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Department for Transport

Accessible Train Station Design for Disabled People: A Code of Practice

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Useful contacts

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Foreword

The original version of this document, entitled *Train and Station Services for Disabled Passengers: A Code of Practice,* was published by the Strategic Rail Authority in 2002 and was known as the Blue Book. Its purpose was to fulfil the Secretary of State's responsibility under Section 71B of the Railways Act 1993 (as amended), to produce a Code of Practice "protecting the interests of users of railway passenger services or station services who are disabled".[1]

In 2008, the Code of Practice was reviewed by the Department for Transport and Transport Scotland, and the resulting document was subjected to public consultation for three months. During July 2008, a new Code of Practice was published. Following the update of British Standards BS:8300 in 2009 the document entitled *Accessible Train Station Design for Disabled Passengers: A Code of Practice* was updated in September 2010 to incorporate the revisions in the British Standards document. This latest revision incorporates further modifications to British Standards, particularly in the Toilets section, alongside routine housekeeping of references to other source documents. A list of revisions can be found on the Department for Transport's website.

This updated Code has now replaced all previous versions, including the Blue Book. The version of the document published on the Department for Transport's website, and which will be reviewed and updated on a more regular basis, will be considered the official version for the purposes of the Railways Act 1993. Train and station operators, and anybody else who carries out work on Great Britain's railway network, should ensure that they are familiar with this version and should check the website on a regular basis for updates.

If you have any questions regarding the Code of Practice, you can contact the Railways for All team using the addresses at the start of this document.

1 Railways Act 1993, s.71B. Available at www.opsi.gov.uk/acts/acts1993/ukpga_19930043_en_9#pt1-pb12-l1g70

About the Code of Practice

1. *Accessible Train Station Design for Disabled People: A Code of Practice* ("the Code") is published by the Department for Transport, pursuant to Section 71B of the Railways Act 1993, and fulfils the Secretary of State's responsibility to produce a code of practice "protecting the interests of users of railway passenger services or station services who are disabled".[2]

2. Version 1 of this document was published by the Secretary of State in July 2008, following a period of public consultation. This version of the Code (Version 03) was published in November 2011 and replaces all previous editions of the document, including Version 1, Version 2 and the version known as the Blue Book.

3. The purpose of the Code is to assist those operating passenger trains and stations in making railway travel easier for disabled passengers. The SRA document was revised in 2008 to take account of incoming European standards for accessible railway infrastructure which were adopted by the United Kingdom on 1 July 2008. Further revisions took place in 2010 and 2011 to take account of revised British Standards (BS8300:2009) on the design of buildings to meet the needs of disabled people.

4. These European standards: the Technical Specifications for Interoperability: Persons with Reduced Mobility (PRM TSI) (see Annex V: Reference documents) will apply where new trains or stations are introduced, or where trains or stations undergo major work, on a part of Great Britain's rail network that constitutes the Trans-European Network (TEN). This Code applies to the entire rail network, but, where operators are subject to the requirements of the PRM TSI, that document is the source of their responsibilities. The Code of

2 Railways Act 1993, s.71B. Available at www.opsi.gov.uk/acts/acts1993/ukpga_19930043_en_9#pt1-pb12-l1g70

Practice identifies standards relevant for all passenger train and station operators in Great Britain that licensed operators must follow as a condition of their licence whenever they install, renew or replace infrastructure or facilities. The document also provides advice and recommendations of good practice that all operators can implement to provide greater opportunity to travel for, and further enhance the experience of, disabled people using the railways. There are over 10 million people in Great Britain with a disability. The Government is committed to transport for all; and improving the accessibility of railway stations and passenger trains will encourage more disabled people to use the railway network – and to do so more regularly.

5. Moreover, the principles set out in this Code will benefit all passengers. People with a large amount of luggage, or with small children and pushchairs, for example, will appreciate uncluttered stations, conveniently arranged seating, alternatives to stairs and doors that can be opened easily with one hand. People in an unfamiliar environment – tourists, for example – will appreciate logical station layouts and clear, consistent signage. This will have the effect of opening up the network to a wider range of people and generating increased patronage of the railways.

Who and what is covered by this Code?

6. The Code applies to services provided by operators in Great Britain in relation to trains and stations.

7. Under the Railways Act 1993, all operators of railway assets (trains, networks, stations or light maintenance depots) must have a licence to operate from either the Office of Rail Regulation (ORR) or the Secretary of State for Transport (DfT), unless they are exempt from the requirement to be licensed. Operators who breach the conditions of their licence risk enforcement action by the ORR. The process for

enforcement action, which includes imposition of financial penalties, is detailed in Sections 55 to 58 of the Railways Act 1993.

8. In certain cases, such as that of stations at Heathrow Airport and on the London Underground, the operator is licence exempt, though they may be required to have an approved Disabled People's Protection Policy (DPPP) and be subject to Part 3 of the Disability Discrimination Act 1995.

9. The DfT requires all licensed passenger train operators and station operators, including Network Rail as operator of its managed stations, to follow this Code of Practice in line with the commitments in their Disabled People's Protection Policies. Under the Railways (Interoperability) Regulations 2006, trains and major works at stations on the Trans-European Network (TEN) are subject to the requirements of applicable Technical Specifications for Interoperability. This means that, since the PRM TSI came into force on 1 July 2008, such works concerning accessibility have had to comply with its requirements. New stations and installations, and replacements or refurbishments at existing stations that do not constitute "major work" or are not on the TEN will continue to be subject to the requirements set out in the "European standards" and "national standards" in this Code of Practice.

10. Details of a number of operators who either do not hold licences, are not required to produce a Disabled People's Protection Policy (DPPP) or who are otherwise exempted from the licence condition to have regard to the Code of Practice, which includes Heathrow Express, London Underground and light railways, have been included in Annex II.

Definition of "station"

11. The Code of Practice applies in all public circulation areas within railway stations. A station is defined in Section 83 (1) of the Railways Act 1993 as:

12. *"Any land or other property which consists of premises used as, or for the purposes of, or otherwise in connection with, a railway passenger station or railway passenger terminal (including approaches, forecourt, cycle store or car park), whether or not the land or other property is, or the premises are, used for other purposes."*

Disabled passengers and their requirements

13. The underlying principle of this Code is that, whenever work takes place, the opportunity is taken to ensure the output of that particular work provides for improved accessibility. The DfT and Transport Scotland expect operators to commit themselves to a programme of continuous improvement on behalf of their disabled passengers.

14. Many disabled people find it difficult and, in some cases, impossible to use conventional public transport, including the railways.

15. This Code assumes the same definition of disability as the Disability Discrimination Act 1995 (DDA). The DDA defines disability as: "a physical or mental impairment that has a substantial and long term adverse effect on a person's ability to carry out normal day-to-day activities". At the time of writing, the DDA is in line to be replaced by the Equalities Act 2010. Therefore all references to the DDA should also be read as referring to subsequent legislation.

16. The Department for Work and Pensions (DWP) estimates that there are about 10 million adults in Britain covered by the DDA (taken from the Family Resources Survey 2002/3). For further information on disability estimates and definitions, please refer to the DWP website at http://research.dwp.gov.uk/asd/asd5/ih2003-2004/IH128.pdf.

17. A "physical impairment" may include blindness, deafness, paralysis or heart disease, whether in existence since birth or through illness or an accident. A "mental impairment" is intended to cover a wide range of

impairments relating to mental functioning, including what are known as learning difficulties.

18. "Substantial" means more than something which is a minor or trivial effect. The requirement that an effect must be substantial reflects the general understanding of disability as a limitation going beyond the normal differences in ability that exist among people. Examples are the inability to see moving traffic clearly enough to cross a road safely, inability to turn taps or knobs and inability to remember and relay a simple message correctly.

19. "Long term" means that the weakness or impairment has lasted or is likely to last at least 12 months or that it is likely to last for the rest of the life of the person affected. The effects are to be treated as if they are continuous beyond 12 months if the impairment remains, or at least one recurrence of the substantial effect is likely to take place, 12 months or more after the initial occurrence. This would then be a long-term effect. Conditions that vary in severity and that may come and go are specifically covered by the DDA (rheumatoid arthritis, for example). There are about 6.9 million people of working age with a long-term disability (from the Labour Force Survey, 2003).[3] This relates to people who have a disability that affects the amount or type of work they could do (work-limiting disability) and people with a disability likely to be covered by the DDA.

20. "Day-to-day activities" are activities which are carried out by most people on a fairly regular and frequent basis. The test of whether an impairment affects normal day-to-day activities is whether it affects one of the broad categories of capacity listed below:

    - mobility;
    - manual dexterity;

3 See www.ons.gov.uk for more information.

- physical co-ordination;
- continence;
- ability to lift, carry or otherwise move everyday objects;
- eyesight (even when wearing glasses or contact lenses), speech or hearing;
- memory, learning, concentration, understanding; and
- perception of the risk of physical danger.

21. Someone with an impairment may be receiving medical or other treatment that alleviates or removes the effect (though not the impairment). In such cases, the treatment is ignored and the impairment is taken to have the effect it would have had without such treatment. This does not apply to substantial adverse effects that are not likely to recur even if the treatment stops (i.e. the impairment has been cured).

22. "Progressive conditions" are conditions that are likely to change and develop over time. Examples given in the Act are cancer, multiple sclerosis, muscular dystrophy and HIV infection. Where a person has a progressive condition, they are covered by the Act from the moment the condition leads to an impairment that has some effect on the ability to carry out normal day-to-day activities, even though not a substantial effect, if that impairment is likely to eventually have a substantial adverse effect on such ability. However, the scope of the provisions of the DDA could change over time. For example, the Disability Discrimination Act extends protection to more people with HIV, cancer and multiple sclerosis. People with severe disfigurements are also covered by the Act (approximately 400,000 people at present in the UK). They do not need to demonstrate that the impairment has a substantial adverse effect on their ability to carry out normal day-to-day activities.

23. Some people have more than one impairment (e.g. a hearing and mobility impairment), and not all impairments are as immediately obvious as those that necessitate using, say, a wheelchair or a white cane. Age and disability are, of course, not synonymous, but there is a very strong correlation between them. Over 15 per cent of the population and 50 per cent of disabled people are over the age of 65. The age of the population is steadily increasing, and these statistics will get higher. The following statistics are based on research carried out for the Strategic Rail Authority by Cranfield University:

About 4,600,000 people have difficulty in walking, and 800,000 of these people use a wheelchair.

Cluttered station layouts and the need to change from one level to another cause particular problems for people who cannot walk far, or fast, or at all.

Around 9,000,000 people have some degree of hearing loss (Source: RNID).

This is one in seven of the population. Around two million people are hearing-aid users (Source: RNID). Fifty-five per cent of people over the age of 60 have some form of hearing loss, and by 2010 it is predicted that the numbers will have grown to one in six of the population. As many as 698,000 people in the UK are severely or profoundly deaf, and at least 450,000 people in the UK do not have enough hearing to use a voice telephone, even with a device (an amplifier) to make it louder. People who are deaf or hard of hearing rely especially heavily on accurate, regularly updated travel information in visual form and on well-trained staff.

Around 2,000,000 people have impaired sight, even with glasses or contact lenses (Source: RNIB).

Around 157,000 people are registered blind. As many as 17,000 people use a white cane and 5,000 use a guide dog. Approximately 5 per cent of the 2 million people are unable to use residual vision, even for colour contrast. The needs of people with no remaining vision will be different from those with partial sight, particularly in relation to colour contrast. Difficulties for blind people and those with other sight limitations range from negotiating physical features, including the platform edge, to being unaware of essential travel information because of colour blindness (which affects around one person in ten) or a reduced field of vision.

About 23,000 people in the UK are deafblind.

If elderly people with decreasing sight and hearing are taken into account, the above figure rises to some 250,000. Being deafblind means that you have severe problems with sight and hearing. It does not necessarily mean you are completely deaf or completely blind. It is not always possible to tell straight away if someone is deafblind. Some deafblind people carry a red and white cane. If someone does not seem to hear you speaking, or look at you when they speak, then they may be deafblind. A deafblind person is likely to explain to you how to communicate with them.

About 1,400,000 people have learning difficulties.

People with learning difficulties may have problems in understanding timetabling and ticketing information, and may be easily confused when faced with a busy station.

About 1,000,000 people have communication impairments.

People with a speech impairment may have difficulties making themselves understood by station or train staff. This can affect some deaf people, who may also have speech difficulties. A large number of passengers whose first language is not English would be assisted by improved communication on the railways.

Around 2,500,000 people have disabled people's parking badges.

The Blue Badge scheme entitles badge holders to certain parking concessions on the public highway. However, the badges are also informally recognised in many off-highway car parks. The badges are generally for people who are unable to walk or who have considerable difficulty walking. They are also available to registered blind people. Because of these factors, parking spaces and set-down points should be close to the station entrance. The holder can use the badge in any vehicle in which they are travelling. On the highway, badge holders can park free of charge and without time limit in streets with parking meters, pay and display systems or where waiting time is limited. Badge holders can also park on single or double yellow lines for up to three hours in England and Wales, and without time limit in Scotland.

The blue design badge has now replaced the previous orange one.

About 8,500,000 people have arthritis (Source: Arthritis Care).

The disabling effects of arthritis are sufficient to affect people's ability to walk, negotiate steps, reach, grip or stand for long periods.

The regulatory framework

The Disability Discrimination Act

24. The Disability Discrimination Act 1995 (DDA), amended by the Disability Discrimination Act 2005, already places legal obligations on station and passenger train operators. At the time of writing, the DDA is in line to be replaced by the Equalities Act 2010. Therefore all references to the DDA should also be read as referring to subsequent legislation.

25. Requirements on station operators, contained within Part 3 of the DDA (which covers access to goods, facilities and services), have been introduced in three stages. Since 2 December 1996, there has been a legal obligation on service providers at stations, like other types of service provider, not to discriminate against disabled people by refusing them service, providing them with service on worse terms, or providing a lower standard of service.

26. Since 1 October 1999, service providers at stations, like other public buildings, must take "reasonable steps" in all the circumstances of the case to make adjustments for disabled people, if it is necessary and appropriate to do so in order not to discriminate, but only to the way in which goods, facilities and services are delivered – e.g. by offering extra help or making changes to the way they provide their services (whether paid for or not). Services such as travel information are also covered by the DDA.

27. Part 3 of the DDA sets out instances of the duty on service providers to make "reasonable adjustments" to the way in which services are delivered, by:

    - **Changing any practice, policy or procedure which makes it impossible or unreasonably difficult for disabled people to use a service (Section 21(1)).**
      For instance, opening a gate which is normally closed but gives level access onto a platform, where the only other access to the platform is via steps.

- **Providing auxiliary aids or services which would enable disabled people to use a service (Section 21(4)).**
  For instance, providing information to disabled people in alternative formats or taking a disabled person in an electric buggy where walking distances are too great.

- **Providing service by a reasonable alternative method where physical barriers make it impossible or unreasonably difficult for disabled people to use the service (Section 21(2)(d)).**
  For instance, providing information directly to visually impaired passengers, where they would otherwise need to be able to see a video monitor.

28. For guidance on service providers' duties and what is meant by "reasonable" under Part 3 of the DDA, it is recommended that readers consult the publication: *Code of Practice: Right of Access, Goods, Facilities, Services and Premises* (2006) or *Avoiding Disability Discrimination in Transport: A Practical Guide for Rail Services* (2007) both of which can be found at Annex V: Reference documents. Even if the advice in this guide is followed, the onus will remain on service providers to demonstrate, at any given time, that "reasonable" steps have been taken. Ultimately it is for the courts to interpret the law and decide on any individual cases brought under the DDA.

29. Where, for example, it may be impossible or unreasonably difficult for disabled people to use the means of access to the station, it would then be up to the service provider to show what reasonable steps had been taken to address these difficulties, including any reasonable alternative means of making the service available to disabled people.

30. The final stage of Part 3, concerning station operators, was effective from 1 October 2004 and requires the following:

    If there is any physical feature that makes it impossible or unreasonably difficult for disabled people to access a station's

services, the station operator will have to take reasonable steps, in all circumstances of the case, to seek either to remove or alter this feature or provide a means of avoiding it, or to provide an alternative method of making the service in question available.

For instance, this may include the following: costing (and considering the provision of, where reasonable) lift or ramp access to platforms where the only existing access is stairs; costing (and considering the provision of, where reasonable) aural and visual information systems at a station, including induction loops at ticket offices, where such systems do not exist; costing (and considering the provision of, where reasonable) appropriate warning surfaces at the top and bottom of stairs and at platform edge to alert people with visual impairments where they do not exist; costing (and considering the provision of, where reasonable) alternative access to station services where physical barriers make it impossible or difficult to use the service.

31. Operators are responsible for ensuring that the stations they operate satisfy the requirements of the DDA and that they have had due regard to the standards indicated in this Code of Practice when works take place. They will need to consult relevant stakeholders, i.e. Network Rail and Passenger Transport Executives (PTEs), at an early stage to ensure that these obligations can be met and to agree who will be responsible for them. It is also good practice for operators to consult with local disability groups.

32. As service providers, station operators have a responsibility to make reasonable physical adjustments at the stations they operate, even if they are not the site's owner. Section 27 of the DDA makes provisions to ensure that, if a station operator is occupying the station under a lease, the owner cannot unreasonably withhold consent for works needed to meet the requirements of the DDA. An owner could refuse consent if they had reasonable grounds to do so, although, under most circumstances, this would be unusual.

33. The Disability Discrimination Act 2005 made some amendments to the DDA, including the removal of the exemption from Part 3 of the DDA for services consisting of the provision and use of public transport vehicles, including trains. These duties have been applied since 4 December 2006. The DDA 2005 also enabled the setting of an end date, of no later than 1 January 2020, to be set by which time all rail vehicles must be accessible. For heavy rail vehicles, the end date, as set in the Rail Vehicle Accessibility (interoperable Rail System) Regulations 2008, is 1 January 2020.[4]

The Equality Act 2010

The main purpose of the Equality Act 2010 is to streamline and strengthen anti-discrimination legislation in Great Britain. It replaces a range of anti-discrimination legislation, including the Disability Discrimination Act 1995 (DDA) and subsequent amendments. However, the central tenets of the DDA, detailed above, still apply.

The main provisions of the Equality Act 2010 were commenced on 1 October 2010.

The Code and the DDA

34. As previously described, the DDA provides that operators must make reasonable adjustments to allow disabled passengers to access their facilities and services. Whilst it is for the courts to interpret the law, it could be difficult for operators to claim they are acting reasonably if they have not followed the standards in this Code when installing, replacing or refurbishing their train and station facilities.

Operating licence obligations

35. The previous section described the obligations placed on train and station operators by the Disability Discrimination Acts. Operators are

4 More information is available at www.opsi.gov.uk/si/si2008/uksi_20081746_en_1

additionally bound to provide accessible services and facilities for disabled passengers through a standard condition of their operating licences (Condition 5). This condition requires an operator to:

a. establish, amend where necessary, and comply with, a Disabled People's Protection Policy (DPPP), agreed to by the Secretary of State; and

b. in establishing and revising the DPPP, pay due regard to this Code of Practice.

36. In order to have their DPPPs agreed by the Secretary of State, it is expected that operators will follow the official Department for Transport guidance, known here as *How to Write your Disabled People's Protection Policy (DPPP)*, which sets out the elements that should be included in the document. The DPPP guidance is kept under active review and may be revised in due course.

37. A standard element of every DPPP is a statement confirming that the operator is committed to following the standards contained in this Code of Practice. Failure to comply with a given standard, or to seek a dispensation, could therefore constitute not only a breach of DPPP obligations but of licence conditions as well.

38. It is strongly recommended that, in addition to the standards, all operators have regard to the advice and examples of good practice contained in this Code. The Department's understanding is that meeting these standards and following this guidance could help an operator to demonstrate that they have taken reasonable steps to facilitate access to their services by disabled passengers, in the event that a case under the Disability Discrimination Act is brought against them. Conversely, non-compliance with the Code may not be viewed favourably by the courts.

The scope

39. This Code of Practice is relevant to all passenger train and station operators in Great Britain. It does not apply to Northern Ireland.

40. The Railways Act 2005 granted Scottish ministers the power to produce their own Code of Practice to apply to services and stations in Scotland. Until such time as Scottish ministers choose to produce a separate Code of Practice, then this Code of Practice will apply in Scotland. All references to external rules in England and Wales, such as the Building Regulations, shall be assumed to be referring, in addition, to the appropriate Scottish standard.

41. With certain exceptions set out in the following paragraph, operators are required to meet the "European standards" and "national standards", as set out in the main body of this Code (though only when providing new, renewed or replacement facilities on passenger trains or at stations). The Code does not impose an obligation on operators to take action in other circumstances to enhance accessibility.

42. Exceptions:

    a. In respect of those works at stations on the Trans-European Network (TEN) where the operator (including a non-licensed operator) is bound to meet the requirements of the Technical Specifications for Interoperability: Persons with Reduced Mobility, then the operator should refer to the PRM TSI, as per The Railways (Interoperability) Regulations 2006 (see Annex V: Reference documents) for the standards to be met, as per Figure 2 below.

    b. In the case of rail vehicles, the operator should refer to RVAR, the PRM TSI and any subsequent documents.

    c. Further exceptions are set out in Annex II of this Code of Practice.

Rail vehicles

43. The 2002 Code of Practice included reference to accessibility standards for rail vehicles. These standards were derived from the Rail Vehicle Accessibility Regulations 1998 (RVAR) which are also explained, in greater detail, in *The Rail Vehicle Accessibility Regulations 1998 – Guidance* (2002), both of which can be found at

Annex V: Reference documents. For those rail vehicles that operate on the Trans-European Network (TEN), the RVAR has now been replaced by the vehicle access standards in the PRM TSI.

44. The 2002 Code also included information on the refurbishment of trains that were introduced into service prior to RVAR (Section A4.1). The refurbishment requirements of the PRM TSI cover all vehicles undergoing upgrade or renewal, regardless of the date they were introduced into service. The vehicle access standards within the PRM TSI should also be referenced for more minor works. The Rail Vehicle Accessibility (Interoperable Rail System) Regulations 2008[5] require that all passenger rail vehicles in service on the TEN must be accessible by 1 January 2020.

Service provision

45. The 2002 Code made reference to the type of service that a disabled person might expect to receive from an operator at its stations or on board its trains, mainly in terms of staff interaction and assistance. The "service" that an operator provides to disabled people is covered in detail as part of the Disabled People's Protection Policy (DPPP) that all operators are required to produce.

46. New guidance for writing DPPPs was published by DfT in November 2009 and is available online at www.dft.gov.uk/transportforyou/access/rail/railstations/disabledpeoplesprotection/pdf/peoplesproguide.pdf.

The standards

47. Under the Railways (Interoperability) Regulations 2006, trains, new-build stations and major works at existing stations on the Trans-European Network (TEN) are subject to the requirements of applicable Technical Specifications for Interoperability. The same is true for new trains and trains undergoing major work that may run on the TEN. Therefore, since the Technical Specification of

5 More information is available at www.opsi.gov.uk/si/si2008/uksi_20081746_en_1

Interoperability: Persons with Reduced Mobility (PRM TSI) came into force in 2008, such works concerning accessibility have had to comply with that TSI's requirements. However, new stations and installations, and replacements or refurbishments at existing stations not on the TEN, continue to be subject to standards, namely the European and national standards set out in this Code.

48. The TEN (Figure 1) amounts to around two-thirds of Great Britain's rail network. Therefore, the PRM TSI has effect where major work takes place at stations on that part of the rail network. The PRM TSI also applies in effect to all trains on the heavy rail network on the basis that they are likely, at some point, to operate on the TEN.

49. Once rolling stock or infrastructure is subject to interoperability requirements for major works, the affected part will continue to be subject to the relevant TSI requirements for all further adjustments.

50. This Code also contains advice on how operators might meet the standards and recommendations of good practice. Together, these are intended to help operators to understand what type of works may need to meet the requirements and, also, what additional work they could undertake or facilities they could provide that would further improve the accessibility of their stations. More detail on this can be found in the sections below.

The assessment process

51. In using the Code of Practice, operators will need to ensure that they are following the correct procedure and referring to the correct document for works at their station. You must satisfy yourself as to whether the works you will be carrying out are "major". Such works might include a new station or other significant work.

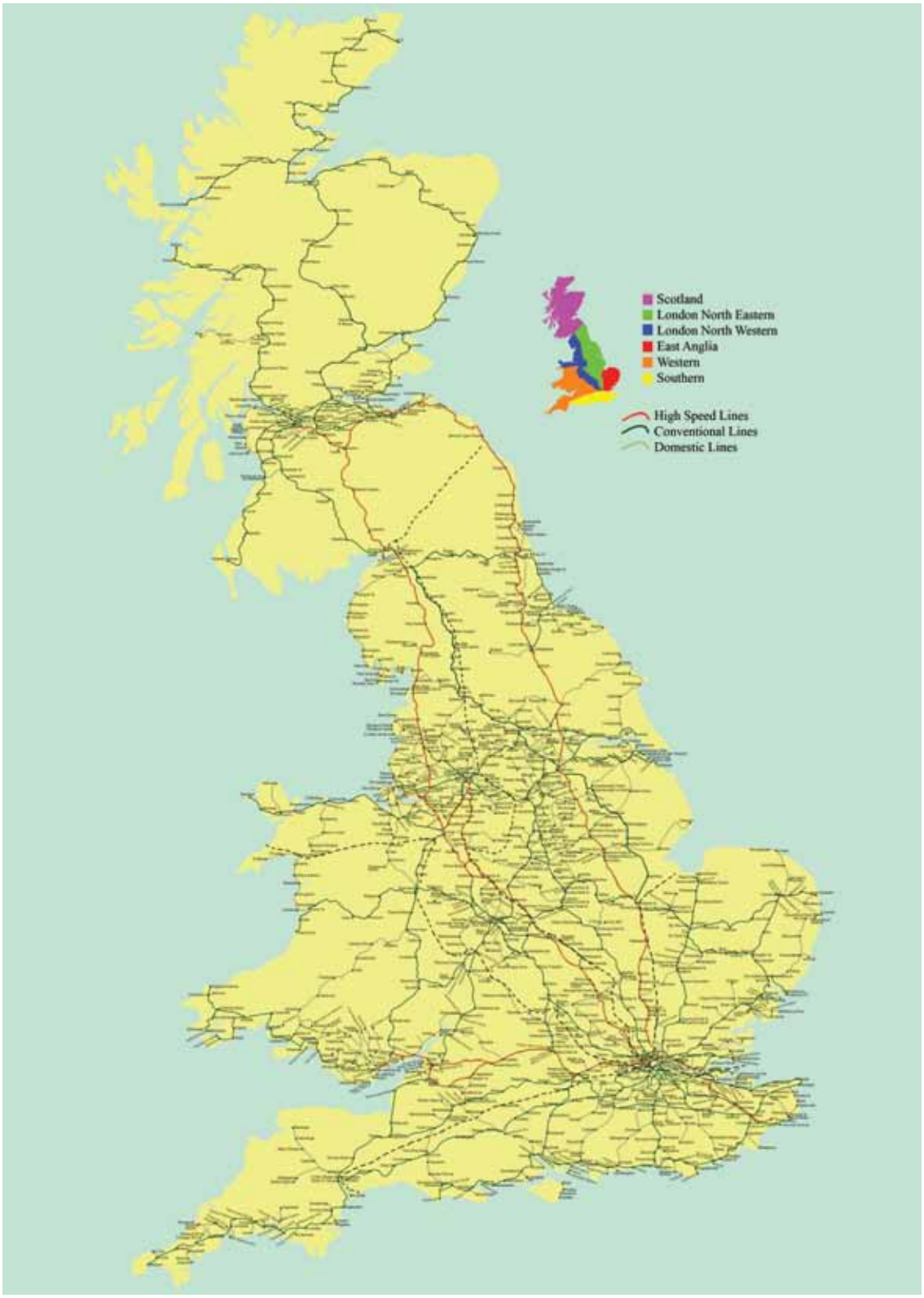


Figure 1 Trans-European Network in Great Britain: high-speed and conventional rail routes

Note: For an online version of Figure 1 that can be enlarged, see www.dft.gov.uk/pgr/rail/interoperabilityandstandards/interoperascope/pdfgbtensmapv3.pdf

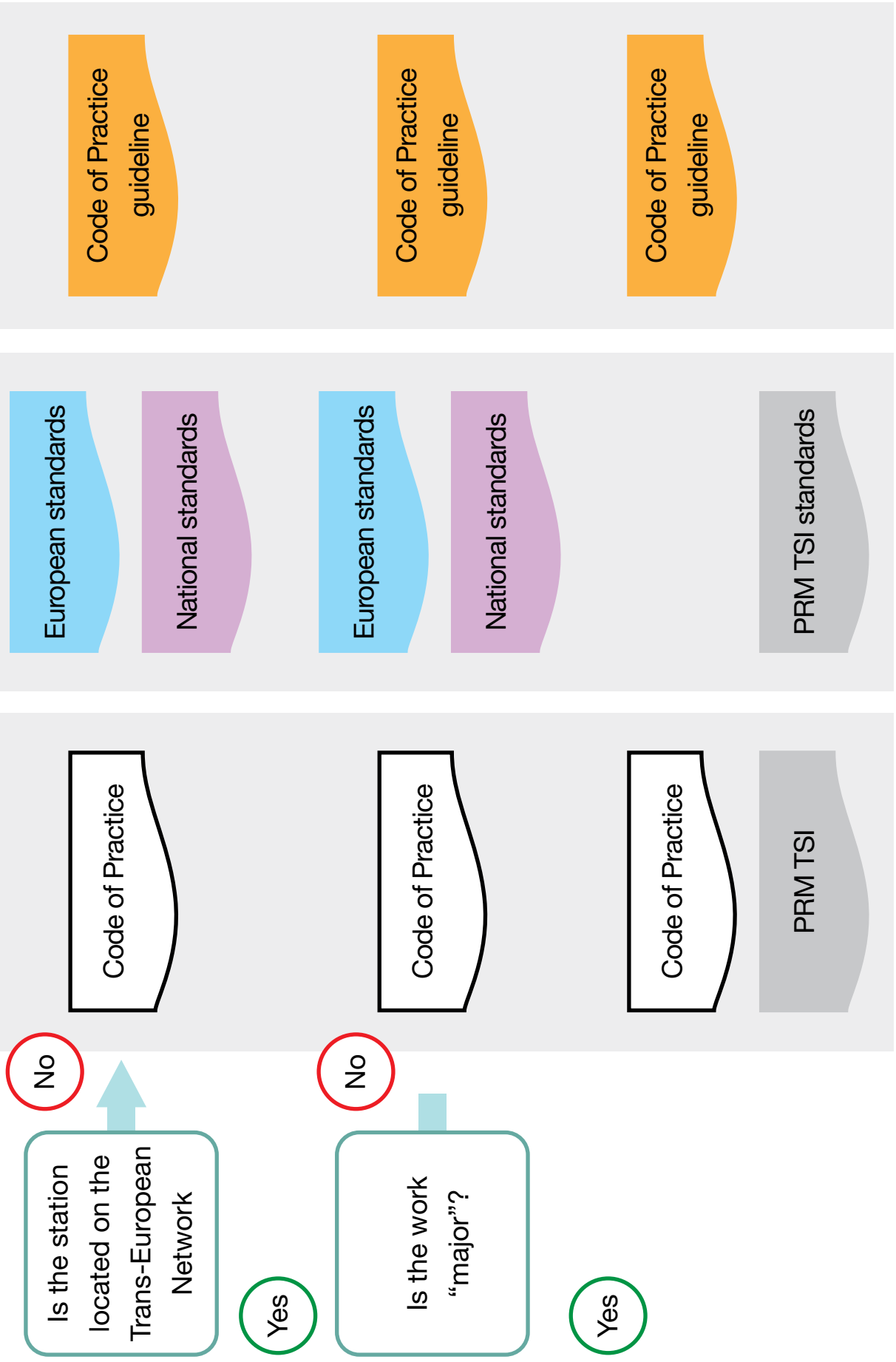


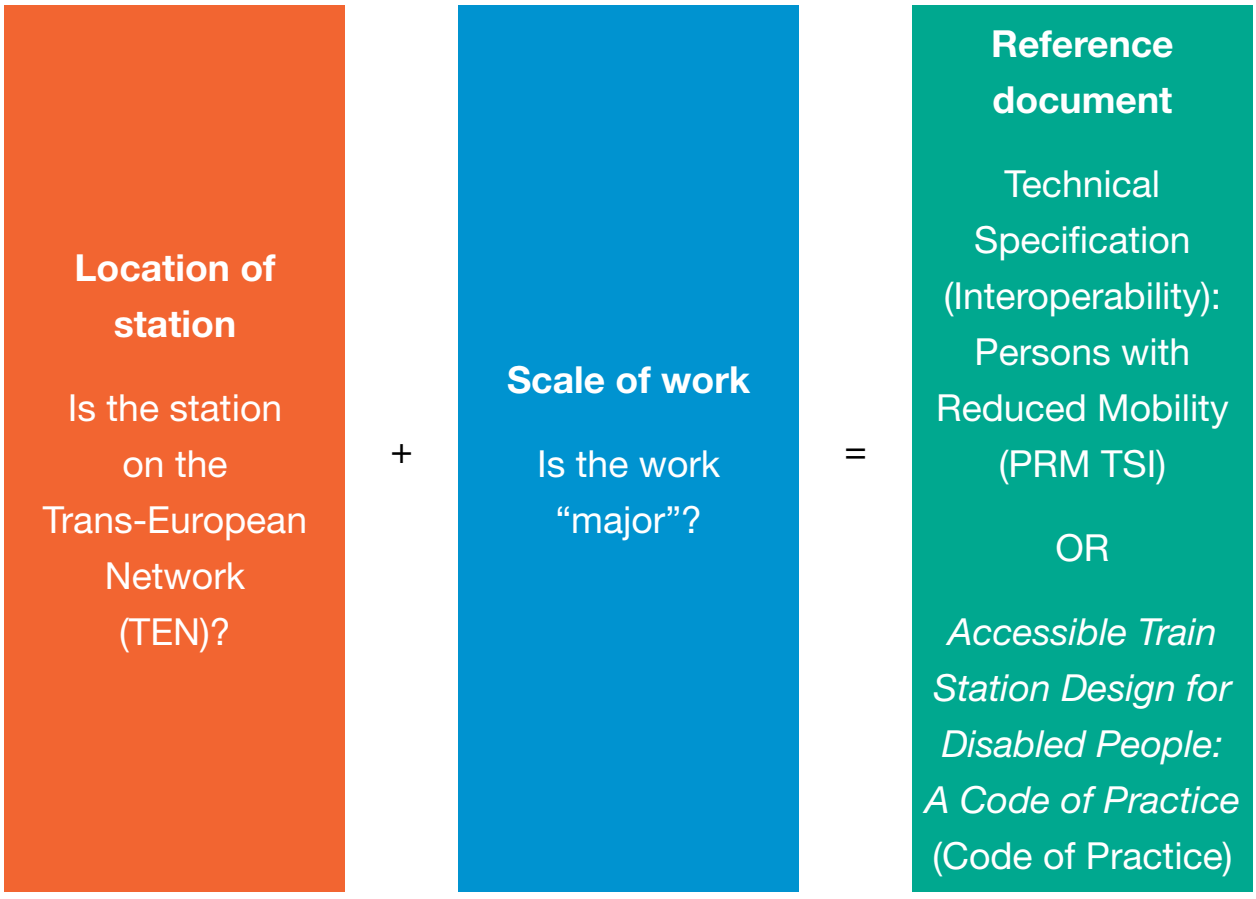
Figure 2 How to determine which minimum standards must be followed for work to be carried out on a station

52. The diagram in Figure 2 describes the process of determining which minimum standards must be followed for any given-level of work to be carried out on a station. It also indicates the guidance that may be referred to.

Examples

53. The decision diagrams in Figure 3 are designed to follow the most appropriate standards when planning work at railway stations or on trains. However, these are only indicative examples, and guidance should be sought from the Department for Transport if you are unsure as to which document to use.

Figure 3 Examples of how to follow the most appropriate standards when planning work at railway stations or on trains



Non-TEN station	+
Any work	=
Code of Practice	
Cannot comply	=
Apply to DfT Railways for all team for dispensation	

TEN station	+
Minor work	=
Code of Practice	
Cannot comply	=
Apply to DfT Railways for all team for dispensation	

TEN station	+
Major work	=
PRM TSI	
Cannot comply	=
Ask DfT for advice on the derogation process	

54. If a scheme does (or might) fall within the PRM TSI process and operators cannot meet the required minimum standards, they should contact the Department for Transport for advice. The same applies for vehicles which may operate on the TEN. In all other cases, the Code of Practice will apply and the process below should be followed:

55. All works undertaken at stations not covered by the PRM TSI are subject to the European and national standards set out in this Code of Practice. In the very small number of cases where trains will not be subject to the PRM TSI, they will remain subject to the standards in RVAR. Operators should also refer to the advice and

recommendations of good practice and consider whether it is possible or appropriate to incorporate the good practice to further improve the facilities available for disabled people.

Dispensation process

56. Where a non-exempt station scheme, undertaken by a licensed operator, cannot meet the European or national standards in this Code of Practice, the scheme promoter must contact the DfT to apply for a dispensation.

57. Where licensed operators are unable to comply with rail vehicle accessibility standards, they should contact the DfT for advice.

58. An application for a dispensation must be made as early in the process as possible, and well before finalising designs, arranging finance, seeking planning and other consents (including station change), and well before any construction is commenced.

59. Dispensations will not normally be granted for new stations.

60. To apply for a dispensation, contracting entities must complete a form, which may be obtained from the Department for Transport's Railways for All team.

61. Dispensation requests must include the following information:

    - Details of the proposed scheme, including a site plan of the existing and proposed new works, including measurement.
    - Details of what the proposed dispensation is and why it is necessary.
    - Details of the options that were investigated that achieved compliance with the Code, and why they were discounted.

- If a dispensation is being requested on the grounds of economic viability, then the dispensation must include details of the cost of compliance and the total cost of the scheme as a whole. The costs of all options to achieve compliance which were examined and discounted should also be included.
- Details of the alternative arrangements that will be put in place to ensure that disabled people are able to access rail services, in line with the duty under the DDA on train and station operators to make reasonable adjustments to their policies and processes.
- Applications for dispensations at Scottish stations should be copied to Transport Scotland.

62. Dispensations are only needed where operators are required to meet the European or national standards, but are unable to do so.

Enforcement

63. All licences issued to passenger train and station operators by the Office for Rail Regulation (ORR) contain a condition that, in drawing up their Disabled People's Protection Policies (DPPPs) licensees will pay due regard to the Code of Practice.

64. Furthermore, it is a standard condition of each operator's DPPP that they will follow the Code of Practice.

65. Compliance with the Code of Practice should therefore be treated in the same manner as compliance with any other licence condition. By failing to comply with the Code of Practice, an operator is in breach of their licence and may be subject to enforcement action by the ORR.

How to use this Code

66. The Code of Practice is designed to help you find the appropriate standards for the work you are carrying out. By following the steps in this section you will be able to determine which rules you will be expected to follow and how you could go further in helping disabled people to access your services.

Step 1

67. Firstly, determine where you will be carrying out the work, and whether the stations concerned are located on the Trans-European Network. For help in doing this you could contact the Department for Transport's Interoperability Team using the information at the start of this document or refer to the TEN map available on the DfT's website.

68. You will also need to determine whether the work is "major". As a guide, a new station or similarly significant work might be considered major. If you are in any doubt, the DfT Interoperability team will, again, be able to help you with this.

69. If the station is on the Trans-European Network, and the works will be "major", you must follow the standards in the Technical Specification of Interoperability: Persons with Reduced Mobility, a copy of which may be found on the DfT website or by contacting the DfT Interoperability team. Please also refer to Step 3 below.

70. If the station is on the Trans-European Network but the work is not "major" or the station is not located on the Trans-European Network, you must use the European and national standards in this document. Please continue to Step 2.

Step 2

71. This Code of Practice is organised along two main lines. First, it is divided into sections depending on the part of a station's infrastructure that a given standard relates to. Secondly, it provides "European standards" and "national standards" separately.

72. Firstly, you must determine which sections of this Code of Practice contain the appropriate standards for the work you will be carrying out. In order to do this, you should refer to the table of contents at the start of this Code.

73. Once you have located the appropriate sections, unless you are exempted from following the Code of Practice, you must follow **both** the "European standards", contained within a blue box, and the "national standards", contained within a magenta box.

74. Where "national standards" are provided, you are strongly recommended to refer to the most up-to-date version of the document from which they originate, which is clearly referenced. This will ensure that you follow the most comprehensive and up-to-date version of the standards.

75. References to national standards are from the relevant sections of BS8300:2009: *Design of Buildings and their Approaches to Meet the Needs of Disabled People*, except for where an alternative standard is noted. All unreferenced clauses are derived from the document *Train and Station Services for Disabled Passengers*, published by the SRA in 2002. (See the Foreword for further information about this document.)

76. If you are required to meet the relevant European or national standards but are unable to do so, you must apply to the Department for Transport for a dispensation, using "Dispensation Form A", available from the Department.

Step 3

77. When you have referred to the relevant standards, whether contained in the PRM TSI or in this Code of Practice, it is recommended that you refer to the Code of Practice guidance, provided in an orange box in each section.

78. Whilst the guidance, regardless of the language used, does not form part of the European or national standards, we recommend that, in order to enhance the experience of your disabled customers, and if necessary to help demonstrate that you have attempted to make reasonable adjustments to facilitate access to your services, you follow the suggestions provided.

79. The advice explains why the provisions of the European and national standards are important to disabled people when they use the rail network. The recommendations of good practice are intended as a steer for operators on how they might go about meeting the standards required of them.

80. The advice and recommendations also give guidance on how operators could further improve the accessibility of their stations.

81. Operators only need to apply for a dispensation if they are required to meet the European and national standards but are unable to do so. Compliance with Code of Practice guidance is not obligatory, and a dispensation is not required in this case.

82. Operators should note that, in cases where the European and national standards are not prescriptive, they may find it difficult to defend themselves against action taken by an individual under the Disability Discrimination Act (DDA), if they cannot demonstrate that they have taken all reasonable steps, equivalent to those recommended in the Code of Practice guidance.

Updating the Code

83. You must be sure at all times that you are using the most up-to-date version of this Code of Practice.

84. On the front cover of the document you will find a version number and a start date. These will be used by the Department for Transport to ensure that you are using the right document. If at any time you are unsure as to which version to use, you should either contact the Railways for All team using the addresses at the start of this document or consult the DfT website.

85. The Department for Transport will endeavour to update the document as required to ensure that it remains up-to-date and accurate. The latest version will always be available on the Department's website at www.dft.gov.uk and users, particularly those who have printed a hard copy, are recommended to check there on a regular basis so as to be aware of any changes to standards or guidance.

A1. Staff training

Figure A1.1 A member of station staff providing assistance to a passenger

One of the most effective ways of making services more attractive to disabled passengers is to provide properly trained staff.

A1.	European standards	Reference
1.	Professional training of customer-facing staff (Figure A1.1) shall include the subject of disability awareness and equality, including the specific needs of each category of PRM.	**PRM TSI: 4.1.6**
2.	Professional training of engineers and managers responsible for maintaining and operating the infrastructure shall include the subject of disability awareness and equality, including the specific needs of each category of PRM.	**PRM TSI: 4.1.6**

A1.	National standards	Reference
1.	This section contains no national standards but operators ought to refer to *How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* for thorough guidance on the statutory requirements relating to this issue.	*How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* see Annex V: Reference documents

A1.	Code of Practice guidance	Reference
	There is no guidance relating to this section.	

A2. Pre-travel information 1

Good information is vital. In addition to the same information as anyone else, disabled passengers may need extra information to enable them to undertake and complete their journey in reasonable safety and comfort.

A2.	European standards	Reference
1.	Information regarding the level of accessibility of all stations must be freely available.	**PRM TSI: 4.1.4**

A2.	National standards	Reference
1.	This section contains no national standards but operators ought to refer to *How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* for thorough guidance on the statutory requirements relating to this issue. An overview of these requirements is given below.	*How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* see Annex V: Reference documents

A2.	Code of Practice guidance	Reference
a.	Some people with disabilities are understandably unwilling to start a journey until they know that it will be possible for them to complete it reasonably easily. Passengers should be able to find out whether the stations and trains that they intend to use will be accessible to them and should be assured that this information is reliable.	
b.	Should a disabled person require assistance or the use of any special facilities, they should be reassured that it will be provided, and be able to rely on the fact that it will be as arranged.	

A2.	Code of Practice guidance	Reference
c.	Accessibility information ought, as a minimum, to cover the following areas: • car parking facilities; • local transport interchanges (bus stops, drop-off points); • doors and single-level entrances; • main passenger routes through the station; • floor surfaces, glass and wall markings, tactile information; • toilets; • station furniture (seating, waiting rooms); • ticket offices and ticket vending machines; • visual and spoken information; • ramps, lifts and escalators; • stairs, steps and handrails; • boarding aids; • commercial outlets, telephones, vending machines. All of the above information is located on the *Stations Made Easy* application on the National Rail Enquiries website, which should be regularly checked and updated for accuracy.	

A2.	Code of Practice guidance	Reference
d.	As well as stating whether the facility exists at the station, it may also be pertinent to outline whether the facility is available at all times that trains run and what issues a disabled passenger may face. For example, a flight of stairs may have 32 steps but may incorporate resting spaces. The above information is located on the *Stations Made Easy* application on the National Rail Enquiries website, which should be regularly checked and updated for accuracy.	
e.	Accessibility information should be available in a range of formats, including large print, audio and Braille.	
f.	Passengers should be able to readily obtain the accessibility information for a particular station from the station operator's phone line, on the internet and by request from any of the operator's ticket offices or customer information points. Online information should be accessible to all users, in accordance with the W3C Web Accessibility Initiative's criteria for "Triple-A" compliance.	W3C Web Accessibility Initiative: www.w3.org/WAI/
g.	Some visually impaired passengers may find it useful to understand the layout of a station before using it. You may, therefore, wish to consider submitting appropriate station descriptions to www.describe-online.com or similar internet services.	www.describe-online.com

B1. Pre-travel information 2

Figure B1.1 A busy mainline railway station

All railway passengers like to know, in advance of their journey, where to go when they reach the station and how to find the appropriate train service. This is especially true of disabled passengers, who may have particular concerns about the accessibility of the stations they will be using and the help available from staff.

B1.	European standards	Reference
1.	Information regarding the level of accessibility of all stations (Figure B1.1) must be freely available.	**PRM TSI: 4.1.4**

B1.	National standards	Reference
	This section contains no national standards.	

B1.	Code of Practice Guidance	Reference
a.	Accessibility information should be available in a range of formats. These may include large print, Braille, audio and easy-read format.	
b.	Passengers should be easily able to obtain accessibility information from a number of appropriate sources.	
c.	Potential passengers ought to be able to find out in advance where they can catch their train, when it will leave, where they have to change, and what help or facilities are available for their particular needs. Without this information, some people may lack the confidence to travel at all.	
d.	Where information is provided on an operator's website, it should be accessible to all users in accordance with the W3C Web Accessibility Initiative's criteria for "Triple-A" compliance.	W3C Web Accessibility Initiative: www.w3.org/WAI/
e.	If a station accessibility level changes (for example, a lift breaks down), then the operator should publicise this, including an approximate timescale for any repairs, and update the Station Journey Planner by contacting the helpdesk.	

C1. Locating and approaching the station

Figure C1.1 The recognised double arrow for the national rail network

C1.	European standards	Reference
1.	A minimum of one obstacle-free route shall be provided that interconnects the following points and services, if provided: • stopping points for other connecting modes of transport within the station confines (e.g. taxi, bus, tram, metro, ferry etc.); • car parks; and • accessible entrances and exits. (As well as linking to other areas, as defined in Section F: Unobstructed progress.)	**PRM TSI: 4.1.2.3.1**
2.	Obstacle-free routes shall be clearly identified by visual information, as detailed in Section F: Unobstructed progress.	**PRM TSI: 4.1.2.3.2**
3.	Information on the obstacle-free route shall be given to visually impaired people by a minimum of one of the following means: tactile paths, audible, tactile signs, talking signs, Braille maps. If a tactile path is installed, it shall be provided along the full length of the obstacle-free route(s).	**PRM TSI: 4.1.2.3.2**
4.	Within the station confines, furniture and free-standing devices shall be positioned where they do not obstruct visually impaired people, and where they shall be detectable by a long-cane user, using the relevant standards, as per Section J: Furniture, walls and transparent obstacles.	**PRM TSI: 4.1.2.8**

C1.	National standards	Reference
	This section contains no national standards.	

C1.	Code of Practice guidance	Reference
a.	Station operators are encouraged to work with local authorities to ensure that stations are clearly and consistently signposted at street junctions, especially on pedestrian routes between public transport facilities.	
b.	It is recommended that pavements provide a 2000 mm obstacle-free, clear passage and have a maximum cross-fall of 2.5 per cent.	
c.	Where it is necessary to introduce occasional narrowing of the footway to avoid existing obstructions (for example, trees) the restricted width should not be less than 1000 mm and should extend no more than 6000 mm.	
d.	Pavements should have a good level of slip resistance, with a smooth consistent texture and should have a well-defined kerb edge.	
e.	Paving slabs should have an even surface to avoid the risk of tripping and be smooth enough for wheelchairs.	
f.	Where station facilities, such as car parks, are outside the station lease area, it is expected that all pavements between the station and the facility will meet the standard of this Code. This may involve co-operation between the station operator and local authority or other third party.	
g.	Lighting should be even and consistent.	

C1.	Code of Practice guidance	Reference
h.	Vegetation should not be allowed to impinge on the clear width of the footpath, particularly at eye level, and should be trimmed at 3000 mm above pavement level to allow for re-growth.	
i.	The buildings and accessible entrances should be prominently signposted and the “double arrow” railway logo should be displayed near to the main building, so that passengers can find the station easily. It is recommended that local authorities use the “double arrow” railway logo to accompany pedestrian signage, as this is well recognised by passengers.	
j.	The “double arrow” symbol (Figure C1.1) is a registered trademark and the symbol for the national rail network. It should be displayed at, or near, all entrances to stations except Ashford International, Ebbsfleet International, St Pancras International, Stratford International and all stations operated by Heathrow Express. The symbol does not cover other networks (e.g. Tyne and Wear Metro, London Underground).	
k.	Obstructions should be minimised, with any unnecessary street furniture removed and the remaining facilities grouped together.	
l.	Where bollards are necessary to separate and protect pedestrian areas, they should be consistently spaced away and from the general lines of pedestrian travel.	

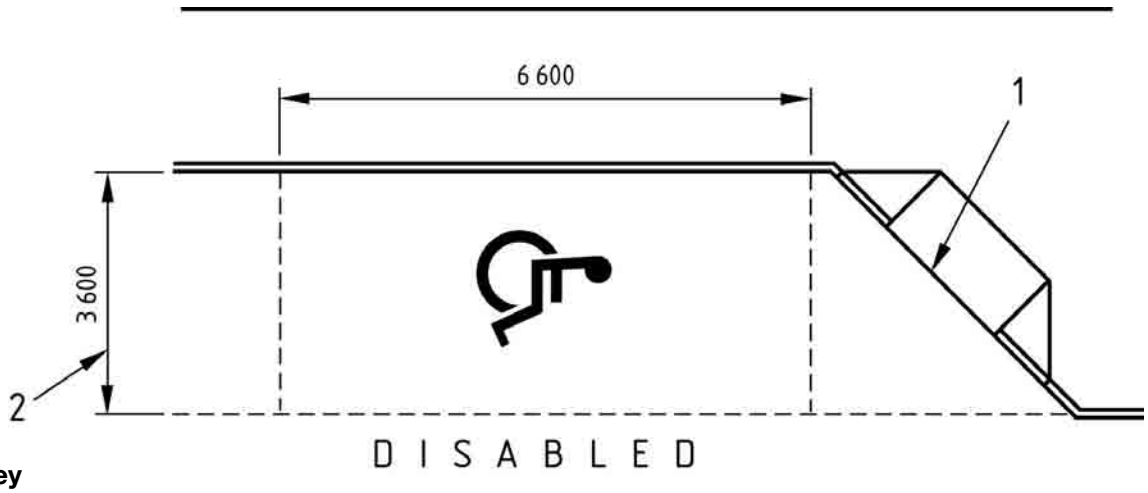
C1.	Code of Practice guidance	Reference
m.	Particular care should be taken to ensure bollards can be seen by visually impaired people. Bollards should be a minimum 1000 mm high, should, ideally, be of a colour which contrasts with their surroundings and should have a prominent, colour-contrasting top or band within the top 33 per cent of at least 150 mm width. Examples of well-designed bollards are shown in *Building Sight: A Handbook of Building and Interior Design Solutions to Include the Needs of Visually Impaired People*.	*Building Sight* (1995) see Annex V: Reference documents
n.	Bollards should never be linked with a chain or rope.	
o.	It is recommended that bollards contain a light fitted with louvres (to direct the light downwards to prevent glare) if they are placed in areas that are dark at night.	
p.	Temporary street furniture such as A-boards and street-café tables should be controlled to maintain free passage and be located in accordance with Section 137 of the Highways Act 1980. Street furniture should also contrast with surroundings to aid people with visual impairments. Further guidance can be found in DfT's *Inclusive Mobility*.	*Inclusive Mobility* (2005) see Annex V: Reference documents

C1.	Code of Practice guidance	Reference
q.	If feasible, drainage gratings should be positioned beyond the boundaries of the access route. Gratings within an access route should be set flush with the surrounding surface. Slots in gratings should not be more than 13 mm wide and should be set at right angles to the dominant line of travel. The diameter of circular holes in gratings should not be more than 18 mm.	

D1. Car parking – general

Figure D1.1 Car park sign
Source: Stagecoach SouthWest Trains

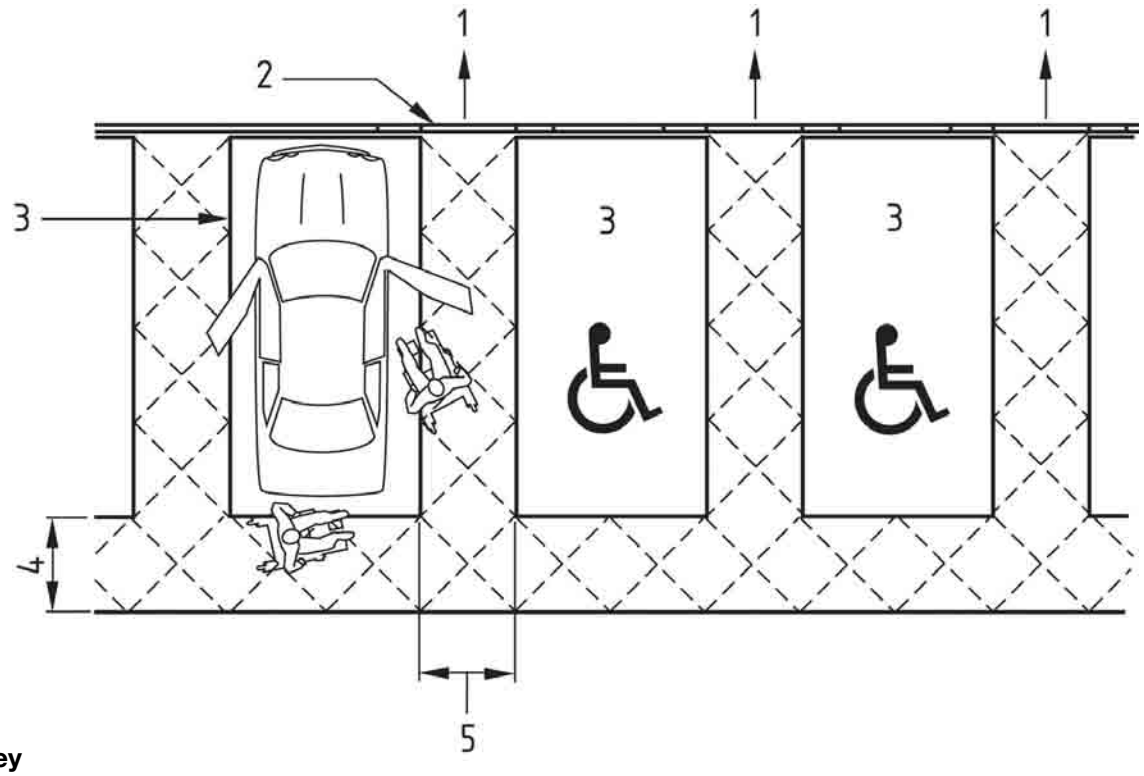
Figure D1.2 Disabled persons' parking spaces in use



Key
1 Dropped kerb (with blister tactile paving)
2 Allows safety zone on kerb or street side

NOTE Refer to Inclusive mobility – A guide to best practice on access to pedestrian and transport infrastructure *[10] for further guidance.*

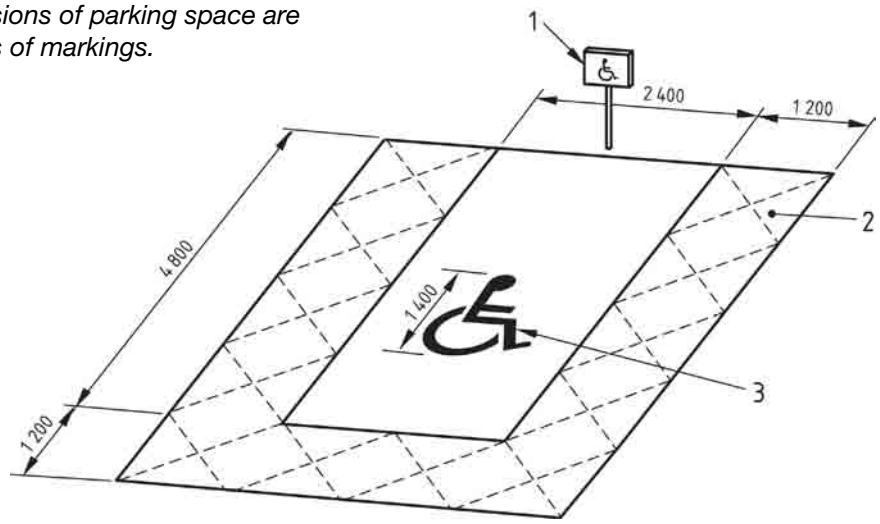
Figure 1 Example of a designated on-street parking bay
Dimensions in millimetres



Key
1 Preferred access route avoiding travel behind parked cars
2 Dropped kerb or level access
3 Standard 2400 mm x 4800 mm designated parking space
4 1200 mm wide safety zone for boot access and cars with rear hoists, outside the traffic zone
5 1200 mm wide marked access zone between designated parking spaces

Figure 2 Access around designated off-street parking spaces

NOTE Dimensions of parking space are to centre lines of markings.



1 Sign, with its lower edge 1000 mm above the ground, to identify parking space when road markings obscured e.g. by snow or fallen leaves, with the words “Blue badge holders only”
2 1200 mm wide access zone between designated parking spaces
3 International Symbol for Access

Figure 3 Markings for multiple designated off-street parking spaces

D1.	European standards	Reference
1.	Where a station-specific parking area exists, there shall be parking spaces reserved for PRM eligible to utilise designated disabled persons’ parking spaces (Figures D1.1 and D1.2) at the nearest practicable position, within the parking area, to an accessible entrance.	**PRM TSI: 4.1.2.2**
2.	Operators must comply with BS 8300 *Design of Buildings and their Approaches to Meet the Needs of Disabled People – Code of Practice* regarding the design of car parking spaces reserved for disabled people (see BS 8300 Figures 1, 2 and 3).	**PRM TSI: 4.1.2.2**

D1.	National standards	Reference
	This section contains no national standards.	

D1.	Code of Practice guidance	Reference
	There is no guidance relating to this section.	

D2. Car parking – location

Figure D2.1 Disabled persons' parking spaces, showing compliant parking space markings
Source: Association of Train Operating Companies

D2.	European standards	Reference
	This section contains no European standards.	

D2.	National standards	Reference
1.	A sign or, if appropriate, signs should be provided at the entrance to each car park and at each change in direction to direct disabled motorists to designated parking spaces.	**BS 8300:4.4.1**
2.	Designated disabled persons' parking spaces (Figure D2.1) should be located on firm and level ground, as close as is feasible to an accessible entrance (a maximum distance of 50 m is recommended).	**BS 8300:4.2.2** **BS 8300:5.1**
3.	Signs should be provided at the entrance to the car park and at each decision point to direct disabled motorists to designated parking spaces.	**BS 8300:4.4.1**
4.	Any vehicle height barrier must provide a suitable vertical clearance from the road surface to allow the passage of "hi-top" conversion vehicles. A vertical clearance of a minimum of 2600 mm from the road surface must be maintained from the entrance to (and including) the designated parking bays.	**BS 8300:4.4.3**
5.	Where designated on-street parking bays are provided, they should be sited where road gradient and camber are reasonably level, e.g. 1:50.	**BS 8300:4.1**

D2.	Code of Practice guidance	References
a.	It is recommended that, wherever possible, there is direct pedestrian access to the entrance without the need to conflict with road traffic.	
b.	Co-operation between the operator and the highway authority (or other party) is expected in order to provide suitable crossing points where there is a road between the car park and the station.	
c.	It is recommended that, where practicable, disabled persons' car parking spaces are covered with a shelter to protect people with mobility difficulties from the elements while they transfer to or from their vehicles.	
d.	If there are alternative routes between the station and the designated disabled persons' parking spaces, the preferred route for wheelchair users should be clearly signposted.	
e.	It is recommended that an accessible help point that can be used by all users, including wheelchair users, to summon assistance from station staff is installed near the designated disabled persons' parking spaces.	
f.	Where car parking is split into short and long stay, all designated parking bays and enlarged standard spaces should be located together, as near as feasible to the station entrance.	

D2.	Code of Practice guidance	References
g.	It is also recommended that further help points are installed in the car park(s) to assist customers who may need help but who are not Blue Badge holders.	

D3. Car parking – number of spaces

D3.	European standards	Reference
	This section contains no European standards.	

D3.	National standards	Reference
1.	The number of designated disabled persons' parking spaces will depend on the overall capacity of the car park. The minimum number of spaces designated for disabled motorists must be 5 per cent of the total capacity of the car park.	**BS 8300:4.2.1.4**
2.	Where a member of staff employed at a station requires a designated disabled parking space, if this would affect the sufficiency of the general 5% requirement for disabled parking, then an additional designated space should be provided for the member of staff.	**BS 8300:4.2.1.4**

D3.	Code of Practice guidance	Reference
a.	It is recommended that, if all the designated spaces are occupied for more than 10 per cent of the car park's operating hours, the operator should consider increasing their number.	

D4. Car parking – dimensions of spaces

D4.	European standards	Reference
	This section contains no European standards.	

D4.	National standards	Reference
1.	Designated disabled persons' parking spaces must be 4800 mm long (plus a 1200 mm safety zone to accommodate rear hoists) × 3600 mm wide to accommodate transfer from the car to a wheelchair. Space can be saved by combining spaces in pairs of 4800 mm × 2400 mm with a common transfer zone of 1200 mm (see BS 8300:2009, Section 4, Figure 2).	**BS 8300:4.2.3**
2.	Designated on-street parking must be 6600 mm long × 3600 mm wide. This allows access to the rear of the vehicle and free passage between parked vehicles. It also enables the driver or passenger to alight from the side. See BS 8300:2009, Section 4, Figure 1.	**BS 8300:4.1**

D4.	Code of Practice guidance	
a.	Any enlarged standard spaces should be 3000 mm wide × 6000 mm long. These spaces will benefit non-Blue Badge holders who need extra width to enter, or exit from, their vehicles.	**BS 8300:4.2.1.1**

D5. Car parking – markings

Figure D5.1 A typical dropped kerb with tactile paving

D5.	European standards	Reference
	This section contains no European standards.	

D5.	National standards	Reference
1.	Spaces must be clearly marked – for example, by the international symbol for access on the road surface and by a notice at the driver's eye level. See BS 8300:2009, Section 4, Figure 3.	**BS 8300:4.2.3**
2.	Designated parking spaces and any access routes from such spaces to the building entrance should be lit artificially to achieve a minimum luminance of 20 lux.	**BS 8300:4.2.3**
3.	Safety zones surrounding parking spaces should be marked so as to visually contrast with the surface to which they are applied. See BS 8300:2009, Section 4, Figure 3.	**BS 8300:4.2.3**

D5.	Code of Practice guidance	Reference
a.	All new signage should refer to “Blue Badge holders”.	
b.	Where spaces are flush with the footway, they should be marked with the appropriate tactile surface.	
c.	Dropped kerbs (Figure D5.1) or level access marked with yellow hatching should be provided at exits from the car park to surrounding footpaths and at, or close to, the entrance(s) of the station. These should be kept free of obstruction. They should be marked by the appropriate tactile surface, so that visually impaired people are aware when they are moving onto the highway.	
d.	It is recommended that dropped kerbs at the pavement edge are not more than 2000 mm wide, with a level area of at least 1000 mm on the pavement to the rear of the dropped kerb. If this is not possible, the dropped kerb should extend to the rear of the pavement. The gradient should be 1:20 unless site constraints make this impossible, in which case the recommended maximum is 1:12 (preferably 1:15). All dropped kerbs should be flush with the highway.	

D5.	Code of Practice guidance	Reference
e.	It is inappropriate to install long sections of tactile paving. Parking bays should not be completely level with the surrounding footway; a minimum 25 mm upstand to the footway will provide some indication of the change from footway to highway. For further guidance on appropriate demarcation between surfaces, see *Testing Proposed Delineators to Demarcate Pedestrian Paths in a Shared Space Environment* and *Guidance on the Use of Tactile Paving Surfaces*.	For more information on both publications, see Annex V: Reference documents
f.	The front of each bay should be protected with barriers and a tactile warning surface 400 mm deep should be used to indicate where the footway becomes flush with the highway, for example at the front of the transfer zone. For more information about tactile surfaces, see *Guidance on the Use of Tactile Paving Surfaces*.	*Guidance on the Use of Tactile Paving Surfaces* (2005) see Annex V: Reference documents

D6. Car parking – monitoring and enforcement

D6.	European standards	Reference
	This section contains no European standards.	

D6.	National standards	Reference
1.	Use of the designated disabled persons' parking spaces must be regularly monitored to limit misuse by non-disabled motorists and to confirm the number of designated spaces remains appropriate for the number of disabled motorists using the station.	**BS 8300:4.2.1.1**

D6.	Code of Practice guidance	Reference
a.	The regular monitoring of designated spaces is particularly important as improvements in stations and rolling stock make it possible for more disabled people to travel. In relation to the enforcement of designated disabled persons' parking spaces, it might not be considered appropriate to install spaces without undertaking to monitor and enforce their appropriate use.	
b.	Any pay and display machines should be placed close to the reserved spaces. It is recommended that they are easily accessible to all disabled people. Any charging policies must be clearly stated on signs near the ticket machines.	

D7. Car parking – car parking contracts

D7.	European standards	Reference
	This section contains no European standards.	

D7.	National standards	Reference
	This section contains no national standards.	

D7.	Code of Practice guidance	Reference
a.	These requirements and recommendations apply to station car parks that are part of the operator's lease. Where the car park is operated by a third party, the station operator should ensure that conditions are introduced at the next review of the contract to require compliance with the standards in the Code.	

E1. Set-down and pick-up points

E1.	European standards	Reference
1.	A minimum of one obstacle-free route shall be provided that interconnects the following points and services, if provided within the station boundary: • stopping points for other connecting modes of transport within the station confines (e.g. taxi, bus, tram, metro, ferry, etc.); • car parks; • accessible entrances and exits. All of the above must meet the technical standards from PRM TSI: 4.1.2.3.1 as set out in Section F: Unobstructed progress.	**PRM TSI: 4.1.2.3.1**

E1.	National standards	Reference
1.	A designated set-down point suitable for disabled passengers must be provided on firm and level ground close to the principal, or alternative, accessible entrance to the station.	**BS 8300:4.5**
2.	The location of the set-down point must be clearly signposted.	**BS 8300:4.5**
3.	The set-down point must be provided in addition to the designated disabled persons' parking spaces.	**BS 8300:4.5**
4.	The surface of the footway, alongside the set-down point, should be level with the carriageway at that point to allow convenient transfer into a wheelchair.	**BS 8300:4.5**
5.	If feasible, set-down points should be covered to provide protection from the weather.	**BS 8300:4.5**

E1.	Code of Practice guidance	Reference
a.	Where set-down and pick-up points can only be at pavement level, the kerb alignment should allow vehicles to park hard against it.	
b.	Wheelchair access to most taxis is on the nearside, though some MPV type taxis load wheelchair users through the rear door. Where taxi ranks are being designed or redeveloped, they should be designed to facilitate access into both vehicle types without creating safety risks for either customers or drivers.	
c.	Where pavement-level set-down points have not been provided, it is much harder to transfer from a vehicle into a wheelchair, and the vehicle has to be parked away from the kerb to make space for a wheelchair on the same level. Therefore, it is recommended that road-level set-down points are near to a dropped kerb so that it is possible to get onto the safety of the pavement quickly.	
d.	Set-down and pick-up points should be free of all obstacles and wide enough to allow transfer to and from a wheelchair without being obstructed by other pedestrians. The width of the unobstructed footway should be sufficient to allow the deployment of wheelchair ramps (up to 1620 mm) and adequate manoeuvring space for the wheelchair user. The suggested total width is 4040 mm.	

E1.	Code of Practice guidance	Reference
e.	Where set-down and pick-up points are not outside, or on the same side of the road as, the station entrance, a controlled crossing route should be provided.	
f.	It is recommended that, where practicable, passengers are able to choose between getting out of taxis/minicabs or cars either at pavement level or at road level. Which of these is easier depends on the type of vehicle and the method of getting into and out of it. There should be a straight length of kerb to allow vehicles to park hard against it.	
g.	In the case of buses, it is recommended that raised “Kassel” type kerbs are used to help facilitate access. If this type of kerb is introduced, dropped kerb access at appropriate points should be included as well. The Public Service Vehicles Accessibility Regulations 2000 (PSVAR) contain a requirement for buses to carry a ramp or lift in order to overcome the height differences.	For further details, see Annex V: Reference documents
h.	Controlled crossings with aural signals or a rotating cone (to assist deafblind people) fitted to the underside of the control box are generally regarded as good practice. Ideally, both devices should be used.	

E1.	Code of Practice guidance	Reference
i.	Where the crossing is not under the control of the station operator, it is recommended there is co-operation between the operator and the highway authority so that the standards in this code can be met.	

F1. Unobstructed progress – general

Figure F1.1 An unobstructed route across a station concourse

F1.	European standards	Reference
1.	An obstacle-free route (Figure F1.1) is a route that can be freely navigated by all categories of PRM. It may include ramps or lifts. A minimum of one obstacle-free route shall be provided that interconnects at least the following points and services if provided: • stopping points for other connecting modes of transport within the station confines, including taxi, bus, tram, metro and ferry; • car parks; • accessible entrances and exits; • information desks; • other information systems; • ticketing facilities; • customer assistance; • waiting areas; • left luggage facilities; • toilet facilities; and • platforms.	**PRM TSI: 4.1.2.3.1**

F1.	European standards	Reference
2.	All obstacle-free routes, stairs, ramps, footbridges and subways shall have a free width of a minimum of 1600 mm, with a minimum headroom of 2300 mm over the entire width of 1600 mm. The minimum width requirement does not take into account additional width that may be required for passenger flows. This requirement is not applicable to escalators, travelators and lifts.	**PRM TSI: 4.1.2.3.1**
3.	The length of the obstacle-free routes shall be the shortest practical distance.	**PRM TSI: 4.1.2.3.1**
4.	Obstacle-free routes shall be clearly identified by visual information as detailed within this section.	**PRM TSI: 4.1.2.3.2**
5.	Information on the obstacle-free route shall be given to visually impaired people by a minimum of one of the following means: tactile paths, aural, tactile signs, talking signs, Braille maps.	**PRM TSI: 4.1.2.3.2**
6.	If a tactile path is installed, it shall be provided along the full length of the obstacle-free route(s).	**PRM TSI: 4.1.2.3.2**

F1.	European standards	Reference
7.	If there are handrails or walls within reach along the obstacle-free route to the platform, they shall have brief information (e.g. platform number or direction information) in Braille and in prismatic letters or numbers at the rear of the handrail, or on the wall at a height between 850 mm and 1000 mm. Numbers and arrows are the only permissible tactile pictograms.	**PRM TSI: 4.1.2.3.2**
8.	If footbridges or subways are used as part of the normal passenger walking route within the confines of the station, these shall have an obstacle-free area of a minimum of 1600 mm wide and a minimum headroom of 2300 mm throughout. The minimum width requirement does not take into account additional width that may be required for high passenger flows. These additional widths shall be in accordance with national rules.	**PRM TSI: 4.1.2.14**

F1.	European standards	Reference
9.	New stations with a throughput of less than 1000 passengers per day (combined total of passengers embarking and disembarking) are not required to have lifts or ramps, where these would otherwise be necessary to achieve full compliance with this clause, if another station within 30 km on the same route provides a fully compliant obstacle-free route. In such circumstances, the design of new stations shall incorporate provision for the future installation of a lift and/or ramps to make the station accessible to all categories of PRM.	**PRM TSI: 4.1.2.3.1**
10.	When considering the practical application of Standard 4.1.2.3.1 above, operators may wish to consider their obligations to provide accessible facilities in line with relevant legislation, including Part M of The Building Regulations 2000 and the Disability Discrimination Act 1995, as amended.	For further details, see Annex V: Reference documents.
11.	For security purposes, it may be necessary to place an anti-vehicle security measure, for instance a collapsible bollard, in the centre of the station entrance. Provided a minimum width of at least 800 mm is maintained on both sides of the bollard, and it is marked so as to be identifiable to someone with impaired vision, then such an installation will be considered as complying with Standard 4.1.2.3.1.	

F1.	National standards	Reference
	This section contains no national standards.	

F1.	Code of Practice guidance	Reference
a.	Routes to and within buildings should be wide enough for wheelchair users to use easily. They must be obstacle-free, direct and obvious. Where necessary, they should be signposted (see Section K: Signs).	
b.	Station furniture should be designed and placed so that it does not interfere with the main pedestrian flow. Such items should be clearly visible to all passengers.	
c.	Facilities such as telephones, vending machines and seating should be sited so that people using them do not get in the way of others.	
d.	Passages and subways should be well lit, recommended to a level of 150 lux, with clear directional information.	
e.	The recommended width for pedestrian footways is 2000 mm.	
f.	Where the use of columns or poles is unavoidable, these should have good contrast against the background in which they are seen and, as a minimum, have a contrasting horizontal band 150 mm wide, with the lower edge at a height of about 1500 mm from the ground. Two such horizontal bands, one at 1050 mm above the ground and one at 1500 mm, should be used where the obstruction occurs on main pedestrian routes.	

F1.	Code of Practice guidance	Reference
g.	It is recommended that lights and signs are mounted on walls or suspended to avoid the use of additional upstands. Where this results in the information being displayed too far away from the viewer to be easily read, then the sensitive use of upstands should be considered. Sharp edges are dangerous and should be avoided.	
h.	Generally, it is recommended that freestanding objects such as bollards are placed clear of the pedestrian flow. They should be at least 1000 mm high, with coloured bands or tops so that they stand out from the background (see Section B3.4).	
i.	Objects projecting more than 100 mm into an access route between 300 mm and 2100 mm above the ground should be bordered by hazard protection.	
j.	Hazard protection should take the form of a barrier at a height of 1000 mm from ground level and a kerb, or other solid barrier, detectable by long-cane users. This kerb should not be more than 100 mm back from the front edge of the obstacle.	

F1.	Code of Practice guidance	Reference
k.	Where litter bins are provided, they should have good contrast against the background in which they are seen, and should be placed so that they are not an obstruction. It is recommended that the top is 1300 mm above ground level, with a recommended opening of 750–900 mm above the ground. The base must be wide enough to be detected by a cane.	
l.	"Tapering" obstructions such as the spaces below ramps and stairs, which cannot be detected by cane users and are not picked out by guide dogs, should be blocked in or protected by rails which extend at least 1000 mm above ground level. It is recommended that a tapping rail of a maximum height of 200 mm is also used.	
m.	Station furniture should contrast both in tone and in colour with surrounding objects. There should be good colour contrast between walls, floors and doors for the benefit of visually impaired people. Walls should not have a glossy finish, and floors should ideally have a matt or semi-matt finish. See *Colour and Contrast: A Design Guide for the Use of Colour and Contrast to Improve the Built Environment for Visually Impaired People*.	*Colour and Contrast* (2001) see Annex V: Reference documents

F1.	Code of Practice guidance	Reference
n.	For advice on the provision of tactile paving along unobstructed routes, operators may wish to consult the *Guidance on the Use of Tactile Paving Surfaces*, Department for Transport, Chapter 6.	*Guidance on the Use of Tactile Paving Surfaces* (2005) see Annex V: Reference Documents

F2. Unobstructed progress – building works

Building works are a particular hazard to disabled people. They can cause problems when a person is in a familiar place, and so may not be looking out for potential hazards. Because building works are temporary and subject to regular changes, often less attention is given to minimising hazards, and many building contractors are unaware of the need to make their sites more obviously demarcated or to provide accessible routes around them.

F2.	European standards	Reference
1.	The Infrastructure Manager or Station Manager shall have procedures that include the provision of alternative assistance to PRM during maintenance, replacement or repair of facilities that are for PRM use.	**PRM TSI: 4.1.5**

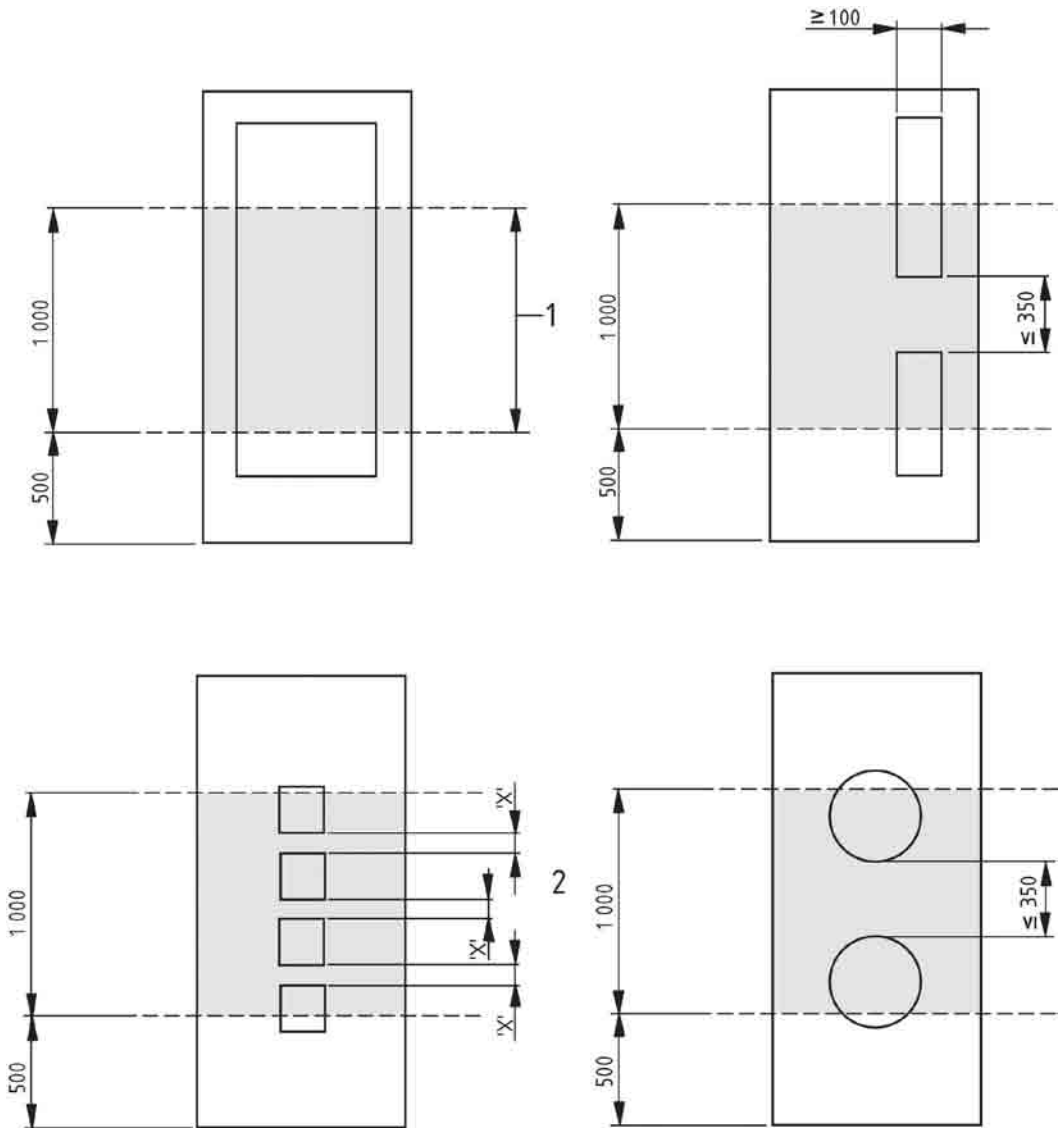
F2.	National standards	Reference
	This section contains no national standards.	

F2.	Code of Practice guidance	Reference
a.	All works and builders' materials in thoroughfares should be enclosed by a fence or barrier that is at a height and colour to be seen easily. It is recommended that the upper edge of barriers should be at least 1000 mm above the ground and should contrast in colour with their surroundings. Barriers should be detectable by visually impaired people, including long-cane users, with a tapping rail of a minimum depth of 150 mm, with its lower edge up to a maximum of 200 mm above the ground. Such works should also comply with all relevant legislation, such as The Construction (Design and Management) Regulations 2007.	The Construction (Design and Management) Regulations 2007, see Annex V: Reference documents
b.	If the barrier consists of a hoarding, it should include a contrasting band of colour between 140 mm and 160 mm wide, with the lower edge at a height about 1500 mm.	
c.	The use of warning stripes indicates a temporary warning, and the colour chosen should contrast with its background.	
d.	Lamps should mark out the site when the area is not lit. It is recommended that lamps are used at night for areas that are lit, as they provide a higher, more concentrated source around the obstructions, although care should be taken to ensure the safe operation of the railway.	
e.	The route around the works should be clearly marked and wide enough for wheelchairs.	

F2.	Code of Practice guidance	Reference
f.	Where building works are of a size and type that may make it difficult for some people to use the station or facility concerned, information about the nature of the obstacle and about how long it will remain should be fed into the information network. Operators ought to refer to *How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* for thorough guidance on the statutory requirements relating to this issue.	*How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* see Annex V: Reference documents
g.	When commissioning work, station operators, or Network Rail as landlord, should ensure that contractors are aware of these basic rules in conjunction with their railway safety case or applicable safety management system. Where necessary, local access officers or disability groups can be consulted for advice.	
h.	Handrails should always be provided on at least one side of staircases and ramps, even when temporary work is under way. It is recommended where possible in these situations that handrails are provided on both sides.	
i.	On steps or ramps, it is recommended that barriers include a smooth, rigid handrail in a contrasting colour, fixed at between 900 mm and 1000 mm above ground level, for pedestrians to use for guidance and support.	

G1. Doors

Figure G1.1 A door with a visibility panel



Key

1 Minimum zone of visibility between 500 mm and 1 500 mm above floor level, with maximum interruption of 350 m vertically within the zone

2 Maximum obstruction (X + X + X) no more than 350 mm

Figure 13 Minimum zone of visibility and examples of acceptable vision panel configurations

G1.	European standards	Reference
1.	A minimum of one accessible entrance to the station and one accessible entrance to each platform shall be provided.	**PRM TSI: 4.1.2.4**
2.	At doors and entrances, thresholds shall not be higher than 25 mm.	**PRM TSI: 4.1.2.4**
3.	Where thresholds are installed, they shall contrast in colour with the immediate background.	**PRM TSI: 4.1.2.4**
4.	Doors and entrances shall have a minimum clear opening width of 800 mm and free headroom of 2100 mm.	**PRM TSI: 4.1.2.4**
5.	Operators are permitted to use either manual, semi-automatic or automatic doors.	**PRM TSI: 4.1.2.4**
6.	The force required to open or close a manual door, under wind-free conditions, shall not exceed 25 newtons.	**PRM TSI: 4.1.2.4**
7.	Manual, non-sliding doors shall be provided with horizontal push bars, extending across the full width of the door, on both sides of the door.	**PRM TSI: 4.1.2.4**
8.	To latch or unlatch a manual door, the handle shall be operable by the palm of the hand exerting a force not exceeding 20 newtons.	**PRM TSI: 4.1.2.4**
9.	Door operating devices shall be available at a height of between 800 mm and 1200 mm.	**PRM TSI: 4.1.2.4**

G1.	European standards	Reference
10.	If push-button or other remote control devices are provided for operation of doors, then each push-button or device shall contrast with its surroundings and shall be operable by a force not greater than 15 newtons.	**PRM TSI: 4.1.2.4**
11.	If both open and close buttons are fitted one above the other, the top button shall always be the open control.	**PRM TSI: 4.1.2.4**
12.	The centre of the control shall be not less than 800 mm and not more than 1200 mm vertically above floor level.	**PRM TSI: 4.1.2.4**
13.	Such controls shall be identifiable by touch (e.g. tactile markings) and shall indicate the functionality.	**PRM TSI: 4.1.2.4**
14.	Automatic and semi-automatic doors shall incorporate devices that prevent passengers being trapped during operation of the doors.	**PRM TSI: 4.1.2.4**
15.	Where a revolving door is used, an additional non-revolving door shall be provided that is freely available for use, adjacent to the revolving door.	**PRM TSI: 4.1.2.4**

G1.	National standards	Reference
	This section contains no national standards, but operators may wish to refer to BS 8300 Figures 13 and 14 as examples of good practice in minimum zones of visibility and door-opening furniture.	**BS 8300:6.4.3**

G1.	Code of Practice guidance	Reference
a.	It is recommended that thresholds be level with the surrounding floor or, where this is not possible, that they rise no more than 15 mm for external doors or 13 mm for internal doors. Any rise of more than 5 mm should have a bevelled edge, and single steps should also be avoided.	
b.	Doormats should be fixed and sunk so that they are flush with the floor to avoid a trip hazard. Soft mats and coir mats should be avoided, as they are difficult for people in manual wheelchairs to travel over.	
c.	Doors should colour-contrast with their surroundings.	
d.	The leading edge of any door that is to be left open should contrast with the background against which it will be viewed.	
e.	A clear space of 2000 mm is recommended before and after any doorway to allow a wheelchair user space to manoeuvre.	
f.	The use of automatic doors is highly recommended. If manual doors are used, they should be left open during working hours. In inclement weather, manual doors may be closed, but should be capable of being opened by people with limited strength or wheelchair users.	

G1.	Code of Practice guidance	Reference
g.	If automatic hinged doors are used, there should be a clear indication of which way they open so that people do not collide with opening doors.	
h.	Physical barriers should be installed to prevent manual and hinged automatic doors from swinging into people when they open.	
i.	Inward-opening swinging doors in exposed positions should be recessed or sheltered from prevailing winds so that heavy spring closers are not needed.	
j.	Swing doors should be designed so that they can be left open at 90 degrees.	
k.	Automatic doors should take at least 3 seconds to open and 6–9 seconds to close. Where double sets of automatic doors are used, they should close in a “Z” pattern to prevent a person using crutches from being caught in them.	
l.	Horizontal handrails should be 1000 mm from the ground and vertical handrails should extend from a height of 1000–1400 mm.	

G1.	Code of Practice guidance	Reference
m.	All manual doors should have a vertical, as well as horizontal, push bar on each side of the door. The bars should be 30–35 mm in diameter, colour-contrast with the surroundings and have an easy-grip raised textured surface and be round in section with at least 45 mm clearance from the door.	
n.	Lever handles should be fixed at a height of 1000 mm, with a minimum length of 120 mm. They should be rounded in section, with at least 45 mm clearance from the door. All handles within a station should be at a consistent height.	
o.	It is recommended that doors should have kick plates at least 400 mm deep.	
p.	Doorknobs that need to be turned should be avoided, as many people find them difficult or painful to use.	
q.	Doors that can open in either direction should have a clear panel (Figure G1.1), so that people of all heights (including wheelchair users) can be seen when approaching from the other side. The minimum zone of visibility should be between 500 mm and 1500 mm high. If a door requires an intermediate horizontal section, this should be between 800 mm and 1150 mm with visibility panels above and below.	

G1.	Code of Practice guidance	Reference
r.	Self-closing doors should be avoided. Where they are used (e.g. fire doors), they must incorporate a delay mechanism.	

H1. Lighting

Figure H1.1 Well-lit platforms
Source: Stagecoach South West Trains

Good lighting at stations (Figure 1.1) can enhance the appeal of public transport and give passengers a feeling of comfort and security.

Wherever possible, it is recommended that public buildings are designed to make use of natural lighting, although care should be taken to minimise glare and strong reflections from surfaces.

Lighting levels should be good and consistent throughout routes used by passengers. An adequate lighting level for people using the facility should be achieved. There should be no sudden differences in lighting levels. Everyone takes time to adapt to brighter or darker conditions, but for visually impaired people this can take longer and cause a real hazard.

Any transition on lighting levels should be smooth. No areas should be excessively bright or dark. There should be no areas of strong shadows. Lighting should be uniform during the day and night.

Higher levels of illumination are desirable for visually impaired passengers. There is a need to ensure that the recommended lighting levels do not affect the safe operation of the railway and, in particular, the need for train drivers to see signals and signs clearly. Safety on the railway should always take precedence.

H1.	European standards	Reference
1.	From the accessible building entrance to the platform access point, the obstacle-free route shall be illuminated to a minimum of 100 lux, measured at floor level.	**PRM TSI: 4.1.2.10**
2.	The minimum-required light level on the main entrance, stairs and at the end of ramps shall be a minimum of 100 lux, measured at floor level. If artificial lighting is required to achieve this, the required lighting level shall be a minimum of 40 lux above the ambient surrounding light levels and have a colder colour temperature.	**PRM TSI: 4.1.2.10**
3.	Platforms and other external station passenger areas shall have a minimum average illumination level of 20 lux, measured at floor level, with a minimum value of 10 lux.	**PRM TSI: 4.1.2.10**

H1.	European standards	Reference
4.	Where artificial lighting is required to allow detailed information to be read, these locations shall be highlighted by lighting with a minimum 15 lux increase over lighting provided in adjacent areas. Such increased lighting shall also have a different colour temperature to that in the adjacent areas.	**PRM TSI: 4.1.2.10**

H1.	National standards	Reference
1.	Station forecourt lighting shall be in accordance with BS 5489-1 *Code of Practice for the Design of Road Lighting Part 1: Lighting of Roads and Public Amenity Areas.*	**BS 5489-1**
2.	Emergency lighting shall be in accordance with BS 5266-1 *Emergency Lighting Part 1: Code of Practice for the Emergency Lighting of Premises.*	**BS 5266-1**

H1.	Code of Practice guidance	Reference
a.	White artificial light is more effective than yellow artificial light in terms of its colour-rendering properties and in creating true colour appearance. Strobe effects with lights should be avoided, as these may cause problems for people who may have epileptic seizures.	
b.	Steps and stairs should be well lit, without glare. It is recommended that lighting levels increase to 150–200 lux and that the transition should be smooth.	
c.	In passenger lifts, lighting should be uniformly distributed, avoiding the use of spotlights, as they can cause difficulties for visually impaired people. It is recommended that lighting levels in the lift are a minimum of 100 lux (approximately 50–75 lux at floor level), which also allows the occupants of the lift to be viewed by a station CCTV system.	
d.	On escalators, lighting should be provided near to floor level. It is recommended that lighting levels increase on escalators to 150–200 lux, but the transition should be smooth. The sides of the escalator should be a non-reflective material.	
e.	Lighting inside waiting rooms or shelters should be a minimum of 150 lux.	

H1.	Code of Practice guidance	Reference
f.	Platform lighting should provide uniform illumination, and it is recommended that this is a minimum of 100 lux, measured horizontally at floor level, although due care should be taken to the visibility of signals for train drivers.	
g.	Operators may wish to monitor the effectiveness of lighting equipment over time to ensure a consistent level as per the standards in this Code of Practice.	

I1. Floors

Figure I1.1 Station concourse with non-reflective floor

I1.	European standards	Reference
1.	Within the station buildings, there shall be no irregularities in excess of 5 mm at any given point in floor walking surface areas, except for tactile guiding paths, drainage channels and tactile warning indicators.	**PRM TSI: 4.1.2.5**
2.	The floor surfaces of obstacle-free routes shall have anti-reflecting properties.	**PRM TSI: 4.1.2.3.1**

I1.	National standards	Reference
1.	All floors should have some slip resistance when wet or dry. A slip resistance value of between 40 and 70 is generally safe. It is recommended that slip resistance should be a minimum of 50 in the open, but it can be as low as 40 where the platform is fully covered. The test should be conducted in both wet and dry conditions, and measured with 4S torsugar rubber on a pendulum test. Surfaces with values outside this range are likely to be slippery or have too much grip, therefore they will be more likely to contribute to accidents.	**BS 8300:9.1.3** *Assessing the slip resistance of flooring: a technical information sheet,* see Annex V: Reference documents
2.	If necessary, existing floor surfaces should be treated to improve their slip resistance. Where two materials abut each other, they should have a similar level of slip resistance, otherwise the foot, walking frame or wheel will be abruptly stopped or caused to slip.	**BS 8300:9.1.3** **BS 8300: Annex E.1**
3.	New hard floor surfaces, such as ceramic tiles, natural stone, concrete or terrazzo, which are widely used in commercial environments for their durability, should use an additive such as carborundum to make them more slip resistant.	

I1.	National standards	Reference
4.	Any matting should either have its surface level with the adjacent floor finish or, if surface laid, be of a type that has a rubber backing and chamfered edges. If in exceptional circumstances other types of surface laid mats are used, they should be fixed to the floor at their edges and at any joints.	**BS 8300:9.1.3**
5.	Steep cambers can cause problems for both visually impaired people and wheelchair users, so ought to be avoided. The maximum recommended camber is 2.5 per cent. See the RNIB's *Building Sight* handbook.	*Building Sight* (1995) see Annex V: Reference Documents
6.	Large, repeating patterns that incorporate bold contrasting colours or simulate steps should not be used for any floor surface.	**BS 8300:9.1.3**

I1.	Code of Practice guidance	Reference
a.	It is recommended that all passenger facilities are on one level. Unexpected changes in level should be avoided; therefore it is recommended that breaks in the surface such as thresholds, drainage channels and short, sharp ramps are avoided.	
b.	Single steps should be avoided. Stairs should have a minimum of three steps.	
c.	Floor surfaces should be firm, even, easily cleaned and slip-resistant when wet or dry. Where necessary, floors should be treated with a slip-resistant finish in accordance with point 2 above.	
d.	Main thoroughfares within buildings should have consistent floor surfaces. It is recommended that changes in colour and texture are used to mark the edge of the thoroughfares and any impending hazards, such as projecting obstacles and stairways.	
e.	Steep cambers can cause problems for both visually impaired people and wheelchair users, so should be avoided.	

I1.	Code of Practice guidance	Reference
f.	Drainage grilles should, where possible, be offset from the access route. They should be set flush with the surrounding area. The gap between grille bars should not exceed 13 mm. It is recommended that grille bars are set at right angles to the main direction of travel – if there is one – so that they do not trap wheels or long canes. The diameter of circular holes in gratings should be not more than 18 mm. Dished channels should not be incorporated within an access route, as they increase the risk of tripping or of wheelchair users tipping over.	
g.	Any temporary hazards, such as wet areas caused by a leak in the roof, should be marked. The signs or other devices used to do this should be stable and not a hazard in themselves. They should be in a colour that contrasts with their surroundings.	
h.	It is recommended that floors have a matt or semi-matt finish, wherever possible, to avoid specular (undiffused) reflection and glare (Figure I1.1). Polished surfaces can become slippery, and shiny surfaces can look slippery, which means people may not be confident about walking on them.	**BS 8300:8.1.5**

J1. Furniture, walls and transparent obstacles

Figure J1.1 Glass wall with manifestations

Serious injuries can be caused when people fail to see transparent panels or walls, plate-glass windows, doors and shop fronts. This can affect sighted passengers as well as those with impaired vision.

However, in terms of making passengers feel secure and the ability to utilise natural light through glass, there are benefits for using large areas of glass for facilities such as lifts and shelters.

J1.	European standards	Reference
1.	Transparent obstacles on or along the main routes used by passengers, consisting of glass doors or transparent walls, shall be marked with at least two prominent bands made of signs, logos, emblems or decorative features at a height between 1500 mm and 2000 mm for one line, and between 850 mm and 1050 mm for the other line. These markings shall be a minimum of 100 mm high.	**PRM TSI: 4.1.2.6**
2.	These markings shall contrast with the background against which they are viewed.	**PRM TSI: 4.1.2.6**
3.	These markings are not required along transparent walls if passengers are protected from impact by other means – for example, by handrails or continuous benches.	**PRM TSI: 4.1.2.6**

J1.	National standards	Reference
	This section contains no national standards.	

J1.	Code of Practice guidance	Reference
a.	Walls should not have glossy surfaces.	
b.	Walls should be in a colour that contrasts with the floor and the ceiling, so that the boundaries are clearly visible. See *Colour and Contrast: A Design Guide for the Use of Colour Contrast to Improve the Built Environment for Visually Impaired People* (2001).	*Colour and Contrast* (2001) see Annex V: Reference documents
c.	Passengers with visual impairments can encounter difficulties where materials such as stainless steel and blending shades of grey, with low contrast, are utilised. Careful consideration should be given to the use of these materials.	
d.	The manifestations (Figure J1.1) should be in regular forms, and preferably in clean square or rectangular shapes rather than organic or rounded. On these manifestations, it is acceptable to mount graphics or other signage, so long as the clarity of the manifestation does not become reduced.	

J1.	Code of Practice guidance	Reference
e.	Where large areas of glass are used for any facilities, they should be clear to all users and marked with a contrasting tonal colour. Tonal contrast is the difference in quality between two colours, including the difference in the amount of useful light that each reflects. Please refer to *Colour and Contrast: A Design Guide for the Use of Colour Contrast to Improve the Built Environment for Visually Impaired People* (2001).	*Colour and Contrast* (2001) see Annex V: Reference documents
f.	Any highlighting and manifestations used to warn people of the surface should remain visible in different lighting conditions and against all background environments. Their appearance should be taken into account during daylight and at night.	
g.	If a fully glazed door is adjacent to, or incorporated within, a fully glazed wall, the door should be clearly differentiated.	
h.	It is recommended that etched or clouded glass is avoided, as it looks like the misting of the visual field experienced by some people. It is recommended that advice from the RNIB is sought beforehand if considering these techniques.	

J2. Furniture and free-standing devices

Figure J2.1 Free-standing signs on a station concourse

J2.	European standards	Reference
1.	All items of furniture and free-standing devices at stations (Figure J2.1) shall contrast with their background and have rounded edges.	**PRM TSI: 4.1.2.8**
2.	Within the station confines, furniture and free-standing devices shall be positioned where they do not obstruct blind or visually impaired people, and they shall be detectable by a long-cane user.	**PRM TSI: 4.1.2.8**
3.	Cantilevered items, fitted below a height of 2100 mm that protrude by more than 150 mm shall be indicated by an obstacle at a maximum height of 300 mm that can be detected by a visually impaired person using a cane.	**PRM TSI: 4.1.2.8**
4.	There shall be no hanging elements below a height of 2100 mm.	**PRM TSI: 4.1.2.8**
5.	On each platform where passengers are allowed to wait for trains and at every resting area, there shall be a minimum of one weather-protected area fitted with ergonomic seating facilities. The seats shall be back-supported and at least one-third provided with armrests. There shall also be a standing rest bar of at least 1400 mm length and a space for a wheelchair.	**PRM TSI: 4.1.2.8**

J2.	National standards	Reference
	This section contains no national standards.	

J2.	Code of Practice guidance	Reference
	There is no guidance relating to this section.	

K1. Signs – general

Figure K1.1 A large, directional station sign

Of the large number of visually impaired people, studies show that only approximately 4 per cent have no useful remaining vision. There are a wide range of eye conditions, and what people can actually see varies among individuals and can change on a daily basis. Signs (Figure K1.1) that are designed around the needs of people with low vision and people who have learning difficulties are more likely to be clear, visible and unambiguous, therefore they will meet the needs of a broad range of customers.

K1.	European standards	Reference
1.	Where dynamic visual information is provided, it shall be consistent with essential spoken information that is being given.	**PRM TSI: 4.1.2.11.1**
2.	Signage, symbols and pictograms shall be applied consistently over the whole route.	**PRM TSI: 4.1.2.11.1**
3.	The following information shall be provided: • safety information and safety instructions; • warning, prohibition and mandatory actions signs; • information concerning the departure of train services; and • identification of station facilities, where provided, and access routes to those facilities.	**PRM TSI: 4.1.2.11.1**

K1.	European standards	Reference
4.	The following specific PRM graphic symbols and pictograms shall be fitted: • a sign conforming to the international symbol for the "provision for the disabled or handicapped persons" as described in Annex I; • directional information for obstacle-free route and wheelchair-accessible amenities; • indication of the universal toilets; • if there is train configuration information on the platform, indication of the wheelchair boarding location; and • the symbols are permitted to be combined with other symbols (e.g. lift, toilet).	**PRM TSI: 4.1.2.11.1**
5.	If there is a call for assistance or call for information facility, these shall be indicated by a sign as described in Annex I.	**PRM TSI: 4.1.2.11.1**
6.	Advertisements shall not be combined with the routeing and information systems (note: general information about public transport services shall not be considered as advertisements for the purposes of this clause).	**PRM TSI: 4.1.2.11.1**
7.	Where inductive loops are fitted, these shall be indicated by a sign as described in Annex I.	**PRM TSI: 4.1.2.11.1**
8.	Where the facility is provided, a graphic symbol shall indicate a storage place for heavy luggage and bulky goods.	**PRM TSI: 4.1.2.11.1**

K1.	National standards	Reference
1.	Text and symbols must be able to be read and understood quickly. They must be clear, consistent and unambiguous.	**BS 8300:9.2.1.1**
2.	Station signs have to identify services, facilities and platforms and guide passengers towards whichever of these they need. To do this job effectively, all signs must form part of a comprehensive, coherent and consistent system. This is particularly important where several passenger train operators share a station. For more information on signs see *Sign Design Guide*. This document explains the “one sign for all” concept, planning a signage system, the four different sign types and how to achieve accessible, embossed and Braille signage.	**BS 8300:9.2.1.3** *Sign Design Guide* (2000) see Annex V: Reference documents

K1.	Code of Practice guidance	Reference
a.	Information displayed on signs should be as clear as possible to people with learning difficulties.	
b.	The average eye line of a standing person is in the range of 1400–1700 mm above ground level. Signs, such as directories or identification signs on doors that are intended to be read at close range should be mounted as close as possible to this range.	
c.	Where signs are accompanied by a control panel, they should be positioned within easy reach. The range 900–1200 mm above ground level meets the needs of both wheelchair users and those standing.	
d.	Symbols can supplement words to indicate specific facilities. This is particularly relevant where embossed information is also provided. They can have the advantage of simplicity and greater clarity. Some symbols, such as those representing information and telephones, are now familiar and widely recognised.	
e.	However, symbols should not be used without text unless it is known that they will be understood by passengers.	

K1.	Code of Practice guidance	Reference
f.	It is also important to ensure that visually impaired people understand any embossed information before it is installed. Complex or obscure designs may take longer to understand than words such as “ticket office”.	
g.	The International Symbol for Access is commonly used as a universal sign for disability. However, it can cause confusion where the best route for wheelchair users and those with other wheeled vehicles is too long for other disabled people, such as those who may only be able to walk a short distance. It is recommended in this case that an alternative logo, with an appropriate indication of any barriers (e.g. stairs) is adopted for the latter route. Proper use of the symbols for stairs, escalators, lifts and ramps will help give guidance and allow people to make informed choices of route for themselves.	

K2. Signs – directional information

Figure K2.1 A smaller station sign giving local directions

K2.	European standards	Reference
1.	Information shall be provided at all points where passengers need to make a route-taking decision and at intervals on the route at a maximum of 100 m intervals.	**PRM TSI: 4.1.2.11.1**
2.	The appropriate level of information required to make the decision shall be provided. For example, “To the platforms” may be appropriate at the first decision-making point when entering the station, rather than specific signs for individual platforms.	**PRM TSI: 4.1.2.11.1**
3.	There shall be no more than five pictograms, together with a directional arrow, indicating a single direction, placed adjacent to each other at a single location.	**PRM TSI: 4.1.2.11.1**

K2.	National standards	Reference
	This section contains no national standards.	

K2.	Code of Practice guidance	Reference
a.	Signs (Figure K2.1) are not a substitute for good station design. As far as possible, stations should be laid out in a logical way, so that finding a particular facility is partly intuitive.	
b.	Consistency is essential: the sign for a facility or feature should continue to appear until the facility or feature is reached.	
c.	Routes for wheelchair users and people with mobility impairments should be clearly signposted, particularly where they are not the main route out of the station or to facilities, such as platforms, toilets and ticket offices.	

K2.	Code of Practice guidance	Reference
d.	The RNIB recommends using electronic navigation systems wherever possible, as a useful complement to existing facilities for some people. These give directional and other information, either by radio signals sent to a portable receiver with an earpiece, or through a series of loudspeakers installed in the station and triggered by a card or via portable handheld devices such as smartphones. The information provided changes according to where the user is located, and information can be provided in different languages. It is recommended that these be investigated, especially for new stations or as part of a major refurbishment. Any such system must be able to cope with changes due to temporary or other works. It must be stressed that such systems are not a replacement for the need for staff assistance. More information may be obtained from the RNIB.	

K3. Signs – font

K3.	European standards	Reference
1.	The minimum height of letters shall be calculated according to the following formula: Reading distance in mm divided by 250 = font size (e.g. 10 000 mm / 250 = 40 mm).	**PRM TSI: 4.1.2.11.2**
2.	Sans-serif fonts, in mixed case, shall be used for all written information (i.e. not in capital letters only).	**PRM TSI: 4.1.2.11.1**
3.	Compressed descenders and ascenders shall not be used.	**PRM TSI: 4.1.2.11.1**
4.	Descenders shall be clearly recognisable and have a minimum size ratio of 20 per cent to the upper-case characters.	**PRM TSI: 4.1.2.11.1**

K3.	National standards	Reference
	This section contains no national standards.	

a.	The greater the distance between the sign and its reader, the larger the lettering should be. The aim is to use the largest practical size compatible with the space available.	
b.	The visibility of a sign is affected by its position, size and distance from the person reading it. This should take into account the direction from which people are likely to approach the sign and where they might stand to read it.	
c.	It is recommended that character heights are determined by the formula: reading distance (mm) / 100 = character height (mm). The following table provides examples of how this system may be implemented.	

Reading distance	5000	4000	3000	2000	1000
Recommended letter height (mm)	50	40	30	20	10

Note: The figures are based on someone who is eligible for registration as partially sighted.

K3.	Code of Practice guidance	Reference
d.	Text heights below those specified above are not recommended, unless it can be established that critical information that essentially needs to be displayed on the same screen cannot be displayed in this way without reducing the text height. It is preferable to rationalise the amount of information. The publication *Sign Design Guide* includes more detailed information on reading distance and letter height.	*Sign Design Guide* (2000) see Annex V: Reference documents
e.	Research into legibility has led to the design of a number of typefaces that are used by the transport industry. Clear typefaces include Helvetica, Arial, Rail Alphabet, Brunel, New Johnston and Airport.	
f.	Over-stylised designs and ornate typefaces can be very difficult to read and should be avoided.	
g.	Lower-case lettering is generally easier to read than capital letters. Research has also shown that a mixture of upper case and lower case letters (e.g. Sunderland) can be read more easily and recognised more quickly than capitals only (e.g. SUNDERLAND), especially when used for place names, which passengers often recognise by the general shape of the word. Therefore, a mix of upper and lower case should be used for all signage.	**BS 8300:9.2.3.1**

K3.	Code of Practice guidance	Reference
h.	Passengers with visual impairments may find it particularly difficult to read any “non-solid” messages made up of dots unless the grid used is fine enough to reproduce accurately the shapes of letters and numerals. Therefore, great care is required to ensure that the letter shapes and colours used are clear. Certain numerals, such as 6 or 9, can be difficult to read, and the figure 0 must not include a diagonal line.	*Sign Design Guide* (2000) see Annex V: Reference documents
i.	Where LED or dot-matrix displays are used, a clean letter shape should be established. A 32-dot display will provide a clearer text than an 8-dot display, where the letter shape will be broken.	
j.	The rules about legibility, set out above, apply equally to electronic, plasma-screen or dot-matrix signs.	

K4. Signs – sign design

Figure K4.1 A sign with good contrast to its background

K4.	European standards	Reference
1.	All available information shall be coherent with the general routeing and information system, especially with regards to colour and contrast in platforms and entrances.	**PRM TSI: 4.1.2.11.1**

K4.	National standards	Reference
1.	Visual information shall contrast with its background (Figure K4.1).	**BS 8300:9.2.3.2**
2.	Lettering on signs must stand out clearly from the sign; signs themselves must contrast from their backgrounds. Where this is not possible a visually contrasting border should be used to ensure contrast between all parts of the sign and background.	**BS 8300:9.2.3.2**
3.	Colours used to convey safety messages, in accordance with BS 5378 and 5499, must not be used on information signs.	**BS 8300:9.2.3.2, 9.2.1.4**
4.	Signs must be durable, and materials must be used that will not fade.	

<table>
<tr><th>K4.</th><th>Code of Practice guidance</th><th>Reference</th></tr>
<tr><td>a.</td><td>The table below shows appropriate colour relationships for signs:
<table>
<tr><th>Background</th><th>Sign board</th><th>Legend</th></tr>
<tr><td>Brick or dark stone</td><td>White</td><td>Black, dark green or dark blue</td></tr>
<tr><td>Light brick or light stone</td><td>Black/dark</td><td>White or yellow</td></tr>
<tr><td>Whitewashed walls</td><td>Black/dark</td><td>White or yellow</td></tr>
<tr><td>Green vegetation</td><td>White</td><td>Black, dark green or dark blue</td></tr>
</table>
Different situations need different solutions; see Sign Design Guide for further information.</td><td>Sign Design Guide (2000) see Annex V: Reference documents</td></tr>
<tr><td>b.</td><td>Particular care must be taken with any colour used to establish a corporate identity to ensure that it complements the clarity of signs.</td><td></td></tr>
</table>

K5. Signs – sign lighting

Figure K5.1 Example of a backlit platform sign
Source: Crown copyright

K5.	European standards	Reference
1.	Visual information shall be legible in all lighting conditions when the station is operational.	**PRM TSI: 4.1.2.11.1**
2.	Where artificial lighting is required to allow detailed information to be read, these locations shall be highlighted by lighting with a minimum 15 lux increase over that provided in adjacent areas. Such increased lighting shall also have a different colour temperature to that in the adjacent areas.	**PRM TSI: 4.1.2.10**

K5.	National standards	Reference
1.	Care must be taken in the positioning and the illumination of signs, both by daylight and artificial light, to ensure that the sign face is well lit and that its legibility is distinct in relation to its surroundings. The sign must not be subject to glare, gloom, reflections or a conflicting or dazzling background, particularly in relation to sunlight, glazing or other light sources. This must be checked both at standing and sitting height.	**BS 8300:9.2.2**
2.	Internally illuminated translucent signs (Figure K5.1) may be suitable inside buildings, but care must be taken to ensure that there is no glare to reduce their effectiveness. The colour and size of lettering may need to be different from externally lit signs to ensure a consistent standard of legibility.	**BS 8300:9.4.1**

K5.	Code of Practice guidance	Reference
a.	All signs must be well lit at all times, preferably above the ambient surrounding light levels by a factor of at least 20 per cent.	

K6. Signs – tactile (embossed and Braille) signs

Figure K6.1 Lift control buttons with Braille markings

K6.	European standards	Reference
1.	Tactile information signage shall be fitted in: • toilets, for functional information and emergency call if appropriate; and • lifts in accordance with EN 81-70:2003.	**PRM TSI: 4.1.2.11.1**

K6.	National standards	Reference
	This section contains no national standards.	

K6.	Code of Practice guidance	Reference
a.	Embossed signs should be provided where visually impaired people need them to be able to identify and use facilities on stations.	
b.	Embossed signs should be fixed next to toilet doors to identify whether the toilets are unisex or single sex.	
c.	Embossed signs should not be engraved, and the letters or symbols should be large enough for people to read easily.	
d.	Signage should always be mounted consistently on the latch side of the door, preferably to the right. Signage should be mounted at 1400–1700 mm. With toilet and washroom doors, it is acceptable to mount signage on the door itself.	
e.	Embossed signs are essential for people who have no sight and those who cannot make out individual characters. Characters on tactile signs should be raised by 1 mm to 1.5 mm from the background. These should have a stroke width of 1.5 mm to 2 mm and a height of at least 15 mm, maximum 60 mm. An ideal height range for the sign is between 1400 mm and 1700 mm from the floor, with a maximum horizontal stretching distance of 500 mm. More information on tactile signs can be found in the *Sign Design Guide*.	*Sign Design Guide* (2000) see Annex V: Reference documents

K6.	Code of Practice guidance	Reference
f.	Where space permits, Braille should also be used (Figure K6.1). Grade 1 Braille can be used for single-word signs and contracted Braille (Grade 2) for multi-word signs. The *Sign Design Guide* demonstrates how to incorporate Braille information on standard signage, located directly below the relevant text, ranged left and identified with a locator on the edge of the sign board.	*Sign Design Guide* (2000) see Annex V: Reference documents

K7. Signs – display screens

Figure K7.1 Example of a large LED main departure board

Figure K7.2 Example of a TFT display screen

K7.	European standards	Reference
1.	Displays shall be sized to show complete individual station names or words of messages. Each station name, or passage of words within a message, shall be displayed for a minimum of 2 seconds.	**PRM TSI: 4.1.2.11.2**
2.	If a scrolling display is used (either horizontal or vertical), each complete word shall be displayed for a minimum of 2 seconds and the horizontal scrolling speed shall not exceed 6 characters per second.	**PRM TSI: 4.1.2.11.2**

K7.	National standards	Reference
	This section contains no national standards.	

K7.	Code of Practice guidance	Reference
a.	Operators should ensure that the information given on variable message signs (Figure K7.1) is accurate and up to date.	
b.	Systems that give changing information (such as the list of stations on route) or display alternative information must allow enough time for people to read and comprehend the information before it changes; visually impaired people and passengers with learning difficulties may require longer.	
c.	It is useful if the display times are set to correspond with the amount of information that needs to be read and understood.	
d.	Screen information (Figure K7.2) is easier to read when it is refreshed rather than scrolled.	
e.	Good luminance contrast between the text and the background will improve the quality of the display. It should also meet the contrast standards described for fixed signs, above.	
f.	The text heights in the table are based on maximum contrast (i.e. black text on a white background); for screens that incorporate anything less than maximum contrast, there will be a need to compensate for this by increasing text heights.	

K7.	Code of Practice guidance	Reference
g.	It is recommended that low-level screens are provided where suspended screens are used. This will benefit wheelchair users and people who find it difficult or uncomfortable to look up for long periods of time.	
h.	Any low-level screens should be mounted consistently at all stations, for example next to the ticket counter or customer information desk.	
i.	Glare from lighting can be a major cause of discomfort, particularly for people who are sensitive to bright sources of light. To help alleviate this problem, it is recommended to avoid mounting plasma screens where they are within the same field of view as light sources or areas of external glazing.	
j.	Mounting plasma screens at a lower level on the main concourse may help to reduce reflections and direct glare from the roof lights.	
k.	Veiling reflections occur when a source of natural or artificial light can be seen reflected in the screen. These veiling reflections reduce the contrast between the text and the background and can make sections of the screen unreadable. Consideration should be given to the positioning of screens and to providing adequate shading from areas of glazing or light fittings, where necessary.	

K7.	Code of Practice guidance	Reference
l.	Screens should be manufactured from a material that is as matt as possible so as to help reduce veiling reflections.	

K8. Signs – sign furniture and positioning

K8.	European standards	Reference
1.	All items of furniture and free-standing devices at stations shall contrast with their background and have rounded edges.	**PRM TSI: 4.1.2.8**
2.	Within the station confines, furniture and free-standing devices shall be positioned where they do not obstruct visually impaired people, and they shall be detectable by a long-cane user.	**PRM TSI: 4.1.2.8**
3.	Cantilevered items fitted below a height of 2100 mm that protrude by more than 150 mm shall be indicated by an obstacle (tapping rail) at a maximum height of 300 mm, which can be detected by a visually impaired person using a cane.	**PRM TSI: 4.1.2.8**
4.	There shall be no hanging elements below a height of 2100 mm.	**PRM TSI: 4.1.2.8**
5.	If there is an emergency call device: • it shall have visual and tactile symbols; and • it shall be indicated by a sign as described in Annex II and shall have: • a visual and audible indication that the device has been operated; and • additional operating information, if necessary.	**PRM TSI: 4.1.2.11.1**

K8.	European standards	Reference
6.	All safety, warning, mandatory action and prohibition signs shall include pictograms and shall be designed according to ISO 3864-1.	**PRM TSI: 4.1.2.11.2**

K8.	National standards	Reference
	This section contains no national standards.	

K8.	Code of Practice guidance	Reference
a.	It is recommended that all screens and signage are mounted in positions that are reasonably close to the main passenger desire lines, but which are, equally, not likely to impede or disrupt the passenger flow. The consequences of creating screen or matrix destination boards directly within the line of travel is that human barriers begin to form during peak hours, which can be intimidating and difficult for disabled people to move through.	
b.	Overhanging and projecting signs must be mounted high enough to avoid creating a hazard: 2500 mm from the underside of the sign to the ground is the minimum recommended clearance, as set out in Railway Group Standard GI/RT7016 Interface Between Station Platforms, Track and Trains (2007).[6]	
c.	High-level screens should be fixed at an angle between 5 and 15 degrees, depending on the mounting height.	

6 Available at: www.rgsonline.co.uk/docushare/dsweb/Get/Rail-43611/GIRT7016_2.PDF. Please note that derogation against Railway Group Standards in the context of this Code of Practice does not negate the need for an operator to also follow the Railway Group Standard process.

K9. Signs – maps and detailed information

Figure K9.1 A typical map with local information

K9.	European standards	Reference
1.	Where artificial lighting is required to allow detailed information (such as maps) to be read, these locations shall be highlighted by lighting with a minimum 15 lux increase over that provided in adjacent areas. Such increased lighting shall also have a different colour temperature to that in the adjacent areas.	**PRM TSI: 4.1.2.10**

K9.	National standards	Reference
	This section contains no national standards.	

K9.	Code of Practice guidance	Reference
a.	Maps (Figure K9.1) should be well lit; it is recommended that lighting levels should be a minimum of 200 lux.	
b.	It is recommended that station maps that show the layout of larger stations (categories A–B) are designed so that, as far as possible, wheelchair users and people with visual impairments or learning difficulties can use them. This may involve situating maps at different heights.	
c.	Where street maps are provided, it is recommended that they show other local transport boarding points, such as bus stops and taxi ranks and telephone numbers of services.	
d.	Embossed maps in stations can be difficult to use. There are no common standards for embossed symbols and they can be difficult and time-consuming to read. Tactile maps that can be read at home, in advance of using the station facilities, can be very helpful. However, these should be designed by experts.	

L1. Announcements – general

L1.	European standards	Reference
1.	The spoken information shall have a minimum Rapid Speech Transmission Index (RASTI) level of 0.5 in accordance with IEC 60268-16 part 16, in all areas.	**PRM TSI: 4.1.2.12**
2.	Where provided, spoken information shall be consistent with essential visual information that is being displayed.	**PRM TSI: 4.1.2.12**
3.	Where spoken information is not provided automatically, an aural communication system shall be provided to allow users to get information upon request.	**PRM TSI: 4.1.2.12**
4.	Operating rules shall be implemented to ensure consistency between essential visual and spoken information.	**PRM TSI: 4.1.4**
5.	Staff making announcements shall follow standard procedures to achieve complete consistency of essential information.	**PRM TSI: 4.1.4**

L1.	National standards	Reference
	This section contains no national standards.	

L1.	Code of Practice guidance	Reference
a.	Clear announcements of departures, giving information about time, platform and destination, are particularly valuable for blind and partially sighted passengers, and are a reassurance to all.	
b.	At very busy stations (station category A at all times, B+C during peak hours), it may not always be possible to announce every departure, because there may be too many messages to convey at the same time and passengers may become confused. However, with careful consideration of message structures, summary departure information can be given at the vast majority of stations.	
c.	Aural announcements should give priority to covering any variations from the normal timetable (emergencies, revised platforms, cancellations or late running) and details of longer-distance or special services.	
d.	Announcements should include information about the probable length of any delay, where this is known.	
e.	Announcements should be given early enough to allow sufficient time for people to act on them without having to rush.	

L1.	Code of Practice guidance	Reference
f.	Announcements should also be made (after proper training in their content has been provided to staff) so that station staff can locate passengers who have booked assistance via the Assisted Passenger Reservation System (APRS) where those passengers are not easily-identifiable, so that suitable assistance can be provided. Where announcements are made and the passengers who booked assistance are not located, the destination/interchange stations should be informed that the passenger is not travelling on that service.	
g.	Where announcements do not cover every departure, an alternative means of providing visually impaired people with this information should be found. At the very least, staffed booking offices and information points as well as appropriate remote help points should be able to provide this information.	
h.	Careful consideration of the location of announcement systems and ensuring that speakers are placed frequently throughout the station to reach all public areas is vital, rather than relying purely on high volume. High volumes can cause pain and disorientation to some users.	

L2. Announcements – induction loops

L2.	European standards	
	This section contains no European standards.	

L2.	National standards	Reference
	This section contains no national standards.	

L2.	Code of Practice guidance	Reference
a.	All PA systems should be linked to induction loops that cover the main public areas of the station (i.e. ticket office, waiting rooms, around customer information systems (CIS), etc.).	
b.	Station operators will need to consider some practical issues when installing induction loops. Areas should be tested for electrical interference (usually heard as a buzzing noise on a hearing aid when switched to “T”) before installation.	
c.	There may be a difficulty in looping large areas. One solution would be to have a series of listening areas, an approach that has been adopted by some airports.	
d.	All staff working in locations with an induction loop should be trained in its usage.	
e.	All induction loops should be kept in working order and signed appropriately.	
f.	Loop testers can be used to test that induction loops are working. Operators should make sure of this by testing them regularly.	

L2.	Code of Practice guidance	Reference
g.	Where induction loops break down, operators should ensure that they are repaired within 48 hours of notification of the failure. Until the system is repaired, operators should provide alternatives, which may include increasing staffing levels.	

L3. Announcements – recordings

L3.	European standards	Reference
	This section contains no European standards.	

L3.	National standards	Reference
	This section contains no national standards.	

L3.	Code of Practice guidance	Reference
a.	All recorded information should be clear and succinct, and the quality of recording should be high.	
b.	All systems that relay recorded information (PA systems and help points, for example) should be equipped with an induction loop.	

L4. Announcements – emergency alarms

L4.	European standards	Reference
1.	Emergency exits and alarms shall be in accordance with national rules, covered by BS 5839 Part 1 Fire *Detection and Fire Alarm Systems for Buildings – Code of Practice for System Design, Installation, Commissioning and Maintenance.*	**PRM TSI: 4.1.2.13**

L4.	National standards	Reference
	This section contains no national standards.	

L4.	Code of Practice guidance	Reference
a.	Emergency alarms should be both visual and aural.	
b.	Visual announcements can be displayed on departure screens and, where the text of these screens is coloured, the emergency announcement should use text of a different colour.	
c.	Flashing alarms can be helpful, but their use needs professional advice, and great care should be taken to ensure that strobing does not provoke an epileptic seizure.	
d.	Any visual alarm should be positioned so that it does not interfere with train drivers' ability to see and act on signals and signs.	
e.	Aural emergency alarms should be played as distinct and different from all other aural signals in the station. This includes "open" and "close" tones from train doors.	

M1. Help points

Figure M1.1 Platform help point with induction loop

M1.	European standards	Reference
1.	In situations where essential spoken information is not provided via a public address system at a station (refer to PRM TSI 4.1.2.12), operating rules shall be implemented to ensure the provision of an alternative information system whereby passengers are able to acquire the same information audibly at the station (e.g. a staffed or automated telephone information service).	**PRM TSI: 4.1.4**

M1.	National standards	Reference
	This section contains no national standards.	

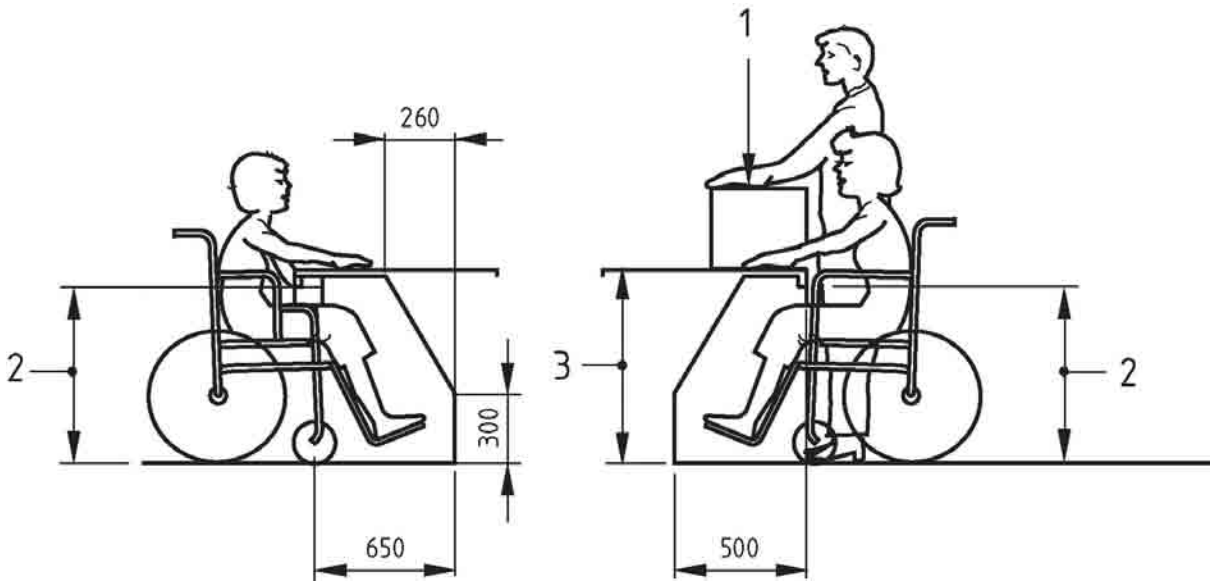
M1.	Code of Practice guidance	Reference
a.	As well as providing information, help points reassure passengers who may feel nervous or threatened.	
b.	Help points (Figure M1.1) should be designed so that visually impaired people can find, recognise and use them. An information/tactile surface can be used to identify help points to visually impaired people but should only be introduced if local users recommend it.	
c.	Where staff are not always available to give information, clearly marked help points should be positioned at key locations, such as on main platforms or concourses, so that passengers can talk to enquiry offices or other points of assistance.	
d.	Staff should be available to answer calls at all times that services are in operation at the station. It is recommended that, outside staffed hours, or at unstaffed stations, the help point is linked up with another staffed station or central control point.	
e.	New installations should be fitted with induction loops. It is recommended that old points are fitted with them wherever reasonably practicable.	

M1.	Code of Practice guidance	Reference
f.	The working parts of the help point should be between 700 mm and 1200 mm from the ground.	
g.	Operators should ensure that: • the help point can be located easily; • the location does not impede pedestrian traffic; • controls are within comfortable reach range; • the force required to operate the controls is kept to a minimum and that controls are palm-operable; • the buttons contrast well with the background and that their function is described both in text and tactile form; • the buttons have a minimum diameter of 20 mm; • the person providing the help can be heard (localised acoustic consideration); and • a visual indicator lamp indicates to a hearing impaired person that their call has been answered.	

N1. Ticket sales points – booking offices, information and customer-service desks

Figure N1.1 A variable-height ticket counter

Source: Association of Train Operating Companies



Receptionist side
The dimensions allow a receptionist using a wheelchair with desk armrests to sit close to a counter at normal desk height

Visitor/customer side
The dimensions allow a visitor in a wheelchair to bring the arms of their wheelchair to the edge of the counter in order to read and sign a paper

NOTE Profiling the space below a counter will allow a number of structural support solutions

Key
1 Upper writing surface for standing visitors/customers at 950 mm to 1 100 mm above the floor
2 Height of knee recess 700 mm min. above the floor
3 Counter top at 760 mm max. above the floor

Figure 29 Key heights of counters and reception desks
Dimensions in millimetres

N1.	European standards	Reference
1.	Where manual ticket sales counters, information desks and customer assistance points (Figure N1.1) are provided along the obstacle-free route, a minimum of one desk shall be a minimum of 650 mm to the underside of the desk, have a knee well of a minimum of 300 mm deep and have a minimum width of 600 mm. The height of the upper surface, or a part of it with a minimum width of 300 mm and a minimum depth of 200mm, shall be between 700 mm and 800 mm. This area shall be made available for wheelchair users, and alternative seating arrangements shall be provided for other PRM.	**PRM TSI: 4.1.2.9.1**
2.	If there is a glass barrier between the passenger and sales person at the ticket counter, this shall either be removable or, if not removable, an intercom system shall be fitted. Any such glass barrier shall consist of clear glass.	**PRM TSI: 4.1.2.9.1**
3.	A minimum of one ticket sales position shall be fitted with the necessary equipment in order to enable a person with hearing impairment to understand what is being said by switching their hearing assistance device to the “T” position.	**PRM TSI: 4.1.2.9.1**
4.	If electronic devices are fitted that display pricing information to the sales person, such devices shall also be fitted that display the price to the person purchasing the ticket.	**PRM TSI: 4.1.2.9.1**

N1.	National standards	Reference
	This section contains no national standards, but operators may wish to refer to BS 8300 Figure 29 for good practice on setting the heights of counters and reception desks.	**BS 8300:11.1.3**

N1.	Code of Practice guidance	Reference
a.	The counter should have a slight upstand at the front edge so that tickets or change do not fall on the floor.	
b.	Having only one lowered counter at stations that have two or more counters can be difficult operationally, because it should always be staffed and may not suit all customers, as well as being difficult for some staff to operate. Therefore, it is strongly recommended that dual-height or adjustable counters are installed that can be used by both wheelchair users and people standing.	
c.	Where lowered counters are not available at stations, alternative arrangements should be made for wheelchair users so that they can buy tickets at the same times as other people.	
d.	Waiting at booking offices is difficult for people who cannot stand for long periods. One solution is to provide handrails of a type that can be leant on in places where there are often queues or to provide “perch” seating. Rope or chain systems should be avoided, as they do not provide a sufficient level of support and are a trip hazard for people with visual impairments.	
e.	Speak-through security panels can be a particular communication barrier for visually impaired and hard-of-hearing passengers and should be avoided.	

N1.	Code of Practice guidance	Reference
f.	Glass screens should be unobstructed and non-reflective, to help lip readers.	
g.	It is important that lighting in the booking office enables effective lip-reading (light level of 100 lux measured in the vertical plane is recommended). Increased lighting on the staff side of the counter will ensure that this is effective.	
h.	It is recommended that this is a minimum of 750 lux within a localised area (i.e. at counter level).	
i.	The induction loop should be mounted at a height of 1100 mm, so that there is no visual barrier between the booking clerk and the passenger. The standard induction loop symbol should be displayed wherever the loops exist.	
j.	Accessibility limitations at some stations, which could lengthen disabled passengers' journeys, should not cause them to have to pay more for a ticket than non-disabled passengers.	
k.	Franchised passenger operators must also accept the Disabled Persons Railcard as a condition of their franchise. They must make sure that they give the correct discounts for the card holder and any companion. Information on the Disabled Persons Railcard must be available from booking offices and from the ATOC website.	

N1.	Code of Practice guidance	Reference
l.	If a disabled person needs to arrange for help on a journey, the booking office should be able either to make these arrangements directly or advise the passenger as to whom they should contact to make these arrangements.	
m.	Station booking offices should sell a wide range of tickets to passengers accurately and impartially. This does not always mean selling the cheapest ticket for the quickest journey. In many cases, disabled passengers may find other factors to be of equal or greater importance. In particular, they may need to know if they can make a journey without having to change trains.	

N2. Ticket sales points – ticket vending machines

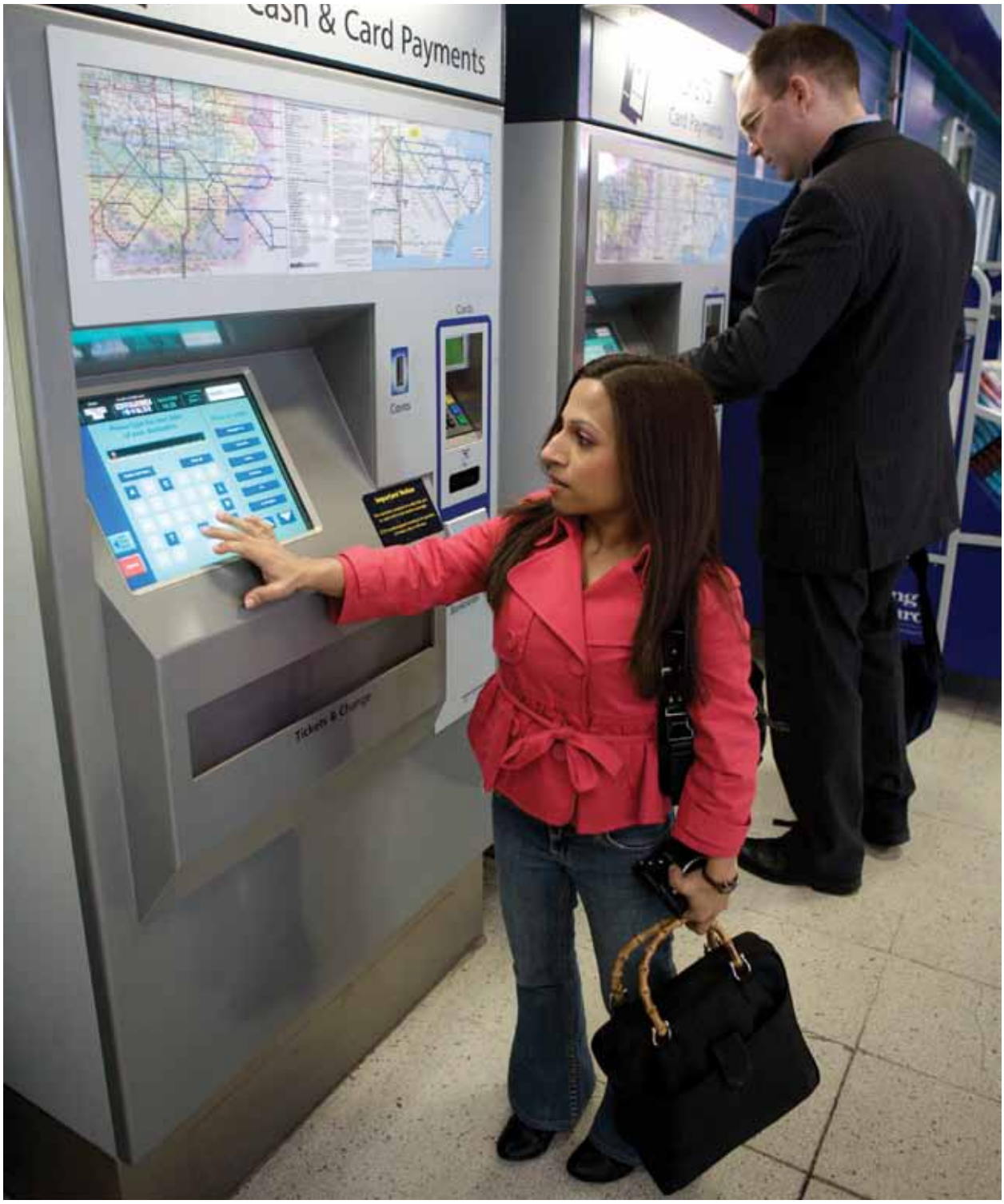


Figure N2.1 A typical ticket vending machine

Source: Association of Train Operating Companies

It is especially important that ticket machines are as simple as possible to operate and that instructions are clear. Many people are intimidated by machines and may be deterred from using public transport if purchasing a ticket seems too complicated (Figure N2.1).

N2.	European standards	Reference
1.	The ticket vending machines to be provided on an obstacle-free route at a station shall have the tactile contact area (to include the keyboard, the payment and ticket vending areas) at a height of between 700 mm and 1200 mm.	**PRM TSI: 4.1.2.9.2**
2.	A minimum of one display and the keyboard shall be visible by both someone sitting in a wheelchair and by someone standing in front of the machine.	**PRM TSI: 4.1.2.9.2**
3.	If the display is the method of entering information, then it shall comply with the requirements of this section with regard to working parts and visibility to both someone standing and someone in a wheelchair.	**PRM TSI: 4.1.2.9.2**
4.	Where artificial lighting is required to allow detailed information to be read, such as ticket machine instructions, these locations shall be highlighted by lighting with a minimum 15 lux increase over that provided in adjacent areas. Such increased lighting shall also have a different colour temperature to that in the adjacent areas.	**PRM TSI: 4.1.2.10**

N2.	European standards	Reference
5.	At unstaffed stations, where vending machines are relied upon for ticketing, an alternative means of ticketing, accessible to visually impaired passengers, shall always be available – for example, through permitting purchasing either on the train or at the destination.	**PRM TSI: 4.1.4**

N2.	National standards	Reference
	This section contains no national standards.	

N2.	Code of Practice guidance	Reference
a.	Ticket machines and other vending machines should be well lit, so that information and operating instructions are clearly visible when they are in use.	
b.	Operating buttons should be at least 20 mm in diameter and must protrude sufficiently to be used by those who rely upon palm pressure.	
c.	Tickets and change should be easy to retrieve by people with limited manual dexterity.	
d.	Ticket machines should have the ability to sell tickets with the Disabled Persons Railcard (DPR) discount; otherwise, the benefits of making ticket machines accessible will be lost to DPR holders.	
e.	Touch screens should be carefully considered when used for providing tickets. Their design and use can make it difficult for visually impaired people to use such systems.	
f.	The information on screen should be easy to read, understand and see.	
g.	Good contrast and fonts are essential for visually impaired passengers.	
h.	Ticket vending machines should be carefully sited, so that glare and reflections from natural or unnatural light are minimised on the screen.	

N2.	Code of Practice guidance	Reference
i.	The coin slot, credit card slot and change/ticket flap should have adequate contrast, so that visually impaired passengers can identify them easily.	
j.	Ticket machines should be well lit; 200 lux is recommended.	

N3. Ticket sales points – ticket barriers

Figure N3.1 A typical ticket gateline

N3.	European standards	Reference
1.	In cases where turnstiles or barriers (Figure N3.1) are used for ticketing control, operational rules shall be implemented, whereby persons of reduced mobility are offered parallel access through such control points. This access shall permit wheelchair users, prams, bulky baggage etc., and may be controlled by staff or be automatic.	**PRM TSI: 4.1.4**
2.	If ticket control turnstiles or barriers are fitted, a minimum of one of the machines shall have a free passageway with a minimum width of 800 mm and shall be able to accommodate a wheelchair up to 1200 mm in length.	**PRM TSI: 4.1.2.9.1**
3.	If turnstiles or barriers are used, there shall be a non-turnstile or barrier access point available for use by persons of reduced mobility at all operational times.	**PRM TSI: 4.1.2.9.1**

N3.	National standards	Reference
	This section contains no national standards.	

N3.	Code of Practice guidance	Reference
a.	At times when stations are open but unstaffed, ticket barriers and gates should be fixed in an open position.	
b.	Ticket or coin slots should be designed to be clearly visible and easy to use by passengers who are visually impaired or have limited manual dexterity.	
c.	Paddles on automatic ticket gates should be designed so as not to cause injury during their operation.	
d.	The paddles should contrast with the remainder of the gate.	

O1. Seating

Figure O1.1 A selection of typical station seating
Top right, top left, and bottom left – Source: Paul Bigland
Bottom right – Source: Stagecoach South West Trains

Seating for passengers (Figure O1.1) is extremely important, as many people find standing for more than a few minutes uncomfortable or impossible. As a general rule, seating must be clean, comfortable, easy to get in and out of and freely available.

O1.	European standards	Reference
1.	On each platform where passengers are allowed to wait for trains and at every resting area, there shall be a minimum of one weather-protected area fitted with ergonomic seating facilities.	**PRM TSI: 4.1.2.8**
2.	The seats shall be back-supported and at least one-third provided with armrests. There shall also be a standing rest bar of at least 1400 mm length and a space for a wheelchair.	**PRM TSI: 4.1.2.8**
3.	Within the station confines, furniture and free-standing devices shall be positioned where they do not obstruct blind or partially-sighted people, and they shall be detectable by long-cane users.	**PRM TSI: 4.1.2.8**
4.	All furniture and free-standing devices at stations shall contrast with their background and have rounded edges.	**PRM TSI: 4.1.2.8**

O1.	National standards	Reference
	This section contains no national standards.	

O1.	Code of Practice guidance	Reference
a.	Even where no specially designated seating is available in a waiting room or elsewhere in a station, it is recommended that consideration is given to clearly marking strategically positioned seats as being priority seating for disabled people, older people, pregnant women and those carrying young children. Such seating should be near to entrances, travel information, toilets and other facilities and should be clearly marked.	
b.	There should be enough space under, or adjacent to, these seats to allow an assistance dog to lie clear of the pedestrian route.	
c.	There should be a range of seating to meet individual needs. Various heights should be provided; standard seats should be about 450 mm from the floor.	
d.	There should be a clear space of 900 mm × 1350 mm for each wheelchair where there are fixed seats.	
e.	Seating layouts should allow a wheelchair user and a companion to sit next to each other.	
f.	The recommended ratio of spaces for wheelchairs to fixed seats is set out in the table below:	

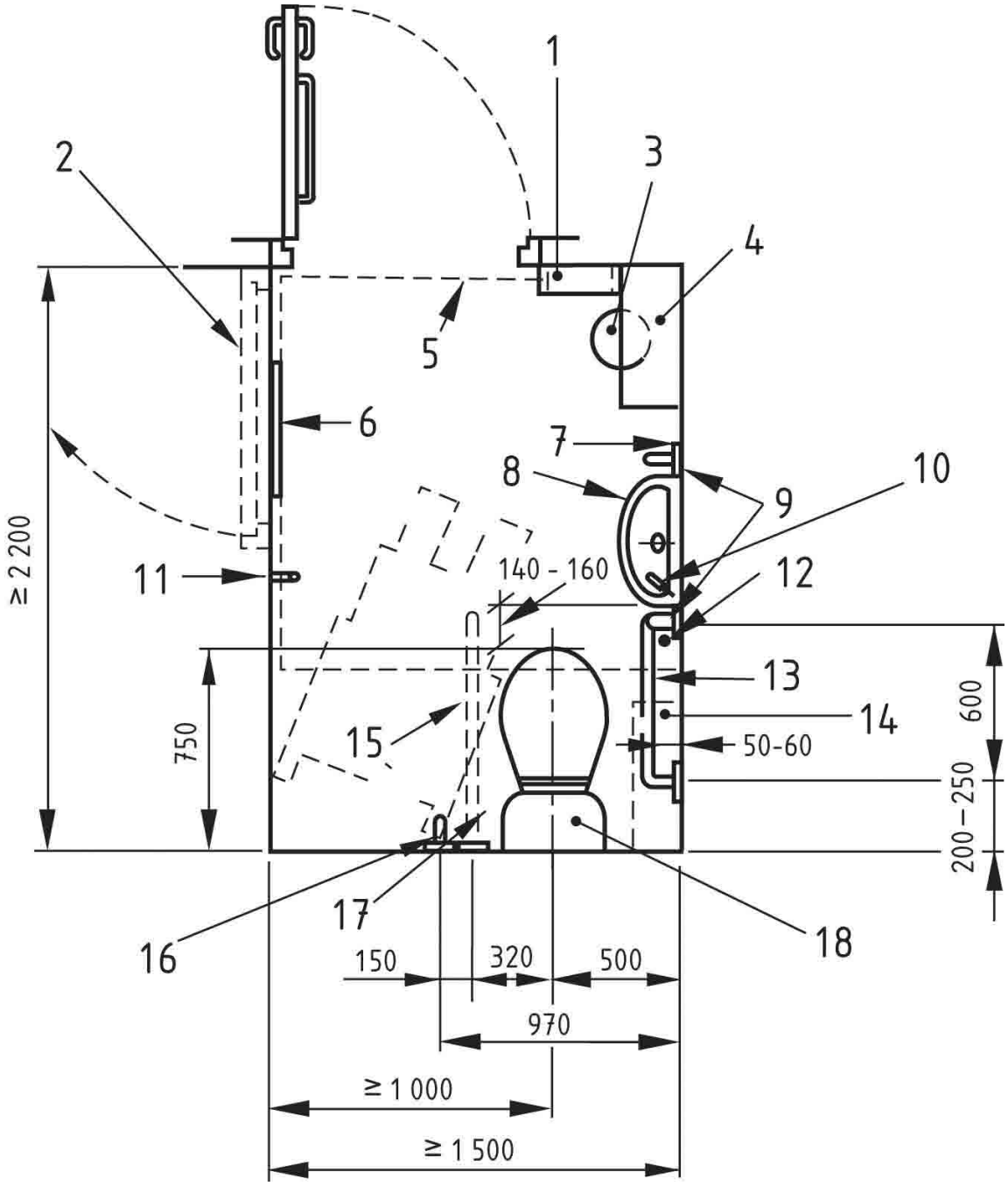
<table>
<tr><th>O1.</th><th colspan="2">Code of Practice guidance</th><th>Reference</th></tr>
<tr><td></td><td colspan="2"><table>
<tr><th>Fixed seating capacity</th><th>Number of wheelchair spaces</th></tr>
<tr><td>4 to 25</td><td>1</td></tr>
<tr><td>26 to 50</td><td>2</td></tr>
<tr><td>51 to 300</td><td>4</td></tr>
<tr><td>301 to 500</td><td>6</td></tr>
</table></td><td></td></tr>
<tr><td>g.</td><td colspan="2">Other seats should include seats with standing rest bars (also known as horizontal perch rails) at a height of about 700 mm; these higher seats are for people who find getting up out of standard seats difficult.</td><td></td></tr>
<tr><td>h.</td><td colspan="2">Not all seats should have armrests, so that bigger people or those with back problems can use them.</td><td></td></tr>
<tr><td>i.</td><td colspan="2">Where arms are provided, they should be at a height of 200 mm above the seat to give passengers the options of an arm on either, or both, sides to push themselves up from the seat.</td><td></td></tr>
<tr><td>j.</td><td colspan="2">Armrests should be coated or constructed from slip-resistant material to ensure that good grip is provided, and they should contrast with the seat finish to aid partially-sighted people.</td><td></td></tr>
</table>

O1.	Code of Practice guidance	Reference
k.	It is recommended that outdoor seating is designed to prevent rainwater collecting in any part of the seat and to allow the seat to dry relatively quickly.	

P1. Toilets – standard toilets

Figure P1.1 A typical accessible toilet

Toilets (Figure P1.1) for wheelchair users are defined as wheelchair-accessible toilets. However, only a small percentage of disabled people are wheelchair users and many will be able to use general toilet facilities. Ambulant disabled people may find it easier to use general toilet facilities if certain adjustments are made. These adjustments can also be useful to other persons of reduced mobility.



Key

1 Sanitary dispenser
2 Alternative door position
3 Disposal bin
4 Shelf
5 Wheelchair turning space (1500 × 1500) mm
6 Long mirror
7 Wall A (see Figure 52)
8 Hand rinse basin
9 Vertical grab rails
10 Tap on side of basin nearest to WC
11 Two clothes hooks, one at 1050 mm and the other at 1400 mm above the floor
12 Alarm pull cord
13 Horizontal grab rail
14 Sanitary disposal unit
15 Drop-down support rail
16 Vertical grab rail
17 Flush mechanism on this side of WC pan
18 Flat-topped close-coupled cistern providing a back rest and a colostomy changing surface for standing users (where high or low level cisterns are used, a rail with a padded back rest and a separate colostomy changing shelf 125 mm to 150 mm deep and preferably 400 mm wide, with its surface 950 mm above floor level, should be provided)

Figure 51 Unisex accessible corner WC layouts
Dimensions in millimetres

P1.	European standards	Reference
1.	In order to allow passengers with bulky luggage to use the toilets, the minimum dimensions of all toilet cubicles shall be 900 mm wide and 1700 mm length if the door opens inwards and 1500 mm length if the door opens outwards or is a sliding door.	**PRM TSI: 4.1.2.7**
2.	The door and all entrances to the toilet facilities (excluding wheelchair-accessible toilets) shall have a minimum clear width of 650 mm.	**PRM TSI: 4.1.2.7**
3.	Where hinged handrails are provided, a graphic symbol showing the rail in both the upright and lowered position shall be provided.	**PRM TSI: 4.1.2.11.1**

P1.	National standards	Reference
	This section contains no national standards.	

P1.	Code of Practice guidance	Reference
a.	Toilet facilities should be provided where possible, and open where provided, at all categories A–C stations.	
b.	A suitable cubicle should be provided in male and female toilet accommodation, and urinals accessible to ambulant disabled people should also be provided.	
c.	The rim of urinals for ambulant disabled people should be 500 mm above the floor, and urinals should project at least 360 mm from the wall.	
d.	Vertical grabrails should be provided on each side of a urinal where stall privacy dividers are not fitted. They should be centred at 1100 mm above the floor.	

P2. Toilets – provision and location of wheelchair-accessible toilets

P2.	European standards	Reference
1.	If toilets are provided at a station, then a minimum of one unisex cubicle shall be wheelchair-accessible. Otherwise, see national standards, below.	**PRM TSI: 4.1.2.7**

P2.	National standards	Reference
1.	Disabled people should be able to find and use suitable toilet accommodation no less easily than non-disabled people.	**BS 8300:12.6**
2.	Toilets must be well signposted.	**BS 8300:12.6**
3.	Toilets must be designed so that they can be used independently.	**BS 8300:12.6**
4.	Where there is only one accessible WC in a building, it should be of unisex corner design, suitable for both wheelchair users and ambulant disabled people (see diagram).	**BS 8300:12.6.1**
5.	When more than one unisex accessible corner WC compartment is planned, a choice of layouts suitable for left-hand and right-hand transfer should be provided to cater for people who are paralysed or have limited mobility on one side or the other.	**BS 8300:12.6.1**

P2.	National standards	Reference
6.	As well as being accessible to people in wheelchairs, a well-designed toilet must be easy to use for a wide range of other people, including those who cannot bend, those with limited strength, impaired balance, impaired vision and those who make involuntary movements.	**BS 8300:12.6.1**
7.	Where entry to a toilet requires payment, coin slots must be clearly visible with a contrasting band around the slot.	**BS 8300:10.2**
8.	Where new toilets are being built, or where existing toilets are undergoing a major refurbishment (involving renewal or removal of walls, sanitary ware or plumbing, for example), toilets for disabled people must be provided.	**BS 8300:12.6.1**
9.	A Changing Places toilet facility should be provided in all large railway stations (category A). (Further advice on the design and installation of Changing Places facilities can be obtained by contacting the Changing Places Consortium.)	**BS 8300:12.7**
10.	The Changing Places facility should be in addition to, not instead of, the provision of unisex accessible WCs.	**BS 8300:12.7**

P2.	National standards	Reference
11.	Baby-changing facilities, where provided, must be separate and accessible at larger and busier stations (categories A–C). This is because many disabled people, unable to use alternative facilities, will not be able to wait for the accessible toilet to become free, if occupied by a baby-changing parent.	**BS 8300:12.5**

P2.	Code of Practice guidance	Reference
a.	The number of accessible toilets required will vary according to the size of the station and its pattern of use.	
b.	It is likely that accessible modular toilets could be installed at smaller and unstaffed stations. Where these are installed, the interior dimensions and fittings must comply with the standards and diagrams contained in this section.	
c.	Colour contrasting should always be used in every cubicle when toilets are being refurbished, as visually impaired people do not necessarily need to use accessible toilets.	

P3. Toilets – opening hours

P3.	European standards	Reference
	This section contains no European standards.	

P3.	National standards	Reference
1.	Accessible toilets must be open at all times that other toilets are open.	**BS 8300:12.6**

P3.	Code of Practice guidance	Reference
a.	Toilet opening hours form part of the station specific annexes, under the Station Access Conditions. Any changes reducing the number of hours that toilets are open would require specific approval from the rail regulator. However, locked toilets can be more of a problem for disabled people, because there may be no accessible alternative nearby. In places where toilets are locked (for example, when station staff go off duty), to prevent misuse and vandalism, operators should consider making the accessible toilet part of the National Key Scheme to ensure their availability at all times.	
b.	Operators should consider installing bells or buzzers outside locked accessible toilets to gain attention of station staff.	*Review of Accessible Toilets on Railway Stations* (2008) see Annex V: Reference documents
c.	National Key Scheme (NKS) accessible toilets are those that can be unlocked with a special key. Operators who use this scheme should have a spare key that is held by staff at the relevant station. This scheme is operated by RADAR.[7]	

7 Royal Association for Disability and Rehabilitation, 12 City Forum, 250 City Road, London, EC1V 8AF. Tel: 0207 250 3222. Email: radar@radar.org.uk. Website: www.radar.org.uk

P4. Toilets – doors

P4.	European standards	Reference
	This section contains no European standards.	

P4.	National standards	Reference
1.	Doors should have an effective clear width of 1000 mm.	**BS 8300:6.4.2 (Table 2)**
2.	If an inward opening door is the only solution for a cubicle that is accessible to a wheelchair user, a clear minimum space (on plan) of 700 mm × 1100 mm should be provided between the door swing and the sanitary fittings to enable a wheelchair user to enter and close the door behind them.	**BS 8300:12.2.6**
3.	For easy identification by blind and partially sighted people, all door opening furniture should contrast visually with the surface of the door.	**BS 8300:6.5.1**
4.	Whether the door opens inwards or outwards, it should be capable of being opened in an emergency if a person has fallen against it and is unable to move.	**BS 8300:12.2.6**
5.	A door fitted with a privacy lock should have an emergency release openable from the outside.	**BS 8300:12.2.6**

P4.	National standards	Reference
6.	It should be possible to operate all door opening furniture one-handed, without the need to grasp or twist.	**BS 8300:6.5.1**
7.	Outward-opening doors should have a horizontal pull rail fixed to the closing, or interior, face where no door closing is fitted.	**BS 8300:12.2.6**

P4.	Code of Practice guidance	Reference
a.	It is recommended that the door should open outwards with sufficient clearance around the door in the corridor to allow access in an emergency.	
b.	Some means of indicating whether the toilet is in use should be provided, preferably using the words “vacant” or “occupied”.	
c.	Rising butt hinges will ensure that the door does not open unnecessarily, potentially into the path of visually impaired people.	
d.	Bi-folding doors opening outwards can be used, but these should not be secured on runners set into the floor and ceiling, as these can restrict their movement.	
e.	Any door will need to be well maintained and have the hinges and locks regularly lubricated for ease of use.	

P5. Toilets – design and layout

P5.	European standards	Reference
	This section contains no European standards.	

P5.	National standards	Reference
1.	The internal dimensions of an accessible toilet must be at least 1500 mm wide and 2200 mm deep, so that it is big enough to accommodate people using powered scooters and also to allow more room for transfer. There must be a clear wheelchair turning space of 1500 mm × 1500mm, which must not be reduced by obtrusive pipework or fittings below 700 mm.	**BS 8300:12.6.3.1 Figure 51**
2.	The toilet cubicle must be large enough to allow wheelchair users to transfer from the front, side or when the chair is placed diagonally alongside the toilet pan. There must be enough space for an assistant to help with the transfer to and from a wheelchair.	**BS 8300:12.6**
3.	The centre line of the toilet pan must be 500 mm from the side wall and the rim must be 480 mm above the floor.	**BS 8300:12.6.3.1 Figures 51A and 52**
4.	The front of the pan must be far enough away from the back wall to allow a wheelchair to be lined up with it for transfer.	**BS 8300:12.6.3.1 Figure 54**

P5.	National standards	Reference
5.	The basin and its taps must be close enough to be used whilst sitting on the pan so that hands can be washed before transferring back onto the wheelchair. The tap to the basin should be positioned on the side nearest to the WC pan.	**BS 8300:12.6.3.1**
6.	The side of the washbasin should be located between 140 mm and 160 mm in front of the leading edge of the toilet pan.	**BS 8300:12.6.3.1 Figure 51**

P5.	Code of Practice guidance	Reference
	There is no guidance relating to this section.	

P6. Toilets – WC pan and cistern

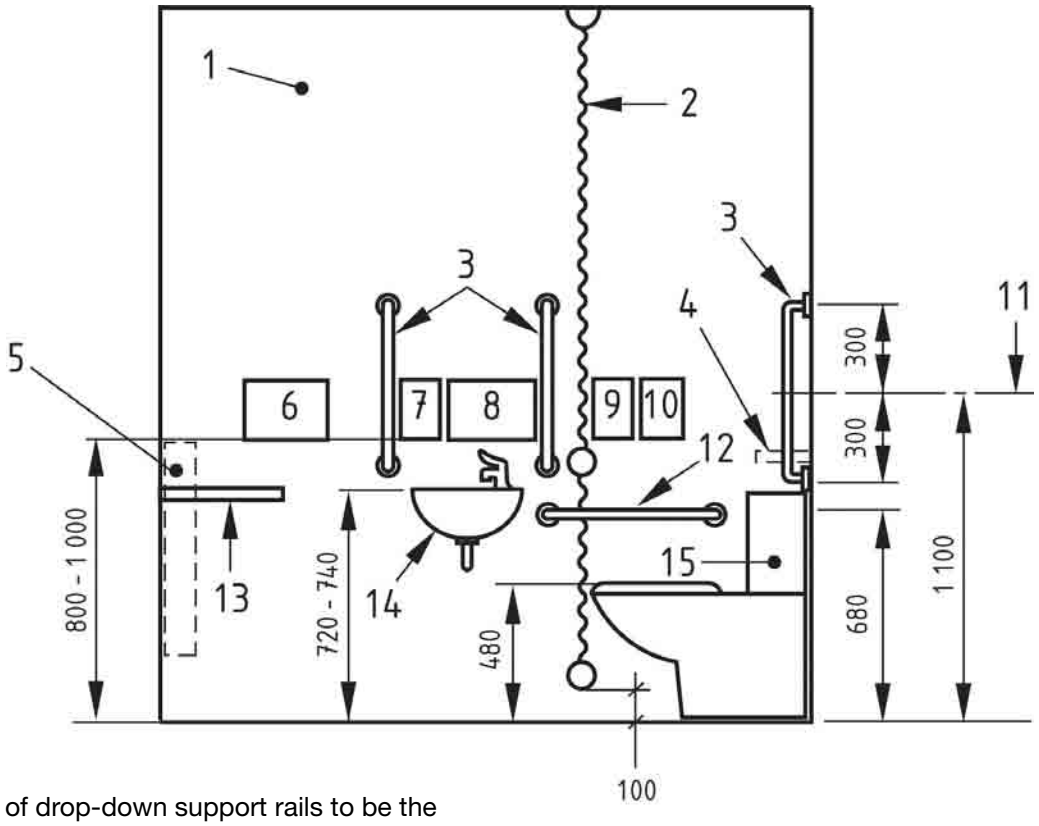
P6.	European standards	Reference
	This section contains no European standards.	

P6.	National standards	Reference
1.	The flush must be easy to operate. Where practicable, the flush should be operated by a spatula-type lever positioned on the open or transfer side of the pan for ease of access. It must be designed so that a passenger with limited reach, or passengers using a fist or an elbow, can operate it. A flushing lever attached to the cistern should be used in preference to the pull type, as pull types might get confused with the emergency call for aid control.	**BS 8300:12.6.3.4**
2.	Where a chain pull is used, it should be positioned adjacent to the transfer space, at a height between 800 mm and 1000 mm above floor level. It should terminate with a ring handle of 50 mm diameter. These types of flush should only be used in existing buildings.	**BS 8300:12.6.3.4**
3.	Alternatively, the flush should be operated by sensor activation (e.g. infra-red), with the sensor located in the same place as a lever.	**BS 8300:12.6.3.4**
4.	The top surface of a WC seat (not the cover nor the sanitary ware) should be set at a height of 480 mm above the finished floor level.	**BS 8300: 12.6.3.4**

P6.	National standards	Reference
5.	Open seats (those with a gap in the front) make transfer more difficult and must be avoided.	**BS 8300:12.6.3.4**
6.	The WC seat in an accessible toilet should be designed for heavy duty use and securely fixed with metal (preferably stainless steel) fittings from the top into the rim of the WC, as a wheelchair user transferring from a wheelchair imposes high lateral stresses on the seat and seat fittings.	**BS 8300:12.6.3.4**
7.	The WC seat and cover should contrast visually with the WC pan and cistern.	**BS 8300:12.2.7**

P6.	Code of Practice guidance	Reference
a.	It is recommended that, where possible, a cantilevered toilet pan should be used, so that male wheelchair users can get close enough to use it as a urinal without having to move their feet from the wheelchair's footplates.	

P7. Toilets – grabrails



Height of drop-down support rails to be the same as the other horizontal grab rails.

Key

1 Wall A (see Figure 51)
2 Alarm pull cord with two red bangles
3 Vertical grab rails (those above the hand rinse basin should be set 500 mm to 700 mm apart, centred on the basin)
4 Colostomy changing shelf at 950 mm above floor level where a high or low level cistern is used
5 Sanitary dispenser, on wall adjacent to door, with coin slot between 750 mm and 1000 mm above the floor
6 Automatic hand dryer
7 Soap dispenser
8 Paper towel dispenser
9 Toilet paper dispenser
10 Alarm reset button
11 Centre line of vertical grab rails
12 Horizontal grab rail
13 Shelf
14 Hand rinse basin with tap on side of basin close to the WC pan
15 Flat-topped close-coupled cistern providing a back rest and a colostomy changing surface for standing users (where high or low level cisterns are used, a rail with a padded back rest should be provided)

Figure 52 Heights of fixtures and fittings for corner WC layout
Dimensions in millimetres

P7.	European standards	Reference
	This section contains no European standards.	

P7.	National standards	Reference
1.	Grabrails are required to give support and stability when transferring, standing up or sitting down and when adjusting clothing. They must be firmly fixed and capable of resisting the loads exerted by users when they pull themselves to a standing position.	**BS 8300:12.2.4**
2.	Grabrails should be 32 mm to 35 mm in diameter, with a clearance between the bar and the wall of 50 mm to 60 mm, with a surface that provides a good grip in wet conditions.	**BS 8300:12.2.4**
3.	Grabrails must contrast visually with their surroundings.	**BS 8300:12.2.7**
4.	All horizontal grabrails must be 680 mm above the floor and vertical grabrails, at least 600 mm in length, must be centred at a height of 1100 mm above the floor.	**BS 8300:12.6.3.5**
5.	A drop-down or hinged grabrail should be located on the transfer side of the toilet, 320 mm from the centre line of the toilet pan. This is used for getting on and off the seat (in combination with a fixed grabrail). The front of the grabrail should extend 50 mm to 100 mm beyond the front of the WC.	**BS 8300:12.6.3.5**

P7.	National standards	Reference
6.	Drop-down support rails should be held securely when in an upright position. They must be easy to release from their upright position and, when down, must be very steady.	**BS 8300:12.2.4**
7.	A vertical grabrail should be located 150 mm beyond the drop-down or hinged grabrail to aid stability in the transfer space.	**BS 8300:12.6.3 Figure 51**
8.	A fixed horizontal grabrail should be located on the side wall.	**BS 8300:12.6.3.5**
9.	There should be two vertical grabrails either side of, and centred on, the washbasin. As a guide, the first should be located 100 mm beyond the leading edge of the toilet pan, above the horizontal grabrail.	**BS 8300:12.6.3.1 Figure 52**
10.	If the cistern is situated in a duct or at a high level, there should be a horizontal grabrail with a padded backrest located behind, and centred on, the toilet pan. The grabrail must not stop the toilet seat remaining in the raised position.	**BS 8300:12.6.3.5**

P7.	Code of Practice guidance	Reference
a.	Where hinged handrails are provided, a graphic symbol showing the rail in both the upright and lowered position shall be provided.	
b.	Grabrails should be placed so they do not cause an obstruction themselves.	

P8. Toilets – washbasins

P8.	European standards	Reference
	This section contains no European standards.	

P8.	National standards	Reference
1.	The hand-rinse basin should be set with the rim height at 720 mm to 740 mm above the floor.	**BS 8300:12.6.3.1**
2.	Wheelchair users must be able to manoeuvre feet and footrests under the washbasin when the wheelchair is turned.	**BS 8300:12.6.5.1**
3.	Taps should either be mixer taps with a single lever action to control water flow or individual, clearly marked, hot and cold lever-operated taps with not more than a quarter turn from off to full flow.	**BS 8300:12.2.3**
4.	The markings on taps should be logical and clear to blind and partially sighted people.	**BS 8300:12.2.3**
5.	Hot water from individual bath and basin taps should be thermostatically controlled so that it does not exceed 43°C at the outlet.	**BS 8300:12.2.3**
6.	Toilet accessories, such as dispensers for soap, toilet paper and paper towels, should be suitable for single-handed use and for use by people with weak arm movements.	**BS 8300:12.6.6.1**

P8.	Code of Practice guidance	Reference
a.	The washbasin must be in a position that does not prevent people reaching other fittings, such as towels or a soap dispenser.	
b.	It is recommended that the basin is large enough to accommodate a portable urinal in order to rinse it after it has been emptied into the toilet. A standard-sized washbasin would achieve this.	
c.	There should be a remote plug control that can be reached easily and is large enough to operate without difficulty.	

P9. Toilets – accessories and surface finishes

P9.	European standards	Reference
	This section contains no European standards.	

P9.	National standards	Reference
1.	Toilet accessories should be readily accessible to a person in a wheelchair or seated on the WC, and to a person when standing.	**BS 8300:12.6.6.1**
2.	Electric hand dryers should be operated either by a movement sensor or by an easily operated push button. Hand dryers that require the user to insert their hands in the top of the dryer should not be installed.	**BS 8300:12.6.6.1**
3.	Sanitary towel and incontinence pad dispensers, and sealed containers for their disposal, should not obstruct transfer from a wheelchair to the WC pan.	**BS 8300:12.6.6.1**
4.	Where a high or low level cistern is used, a shelf, for use by ambulant disabled people when changing colostomy bags, should be provided adjacent to the WC pan.	**BS 8300:12.6.6.1**
5.	A shelf, approximately 400 mm wide and 200 mm deep, set at 700 mm above the floor, should be provided adjacent to the washbasin and away from the wheelchair manoeuvring area.	**BS 8300:12.6.6.1 (Figure 52)**

P9.	National standards	Reference
6.	Mirrors that cannot be extended down to the upper edge of the washbasin, e.g. because of the presence of a soap dispenser, should be tilted forward. (A tilting mirror is suitable for use by most people and can enable a smaller size of mirror to be used.)	**BS 8300:12.6.6.2**
7.	When a mirror is located away from a washbasin it should be at least 1000 mm tall and have its bottom edge set at 600 mm above the floor.	**BS 8300:12.6.6.2**
8.	Large expanses of mirror in a compartment should be avoided as they can cause difficulties for blind and partially sighted people.	**BS 8300:12.6.6.2**
9.	Large areas of shiny floor and wall surface should not be used, as they can produce reflections and glare that confuse partially sighted people.	**BS 8300:12.2.7**
10.	Toilet accessories should contrast visually with the background against which they are seen.	**BS 8300:12.2.7**

P9.	Code of Practice guidance	Reference
a.	It is recommended that single-sheet toilet paper dispensers be fitted, which will benefit people with restricted limb movement.	
b.	A hand dryer is recommended in addition to a paper towel dispenser. It must be located either beside the washbasin or adjacent to the mirror. A shaver socket could also be provided near the mirror.	
c.	The shelf is also used for colostomy bags; therefore, it is recommended that the shelf is positioned adjacent to the vertical rail beside the wash basin.	
d.	A mirror should be provided opposite the washbasin. It should be at least 400 mm wide and 1000 mm tall. Its bottom edge should be no lower than 500 mm above the floor.	
e.	Shiny metal fittings that are cold to the touch should be avoided.	
f.	A waste bin should be provided, together with a sealed container for used incontinence pads and other disposables. These must be located clear of the manoeuvring space. It is recommended that this is beneath the shelf.	

P9.	Code of Practice guidance	Reference
g.	It is recommended that guidance be given about what is appropriate to be placed in the open bins.	*Review of Accessible Toilets on Railway Stations* (2008) see Annex V: Reference documents
h.	Other fittings must be designed and placed in a way that makes the toilet easy to use for the widest range of people.	

P10. Toilets – lighting

P10.	European standards	Reference
	This section contains no European standards.	

P10.	National standards	Reference
1.	The maintained illuminance (or general lighting level) of toilet accommodation should be not less than 100 lux at floor level.	**BS 8300:12.6.7**
2.	A lighting pull cord should be set between 900 mm and 1000 mm above the floor, and located within 150 mm of the leading edge of the door and the surface of the adjacent wall.	**BS 8300:12.2.10**
3.	The pull cord and the pull cord end should contrast visually with the wall, but should not be red as this colour is reserved for emergency assistance alarms.	**BS 8300:12.2.10**
4.	Where automatic lighting is used, back-up switched lighting should be provided in addition to a motion sensor.	**BS 8300:12.6.7**

P10.	Code of Practice guidance	Reference
a.	Reflectors or diffusers should be fitted to all light fittings to reduce the glare from lamps.	

P11. Toilets – emergency

P11.	European standards	Reference
	This section contains no European standards.	

P11.	National standards	Reference
1.	An alarm (usually a cord) must be reachable from the toilet and from the floor.	**BS 8300:12.2.8**
2.	An emergency assistance pull cord, coloured red, should be provided with two red bangles of 50 mm diameter, one set at a height between 800 mm and 1000 mm and the other set at 100 mm above floor level.	**BS 8300:9.3.7.2**
3.	A reset control should be provided for use if the alarm is activated by mistake.	**BS 8300:12.2.8**

P11.	Code of Practice guidance	Reference
a.	It is recommended that the pull cord is a triangular design, which is appropriate in that it is easy to grip and heavy enough not to swing out of reach if missed initially.	
b.	Palm-operable push buttons can also be used if there is one at a higher level and one that is reachable from the majority of the floor.	
c.	It is worth noting that people are more likely to fall away from the toilet or washbasin while moving around.	
d.	The alarm should ring at a continually staffed location, or where it can be easily seen and heard by those able to give assistance. To reassure those in distress, visual and aural feedback should be provided to indicate that the alarm has been activated.	

P12. Toilets – baby-changing facilities

P12.	European standards	Reference
1.	If toilets are provided at a station, baby-changing facilities shall be provided that are accessible to both men and women.	**PRM TSI: 4.1.2.7.1**
2.	In the usable position, the changing facility shall be between 800 mm and 1000 mm above floor level. It shall be a minimum of 500 mm wide and 700 mm long.	**PRM TSI: 4.1.2.7.2**
3.	It shall be designed to prevent a baby from inadvertently sliding off, shall have no sharp edges and shall be able to take a minimum weight of 80 kg.	**PRM TSI: 4.1.2.7.2**
4.	If the baby-change table protrudes into the accessible toilet space, it shall be possible to put it into the stowed position using a force not exceeding 25 newtons.	**PRM TSI: 4.1.2.7.2**

P12.	National standards	Reference
	This section contains no national standards.	

P12.	Code of Practice guidance	Reference
a.	Baby-changing facilities should allow enough room for a wheelchair to turn (i.e. 1500 mm by 1500 mm), which should not be obstructed by fittings below 700 mm.	

Q1. Crossing the track

Figure Q1.1 A station footbridge with lifts and stairs
Source: Merseyrail

In many stations, the only way of crossing from one platform to another is by footbridge (Figure Q1.1).

It is recommended that operators consider making both sides of the railway station open to the public access. However, this does not necessarily provide appropriate or acceptable access for disabled people, since there will still be a need for disabled people to reach the station facilities, such as the car park or booking office on either their outward or return journey.

Barrow/track crossings

At some stations, crossings across the track are provided. These are generally known as “barrow crossings”, as their original use was for luggage and parcel barrows. In certain circumstances, they can be used

by some people with reduced mobility. More information can be found in rail group standards.[8]

Q1.	European standards	Reference
1.	If level track crossings are permitted to be used by passengers, according to national rules and, therefore, required as part of the obstacle-free route, they shall be accessible to all categories of PRM.	**PRM TSI: 4.1.2.22**
2.	Operators must ensure that the design of the crossing is such that the smallest wheel of the reference wheelchair, as defined in Annex III, cannot be trapped between the crossing surface and the rail.	**PRM TSI: 4.1.2.22**
3.	Visual and tactile markings shall be provided to identify the boundaries of the crossing surface.	**PRM TSI: 4.1.2.22**
4.	Where national rules permit supervised level track crossings, operating rules shall be implemented to ensure that staff at supervised level track crossings give appropriate assistance to PRM, including indication of when it is safe to cross the track.	**PRM TSI: 4.1.4**
5.	If footbridges or subways are used as part of the normal passenger walking route within the confines of the station, these shall have an obstacle-free area of a minimum of 1600 mm wide and a minimum headroom of 2300 mm throughout. The minimum width requirement does not take into account additional width that may be required for high passenger flows.	**PRM TSI: 4.1.2.14**

8 www.rgsonline.co.uk

Q1.	National standards	Reference
	This section contains no national standards.	

Q1.	Code of Practice guidance	Reference
a.	It should be noted that barrow crossings are unlikely to be approved by HMRI if proposed as new facilities.	
b.	Where barrow crossings exist, it is recommended that consideration is given, where appropriate, to their elimination as part of any station refurbishment or upgrade.	
c.	Barrow crossings should also have visual and tactile markings to identify the boundaries of the crossing.	
d.	Those who use the crossing should always be accompanied by staff conversant with the instructions for use of barrow crossings at the location concerned.	

Q2. Crossing the track – subways

Q2.	European standards	Reference
1.	As per the standards for an obstacle-free route, subways must be at least 1600 mm wide and 2300 mm high.	**PRM TSI: 4.1.2.3.1**
2.	If the subway is within the station building, the subway should be illuminated to a minimum of 100 lux, measured at floor level.	**PRM TSI: 4.1.2.10**
3.	If the subway is outside the station building, then the minimum average illumination must be 20 lux, measured at floor level, with a minimum value of 10 lux.	**PRM TSI: 4.1.2.10**

Q2.	National standards	Reference
	This section contains no national standards.	

Q2.	Code of Practice guidance	Reference
a.	Where possible, it is recommended that the approach to the underpass is as wide as possible, to give an open aspect and sense of security. Accordingly, it is recommended that subways be at least 4800 mm wide and have clear headroom of 3000 mm.	
b.	There should be a clear view from one end of the subway to the other.	
c.	CCTV cameras should be placed in underpasses to enhance security.	
d.	It is recommended that lighting is a minimum of 150 lux.	
e.	Where there are corridors of constrained width in subways or bridges, consideration should be given to providing a wider passing place to enable PRM to pass (in such instances where, for example, a wheelchair is wider than the dimensions given for the reference wheelchair).	

R1. Lifts – general

Figure R1.1 A typical station lift

Part 3 of the Disability Discrimination Act (DDA) places an obligation on operators to take reasonable steps to overcome barriers to access, such as those preventing many disabled people from reaching the trains. In many cases this can be achieved by providing lifts (Figure R1.1).

R1.	European standards	Reference
1.	Lifts shall be provided where ramps are not available and shall be designed in accordance with EN 81-70:2003, clause 5.3.2.1, Table 1 (see below).	**PRM TSI: 4.1.2.17**

R1.	European standards			Reference
Table 1: Minimum car dimensions for cars with a single entrance or two opposite entrance				
Type of lift	**Minimum car dimensions**			**Accessibility level**
	Width	**Depth**	**Max. weight**	
1	1000 mm	1250 mm	450 kg	This car accommodates one wheelchair user.
2	1100 mm	1400 mm	630 kg	This car accommodates one wheelchair user and an accompanying person.
3	2000 mm	1400 mm	1275 kg	This car accommodates one wheelchair user and several other passengers. It also allows the wheelchair to be rotated in the car.
• Car width is the horizontal distance between the inner surface of the structural walls, measured parallel to the front entrance. • Car depth is the horizontal distance between the inner surface of the structural walls, measured perpendicular to the width.				

R1.	National standards	Reference
	This section contains no national standards.	

R1.	Code of Practice guidance	Reference
a.	Lift doors should have the following clear openings (EN81-70 5.2.1): Type 1 lift – 800 mm Type 2 lift – 900 mm Type 3 lift – 1100 mm	
b.	Lifts are the ideal option for wheelchair users and others who cannot manage stairs. They should be located as near as possible to any stairs.	
c.	It is recommended that lifts are grouped together to reduce waiting times.	
d.	Through-lifts should be fitted wherever the geography of the station allows. These have a door at either end of the lift. This is much easier for wheelchair users, who do not have to turn round in the lift or back out of it – a manoeuvre which can be difficult and time-consuming.	
e.	It is recommended that all lifts are at least 1500 mm deep, so that people in larger wheelchairs or with extended footrests can get into the lift.	
f.	Where space allows, the recommended minimum internal dimensions of a lift should be 1600 (wide), 1500 mm (deep) and 2300 mm (high).	

R1.	Code of Practice guidance	Reference
g.	It is recommended that lift dimensions allow for the turning circle of the reference wheelchair (1500 mm). This is especially important where the lift only has a single entrance, as wheelchair users ought not to have to reverse out of the lift because it is too narrow for them to turn around.	
h.	Seating should be provided close to lift entrances for waiting passengers who cannot stand for long periods.	
i.	Lifts on platforms should have a sheltered waiting area with seating nearby.	
j.	It is recommended that lifts have a clear landing of at least 1500 mm × 1500 mm outside the lift entrance/exit.	
k.	Lift doors should be in a colour that contrasts with the surrounding wall.	
l.	Automatic lift doors should have reopening activators, operated by invisible beam or contact with passengers, children and assistance dogs.	
m.	It is recommended that the doors remain open for at least five seconds.	
n.	There should be a button to reopen the doors for those who need longer to get in or out of the lift.	
o.	Aural warnings should be given when doors are about to be opened or closed.	

R1.	Code of Practice guidance	Reference
p.	It is recommended that, when lifts are constructed, operators consider using glass doors. This is so that passengers using the lift can be seen and passengers waiting for the lift can see if anyone is using it. It may be that, in appropriate locations, the walls of the lift and the lift shaft can also be constructed using glass. However, as large areas of plain glass are confusing for visually impaired users, suitable manifestations should be applied.	
q.	Outside the lift, a visual and aural acknowledgement should be given when the lift has been called, when it has arrived and when doors are opening or closing.	
r.	Lift controls, both outside and inside the lift, should be operable by wheelchair users and have tactile markings.	
s.	Where there are announcements inside and outside the lift, they should tell people when the doors are opening or closing and say which floor has been reached and be complemented with visual displays.	
t.	There should be an obvious way of showing an intending user if the lift is not working.	
u.	Flooring should have a slip resistance value of 45–70 (optimally 50–65), as measured with 4S torsugar rubber on a pendulum test.[9]	

9 For further information on the pendulum CoF test, see the HSE information sheet Assessing the slip resistance of flooring: a technical information sheet. See Annex V: Reference documents for further details.

R1.	Code of Practice guidance	Reference
v.	A clear contrast between the lift walls and floor will assist visually impaired people.	
w.	Lifts should have automatic floor-levelling devices to avoid gaps that can be hard to negotiate. Stopping accuracy should be within 10 mm, and gaps between the floor and lift should be no wider than 20 mm.	
x.	Care should be taken with interior finishes, especially with stainless steel, to reduce visual confusion and glare from undiffused reflections.	
y.	Walls within the lift should not be mirrored, as this can be very confusing for visually impaired people. However, if the lift is not a through-lift, a small half-depth mirror should be provided on the rear wall to aid wheelchair users and allow visual indicators to be seen.	
z.	Lighting should be uniformly distributed, avoiding the use of spotlights, as they can cause difficulties for visually impaired people.	
aa.	It is recommended that lighting levels in the lift are a minimum of 100 lux (approximately 50–75 lux at floor level), which also allows the occupants of the lift to be viewed by a station CCTV system.	

R1.	Code of Practice guidance	Reference
bb.	A handrail should be provided on each of the lift's walls at 850 mm to 1000 mm above the floor.	
cc.	The buttons should be large: at least 20 mm in size and at least 10 mm apart, and all should be within reach of wheelchair users at between 700 mm and 1200 mm from the floor.	
dd.	Buttons should protrude slightly from the wall and should be of a design that allows them to be worked by, for example, an elbow, fist or palm of the hand.	
ee.	The force needed to press the buttons should be between 2.5 and 5 newtons.	
ff.	There should be confirmation that any requested action has worked, e.g. through illumination and an aural signal.	
gg.	Buttons should contrast in colour with the panel on which they are located, which, in turn, should contrast with the lift wall.	
hh.	Embossed markings and Braille (15 mm in size) should be used to identify each button.	
ii.	In the lift, floor numbers, where appropriate, should be announced and shown in visual form.	
jj.	It should be possible to see visual indicators whichever way you are facing in the lift.	

R2. Lifts – lift emergencies

Figure R2.1 Lift controls, showing the alarm button

R2.	European standards	Reference
	This section contains no European standards.	

R2.	National standards	Reference
	This section contains no national standards.	

R2.	Code of Practice guidance	Reference
a.	The lift design should take into account the need to allow disabled passengers to leave as quickly as possible in an emergency.	
b.	Reassuring messages should be given at once, with an estimate of the time expected for help to arrive, including how long it may take to get the lift to a landing.	
c.	In an emergency, an immediate response is expected. HMRI consensus is that a maximum of two hours from initial call to release is tolerable for entrapments. Where there are lifts at a station, the station operator should ensure that appropriate staff are available with the necessary skills to release trapped passengers with the minimum of delay.	
d.	Emergency communication systems (Figure R2.1) should be no lower than 900 mm from the floor.	
e.	An additional emergency call button should be provided for passengers who fall in the lift.	
f.	The emergency intercom system should have an induction loop.	
g.	No part of the emergency communication system should be more than 1200 mm from the floor.	

R2.	Code of Practice guidance	Reference
h.	It is recommended that an acoustic coupler is used as an aid to people with impaired hearing.	
i.	It is recommended to use a yellow illuminated pictogram, to indicate the alarm is activated, and a green illuminated pictogram, to indicate the emergency call has been registered.	

R3. Lifts – platform lifts (inside the station building)

For small differences in height and where lifts or ramps are not suitable, a platform lift may provide an alternative solution. A platform lift is a platform capable of carrying a wheelchair user up and down a short vertical distance but is not part of the stairway. Regulations restrict the distance that they can travel, so they can only be used for relatively short changes in level, such as a short flight of steps to a booking office.

R3.	European standards	Reference
	This section contains no European standards.	

R3.	National standards	Reference
	This section contains no national standards.	

R3.	Code of Practice guidance	Reference
a.	Guidance about the design of platform lifts is contained within BS 6440: 1983 *Code of Practice for Powered Lifting Platforms for Use by Disabled Persons*. This restricts the maximum lifting distance to 1980 mm if there is only one barrier rail for security.	**BS 6440: 1983**
b.	The platform lift should have enough space at the top and bottom to allow passengers to get on and off the lift easily. A minimum clear access of 1500 mm is recommended.	
c.	If installed, guardrails must lock into place automatically, and controls must not be locked	

S1. Ramps

Long ramps are often unsuitable; for example, in order to achieve a rise of 4.8 m, which is necessary to clear overhead lines, it would take a ramp of 126 m at 1:20. Long ramps, generally speaking, take up more land space and cause significant problems for people with walking difficulties and for wheelchair users. Where ramps are unsuitable, the installation of lifts should be considered.

S1.	European standards	Reference
1.	Ramps shall be installed for PRM unable to use stairs where lifts are not provided.	**PRM TSI: 4.1.2.17**
2.	Ramps shall be provided with handrails on both sides and at two levels. The higher handrail shall be positioned at between 850 mm and 1000 mm above floor level, the lower handrail shall be positioned at a height of between 500 mm and 750 mm above floor level.	**PRM TSI: 4.1.2.16**
3.	There shall be a minimum clear space of 40 mm between the handrail and other parts of the structure, other than its mountings.	**PRM TSI: 4.1.2.16**
4.	The handrail shall be rounded and have a cross-section of 30 mm to 50 mm equivalent diameter.	**PRM TSI: 4.1.2.16**
5.	Handrails shall contrast with the surrounding wall colours.	**PRM TSI: 4.1.2.16**
6.	Handrails shall be continuous.	**PRM TSI: 4.1.2.16**

S1.	European standards	Reference
7.	If there are handrails or walls within reach along the obstacle-free route to the platform, they shall have brief information (for example, platform number or direction information) in Braille and in prismatic letters or numbers at the rear of the handrail, or on the wall at a height between 850 mm and 1000 mm. Numbers and arrows are the only permissible tactile pictograms.	**PRM TSI: 4.1.2.3.2**

S1.	National standards	Reference
1.	Some ambulant disabled people have difficulty using ramps, so a ramp should not be the only approach to the station.	**BS 8300:5.8**
2.	However, where the change in level is no greater than 300 mm, a ramp may be acceptable as the only means of access, avoiding the need for a single step.	**BS 8300:5.8.1**
3.	The existence and location of a ramp should be clearly indicated on the approach to a building. If the beginning of the ramp cannot be located close to the principal entrance, information should be provided at that point in order to direct users to the correct location. The text should be in large characters, contrasting visually with their background, and be accompanied by the international Symbol for Access.	**BS 8300:5.8.1** **BS 8300:9.2.1.4**

<table>
<tr><th>S1.</th><th>National standards</th><th>Reference</th></tr>
<tr><td>4.</td><td>A ramp should have the lowest practical gradient. Where the ramp has a gradient of 1:20 or steeper, it should conform to the recommended length of ramp (going of a flight):
<table>
<tr><th>Going of a flight (length)</th><th>Maximum gradient</th></tr>
<tr><td>10 m</td><td>1:20</td></tr>
<tr><td>9 m</td><td>1:19</td></tr>
<tr><td>8 m</td><td>1:18</td></tr>
<tr><td>7 m</td><td>1:17</td></tr>
<tr><td>6 m</td><td>1:16</td></tr>
<tr><td>5 m</td><td>1:15</td></tr>
<tr><td>4 m</td><td>1:14</td></tr>
<tr><td>3 m</td><td>1:13</td></tr>
<tr><td>not exceeding 2 m</td><td>1:12</td></tr>
</table></td><td>BS 8300:5.8.2</td></tr>
<tr><td>5.</td><td>No individual flight of a ramp should have a going of more than 10 m or a rise of more than 500 mm.</td><td>BS 8300:5.8.2</td></tr>
<tr><td>6.</td><td>No series of ramps to a building should rise in total more than 2 m.</td><td>BS 8300:2001 5.8.2</td></tr>
</table>

S1.	National standards	Reference
7.	If a series of ramp flights rise more than 2 m, an alternative means of access, such as a lift, should be provided.	**BS 8300:5.8.2**
8.	The maximum cross-fall gradient of a slope must be 1:50, to help drain surface water.	**BS 8300:5.8.2**
9.	The surface width of a ramp should be not less than 1600 mm. However, the intensity of use should be considered when deciding on suitable ramp width.[10]	**BS 8300:5.8.3**
10.	Where the width between the handrails of a ramp exceeds 3.3 m, the ramp should be divided by a handrail into two or more equal channels to ensure that all users have access to a handrail.[11]	**BS 8300: 5.8.3**
11.	1800 mm is the minimum width that would permit two wheelchair users on a ramp to pass each other.	**BS 8300:5.8.3**
12.	Landings should be provided at the foot and head of a ramp. They should be at least the width of the ramp and a minimum of 1600 mm long, clear of any other obstruction.	**BS 8300:5.8.4**

10 The PRM TSI requires that the accessible route, and any ramps on it, must be at least 1600mm wide. Dispensations should therefore be sought against this standard where appropriate.

11 BS 8300: 5.8.3 states that this should happen where the width between handrails exceeds 2.5 m. However, it has been decided to modify this requirement to 3.3 m so that all channels are larger than the TSI required width of 1600 mm on the accessible route.

S1.	National standards	Reference
13.	Any intermediate landings along a series of ramps in a straight line should be at least 1500 mm long, clear of any obstruction.	**BS 8300:5.8.4**
14.	If an intermediate landing is a quarter- or half-turn landing, the width of the ramp should be maintained throughout the turn, or turns.	**BS 8300:5.8.4**
15.	If there is likely to be frequent use of the ramp by people in wheelchairs, it may be advisable to increase the width of an intermediate landing to 1800 mm, so that it can serve as a passing place.	**BS 8300:5.8.4**
16.	A continuous upstand at least 100 mm high, or an equivalent barrier, should be provided at any open edge of a ramp. This should be detectable to long-cane users and contrast visually with the surface of the ramp.	**BS 8300:5.3.6**

S1.	Code of Practice guidance	Reference
a.	For changes in level where it is inappropriate for a lift to be installed, a dual arrangement of stairs and ramps must be provided, subject to physical constraints. Where this is done, the ramp and stairs must be near to each other. The ramp must not appear to be a secondary, inferior entrance.	
b.	The publication *Design Manual for Roads and Bridges* gives useful guidance on the design of ramped footbridges.	*Design Manual for Roads and Bridges* (2008) see Annex V: Reference documents
c.	It is recommended that ramps slope at a consistent angle at a gradient of not more than 1:20. Ramps steeper than 1:20 can be very difficult for some people who propel their wheelchair themselves, or for those who provide assistance by pushing the chair from behind.	
d.	It is recommended that the length of any ramp does not exceed 6 m between landing/resting areas.	
e.	If, in existing stations, a ramp steeper than 1:12 is unavoidable, it should not be longer than 2 m.	

S1.	Code of Practice guidance	Reference
f.	Operators should consult with local disabled people before deciding whether to provide ramps over 50 metres in length, including landings, when refurbishment or replacement is being carried out.	
g.	It is recommended that, for stations in categories A–D, ramps have a minimum width of 2000 mm between handrails.	
h.	The surface materials used for a ramp should be chosen to be as easy to maintain and as slip-resistant as possible, especially in wet weather or where spillage occurs.	
i.	The surface of a ramp should contrast visually with that of a landing, so that its presence is detectable by visually impaired persons.	
j.	Where different materials are used for the flights and the landings of a ramp, care should be taken to ensure that the slip characteristics are similar in order to minimise the risk of stumbling.	
k.	The sides of ramps should be protected by raised kerbs of at least 100 mm in height, detectable to long-cane users.	
l.	The tactile corduroy warning surface, detailed in Section T: Steps and stairs, should not be used with ramps.	

S1.	Code of Practice guidance	Reference
m.	Where ramps have a central handrail, it is recommended that double rails are used to avoid clashes between users on different sides.	
n.	Handrails should have a slip-resistant matt finish to reduce glare and increase their visibility. Shiny metal handrails must be avoided, because the reflections they cause can mislead visually impaired people.	
o.	It is recommended that the coating of the handrail provides insulation, so it does not remove the heat from the hands of people with painful conditions, such as arthritis.	
p.	The ends of handrails should extend at least 300 mm horizontally (from the ground) beyond the top and bottom of ramps, with smooth shaped ends, and turned into the wall or curved downward to just above floor level, or have a minimum rounded down-turn of 100 mm.	

T1. Steps and stairs – general

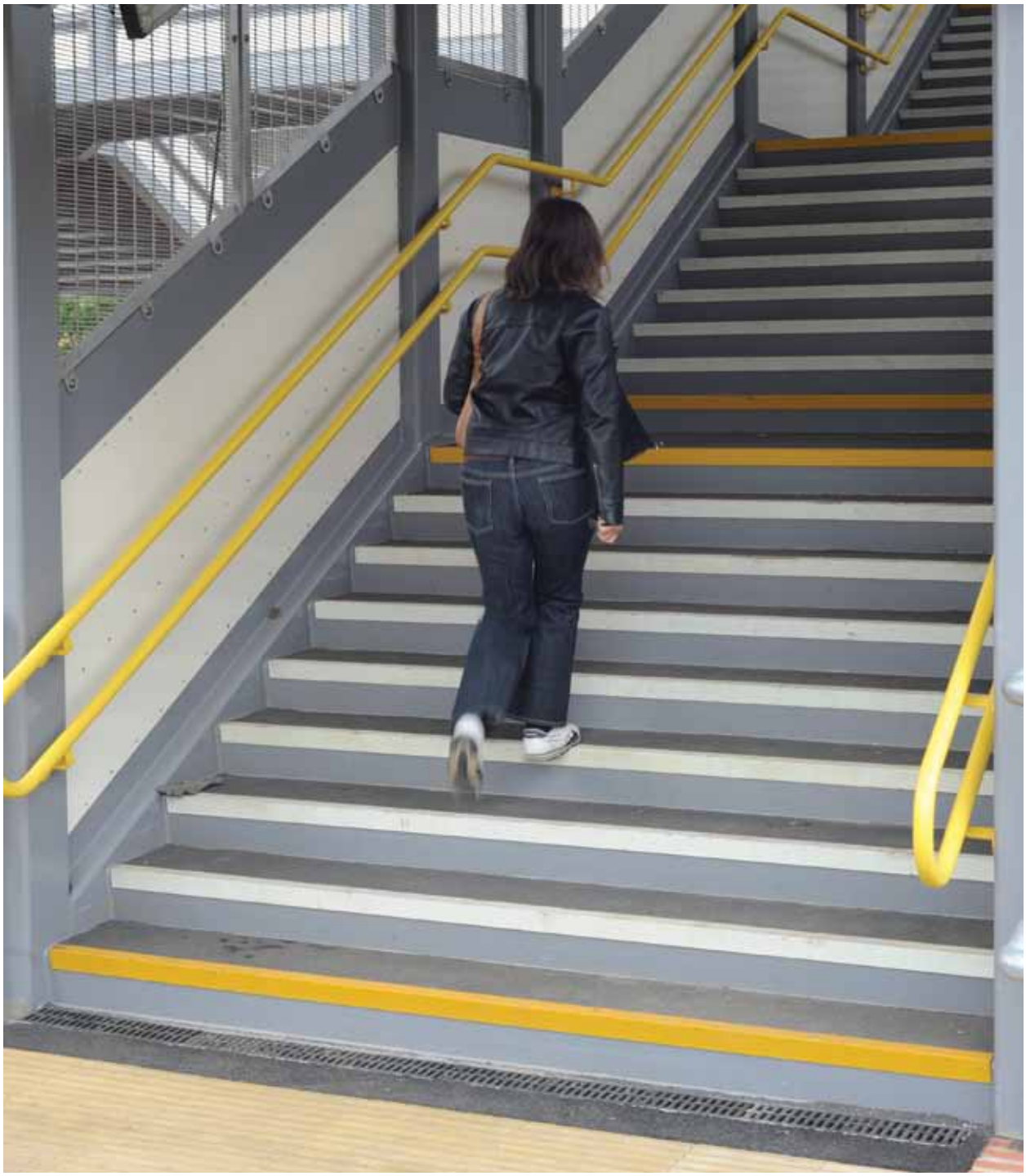


Figure T1.1 A typical station footbridge staircase

T1.	European standards	Reference
1.	Staircases (Figure T1.1) on the main route shall have a minimum obstacle-free width of 1600 mm measured between the handrails. The minimum width requirement does not take into account additional width that may be required for passenger flows.	**PRM TSI: 4.1.2.15**
2.	Staircases must have clear headroom of 2300 mm over the entire width of the staircase.	**PRM TSI: 4.1.2.3.1**
3.	The minimum required light level over, and on the approach to, stairs shall be 100 lux, measured at floor level. If artificial lighting is required to achieve this, the required lighting level shall be a minimum of 40 lux above the ambient surrounding light levels and have a colder colour temperature.	**PRM TSI: 4.1.2.10**

T1.	National standards	Reference
1.	If feasible, stepped access routes should be protected from inclement weather.	**BS 8300:5.9.1**

T1.	Code of Practice guidance	Reference
a.	It is recommended that lighting levels increase to 150–200 lux over stairs and that the transition should be smooth.	

T2. Steps and stairs – stair and step design

T2.	European standards	Reference
1.	All stair tread surfaces shall have anti-slip properties.	**PRM TSI: 4.1.2.15**

T2.	National standards	Reference
1.	The sum of a “going” of a stair, plus twice the “rise” (g + 2r) should be at least 600 mm and not more than 810 mm.	**BS 8300:5.9.2**
2.	The preferred range for the rise of a step should be 150–180 mm.	**BS 8300:5.9.2**
3.	The going for a step should be 300 mm to 450 mm.	**BS 8300:5.9.2**
4.	Goings within a flight, and preferably within a series of flights, should be uniform.	**BS 8300:5.9.2**
5.	Preferably, a step should not overlap the one below. If there is an overlap, the nosing should not project over the tread by more than 25 mm.	**BS 8300:5.9.2**
6.	The risers should not be open.	**BS 8300:5.9.2**
7.	No flight in a stepped access route should contain more than 20 risers and, as far as possible, the number of risers in successive flights should be uniform.	**BS 8300:5.9.3**

T2.	National standards	Reference
8.	Each step nosing should incorporate a permanently contrasting continuous material for the full width of the stair on both the tread and the riser. This will help blind and partially sighted people appreciate the extent of the stair and identify individual treads.	**BS 8300:5.9.5**
9.	The contrasting material should be 50 mm to 65 mm wide on the tread and 30 mm to 55 mm on the riser, and should contrast visually with the remainder of the tread and riser.	**BS 8300:5.9.5**
10.	The whole tread or the nosing should incorporate a slip-resistant material, starting as close as practicable to the front edge of the nosing and extending the full width of the tread.	**BS 8300:5.9.5**
11.	The provision of isolated single steps should be avoided.	**BS 8300:5.9.3**

T2.	Code of Practice guidance	Reference
a.	It is recommended that there be a minimum of three steps in each flight; any fewer have been shown by research to be less safe. In these cases, a ramp should be installed.	
b.	Nosings should be splayed or rounded to a 6 mm radius without overhang, and should be colour-contrasted from the rest of the step, for the full width of the step to a depth of 30–55 mm on the riser and 50–65 mm on the tread.	
c.	Highly reflective surfaces such as stainless steel or brass should not be used on staircases, because reflections can cause disorientation.	

T3. Steps and stairs – landings and areas beneath stairs

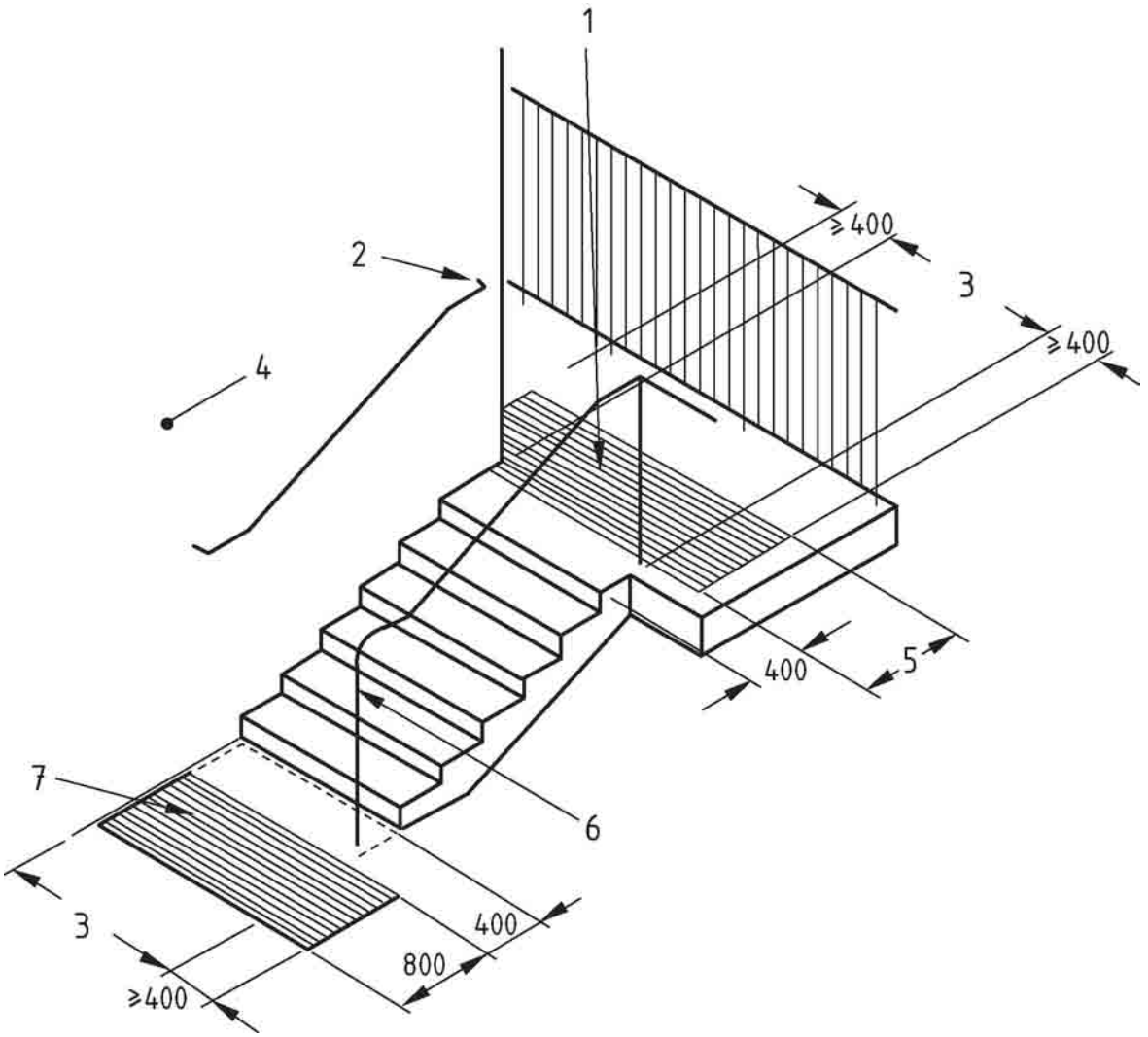
Figure T3.1 Corduroy tactile paving at the bottom of a staircase

T3.	European standards	Reference
1.	Prior to the first ascending stair and also prior to the first descending stair, there shall be a tactile band, over the whole width of the stair (Figure T3.1).	**PRM TSI: 4.1.2.15**
2.	This band shall have a minimum depth of 400 mm and shall contrast with and be integrated into the floor surface.	**PRM TSI: 4.1.2.15**
3.	This band shall differ to those used for the tactile guide path, where installed.	**PRM TSI: 4.1.2.15**
4.	Open areas beneath stairs shall be protected to prevent passengers from inadvertent collision with structural supports and areas of reduced headroom.	**PRM TSI: 4.1.2.15**

T3.	National standards	Reference
1.	A level landing should be provided at the top and bottom of each flight of steps. Its length, clear of any obstruction, should be at least 1200 mm.	**BS 8300:5.9.6**
2.	If practicable, the tactile band (Standard 1 in European standards, above) should extend beyond the line of the edge of the flight.	**BS 8300:5.9.6**

T3.	Code of Practice guidance	Reference
a.	A textured warning surface should be included at the top and bottom of steps, but not on intermediate landings, unless they have entry or exit points leading to, say, a car park.	
b.	A corduroy hazard warning surface, consisting of rounded bars that run across the direction of travel, ought to be considered and can warn of an upcoming hazard. See *Guidance on the Use of Tactile Paving Surfaces*, for further guidance.	*Guidance on the Use of Tactile Paving Surfaces* (2005) see Annex V: Reference documents
c.	The tactile surface should be in a contrasting colour to the surrounding area.	
d.	It is recommended that the surface should extend 400 mm beyond each side of the stairway and should be 800 mm deep, so that it is easier for those with visual impairments to detect.	
e.	Where possible, stair landings should be at least as long as they are wide.	

T4. Steps and stairs – handrails



Key

1 Corduroy hazard warning surface at top of stairs to extend at least 400 mm at each side of stairs and to stop 400 mm from nosing
2 Handrail fixed to side wall and terminated with a closed end at top and bottom
3 Surface width of stair, at least 1 200 mm wide
4 Side wall to staircase
5 800 mm when the approach is straight on and 400 mm when a conscious turn is needed to reach the step
6 Handrail to be terminated in a way that reduces the risk of clothing being caught
7 Corduroy hazard warning surface at bottom of stairs

Figure 9 Use of a corduroy hazard warning surface and handrails on an external stepped access
Dimensions in millimetres

T4.	European standards	Reference
1.	Stairs shall be provided with handrails on both sides and at two levels. The higher handrail shall be positioned at between 850 mm and 1000 mm above floor level, while the lower handrail shall be positioned at a height of between 500 mm and 750 mm above floor level.	**PRM TSI: 4.1.2.16**
2.	There shall be a minimum clear space of 40 mm between the handrail and other parts of the structure other than its mountings.	**PRM TSI: 4.1.2.16**
3.	Handrails shall be continuous. When fitted on stairs, they shall extend for a minimum of 300 mm beyond the top and bottom steps (these extensions may be curved away in order to prevent obstructions).	**PRM TSI: 4.1.2.16**
4.	The handrail shall be rounded and have a cross-section of 30 mm to 50 mm equivalent diameter.	**PRM TSI: 4.1.2.16**
5.	Handrails shall contrast with the surrounding wall colours.	**PRM TSI: 4.1.2.16**

T4.	European standards	Reference
6.	If there are handrails or walls within reach along the obstacle-free route to the platform, they shall have brief information (for example, platform number or direction information) in Braille and in prismatic letters or numbers at the rear of the handrail, or on the wall at a height between 850 mm and 1000 mm. Numbers and arrows are the only permissible tactile pictograms.	**PRM TSI: 4.1.2.3.2**

T4.	National standards	Reference
1.	Handrails should be continuous. Operators may wish to refer to BS 8300 Figure 9 as an example of good practice in handrail design.	**BS 8300:5.10.1**

T4.	Code of Practice guidance	Reference
a.	It is recommended that an additional central handrail is provided on stairways wider than 4000 mm.	
b.	Handrails should have a slip-resistant matt finish to reduce glare and increase their visibility. Shiny metal handrails should be avoided, because the reflections they cause can mislead visually impaired people.	
c.	It is recommended that the ends of handrails should extend at least 300 mm horizontally (from the ground) beyond the top and bottom of ramps and steps, with smooth shaped ends, and should be turned into the wall or curved downward to just above floor level or have a minimum rounded down-turn of 100 mm.	
d.	It is recommended that double rails are used to avoid clashes between users on different sides.	
e.	It is recommended that the coating of the handrail provides insulation, so it does not remove the heat from the hands of people with painful conditions, such as arthritis.	

U1. Platform lifts for boarding trains

U1.	European standards	Reference
Where a platform lift is used, it shall comply with the following:		
1.	The lift platform surface shall be slip-resistant.	**PRM TSI: 4.1.2.21.2**
2.	At surface level, the lift platform shall have a minimum clear width of 720 mm.	**PRM TSI: 4.1.2.21.2**
3.	Where platform lifts are used to aid boarding a train, the design of the lift shall ensure that the (rail) vehicle cannot be moved when the lift is not stowed.	**PRM TSI: 4.1.2.21.2**
4.	Where provided, each control for deploying, lowering to ground level, raising and stowing the lift shall require continuous manual pressure by the operator and shall not allow an improper lift sequencing when the lift platform is occupied.	**PRM TSI: 4.1.2.21.2**
5.	The lift shall incorporate an emergency method of deploying, lowering to ground level with a lift occupant, and raising and stowing the empty lift if the power to the lift fails.	**PRM TSI: 4.1.2.21.2**
6.	No part of the lift platform shall move at a rate exceeding 150 mm/second during lowering and lifting an occupant, and shall not exceed 300 mm/second during deploying or stowing (except if the lift is manually deployed or stowed).	**PRM TSI: 4.1.2.21.2**

U1.	European standards	Reference
7.	The maximum lift platform horizontal and vertical acceleration when occupied shall be 0.3 g.	**PRM TSI: 4.1.2.21.2**
8.	The lift platform shall be equipped with barriers to prevent any of the wheels of a wheelchair from rolling off the lift platform during its operation.	**PRM TSI: 4.1.2.21.2**
9.	A movable barrier or inherent design feature shall prevent a wheelchair from rolling off the edge closest to the (rail) vehicle until the lift is in its fully raised position.	**PRM TSI: 4.1.2.21.2**
10.	Each side of the lift platform that extends beyond the vehicle in its raised position shall have a barrier a minimum 25 mm high. Such barriers shall not interfere with manoeuvring into or out of the aisle.	**PRM TSI: 4.1.2.21.2**
11.	The loading-edge barrier (outer barrier), which functions as a loading ramp when the lift is at ground level, shall be sufficient when raised or closed, or a supplementary system shall be provided, to prevent a power wheelchair from riding over or defeating it.	**PRM TSI: 4.1.2.21.2**
12.	The lift shall permit both inboard and outboard facing of a wheelchair.	**PRM TSI: 4.1.2.21.2**

U1.	European standards	Reference
13.	A secure stowage system shall be provided to ensure that the stowed lift does not impinge on a passenger's wheelchair or mobility aid or pose any hazard to passengers.	**PRM TSI: 4.1.2.21.2**

U1.	National standards	Reference
	This section contains no national standards.	

U1.	Code of Practice guidance	Reference
	There is no guidance relating to this section.	

V1. Escalators – general

Figure V1.1 A pair of escalators at a station

V1.	European standards	Reference
1.	Where fitted, escalators (Figure V1.1) shall have a maximum speed of 0.65 m/s.	**PRM TSI: 4.1.2.17**
2.	The minimum required light level over, and on the approach to, escalators and travelators shall be 100 lux measured at floor level. If artificial lighting is required to achieve this, the required lighting level shall be a minimum of 40 lux above the ambient surrounding light levels, and have a colder colour temperature.	**PRM TSI: 4.1.2.17**

V1.	National standards	Reference
1.	Escalators shall be in accordance with BS EN 115: *Safety of escalators and moving walks. Construction and installation.*	**BS EN 115**
2.	The steps of escalators should have a nosing that contrasts visually with the tread and riser.	**BS 8300:8.4**
3.	Wherever an escalator is installed between floors, a clearly signposted alternative access by lift should be provided.	**BS 8300:8.4**
4.	The direction in which an escalator is travelling should be clearly indicated by a sign.	**BS 8300:8.4**
5.	Escalator handrails should contrast visually with the surroundings for the benefit of visually impaired persons.	**BS 8300:8.4**

V1.	Code of Practice guidance	Reference
a.	The recommended angle of inclination for escalators is 30 to 35 degrees.	
b.	The recommended width for escalators is between 580 mm and 1100 mm.	
c.	The recommended height for escalator steps is between 210 mm and 240mm, if escalators are to be used as an emergency exit when stationary.	
d.	Recommended preferred tread depths are 380 mm.	
e.	Handrails should have disks (minimum 18 mm diameter, equally spaced at 1000 mm and centred) which are colour-contrasted to indicate that the handrails are moving.	
f.	Escalators are useful additions to stairs and lifts, but they cannot be used by wheelchair users, assistance dog users, and people who lack the confidence to use them. Escalators should therefore not be used as a substitute for stairs.	
g.	Where escalators are provided, stairs should be located nearby for those who have difficulty using escalators.	

V1.	Code of Practice guidance	Reference
h.	If no alternative to the escalator is available, staff should be available to assist and turn off escalators – even during peak periods – to allow a passenger to use the escalator as a static stairway.	
i.	There should be enough space at the top and bottom to give passengers enough space to get on and off safely. Five metres or more is recommended where reasonably practicable.	
j.	It is recommended that lighting levels increase on escalators to 150–200 lux, but the transition must be smooth.	
k.	The sides of the escalator should be in a non-reflective material.	
l.	Emergency stop buttons should be clearly marked. It must be possible for people with limited dexterity to use them.	
m.	The approaches to the top and bottom of escalators should be indicated by a change of floor colour using a slip-resistant ridged standard plate.	
n.	Where it is possible to approach the escalator obliquely, barriers should extend 10 metres in front of the escalator to aid visually impaired people.	

V2. Escalators – moving walkways

Figure V2.1 A moving walkway at a station

V2.	European standards	Reference
1.	Where fitted, moving walkways, also known as travelators (Figure V2.1), shall have a maximum speed of 0.75 m/s and a maximum slope of 12 degrees (21.3%).	**PRM TSI: 4.1.2.17**
2.	The minimum required light level over, and on the approach to, escalators and travelators shall be 100 lux measured at floor level. If artificial lighting is required to achieve this, the required lighting level shall be a minimum of 40 lux above the ambient surrounding light levels, and have a colder colour temperature.	**PRM TSI: 4.1.2.17**

V2.	National standards	Reference
1.	Moving walkways shall be designed in accordance with BS EN 115: *Safety of escalators and moving walks. Construction and installation.*	**BS EN 115**
2.	The direction in which a travelator is travelling should be clearly indicated by a sign.	**BS 8300:8.4**
3.	Travelator handrails should contrast visually with the surroundings, for the benefit of visually impaired persons.	**BS 8300:8.4**
4.	Where a travelator is within a passenger access route, guarding should be provided alongside and at each end of the conveyor for the safety of visually impaired people. Without guarding, visually impaired people can inadvertently walk onto a passenger conveyor or be pulled over by accidental contact with moving handrails.	**BS 8300:8.4**

V2.	Code of Practice guidance	Reference
a.	Where it is possible to approach the travelator obliquely, barriers should extend 10 metres in front of the travelator to aid visually impaired people.	

W1. Platforms – height and offset

Figure W1.1 A station with six platforms

W1.	European standards	Reference
1.	It is permitted for the height of the platform (Figure W1.1) to be 915 mm above the running surface.	**PRM TSI: 4.1.2.18.1** **PRM TSI: 4.1.2.18.2** **PRM TSI: 7.4.1.1**

W1.	European standards	Reference
2.	The platform offset is calculated as per the formulae in the tables below. The platform offset is:	**PRM TSI: 4.1.2.18.2**

At straight and level platforms:

• ⩾ R ⩾ 360	360 ⩾ R ⩾ 160
$b_{q0} = 1447,5$	$b_{q0} = 1375,5 + \frac{26000}{R}$

For the lines operated with (Class 373) Eurostar and lines where freight containers of 2.6 m operate:

• ⩾ R ⩾ 360	360 ⩾ R ⩾ 160
$b_{q0} = 1477,5$	$b_{q0} = 1405,5 + \frac{26000}{R}$

For the lines where freight containers of 2.6 m operate:

Internal side of the curve

• ⩾ R ⩾ 500	500 ⩾ R ⩾ 160
$b_{q0} = 1447,5$	$b_{q0} = 1381,5 + \frac{33000}{R}$

External side of the curve

• ⩾ R ⩾ 360	360 ⩾ R ⩾ 160
$b_{q0} = 1447,5$	$b_{q0} = 1375,5 + \frac{26000}{R}$

W1.	National standards	Reference
	This section contains no national standards.	

W1.	Code of Practice guidance	Reference
	There is no guidance relating to this section.	

W2. Platforms – platform design

Figure W2.1 Platform design, showing tactiles and danger area markings
Source: Merseyrail

W2.	European standards	Reference
1.	It is permitted for the width of the platform to be variable on the whole length of the platform.	**PRM TSI: 4.1.2.19**

W2.	European standards	Reference
2.	The minimum width of the platform without obstacles shall be the greater of either: • the width of the danger area plus the width of two opposing freeways of 800 mm (1600 mm); or • for a single side platform, 2500 mm; or • for an island platform 3300 mm (this dimension may taper to 2500 mm at the platform ends). The minimum width requirement does not take into account additional width that may be required for passenger flows.	**PRM TSI: 4.1.2.19**
3.	It is permitted to have small obstacles of a length of less than 1000 mm (e.g. masts, pylons, booths, seats) inside this freeway of 1600 mm.	**PRM TSI: 4.1.2.19**
4.	The distance from the edge of the platform to the obstacle shall be a minimum of 1600 mm and there shall be a minimum freeway of 800 mm from the edge of the obstacle to the danger area.	**PRM TSI: 4.1.2.19**
5.	If the distance between any two small obstacles is less than 2400 mm, they shall be deemed to form one large obstacle.	**PRM TSI: 4.1.2.19**

W2.	European standards	Reference
6.	The minimum distance from the edge of obstacles such as walls, seating places, lifts and stairs that have a length of more than 1000 mm but less than 10000 mm, and the edge of the danger zone, shall be 1200 mm. The distance between the edge of the platform and the edge of this obstacle shall be a minimum of 2000 mm.	**PRM TSI: 4.1.2.19**
7.	The minimum distance from the edges of obstacles such as walls, seating places, travelators and stairs that have a length of more than 10,000 mm, and the edge of the danger zone, shall be 1600 mm. The distance between the edge of the platform and the edge of this obstacle shall be a minimum of 2400 mm.	**PRM TSI: 4.1.2.19**
8.	If there are auxiliary facilities on board trains or on the platform to allow wheelchair users to board or alight from trains, a free space of 1500 mm from the edge of the facility where the wheelchair boards, or lands, at the platform level, to the next obstacle on the platform, or to the opposite danger area, shall be provided where such facilities are likely to be used. A new station shall meet this requirement for all trains that are planned to stop at the platform.	**PRM TSI: 4.1.2.19**

W2.	European standards	Reference
9.	The danger area of a platform commences at the rail side edge of the platform and is defined as the area where passengers may be subject to dangerous forces due to the slipstream effect of moving trains dependent upon their speed. For the conventional rail system, this danger area shall be in accordance with rail group standard GI/RT7016 Interface between Station Platforms, Track and Trains.[12]	**PRM TSI: 4.1.2.19**
10.	Platforms and other external station passenger areas shall have a minimum average illumination level of 20 lux measured at floor level, with a minimum of 10 lux.	**PRM TSI: 4.1.2.10**
11.	The boundary of the danger area, furthest from the rail side edge of the platform, shall be marked with visual and tactile warnings. The tactile marking shall be in accordance with rail group standard GI/RT7016 Interface between Station Platforms, Track and Trains.[12]	**PRM TSI: 4.1.2.19** *Guidance on the Use of Tactile Paving Surfaces* (2005) see Annex V: Reference documents
12.	The visual warning shall be a colour-contrasting, slip-resistant, warning line with a minimum width of 100 mm.	**PRM TSI: 4.1.2.19**

12 Available at: www.rgsonline.co.uk/Railway_Group_Standards/Infrastructure/Railway Group Standards/GIRT7016.pdf. Please note that derogation against Railway Group Standards in the context of this Code of Practice does not negate the need for an operator to also follow the Railway Group Standard process.

W2.	European standards	Reference
13.	The colour of the material at the railside edge of the platform shall contrast with the darkness of the gap. This material shall be slip-resistant.	**PRM TSI: 4.1.2.19**
14.	The end of the platform shall have both visual and tactile markings.	**PRM TSI: 4.1.2.20**

W2.	National standards	Reference
	This section contains no national standards.	

W2.	Code of Practice guidance	Reference
a.	It is recommended that upright posts, grabrails and pillars be of a contrasting colour to the surrounding platform surface. Where this is not possible, they should be marked with a coloured band 140–160 mm wide, with its lower edge at 1500 mm from the ground. An additional lower band should also be used to mark them as a hazard.	
b.	Platform lighting should provide uniform illumination, and it is recommended that it is at least 100 lux measured horizontally at floor level, although due care must be taken for the visibility of signals for train drivers.	
c.	Platform repairs should not contrast significantly in texture or colour with the existing surface, and there must be no significant cracks or breaks in the surface or changes in level.	
d.	Cross-falls required for drainage purposes should slope away from the platform edge and be in the range of 1:80 to 1:40 on exposed platforms. A much shallower gradient can be used on sheltered or indoor platforms.	
e.	The appropriate tactile surface should be installed along the entire length of a platform when any rebuilding or resurfacing takes place. See *Guidance on the Use of Tactile Paving Surfaces* for further guidance.	*Guidance on the Use of Tactile Paving Surfaces* (2005) see Annex V: Reference documents

W2.	Code of Practice guidance	Reference
f.	Where the tactile surface (Figure W2.1) is installed on an island platform, it should be on both faces of the island platform. It should never be installed on one face and not the other.	
g.	The platform edge tactile warning surface can be of any colour, but red should be avoided, and the colour should provide a good contrast with the surrounding area. This is to differentiate station tactiles from those used at controlled pedestrian crossing points on roads.	
h.	The tactile surface should be 400 mm deep, extend the full length of the operational platform, and be laid parallel to, and immediately behind, the platform edge coper, where this is 760 mm from the platform edge.	
i.	Where the depth of copers varies along the length of the platform (e.g. where both old and new copers exist), tactiles should be installed in a single consistent line wherever practical.	
j.	If a single consistent line of tactiles is not practical, it may be acceptable to incorporate staggers (never tapers) in the tactile line as long as such staggers are no closer than 50 m apart along the platform length and the tactile line is continuous even if staggered.	

W2.	Code of Practice guidance	Reference
k.	It is recommended that the warning surface should not be less than 500 mm from the platform edge, because it may not allow enough time for people to stop after detecting the surface.	
l.	Paving must slope downwards in a direction away from the platform edge. This should be no greater than 2.5 per cent.	
m.	Where the permissible or enhanced permissible speed on the adjacent line is greater than 100 mph, a yellow line should be provided on the platform, together with warning signs. The yellow line shall be positioned so that people standing immediately behind the line are at least 1500 mm away from the platform edge.	
n.	It is recommended that entrances to platforms from lifts, escalators, ramps or stairways are parallel with the platform edge wherever possible to minimise the chances of people falling onto the line.	
o.	If it is not possible for entrances to platforms from different levels to be parallel with the platform edge, barriers should be provided, at least 1100 mm high (preferably 1200 mm) with cross-members, to prevent any passengers or assistance dogs from accidentally falling over the platform edge.	

W2.	Code of Practice guidance	Reference
p.	Any barriers should contrast sufficiently with their background surrounding.	
q.	Barriers should also be provided at terminal platforms or bay platforms to protect the area beyond which trains normally stop (i.e. behind the buffer stop).	
r.	Where platforms terminate in an end ramp that leads to the track for the ease of maintenance work, passengers should be prevented from walking down the end ramp and onto the track. A fixed barrier should be provided at the end of the level platform surface, at least 1100 mm in height; it should be fitted with cross-members and be rendered to contrast with the background against which it is seen. It may need to be fitted with a lockable gate so that there is access to the track for maintenance staff. A sign bearing the wording “No entry – staff access only” or similar should be affixed to the barrier. The barrier should be fitted across the entire width of the platform, up to and aligned with the inner edge of the tactile warning surface(s) on the platform edge.	
s.	As an alternative to platform-end barriers, it may be safer to install appropriate tactile paving. Please refer to the relevant standards above.	

X1. Waiting rooms and shelters

Figure X1.1 A selection of waiting room and shelter seating

X1.	European standards	Reference
1.	On each platform where passengers are allowed to wait for trains, and at every resting area, there shall be a minimum of one weather-protected area fitted with ergonomic seating facilities.	**PRM TSI: 4.1.2.8**
2.	The seats shall be back-supported and at least one-third provided with armrests.	**PRM TSI: 4.1.2.8**
3.	There shall also be a standing rest bar of at least 1400 mm length and a space for a wheelchair.	**PRM TSI: 4.1.2.8**
4.	The minimum lighting level on the obstacle-free route, including waiting rooms and shelters, shall be 100 lux measured at floor level.	**PRM TSI: 4.1.2.10**

X1.	National standards	Reference
	This section contains no national standards.	

X1.	Code of Practice guidance	Reference
a.	All waiting rooms and shelters should have a range of seating (Figure X1.1) as defined in Section O: Seating.	
b.	There should also be sufficient space for wheelchair users to wait and manoeuvre.	
c.	Seating and spaces for wheelchair users should be protected from the elements, such as wind and rain.	
d.	There should be clear aisle space of 1200 mm in front of any seating to facilitate easy access.	
e.	In addition, a clear space of 2250 mm × 1050 mm is required for a wheelchair user to manoeuvre into a designated space. This designated space should be 900 mm wide × 1350 mm deep.	
f.	Seating layouts should allow a wheelchair user and a person in adjacent standard seating to sit together and in line with each other.	
g.	There should also be provision for an assistance dog to rest clear of the other users, for example under the seat.	
h.	If doors are provided, these should be automatic.	

X1.	Code of Practice guidance	Reference
i.	Where more than one door is used to access the waiting room or shelter, the doors should be offset against each other to minimise discomfort caused by draughts.	
j.	New modular waiting rooms and shelters are often constructed using stainless steel and glass, which cause problems for people with a visual impairment. The use of such materials should be carefully considered and any glass panels should be adequately manifested (see Section J: Furniture, walls and transparent obstacles).	
k.	Waiting rooms and shelters should allow all passengers to stay informed of train arrivals and departures and any critical changes, such as platform alterations. They should be able to hear announcements and view the customer information system. Where practicable, the ability to see and hear a train approaching is desirable.	
l.	It is recommended that passenger information systems are placed in front of the main bank of seats/space(s) in the line of sight and at a height that is comfortable for all passengers. The reason for this is that many disabled people have problems with turning their heads left or right to view information.	

X1.	Code of Practice guidance	Reference
m.	Waiting rooms and shelters on single-face platforms should be located along the rear of the platform. On island platforms, they should be located centrally, with the doors or doorways being located on both sides of the structure and offset against each other.	
n.	Wherever possible, the waiting room or shelter should be aligned with other platform furniture.	
o.	Where the waiting room or shelter is combined with a refreshment facility at smaller stations, it should be clearly signed as being available for waiting only.	
p.	The recommended lighting level inside the waiting room or shelter is 150 lux.	

Y1. Substitute transport – pre-planned and emergency

Figure Y1.1 Sign for substitute transport – a replacement bus service. The foreground shows bollards

Y1.	European standards	Reference
1.	The infrastructure manager or station manager shall implement procedures that include the provision of alternative assistance to PRM during maintenance, replacement or repair of facilities that are for PRM use.	**PRM TSI: 4.1.5**

Y1.	National standards	Reference
1.	The obligations within this section are also underpinned by statute. Section 248 of the Transport Act 2000 requires operators to ensure, so far as is reasonably practicable, that the substitute road services allow disabled passengers to undertake their journeys safely and in reasonable comfort. This should include passengers who have suffered an injury that seriously impairs their ability to walk. Financial liabilities can arise if operators fail to meet these requirements.	Transport Act 2000, see Annex V: Reference documents

Y1.	Code of Practice guidance	Reference
a.	Buses or other substitute transport (Figure Y1.1) should be accessible to disabled people.	
b.	Through the licence system and the station access conditions, passenger train operators are required to submit details of services they will run where there are planned engineering works by Network Rail. It is a requirement of the Regulator that this information is provided at least twelve weeks before the engineering works take place. Passenger train operators should ensure that accessible substitute transport is provided during such engineering works.	
c.	Where passenger train services are affected by engineering works at short notice, it is recommended that passenger train operators provide accessible buses, where reasonably practicable, at no extra charge. Where this cannot be achieved, operators should ensure that other alternative accessible transport is available to disabled passengers, such as accessible taxis, at no extra charge.	
d.	Operators should ensure that any alternative accessible transport will carry assistance dogs, where applicable, with no extra charge to the owner.	

Y1.	Code of Practice guidance	Reference
e.	If an emergency occurs on the network that leads to serious disruption to passenger train services, operators should seek to provide a suitable alternative means of transport for disabled people.	
f.	Operators should ensure that this information is supplied to National Rail Enquiries and other information services and station staff on affected routes as soon as possible.	

Z1. Connecting transport

Figure Z1.1 Directional signs at stations to other modes of transport

Trains and stations are only part of the story. Most people need to use other means of transport to get to their departure station and to continue their journey after reaching their destination station (Figure Z1.1).

Some people will need to have details about what is involved in doing this, and some may need to arrange for help with the transfer.

Z1.	European standards	Reference
1.	A minimum of one obstacle-free route shall be provided that can be freely navigated by all categories of PRM and that interconnects the station building and platforms with stopping points for other connecting modes of transport within the station confines (e.g. taxi, bus, tram, metro, ferry, etc.) and car parks.	**PRM TSI: 4.1.2.3.1**

Z1.	National standards	Reference
	This section contains no national standards.	

Z1.	Code of Practice guidance	Reference
a.	It is recommended that station operators gather and update details about local services, so that station staff can provide information about access to taxis, buses, trams, metro systems and any other form of transport available within practical reach of the station. This information may include: • walking distances, steps and any obstacles that may get in the way of a disabled person; • timetables; • toilet facilities; • refreshment facilities; and • suitable waiting areas.	
b.	Passenger train operators and station operators should consult and work with others involved in the transport chain (local authorities, transport operators, disability and access groups) to ensure that their services integrate in a sensible and practical way and that information about interchanges is shared among the various transport and information services concerned.	

Additional standards

Travelling on the train

It is a condition of licence that passenger train operators comply with the relevant rail vehicle legislation related to accessibility for disabled people.

In the previous edition, the standards regarding boarding and travelling on the train were derived from the Rail Vehicle Accessibility Regulations 1998 (RVAR).

To avoid confusion, these standards are no longer repeated in the Code of Practice. Instead, operators should refer directly to the appropriate legislation.

More detail on how to obtain a copy of the applicable vehicle regulations can be obtained by contacting the Department for Transport, or Transport Scotland, as appropriate.

Train operators will meet the conditions of their operating licence to have due regard to the Code of Practice by following the instruction, contained here, to comply with the relevant rail vehicle legislation.

Service provision and DPPPs

As a condition of their licence, train and station operators must draw up a Disabled People's Protection Policy (DPPP) and, in doing so, have due regard to the Code of Practice.

The revised Code of Practice now focuses on technical design standards for train station infrastructure and facilities, and accordingly has been renamed *Accessible Train Station Design for Disabled Passengers: a Code of Practice*.

Guidance on what service provisions operators ought to have in place to meet the needs of disabled people is provided in a separate document, *How to write your DPPP: Guidance for Train and Station Operators*.

Train and station operators will meet their licence conditions by producing and revising annually a DPPP that receives the approval of the DfT, having followed the standard guidance. To avoid confusion, these standards are no longer repeated in the Code of Practice. A separate guide, *How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators*, was published in November 2009 by the Department.

Annex I: References

Infrastructure signs

Infrastructure signage dimensions shall be calculated as follows:

The minimum size of the enclosure of the written and graphic symbols shall be according to the formula: reading distance in mm divided by 250, multiplied by 1.25 = frame size in mm, where a frame is utilised.

International wheelchair sign

The sign conforming to the international symbol for the “provision for the disabled or handicapped persons” in accordance with ISO 7000:2004 symbol 0100, which identifies wheelchair-accessible areas, shall meet the following criteria:

Symbol	Background
RAL 9003 Signal white	RAL 5022 Night blue
NCS S 0500-N	NCS S 6030-R70B
C0 M0 Y0 K0	Pantone 274 EC (C100 M100 Y0 K38)

Inductive loop sign

The sign indicating where inductive loops are fitted shall comply with Figure AI.1 and the following:

Symbol	Background
RAL 9003 Signal white	RAL 5022 Night blue
NCS S 0500-N	NCS S 6030-R70B
C0 M0 Y0 K0	Pantone 274 EC (C100 M100 Y0 K38)

Figure A1.1 Inductive loop sign

Call for assistance/call for information sign

The sign indicating where there is a call for assistance or call for information facility shall comply with Figure AI.2 and the following:

Symbol	Background
RAL 9003 Signal white	RAL 5022 Night blue
NCS S 0500-N	NCS S 6030-R70B
C0 M0 Y0 K0	Pantone 274 EC (C100 M100 Y0 K38)

Figure A1.2 Call for assistance/information sign

Emergency call sign

The sign indicating where there is an emergency call device shall comply with Figure AI.3 and the following:

Symbol	Background
RAL 9003 Signal white	Green
NCS S 0500-N	according
C0 M0 Y0 K0	ISO 3864-1:2002 Chapter 11

Figure A1.3 Emergency call sign

Annex II: Exemptions from licence provision requiring the following of the Code of Practice

1. Services which are, to a varying extent, exempt from licence obligations are:

Heathrow Express

2. Trains are licensed by the ORR. However, stations at Heathrow are licence-exempt. Heathrow Express is required to have an approved DPPP in respect of its passenger train operations and is subject to Part 3 of the DDA.

London Underground

3. Most of the system is licence-exempt. However, where underground trains run on the Network Rail network, and where they operate stations used by national passenger train operators, they are covered by licences and are regulated by the ORR and the DfT. London Underground is required to have a DPPP approved by DfT and is subject to Part 3 of the DDA.

Charter trains

4. All operators of charter trains are licensed. However, promoters may or may not be licensed. In many cases the licensed operator has no direct relationship with the passenger, who may have booked a journey with a promoter, although the operator will have a DPPP that sets out their commitments to service provision.

5. In addition to these, The Railway (Class and Miscellaneous Exemptions) Order 1994[13] exempted all companies and operations that were not part of British Rail at the time the Act came into force. These included obvious anomalies such as miniature railways on private land and fairground rides. Also exempted were:

Narrow- and broad-gauge railways

6. These include historical railways, cliff railways and funicular systems – anything that runs on non-standard track. Such railways may be subject to Part 5 of the DDA, and Part 3 if open to the general public.

Heritage railways

7. Some of these run on track that is not connected to the national network. Some, however, do link in, and some share stations. Where shared stations are run by a licensed operator, the station operator is bound by its DPPP. In some cases, part of the station is run by the heritage railway, and that part of the station is licence-exempt.

Light railways

8. At the time of the Railways Act 1993, these were the Docklands Light Railway (including the Beckton extension), Glasgow Underground, Manchester Metro Link and the Tyne and Wear Metro. New systems will be licensed by the ORR unless the operators apply for and are granted an exemption, or the systems are tramways, and thus fall outside the scope of the Railways Act. Light Railways are subject to Part 3 and Part 5 of the DDA.

13 SI 1994 No. 606.

Outside the scope of the DfT and ORR's powers

Tramways

9. In general, tramways fall outside the scope of the DfT's and ORR's powers, as they are not defined as railway services under the Railways Act 1993. Tramways are, however, covered by the RVAR. Tramways are defined to include a system that has track wholly, or mainly, along a street or other public place. In addition to these, some services have been designated as tramways by the legislation that brought them into existence, even when they have not met this condition.

Northern Ireland

10. The Railways Act 1993 does not generally apply to railways in Northern Ireland. Stations and trains are run by NI Railways, and some services are shared with the Irish Republic. Northern Ireland has its own Rail Vehicle Accessibility Regulations, which it introduced in 2001.[14] The provisions of the Disability Discrimination Act 1995 apply to Northern Ireland in the same manner as in the rest of the United Kingdom.

International services

11. Since 2005, all international passenger train services operating through the Channel Tunnel, except Eurotunnel's own vehicle-carrying services, have been covered by licences from the ORR. Whilst the standard international licence does not contain any conditions equivalent to the Provision of Services for Disabled People condition included in the domestic licences, the standard Statement of National Regulatory Provisions (SNRP) licence does include such provision.

14 Rail Vehicle Accessibility Regulations (Northern Ireland) 2001 – Statutory Rule 2001/264

12. Stations in Great Britain operated by Eurostar (St Pancras International, Stratford International, Ebbsfleet International and Ashford International) are domestically licensed by the ORR. Enforcement of the Provision of Services for Disabled People condition of its licence is therefore also the responsibility of the ORR, whose actions with regard to DPPPs, and the requirement to follow the Code, will be informed by DfT advice.

Annex III: Transportable wheelchair dimensions

This annex identifies the maximum engineering limits for a transportable wheelchair.

Characteristics

The minimum technical requirements are:

Basic dimensions

- Width of 700 mm plus 50 mm min each side for hands when moving.
- Length of 1200 mm plus 50 mm for feet.

Wheels

- The smallest wheel shall accommodate a gap of dimensions 75 mm horizontal and 50 mm vertical.

Height

- 1375 mm max including a ninety-fifth percentile male occupant.

Turning circle

- 1500 mm × 1500 mm.

Weight

- Fully laden weight of 200 kg for wheelchair and occupant (including any baggage).

Obstacle height that can be overcome and ground clearance

- Obstacle height that can be overcome 50 mm (max).
- Ground clearance 60 mm (min).

Maximum safe slope on which the wheelchair will remain stable

- The wheelchair shall have dynamic stability in all directions at an angle of 6 degrees.
- The wheelchair shall have static stability in all directions (including with brake applied) at an angle of 9 degrees.

Annex IV: Dispensation process

We expect operators to comply with the “European standards” and “national standards” in this Code of Practice, for all work at stations, except those that are “major” and situated on the Trans-European Network.

Where an operator is unable to comply with the Code standards in respect of works to a station, they must apply to the DfT for a dispensation.

It is unlikely that a dispensation will be granted for a new station or substantial redesign of an existing station.

Inability to comply with the recommended good practice does not require a dispensation, so long as the required standard is met.

Applications must be submitted on Code Dispensation Form A, which can be obtained, along with completion instructions, from the Department for Transport’s Railways for All team.

Annex V: Reference documents

The following documents could be a useful source of information. You should, however, be aware that they may not be updated as frequently as the Code and therefore may not contain the latest standards available.

Assessing the slip resistance of flooring: a technical information sheet (2007) **Health and Safety Executive, published online**
Available at: www.hse.gov.uk/pubns/web/slips01.pdf

Avoiding Disability Discrimination in Transport – A Practical Guide for Rail Services **(2007), Disability Rights Commission (now Equalities and Human Rights Commission), published online**
Will be available from the EHRC website: www.equalityhumanrights.com

British Standard BS EN 60268-16:2003 ***Sound System Equipment. Objective Rating of Speech Intelligibility by Speech Transmission Index*** **(2003) BSI, London**
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS EN 81-70:2003 ***Safety Rules for the Construction and Installation of Lifts. Particular Applications for Passenger and Goods Passenger Lifts. Accessibility to Lifts for Persons, Including Persons with Disability*** **(2003) BSI, London**
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS EN 115 Safety of Escalators and Moving Walks (1995) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS ISO 3864-1 *Safety Colours and Safety Signs* (1999) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 5266-1 *Emergency Lighting Part 1: Code of Practice for the Emergency Lighting of Premises* (2005) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 5378 *Safety Signs and Colours* (1980) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 5389-1 *Fire Detection and Fire Alarm Systems for Buildings. Code of Practice for System Design, Installation, Commissioning and Maintenance* (2002) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 5499 *Safety Signs and Symbols* (2002) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS ISO 7000:2004 *Graphical Symbols for use on equipment. Index and synopsis* (2004) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 5489-1 *Code of Practice for the Design of Road Lighting. Part 1: Lighting of Roads and Public Amenity Areas* (2003) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 6440: 1983 *Code of Practice for Powered Lifting Platforms for use by Disabled Persons* (2001) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

British Standard BS 8300:2009 *Design of Buildings and their Approaches to Meet the Needs of Disabled People – Code of Practice* (2009) BSI, London
Available from: Technical Information Group, British Standards Institution, 389 Chiswick High Road, London W4 4AL
Tel: 020 89967111
Website: www.bsi-global.com

The Building Regulations 2000 (SI No. 2531)
Available at: www.opsi.gov.uk/si/si2000/20002531.htm

***Building Sight: A Handbook of Building and Interior Design Solutions to Include the Needs of Visually Impaired People*, Barker, P., Barrick, J. and Wilson, R. (1995) RNIB**
Available from: http://onlineshop.rnib.org.uk, ref: PR10683

***Colour and Contrast: A Design Guide for the Use of Colour and Contrast to Improve the Built Environment for Visually Impaired People* (2001) Dulux Trade, Slough**
Available from: Dulux Trade Technical Advice Centre, ICI Paints,
Wrexham Road, Slough, Berkshire SL2 5DS
Telephone: 0870 2421100
Literature line: 01793 996987
Email: duluxtrade_advice@ici.com
Website: www.duluxtrade.co.uk

The Construction (Design and Management) Regulations 2007 (SI No. 320)
Available at: www.opsi.gov.uk/si/si2007/uksi_20070320_en_1

***Design Manual for Roads and Bridges* (2008) Highways Agency, published online**
Available at: www.standardsforhighways.co.uk/dmrb/index.htm
Disability Discrimination Act 1995
Available at: www.opsi.gov.uk/acts/acts1995/ukpga_19950050_en_1

Disability Discrimination Act 2005
Available at: www.opsi.gov.uk/acts/acts2005/ukpga_20050013_en_1

Equalities Act 2010
Available at: http://www.legislation.gov.uk/ukpga/2010/15/contents

Family Resources Survey (2002/03) Department for Work and Pensions, London
Available at:
www.statistics.gov.uk/ssd/surveys/survey_family_resources.asp

***Guidance on the Use of Tactile Paving Surfaces* (2005) Department for Transport**
Available at: www.dft.gov.uk/transportforyou/access/peti/guidanceontheuseoftactilepav6167

Highways Act 1980
Available at: www.statutelaw.gov.uk/content.aspx?activeTextDocId=2198137

***How to Write Your Disabled People's Protection Policy: A Guide for Train and Station Operators* (2009) Department for Transport**
Available at: www.dft.gov.uk/publications/how-to-write-your-disabled-people-s-protection-policy

***Inclusive Mobility: A guide to Best Practice on Access to Pedestrian and Transport Infrastructure* (2005) Department for Transport**
Available at: www.dft.gov.uk/transportforyou/access/peti/inclusivemobility

Labour Force Survey (2003) Office for National Statistics, published online
Available at: www.statistics.gov.uk/StatBase/Product.asp?vlnk=545

The Public Service Vehicles Accessibility Regulations 2000 (SI. No 1970)
Available at: www.opsi.gov.uk/si/si2000/20001970.htm

Railways Act 1993
Available at: www.opsi.gov.uk/acts/acts1993/Ukpga_19930043_en_1

Railways Act 2005
Available at: www.opsi.gov.uk/acts/acts2005/ukpga_20050014_en_1

The Railways (Interoperability) Regulations 2006 (SI No. 397)
Available at: www.opsi.gov.uk/si/si2006/20060397.htm

The Rail Vehicles Accessibility Regulations 1998 (SI No. 2456)
Available at: .

Rail Vehicle Accessibility Regulations (Northern Ireland) 2001 (SI No. 264)
Available at: www.opsi.gov.uk/sr/sr2001/20010264.htm

The Rail Vehicles Accessibility Regulations 1998 – Guidance **(2004) Department for Transport**
Available at: www.dft.gov.uk/transportforyou/access/rail/vehicles/pubs/rva/rvareg1998/accessibilityregulations19986140

Sign Design Guide **(2000) Barker, P. and Fraser, M., JMU**
Available from: RNIB Online Shop, at: http://onlineshop.rnib.org.uk/home.asp
Telephone: 0845 702 3153

Review of accessible toilets on railway stations **(2008) Soroptimist International of South East England**
Available at: www.townforum.org.uk/members/sorop/toiletsrailwaystations-report042008.pdf

Technical Specification of Interoperability: Persons with Reduced Mobility **(2008) Office for Official Publications of the European Communities**
Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:064:0072:0207:EN:PDF

Testing Proposed Delineators to Demarcate Pedestrian Paths in a Shared Space Environment: Report of Design Trials Conducted at University College London Pedestrian Accessibility and Movement Environment Laboratory (PAMELA) **(2007) Guide Dogs and University College London, Guide Dogs, Reading**
Available at: http://www.guidedogs.org.uk/sharedstreets/fileadmin/sharedsurfaces/user/documents/Full_Report_of_design_trials_at_UCL_PAMELA__01.pdf

Transport Act 2000
Available at: www.opsi.gov.uk/ACTS/acts2000/ukpga_20000038_en_1

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