permit the completion of a report card for the 5000 bus stops in the Edmonton transit system. However, Sypher (1999) did provide an estimate of the time it would take to conduct such an audit, using a similar report card structure and the criteria drawn from existing government pedestrian accessibility guidelines. They estimated that 1000 person hours would be required to visit each of the 5000 bus stops and to enter their data online. This demonstrated the potential ease of use of a report card, which could cover a reasonable amount of data in a short space of time, and create the ability to compare the relative accessibility of the aspect of the PT system being audited.

A similar approach, involving a checklist, is used in the UK's (DFEE 2003) *Building bulletin 91: Access for disabled people to school buildings* as shown in figure 3.1. In this example, a series of questions is asked, to which yes or no may be ticked, and observations, comments or possible actions recorded. Queensland Transport (2006) had a similar checklist approach for its *Pedestrian safety and accessibility audit tools*. The PT accessibility audit was developed with an analogous checklist. The questions included were to be well specified around existing standards or guidelines.

Figure 3.1 Example of an accessibility audit (for school buildings) checklist (DFEE 2003)

Accessibility Audit Report: Sheet: 01
ACCESS AUDIT CHECKLIST Page No.
'A' Approach and car parking

Date:
Location:.....
No. item

No.	Question	Y	N	Comments	Strategy
1.	Is the building within convenient walking distance of:				
	a) a public highway?				
	b) public transport?				
	c) car parking?				
2.	Is the route clearly marked/found?				
3.	I the route full of kerbs				
4.	Is the surface smooth and slip resistant?				
5.	Is the route wide enough?				
6.	Is it free of such hazards as bollards, litter bins, outward opening windows and doors or overhanging projections?				
7.	Is it adequately lit?				
8.	Is it identified by visual, audible and tactile information?				
9.	Is there car parking with people with reduced mobility?				
10.	Is it clearly marked out, signed, easily found and kept free from misuse?				
11.	Is it as near the entrance as possible?				
12.	Is it suitably surfaced?				
13.	Is the route to the building kept free of snow, ice and fallen leaves?				
14.	Is the route level (ie, No gradient steeper than 1:20 and no steps)? see checklist B, sheet 2				

3.11 Ranking or scoring within the audit

Several stakeholders indicated during discussions that it would be helpful to have some type of ranking or scoring within the audit to provide a sense of the importance, urgency or otherwise of any deficiencies uncovered.

It was agreed that some kind of weighting or ranking of accessibility would be useful, but it was not immediately clear how this could be developed. One inherent difficulty in establishing a rating or ranking capability was that different groups would rate or rank different aspects of a PT service/system differently, based on their particular needs (eg for people with disabilities, the physical environment could be much more important than for the rest of the population who might be concerned about reliability and frequency).

The *Cheltenham Borough local plan: second review public local inquiry* (Cheltenham Borough 2004) scored residential and non-residential sites for their accessibility using a very simple system: a residential site which met five or six criteria was scored '1' (most accessible); meeting three or four criteria, score of '2';

meeting one or two criteria, score of '3' (least accessible). Non-residential sites had fewer criteria to meet (four in all), hence the numbers varied to reflect this. This scoring system does not, however, recognise any weighting or relative importance between the criteria, for example, the presence/absence of a super low-floor bus would be given the same value as the presence/absence of adequate kerbing.

Other potential scoring systems were considered including:

- developing a 'level of service' rating system, similar to that used for roading and for the community street review
- establishing the measures/indicators that form the basis of the audit and undertaking a ranking exercise with key stakeholders to ascertain the order of importance for each measure
- establishing a 'point system' for each measure (for example: bus stop within 400m = 2 points; within 600m = 1 point; beyond 600m = 0 points) which when added up indicates the 'best' and 'worst' accessibility
- identifying 'critical' measures, the absence of which means the PT journey is 'inaccessible', and have the rating/ranking based on that.

A hybrid of the above was devised, developing a rating scale which identified the number of 'barriers to access' rated as 'severe' (3), 'moderate' (2) and 'slight' (1) on the service for each of the six user categories identified in section 3.5. The assignment of ratings for the barriers as they pertained to different users was done as objectively as possible, and drew on the views of different stakeholders involved in the project. However, they are essentially based on the best professional (subjective) judgement.

As far as possible, the rating scale is objectively applied: the auditor answers yes or no to each factor identified in the audit, and the Excel workbooks are designed to automatically sum the number of incidents where the response is 'no' and to fill in the report card rating scale for each type of user appropriately.

Table 3.4 Report card rating for severity of 'barriers to access'

Rating	Value	Definition
None	0	Little or no hindrance to people in this user category using PT
Slight	1	All people in this user category wishing to use PT will be able to do so, but there will probably be some hindrance or inconvenience in accessing it.
Moderate	2	Some people in this user category are likely to be dissuaded from making journeys by PT because it will be more time consuming or less convenient, and they may require assistance.
Severe	3	People in this user category are likely to be deterred from making PT journeys. In some cases, the potential user will be totally unable to travel independently by PT.

3.12 The PT accessibility audit and report card

To summarise, the PT accessibility audit, including the report card:

- adopts a wide scope, including physical and temporal accessibility factors, as well as spatial, environmental and informational ones

- assesses the accessibility of PT services for six broad categories of users, ranging from 'able users' (essentially people with no impairments) through to 'wheelchair users' (people who possibly experience the greatest difficulty accessing PT)
- considers regional council scheduled bus network(s) and 'large bus' vehicles and regional council scheduled rail network(s) and carriages
- takes a 'whole-of-journey' approach, including the vehicles used, the stops/stations, the routes to the stops/stations and getting on board the bus/train
- is used on a route or corridor basis
- uses a simple yes/no checklist approach to assessing accessibility factors and summarises these in a report card which identifies the number of 'barriers to access' rated as 'severe' (3), 'moderate' (2) and 'slight' (1) on the route/corridor for each of the six user categories.

A reproduction of the PT accessibility audit and report card is set out in appendix A. The original Excel files can be obtained from www.pinnacleresearch.co.nz

3.13 The best practice guide

The best practice guide was developed to provide regional councils and others with guidance about the factors that contribute to making a PT journey accessible to any or all categories of PT user. The information includes relevant dimensions and how some factors can be measured, together with illustrations. The chapters in the guide match the individual worksheets within the PT audit and report card. Hence, the components of the accessible PT journey include:

- getting to the service by self (pedestrian and wheelchair access routes to bus stop/stations)
- getting to the service by car (access routes by private passenger vehicle and parking at the station)
- waiting for the service – bus stop (bus stop and shelter characteristics)
- waiting for the service – station (access to and within station building)
- being on board – bus (passenger service vehicle characteristics)
- being on board – train (train carriage characteristics)
- service coverage (service availability, frequency, span, area and information).

Each component has its own 'information' provision requirements (eg locational signage, service timing, maps).

A copy of *Accessibility to public transport: a best practice guide* is found in appendix B.

3.14 Source of factors used to assess public transport accessibility

The accessibility audit, 'Barriers to access' report card and best practice factors were drawn from New Zealand-based sources where possible. Where factors were not available (eg for rail carriages), British and/or European Community factors were drawn on.

The characteristics for 'Getting to service by self' 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,* while those for 'Getting to service by car' are taken solely from the Barrier Free New Zealand Trust (2008) handbook.

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

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 and 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* (Auckland Regional Transport Authority (ARTA) 2009) and the *Palmerston North bus stop guidelines* (Palmerston North City Council (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 PT identified by the Human Rights Commission (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) guide 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, there were recommendations in HRC (2005) with respect to information provision in stations and these have been incorporated into the best practice guide. Some specific transport-related factors (eg platform characteristics and other elements related to bus and train stations) identified by the UK DFT (2002) were included, as New Zealand sources could not be identified for these factors.

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 was 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 was 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 process and 'Barriers to access' report card do 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 European Cooperation in the Field of Scientific and Technical Research (COST 335) (1999) *Passengers accessibility of heavy rail systems,* many of the measurements (eg doorway dimensions, interior fixture requirements for carriages) draw on the BF (2008) resource handbook 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 (2004) accessibility planning documentation and the *Bus rapid transit accessibility guidelines,* prepared by Rickert (2007) for the World Bank.

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* (RPG10) (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.

A line-by-line documentation of the source of the best practice elements applied in the PT accessibility audit and report card are found in annex A of the best practice guide (see appendix B).

4 Pilot of audit tool

4.1 Selecting the PT routes for the pilot

At the same time as the scoping paper was circulated to key stakeholders, discussions were initiated with various regional councils who had expressed interest in being part of the accessibility audit trial. Due to timing and resource issues, the project team agreed to work with Greater Wellington Regional Council (GW), trialling the audit on three bus routes, two of which (routes 43 and 44) were served by 'fully' accessible buses. The third route, number 11 (WBAO011 in the legend) has a combination of diesel and electric trolley buses, some of which are fully accessible. All three routes pass through the Wellington central business district (CBD), as well as the regional centre of Kilbirnie. The routes are shown in figure 4.1 – services 43 and 44 are denoted as WBAO043 and WBAO044 in the legend. In total, there were 217 bus stops to audit, as well as every potential access route in the 200m radius around each bus stop.

4.2 Creating the maps for the audit

GW staff worked with our fieldworker to create maps for each bus stop (in some cases, maps included two or more bus stops in close proximity) using the ArcMap component of the ArcGIS suite of geospatial processing programmes. ArcMap allows the user to create and manipulate datasets to include a variety of information on a map through the use of colour, lines, symbols etc. The maps created for each bus stop showed the stop and stop number, the bus route (a thick pink line for the number 11 route; blue or green for the 43 and 44 routes), a 200m radius around the stop, and a pedestrian access route buffer of 400m. The other base map information – roads, road names, contours and aerial photography are standard features of the programme and did not require modification. Figure 4.2 provides an example of one of the maps used in the audit.

Figure 4.1 Map of Wellington-based bus routes audited for the accessibility pilot

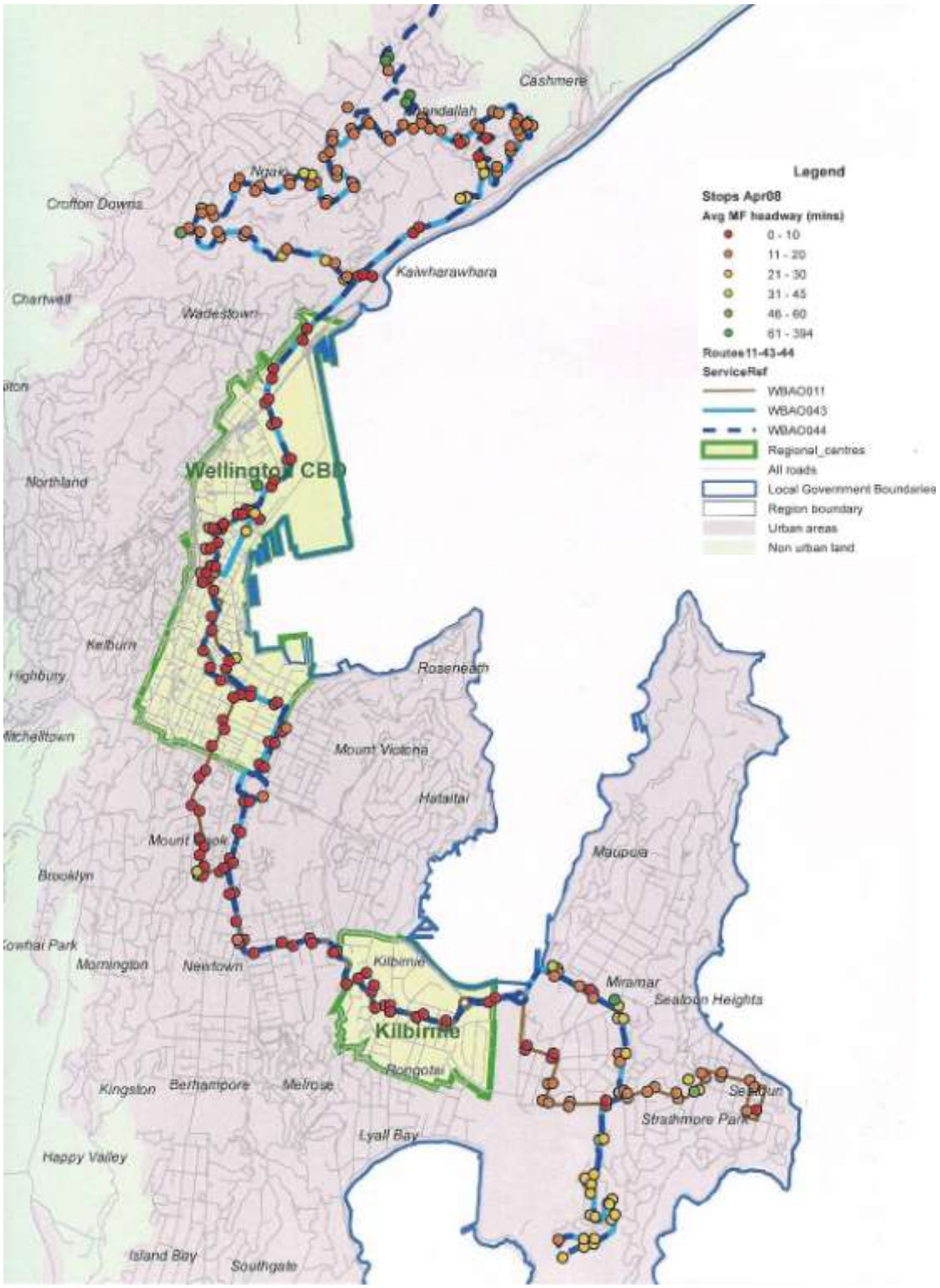

Figure 4.2 Example of map used for PT accessibility audit and report card

4.3 Selecting the fieldworker to complete the audit

From the outset, it was stated that the PT accessibility audit methodology developed would be easy to use and simple, while providing a useful, reasonably comprehensive, analysis of accessibility. 'Accessibility' was recognised as only one aspect of a PT service/system/network that may require auditing and that anything too resource intensive or time-consuming would be under-utilised. Our model was Sypher (1999), who had created a bus stop report card for Edmonton transit, and estimated that 5000 stops could be audited in 1000 person hours. The project aim was to have a checklist that was easy and straightforward to complete by anyone with a minimal amount of training, a good dose of commonsense and an ability to read and use a measuring tape.

A combination of university and high school students and one research/personal assistant were used to undertake the audit. 'Training' took one to two hours (going through each question on the relevant worksheets, discussing how to complete the checklist, noting any comments on barriers and their location, and measuring any factor that had dimensions associated with it). Paper worksheets were used to complete the audit – if a hand-held computer is used, further training may be required to ensure that data is entered correctly and regularly saved.

4.4 Out in the field – compiling the audit data

Once the fieldworker was familiar with the requirements, they went into the field. As a confidence check, two fieldworkers completed audits of the same bus stops and access routes for four different locations. Their results were found to be quite consistent (variations generally concerned factors which could fluctuate over short periods of time, such as the amount of rubbish in a bus stop and surrounding area).

The fieldworkers took an average of 7–10 minutes to complete the checklist for each bus stop. The time spent assessing accessible routes varied, due to a significant variation in the length/amount of route(s) to be audited. On average, auditing all of the accessible routes within a 200m radius of a bus stop took less than 30 minutes. Of course, when a whole route is being audited, there may be considerable overlaps between the radii of two bus stops, lessening the amount of time required for auditing access routes.

4.5 Summarising the audit data and creating the report card

The information from the completed worksheets for 'Getting to the service on foot' and 'Waiting for the service – bus stop' was compiled into 'PT audit summary' workbooks, with a separate workbook created for each route. The 'PT audit summary' automatically fills in about 75% of the report card, with the data entry operator required to select 'yes' or 'no' for the remaining questions to complete the task.

If a hand-held computer is used to complete the fieldwork, the data could be entered straight into the appropriate 'PT audit summary' worksheets, and the report card for the route would be automatically generated from that (apart from the few questions noted above).

4.6 Pilot audit findings

As noted previously, the main outputs from this project were the PT accessibility audit and report card tool and the best practice guide. The pilot was primarily designed to test and refine the tool, checking that it was easy to use and provided useful results for the auditor (generally considered to be a regional council, as the service funder).

An example of the accessibility report card generated by the audit is found in table 4.1 below.

4.6.1 Report card results for route 11

Looking at the report card, it can be seen how well users can access route 11 across the 'whole of the journey':

- There are at least two different means (in this case, telephone, printed timetables and internet) to access information so users can plan their journey, although the web-based information does not currently cater to people with impairment.
- The scheduled service operates every 10–30 minutes (depending on time of day and day of week) across every day of the week and connects users with a sub-regional (Kilbirnie) and regional (Wellington CBD) centre. This gives users a choice about when they take their trip, and allows them to access a range of services/destinations, largely without transferring between different services/routes.
- There were 25 bus stops where part of the access route was not wheelchair accessible, creating barriers of varying degrees (eg severe for wheelchair users; slight for 'able users'). Where the barrier is severe or moderate, users are unlikely to make journeys by PT.
- There were four instances where the bus stop 'landing pad' was not connected to the accessible footpath; three where the landing pad was too small to accommodate a wheelchair user and one stop where the landing pad was located too far away from the kerb for a wheelchair to be able to access the bus, even with a ramp. Again, where the barrier is severe (as it would be for wheelchair users in these instances), users are unlikely to make journeys by PT.
- The buses on the route are a mixture of low-floor, 'fully' accessible buses and other older-style buses with steps. There is currently no ability for potential users to determine what type of bus will be turning up at a given time in the schedule. This will severely affect wheelchair users and users with other physical impairments from accessing the service, and may act as a barrier to other types of users.
- Thirty-seven bus stops had no service information posted. Others did not provide the information in a format suitable for those with visual impairments. The lack of information is considered a 'moderate' barrier for all types of users.
- On-board announcements of stops or important destinations are not made, which acts as a barrier for those with visual or comprehension impairments.

- Seven bus stops had lighting issues which could generate personal security concerns[2] for all types of users, thus affecting their accessibility.

Overall, there were five factors which 'severely' affected a wheelchair user's ability to access the service, as well as two moderate and one slight factor. There were no 'severe' factors for other user types, although all had some 'moderate' factors which could affect their use of PT.

After viewing the report card, it is possible to identify the specific bus stops and access routes that are affected by these factors from reviewing the remainder of the 'PT audit summary' workbook. For example, examining the worksheet 'Getting to the service on foot', bus stop #10064 was found to have no formal crossing opportunities for pedestrians; kerb cuts are not available on both sides of the informal crossing area; and no tactile indicators mark the presence of the kerb cuts that do exist. These shortcomings could prevent wheelchair users, and visually or physically impaired users from accessing the bus stop and the service.

The information obtained from the audit and report card is quite specific, and by establishing the types of users affected by a given barrier, allows regional councils to prioritise how they address the shortcomings identified.

[2] Kennedy (2008) found that increased lighting at bus stops and for pedestrian access routes was the single most common improvement identified as alleviating concerns about personal security when using public transport.

Table 4.1 Accessibility report card for Wellington-based bus route number 11

User categorisation

If the response to the limiting factor statement is 'no', then the effect on each category of user is:

Limiting factor #	Barrier type	Worksheet(s) & question #	Route #11 Barrier to access (limiting factor) – each statement generates a yes/no response. If no, this indicates some type of barrier to access for one or more user groups.	Status (# of incidents where the response to the statement is 'no')		Wheelchair.	Physical.	Visual.	Auditory.	Comprehension.	Able users.
LF 1	journey planning	NTWK w/s	Journey planning information is available in at least two different formats (eg via telephone, internet, printed timetables) to meet needs of users.	Y		0	0	0	0	0	0
LF 2	journey planning	NTWK w/s	Website is accessible (it is easy to read and use, has keyboard functionality, and/or can be changed into other formats for people with impairments)	N		1	1	2	2	2	0
LF 3	service coverage	NTWK 7	Bus or rail services operate within 500m of residence/place of origin for 90% of the population	Y-N		0	0	0	0	0	0
LF 4	service frequency	SI w/s	Scheduled bus/rail service is available, minimum of one 'run' per hour, day and evening, 7 days per week.	Y		0	0	0	0	0	0
LF 5	accessible route	GTSF w/s	Any part of the route (footpath and suitable crossings) from points of interest (residences, businesses/shops/etc) to a stop/station is not wheelchair accessible (eg footpath too narrow or obstructed, no kerb cuts, no crossing; ramp too steep, overgrown	25		3	2	2	1	1	1
LF 6	accessible parking	GTSC w/s	Where parking is provided at a station, accessible park-and-ride facilities are available for people with impairments								
LF 7	bus stop	BS 8	The landing pad is connected to accessible footpath.	4		3	2	1	0	0	0
LF 8	bus stop	BS 3	The landing pad is 1500mm by 1500mm to accommodate a wheelchair user.	3		3	0	0	0	0	0

Limiting factor #	Barrier type	Worksheet(s) & question #	Route #11 Barrier to access (limiting factor) – each statement generates a yes/no response. If no, this indicates some type of barrier to access for one or more user groups.	Status (# of incidents where the response to the statement is 'no')		Wheelchair.	Physical.	Visual.	Auditory.	Comprehension.	Able users.
LF 9	bus stop	BS 6	The landing pad extends to the kerb, or is near enough to the kerb to make use of an on-board ramp.	1		3	1	1	0	0	0
LF 10	bus/train station	STN w/s	Station is wheelchair accessible.								
LF 11	being on board - bus	BBB	On bus: 100% of buses operate on a given route meet 'new bus' (2010) criteria AND bus service reliably has spare capacity on buses, particularly during peak periods, so that a person with impairments can be certain they will get onto a particular bus.	Y-N		0	0	0	0	0	0
LF 12	being on board - bus	BBB	On bus: bus service uses a mixture of 'new bus' (2010) and 'existing bus' (by 2014) vehicles AND customers can access information to find out when an accessible bus will be operating on a given route.	N		3	2	1	0	0	0
LF 13	being on board - rail	BBTR 12	On rail: carriages have 'step-free access' to allow wheelchairs to board the train.								
LF 14	being on board - rail	BBTR 28	On rail: carriages have wheelchair parking spaces on-board.								
LF 15	information	BS 22; STN 59	Service information at stop/station is provided in easy-to-read English-language text format.	37		2	2	2	2	2	2
LF 16	information	BS 20-22	Service information at stop is provided in tactile, audible and/or large print English-language text.	33		0	0	2	0	0	0
LF 17	information	STN 57-60	In addition to large print English-language text, service information at station is provided in audible and/or pictorial forms.								
LF 18	information	BBB	In addition to illuminated bus stopping sign, upcoming stops are announced through automated messaging system or by bus driver.	N		0	0	2	0	1	0

Limiting factor #	Barrier type	Worksheet(s) & question #	Route #11 Barrier to access (limiting factor) – each statement generates a yes/no response. If no, this indicates some type of barrier to access for one or more user groups.	Status (# of incidents where the response to the statement is 'no')		Wheelchair.	Physical.	Visual.	Auditory.	Comprehension.	Able users.
LF 19	information	BBTR 38	(Audible) on-board announcements are made for upcoming train station stops.								
LF 20	personal security	GTSF; BS; STN	There are no lighting issues (poor lighting en route/at stop/at station; hiding places, 'undesirable' people hanging about, good visibility) that are likely to affect accessibility.	7		2	0	2	0	2	0
			Overall rating of service								
			Number of barriers to access rated as 'severe' (3) on this service for this type of user			5	0	0	0	0	0
			Number of barriers to access rated as 'moderate' (2) on this service for this type of user			2	4	6	2	3	1
			Number of barriers to access rated as 'slight' (1) on this service for this type of user			1	2	3	1	2	1
			Number of barriers to access rated as 'accessible' (0) on this service for this type of user			6	8	5	11	9	12

4.6.1 Report card results for routes 43 and 44

Routes 43 and 44 were compiled into one audit workbook and report card, as the routes use the same bus stops to a large extent, differing only in the suburb of Khandallah. Looking at the report card, it can be seen how well users can access routes 43 and 44 across the 'whole of the journey':

- There are at least two different means (in this case, telephone, printed timetables and internet) to access information so users can plan their journey, although the web-based information does not currently cater to people with impairment.
- The scheduled service operates every 10–30 minutes (depending on the time of day and day of week) across every day of the week and connects users with their local shopping and services area in Khandallah, as well as a sub-regional (Kilbirnie) and regional (Wellington CBD) centre. Hence, people have a choice about when they take their trip, and can access a range of services/destinations, largely without transferring between different services/routes.
- All of the buses on the route are super low-floor, 'fully' accessible buses, meaning that all types of users should be able to access the services.
- However, there are 33 bus stops where part of an access route is not wheelchair accessible, creating barriers of varying degrees (eg severe for wheelchair users, slight for 'able users'). Where the barrier is severe or moderate, users are unlikely to make journeys by public transport.
- There were 25 instances where the bus stop 'landing pad' was not connected to the accessible footpath; 26 where the landing pad was too small to accommodate a wheelchair user; and five stops where the landing pad was located too far away from the kerb for a wheelchair to be able to access the bus, even with a ramp. Again, where the barrier is severe (as it would be for wheelchair users in these instances), users are unlikely to make journeys by public transport, despite the fact that accessible buses are available.
- A total of 63 bus stops had no service information posted. Several others did not provide the information in a format suitable for those with visual impairments. The lack of information is considered a 'moderate' barrier for all types of users.
- On-board announcements of stops or important destinations are not made, which acts as a barrier for those who with visual or comprehension impairments.
- 21 bus stops had lighting issues which could generate personal security concerns for all types of users, thus affecting the accessibility of the bus stops.

Overall, there were four factors (accessible route shortcomings; landing pad too small; landing pad not connected to an accessible footpath; landing pad not near enough to the kerb) which 'severely' affected a wheelchair user's ability to access the service. There were also two moderate factors as well as a slight factor affecting a wheelchair user's access. There were no 'severe' factors for other user types, although all had some 'moderate' factors which could affect their use of PT.

5 Conclusion

5.1 Developing and piloting the accessibility audit and report card

The purpose of this research project was to review international best practice for auditing/monitoring public transport accessibility and to develop and pilot a New Zealand-specific PT accessibility audit methodology.

The accessibility audit takes a whole-of-journey approach to accessibility meaning that all the steps needed for a person to get from their home to their destination and then home again are regarded as linked and of equal importance. If one link is broken or inadequate, the whole journey becomes impractical or impossible.

A best practice guide was developed for auditors, regional councils, service operators and others to become familiar with the key determinants or factors facilitating public transport accessibility. In addition to taking a whole-of-journey approach, the PT accessibility audit, report card and best practice guide:

- adopt a wide scope, including physical and economic accessibility factors, as well as spatial, temporal, environmental and informational ones
- assess the accessibility of public transport services for six broad categories of users, ranging from 'able users' (essentially people with no impairments) through to 'wheelchair users' (people who possibly experience the greatest difficulty accessing public transport)
- consider regional council scheduled bus network(s) and 'large bus' vehicles and regional council scheduled rail network(s) and carriages
- are used on a route or corridor basis
- use a simple yes/no checklist approach to assessing accessibility factors and summarise these in a report card which identifies and rates the number of 'barriers to access' on the route/corridor for each of the six user categories.

Although an objective approach was taken to developing the PT accessibility audit and report card, there are some factors within the audit framework that will be subject to an individual auditor's judgement, and in some cases, slightly different results might emerge from different auditors reviewing the same route or corridor. Testing of the audit framework found the results to be quite consistent between different auditors, but the system is undoubtedly not foolproof.

The PT accessibility audit and report card was developed as an easy-to-use and simple audit tool, providing a useful, reasonably comprehensive, analysis of accessibility. Using this audit tool, a bus stop takes about 10 minutes to audit and the access routes around it (assuming a 200m diameter around the bus stop) will usually take less than 30 minutes. Overlap on the access route diameter is likely where bus stops are in close proximity (eg bus stops across the road from each other) and this will cut down on the time taken to complete the accessible routes audit.

In summary, the report card provides regional councils and operators with:

- a baseline statement of accessibility, against which future progress could be monitored through repeated audits
- a basis for comparing the accessibility of public transport in different areas and/or for different user groups
- an indication of what particular aspects in a given PT system/network are not accessible, that is, where action is required to improve accessibility for a range of user types
- examples of good or best practice with respect to accessibility.

5.2 Future developments/improvements to the audit and report card

Future versions of the PT accessibility audit and report card could include some or all of the elements excluded from the current one, such as:

- affordability of public transport services for different types of users
- accessibility characteristics of ferry vessels, stations and wharves
- accessibility characteristics of small (seating 13–21 passengers) and medium (seating 21–39 passengers) buses
- accessibility of routes to stops and stations by cycling
- characteristics of accessible 'kiss and ride' facilities at stations
- accessibility of total mobility schemes
- accessibility of long-distance and/or inter-regional public transport services (eg airplanes, long-distance rail, inter-city coaches).

In addition, as new information or best practices are developed, it will undoubtedly be necessary to modify the audit and report card to reflect these.

A distinct improvement to the audit and report card methodology would be to develop a web-based assessment tool. This may better facilitate the conducting and completion of the audit.

It would be useful to research user opinions and views relative to the rating scale and ratings applied in the report card to improve their objectiveness. Other rating scales and options could be developed and trialled. Likewise, some of the factors within the audit could be refined further to lessen the influence of subjectivity on the overall audit process.

5.3 Availability of the audit, report card and best practice guide

The PT accessibility audit, report card, instructions for auditors and best practice guide are available to anyone interested (see the appendices at the end of this report or the Pinnacle Research & Policy Ltd website www.pinnacleresearch.co.nz for the original Excel files).

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Appendix A: The public transport accessibility audit process

Auditor instructions

Purpose of the PT accessibility audit

This audit tool enables a regional council or others to audit the accessibility of a single public transport (PT) service, several routes, or an entire network, for all PT user categories. The audit identifies 'barriers to access' that could pre-empt potential users from undertaking a journey via public transport. The audit takes a 'whole-of-journey' approach. Hence, the audited 'barriers to access' include factors affecting:

- service coverage (service availability – frequency and service span, service area and service information)
- accessible routes to stops/stations
- bus stops and shelters
- 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.

The audit tool consists of several check lists and provides the person conducting the audit ('auditor') with the opportunity of recording comments while in the field. It is feasible to audit specific components of the PT journey (eg passenger service vehicles or bus stops or the accessible routes), if that is desired.

When the audit fieldwork is complete, all of the information is summarised in a separate workbook and a report card rating accessibility (no barriers, slight barriers present, moderate barriers present, severe barriers present) for each user category is made.

The report card results may be used to prioritise improvements to PT services and infrastructure according to:

- the condition of the particular PT element(s) being considered
- the use of the route/corridor by persons with various types of disabilities
- ridership
- the importance of the connections provided by the facility/infrastructure.

Scope of the audit

Users

Six broad categories of users have been identified, ranging from 'able users' (essentially people with no impairments) through to 'wheelchair users' (people who possibly experience the greatest difficulty accessing public transport). Table A1 provides a description of the user categories.

Table A1 Categories of people with impairments

User category	Description
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

Modes covered by audit

The primary focus is on accessibility to regional council scheduled bus network(s) and 'large bus' vehicles[3] and regional council scheduled rail network(s) and carriages.

Ferry services and facilities and total mobility schemes are not currently included in the audit tool.

Audit conducted on a route/corridor basis

The audit checklist is intended to be used on a route/corridor basis and focuses on the 'whole-of-journey' approach, including the vehicles used, the stops/stations, the routes to the stops/stations, and getting on board the bus/train. Thus, the auditor will be checking that people of varying abilities have an accessible route to a stop or station, can travel safely and efficiently through the station (where relevant), board their bus or train, and then can do the reverse on arrival at their destination.

A full audit of the station's facilities (eg toilet and/or shower facilities, waiting areas, cafes/bars, telephones) for accessibility is not conducted. If a building audit is required, the reader is referred to Barrier Free New Zealand Trust (2008) *Resource handbook for barrier free environments*.

The first audit completed in an area is likely to be the most time-consuming and arduous, as it will include the audit of the operator's vehicles. Because some operators provide buses to many different routes and/or some stops/stations are used by multiple services, subsequent audits are likely to be much

[3] In the *Requirements for urban buses in New Zealand* (NZTA 2008), a large bus (LB) is defined as a heavy vehicle with a seating capacity of >39 passengers. A medium bus (MB) seats 21–39 passengers while a small bus (SB) seats 13–21 passengers, including the driver.

quicker. This guide contains some suggestions to manage accessibility audits to make effective use of resources.

Note that it is entirely possible to conduct a 'partial' audit, focused solely on vehicles, stops/stations or accessible routes, if that is desired, as each core element of the journey is addressed in a separate worksheet in the Excel workbook.

The corridor

Where there is more than one bus route operating in a corridor, clearly the audit of the infrastructure (access routes, stops (including shelters), stations, information etc) within the corridor would not be re-done for each service. Rather, an audit of the infrastructure in a corridor where more than one bus route is available could be done:

1 As a stand-alone exercise (all infrastructure in the corridor assessed, irrespective of what routes use it. Where there are 'barriers to access' present, which will affect some users' ability to access a particular service route, the route number(s) affected would have to be identified as having 'barriers to access'),or

2 Only the infrastructure for a specific service route is assessed in the first instance. Subsequent audits for different routes would take into account any infrastructure already assessed in identifying 'barriers to access'.

The bus vehicles

The types of buses used on a route are crucial to identifying an accessible route.

Hence, it is suggested that a regional council complete the vehicle/carriage audit at the operator level, with four steps to the analysis:

1 What types of buses does the operator own/lease? Distinguish the different models of vehicles in operation.

2 Use the audit worksheet 'Being on board – bus' to identify which types of vehicles are accessible to all categories of users (ie meet the 'new bus' criteria contained in *Requirements for urban buses in New Zealand* (NZTA 2008) or are otherwise equipped to accommodate wheelchair users. Note that vehicles meeting the 2014 requirement for 'existing buses' are unlikely to be wheelchair accessible. It is likely that only one vehicle of each particular model or configuration requires auditing, as the other vehicles of the same model or configuration would have the same features.

3 Then, with the operator, identify what proportion of vehicles used on the route/in the corridor being audited are accessible to particular categories of users and summarise this in the PT audit summary workbook.

4 If some of the vehicles being used are not wheelchair accessible, ask the question: can potential users find out, *before the bus arrives,* what type of vehicle will be arriving at the stop/station they are waiting at? Note: if potential users cannot be certain that they will be able to board a particular bus, they are unlikely to choose to use public transport.

5 Identify the available capacity on the accessible bus to take a wheelchair or other passengers with impairments. If buses on a service are regularly near capacity or full, either during peak or off-peak times, or if buses drive past waiting passengers, accessibility of the service to users of all types is reduced.

The workbooks and worksheets

Workbooks: overview

There are two workbooks for the PT accessibility audit:

1 Workbook 1: PT accessibility audit – an Excel-based workbook for the 'auditor' (person conducting the field audit)

2 Workbook 2: PT audit summary worksheets – an Excel-based workbook for summarising the audit findings for regional councils and other interested parties. The report card is included in this workbook under the title 'Barriers to access'.

The audit worksheets are designed so that each 'PT accessibility audit' workbook will be a complete audit of a single PT route or corridor. However, a regional council may choose to organise or focus their audit to suit their particular needs, in which case not all worksheets are relevant for every audit. This is especially true where rail-based PT is not available.

Worksheets within the workbooks

User instructions

Instructions for the auditor and the person managing the creation of the audit report card are found on a separate worksheet in the appropriate workbook.

It is possible for the audit to be completed electronically (ie with a hand-held computer in the field) or by printing off the relevant worksheets and walking the appropriate 'Getting to service by self' routes and examining the stops/stations. If the audit is conducted electronically, then only the 'PT audit summary worksheets' workbook is required, as the data for each stop and route can be entered directly into the summary, with comments as required on the comment sheets provided in the workbook. The report card will then (mostly) 'self-complete' as the audit is being carried out.

Service information

This summarises the basic route information.

Getting to service by self (GTSS)

This worksheet audits all accessible routes, for pedestrians and wheelchair users, to (from) the bus stop/station, including the footpath quality, crossings, lighting etc. It is up to the auditor/regional council to determine what radius around each bus stop is assessed – a 200m radius is suggested initially. If there are barriers within that 200m radius, then those further away will be affected. If there are no barriers, then a larger radius could be considered.

Each question looks at a different component of the route, and is designed to be answered 'Yes' or 'No'. In every case, a 'Yes' response means that that particular component is 'accessible'. The worksheet is designed to be used to audit several pedestrian/wheelchair routes, potentially for several stops, hence, only 'No' needs to be recorded, with details provided about what bus stop is affected and a locational marker (highlighting where the problem is) given. This information can be summarised on the 'GTSS – comments' worksheet.

Getting to service by car (GTSC)

This worksheet audits accessible car parking where provided at bus stops/stations.

Waiting for service – bus stop (BS)

This worksheet audits the actual bus stop, including any shelter, the landing pad, lighting, information, etc. The worksheet is designed to be used one per bus stop. Each question is answered 'Yes' or 'No'. If a question does not apply, the auditor may put a stroke through the responses to indicate this. There is room for comments, if the auditor thinks these would be useful.

Waiting for service -–station (STN)

This worksheet audits rail and bus stations, including accessible entrance ways, signage, ramps, platforms, stairs, etc. The worksheet is designed to be used one per station. Each question is answered 'Yes' or 'No'. If a question does not apply, the auditor may put a stroke through the responses to indicate this. There is room for comments, if the auditor thinks these would be useful.

Being on board -–bus (BBB)

This worksheet assesses the accessibility of the passenger service vehicles used by the route operator. The components audited are based on the NZTA (2008) *Requirements for urban buses in New Zealand* and provide 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. Buses meeting the new bus (2010) requirements will be accessible to all categories of users, while those strictly meeting the existing fleet (2014) requirements will not be wheelchair accessible, and in some cases may not be accessible to other categories of users.

It is suggested that one worksheet be used per model of passenger service vehicle available on the bus route, where there is more than one bus type/model in operation. As noted above under the heading 'The bus vehicles', it is only necessary to audit one example of each model or internal configuration. The vehicle audit will have to be done in conjunction with regional council staff and the operators.

Some regional councils require a 'pre-qualification assessment' of the suitability of an operator's vehicle fleet, which may be a useful reference in completing the audit.

Being on board – train (BBT)

This worksheet assesses the accessibility of the rail carriages used by the route operator. It is suggested that one worksheet be used per model of carriage available for use on the train service, where there is more than one carriage type/model in use.

Service coverage (SC)

This worksheet is used to assess different components of service coverage, namely frequency, (time) span, service area (access to different facilities), and service information availability and accessibility.

Barriers to access – report card

This worksheet is found only in the 'PT audit summary worksheets' workbook.

This worksheet compiles all of the material from the audit and creates a 'report card' for the service/route/corridor/network being audited. The report card generates a series of ratings for each category of users, identifying the 'Number of barriers to access rated as 'severe' (3) [moderate (2)/slight (1)] on this service for this type of user'.

Table A2 Report card rating for severity of 'barriers to access'

Rating	Value	Definition
None	0	Little or no hindrance to people with this impairment or ability using public transport
Slight	1	All people with this impairment or ability wishing to use public transport will be able to do so, but there will probably be some hindrance or inconvenience in accessing it.
Moderate	2	Some people with this impairment or ability are likely to be dissuaded from making journeys by public transport because it will be more time consuming or less convenient, and they may require assistance.
Severe	3	People with this impairment or ability are likely to be deterred from making public transport journeys. In some cases, the potential user will be totally unable to travel independently by public transport.

Most of the cells in the summary worksheet will be automatically updated as the other worksheets in the workbook are completed. The instructions have the person doing the data entry fill in the few remaining cells.

Accessibility to public transport: a 'best practice' guide

A separate document *Accessibility to public transport: a best practice'guide* (appendix B) has been prepared to provide guidance to regional councils, auditors, operators, and others on how the accessible factors for a public transport journey could appear, including relevant dimensions. Some guidance is provided on how measurements could be taken.

Health and safety

The New Zealand government, including regional councils and local authorities are committed to providing and maintaining safe and healthy working environments for all employees who potentially may be exposed to the risk of injury or harm as a consequence of their activities conducted on behalf their employer.

All employees should have read and understood the safety and health policy of their organisation/ department. In addition, each organisation/department will be responsible for maintaining an up-to-date hazard register that details specific hazards that employees may be exposed to in the course of their work. Management should ensure that auditors are introduced to the register on commencing work with the organisation. Given that auditing is field based (meaning that the work is likely to expose auditors to risks not generally encountered in an office based role), it is important they familiarise themselves with the register and practise the safety procedures associated with it.

Workbook 1: Public transport accessibility audit: instructions for the auditor

Setting up to complete an audit

The auditor

The PT accessibility audit workbook is designed to be completed quickly and easily. The auditor will need to have a basic understanding of the terminology in the spreadsheet and the various factors to be examined. Explanations and illustrations of many factors are found in the *Accessibility to public transport: a best practice guide* (see appendix B).

Timing of the audit

Though the checklist may be completed at any time of day, certain sections, such as the lighting assessment, may be performed in the evening or night-time to effectively determine the safety, security and accessibility of the stop(s)/station(s).

Equipment required

The equipment needed to acquire data for the site is listed below, divided into 'basic' and 'additional.' These categories are based on the type of information the council is collecting, the use of paper forms or computer and the level of accuracy desired.

Basic:

- database of PT services to be audited, including location of all bus stops/stations in the route/ corridor. It is helpful to have a map of each bus stop (or pair of stops if they are located opposite each other) with a circle drawn on to show what routes (footpaths, walkways, roads) should be assessed as part of the 'Getting to service by self'. The radius or diameter of the circle is chosen at the discretion of the council.
- audit checklists - select and print off only those required for the particular route being audited
- clipboard, paper, pencils
- measuring wheel/measuring tape
- two-foot carpenter's level or an electronic level for checking slopes

Additional:

- handheld device or laptop onto which the checklist can be downloaded
- global positioning system (GPS) to calculate the location of the bus stop (if not already available)
- camera (preferably digital to be able to download to a database) to take photos of problems found.

Undertaking the audit

Arrange to audit the operator's vehicles used on the route

In many cases, the regional council will already hold a considerable amount of information about the vehicles used on its scheduled bus/train services. It is not necessary to audit each and every vehicle, rather an example of each vehicle-type may be audited as required.

Audit bus driver/train staff (found on the 'Being on board – bus/train' worksheet). It is not feasible to observe every employee working on a bus/train route. A combination of discussion with the operator to ascertain what training staff is provided and a few observations of buses operating on a route or on-board a train should give a general impression of the quality of service. If problems are identified, then further observations would be required.

Familiarise yourself with the route/corridor to be audited

With a route/corridor map, familiarise yourself the number and location of the stops/station(s), and identify the streets that form part of the accessible route to each stop/station.

Organise your checklists

Organise your checklists in the order that you will encounter elements along the route. If you are doing the audit on paper, make sure you have enough copies of each of the spreadsheets:

- Getting to the service by self (on foot, by wheelchair, skateboard etc)
- Getting to the service by vehicle (if necessary)
- Waiting for service – bus stop
- Waiting for service – station

Record observations and measurements directly on the checklist

It may be helpful to take photos of the deficient element to document your findings on the checklist. Maintain a log of all photographs taken by noting the photograph number on a sketch of the facility layout or on the checklist itself.

Barriers on the accessibility routes can be marked directly on the map showing the stop/station and surrounding area. If you do not have a satellite map or other suitable diagram, you may want to sketch the facility, identifying the specific elements that do not meet the audit requirements. A simple way of noting this is to number or 'letter' (A, B, C) for each factor identified, and then to note the specific problem in the comments on the worksheet, along with the bus stop number/station name.

Background information		
Route number:		
Route name:		
What is the geographical area serviced by the route? (Be fairly specific: eg South Karori, Karori Mall, into CBD; return same route)		
Does the route complete a 'circuit' (either with the same route number or a different route number covering the route in reverse)?	Yes	No
The audit is to consider the whole circuit in order to look at accessibility of all stops/stations.		
* Attach a map (showing all relevant stops) and schedule of the route.		
Date of audit:		
Auditor information		
Name		
Company (if appropriate)		
Phone:		
Mobile:		
Email:		

Getting to service by self (GTSS) (on foot, by wheelchair, skateboard etc)

Workbook 1

	Route #							
Question #	Category	Factor			Bus stop #	Letter on map	Bus stop #	Letter on map
GTSS 1	footpath	Is the accessible route to the bus stop / station obvious to all users?	Yes	No				
GTSS 2	footpath	Do accessibility signs indicate the direction of the accessible path at each place that a path becomes impassable?	Yes	No				
GTSS 3	footpath	Do footpaths have a minimum clear width of 1200mm (eg fixtures, rubbish or loose furniture, poles, awnings, litter bins, outward opening windows, etc. does not impede the route)?	Yes	No				
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).	Yes	No				
GTSS 5	footpath	Is the route free of any single/isolated steps?	Yes	No				
GTSS 6	footpath	Is the transverse or crossfall gradient <=1:50 (1-2%)? The crossfall is the slope of the footpath at right angles to the direction of travel.	Yes	No				
GTSS 7	footpath	Where the footpath is on a slope steeper than 1:20 (5%), is at least one handrail provided?	Yes	No				
GTSS 8	footpath	Is the top surface of any handrail mounted between 800mm and 1100mm above the footpath surface?						
GTSS 9	footpath	If the footpath is steeply sloping, are there level landing or rest areas provided no more than 18 metres apart?	Yes	No				
GTSS 10	footpath	Is the accessible route free of broken concrete or damaged paving etc.?	Yes	No				
GTSS 11	footpath	Is the accessible route clean (free of litter and dog mess)?	Yes	No				
GTSS 12	footpath	Is the street furniture anchored on the accessible route?	Yes	No				
GTSS 13	footpath	Is the accessible route stable, firm and relatively slip-resistant under all weather conditions?	Yes	No				
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	Yes	No				
GTSS 15	footpath	On any grates in the accessible route, are all openings more than 10mm wide are perpendicular to the direction of traffic?	Yes	No				
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?	Yes	No				
GTSS 17	footpath	Is the height clearance (eg foliage, road signs or toher objects protruding from buildings etc) a minimum of 2100mm throughout a route >2000mm in length?	Yes	No				
GTSS 18	footpath	Is the height clearance a minimum of 2000 mm throughout a route <2000 mm in length ?	Yes	No				

Getting to service by self (GTSS) (on foot, by wheelchair, skateboard etc) continued

GTSS 19	footpath	Where objects are fixed permanently to the ground or side of an access way (display stands, etc.), do they have a feature within 150 mm of the ground detectable by person using a cane?	Yes	No				
GTSS 20	footpath	Projections: Where there are projections, those above 1600mm from ground project <200mm into access route; those within 800mm-1600 mm from the floor project <60mm into access route; those <800mm above the floor/ground project <100mm into access route?	Yes	No				
GTSS 21	footpath	Is street furniture painted a colour that provides contrast with background?	Yes	No				
GTSS 22	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?)	Yes	No				
GTSS 23	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) ?	Yes	No				
GTSS 24	crossing	Does the subway or overpass provide for personal security (is it straight, well lit, and clean)?	Yes	No				
GTSS 25	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)?	Yes	No				
GTSS 26	crossing	Where a pedestrian (zebra) crossing exceeds 14m in width, is it controlled by traffic signals or 'interrupted' by one or more traffic islands?	Yes	No				
GTSS 27	crossing	At signalised crossings, do all pedestrians have adequate time to cross the road safely?	Yes	No				
GTSS 28	crossing	Can road crossing signals be activated by pedestrians?	Yes	No				
GTSS 29	crossing	Do road crossing signals include audible traffic signals (in working order)?	Yes	No				
GTSS 30	crossing	Where a traffic island is provided, is the 'path' for users 1500 mm by 1800 mm (big enough to accommodate a turning wheelchair)?	Yes	No				
GTSS 31	crossing	Are traffic islands cut to the road surface level or equipped with curb cuts?	Yes	No				
GTSS 32	crossing	Do traffic islands have a slip resistant and stable surface?	Yes	No				
GTSS 33	crossing	Are pedestrians (including those in wheelchairs) waiting to cross the road visible to approaching motorists / are approaching motorists visible to pedestrians?	Yes	No				
GTSS 34	kerb cut & ramp	Does the crossing opportunity have kerb cuts on both sides? Refer Best Practice Guide.	Yes	No				
GTSS 35	kerb cut & ramp	Are kerb ramps a minimum of 1000mm wide, exclusive of flared sides?	Yes	No				
GTSS 36	footpath	Is the height clearance a minimum of 2000 mm throughout a route <2000 mm in length ?	Yes	No				
GTSS 37	footpath	Where objects are fixed permanently to the ground or side of an access way (display stands, etc.), do they have a feature within 150 mm of the ground detectable by person using a cane?	Yes	No				
GTSS 38	kerb cut & ramp	If kerb ramp does not have flared sides, does the ramp have either a handrail or guardrail?	Yes	No				

Workbook 1

Getting to service by self (GTSS) (on foot, by wheelchair, skateboard etc) continued

GTSS 39	kerb cut & ramp	Do kerb crossings have tactile ground surface indicators to warn visually impaired users of its presence?	Yes	No				
GTSS 40	kerb cut & ramp	Do kerb cuts have slip-resistant tactile surfaces, contrasting in colour and texture with footpath and road?	Yes	No				
GTSS 41	kerb cut & ramp	Is the top landing of kerb ramp a minimum of 1000mm wide and 1200mm deep?	Yes	No				
GTSS 42	kerb cut & ramp	Is the transition between the gutter (at the base of the ramp) and the ramp smooth, with no vertical face?	Yes	No				
GTSS 43	lighting	Is the crossing well lit between dusk and dawn? Street lights should provide lighting if the crossing does not have its own.	Yes	No				
GTSS 44	lighting	Is the accessible footpath adequately lit between dusk and dawn (eg there are no dark places or hiding places; users are easily seen)?	Yes	No				

Workbook 1

Getting to service by self (GTSS) comments

Bus stop #	Question #	Street #	Street name	Identifier	Comment

Workbook 1

Getting to service by car (GTSC)

	location	Street name (including cross street or landmark if mid-block):			
	location	Station number or name			
					Comments
Category	Question #	Factor	Yes	No	
GTSC 1	parking	Are park-and-ride facilities available at the station for people with impairments who access the bus or train by car?	Yes	No	
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?	Yes	No	
GTSC 3	parking	Is parking clearly marked out and signed with the international symbol of access (on ground, wall or post)?	Yes	No	
GTSC 4	parking	Are accessible parking spaces a minimum of 3500mm wide?	Yes	No	
GTSC 5	parking	Are accessible parking spaces a minimum of 5000mm long (angle park) or 6300mm (parallel park)?	Yes	No	
GTSC 6	parking	Is there vertical clearnace not less than 2500mm along route and at parking space?	Yes	No	
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?	Yes	No	
GTSC 8	parking	Is the surface stable, firm and slip resistant under all environmental conditions?	Yes	No	
GTSC 9	parking	Is the international symbol of access painted on the surface of the car park (usually with yellow or white paint)?	Yes	No	
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)?	Yes	No	
GTSC 11	parking	Do accessible parking spaces have a maximum slope of 1:50?	Yes	No	
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?	Yes	No	
GTSC 13	access	Are the accessible parking spaces located as close to an accessible building entrance as possible?	Yes	No	
GTSC 14	access	Is direct pedestrian access provided between park-and-ride facilities and the station? (Are the parking spaces on the accessible route?)	Yes	No	
GTSC 15	access	Do the parking spaces avoid conflict between vehicles and people when approaching an entrance?	Yes	No	
GTSC 16	access	Are the car parks and/or drop-off points on the access route covered overhead?	Yes	No	

Workbook 1

Waiting for service – bus stop (BS)

Note: characteristics of ramp addressed on 'being on board - bus' worksheet.					
	location	Street name (including cross street or landmark if mid-block):			
	location	Bus stop number (if assigned)			
	location details	Bus route direction: north bound/south bound/east bound/west bound/more than one direction			
	location details	What service numbers use this stop?			
	location details	Distance from previous stop (in metres)			
	location details	Distance to next stop (in metres)			
	location details	Location of nearest street crossing opportunity (intersecting streets if a corner or specify mid-block location)			
	location details	Distance to the nearest street crossing opportunity			
Question #	Category	Factor			Comments/detail
	location details	Is there a bus shelter?	Yes	No	
	location details	If NO, is there an exterior alternative shelter nearby (ie awning, overhangs, underpass)?	Yes	No	
BS 1	landing	Is the kerb height at least 150mm from the road surface?	Yes	No	
BS 2	landing	Is the landing pad/ waiting area identified with tactile indicator tiles?	Yes	No	
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).	Yes	No	
BS 4	landing	Does the landing pad have a well-drained, non-slip surface?	Yes	No	
BS 5	landing	Is the landing pad surface even?	Yes	No	
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)?	Yes	No	
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?	Yes	No	
BS 8	landing	Is landing pad located where front door of bus will be at the bus stop?	Yes	No	
BS 9	landing	Does the landing pad connect with the accessible footpath?	Yes	No	
BS 10	landing	Does the landing pad have a maximum slope of 1:50, measured perpendicular to the roadway?	Yes	No	
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?	Yes	No	
BS 12	landing	Is the bus stop zone designated as a no parking and no stopping allowed zone?	Yes	No	
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?	Yes	No	
BS 14	shelter	If the shelter has four walls, is the doorway at least 800mm wide?	Yes	No	
BS 15	shelter	Does the placement of advertising panels allow visibility of waiting passengers?	Yes	No	
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?	Yes	No	

Waiting for service – bus stop (BS) continued

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?	Yes	No	
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?	Yes	No	
BS 19	seating	Do any seats have backs ?	Yes	No	
BS 20	seating	Is the the height from the floor to the top of the front of the seat between 400mm and 500mm (perch-type seating height is 700mm)?	Yes	No	
BS 21	information	Is there an information panel providing up-to-date service information (route, schedule, map) for all services stopping at this stop?	Yes	No	
BS 22	information	Is the information sign located no lower than 900mm and no higher than 1700mm from the landing pad?	Yes	No	
BS 23	information	Is the information panel in large print and good colour contrast (to accommodate the visually impaired)?	Yes	No	
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)	Yes	No	
BS 25	information	Is there a visible large print sign indicating what service numbers use this stop?	Yes	No	
BS 26	information	Are fare schedules (to find out how much to pay) easily visible at the stop?	Yes	No	
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?	Yes	No	
BS 28	information	Is the sign pole firmly fixed into the ground?	Yes	No	
BS 29	comfort	Is the bus stop clean?	Yes	No	
BS 30	comfort	Is the bus stop graffiti-free?	Yes	No	
BS 31	comfort	Is the bus shelter is in good condition (no obvious repairs required)? If no, indicate the problem(s).	Yes	No	
BS 32	comfort	Is the seating in good condition (no obvious repairs required)? If no, indicate the problem(s).	Yes	No	
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	Yes	No	
BS 34	lighting	If there is no bus shelter, is the bus stop adequately lit by a street light or other outside light?	Yes	No	
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)?	Yes	No	

Workbook 1

Waiting for service – station (STN)

	location details	Station name:			
	location details	Street (include street names or landmark if mid-block):			
	location details	What service numbers use this station?			
Question	Category	Factor	Yes	No	Comments/detail
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)?	Yes	No	
STN 2	door	Is there a minimum 1200mm by 1200mm level space on both sides of the entrance/doorway?	Yes	No	
STN 3	door	Does the primary accessible entrance have a *minimum* clear opening of 760mm?	Yes	No	
STN 4	door	If door closers / mechanisims are fitted do they have delay-action or slow action closure?	Yes	No	
STN 5	door	If door closers / mechanisims are fitted do they have minimum closure pressure?	Yes	No	
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)?	Yes	No	
STN 7	door	Are doormats stationary and flush with floor finish?	Yes	No	
STN 8	door	If thresholds are 20mm or more, are they beveled on both sides to a slope of 1:2?	Yes	No	
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?	Yes	No	
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?	Yes	No	
STN 11	door	Are the door handle/pulls/buttons/operating devices located between 900mm and 1200mm?	Yes	No	
STN 12	door	Are the door handle/pulls/buttons/operating devices easy to grasp and operate with one hand? (refer Best Practice Guide)	Yes	No	
STN 13	door	Can doors at accessible entrances be opened with minimal force?	Yes	No	
STN 14	ramp	Is the minimum clear width of the ramp 1200mm?	Yes	No	
STN 15	ramp	Is the maximum gradient of the ramp 1:12 (8%)? Over short distances [less than 1500mm], greater gradients may be okay - refer Best Practice Guide.	Yes	No	
STN 16	ramp	Where the gradient is 1:12, is there a level landing or rest area (<=1200 mm in length every 9m of horizontal run)?	Yes	No	
STN 17	ramp	Is the ramp surface continuous and slip-resistant?	Yes	No	
STN 18	ramp	Does the ramp have an upstand or a low rail to prevent a wheelchair wheel from running off the edge?	Yes	No	
STN 19	ramp	Does the ramp have a landing at the top, extending 1200mm beyond any doorway or door swing?	Yes	No	
STN 20	ramp	Does the ramp have a landing at the bottom, extending 1200mm beyond any doorway or door swing?	Yes	No	

Workbook 1

Waiting for service – station (STN) continued

STN 21	ramp	Is the presence of the ramp clearly indicated (by the use of signs/colour contrast/lighting/tactile markers)?	Yes	No	
STN 22	steps	Are the step risers a uniform height (maximum of 180mm) for the entire flight?	Yes	No	
STN 23	steps	Are the risers closed? (Note: open risers are not permitted for 'accessible' stairways in the NZ Building Code).	Yes	No	
STN 24	steps	Are the steps at least 900mm wide (between handrails) for the entire flight?	Yes	No	
STN 25	steps	Is the step tread at least 310mm deep?	Yes	No	
STN 26	steps	Is the surface of each tread covered in a slip-resistant material?	Yes	No	
STN 27	steps	Is the leading edge of the tread/nosing rounded (no sharp edges)?	Yes	No	
STN 28	steps	Is the leading edge of the tread/nosing colour contrasted with the rest of the tread?	Yes	No	
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?	Yes	No	
STN 30	handrails	Are handrails provided along both sides of the ramp or stairs?	Yes	No	
STN 31	handrails	Are handrails continuous around landings (except at doorways)?	Yes	No	
STN 32	handrails	Do handrails extend no more than 300mm beyond the top and bottom of the ramp or stair segment?	Yes	No	
STN 33	handrails	Is the top surface of any handrail mounted between 900mm and 1000mm above the floor?	Yes	No	
STN 34	handrails	Are all handrails securely fixed and stable in their fittings (eg able to carry full weight of a person)?	Yes	No	
STN 35	handrails	Are handrails smooth?	Yes	No	
STN 36	handrails	Do handrails have a clearance from wall of 45mm to 60mm?	Yes	No	
STN 37	handrails	Does the handrail have an outside dimension of 32mm to 50mm?	Yes	No	
STN 38	handrails	Are the end of the handrails turned down 100mm or returned fully?	Yes	No	
STN 39	handrails	Are the handrails a contrasting colour to the background?	Yes	No	
STN 40	handrails	Is the handrail graspable (round is most suitable - horizontal or vertical planks are not acceptable)?	Yes	No	
STN 41	lift	Is a lift provided as an alternative to stairs or a ramp?	Yes	No	
STN 42	lift	Is the lift located on an accessible route?	Yes	No	
STN 43	lift	Is the lift compliance certificate current/valid?	Yes	No	
STN 44	platform	Is there a minimum 2000mm wide clear space for wheelchair access along the length of the platform?	Yes	No	
STN 45	platform	Are platform edges clearly marked in a contrasting colour?	Yes	No	
STN 46	platform	Are tactile warning indicators located 600 mm from the edges of train platforms?	Yes	No	
STN 47	assistance	Is there a designated area for passengers to wait who require boarding assistance?	Yes	No	
STN 48	seating	Where train services are less frequent than every 5 minutes, are seats provided for waiting passengers?	Yes	No	

Waiting for service – station (STN) continued

STN 49	seating	Is the the height from the floor to the top of the front of the seat between 400mm and 500mm (perch-type seating height is 700mm)?	Yes	No	
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?	Yes	No	
STN 51	ticketing	Is there clear space *below* the counter so that a wheelchair user can come right up to the counter?	Yes	No	
STN 52	ticketing	Does the service counter / ticketing machine / info desk have a clear space in front of at least 1200mm x 1200mm?	Yes	No	
STN 53	ticketing	Does the clear floor space in front of the ticketing machine overlap or adjoin an accessible route?	Yes	No	
STN 54	ticketing	Does the ticketing machine have tactile controls / buttons for the visually impaired?	Yes	No	
STN 55	ticketing	Are all ticketing machine controls operable with one hand?	Yes	No	
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)?	Yes	No	
STN 57	lighting	Are any hazards or possible obstacles well lit?	Yes	No	
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?	Yes	No	
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) ?	Yes	No	
STN 60	information	Is the information panel in large print and good colour contrast (to accommodate the visually impaired)?	Yes	No	
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?	Yes	No	
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?	Yes	No	
STN 63	information	Where there are display stands containing bus route schedules / maps, are these visible and reachable by people with impairments?	Yes	No	
STN 64	information	Are fare schedules (to find out how much to pay) easily visible at the station?	Yes	No	
STN 65	safety	Is there a visual as well as audible fire alarm system?	Yes	No	
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?			
STN 68	safety	If there are times when the station has no staff in attendance, is an emergency telephone or call button available?	Yes	No	
STN 69	safety	Are there monitored security cameras operating in the station when no staff is in attendance?	Yes	No	
STN 70	comfort	Is the station clean?	Yes	No	
STN 71	comfort	Is the station graffiti-free?	Yes	No	
STN 72	comfort	Is the station in good condition (no obvious repairs required)? If no, indicate the problem(s).	Yes	No	
STN 73	comfort	Is the station seating in good condition (no obvious repairs required)? If no, indicate the problem(s).	Yes	No	

Workbook 1

Being on board – bus (BBB)

Except where noted, all factors apply to a large bus (seating 39+ passengers)					◇ - *indicates that requirement applies*		
					for the given type of vehicle		
Question	Category	Factor			New' buses (2010)	Existing' buses (by 2014)	Comment
BBB 1	bus stop request	Bell push or cord within reach of seated and standing passengers in every second row of seats.	Yes	No		◇	
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.	Yes	No	◇		
BBB 3	bus stop request	Illuminated 'bus stopping' display	Yes	No		◇	
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.	Yes	No	◇		
BBB 5	bus stop request	Signalling devices readily operated by elderly and disabled people with poor hand and finger function or dexterity.	Yes	No	◇		
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.	Yes	No	◇	◇	
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.	Yes	No	◇		
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.	Yes	No	◇		
BBB 9	bus stop request	Except for the first letter, all letters should be in lower case for greater readability	Yes	No	◇	◇	
BBB 10	bus stop request	Bus drivers announce their service number when they identify a blind or visually impaired person waiting for a ride.	Yes	No	◇	◇	
BBB 11	bus stop request	In the absence of automated on-board announcements, bus drivers announce major stops, stations and intersections.	Yes	No	◇	◇	
BBB 12	bus stop request	Public announcement system capable of broadcasting driver announcements and pre-recorded messages is provided	Yes	No	◇		
BBB 13	comfort	Vehicle exterior is in a clean and tidy state and free from any unsightly damage, including graffiti.	Yes	No	◇	◇	
BBB 14	comfort	The vehicle interior is in a clean and tidy state, and free from any unsightly damage, including graffiti.	Yes	No	◇	◇	
BBB 15	destination sign	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.	Yes	No		◇	
BBB 16	destination sign	Front route no –three characters ≥100mm in height.	Yes	No		◇	
BBB 17	destination sign	Front and side destination characters ≥60mm in height.	Yes	No		◇	
BBB 18	destination sign	Front and rear route number characters shall be ≥150mm.	Yes	No	◇		

Being on board – bus (BBB) continued

BBB 19	destination sign	Front destination characters shall be ≥125mm.	Yes	No	◊		
BBB 20	destination sign	Side destination characters shall be ≥60mm.	Yes	No	◊		
BBB 21	destination sign	Except for the first letter, all letters should be in lower case for greater readability	Yes	No	◊		
BBB 22	destination sign	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.	Yes	No	◊	◊	
BBB 23	door	The 'entrance' doorway has a minimum clear width of 700mm	Yes	No		◊	
BBB 24	door	The front door clear width is ≥1000mm double leaf (excluding grab handles on door) on a medium bus or large bus	Yes	No	◊		
BBB 25	door	The designated doorway is fitted with a wheelchair ramp.	Yes	No	◊		
BBB 26	door	Medium buses and Large buses have kneeling capability.	Yes	No	◊		
BBB 27	floor	Front door entrance, fare paying and turning area, and unimpeded through to rear of priority seating area – aisle width ≥760mm.	Yes	No	◊		
BBB 28	floor	Medium bus or large bus with two doors must have a flat floor from front entry to rear door.	Yes	No	◊		
BBB 29	floor	Medium bus with one door must have a flat floor from front entry to immediately in front of rear axle.	Yes	No	◊		
BBB 30	floor	Front and rear door entry/exit areas has a colour contrast to the flooring material in the main saloon.	Yes	No	◊		
BBB 31	floor	Priority seating area has a colour contrast to the flooring material in the main saloon.	Yes	No	◊		
BBB 32	floor	All floor surfaces (including any steps) use a non-slip material.	Yes	No		◊	
BBB 33	floor	All joins in flooring are welded and fully sealed.	Yes	No		◊	
BBB 34	holds	Hand/grab rail are located on each side of entrance and exit doorways	Yes	No		◊	
BBB 35	holds	Grab handles are located on aisle side of all seat backs	Yes	No		◊	
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.	Yes	No	◊		
BBB 37	holds	Stanchions/holds are a high-visibility contrasting colour throughout the vehicle, and provide a strong contrast with the surrounding surfaces	Yes	No	◊	◊	
BBB 38	holds	Stanchions are provided immediately adjacent to doorways and in priority seating or wheelchair areas.	Yes	No	◊		
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.	Yes	No	◊		
BBB 40	holds	Hand holds have a slip-resistant surface.	Yes	No	◊	◊	
BBB 41	holds	Hand holds have a clear space of not less than 45mm finger clearance to the handle	Yes	No	◊		
BBB 42	holds	The cross-section of the handholds on doors and seats have a minimum dimension of 15mm if one other dimension is at least 25mm; and all other handholds have no dimension smaller than 20mm or greater than 45mm. (PSVR 1999, s. 6.9)	Yes	No	◊		
BBB 43	holds	Grab handles have a circular or elliptical cross section of 30-35 mm on the maximum section.	Yes	No	◊		

Being on board – bus (BBB) continued

BBB 44	holds	At least one grab handle is located near or on the corner of each 2-person forward or rearward facing seat.	Yes	No	◊		
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.	Yes	No	◊		
BBB 46	holds	In addition to grab handles fitted to doors, grab handles are provided in the fare paying area.	Yes	No	◊		
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	Yes	No	◊		
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.	Yes	No	◊		
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.	Yes	No	◊		
BBB 50	ramp	Wheel chair 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)	Yes	No	◊		
BBB 51	ramp	Adjacent to front door, a kneel/wheelchair ramp request call button is provided, in contrasting colours to the immediate surrounds.	Yes	No	◊		
BBB 52	ramp	Adjacent to front door, a sign stating 'This bus kneels on request' is provided.	Yes	No	◊		
BBB 53	seat	Each seat has a minimum 425mm single seat width; minimum 875mm double bench or paired width	Yes	No	◊		
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)	Yes	No	◊		
BBB 55	seat	≥50% of the seats in the priority area are forward facing.	Yes	No	◊		
BBB 56	seat	The height from the floor to the top of the front of the seat cushion is ≥400mm and ≤ 500mm.	Yes	No	◊		
BBB 57	seat	The height to the top of the seat back excluding any grab handle is ≥ 900mm.	Yes	No	◊		
BBB 58	seat	At least 4 seats for 'Priority Seating' provided for elderly and/or disabled passengers, located towards the front of the vehicle.	Yes	No	◊		
BBB 59	seat	Adequate space under or adjacent to at least one priority seat for a guide dog is provided	Yes	No	◊		
BBB 60	seat	Signage to indicate the area and request to vacate seats for use by passengers with impairments, e.g.: 'Priority seating area – Please vacate these seats for elderly or disabled passengers or parents/caregivers with small children.'	Yes	No	◊		
BBB 61	step	No more than two steps in the aisle along whole internal length of vehicle.	Yes	No		◊	
BBB 62	step	If the bus is not a super low floor bus: Maximum first step height ≤370mm.	Yes	No		◊	
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 < 280 mm	Yes	No	◊		
BBB 64	step	Any additional steps (maximum two) are ≤ 220mm high	Yes	No	◊		
BBB 65	step	Step depth is ≥ 300mm	Yes	No	◊		
BBB 66	step	Any additional steps are ≤ 230mm high	Yes	No		◊	

Being on board – bus (BBB) continued

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.	Yes	No	◊		
BBB 68	step	The nosing dimensions in the horizontal and vertical planes are within the range 45-50mm in width.	Yes	No	◊		
BBB 69	step	Highlighter to top edge of nose is provided.	Yes	No		◊	
BBB 70	wheelchair park	On large bus, a separate space for at least one wheelchair, forward or rear facing: minimum dimensions of 1300mm by 800mm. (Medium bus: space for one wheelchair, same dimensions)	Yes	No	◊		
BBB 71	wheelchair park	An international wheelchair symbol for accessibility sign is provided on the bus internal side wall of any wheelchair space.	Yes	No	◊		
BBB 72	wheelchair park	Wheelchair and wheelchair occupant restraints is certified as complying with PSV Rule 1999 (amended in 2007 - refer Best Practice Guide)	Yes	No	◊		
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.	Yes	No	◊		
BBB 74	ticketing	Tickets can be purchased on board the bus and the passenger can get change.	Yes	No	◊	◊	
BBB 75	bus drivers	Bus drivers have received special instructions about the needs of persons with impairments, particularly emergency procedures.	Yes	No	◊	◊	
BBB 76	bus drivers	Bus drivers/train staff are friendly and helpful when asked for assistance.	Yes	No	◊	◊	
BBB 77	bus drivers	Bus drivers provide appropriate assistance for passengers entering or leaving the bus when necessary.	Yes	No	◊	◊	
BBB 78	bus drivers	Bus drivers ensure that all passengers are seated and/or secured before moving off.			◊	◊	
BBB 79	bus drivers	Bus drivers stop at all designated stops to check for passegers.	Yes	No	◊	◊	
BBB 80	bus drivers	Bus drivers stop immediately adjacent to the kerb when picking up / letting off passengers.	Yes	No	◊	◊	
BBB 81	bus drivers	Bus drivers practice 'smooth operation' (avoiding abrupt starts and stops, driving slowly at curbs) when driving a bus.	Yes	No	◊	◊	
BBB 82	security	Number of security-related 'incidents' (thefts, beatings/violence, etc) recorded on the service in the past year.	Yes	No	◊	◊	
BBB 83	security	Rating in recent customer satisfaction survey for customers' personal safety and security on-board this service.	Yes	No	◊	◊	

Workbook 1

Being on board – train (BBTR)

Question	Category	Factor			Comment
BBTR 1	comfort	Is the exterior in a clean and tidy state and free from any unsightly damage, including graffiti?	Yes	No	
BBTR 2	comfort	Is the vehicle interior clean and tidy, and free from any unsightly damage, including graffiti?	Yes	No	
BBTR 3	access	Does signage let patrons know which doorway is accessible for wheelchairs and other disabled users?	Yes	No	
BBTR 4	access	Is there a minimum of 1500mm x 1500mm of level space centered in the front of the accessible entrance?	Yes	No	
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?	Yes	No	
BBTR 6	access	Are the operating devices located between 900mm and 1200mm from the platform floor?	Yes	No	
BBTR 7	access	Is a contrasting colour and tone used for easy identification of the doors, door control devices, steps and handrails?	Yes	No	
BBTR 8	access	Are the spaces between carriages marked distinctively different from access doors?	Yes	No	
BBTR 9	access	Does the designated doorway for people with impairments have a minimum clear width of 800 mm?	Yes	No	
BBTR 10	access	Is the vertical gap between the platform and carriage less than 100mm (50mm is preferred)? (refer Accessibility Best Practice Guide)	Yes	No	
BBTR 11	access	Is the horizontal gap between the platform and carriage less than 500mm? (refer Accessibility Best Practice Guide)	Yes	No	
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?	Yes	No	
BBTR 13	access	Is the wheel chair ramp certified as complying with design, construction and fitting requirements stipulated in Passenger Service Vehicle Rule 1999? (refer Accessibility Best Practice Guide)	Yes	No	
BBTR 14	access	Is the surface of ramp slip resistant?	Yes	No	
BBTR 15	access	Is the vertical gap between the platform and the bottom step, and the height of each step when there are more than one, ≤ 220mm?	Yes	No	
BBTR 16	access	Is the step depth ≥ 300mm?	Yes	No	
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?	Yes	No	
BBTR 18	access	Is the there a minimum clear width of 800mm from the designated doorway through the wheelchair parking area?	Yes	No	
BBTR 19	access	Is the floor covered in tactile non-skid material and all joins welded and fully sealed?	Yes	No	
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)?	Yes	No	
BBTR 21	seat	Is the height from the floor to the top of the front of the seat cushion between 400mm and 500mm?	Yes	No	
BBTR 22	seat	Is the height to the top of the seat back excluding any grab handle ≥ 900mm?	Yes	No	
BBTR 23	seat	Are there at least 4 seats for 'Priority Seating' provided for elderly and/or disabled passengers, located near the accessible doors?	Yes	No	

Being on board – train (BBTR) continued

BBTR 25	seat	Is there adequate space under or adjacent to at least one priority seat for a guide dog?	Yes	No	
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')?	Yes	No	
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?	Yes	No	
BBTR 28	wheelchair park	Is a separate space for at least one wheelchair, forward or rear facing: minimum dimensions of 1200mm by 700mm provided?	Yes	No	
BBTR 29	wheelchair park	Is an international wheelchair symbol for accessibility sign posted on the internal side wall of any wheelchair space?	Yes	No	
BBTR 30	wheelchair park	Are wheelchair and wheelchair occupant restraints certified as complying with Passenger Service Vehicle Rule 1999?	Yes	No	
BBTR 31	holds	Are there hand holds on each side of all doorways, both inside and out?	Yes	No	
BBTR 32	holds	Are hand holds located on aisle side of all seat backs or at regular intervals throughout the carriage?	Yes	No	
BBTR 33	holds	Are hand holds a uniform colour throughout the vehicle, providing a strong contrast with the surrounding surfaces?	Yes	No	
BBTR 34	holds	Do hand holds have a slip-resistant surface?	Yes	No	
BBTR 35	holds	Do hand holds have a clear space of not less than 45mm finger clearance to the handle?	Yes	No	
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 25mm; and all other handholds must have no dimension smaller than 20mm or greater than 45mm?	Yes	No	
BBTR 37	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 25mm; and all other handholds must have no dimension smaller than 20mm or greater than 45mm?	Yes	No	
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?	Yes	No	
BBTR 39	ticketing	Are tickets able to be purchased on board the train and get change?	Yes	No	
BBTR 40	staff	Have staff received special instructions about the needs of persons with impairments, particularly emergency procedures?	Yes	No	
BBTR 41	staff	Are train staff friendly and helpful when asked for assistance?			
BBTR 42	staff	Do train staff provide appropriate assistance for passengers entering or leaving the train when	Yes	No	
BBTR 43	staff	Do train staff ensure that all passengers are seated and/or secured before moving off?	Yes	No	
BBTR 44	staff	Do train drivers practice 'smooth operation' (avoiding abrupt starts and stops, driving slowly at curbs) when driving the train?	Yes	No	
BBTR 45	security	How many 'incidents' have been recorded on the service in the past year?	Yes	No	
BBTR 46	security	What rating does most recent customer satisfaction survey show for customers' personal safety and security on-board this service?	Yes	No	

Workbook 1

Service coverage (SC)

Route #						
		** This worksheet should be reviewed once the neighbourhood accessibility assessment tool (NAAT) has been developed, tested, and is rolled out across New Zealand.				
				NA = not applicable		
Question #	**Category**	**Factor**	Yes = 0	No = -1		
SC 1	service area	The service provides this residential suburb/development with access to a sub-regional centre and its facilities **without changing services**. Sub-regional facilities include: shopping, banking, primary and secondary education, childcare, and primary health care.	0-1			
SC 2	service area	The service provides this residential suburb/development with access to the regional centre & regional facilities **with no more than one change in service**. 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.	0-1			
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).	0-1			
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 15-20 minutes of travel time).	0-1			
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).	0-1			
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).	0-1			
SC 7	service area	What proportion of the population in this suburb lives within 500 metres walk distance of a **bus or rail** service?	____%	(NAAT)		
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 (e.g. via telephone; internet; printed timetables) to meet needs of users.	0-1			
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.	0-1			
SC 11	service information	All website content can be accessed or manipulated from a keyboard.	0-1			
SC 12	service information	Website text content is in 'plain English' (readable and understandable by someone with primary school education)	0-1			
SC 13	service information	Text can be resized through browser settings up to 200 percent without loss of content or functionality.	0-1			
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)	0-1			
SC 15	service information	7 or fewer 'clicks' required from from input to detailed information (e.g. home page to bus route by direction and stop)	0-1			
SC 16	service information	Passenger information available on website for people with disabilities	0-1			

Workbook 1

Service coverage (SC) continued

SC 17	service information	Fare schedules (to find out how much to pay) are readily available on the internet.	0-1			
SC 18	service availability	Two components: service frequency (per hour) and service span (hours of service during the 24 hour day and/or 7 day week)				
			The service operates:			
		Service frequency:	every 20 mins or more frequently	every 21-60 minutes	less than once per hour	Not available
		(1) weekday (Monday - Friday) morning and afternoon peak period				
		(2) weekday daytime off-peak / shoulder				
		(3) weekday evenings				
		(4) weekend (Saturday and Sunday) daytime				
		(5) weekend evenings				
		Is the service known to have to to 'pass up' picking up passengers (because the bus/train is already full) on a daily basis?	Yes	No		
		If the service is not available, in the off-peak / evenings / weekends, is an alternative service operating within 500m walking distance?	Yes	No	Route No.	_____
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)				
	website	service information	0			

Workbook 2: Public transport audit summary and report card

Entering data into the summary worksheets

1 Enter the route/corridor audit results into the appropriate worksheet

To facilitate the data entry, the worksheet names and contents (question #s, categories and factor) exactly match the auditor's workbook. A description of each worksheet is found in the PT accessibility audit workbook.

The bus stop number (or name) is entered at the head of the column, and the appropriate response (Yes = 0 and No = -1) is entered into each row. If the 'factor' (question) is 'not applicable', leave the existing coding in place (0-1) or enter NA.

As the data is entered, the Excel workbook has been set up to calculate a summary for the factors in each worksheet as well as to complete most of the cells contained in the 'Barriers to access – report card' worksheet.

2 **Complete the 'Service coverage' worksheet**

This records accessibility elements related to general spatial access, reliability, service information and support (website, phone and paper-based, including information on paying for the service).

This information will generally be available from the regional council and/or the internet.

In some cases, operator contact may be required.

Some of the information will apply to the whole network.

Once NZTA's neighbourhood accessibility assessment tool (NAAT) is available, it can be used to generate several of the responses to the 'Service coverage' worksheet.

3 **Complete the 'Barriers to access – report card' worksheet**

After completing the appropriate summaries (eg 'Service information', 'Getting to service on foot', 'Waiting for service – bus'), look at the 'Barriers to access – report card' worksheet. Where a Yes (Y) or No (N) response or choosing A, B, C, or D is required for the 'status' of a given factor, it is manually entered. The effect on the different PT user groups (wheelchair user; users with physical, visual, auditory, or comprehension impairment; 'able' user) is automatically calculated, as are the overall ratings of the service for each user category. Any barriers to access which do not apply will remain at a zero value.

Using the audit findings

Once a report card is completed, the data may be used to prioritise improvements according to:

- the condition of the particular PT element(s) being considered
- the use of the route/corridor by persons with various types of disabilities
- ridership
- the importance of the connections provided by the facility/infrastructure.

The database should be updated to include any improvements.

Service information

Background information		
Route number:		
Route name:		
What is the geographical area serviced by the route? (Be fairly specific: eg South Karori, Karori Mall, into CBD, return same route)		
Does the route complete a 'circuit' (either with the same route number or a different route number covering the route in reverse)?	Yes	No
The audit is to consider the whole circuit in order to look at accessibility of all stops/stations.		
* Attach a map (showing all relevant stops) and schedule of the route.		
Date of audit:		
Auditor information		
Name:		
Company (if appropriate):		
Phone:		
Mobile:		
Email:		

Barriers to access –report card

Workbook 2

			Rating scale for severity of 'barrier to access' for users:									
	Definition:											
		None = 0	Little or no hindrance to people with this impairment or ability using public transport									
		Slight = 1	All people with this impairment or ability wishing to use public transport will be able to do so, but there will probably be some hindrance or inconvenience in accessing it.									
		Moderate = 2	Some people with this impairment or ability are likely to be dissuaded from making journeys by public transport because it will be more time consuming or less convenient, and they may require assistance.									
		Severe = 3	People with this impairment or ability are likely to be deterred from making public transport journeys. In some cases, the potential user will be totally unable to travel independently by public transport.				User categorisation					
							If the limiting factor is present					
			Route #				for this service, then the effect					
							on each category of user is:					
Limiting factor #	Barrier type	Worksheet(s) & Question #	Barrier to access (Limiting factor)	Status (# of incidents where there is a barrier)		Wheelchair	Physical	Visual	Auditory	Comprehension	Able users	
LF 1	journey planning	SC 9	Journey planning information is available in at least two different formats (eg via telephone; internet; printed timetables) to meet needs of users.	Y-N		0	0	0	0	0	0	
LF 2	journey planning	SC 10-15	Website is accessible (it is easy to read and use; has keyboard functionality; and/or can be changed into other formats for people with impairments)	0		0	0	0	0	0	0	
LF 3	service coverage	SC 7	Bus or rail services operate within 500m (walking distance) of residence/place of origin for 90% of the population	Y-N		0	0	0	0	0	0	
LF 4	service coverage	SC 1-6	Bus or rail services provide access to destinations/facilities that people want to go to, with no or one change in service (depending on origin location).	0		0	0	0	0	0	0	
LF 5	service availability	SC w/s	Which statement most closely describes the service: A. buses/trains arrive every 20 minutes or more frequently; B. buses/trains arrive every 21-60 minutes; C. buses/trains are less frequent than 60 minutes	A-B-C		0	0	0	0	0	0	
LF 6	service availability	SC w/s	Which statement most closely describes the service: A. buses/trains operate morning, afternoon & evening, 7 days per week; B. buses/trains operate from morning to early evening, 7 days per week; C. buses/trains operate during the day, 5 days per week (not weekends); D. buses/trains operate in limited periods (eg peak only; or inter-peak only)	A-B-C-D		0	0	0	0	0	0	
LF 7	accessible route	GTSS w/s	Any part of the route (footpath and suitable crossings) from points of interest (residences, businesses/shops/etc) to a stop/station is not wheelchair accessible (eg footpath too narrow or obstructed; no kerb cuts; no crossing; ramp to steep; overgrown plantings).	0		0	0	0	0	0	0	

Workbook 2

Barriers to access – report card continued

LF 8	accessible parking	GTSC w/s	Where parking is provided at a station, accessible park-and-ride facilities are available for people with disabilities	0		0	0	0	0	0	0	
LF 9	bus stop	BS 9	The landing pad is connected to accessible footpath.	0		0	0	0	0	0	0	
LF 10	bus stop	BS 3	The landing pad is 1500mm by 1500mm to accommodate a wheelchair user.	0		0	0	0	0	0	0	
LF 11	bus stop	BS 6	The landing pad does extends to kerb, or is near enough to the kerb to make use of an on-board ramp.	0		0	0	0	0	0	0	
LF 12	bus/train station	STN w/s	Station is wheelchair accessible.	0		0	0	0	0	0	0	
LF 13	being on board - bus	BBB	On bus: 100% of buses operate on a given route meet 'new bus' (2010) criteria AND bus service reliably has spare capacity on buses, particularly during peak periods, such that a person with impairments can be certain they will get onto a particular bus.	Y-N		0	0	0	0	0	0	
LF 14	being on board - bus	BBB	On bus: Bus service uses a mixture of 'new bus' (2010) and 'existing bus' (by 2014) vehicles AND customers can access information to find out when an accessible bus will be operating on a given route.	Y-N		0	0	0	0	0	0	
LF 15	being on board - rail	BBTR 12	On rail: carriages have 'step free access' to allow wheelchairs to board the train.	0		0	0	0	0	0	0	
LF 16	being on board - rail	BBTR 28	On rail: carriages have wheelchair parking spaces on-board.	0		0	0	0	0	0	0	
LF 17	information	BS 22; STN 59	Service information at stop/station is provided in easy-to-read English-language text format.	0		0	0	0	0	0	0	
LF 18	information	BS 20-22	Service information at stop is provided in tactile, audible and/or large print English-language text.	0		0	0	0	0	0	0	
LF 19	information	STN 57-60	In addition to large print English-language text, service information at station is provided in audible and/or pictorial forms.	0		0	0	0	0	0	0	
LF 20	information	BBB	In addition to illuminated bus stopping sign, upcoming stops are announced through automated messaging system or by bus driver.	Y-N		0	0	0	0	0	0	
LF 21	information	BBTR 38	(Audible) on-board announcements are made for upcoming train station stops.	0		0	0	0	0	0	0	
LF 22	personal security	GTSS; BS; STN w/s	There are no lighting issues (poor lighting en route/at stop/at station; hiding places; 'undesirable' people hanging about; good visibility) that are likely to affect accessibility.	0		0	0	0	0	0	0	
			Overall rating of service									
			Number of barriers to access rated as 'Severe' (3) on this service for this type of user			0	0	0	0	0	0	
			Number of barriers to access rated as 'Moderate' (2) on this service for this type of user			0	0	0	0	0	0	
			Number of barriers to access rated as 'Slight' (1) on this service for this type of user			0	0	0	0	0	0	
			Number of barriers to access rated as 'Accessible' (0) on this service for this type of user			22	22	22	22	22	22	
						Wheelchair	Physical	Visual	Auditory	Comprehension	Able users	

Workbook 2

Service coverage (SC)

Route #					
		** This worksheet should be reviewed once the neighbourhood accessibility assessment tool (NAAT) has been developed, tested, and is rolled out across New Zealand.			
				NA = not applicable	
Question #	Category	Factor	Yes = 0	No = -1	
SC 1	service area	The service provides this residential suburb/development with access to a sub-regional centre and its facilities without changing services. Sub-regional facilities include: shopping, banking, primary and secondary education, childcare, and primary health care.	0-1		
SC 2	service area	The service provides this residential suburb/development with access to the regional centre & regional facilities with no more than one change in service. 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.	0-1		
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).	0-1		
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 15-20 minutes of travel time).	0-1		
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).	0-1		
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).	0-1		
SC 7	service area	What proportion of the population in this suburb lives within 500m walk distance of a bus or rail service?	____%	(NAAT)	
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.	0-1		
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.	0-1		
SC 11	service information	All website content can be accessed or manipulated from a keyboard.	0-1		
SC 12	service information	Website text content is in 'plain English' (readable and understandable by someone with primary school education)	0-1		
SC 13	service information	Text can be resized through browser settings up to 200% without loss of content or functionality.	0-1		
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)	0-1		

Workbook 2

Service coverage (SC) continued

SC 15	service information	7 or fewer 'clicks' required from input to detailed information (eg home page to bus route by direction and stop)	0-1		
SC 16	service information	Passenger information available on website for people with disabilities	0-1		
SC 17	service information	Fare schedules (to find out how much to pay) are readily available on the internet.	0-1		
SC 18	service availability	Two components: service frequency (per hour) and service span (hours of service during the 24 hour day and/or 7 day week)			
			The service operates:		
		Service frequency:	every 20 mins or more frequently	every 21-60 minutes	less than once per hour
		(1) weekday (Monday - Friday) morning and afternoon peak period			
		(2) weekday daytime off-peak / shoulder			
		(3) weekday evenings			
		(4) weekend (Saturday and Sunday) daytime			
		(5) weekend evenings			
		Is the service known to have to to 'pass up' picking up passengers (because the bus/train is already full) on a daily basis?	Yes	No	
		If the service is not available, in the off-peak / evenings / weekends, is an alternative service operating within 500 m walking distance?	Yes	No	Route no.
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)			
	website	service information	0		
		service area	0		

Workbook 2

Getting to service by self (GTSS) (on foot, by wheelchair, skateboard etc)

							No=-1 na= not applicable						
Route #							Yes=0 highlight = see comments						
Question #	Category	Factor	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #
GTSS 1	footpath	Is the accessible route to the bus stop / station obvious to all users?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 2	footpath	Do accessibility signs indicate the direction of the accessible path at each place that a path becomes impassable?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 3	footpath	Do footpaths have a minimum clear width of 1200mm (eg fixtures, rubbish or loose furniture, poles, awnings, litter bins, outward opening windows, etc. does not impede the route)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 5	footpath	Is the route free of any single/isolated steps?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 6	footpath	Is the transverse or crossfall gradient <=1:50 (1-2%)? The crossfall is the slope of the footpath at right angles to the direction of travel.	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 7	footpath	Where the footpath is on a slope steeper than 1:20 (5%), is at least one handrail provided?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 8	footpath	Is the top surface of any handrail mounted between 800mm and 1100mm above the footpath surface?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 9	footpath	If the footpath is steeply sloping, are there level landing or rest areas provided no more than 18 metres apart?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 10	footpath	Is the accessible route free of broken concrete or damaged paving etc?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 11	footpath	Is the accessible route clean (free of litter and dog mess)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 12	footpath	Is the street furniture anchored on the accessible route?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 13	footpath	Is the accessible route stable, firm and relatively slip-resistant under all weather conditions?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 15	footpath	On any grates in the accessible route, are all openings more than 10mm wide are perpendicular to the direction of traffic?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 17	footpath	Is the height clearance (eg foliage, road signs or toher objects protruding from buildings etc) a minimum of 2100mm throughout a route?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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 <800mm above the floor/ground project <100mm into access route?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 20	footpath	Is street furniture painted a colour that provides contrast with background?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1

Workbook 2

Getting to service by self (GTSS) (on foot, by wheelchair, skateboard etc) continued

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?)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 23	crossing	Does the subway or overpass provide for personal security (is it straight, well lit and clean)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 26	crossing	At signalised crossings, do all pedestrians have adequate time to cross the road safely?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 27	crossing	Can road crossing signals be activated by pedestrians?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 28	crossing	Do road crossing signals include audible traffic signals (in working order)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 29	crossing	Where a traffic island is provided, is the 'path' for users 1500mm by 1800mm (big enough to accommodate a turning wheelchair)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 30	crossing	Are traffic islands cut to the road surface level or equipped with curb cuts?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 31	crossing	Do traffic islands have a slip resistant and stable surface?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 32	crossing	Are pedestrians (including those in wheelchairs) waiting to cross the road visible to approaching motorists / are approaching motorists visible to pedestrians?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 33	kerb cut & ramp	Does the crossing opportunity have kerb cuts on both sides? Refer Best Practice Guide.	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 34	kerb cut & ramp	Are kerb ramps a minimum of 1000mm wide, exclusive of flared sides?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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.	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 37	kerb cut & ramp	If kerb ramp does not have flared sides, does the ramp have either a handrail or guardrail?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 38	kerb cut & ramp	Do kerb crossings have tactile ground surface indicators to warn visually impaired users of its presence?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 39	kerb cut & ramp	Do kerb cuts have slip-resistant tactile surfaces, contrasting in colour and texture with footpath and road?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSS 40	kerb cut & ramp	Is the top landing of kerb ramp a minimum of 1000mm wide and 1200mm deep?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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.	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1

Workbook 2

Getting to service by self (GTSS) (on foot, by wheelchair, skateboard etc) continued

		Is the route to a stop/station completely accessible? (0=Yes; >0= there are one or more inaccessible features)	0	0	0	0	0	0	0	0	0	0	0
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)											
		footpath	0	0	0	0	0	0	0	0	0	0	0
		driveway	0	0	0	0	0	0	0	0	0	0	0
		crossing	0	0	0	0	0	0	0	0	0	0	0
		kerb cut & ramp	0	0	0	0	0	0	0	0	0	0	0
		lighting	0	0	0	0	0	0	0	0	0	0	0

Workbook 2

Getting to service by self – comments

Route #					
Bus stop #	**Question #**	**Street #**	**Street name**	**Identifier**	**Comment**

Getting to service by car (GTSC)

Workbook 2

Route #			No=-1	na= not applicable							
			Yes=0	highlight = see comments							
Category	Question #	Factor	Station name	Station name	Station name	Station name	Station name	Station name	Station name	Station name	Station name
GTSC 1	parking	Are park-and-ride facilities available at the station for people with impairments who access the bus or train by car?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 3	parking	Is parking clearly marked out and signed with the international symbol of access (on ground, wall or post)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 4	parking	Are accessible parking spaces a minimum of 3500mm wide?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 5	parking	Are accessible parking spaces a minimum of 5000mm long (angle park) or 6300mm (parallel park)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 6	parking	Is there vertical clearance not less than 2500mm along route and at parking space?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 8	parking	Is the surface stable, firm and slip resistant under all environmental conditions?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 9	parking	Is the international symbol of access painted on the surface of the car park (usually with yellow or white paint)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 11	parking	Do accessible parking spaces have a maximum slope of 1:50?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 13	access	Are the accessible parking spaces located as close to an accessible building entrance as possible?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 14	access	Is direct pedestrian access provided between park-and-ride facilities and the station? (Are the parking spaces on the accessible route?)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 15	access	Do the parking spaces avoid conflict between vehicles and people when approaching an entrance?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
GTSC 16	access	Are the car parks and/or drop-off points on the access route covered overhead?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
		Is the parking for a station completely accessible? (0=Yes; >0= there are one or more inaccessible features)	0	0	0	0	0	0	0	0	0
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)									
		parking	0	0	0	0	0	0	0	0	0
		access	0	0	0	0	0	0	0	0	0

Waiting for service – bus stop (BS)

Workbook 2

			No=-1	na=not applicable								
Route #			Yes=0	highlight = see comments								
Question #	Category	Factor	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #	Bus stop #
	location details	Is there a bus shelter?	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N
	location details	If NO, is there an exterior alternative shelter nearby (ie awning, overhangs, underpass)?	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N	Y-N
BS 1	landing	Is the kerb height at least 150mm from the road surface?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 2	landing	Is the landing pad / waiting area identified with tactile indicator tiles?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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).	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 4	landing	Does the landing pad have a well-drained, non-slip surface?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 5	landing	Is the landing pad surface even?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 8	landing	Is landing pad located where front door of bus will be at the bus stop?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 9	landing	Does the landing pad connect with the accessible footpath?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 10	landing	Does the landing pad have a maximum slope of 1:50, measured perpendicular to the roadway?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 11	landing	Is all street furniture (including seating or a bus shelter) set back at least 1000mm from the kerb, to allow a wheelchair user unobstructed access?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 12	landing	Is the bus stop zone designated as a no parking and no stopping allowed zone?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 14	shelter	If the shelter has four walls, is the doorway at least 800mm wide?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 15	shelter	Does the placement of advertising panels allow visibility of waiting passengers?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 19	seating	Do any seats have backs?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1

Workbook 2

Waiting for service – bus stop (BS) continued

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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 21	information	Is there an information panel providing up-to-date service information (route, schedule, map) for all services stopping at this stop?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 22	information	Is the information sign located no lower than 900mm and no higher than 1700mm from the landing pad?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 23	information	Is the information panel in large print and good colour contrast (to accommodate the visually impaired)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 25	information	Is there a visible large print sign indicating what service numbers use this stop?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 26	information	Are fare schedules (to find out how much to pay) easily visible at the stop?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 28	information	Is the sign pole firmly fixed into the ground?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 29	comfort	Is the bus stop clean?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 30	comfort	Is the bus stop graffiti-free?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 31	comfort	Is the bus shelter is in good condition (no obvious repairs required)? If no, indicate the problem(s).	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 32	comfort	Is the seating in good condition (no obvious repairs required)? If no, indicate the problem(s).	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BS 34	lighting	If there is no bus shelter, is the bus stop adequately lit by a street light or other outside light?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
		Is the bus stop completely accessible? (0=Yes; >0= there are one or more inaccessible features)	0	0	0	0	0	0	0	0	0	0
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)										
		landing	0	0	0	0	0	0	0	0	0	0
		seating	0	0	0	0	0	0	0	0	0	0
		shelter	0	0	0	0	0	0	0	0	0	0
		comfort	0	0	0	0	0	0	0	0	0	0
		lighting	0	0	0	0	0	0	0	0	0	0
		information	0	0	0	0	0	0	0	0	0	0

Waiting for service – bus stop: comments

Workbook 2

Route #		
Bus stop #	**Question #**	**Comment**

Waiting for service – station (STN)

Workbook 2

Route #			0 = Yes	"-1"=No	NA = not applicable			highlight = see comments		
Question #	Category	Factor	Station name / #	Station name / #	Station name / #	Station name / #	Station name / #	Station name / #	Station name / #	Station name / #
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)?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 2	door	Is there a minimum 1200mm by 1200mm level space on both sides of the entrance/doorway?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 3	door	Does the primary accessible entrance have a *minimum* clear opening of 760mm?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 4	door	If door closers / mechanisims are fitted do they have delay-action or slow action closure?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 5	door	If door closers / mechanisims are fitted do they have minimum closure pressure?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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)?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 7	door	Are doormats stationary and flush with floor finish?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 8	door	If thresholds are 20mm or more, are they beveled on both sides to a slope of 1:2?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 11	door	Are the door handle/pulls/buttons/operating devices located between 900mm and 1200mm?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 12	door	Are the door handle/pulls/buttons/operating devices easy to grasp and operate with one hand? (refer Best Practice Guide)	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 13	door	Can doors at accessible entrances be opened with minimal force?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 14	ramp	Is the minimum clear width of the ramp 120mm?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 15	ramp	Is the maximum gradient of the ramp 1:12 (8%)? Over short distances [less than 1500mm], greater gradients may be okay - refer Best Practice Guide.	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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)?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 17	ramp	Is the ramp surface continuous and slip-resistant?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 18	ramp	Does the ramp have an upstand or a low rail to prevent a wheelchair wheel from running off the edge?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 19	ramp	Does the ramp have a landing at the top, extending 1200mm beyond any doorway or door swing?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 20	ramp	Does the ramp have a landing at the bottom, extending 1200mm beyond any doorway or door swing?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
STN 21	ramp	Is the presence of the ramp clearly indicated (by the use of signs / colour contrast / lighting / tactile markers)?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1

Waiting for service – station (STN) continued

Workbook 2

STN 22	steps	Are the step risers a uniform height (maximum of 180 mm) for the entire flight?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 23	steps	Are the risers closed? (Note: open risers are not permitted for 'accessible' stairways in the NZ Building Code).	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 24	steps	Are the steps at least 900mm wide (between handrails) for the entire flight?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 25	steps	Is the step tread at least 310mm deep?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 26	steps	Is the surface of each tread covered in a slip-resistant material?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 27	steps	Is the leading edge of the tread/nosing rounded (no sharp edges)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 28	steps	Is the leading edge of the tread/nosing colour contrasted with the rest of the tread?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 30	handrails	Are handrails provided along both sides of the ramp or stairs?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 31	handrails	Are handrails continuous around landings (except at doorways)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 32	handrails	Do handrails extend no more than 300mm beyond the top and bottom of the ramp or stair segment?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 33	handrails	Is the top surface of any handrail mounted between 900mm and 1000mm above the floor?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 34	handrails	Are all handrails securely fixed and stable in their fittings (eg able to carry full weight of a person)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 35	handrails	Are handrails smooth?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 36	handrails	Do handrails have a clearance from wall of 45mm to 60mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 37	handrails	Does the handrail have an outside dimension of 32mm to 50mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 38	handrails	Are the ends of the handrails turned down 100mm or returned fully?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 39	handrails	Are the handrails a contrasting colour to the background?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 40	handrails	Is the handrail graspable (round is most suitable - horizontal or vertical planks are not acceptable)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 41	lift	Is a lift provided as an alternative to stairs or a ramp?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 42	lift	Is the lift located on an accessible route?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 43	lift	Is the lift compliance certificate current/valid?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 44	platform	Is there a minimum 2000mm wide clear space for wheelchair access along the length of the platform?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 45	platform	Are platform edges clearly marked in a contrasting colour?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 46	platform	Are tactile warning indicators located 60mm from the edges of train platforms?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 50	steps	Are the step risers a uniform height (maximum of 180mm) for the entire flight?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 51	ticketing	Is there clear space *below* the counter so that a wheelchair user can come right up to the counter?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1

Workbook 2

Waiting for service – station (STN) continued

STN 52	ticketing	Does the service counter / ticketing machine / info desk have a clear space in front of at least 1200mm x 1200mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 53	ticketing	Does the clear floor space in front of the ticketing machine overlap or adjoin an accessible route?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 54	ticketing	Does the ticketing machine have tactile controls / buttons for the visually impaired?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 55	ticketing	Are all ticketing machine controls operable with one hand?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 57	lighting	Are any hazards or possible obstacles well lit?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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) ?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 60	information	Is the information panel in large print and good colour contrast (to accommodate the visually impaired)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 63	information	Where there are display stands containing bus route schedules / maps, are these visible and reachable by people with impairments?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 64	information	Are fare schedules (to find out how much to pay) easily visible at the station?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 65	safety	Is there a visual as well as audible fire alarm system?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 66	safety	Are emergency exit routes accessible to all, including wheelchair users?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 67	safety	Are all emergency exit doors clearly marked, and do they have a minimum opening of 800mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 68	safety	If there are times when the station has no staff in attendance, is an emergency telephone or call button available?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 69	safety	Are there monitored security cameras operating in the station when no staff is in attendance?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 70	comfort	Is the station clean?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 71	comfort	Is the station graffiti-free?	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 72	comfort	Is the station in good condition (no obvious repairs required)? If no, indicate the problem(s).	0-1	0-1	0-1	0-1	0-1	0-1	0-1
STN 73	comfort	Is the station seating in good condition (no obvious repairs required)? If no, indicate the problem(s).	0-1	0-1	0-1	0-1	0-1	0-1	0-1

Workbook 2

Waiting for service – station (STN) continued

		Is the station completely accessible? (0=Yes; >0= there are one or more inaccessible features)	0	0	0	0	0	0	0
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)							
		door	0	0	0	0	0	0	0
		ramp	0	0	0	0	0	0	0
		steps	0	0	0	0	0	0	0
		handrails	0	0	0	0	0	0	0
		lift	0	0	0	0	0	0	0
		platform	0	0	0	0	0	0	0
		seating	0	0	0	0	0	0	0
		ticketing	0	0	0	0	0	0	0
		lighting	0	0	0	0	0	0	0
		information	0	0	0	0	0	0	0
		safety	0	0	0	0	0	0	0
		comfort	0	0	0	0	0	0	0

Workbook 2

Waiting for service – bus: comments

Route #		
Bus stop #	**Question #**	**Comment**

Being on board – bus (BBB)

Workbook 2

			◇ - *indicates that requirement applies for given type of vehicle*					
Question #	Category	Factor	New buses (2010)	Existing buses (by 2014)				
BBB 1	bus stop request	Bell push or cord within reach of seated and standing passengers in every second row of seats.		◇				
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.	◇					
BBB 3	bus stop request	Illuminated 'bus stopping' display		◇				
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.	◇					
BBB 5	bus stop request	Signalling devices readily operated by elderly and disabled people with poor hand and finger function or dexterity.	◇					
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.	◇	◇				
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.	◇					
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.	◇					
BBB 9	bus stop request	Except for the first letter, all letters should be in lower case for greater readability	◇	◇				
BBB 10	bus stop request	Bus drivers announce their service number when they identify a blind or visually impaired person waiting for a ride.	◇	◇				
BBB 11	bus stop request	In the absence of automated on-board announcements, bus drivers announce major stops, stations and intersections.	◇	◇				
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.	◇	◇				
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.		◇				
BBB 16	destination display	Front route no –three characters ≥100mm in height.		◇				
BBB 17	destination display≥	Front and side destination characters ≥60mm in height.		◇				

Workbook 2

Being on board – bus (BBB) continued

BBB 18	destination display	Front and rear route number characters shall be ≥150 mm.	◊					
BBB 19	destination display	Front destination characters shall be ≥125mm.	◊					
BBB 20	destination display	Side destination characters shall be ≥60mm.	◊					
BBB 21	destination display	Except for the first letter, all letters should be in lower case for greater readability	◊					
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.	◊	◊				
BBB 23	door	The 'entrance' doorway has a minimum clear width of 700mm		◊				
BBB 24	door	The front door clear width is ≥1000mm 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.	◊					
BBB 26	door	Medium buses and large buses have kneeling capability.	◊					
BBB 27	floor	Front door entrance, fare paying and turning area, and unimpeded through to rear of priority seating area – aisle width ≥760mm.	◊					
BBB 28	floor	Medium bus or large bus with two doors must have a flat floor from front entry to rear door.	◊					
BBB 29	floor	Medium bus with one door must have a flat floor from front entry to immediately in front of rear axle.	◊					
BBB 30	floor	Front and rear door entry/exit areas have a colour contrast to the flooring material in the main saloon.	◊					
BBB 31	floor	Priority seating area has a colour contrast to the flooring material in the main saloon.	◊					
BBB 32	floor	All floor surfaces (including any steps) use a non-slip material.	◊	◊				
BBB 33	floor	All joins in flooring are welded and fully sealed.	◊	◊				
BBB 34	holds	Hand/grab rail are located on each side of entrance and exit doorways	◊	◊				
BBB 35	holds	Grab handles are located on aisle side of all seat backs		◊				
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.	◊					
BBB 37	holds	Stanchions/holds are a high-visibility contrasting colour throughout the vehicle, and provide a strong contrast with the surrounding surfaces	◊	◊				
BBB 38	holds	Stanchions are provided immediately adjacent to doorways and in priority seating or wheelchair areas.	◊					

Being on board – bus (BBB) continued

BBB 38	holds	Stanchions are provided immediately adjacent to doorways and in priority seating or wheelchair areas.	◊					
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.	◊	◊				
BBB 41	holds	Hand holds have a clear space of not less than 45mm finger clearance to the handle	◊					
BBB 42	destination display	Front and rear route number characters shall be ≥150 mm.	◊					
BBB 43	holds	Grab handles have a circular or elliptical cross section of 30-35 mm on the maximum section.	◊					
BBB 44	holds	At least one grab handle is located near or on the corner of each 2-person forward or rearward facing seat.	◊					
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.	◊					
BBB 46	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 47	holds	Hand holds have a slip-resistant surface.	◊	◊				
BBB 48	holds	Hand holds have a clear space of not less than 45mm finger clearance to the handle	◊					
BBB 49	destination display	Front and rear route number characters shall be ≥150 mm.	◊					
BBB 50	holds	Grab handles have a circular or elliptical cross section of 30-35 mm on the maximum section.	◊					
BBB 51	holds	At least one grab handle is located near or on the corner of each 2-person forward or rearward facing seat.	◊					
BBB 52	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.	◊					
BBB 53	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 54	holds	Hand holds have a slip-resistant surface.	◊	◊				
BBB 55	holds	Hand holds have a clear space of not less than 45mm finger clearance to the handle	◊					
BBB 56	destination display	Front and rear route number characters shall be ≥150 mm.	◊					
BBB 57	holds	Grab handles have a circular or elliptical cross section of 30-35 mm on the maximum section.	◊					
BBB 58	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 59	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.	◊					
BBB 60	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.	◊					

Workbook 2

Being on board – bus (BBB) continued

BBB 61	step	No more than two steps in the aisle along whole internal length of vehicle.		◊				
BBB 62	step	If the bus is not a super low floor bus: Maximum first step height ≤370mm.		◊				
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	◊					
BBB 64	step	Any additional steps (maximum two) are ≤ 220mm high	◊					
BBB 65	step	Step depth is ≥ 300mm	◊					
BBB 66	step	Any additional steps are ≤ 230mm high		◊				
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.	◊					
BBB 68	step	The nosing dimensions in the horizontal and vertical planes are within the range 45-50mm in width.	◊					
BBB 69	step	Highlighter to top edge of nose is provided.		◊				
BBB 70	wheelchair park	On large bus, a separate space for at least one wheelchair, forward or rear facing: minimum dimensions of 1200mm by 700mm. (Medium bus: space for one wheelchair, same dimensions)	◊					
BBB 71	wheelchair park	An international wheelchair symbol for accessibility sign is provided on the bus internal side wall of any wheelchair space.	◊					
BBB 72	wheelchair park	Wheelchair and wheelchair occupant restraints are certified as complying with Passenger Service Vehicle Rule 1999.	◊					
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.	◊	◊				
BBB 75	bus drivers	Bus drivers have received special instructions about the needs of persons with impairments, particularly emergency procedures.	◊	◊				
BBB 76	bus drivers	Bus drivers are friendly and helpful when asked for assistance.	◊	◊				
BBB 77	bus drivers	Bus drivers provide appropriate assistance for passengers entering or leaving the bus when necessary.	◊	◊				
BBB 78	bus drivers	Bus drivers ensure that all passengers are seated and/or secured before moving off.	◊	◊				
BBB 79	bus drivers	Bus drivers stop at all designated stops to check for passengers.	◊	◊				
BBB 80	bus drivers	Bus drivers stop immediately adjacent to the kerb when picking up / letting off passengers.	◊	◊				
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.	◊	◊				

Being on board – train (BBTR)

Workbook 2

			0 = Yes	"-1"=No	NA = not applicable			highlight = see comments			
		Factor	Train/ carriage #	Train/ carriage #	Train/ carriage #	Train/ carriage #	Train/ carriage #	Train/ carriage #	Train/ carriage #	Train/ carriage #	Train/ carriage #
BBTR 1	comfort	Is the exterior in a clean and tidy state and free from any unsightly damage, including graffiti?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 2	comfort	Is the vehicle interior clean and tidy, and free from any unsightly damage, including graffiti?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 3	access	Does signage let patrons know which doorway is accessible for wheelchairs and other disabled users?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 4	access	Is there a minimum o 1500mm x 1500mm of level space centered in the front of the accessible entrance?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 6	access	Are the operating devices located between 900mm and 1200mm from the platform floor?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 7	access	Is a contrasting colour and tone used for easy identification of the doors, door control devices, steps and handrails?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 8	access	Are the spaces between carriages marked distinctively different from access doors?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 9	access	Does the designated doorway for people with impairments have a minimum clear width of 800 mm?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 10	access	Is the vertical gap between the platform and carriage less than 100mm (50mm is preferred)? (refer Best Practice Guide)	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 11	access	Is the horizontal gap between the platform and carriage less than 500 mm? (refer Best Practice Guide)	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 13	access	Is the wheel chair ramp certified as complying with design, construction and fitting requirements stipulated in Passenger Service Vehicle Rule 1999? (refer Best Practice Guide)	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 14	access	Is the surface of ramp slip resistant?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 15	access	Is the vertical gap between the platform and the bottom step, and the height of each step when there are more than one, ? 220mm?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 16	access	Is the step depth ? 300mm?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
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?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1
BBTR 18	access	Is the there a minimum clear width of 800mm from the designated doorway through the wheelchair parking area?	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1	0 -1

Workbook 2

Being on board – train (BBTR) continued

BBTR 19	access	Is the floor covered in tactile non-skid material and all joins welded and fully sealed?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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)?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 21	seat	Is the height from the floor to the top of the front of the seat cushion between 400 and 500mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 22	seat	Is the height to the top of the seat back excluding any grab handle ? 900mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 23	seat	Are there at least 4 seats for 'Priority Seating' provided for elderly and/or disabled passengers, located near the accessible doors?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 25	seat	Is there adequate space under or adjacent to at least one priority seat for a guide dog?									
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')?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 28	wheelchair park	Is a separate space for at least one wheelchair, forward or rear facing: minimum dimensions of 1200mm by 700mm provided?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 29	wheelchair park	Is an international wheelchair symbol for accessibility sign posted on the internal side wall of any wheelchair space?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 30	wheelchair park	Are wheelchair and wheelchair occupant restraints certified as complying with Passenger Service Vehicle Rule 1999?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 31	holds	Are there hand holds on each side of all doorways, both inside and out?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 32	holds	Are hand holds located on aisle side of all seat backs or at regular intervals throughout the carriage?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 33	holds	Are hand holds a uniform colour throughout the vehicle, providing a strong contrast with the surrounding surfaces?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 34	holds	Do hand holds have a slip-resistant surface?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 35	holds	Do hand holds have a clear space of not less than 45mm finger clearance to the handle?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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 25mm; and all other handholds must have no dimension smaller than 20mm or greater than 45mm?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 37	holds	Do the grab handles have a circular or elliptical cross section of 30-35mm on the maximum section?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
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?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 39	ticketing	Are tickets able to be purchased on board the train and get change?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1

Workbook 2

Being on board – train (BBTR) continued

BBTR 40	staff	Has staff received special instructions about the needs of persons with impairments, particularly emergency procedures?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 41	staff	Is train staff friendly and helpful when asked for assistance?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 42	staff	Does train staff provide appropriate assistance for passengers entering or leaving the train when necessary?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 43	staff	Does train staff ensure that all passengers are seated and/or secured before moving off?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 44	staff	Do train drivers practice 'smooth operation' (avoiding abrupt starts and stops, driving slowly at curbs) when driving the train?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 45	security	How many 'incidents' have been recorded on the service in the past year?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
BBTR 46	security	What rating does most recent customer satisfaction survey show for customers' personal safety and security on-board this service?	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
		Is the train completely accessible? (0=Yes; >0= there are one or more inaccessible features)	0	0	0	0	0	0	0	0	0
		What specific features are inaccessible? (0 = all features accessible; >0 =there are one or more inaccessible features)									
		comfort	0	0	0	0	0	0	0	0	0
		access	0	0	0	0	0	0	0	0	0
		steps	0	0	0	0	0	0	0	0	0
		ramp	0	0	0	0	0	0	0	0	0
		aisle	0	0	0	0	0	0	0	0	0
		holds	0	0	0	0	0	0	0	0	0
		seat	0	0	0	0	0	0	0	0	0
		wheelchair park	0	0	0	0	0	0	0	0	0
		on-board info	0	0	0	0	0	0	0	0	0
		staff	0	0	0	0	0	0	0	0	0
		security	0	0	0	0	0	0	0	0	0

Workbook 2

Being on board (bus or train): comments

Route #				
Bus stop #	**Question #**	**Comment**		

Appendix B: Accessibility to public transport: a best practice guide

Contents

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.[4]

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;

[4] For a discussion about the decision to exclude affordability, refer to the full project report.

	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

B1.2.2 Modes, services and routes covered

The focus is on accessibility to the regional council scheduled bus network and 'large bus' vehicles[5] 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

[5] 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.

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.

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

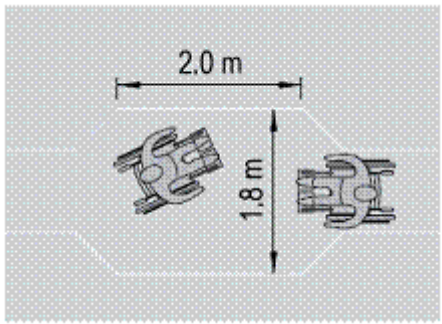
B2.2 Footpath

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.

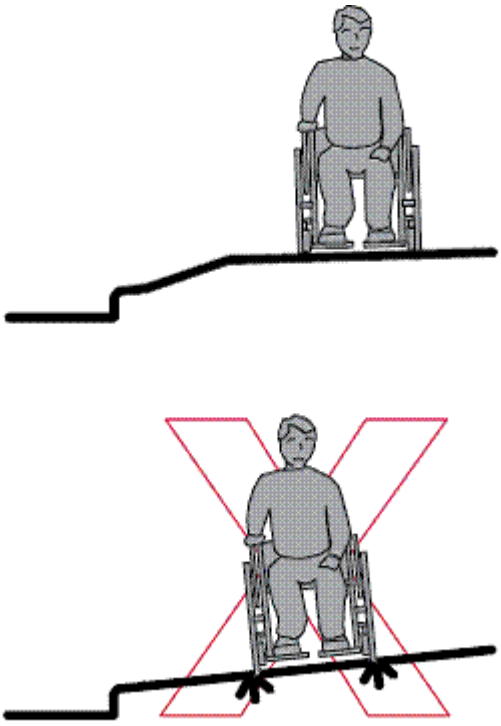
Figure B1 Width of pedestrian passing places (source: NZTA 2008a)



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.

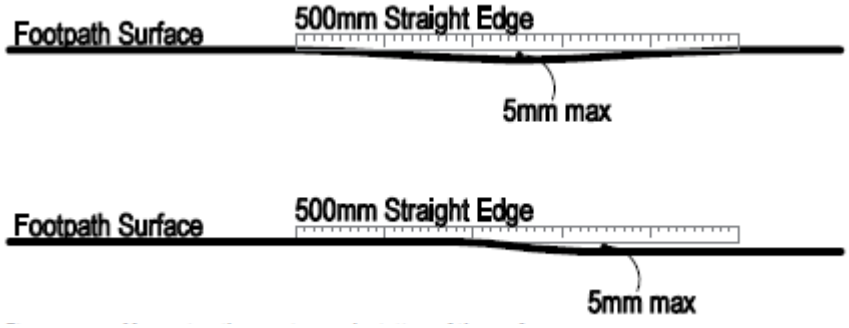
Figure B2 Correct and incorrect provision of crossfall (source: NZTA 2008a)



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)

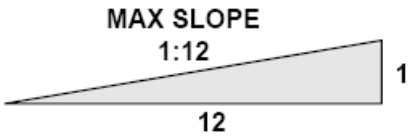


The accessible route should also be free of broken concrete or damaged paving, clean (eg free of litter and dog mess) and have no street furniture that impedes the route (such as rubbish bins, poles, awnings, outward opening windows, benches, signs). A height clearance (measured from footpath surface 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 1m-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 percentaqe 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.

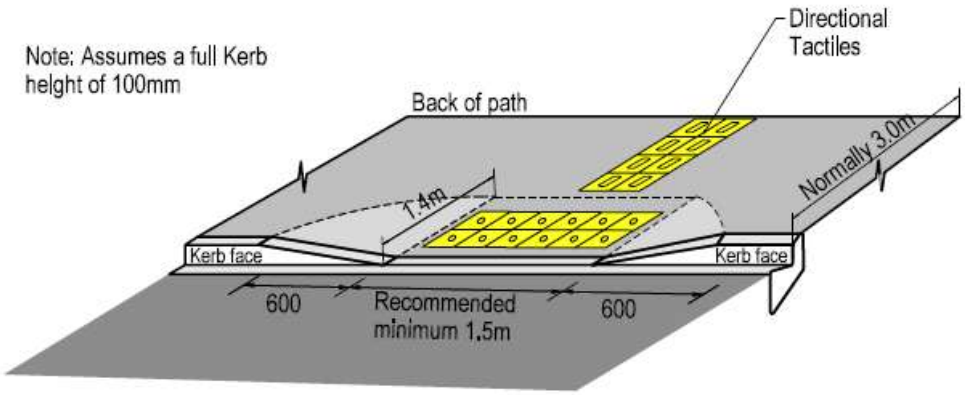
B2.4 Kerb cut and ramps

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.

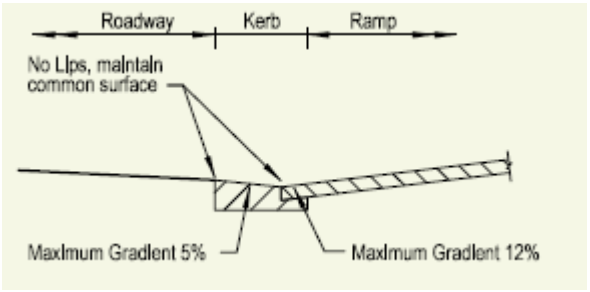
Figure B5 Characteristics of 'accessible' kerb ramps (source: NZTA 2008a)



The characteristics of the tactile paving for kerb ramps and footpaths are discussed in 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.

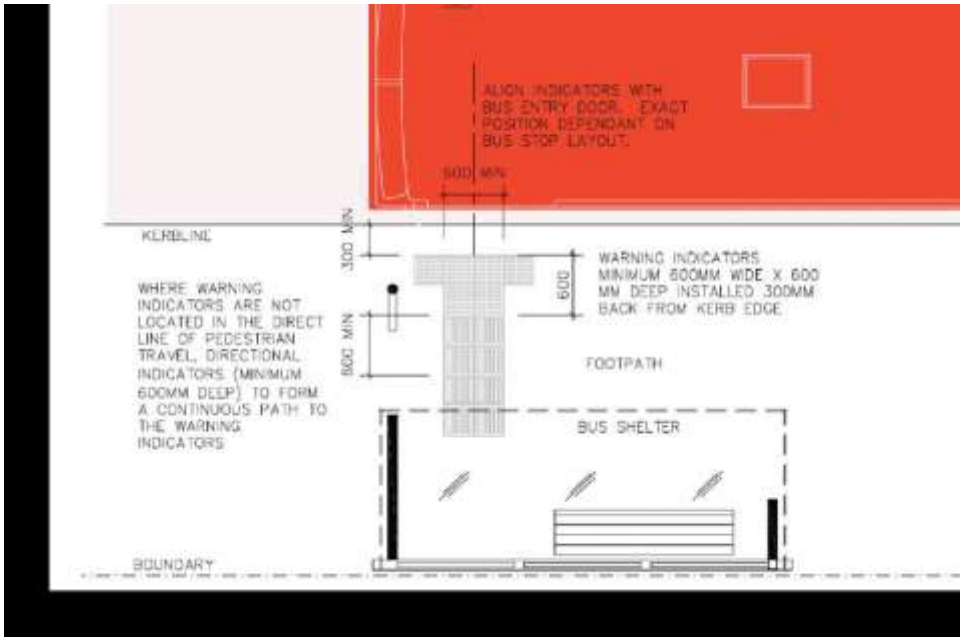
Figure B7 Examples of tactile warning and directional indicators (source: NZTA 2007)

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)

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

A20-S21	**Park and ride**		
Indicates a place where motorists park their vehicles to catch public transport (bus, train, tram or ferry).			
Legend	**Description**	**Colour**	**Size**
	'P' alongside a 'symbol of a train, bus, tram or boat as appropriate'	white	360 x 300 mm

A20-S20	**Wheelchair access**		
Indicates a place where wheelchair access is provided.			
Legend	**Description**	**Colour**	**Size**
	'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)

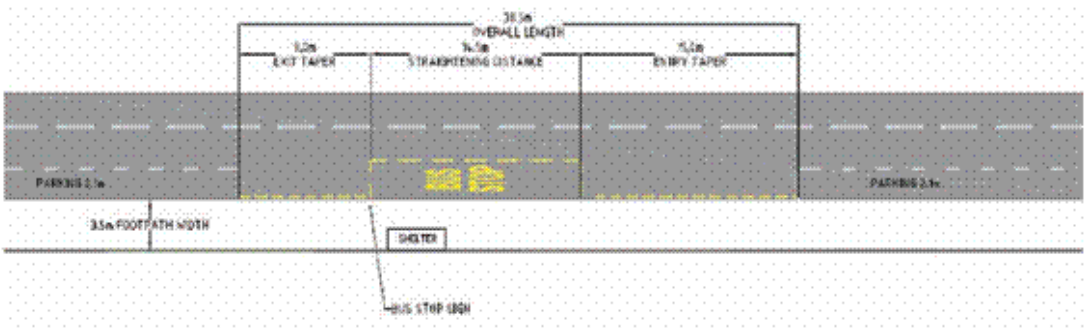
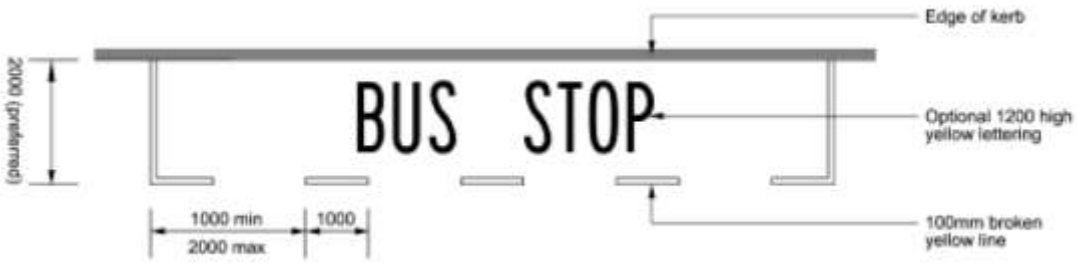


Figure B10 shows a typical bus stop layout, including the length of the bus stopping area, location of the bus stop pole and sign and the location of on-road markings (in yellow). The bus stop layout must allow the bus to stop parallel to, and as close to the kerb as possible (within 20mm, without the 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.[6] 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).

[6] 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

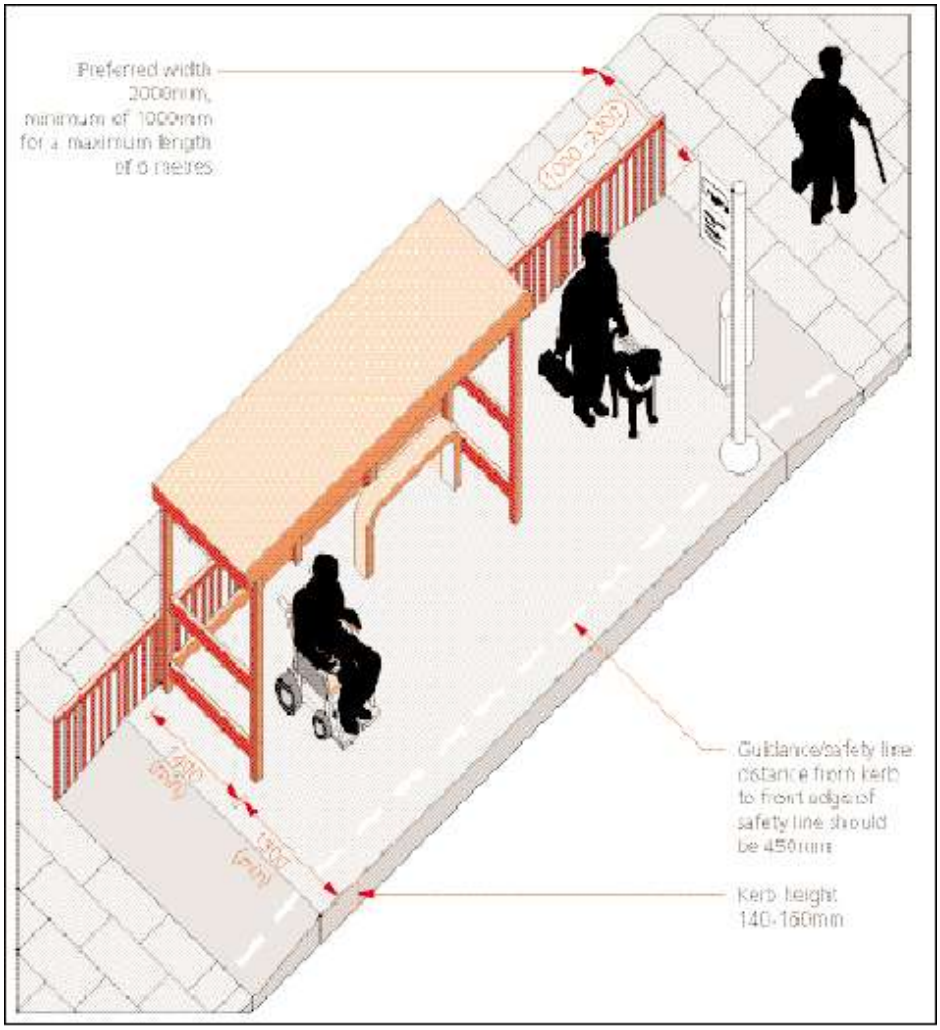
In general, the provision of a seat or bus shelter at a bus stop is dependent on the bus service, its frequencies, the specific use of the stop (ie is it a pickup/set down or set down only stop?) and the number of people waiting per hour per weekday at that stop. The critical point is, where bus shelters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

R6-71 Bus stop			
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

R6-71.1 Bus stop – with arrow			
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.

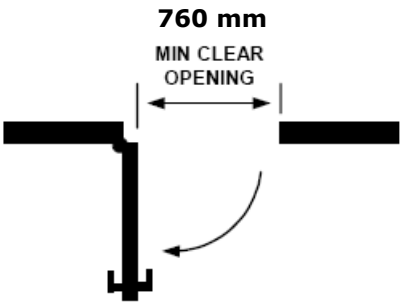
B5 Waiting for service – station

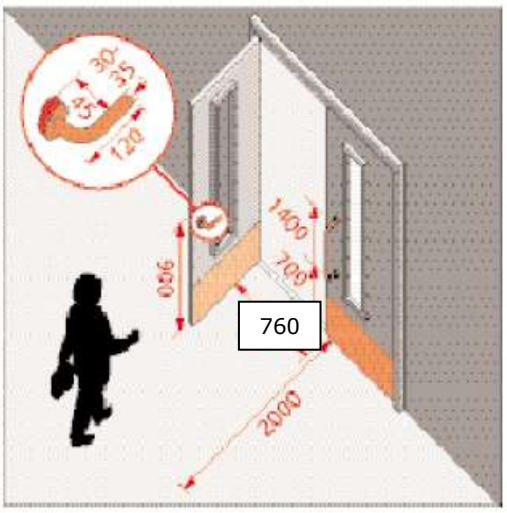
Apart from stairs and/or ramps up to the accessible entrance, the characteristics of the accessible route to the station are discussed in chapter B2 (by foot) and B3 (by vehicle). This section outlines the characteristics of the station's internal infrastructure.

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)

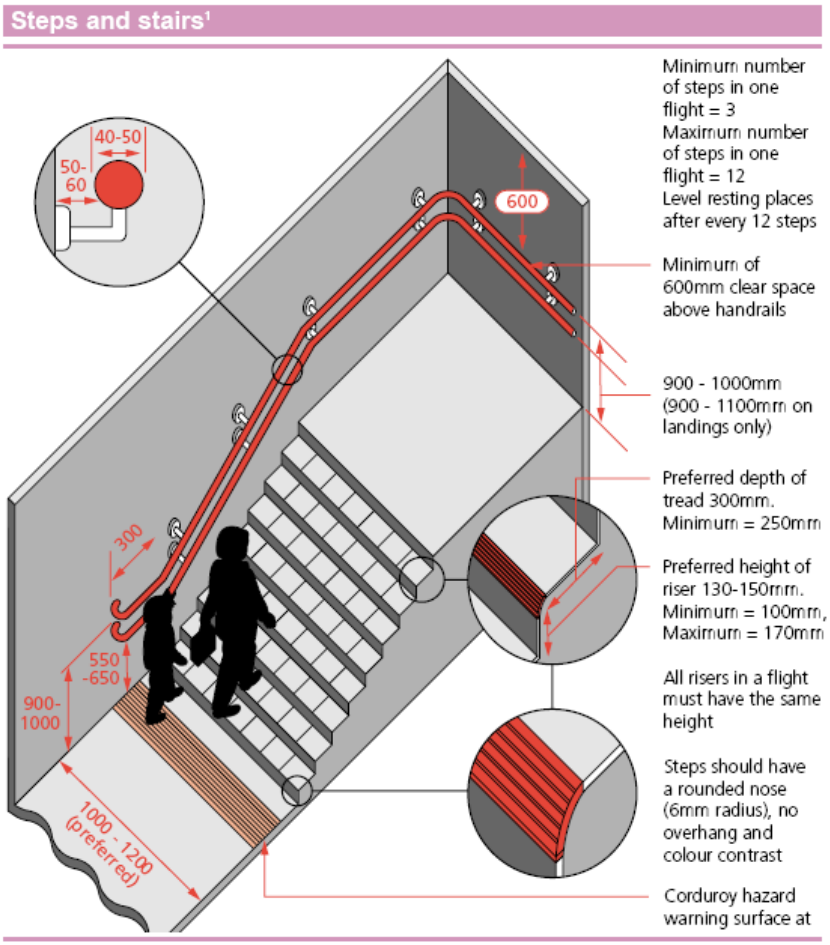
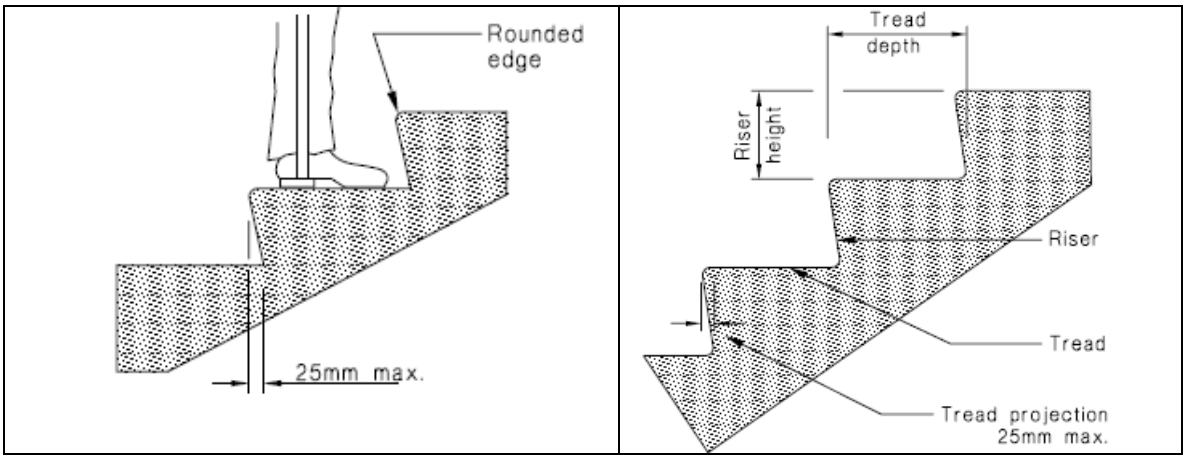


Figure B17 Further details of accessible steps (source: NZ Building Code 2007)



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

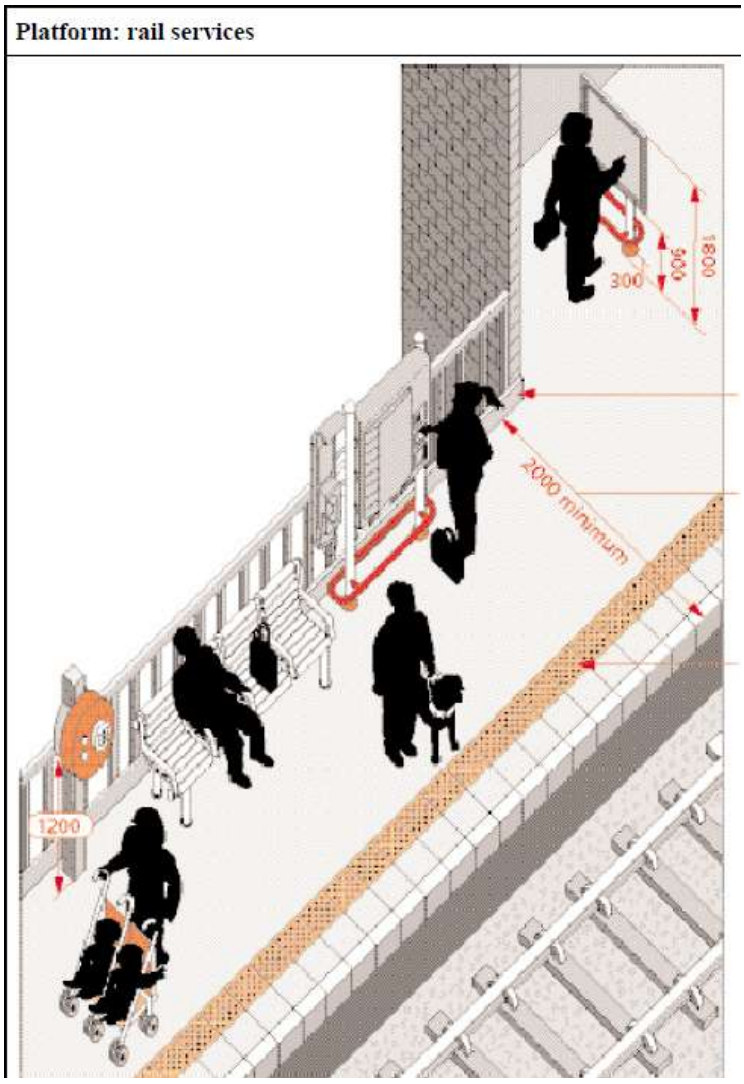
Any lifts in a station will have been constructed to comply with the NZ Building Code (NZBC), which comprises the First Schedule to the Building Regulations 1992. The relevant NZBC clause for lift installations is D2. Lifts complying with the NZBC are, by definition, wheelchair accessible. Lifts are 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.

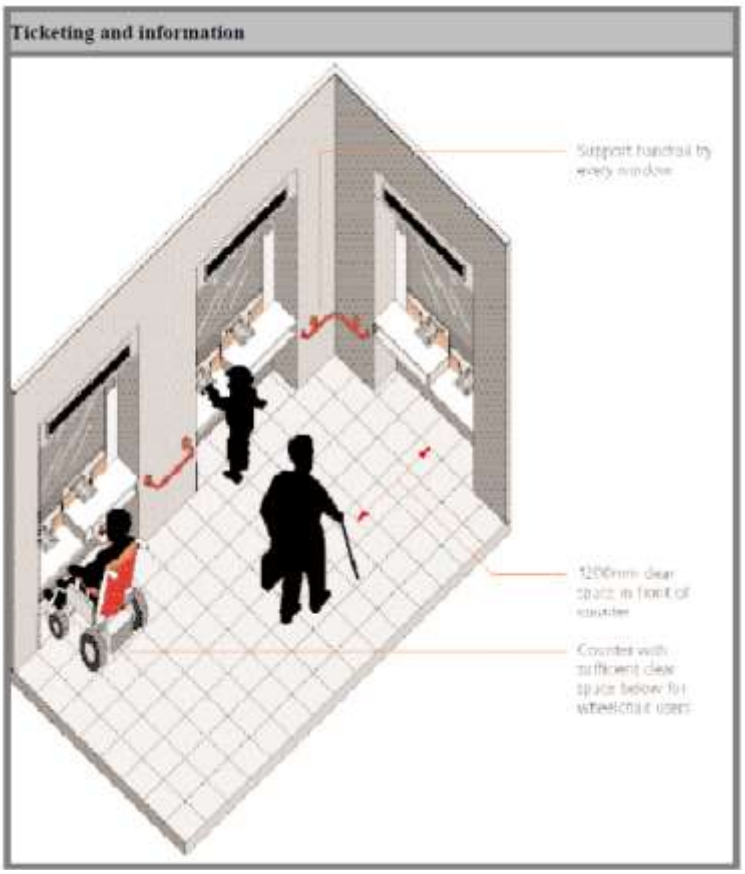
Figure B18 Station platform characteristics (source: UK DFT 2002)



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)

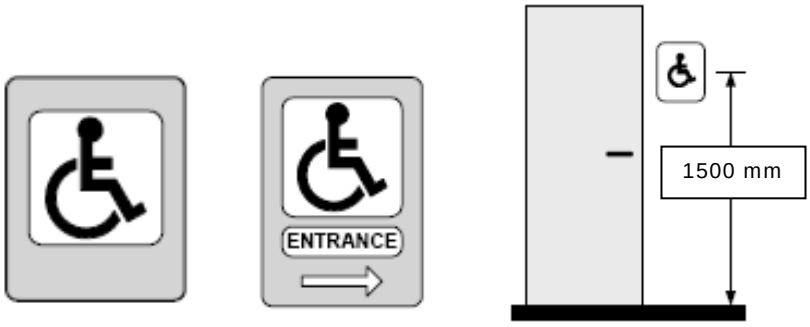


If there is a ticketing machine, it should have tactile controls or buttons for the visually impaired, as well as be operable with one hand for those with other physical disabilities.

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:

A20-S20	Wheelchair access		
Indicates a place where wheelchair access is provided.			
Legend	**Description**	**Colour**	**Size**
	'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)

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

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/.

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 ≤ 700mm width and ≤1200mm length.
- If stowed transverse and wheelchairs have stowable handlebars and footrests, then the footprint required is≤700mm width and ≤900mm 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 ≤240kg.

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 ≤800mm 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.

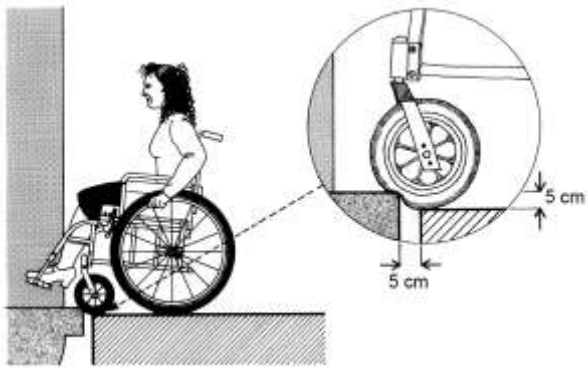
Contrasting colours and tones should be used to provide easy identification of the doors, door control devices, steps and handrails. The spaces between carriages should be marked in a distinctively different way from access doors.

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 ≤220mm. The depth of the tread should be ≥300mm.

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 joins 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 (≥90%) in a given suburb live within 500m walking distance of a bus or rail service.[7]
- 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.

[7] 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.

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).
- 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/*.

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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Palmerston North City Council (PNCC) (2009) Palmerston North bus stop guidelines. January 2009. Accessed May 2009. *www.pncc.govt.nz/content/*

Queensland Transport (2006) Pedestrian safety and accessibility audit tools. Accessed March 2008. *www.transport.qld.gov.au/Home/Safety/Road/Pedestrians/*

Rickert, T (2007) BRT accessibility guidelines. Prepared for the World Bank. Accessed February 2008. *www.nijc.org/pdfs/*

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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 without changing services. 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 with no more than one change in service. 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 bus or rail 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.

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 minimum clear width 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 <=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

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.

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?

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 *minimum* 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?

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 *below* 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?

	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.	◇	◇

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 ≥100mm in height.		◇
NZTA 2008b	BBB 17	destination display≥	Front and side destination characters ≥60mm in height.		◇
NZTA 2008b	BBB 18	destination display	Front and rear route number characters shall be ≥150mm.	◇	
NZTA 2008b	BBB 19	destination display	Front destination characters shall be ≥125mm.	◇	
NZTA 2008b	BBB 20	destination display	Side destination characters shall be ≥60mm.	◇	
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 ≥1000mm 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 ≥760mm.	◇	
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.	◇	◇

	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.	◇	

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: minimum 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.	◇	◇

	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 2008b	BBTR 14	access	Is the surface of ramp slip resistant?

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, ≤ 220mm?
NZTA 2008b	BBTR 16	access	Is the step depth ≥ 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 the 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 joins 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 ≥ 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: minimum 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 2008b	BBTR 37	holds	Do the grab handles have a circular or elliptical cross section of 30–35mm on the maximum section?

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?