



Public Service Vehicles Accessibility Regulations 2000 - Guidance

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1. Introduction

In Britain today about one person in eight has a disability. Many of those seven million disabled people find it difficult or impossible to use conventional public transport, including bus and coach services. There are also many older people who face similar difficulties. Age and disability are, of course, not synonymous but there is a very strong correlation between them. Two thirds of disabled people are elderly.

Disabled people include those who

- have a mobility impairment, ranging from those who cannot climb steps or walk unaided, and includes wheelchair users wishing to travel in their wheelchair
- have sensory impairments, including people with low vision and people with hearing impairments
- have communication or learning difficulties.

The Government is committed to comprehensive and enforceable civil rights for disabled people. Achieving a fully accessible public transport system is a key element of that policy.

Section 40 of The Disability Discrimination Act (DDA) 1995 gives the Secretary of State a power to make regulations to ensure that public service vehicles are accessible to disabled people. The Government used these powers to bring the Public Service Vehicles Accessibility Regulations 2000 (S.I.2000/1970) ("the Regulations") into force on 30th August 2000.

The Regulations apply to any public service vehicle with a capacity exceeding 22 passengers used to provide a local or scheduled service. New buses and coaches must comply from 31 December 2000 with the exception of wheelchair access to smaller buses and to coaches which will apply from 1 January 2005. Vehicles covered by the Regulations are referred to as "regulated public service vehicles". The requirements include:-

- a space for a wheelchair with suitable safety provisions
- a boarding device to enable wheelchair users to get on and off vehicles
- a minimum number of priority seats on buses for disabled passengers
- the size and height of steps
- handrails to assist disabled people
- colour contrasting of features such as handrails and steps to help partially sighted people
- easy to use bell pushes throughout a bus
- audible and visual signals to stop a bus or to request a boarding device
- equipment to display the route and destination

The Government recognises that many existing vehicles cannot be modified to meet these requirements or it is not cost effective to do so. Such vehicles are allowed to continue in service for a period representing the end of their economic life. Nothing within these regulations requires a vehicle to be retro-fitted to meet the requirements unless an operator wishes to continue to use a vehicle on a local or scheduled service beyond the date from which all vehicles in such use must comply.

This document is intended to provide guidance for those in the manufacturing and operating industries on meeting the requirements of the Regulations. It should, however, be noted that this guidance does not replace, nor does it qualify the Regulations in any way, and in every case reference should be made to the relevant provisions of the Regulations themselves to determine the precise extent of the legal requirements. The guidance covers:-

- the scope of the Regulations
- the purpose of the regulatory requirements
- application of the requirements of the Regulations
- best practice

- how the special authorisation procedure works
- how the Regulations will be enforced

It should be noted that the Public Service Vehicles Accessibility Regulations 2000, prescribe the **minimum** that is acceptable to meet the needs of disabled people. The guidance explains the intention of the regulatory requirements and provides advice on **best practice** that should be followed, recognising that there may be circumstances in which design or operational constraints apply. Nothing contained in the best practice guidance may be used as a reason for refusing to issue an accessibility certificate. It is, however, vitally important for manufacturers and operators to recognise that designing down to the minimum will not provide the best opportunity to travel for disabled passengers - who are likely to constitute a significant new passenger market for the industry.

The Government intend that the Regulations will mark a major step forward in improving opportunities for the independent mobility of disabled people using buses and coaches. But the improvements will not only help disabled people. All passengers will benefit from improved accessibility, particularly older people, those with small children and those carrying luggage. The wheelchair space is designed for a wide range of manual and powered wheelchairs. Wheelchair users should note that wheelchairs that are larger than the reference wheelchair (given in the regulations) and scooters are not suitable for use on public transport.

The Disabled Persons Transport Advisory Committee (DPTAC - the Government's statutory advisers on the transport needs of disabled people) have agreed that the Public Service Vehicles Accessibility Regulations 2000 and particularly this associated guidance supercede the non-statutory DPTAC Recommended Specification For Buses Used To Operate Local Services and Recommended Specification for Low-Floor Buses.

DETR with the full support of DPTAC, the Association of Transport Co-ordinating Officers (ATCO), the Passenger Transport Executive Group (PTEG), the Confederation of Passenger Transport (CPT) and the Society of Motor Manufacturers and Traders (SMMT) urge Local Authorities to avoid developing additional specification requirements at local level. This is unhelpful to disabled people who need consistent vehicle designs and is also unhelpful to manufacturers and operators.

The regulations are available in large print, electronic format and audio from the DETR Mobility and Inclusion Unit (see page 138).

2. Scope of the Public Service Vehicles Accessibility Regulations

In general the Regulations apply to all buses and coaches operating to a published timetable. Very small buses and coaches (with a capacity not exceeding 22 passengers) are excluded, as are vehicles used for holiday or touring services, day trips or private hire for example, to a theatre or theme park.

Initially the Regulations apply only to new vehicles and therefore many services may continue to operate with vehicles that do not comply or with a mixture of vehicles. However, in recent years the majority of new buses have been made more accessible to disabled people including a number that are wheelchair accessible. Although such vehicles may not comply with all aspects of these Regulations they will continue to provide a service to disabled people during the transition period until the dates at which all

buses and coaches must comply, in full, with the technical requirements.

Operators should note that during this transition period a mix of vehicles on the same route creates uncertainty for disabled people wishing to make use of accessible vehicles. It also reduces the commercial benefit to the operator of more accessible vehicles. This practice should therefore be avoided. Where it is unavoidable, the timetable should show as clearly as possible which services are accessible. It is however recognised that due to unforeseen circumstances (such as a vehicle breakdown) there may be occasions where it will not be possible to provide an accessible vehicle.

The Regulations require all buses and coaches, both old and new, to comply from the year 2015 (through to 2017) for buses and from 2020 for coaches. Different dates apply according to the size and type of vehicle. From then on all public transport by bus or coach, with the few exceptions mentioned above, will be accessible to disabled people, including wheelchair users.

It should be noted that the Regulations apply only to public service vehicles and therefore a vehicle that is not a public service vehicle (i.e. one that is not operated on a commercial basis for hire and reward) is outside the scope of the Regulations.

3. Implementing the Regulations and Best Practice

This section details the requirements of the Regulations and Schedules 1 to 6. For ease of use, each requirement of the Regulations is given in bold type with a shaded background followed by one, or more of the following elements as may be appropriate:

- a) Design need (to explain the purpose of the Regulation in terms of the needs of disabled people or the operational need);
- b) Application (to assist the reader to understand the regulatory requirement); and
- c) Best practice (to specify provisions that should be followed wherever possible).

Manufacturers and operators should note that where facilities which are not covered by the Regulations are provided on a vehicle, they should as far as practicable ensure that these facilities can be used by disabled people. Taking account of good design practice for steps, handrails, colour contrast and other relevant features will assist disabled people. Some disabled people can also benefit from the use of tactile markings. Further information may be found in Appendix C.

Warning

The extracts from the Regulations provided in this document are for guidance only. The text of the Regulations, to which readers must refer, is published by HMSO. That text is the definitive statement of the law.

Regulation

Part I

PRELIMINARY

Citation, commencement and extent

1. These Regulations may be cited as the Public Service Vehicles Accessibility Regulations 2000 and shall come into force on 30th August 2000. This is the date that the Regulations become part of British law. The date from which vehicles must comply is different and can be found in regulation 3.

Regulation

Interpretation

This regulation specifies the meaning of certain words, terms or phrases used in the Regulations

Regulation

2. -(1) In these Regulations -

"the 1970 Directive" means Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the member states relating to the type-approval of motor vehicles and their trailers(a), as last amended by Commission Directive 98/14/EC of 6th February 1998 (b);

"the 1981 Regulations" means the Public Service Vehicles (Conditions of Fitness, Equipment, Use and Certification) Regulations 1981(c); "accessibility certificate" means a certificate issued by a vehicle examiner in accordance with Part III;

"bus" means a public service vehicle designed and constructed for the carriage of both seated and standing passengers which is of category M2 or M3 (as defined in Annex II(A) to the 1970 Directive) and has a capacity exceeding 22 passengers, in addition to the driver;

"coach" means a public service vehicle designed and constructed for the carriage of seated passengers only which is of category M2 or M3 (as defined in Annex II(A) to the 1970 Directive and has a capacity exceeding 22 passengers, in addition to the driver;

In relation to bus or coach above, M2 or M3 means - Category M2: vehicles used for the carriage of passengers comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes. Category M3: vehicles used for the carriage of passengers comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tonnes.

Regulation

"conformity certificate" means a certificate issued by a vehicle examiner in accordance with Part VI;

"declaration of conformity" means a declaration made by an authorised person in accordance with Part V;

"double-deck", in relation to a bus or coach, means that the spaces provided for the passengers are arranged (at least in one part) on two superimposed levels and that space for standing passengers is not provided on the upper deck;

"EEA State" means a State which is a contracting party to the Agreement on the European Economic Area signed at Oporto on 2nd May 1992 as adjusted by the Protocol signed in Brussels on 17th March 1993(d);

"local service" has the same meaning as in section 2 of the Transport Act 1985(e) ;

The majority of bus services fall within the description of "local service".

Regulation

"motor vehicle" has the same meaning as in Annex II (A) to the 1970 Directive;

A motor vehicle is defined as having at least four wheels and, in the case of category M vehicles, is used for the carriage of passengers.

Regulation

"regulated public service vehicle" means any public service vehicle to which these Regulations apply in accordance with regulation 3(1);

"scheduled service" means a service, using one or more public service vehicles, for the carriage of passengers at separate fares -

- (a) along specified routes,
- (b) at specified times, and
- (c) with passengers being taken up and set down at pre-determined stopping points,

but does not include a tour service;

The phrase "scheduled service" is to include bus and coach services that operate over longer distances and with few stops such as inter-city coach services.

Regulation

"seated passengers" means the number of seated passengers that a vehicle may carry in accordance with the Public Service Vehicles (Carrying Capacity) Regulations 1984(f);

"standing passengers" means the number of standing passengers that a vehicle may carry in accordance with the Public Service Vehicles (Carrying Capacity) Regulations 1984;

"tour service" means a service where a public service vehicle is used for or in conjunction with the carriage of passengers to a particular location, or particular locations and back to their point of departure;

The phrase "tour service" describes services such as a holiday or day trip which are excluded from the scope of the Regulations. Buses and coaches used to provide feeder services to common pick-up points in support of a tour are included within this definition.

Regulation

"type vehicle approval" means an approval given by the Secretary of State in accordance with Part IV;

"weight" means design weight as defined in regulation 3(2) of the Road Vehicles (Construction and Use) Regulations 1986(g) and the words "weighs" and "weighing" shall be construed accordingly;

And other expressions used in Schedules 1 to 3 have the meanings given to them respectively in paragraph 1 of those Schedules.

(2) For the purpose of these Regulations, the date on which a regulated public service vehicle is "first used" shall be taken to be such date as is the earlier of the relevant dates mentioned below applicable to that vehicle, that is to say -

(a) in the case of a vehicle registered under the Roads Act 1920(a), the Vehicles (Excise) Act 1949(b), the Vehicles (Excise) Act 1962(c), the Vehicles (Excise) Act 1971(d) or the Vehicle Excise and Registration Act 1994(e), the relevant date is the date on which it was first so registered; and

(b) in each of the following cases:

(i) a vehicle which is being or has been used under a trade licence within the meaning of section 11(1) of the Vehicle Excise and Registration Act 1994 (otherwise than for the purposes of demonstration or testing or of being delivered from premises of the manufacturer by whom it was made, or of a distributor of vehicles or dealer in vehicles, to premises of a distributor of vehicles, dealer in vehicles or purchaser thereof or to premises of a person obtaining possession thereof under a hiring agreement or hire purchase agreement);

(ii) a vehicle belonging, or which has belonged, to the Crown which is or was used or appropriated for use for naval, military or air force purposes;

(iii) a vehicle belonging, or which has belonged, to a visiting force or a headquarters or defence organisation to which (in each case) the Visiting Forces and International Headquarters (Application of Law) Order 1965(f) applies;

(iv) a vehicle which has been used on roads outside Great Britain and which has been imported into Great Britain; and

(v) a vehicle which has been used otherwise than on roads after being sold or supplied by retail and before being registered;

the relevant date is the date of manufacture of the vehicle. In case (v) above, "sold or supplied by retail" means sold or supplied otherwise than to a person acquiring the vehicle solely for the purpose of resale or re-supply for valuable consideration. For most vehicles the date a vehicle is "first used" is the date it is first registered for use on a road which is usually soon after manufacture. Where a vehicle is not registered at that time it is necessary to determine the date of first use by means of the date of manufacture. In this way the Regulations can apply to vehicles of similar age in a similar manner.

For most vehicles the date a vehicle is "first used" is the date it is first registered for use on a road which is usually soon after manufacture. Where a vehicle is not registered at that time it is necessary to determine the date of first use by means of the date of manufacture. In this way the Regulations can apply to vehicles of similar age in a similar manner.

Where a vehicle is manufactured but cannot comply with all the relevant Schedules a Special Authorisation (see section 4) will be considered. This is particularly important for vehicles manufactured between 1st October 2000 and 31st December 2000 which do not comply with the relevant Schedules and are not registered prior to 31st December 2000.

Regulation

PART II

APPLICATION OF REGULATIONS, EXEMPTIONS AND RECOGNITION

3. -(1) These Regulations apply to public service vehicles of the types described respectively in paragraphs (2) to (7) (a "regulated public service vehicle") in the manner and to the extent set out in this Part.

(2) A single-deck bus which weighs more than 7.5 tonnes and is in use on or after 31st December 2000 shall require a certificate referred to in paragraph (8) relating to Schedules 1 and 2, except that a single-deck bus which -

(a) is first used before that date; or

(b) is manufactured before 1st October 2000, shall not require any certificate relating to Schedules 1 and 2 until 1st January 2016.

(3) A single-deck bus which weighs 7.5 tonnes or less and is in use on or after 31st December 2000 shall require a certificate referred to in paragraph (8) relating to Schedule 2, except that a single-deck bus which -

(c) is first used before that date; or

(d) is manufactured before 1st October 2000,

shall not require a certificate relating to Schedule 2 until 1st January 2015.

(4) Without prejudice to paragraph (3), a single-deck bus which weighs 7.5 tonnes or less and is in use on or after 1st January 2005 shall require a certificate referred to in paragraph (8) relating to Schedule 1, except that a single-deck bus which -

(e) is first used before that date ; or

(f) is manufactured before 1st October 2004,

shall not require a certificate relating to Schedule 1 until 1st January 2015.

(5) A double-deck bus which is in use on or after 31st December 2000 shall require a certificate referred to in paragraph (8) relating to Schedules 1 and 2, except that a double-deck bus which -

(g) is first used before that date; or

(h) is manufactured before 1st October 2000,

shall not require any certificate relating to Schedules 1 and 2 until 1st January 2017.

(6) A single-deck or double-deck coach which is in use on or after 31st December 2000 shall require a certificate referred to in paragraph (8) relating to Schedule 3, except that a single-deck or double-deck coach which -

(i) is first used before that date; or

(j) is manufactured before 1st October 2000,

shall not require a certificate relating to Schedule 3 until 1st January 2020.

(7) Without prejudice to paragraph (6), a single-deck or double-deck coach which is in use on or after 1st January 2005 shall require a certificate referred to in paragraph (8) relating to Schedule 1, except that a single-deck or double-deck coach which -

(k) is first used before that date; or

(l) is manufactured before 1st October 2004,

shall not require a certificate relating to Schedule 1 until 1st January 2020.

Application of Regulation 3(2) to(7)			
Buses and Coaches exceeding 22 passengers used to provide a local or scheduled service			
Vehicle Type	Schedule(s)	New Vehicles	All Vehicles (any age)
Single-deck buses weighing more than 7.5 tonnes	1 and 2	First used on or after 31st December 2000 (does not apply if manufactured before 1st October 2000)	In use on or after 1st January 2016
Single-deck buses weighing 7.5 tonnes or less	2	First used on or after 31st December 2000 but before 1st January 2005 (does not apply if manufactured before 1st October 2000)	In use on or after 1st January 2015 must comply with Schedules 1 and 2
	1 and 2	First used on or after 1st January 2005 (does not apply to Schedule 1 if manufactured before 1st October 2004)	
Double-deck buses	1 and 2	First used on or after 31st December 2000 (does not apply if manufactured before 1st October 2000)	In use on or after 1st January 2017
Single-deck and double-deck coaches	3	First used on or after 31st December 2000 but before 1st January 2005 (does not apply if manufactured before 1st October 2000)	In use on or after 1st January 2020 must comply with Schedules 1 and 3
	1 and 3	First used on or after 1st January 2005 (does not apply to Schedule 1 if manufactured before 1st October 2004)	

Schedule 2

Regulation

SCHEDULE 2

Regulation 3

GENERAL ACCESSIBILITY REQUIREMENTS FOR SINGLE-DECK AND DOUBLE-DECK BUSES

Definitions

Definitions

1. In this Schedule

"contrast" means a contrast in the amount of light which is reflected by the surfaces of the parts of a regulated public service vehicle or its equipment which is required by these Regulations to contrast;

"cushion" means that part of a seat on which a person using the seat sits, whether padded or not;

"deep" in relation to a step, means the distance from the outer edge of the nosing of the step tread to the riser of the step tread;

"doorway area" means that area which is within one metre of any entrance or exit measured horizontally from any point along the external edge of the door aperture;

"exit" means an exit from a regulated public service vehicle but does not include an exit which is provided for use only in case of emergency;

"external step" means the last step or platform from an entrance or an exit which leads directly from the vehicle to the ground;

"gangway" means the space provided for obtaining access from any entrance to the passengers seats or from any such seat to an exit other than an emergency exit, but does not include a staircase or any space in front of a seat or row of seats which is required only for the use of passengers occupying the seat or row of seats;

"km/h" means kilometre(s) per hour;

"kneeling system" means a system which enables the bodywork of a regulated public service vehicle to be lowered relative to its normal height of travel;

Application

The system providing the kneeling facility may have other functions which are not necessary to meet the accessibility requirements. Any controls for other functions must be separate from those used to meet the accessibility requirements and their use clearly marked.

Regulation

"mm" means millimetre(s);

"N" means newton(s);

"normal height of travel" means the height specified by the vehicles manufacturer for normal vehicle travel;

"priority entrance" means an entrance (not being an entrance fitted to the off-side of the vehicle) providing access to the priority floor area in accordance with paragraph 2(2)(b);

"priority exit" means an exit (not being an exit fitted to the off-side of the vehicle) providing access from the priority floor area in accordance with paragraph 2(2)(b);

"priority floor area" means a single continuous area of floor space comprising not less than 35% of the total floor area of a regulated public service vehicle;

Best Practice

The priority floor area should be at least 50% on single-deck buses or as large as practicable to enable seats, in addition to the priority seats, to be provided in an area free of steps.

Regulation

"priority seat" means a seat designed as such in accordance with paragraph 3;

"seat" means a seat intended for use by passengers and, accordingly, does not include the drivers seat or any other seat intended for use solely by a crew member; and

"total floor area" means the total floor area of a regulated public service vehicle, or in the case of a DDA double-deck bus the total floor area of the vehicles lower deck, excluding the drivers cab, wheelboxes, stepwells, internal staircases and any space designated for the storage of luggage.

Floor and gangways

Floor and gangways 2.(1) All floors within the total floor area of a regulated public service vehicle shall be slip-resistant.

Design need

This is a safety consideration for some disabled passengers who may be more prone to slipping than other people when moving around a vehicle. They may also be more likely to sustain serious injury as a result.

Best Practice

As well as being slip resistant, floor surfaces should be as smooth as is practical, particularly where the space is to be used by people in wheelchairs. Hard wearing composite vinyls are particularly slip resistant. The floor material should not allow water to collect and should be slip resistant even when wet.

Regulation

(2) A regulated public service vehicle shall contain a priority floor area which shall

(a) not contain steps;

(b) provide access to at least one priority entrance to, and one priority exit from, the vehicle or access to steps which lead to such entrances and exits;

Design need

This ensures that disabled people can gain access to the priority seats without having to negotiate any further steps.

Application

There need be only one means of access to the priority floor area if, in normal circumstances, it may be used as both entrance and exit from the vehicle. In vehicles where passengers must use a separate entrance and exit, at least one entrance and one exit must provide access to the flat floor area.

Best Practice

Where more than one exit is provided all exits from the priority floor (flat floor) area should comply with the priority exit requirements to ensure that disabled passengers can use any exit. Where this is not practicable, all exits should be clearly signed so that all passengers can readily identify the exit doors. This is particularly important where it is familiar practice to enter at the front door and exit at a centre door and the priority entrance and exit is combined in that front entrance. All passengers (and the driver) need to be aware that the front entrance may be used as an exit. Where the priority exit is combined with an entrance, both the width of the priority exit and the access to that exit should be sufficient for passengers to move freely in both directions. All entrances and exits from the priority floor area should have a single step to the ground.

Regulation

(c) contain all priority seats specified in paragraph 3; and

Application

The seat mountings of a priority seat may be on another floor level but the foot space and the gangway alongside the priority seat must be within the priority floor area.

Regulation

(d) have a slope of not more than 3° in any direction, or not more than 5° in any direction within the doorway area, when the vehicle is unladen standing on a level surface and in its normal condition of travel.

Design need

In order to move around easily, disabled people will need the floor surface to be as level as possible. A sloping floor makes it more difficult to judge when each step forward will reach the floor level. This causes instability and the risk of falling particularly when a vehicle is moving.

Application

The floor slope in the door area may extend in any direction but must not extend more than 1 metre from the external edge of the door aperture. Compound floor slopes should be avoided. The manufacturer will be required to demonstrate to the satisfaction of the Vehicle Inspectorate that this requirement is met.

Regulation

(3) Any gangway within the priority floor area of a regulated public service vehicle shall have a width of

(a) not less than 450mm up to a height of 1400mm measured vertically from the floor of the vehicle, and

(b) not less than 550mm at heights exceeding 1400mm measured vertically from the floor of the vehicle.

Design need

Disabled people need to be able to walk in a forward direction through the vehicle. They are likely to find it difficult and much slower to move sideways. This ensures that a minimum gangway is provided so that they may walk with reasonable ease.

Application

Where any part of the gangway is required for wheelchair access and the vehicle is required to comply with Schedule 1, the gangway must comply with the requirements of paragraph 7 of that Schedule.

Best Practice

It is important that disabled passengers can move freely in the priority floor area particularly when a single doorway is used as both priority entrance and priority exit. It is recommended that the gangway width be increased at floor level in the main passenger circulation area just to the rear of the driver's cab extending at least to the priority seats.

Priority seats

Regulation

Priority seats 3.(1) A regulated public service vehicle shall have not less than 4 seats designated by signs complying with sub-paragraph (3) as priority seats for use by disabled persons.

Design need

There is no magic number of priority seats that can satisfy the needs of disabled passengers at all times. Four is the maximum number that can reasonably be accommodated in all buses without unduly reducing the number of seats available for all passengers.

Best Practice

Priority seats must be located as close as possible to the priority entrance. Any increase in the number of priority seats should not reduce the space between the seat backs of other seats to less than 650mm. A seat without another seat or a partition in front of it should not be designated as a priority seat unless there is a handrail available for the seated passenger.

Regulation

(2) Any priority seat fitted to a regulated public service vehicle and designated in accordance with sub-paragraph (1) shall comply with the following requirements

(a) a priority seat shall not be a seat which is capable of being tipped, folded or otherwise moved;

Design need

Tip-up and folding seats often require a degree of dexterity and force to use, and will therefore cause difficulties for many disabled people. They are also unlikely to provide as much support as a fixed seat. Priority seats must be fixed seating positions.

Regulation

(b) a priority seat shall face only the front or the rear of the vehicle;

Design need

Side facing seats are not suitable for many disabled people as they may not so easily prevent themselves from moving sideways and are more at risk of falling from their seats during vehicle manoeuvres.

Regulation

(c) a priority seat shall not be a seat to which the provisions of paragraphs 3(2) and (3) or 4(5) and (6) of Schedule 1 apply;

Design need

Some disabled people have difficulty getting on and off of buses, it is unreasonable to expect them to move from their seat unnecessarily. This ensures that a priority seat is not a seat that must be vacated to enable a wheelchair user to board a vehicle.

Regulation

(d) a priority seat shall be as close as practicable to a priority entrance;

(e) there shall be adequate space under or adjacent to at least one priority seat for the comfortable accommodation of a dog trained to assist a disabled person;

Design need

Assistance dogs, guide dogs and hearing dogs need to stay with their owner during the course of the journey. Whilst these dogs are trained to keep themselves clear of peoples' feet, they can take up an amount of space which is not always acceptable to other passengers.

Application

The space provided must not include any part of a gangway or the wheelchair space. The space may include the space under a seat next to a priority seat.

Best Practice

All priority seats have some extra space, however, further space should be provided adjacent to at least one priority seat. The size of an assistance dog will vary between breeds, but can be as much as 1200mm when measured from the tip of the nose to the tip of the tail, and as much as 270mm across the shoulders.

Regulation

(f) any armrest fitted to a priority seat shall be moveable to the extent required to permit unrestricted access by a disabled person to that seat or to any other priority seat to which access may be gained past the seat;

Design need

Many people with little or no strength or flexibility in their limbs are likely to use a seat by sitting first so that their body is supported, and then moving their legs gradually round until they are seated comfortably. In some cases, this is done by physically lifting the leg or legs with the hands. Where seats do not have moveable armrests, this manoeuvre is not possible.

Best Practice

Where other seats within the vehicle have been designed with armrests, priority seats should also have armrests. Armrests should require as low level of force as possible to be used. Ideally all armrests within the vehicle should be moveable.

Regulation

(g) a cushion of a priority seat shall have a width of not less than 440mm measured at the widest point across the surface of the cushion, such distance being equally spaced either side of the centreline of the seating position;

Design need

Many disabled people need to feel secure when sitting down. A wider seat enables them to locate the seat more easily.

Regulation

(h) the top surface of a cushion of a priority seat shall be at a height of not less than 400mm and not more than 500mm above the floor of the vehicle measured from the front edge of the seat and along an imaginary line passing vertically from the centreline of the seating position to the floor;

Design need

Many disabled people have difficulty getting into and out of seats, due to the range of bending and twisting movements that this requires. Limiting the height range of seats helps to minimise these difficulties.

Best Practice

The seat height should ideally be between 430mm and 460mm above the floor. Sloping seat cushions should be kept to a minimum as these can make it more difficult for a disabled passenger to get up from their seat. Where a slope is provided the centre of the cushion should not be less than 400mm above the foot space in front of the seat.

Regulation

(i) where a priority seat faces the same direction as a seat situated directly in front of the priority seat

(i) the distance between the front surface of the back of the priority seat and the back surface of the back of the seat in front measured along an imaginary horizontal line passing along the top surface of the cushion of the priority seat and through the centreline of the seating position of the priority seat shall not be less than 650mm, and

(ii) where the back of either seat is adjustable, this measurement shall be made with the seat or seats in the manufacturers nominal position for normal use;

Best Practice

In this position the seat back should slope back at an angle of approximately 10 degrees to the vertical.

Regulation

(j) where a priority seat faces any other seat

(i) the distance between the front surface of the back of the priority seat and the front surface of the back of the facing seat, measured along an imaginary horizontal line passing along the top surface of the cushion of the priority seat and through the centreline of the seating position of the priority seat shall not be less than 1300mm, and

See diagram page 75



Diagram - Seats and handrails
Priority seat spacing and handrails (buses)
(Schedule 2, paragraphs 3 and 5)
Seat spacing (coaches) (Schedule 3, paragraph 3)

Best Practice

The distance between the front edge of facing seats (the knee-room) should not be less than 600mm and preferably 700mm.

Regulation

(ii) where the back of either seat is adjustable, this measurement shall be made with the seat or seats in the manufacturers nominal position for normal use;

(k) there shall be

(i) not less than 1300mm of clear space above any point along the front edge of the top surface of a cushion of a priority seat measured vertically from the top surface of the cushion,

(ii) not less than 900mm of clear space above any point along the rear edge of the top surface of a cushion of a priority seat measured vertically from the top surface of the cushion, and

(iii) clear space between any point on the top surface of a cushion of a priority seat and an imaginary plane connecting the maximum height of clear space specified in (i) above to the maximum height of clear space specified in (ii) above; and

Design need

Many disabled people need to be able to stand up from the seated position before attempting to move out of the seating area. This ensures that there is space above the seat to do so.

Best practice

Care must be taken when designing any overhead feature, for example, a luggage shelf, to ensure it does not encroach on this space.

Regulation

(l) where a priority seat faces the same direction as a seat situated directly in front of the priority seat or if the priority seat faces a bulkhead or a partition, there shall be

(i) above an imaginary horizontal plane passing along the top surface of a cushion of a priority seat and situated in front of the front edge of the cushion, a volume of clear space of not less than 230mm measured in the longitudinal plane of the priority seat, of not less than 420mm measured in the transverse plane of the priority seat (such distance being equally spaced either side of the centreline of the seating position) and of a height not less than the height of the back of the priority seat;

(ii) below an imaginary horizontal plane passing along the top surface of a cushion of a priority seat and situated in front of the front edge of the cushion, a volume of clear space of not less than 230 mm measured in the longitudinal plane of the priority seat, of not less than 300mm measured in the transverse plane of the priority seat (such distance being equally spaced either side of the centreline of the seating position) and of a height not less than the height of the priority seat cushion, and

(iii) where a priority seat is situated facing a bulkhead or a partition which is more than 1200mm in height measured vertically from the floor of the vehicle, the distances measured in the longitudinal plane of the priority seat referred to in (i) and (ii) above shall not be less than 300mm.

See diagram page 78

Design need

Many disabled people have difficulty getting into and out of seats, due to the range of bending and twisting movements that this requires. The distance between priority seats and other seats is therefore greater than that provided for other passenger seats.

Best Practice

Ideally the space prescribed in sub-paragraph (iii) would be beneficial to disabled passengers at all priority seating positions. However, such additional space is not recommended if it would cause the space between the seat backs of any other seats to be less than 650mm. It should be noted that the space in front of a seat should be large enough to provide easy access but should not be so large that it provides a space into which a disabled person may fall. No seat should have a space of more than 400mm (ideally not more than 350mm) in front of the seat cushion.

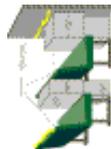


Diagram - Priority seats (buses)
Space in front of priority seats (Schedule 2, paragraph 3(2)(I))

Regulation

(3) There shall be a sign on or near a priority seat indicating that disabled persons have priority for the use of that seat.

Design need

The location of priority seats needs to be clear to all passengers, but particularly to disabled people for whom they are intended. All passengers need to be informed that the seats are primarily for disabled passengers.

Application

The sign must indicate the seats to which it applies and be clearly visible to anyone about to use a priority seat. A sign must not be fitted to any seat that does not comply in all respects to provisions that relate to priority seats.

Best Practice

Although the size and wording of the sign is not prescribed it should clearly state that passengers should give up the seat if it is required by a disabled passenger. If one sign is used to indicate more than one priority seat the sign should state this. If possible the sign should be positioned at a height of about 1100mm measured from the floor. The sign must clearly indicate that a disabled person should have priority use of the seat. A suggested priority seat sign is shown below.



Example of a suitable sign

Regulation

(4) In sub-paragraph (2) the phrase "manufacturers nominal position for normal use" means the position of an adjustable seat which the manufacturer of the seat recommends, or has nominated, as being the normal position for using that seat.

Steps

Steps 4.(1) Steps for use by passengers on a regulated public service vehicle shall (subject to sub-paragraph (6)) comply with the following requirements

- (a) the surface of each tread shall be covered in a slip-resistant material;

Application

Unfinished metal treads or parts of the tread are likely to become very slippery when wet and should be coated with non-slip material.

Regulation

- (b) step nosings shall be designed to minimise the risk of tripping;
- (c) across the front edge of each tread there shall be a band of colour not less than 45mm and not more than 50mm in width, which shall contrast with the remainder of the tread;

Design need

Steps can be very difficult to use for passengers with low vision who must make a conscious decision about where to place their feet. This band of contrast will help to highlight the leading edge of the step, so making it easier for people to place their foot fully on the tread and reducing the likelihood of tripping.

Application

Whilst yellow has been traditionally used, it may not always provide the greatest level of contrast in this application for all steps. This will be particularly true where the colour of the step is sufficiently close to yellow to reduce the visibility of the contrasts.

Best Practice

The colour of the contrasting strip should be considered in relation to the colours of the fixed surrounding surfaces (for example the step itself and the riser) and with the bodywork as well. The materials used for the tread and the riser may differ as there is no need for the riser to have a non-slip surface, and where this is the case, the contrast should be as great on both. Where there is a slight variation, in levels of contrast, the greatest contrast should be given to that of the nosing against the tread as this surface is the one most likely to be viewed. The convention of using sharks tooth on the nosings of steps is one that is now discouraged since the effective contrast is reduced by half. Whilst the principle of disrupting the visual field with sharks teeth is one that some people will find useful, there are many more people with visual impairments who will benefit from a single colour contrast. In addition, patches of dark and light across the visual field may well begin to simulate the picture that some eye conditions create, and can therefore have a detrimental effect rather than a positive one.

Regulation

- (d) the rear of a step shall be closed by a vertical riser between the rear of the tread and either the front edge of the tread above or the floor of the vehicle above;

Design need

Many disabled people need an indication of the depth of the step, to help them place their feet properly and to stop them trying to place their feet beyond the far edge. A riser is of benefit to those disabled people who draw their feet up the riser in order to place it firmly on the next step. Steps which have no risers often overlap each other slightly and may be a trip hazard for people with very little flexibility in their ankle joints, for example, some people with arthritis. Visually impaired people would have difficulty without a riser. They are unlikely to detect that there is no riser and will assume that the leading edge of the next step is directly above that of the far edge of the step below. These issues clearly increase the likelihood of any tripping hazards.

Application

A folding or retractable step may have a very small gap in the riser sufficient to allow the step to operate but must not be sufficient to be a trip hazard.

Regulation

- (e) any step, other than an external step or a step to a seat fitted to any part of a wheelarch or a step in (f) below, shall

Application

A seat fitted to a wheelarch can be of various designs and is usually quite high in relation to the gangway therefore the height of steps to such seats is not regulated within these Regulations.

Best Practice

Given the potential height of the cushion of a seating position over a wheelarch, a handrail, preferably vertical, should be placed on at least one side and towards the front edge of the seat cushion.

Regulation

- (i) not be less than 120mm and not more than 200mm in height; and
- (ii) the surface of the tread shall not be less than 300mm deep and not less than 400mm wide;

Design need

Research indicates that most ambulant disabled people are able to negotiate a step height of 200mm, particularly if there are well placed handrails for support on both sides. Higher steps increase the number of disabled people who may have difficulty using them. A minimum step height helps to avoid steps that can be a tripping hazard. A depth of 300mm allows the foot to be placed fully on the step.

Best Practice

Ideally the width of the step should be as wide as the entrance, exit or gangway in which it is placed.

Regulation

- (f) any steps between a gangway and a passenger seat or a row of passenger seats, other than a step to any seat fitted to any part of a wheelarch, shall not be more than 250mm in height; and

Application

This requirement applies only to a step from a gangway to a single seat or to a single row of seats. Any step serving more than one individual seat or more than one row of seats must comply with sub-paragraph (e) above.

Regulation

- (g) in a flight of steps, the difference in height between any two steps shall not be more than 10mm.

Design need

Consistent step heights provide familiarity and confidence which can reduce the risk of tripping and take less time to negotiate.

Regulation

(2) The height of a step in sub-paragraph (1) shall be measured vertically from the surface of the tread, and at the centre of the tread width, to an imaginary line extended horizontally from the surface of the next tread or floor of the vehicle.

(3) An external step, leading from not less than one priority entrance and to not less than one priority exit, shall-

(a) not be more than 250mm in height measured-

(i) from the surface of the tread of the external step to the ground; and

(ii) if the vehicle is fitted with a kneeling system, with the regulated public service vehicle at its minimum height; and

(iii) at the centre of the tread width; and (b) not be less than 300mm deep.

See diagram page 84



Diagram - Steps and handrails (buses)
Steps and handrails at entrances and exits
(Schedule 2, paragraphs 4 & 5)

Best Practice

In many situations passengers may board and alight from a kerb so reducing the height of the first step and in some cases achieving level access. However, in rural areas and where the bus cannot gain access to a kerb this will not be the case. Where a step height of 250mm can only be achieved by means of a kneeling system, the kneeling system will have to be used at every bus stop. The objective therefore, should be to achieve the lowest possible step height at all entrances and exits that a disabled person may use.

Regulation

(4) A regulated public service vehicle shall not be fitted with a step which can project beyond the side of the vehicle adjacent to the step unless

(a) the step is protected by parts of the vehicle or otherwise so that it is not liable to injure pedestrians, or

(b) the step can fold or retract so that it does not project beyond the side face of the vehicle and the vehicle is not capable in the normal course of being driven away unless the step is so folded or retracted.

Design need

This is to ensure that a folding or retractable step is not extended when the vehicle is driven from rest and to avoid any risk of danger to pedestrians or other road users.

Application

A means must be provided to prevent a vehicle being driven off while the step is deployed. An inter-lock that permits the vehicle to move or to move under power at a very low speed (such as a throttle inter-lock) is permissible so that it will be obvious to the driver that there is a problem.

Regulation

(5) Where a regulated public service vehicle is fitted with a power-operated step, that step

(a) shall not be capable of operation whilst the vehicle is in motion, and

Design need

This is to ensure that a power operated step fitted for the benefit of disabled people is not extended while the vehicle is in motion and therefore avoids any risk of danger to pedestrians or other road users.

Application

The vehicle must be fitted with some means to prevent the step from being deployed while the vehicle is in motion.

Regulation

(b) shall be fitted with a safety device which stops the motion of the step if the step is subject to a reactive force not exceeding 150N in any direction and if that motion could cause injury to a passenger. Design need This is to prevent injury to any person in the path of the step when it is being deployed or retracted.

Application

The manufacturer will be required to demonstrate to the satisfaction of the Vehicle Inspectorate that this requirement is met.

Regulation

(6) Sub-paragraphs (1)(d), (e) and (g) shall not apply to those steps in a double-deck bus which lead from the lower deck to the upper deck.

Design need

This helps to minimise the area occupied by the staircase on the lower deck of a double-deck vehicle which is the principal area intended for use by disabled people.

Application

This sub-paragraph excludes a staircase between the lower and upper deck of a double-deck bus from the step height, width and depth requirements and from the need to have a vertical step riser.

Best Practice

Although the lower deck of a double-deck bus is the primary area intended for disabled passengers, those with sensory disabilities may prefer to use the upper deck. A staircase with steps that are consistent in height and with a closed riser that runs from the back of a tread to the nosing of the tread above (whether or not the riser is vertical) will assist all passengers to use the staircase with greater ease and safety. A continuous handrail from top to bottom of the staircase (on both sides if possible) may also be useful.

Handrails and handholds

Regulation

Handrails and handholds 5.(1) A handrail shall (subject to sub-paragraph (2)) be fitted in the following positions in a regulated public service vehicle

(a) along one or both sides of a gangway

(i) from a position level with the top of the back of a seat extending to the ceiling of the vehicle, or to a height of not less than 1500mm measured vertically from the floor of the vehicle, at intervals of not more than 1050mm measured in the longitudinal direction of the vehicle, or See diagram page 84

Design need

Many people have difficulty passing through a moving vehicle without support. The maximum intervals prescribed will provide supports in close proximity to each other to facilitate comfortable reach between handrails.

Best Practice

Handrails should be near to vertical and as close to the gangway as possible alternating from side to side. They may curve away from the gangway but this should be kept to a minimum below a height of 1500mm. Where there are steps in the gangway handrails should be provided on both sides adjacent to the steps.

Regulation

(ii) in areas where there are no seats adjacent to a gangway, from the floor to the ceiling, or where there is a wheelarch box or similar structure, from the lowest height which is practical to a height of not less than 1500mm measured vertically from the floor of the vehicle, at intervals of not more than 1050mm measured in the longitudinal direction of the vehicle, and

(iii) where the gangway is adjacent to the internal walls of the vehicle, horizontally along the internal wall of the vehicle and parallel to those walls at a height of not less than 1200mm and not more than 1500mm measured vertically from the floor of the vehicle;

(b) in any area where passengers may stand other than a gangway

(i) where the area is adjacent to the internal walls of the vehicle, horizontally along the internal walls of the vehicle and parallel to those walls at a height of not less than 1200mm and not more than 1500mm measured vertically from the floor of the vehicle, and

(ii) in any other area, from the floor to the ceiling, or to a height of not less than 1500mm measured vertically from the floor of the vehicle, at intervals of not more than 1050mm measured in the longitudinal direction of the vehicle;

(c) from the doorway area immediately adjacent to a priority entrance to not less than one of the priority seats at a height of not less than 800mm and not more than 900mm measured vertically from the floor of the vehicle or, where it is not practical to comply with those requirements, the handrail need not be continuous provided any gap does not exceed 1050mm and a vertical handrail is provided on at least one side of the gap extending from a height of at least 1200mm to a height of not less than 1500mm measured vertically from the floor of the vehicle; and

Design need

Many people need a means of support from the entrance, past the driver's cab, to the priority seats. This support must be as continuous as possible so that they do not have to release their grip or change hands to reach a handrail.

Best Practice

Preferably this should pass close to the driver's cab or other areas where a fare may be paid and on to the priority seating area. Any gaps in this handrail should be kept to a minimum.

Regulation

(d) on both sides of the interior of an entrance or exit-

(i) in the case of any external step in the vehicle entrance which is fixed, not more than 400mm measured from the outer edge of the step nosing and at a height of not less than 800mm and not more than 1,100mm measured vertically from the ground, with the vehicle at its minimum height if the vehicle is fitted with a kneeling system,

(ii) in the case of an external step in the vehicle entrance which is not fixed, on both sides of the interior of an entrance or exit not more than 100mm from the outer edge of the step nosing of the lowest fixed step in the vehicle entrance and at a height of not less than 800mm and not more than 1,100mm measured as mentioned in (i) above; and

(iii) in the case of any other steps leading into a vehicle, for the position appropriate to a particular step, at not more than 600mm measured horizontally and inwards from the outer edge of the step nosing of the tread of a step or the floor of the vehicle and at a height of not less than 800mm and not more than 1100mm measured vertically from the surface of the tread of the step.

See diagram page 84

Design need

Many passengers boarding and alighting from the vehicle need support. Handrails must be positioned at either side of the doorway to enable a person to use their strongest arm (many people have limited strength or grip in one or other arm), or to allow for one hand to be used to carry any mobility aid or luggage.

Best Practice

A handrail that follows the line of the step nosings at a height of between 800mm and 900mm above each step tread is most suitable. The handrail should extend as near as practicable to the step nosing of the last step from the vehicle to the ground ending with a vertical section. It should also extend beyond the nosing of the top step (or floor of the vehicle) by at least 100mm where it should link with the handrail required in sub-paragraph (1)(c) above.

Regulation

(2) Where

(a) it is necessary to provide access to and into a wheelchair space, and

(b) it is not possible to comply with the requirements of sub-paragraph (1)(b) or (1)(c),

a horizontal handrail or, at intervals of not more than 300mm, a series of handholds shall be provided across the gap.

Design need

In order to provide for wheelchair access, it may not be possible to provide a continuous handrail to priority seats or to maintain the handrail spacing and height requirements in areas for standing passengers. This permits a high level horizontal handrail or series of handholds as an alternative.

Best Practice

Straps and spherical hanging handholds are difficult for many disabled people to grip and these should only be used where it is unavoidable and there should at least be an alternative available to a disabled person such as a suitable handrail on the other side of the gangway.

Regulation

(3) Any handrail in a regulated public service vehicle that is fitted in order to comply with this paragraph shall comply with the following requirements

(a) have a circular cross section with a diameter of not less than 30mm and not more than 35mm, or when fitted at either side of an entrance or exit, an oval cross section the maximum section of which is not more than 35mm and not less than 30mm, and the minimum section of which is not less than 20mm;

Design need

Many people have difficulty in gripping handrails securely. Research has shown that these are the most suitable sizes for handrails.

Best Practice

The handrail that is tubular in section, with an even diameter provides for the most comfortable grip in any direction.

Regulation

(b) not be less than 800mm or more than 1900mm above the floor of the vehicle;

Design need

The height of handrails for disabled people is specified elsewhere. This specifies a height range within which manufacturers must comply with the technical requirements for handrails.

Regulation

(c) have a clear space of not less than 45mm between any part of the vehicle and all parts of a handrail other than its mountings;

Design need

This is to allow sufficient space around a handrail for people to move a hand freely around it and to avoid finger traps. Many people will have difficulty using a handrail where this space is less than 45mm.

Regulation

(d) have a slip-resistant surface;

Design need

This is to ensure that the handrail can still be gripped by people who have little strength in their hands whilst the vehicle is moving, especially while braking.

Application

The provisions of sub-paragraphs (a) to (d) above apply only to those handrails that are required to be fitted and does not apply to any extension of a handrail that may be below 800mm or above 1900mm.

Best Practice

All smooth or textured handrails should be powder, ceramic or nylon coated. These materials can be rendered slip resistant, have a matt finish and feel comparatively warm to touch.

Regulation

- (e) be capable of being easily and firmly gripped by a passenger; and
- (f) contrast with the parts of the vehicle adjacent to the handrail.

Design need

People who have low vision will need consciously to identify the handrails against other surfaces within view in order to use them. Most people will find this easier if the handrail contrasts with surrounding surfaces.

Application

It is essential that the colour of the handrail provides a very strong contrast with the surrounding surfaces. The most important contrast to establish is the light /dark contrast, although in isolation, this may be difficult to achieve. Further information about the use of colour to provide contrast can be found in Appendix B.

Best Practice

There are a number of considerations in choosing the most effective colour for handrails and other key design features. It is important that the handrail is not too glossy and has a non-reflective finish. Handrails and handholds should be the same colour throughout the vehicle regardless of their position. This will assist people to learn a "language" of colour that is consistent as they move through the vehicle or if they use the same vehicles on a regular basis. Each handrail or handhold should provide the same level of contrast with the surrounding surfaces in each separate location, and this will affect the choice of colour used in laminates and seat moquettes.

Regulation

- (4) Any handhold in a regulated public service vehicle that is fitted in order to comply with this paragraph shall comply with the following requirements
 - (a) not be less than 800mm or more than 1900mm above the floor of the vehicle;
 - (b) have a clear space of not less than 45mm between any part of the vehicle and all parts of a handhold other than its mountings;

- (c) have a loop shape, or some other form, designed to prevent a hand from slipping from the handhold;
- (d) have a slip-resistant surface;
- (e) be capable of being easily and firmly gripped by a passenger; and
- (f) contrast with the parts of the vehicle adjacent to the handhold.

Design need

The requirements for handholds are similar to those for handrails.

Regulation

- (5) A handhold may be placed within the space of a gangway provided
 - (a) it is unlikely to cause injury, and
 - (b) it is easily moveable to the extent required to permit unrestricted access by a disabled person to a priority seat or to the gangway.

Best Practice

Handholds should not be provided if it is possible to provide a suitable handrail. Where a handhold is provided it should be rigid, fixed in one position and be such that a hand cannot easily slip off or become trapped.

Communication devices

Regulation

Communication devices 6.(1) A communication device shall be fitted in the following positions in a regulated public service vehicle

- (a) within reach of each person seated in a priority seat;
- (b) adjacent to not less than every third row of seats; and
- (c) at a height of
 - (i) not more than 1200mm if the communication device is for the use of seated passengers,
or
 - (ii) not more than 1500mm if the communication device is for the use of other passengers,
measured vertically from the floor of the vehicle to the centre of the device.

Design need

Every person must have reasonable access to a communication device situated at a suitable height. Many disabled people would find it difficult to stretch to reach a communication device and are more vulnerable should they get out of their seat to do so.

Application

A communication device is the device that a passenger may operate to send a signal to the driver.

Regulation

(2) Any communication device shall comply with the following requirements

- (a) a communication device shall be operable by the palm of the hand;
- (b) the surround of the communication device shall contrast with the device and with the surface on which the surround is mounted; and

Design need

Passengers with painful conditions which affect their joints, such as arthritis, are likely to experience discomfort or pain if they exert any force with the tip of a single finger. Many will not be able to unclench their fingers to do this. Finding the exact location of the communication device will be difficult for many people since it is a relatively small object. Contrasting the control device against its background will make it easier for partially sighted people to locate.

Application

A significant factor in ensuring that a communication device will be operable by the palm of the hand is that it should stand proud of its surroundings. The device should be easy to operate and, as a guide, the pressure needed should not exceed 15 N.

Best Practice

There are a number of considerations in choosing the most effective colour for communication devices and other key design features, but the most important contrast is a bright or light/dark difference. It is important that the communication device is not too glossy and has a non-reflective finish. Further information is available in Appendix B.

Regulation

- (c) when operated a communication device shall
 - (i) provide a signal to the driver of the vehicle to stop the vehicle,
 - (ii) activate an audible signal which is audible in the passenger areas, and
 - (iii) activate at least one illuminated stopping sign on each deck of the vehicle or, in the case of an articulated vehicle, on each section of that vehicle, which is, or would be, within the field of vision of the passengers seated on a majority of the seats on that deck or in that

section, and

Design need

It is essential that disabled people can signal the driver to stop. A stopping sign provides reassurance that the vehicle will stop and a warning of possible change in speed of the vehicle. People with hearing impairments may be unable to detect an audible signal over background noise that would otherwise indicate that the vehicle is stopping. Audible signals are essential for people who have low vision.

Application

The signal given to the driver is not specified but must be clearly identifiable as to its purpose (it will usually be a bell or buzzer). The audible signal given in the passenger areas may also be used to signal the driver subject to the strength of the signal being sufficient to be heard above background noise. The communication device may activate other information signs provided that the "stopping" sign is illuminated continuously until one of the exits is opened.

Best Practice

Any additional information provided for passengers can be helpful. To that end trials of on-board audible and visual passenger information systems are being conducted and, if they are successful, the Public Service Vehicles Accessibility Regulations 2000 will be amended in the future to include a mandatory requirement for such equipment.

Regulation

(3) An illuminated stopping sign

(a) shall not use only capital letters; and

Design need

The use of both upper and lower case text helps ensure that words that are not completely clear and legible to people with a degree of vision impairment or learning disability, are still identifiable through shape recognition of the word.

Regulation

(b) shall display illuminated the word "stopping" or a word or words to that effect immediately a communication device is activated and until at least one of the exits is open.

Kneeling Systems

Kneeling Systems 7.(1) Where a regulated public service vehicle is fitted with a kneeling system, the vehicle and system shall comply with the following requirements

(a) a switch shall be required to be used to enable operation of the system;

(b) any control which initiates the lowering or raising of any part or the whole of the body relative to the road surface must be clearly identified and under the direct control of the driver of the vehicle;

(c) the lowering process shall be capable of being stopped and immediately reversed by a control which is both -

(i) within reach of the driver whilst seated in the cab; and

(ii) adjacent to any controls provided for the operation of the kneeling system; and

(d) the kneeling system shall not -

(i) allow the vehicle to be driven at a speed of more than 5km/h where the vehicle is lower than the normal height of travel, or

(ii) allow the vehicle to be lowered when the operation of an entrance or exit door (other than an emergency door) is prevented for any reason.

Application

Nothing within this paragraph prevents the lowering process from being initiated in combination with any other system provided that the control is clearly marked. The kneeling process should be capable of being stopped by the driver by means of a control adjacent to the one which initiates the lowering of the vehicle body. A single control may provide both functions if it is of a type that stops the kneeling process automatically when released.

Regulation

(2) In this paragraph "emergency door" means an external door which is generally intended for use only in an emergency.

Route and destination displays

Route and destination displays 8.(1) A regulated public service vehicle shall be fitted with a route number display and a destination display in the following positions

(a) on the front of the vehicle, as close as practicable to that part of the windscreen which is within the drivers field of vision; and

(b) on the nearside of the vehicle adjacent to the entrance which is closest to the front of the vehicle at a height of not less than 1.2m to the lower edge of the display characters and not more than 2.5m to the upper edge of the display characters measured from the ground and, if fitted with a kneeling system, with the vehicle in the normal condition for vehicle travel.

Design need

Disabled people need to be able to identify the service that they need and for that information to be in a suitable position. Many will have difficulty looking up if the information is too high.

Application

The front display may be fitted above the windscreen or, as low as practicable within the windscreen area, but above the driver's field of view. It must not be placed in any position that may obscure the driver's field of view. Directives 77/649/EEC as amended (Forward vision) and 71/127/EEC as amended (Rear visibility) should be used as guidance in the case of doubt on the effect on driver visibility.

Best Practice

A good destination and route number display will be clearly legible by day and night and commercial advertising should not detract from them. A consistent display design is also helpful, therefore the route number should always be to the right of the destination when viewed. Other major points on the route can be included but they should not detract from the clarity of the ultimate destination. Destination displays which simultaneously show both ends of a route are confusing and should be avoided. The destination appropriate to the direction of travel should be displayed or if a circular route such information necessary to identify the direction of travel.

Regulation

(2) A regulated public service vehicle shall be fitted with a route number display on the rear of the vehicle

Best Practice

The ideal position is centrally placed just above or below the rear window and not more than 2.5m above the ground.

Regulation

(3) Any route number display shall be capable of displaying

- (a) characters of not less than 200mm in height on the front and rear of the vehicle and not less than 70mm in height on the side of the vehicle;
- (b) characters that contrast with the display background;
- (c) characters that are provided with a means of illumination; and
- (d) not less than three characters.

(4) Any destination display shall be capable of displaying

- (a) characters of not less than 125mm in height when fitted to the front of a vehicle and not less than 70mm in height when fitted to the side of a vehicle;

- (b) characters that contrast with the display background;
- (c) characters that are provided with a means of illumination; and
- (d) not less than fifteen characters.

Design need

Different size characters are required as a vehicle is likely to be viewed from a greater distance from the front or rear than it is from the side. By using contrast in the adjacent surfaces, passengers with low vision are able to make use of their residual vision. Illumination is required for the display to be visible at night.

Disabled people do not require a minimum number of characters to be displayed but it is essential that adequate space is provided for a route number and destination to be identifiable.

Application

Depending on the type of display, the display characters and their background may not be available at the time the vehicle is approved to this Schedule. Where this is the case it is sufficient for a temporary display to be inserted to demonstrate that there is adequate space for the specified characters and to provide sufficient area of contrasting background, and to be illuminated. Any part of the display, in addition to that required by this paragraph, need not comply.

Best Practice

White or bright yellow lettering on a black background is most clearly visible. Lower case lettering in Helvetica, Arial and other Sans Serif fonts are easiest to read. LED/LCD or other electronically generated characters should only be used if they can offer the same legibility, both night and day, as a conventional roller blind display.

Regulation

- (5) Destination information shall not be written in capital letters only.

Design need

The use of both upper and lower case text helps ensure that words that are not completely clear and legible to people with a degree of vision impairment or learning disability, are still identifiable through shape recognition of the word.

Application

It is important that ascenders and descenders are not squashed since this will make shape recognition more difficult.

Regulation

- (6) In this paragraph

"character" means capital letters or numbers of a specified height and lower case letters of a size relative to the text of a capital letter for a given typeface;

"destination" means a word or words to describe the route or final destination; and

"route number" means any combination of numbers or letters which designates a bus route.

Schedule 3

SCHEDULE 3

Regulation 3

GENERAL ACCESSIBILITY REQUIREMENTS FOR SINGLE-DECK AND DOUBLE-DECK COACHES

Definitions 1. In this Schedule

"contrast" means a contrast in the amount of light which is reflected by the surfaces of the parts of a regulated public service vehicle or its equipment which are required by these Regulations to contrast;

"cushion" means that part of a seat on which a person using the seat sits, whether padded or not;

"deep" in relation to a step means the distance from the outer edge of the nosing of the step tread to the riser of the step tread;

"exit" means an exit from a regulated public service vehicle but does not include an exit which is provided for use only in case of emergency;

"external step" means the last step or platform from an entrance or an exit which leads directly from the vehicle to the ground;

"gangway" means the space provided for obtaining access from any entrance to the passengers seats or from any such seat to an exit other than an emergency exit, but does not include a staircase or any space in front of a seat or row of seats which is required only for the use of passengers occupying the seat or row of seats;

"km/h" means kilometre(s) per hour;

"kneeling system" means a system which enables the bodywork of a regulated public service vehicle to be lowered relative to its normal height of travel;

Application

The system providing the kneeling facility may have other functions which are not necessary to meet the accessibility requirements. Any controls for other functions must be separate from those used to meet the accessibility requirements and their use clearly marked.

Regulation

"mm" means millimetre(s);

"N" means newton(s);

"normal height of travel" means the height specified by the vehicles manufacturer for normal vehicle travel; and

"seat" means a seat intended for use by passengers and, accordingly, does not include the drivers seat or any other seat intended for use solely by a crew member.

Floors and gangways

Floors and gangways 2.(1) All floors within a regulated public service vehicle shall be slip-resistant.

Design need

This is a safety consideration for disabled passengers who may be more prone to slipping than other people when moving around a vehicle. They may also be more likely to sustain serious injury as a result.

Regulation

(2) Any gangway within a regulated public service vehicle shall have a slope of not more than 5° in any direction, when the vehicle is unladen standing on a level surface and in its normal condition of travel.

Design need

In order to move around easily, disabled people will need the floor surface to be as level as possible. A sloping floor makes it more difficult to judge when each step forward will reach the floor level particularly when a vehicle is moving. This causes instability and the risk of falling. In coaches disabled people will usually have time to be seated before the vehicle moves off, therefore a maximum slope is specified which takes this into account.

Application

The manufacturer will be required to demonstrate to the satisfaction of the Vehicle Inspectorate that this requirement is met.

Seats

Regulation

Seats 3.(1) Any seat fitted to a regulated public service vehicle shall comply with the following requirements

- (a) the top surface of a cushion of a seat shall be at a height of not less than 400mm and not more than 500mm above the floor of the vehicle measured from the front edge of the seat and along an imaginary line passing vertically from the centreline of the seating position to the floor;

Design need

Many disabled people have difficulty getting in and out of seats, due to the range of bending and twisting movements that this requires. Limiting the height range of seats helps to minimise these difficulties.

Best Practice

The seat height should ideally be between 430mm and 460mm above the floor. Sloping seat cushions should be kept to a minimum as these can make it more difficult for a disabled passenger to get up from their seat. Where a slope is provided the centre of the cushion should not be less than 400mm above the foot space in front of the seat.

Regulation

- (b) any armrest fitted to a seat shall be moveable to the extent required to permit unrestricted access by a disabled person to that seat or to any other seat to which access may be gained past that seat;

- (c) where a seat (referred to below as "the first seat") faces the same direction as another seat situated directly in front of the first seat

- (i) the distance between the front surface of the back of the first seat and the back surface of the back of the seat in front (measured along an imaginary horizontal line passing along the top surface of the cushion of the first seat and through the centreline of the seating position of the first seat) shall not be less than 650mm, and

- (ii) where the back of either seat is adjustable, this measurement shall be made with the seat or seats in the manufacturers nominal position for normal use;

- (d) where a seat faces a bulkhead or a partition

- (i) the distance between the front surface of the back of the seat and the bulkhead or partition (measured along an imaginary horizontal line passing along the top surface of the cushion of the seat and through the centreline of the seating position of the seat) shall not be less than 650mm, and

- (ii) where the back of the seat is adjustable, this measurement shall be made with the seat or seats in the manufacturers nominal position for normal use; and

See diagram page 75

Best Practice

The space between seat backs or between a seat and a partition should not be less than 680mm.

Regulation

(e) where a seat (referred to below as "the first seat") faces either the front or the rear of the vehicle and where the seat also faces any other seat

(i) the distance between the front surface of the back of the first seat and the front surface of the back of the facing seat (measured along an imaginary horizontal line passing along the top surface of the cushion of the first seat and through the centreline of the seating position of the first seat) shall not be less than 1300mm, and

(ii) where the back of either seat is adjustable, this measurement shall be made with the seat or seats in the manufacturers nominal position for normal use.

Best Practice

The distance between the front edge of facing seats (the knee-room) should not be less than 600mm and preferably 700mm.

Regulation

(2) In this paragraph, "manufacturers nominal position for normal use" means the position of an adjustable seat which the manufacturer of the seat recommends, or has nominated, as being the normal position for using the seat.

Steps

Steps 4.(1) Steps for use by passengers on a regulated public service vehicle shall, except as provided in sub-paragraph (4), comply with the following requirements

(a) the surface of each tread shall be covered in a slip-resistant material;

(b) step nosings shall be designed to minimise the risk of tripping;

(c) across the front edge of each tread there shall be a band of colour not less than 45mm and not more than 50mm in width, which shall contrast with the remainder of the tread;

(d) any steps, other than an external step, in any part of a gangway or staircase between every passenger seat and an entrance or exit complying with sub-paragraph (5) shall -

(i) not be less than 120mm and not more than 225mm in height; and

(ii) the surface of a tread shall not be less than 250mm deep;

(e) any steps between a gangway and a passenger seat or a row of passenger seats shall not be more than 250mm in height;

- (f) in a flight of steps, the difference in height between any two steps shall not be more than 10mm.

Best Practice

All steps should have a closed vertical riser between the back of the tread to the nosing of the tread above. Where it is necessary for one step to overlap another the overlap should be kept to a minimum. In this case the closed riser should not be vertical but should be as smooth as possible so that the toe of a disabled passenger may be guided up the riser to the nosing of the tread of the step above. Where possible the height of steps should not exceed 200mm and the tread depth should be at least 300mm.

See diagram page 106

Regulation

- (2) The height of a step in sub-paragraph (1) shall be measured vertically from the surface of the tread, and at the centre of the tread width, to an imaginary line extended horizontally from the surface of the next tread or floor of the vehicle.
- (3) Where one flight of steps connects with another, there shall be an area of floor, at the point where the two flights connect, on which it is possible to inscribe a circle of a diameter of not less than 450mm.

Design need

In a coach there is often more than one flight of steps to reach the seating area or to reach the upper deck. Many disabled people find it difficult to twist and turn particularly in a limited area. An area of floor between flights of steps provides space for them to turn safely without obstruction.

Application

The circle need not be on the intersection of the centreline of the two flights of steps but must be within the projection of the steps of the two flights. It must be possible to stand on any part of the circle without obstruction.

Best Practice

Steps should not be set at an angle or on a spiral such that the depth of the step tread is tapered as many people will find this difficult to negotiate.



**Diagram - Sunken gangway
Step height and step edge markings
(Schedule 2, paragraph 4(1)(c) & (f)
and Schedule 3, paragraph 4(1)(c) & (e))**

Regulation

(4) Where

(a) a regulated public service vehicle is a double-deck coach, and

(b) that vehicle has, for the use of passengers, more than one means of access from the lower deck to the upper deck,

the requirements of sub-paragraphs (1)(d) and (3) shall only apply to one of those means of access if that means of access can be used for both access to and from the upper deck and it provides access to an entrance and exit which complies with sub-paragraph (5). In this sub-paragraph "means of access from the lower deck to the upper deck" means a flight of steps, or two or more connecting flights of steps, which lead from the lower deck to the upper deck of a double-deck coach.

Application

Only one means of access between the upper and lower decks need comply with step height and depth requirements if it can be used for both access to and from the upper deck and provides access to an entrance and exit complying with the external step requirements.

Best Practice

Ideally all means of access for passengers should comply with step height and depth requirements as it may not be apparent to disabled passengers which staircase is the most suitable for them.

Regulation

(5)- An external step leading from not less than one entrance and to not less than one exit, not being an entrance or exit on the off-side of the vehicle, shall -

(a) not be more than 320mm in height measured

(i) from the surface of the tread of the external step to the ground;

(ii) if the vehicle is fitted with a kneeling system, with the regulated public service vehicle at its minimum height; and

(iii) at the centre of the tread width; and

(b) not be less than 250mm deep.

See diagram page 108



**Diagram - Steps and handrails (coaches)
Steps and handrails at entrances and exits
(Schedule 3, paragraphs 4 & 5)**

Application

Only one door leading into the vehicle need comply with the external step requirements if that door can be used for both entrance and exit for passengers and is not on the off-side of the vehicle.

Regulation

(6) A regulated public service vehicle shall not be fitted with a step which can project beyond the side of the vehicle adjacent to the step unless

(a) the step is protected by parts of the vehicle or otherwise so that it is not liable to injure pedestrians, or

(b) the step can fold or retract so that it does not project beyond the side face of the vehicle and the vehicle is not capable in the normal course of being driven away unless the step is so folded or retracted.

Design need

This is to ensure that a folding or retractable step is not extended when the vehicle is driven from rest and to avoid any risk of danger to pedestrians or other road users.

Application

A means must be provided to prevent a vehicle being driven off while the step is deployed. An inter-lock that permits the vehicle to move or to move under power at a very low speed (such as a throttle inter-lock) is permissible such that it will be obvious to the driver that there is a problem.

Regulation

(7) Where a regulated public service vehicle is fitted with a power-operated step, that step shall

(a) not be capable of operation whilst the vehicle is in motion, and

Design need

This is to ensure that a power operated step fitted for the benefit of disabled people is not extended while the vehicle is in motion and therefore avoids any risk of danger to pedestrians or other road users.

Application

The vehicle must be fitted with some means to prevent the step from being deployed while the vehicle is in motion.

Regulation

(b) be fitted with a safety device which stops the motion of the step if the step is subject to a reactive force not exceeding 150N in any direction and if that motion could cause injury to a passenger.

Design need

This is to prevent injury to any person in the path of the step when it is being deployed or retracted.

Application

The manufacturer will be required to demonstrate to the satisfaction of the Vehicle Inspectorate that this requirement is met.

Handrails

Regulation

Handrails 5.(1) A handrail shall (subject to sub-paragraph (2)) be fitted in the following positions in a regulated public service vehicle

(a) on both sides of the interior of an entrance or exit (not being an entrance or exit on the off-side of the vehicle):

Best Practice

Where a vehicle is fitted with a continental exit on the off-side of a vehicle every effort should be made to comply with the handrail requirements as if that exit were on the nearside.

Regulation

(i) not more than 100mm inwards (measured from the outer edge of the step nosing of any fixed external step leading into a vehicle entrance, or, if that step is not a fixed step, from the outer edge of the lowest fixed step in that entrance) and at a height of not less than 800mm and not more than 1100mm measured vertically from the ground, with the vehicle at its minimum height if the vehicle is fitted with a kneeling system, and

(ii) in the case of any other steps leading into a vehicle, for the position appropriate to a particular step, at not more than 600mm measured horizontally and inwards from the outer edge of the step nosing of the tread of a step or the floor of the vehicle and at a height of

not less than 800mm and not more than 1100mm measured vertically from the surface of the tread of the step; and

(b) in any gangway, above each step for use by passengers

(i) not more than 600mm measured horizontally and inwards from the outer edge of the step nosing of the tread of a step or the floor of the vehicle, and

(ii) above this point at a height of not less than 800mm and not more than 1100mm measured vertically from the surface of the tread of the step.

Design need

Disabled passengers boarding and alighting from the vehicle need support. Handrails must be positioned both sides of the entrance or exit steps to enable a person to use their strongest arm (many disabled people have limited strength or grip in one or other arm), and to allow for one hand to be used to carry any mobility aid or luggage. A handrail must also be placed on at least one side of any steps in a gangway.

Best Practice

A handrail that follows the line of the step nosings at a height of between 800mm and 900mm above each step tread is most suitable. The handrail should extend as near as practicable to the step nosing of the last step from the vehicle to the ground ending with a vertical section. It should also extend beyond the nosing of the top step (or floor of the vehicle) by at least 100mm. A handrail should also be placed on both sides of any steps in a gangway and any other steps such as those leading to a toilet.

Regulation

(2) Where it is not practicable to comply with the requirements of sub-paragraph (1)(a) on both sides of an entrance, a vehicle may, as an alternative to such requirements as they apply to one side of that entrance, be fitted with a vertical handrail in the following location

(a) not more than 100mm measured inwards from the outer edge of the step nosing of any external step or, if an external step is not a fixed step, of the lowest fixed step in the vehicle entrance, and

(b) extending vertically from a height of not more than 800mm to a height of not less than 2000mm or, where this is not practicable due to the vehicle structure or ceiling, to the highest height that can be achieved, measured vertically from the ground with the vehicle at its minimum height if the vehicle is fitted with a kneeling system.

See diagram page 108

Design need

It may not always be practicable to meet the requirements of sub-paragraph (1). A typical example would be the fitting of a crew seat which folds to one side of the entrance steps in approximately the location where the handrail would usually be fitted. This permits an alternative handrail location on one side of an entrance or exit.

Best Practice

This type of handrail is less suitable for disabled people as it offers little assistance when boarding a vehicle once past the first step (external step) and may require a stretch to reach the handrail when alighting. This type of handrail should be avoided if at all possible.

Regulation

(3) Any handrail in a regulated public service vehicle that is fitted in order to comply with this paragraph shall comply with the following requirements

(a) have a circular cross section with a diameter of not less than 30mm and not more than 35mm, or when fitted at either side of an entrance or exit, an oval cross section the maximum section of which is not more than 35mm and not less than 30mm, and the minimum section of which is not less than 20mm;

Design need

Many people have difficulty in gripping handrails securely. Research has shown that these are the most suitable sizes for handrails.

Best Practice

The handrail that is tubular in section, with an even diameter provides for the most comfortable grip in any direction.

Regulation

(b) (with the exclusion of a handrail fitted in accordance with sub-paragraph (2)) be not be less than 800mm or more than 1900mm above the floor of the vehicle;

Design need

The height of handrails for disabled people is specified elsewhere. This specifies a height range within which manufacturers must comply with the technical requirements for handrails.

Regulation

(c) have a clear space of not less than 45mm between any part of the vehicle and all parts of a handrail other than its mountings;

Design need

This is to allow sufficient space around a handrail for people to move a hand freely around it and to avoid finger traps. Many people will have difficulty using a handrail where this space is less than 45mm.

Regulation

(d) have a slip-resistant surface;

Design need

This is to ensure that the handrail can be gripped by people who have little strength in their hands.

Application

The provisions of sub-paragraphs (a) to (d) above apply only to those handrails that are required to be fitted and does not apply to any extension of a handrail that may be below 800mm or above 1900mm.

Best Practice

All smooth or textured handrails should be powder, ceramic or nylon coated. These materials can be rendered slip resistant, have a matt finish and feel comparatively warm to touch.

Regulation

(e) be capable of being easily and firmly gripped by a passenger; and

(f) contrast with the parts of the vehicle adjacent to the handrail.

Design need

People who have low vision will need consciously to identify the handrails against other surfaces within view in order to use them. Most people will find this easier if the handrail is in contrast with surrounding surfaces.

Application

It is essential that the colour of the handrail provides a very strong contrast with the surrounding surfaces. The most important contrast to establish is the light /dark contrast, although in isolation, this may be difficult to achieve. Further information about the use of colour to provide contrast can be found in Appendix B.

Kneeling Systems

Regulation

Kneeling Systems 6.(1) Where a regulated public service vehicle is fitted with a kneeling system, the vehicle and system shall comply with the following requirements

(a) a switch shall be required to be used to enable operation of the system;

(b) any control which initiates the lowering or raising of any part or the whole of the body relative to the road surface must be clearly identified and under the direct control of the driver of the vehicle;

(c) the lowering process shall be capable of being stopped and immediately reversed by a control which is both -

(i) within reach of the driver whilst seated in the cab; and

(ii) adjacent to any controls provided for the operation of the kneeling system;

(d) the kneeling system shall not -

(i) allow the vehicle to be driven at a speed of more than 5km/h where the vehicle is lower than the normal height of travel, or

(ii) allow the vehicle to be lowered when the operation of an entrance or exit door (other than an emergency door) is prevented for any reason.

(2) In this paragraph "emergency door" means an external door which is generally intended for use only in an emergency.

Application

Nothing within this paragraph prevents the lowering process from being initiated in combination with any other system provided that the control is clearly marked. The kneeling process should be capable of being stopped by the driver by means of a control adjacent to the one which initiates the lowering of the vehicle body. A single control may provide both functions if it is of a type that stops the kneeling process automatically when released.

Route and destination displays

Regulation

Route and destination displays 7.(1) A regulated public service vehicle shall be fitted with a route number display and a destination display in the following positions

(a) on the front of the vehicle, as close as practicable to the part of the windscreen which is within the drivers field of vision; and

(b) on the near-side of the vehicle adjacent to the entrance which is closest to the front of the vehicle at a height of not less than 1.2 metres to the lower edge of the display characters and not more than 2.5 metres to the upper edge of the display characters measured from the ground and, if fitted with a kneeling system, with the vehicle in the normal condition for vehicle travel.

Design need

Disabled people need to be able to identify the service that they need and for that information to be in a suitable position. Many will have difficulty looking up if the information is too high.

Application

The front display may be fitted above the windscreen or, as low as practicable within the windscreen area, but above the driver's field of view. It must not be placed in any position that may obscure the driver's field of view. Directives 77/649/EEC as amended (Forward vision) and 71/127/EEC as amended (Rear visibility) should be used as guidance in the case of doubt on the effect on driver visibility.

Best Practice

A good destination and route number display will be clearly legible by day and night and commercial advertising should not detract from them. A consistent display design is also helpful, therefore the route number should always be to the right of the destination when viewed. Other major points on the route can be included but they should not detract from the clarity of the ultimate destination. Destination displays which simultaneously show both ends of a route are confusing and should be avoided. The destination appropriate to the direction of travel should be displayed or if a circular route such information necessary to identify the direction of travel.

Regulation

(2) A regulated public service vehicle shall be fitted with a route number display on the rear of the vehicle.

Best Practice

The ideal position is centrally placed just above or below the rear window and not more than 2.5m above the ground.

Regulation

(3) Any route number display shall be capable of displaying

- (a) characters of not less than 200mm in height on the front and rear of the vehicle and not less than 70mm in height on the side of the vehicle;
- (b) characters that contrast with the display background;
- (c) characters that are provided with a means of illumination; and
- (d) not less than three characters.

(4) Any destination display shall be capable of displaying

- (a) characters of not less than 125mm in height when fitted to the front of a vehicle and not less than 70mm in height when fitted to the side of a vehicle;
- (b) characters that contrast with the display background;
- (c) characters that are provided with a means of illumination; and

(d) not less than fifteen characters.

Design need

Different size characters are required as a vehicle is likely to be viewed from a greater distance from the front or rear than it is from the side. By using contrast in the adjacent surfaces, passengers with low vision are able to make use of their residual vision. Illumination is required for the display to be visible at night.

Disabled people do not require a minimum number of characters to be displayed but it is essential that adequate space is provided for a route number and destination to be identifiable.

Application

Depending on the type of display, the display characters and their background may not be available at the time the vehicle is approved to this Schedule. Where this is the case it is sufficient for a temporary display to be inserted to demonstrate that there is adequate space for the specified characters and to provide sufficient area of contrasting background, and to be illuminated. Any part of the display, in addition to that required by this paragraph, need not comply.

Best Practice

White or bright yellow lettering on a black background is most clearly visible. Lower case lettering in Helvetica, Arial and other Sans Serif fonts are easiest to read. LED/LCD or other electronically generated characters should only be used if they can offer the same clarity, both night and day, as a conventional roller blind display.

Regulation

(5) Destination information shall not be written in capital letters only.

Design need

The use of both upper and lower case text helps ensure that words that are not completely clear and legible to people with a degree of vision impairment or learning disability, are still identifiable through shape recognition of the word.

Application

It is important that ascenders and descenders are not squashed since this will make shape recognition more difficult.

Regulation

(6) In this paragraph

"character" means capital letters or numbers of a specified height and lower case letters of a size relative to that of a capital letter for a given typeface;

"destination" means a word or words to describe the route or final destination; and
"route number" means any combination of numbers or letters which designates a coach route.

Schedule 4

Regulation

SCHEDULE 4

Regulation 8

ACCESSIBILITY CERTIFICATE

ACCESSIBILITY CERTIFICATE

Department of the Environment, Transport and the Regions

DISABILITY DISCRIMINATION ACT 1995

Certificate No.....

I, the undersigned, a Vehicle Examiner duly appointed by the Secretary of State, hereby certify, in accordance with the provisions of the Disability Discrimination Act 1995, that the vehicle described below conforms to Schedule(s) to the Public Service Vehicles Accessibility Regulations 2000 made under the Disability Discrimination Act 1995.

Description of vehicle

Registration mark (if any):

Chassis (VIN) Number:

Date of manufacture or first use:

Chassis make:model:.....

Body make:model:.....

Vehicle Examiner Signed.....

Print name date.....

Schedule 5

Regulation

SCHEDULE 5

Regulation 14

DECLARATION OF CONFORMITY TO AN APPROVED TYPE VEHICLE

DECLARATION OF CONFORMITY TO AN APPROVED TYPE VEHICLE Department of the Environment, Transport and the Regions
DISABILITY DISCRIMINATION ACT 1995

Description of vehicle

Registration mark (if any):

Chassis (VIN) Number:

Date of manufacture or first use:

Chassis make:model:.....

Body make:model:.....

I, the undersigned, being a person duly authorised in this behalf by the body manufacturer/converter of the vehicle described above, hereby declare that the vehicle conforms in design, construction and equipment with the type vehicle to which Type Vehicle Approval numberwas granted by the Secretary of State on as that type vehicle satisfied the requirement of Schedule(s) to the Public Service Vehicle Accessibility Regulations 2000 made under the Disability Discrimination Act 1995.

Signed

(For and on behalf of.....the vehicle body manufacturer/converter)

Print namedate.....

Schedule 6

Regulation

SCHEDULE 6

Regulation 16

CONFORMITY CERTIFICATE CONFORMITY CERTIFICATE

Department of the Environment, Transport and the Regions
DISABILITY DISCRIMINATION ACT 1995

Certificate No.....

I, the undersigned, a Vehicle Examiner duly appointed by the Secretary of State, hereby certify, in accordance with the provisions of the Disability Discrimination Act 1995, that the vehicle described below conforms to the type vehicle to which Type Vehicle Approval number..... was granted by the Secretary of State onas that type vehicle satisfied the requirements of Schedule(s)

..... to the Public Service Vehicles Accessibility Regulations 2000 made under the Disability Discrimination Act 1995.

Description of vehicle Registration mark (if any):.....

Chassis (VIN) Number:

Date of manufacture or first use:

Chassis make: model:.....

Body make: model:.....

Vehicle Examiner Signed.....

Print namedate.....

Appendix A - Additional issues

Staff Training

Investment in accessible vehicles and infrastructure can easily be wasted if the staff involved in providing transport services are inadequately equipped to do their jobs. The attitude of people in the front line, who influence the travelling public's first impression of an operating company, is a key consideration. For drivers, conductors, inspectors, bus and coach station staff and their supervisors and managers, training in disability awareness is vital.

Disabled people rightly expect that the staff they encounter will be able to meet their reasonable needs.

Good training will ensure that the operator can confidently welcome disabled people onto its services. Familiarisation with all the features of a vehicle is equally important. Operators must ensure that drivers are fully aware of the form and function of kneeling suspension, wheelchair access ramps, on-board passenger information systems and any other features of vehicles which comply with the Public Service Vehicles Accessibility Regulations 2000.

All staff need to be able to assist passengers with sensory or learning disabilities and to recognise the needs of people who may require more time to board and alight or to get to a seat.

Disability Awareness Training should not be restricted to those staff who regularly come into contact with passengers or whose role is within the area of customer service; this training will be of benefit for all members of staff. Advice on the disability awareness module of the National Vocational Qualifications scheme can be obtained from the national bus & coach industry training organisation TRANSFED. Information on providers of Disability Awareness training can be obtained from the organisations listed on pages 138 and 139.

Policies and Procedures

Operators need to establish clear policies and procedures to cover all aspects of their dealings with disabled people. Managers at all levels must be made aware of their responsibilities to ensure that disabled people are not subjected to any form of discrimination. A check-list of items which may cause problems should be developed so that all concerned know what to do in the event of equipment failure or an emergency requiring, for example, evacuation of a vehicle.

Routine maintenance regimes must take account of additional equipment, such as ramps and information systems, fitted to vehicles and a clear procedure for reporting defects that require immediate attention must be established.

Bus Stops, Coach Stations and Connecting Services

Vehicles which comply with the requirements of the Public Service Vehicles Accessibility Regulations 2000 will provide disabled passengers with the basic facilities that they need to gain access to and travel on buses and coaches in safety and comfort. However, potential passengers will be unlikely to travel if the built environment and transport infrastructure are not equally accessible to them, or if connecting services are not accessible, safe and comfortable to use. Operators should seek to work with local authorities and other transport providers whose services connect with theirs so that there is no break in the transport chain.

It is important for all concerned to work in partnership if the widespread benefits of a fully-accessible transport system are to be achieved. Ensuring that the kerb height at a bus stop is raised (not less than 125mm) to bring ramp gradients within the capability of users of both manual and powered wheelchairs. Provision of adequate shelter and seating for waiting passengers and the display of information at a height accessible to wheelchair users, and in large clear print are important too. Above all, enforcement against the obstruction of bus stops by other vehicles is vital. If the bus cannot reach the kerb it will be inaccessible for substantial numbers of disabled people.

At interchanges there need to be step-free routes between different modes, well-signed and preferably under cover.

Guidance on best practice in relation to transport infrastructure and meeting the requirements of Part III of the Disability Discrimination Act will be made available by DETR to operators and local authorities in due course.

Other Facilities

Trials of on-board audible and visual passenger information systems are being conducted and, if they are successful, the Public Service Vehicles Accessibility Regulations 2000 will be amended in the future to include a mandatory requirement for such equipment. In the mean time, operators should encourage drivers and other staff to make use of public address equipment to announce the name of each stop and the destination of the service concerned. Good quality information on-board the vehicles and at bus/coach stations also helps visitors to an area make full use of the transport system.

It is important to remember that, whilst not covered by these Regulations, additional facilities provided by operators on board the vehicle should take account of the design needs of disabled people. These additional facilities will usually be provided for entertainment and leisure purposes. Videos and films for example should also have a subtitle facility so that they can be enjoyed by passengers who are deaf or hard of hearing.

Appendix B - The use of colour to provide contrast

Why do we need contrast?

Most registered blind people will still be able to see in colour. Only a small percentage (less than 5%) can see nothing at all, but even that group will generally have sensitivity to light and shade. By using contrast in the render of adjacent surfaces, passengers with low vision are able to make use of their residual vision.

This Appendix provides advice on the Application of contrast. The practical advice and guidance is set out so as to provide a quick reference.

Contrasting Colour by chromaticity, light reflectance value and hue

When applying colour to two adjacent surfaces, to provide sufficient contrast, the contrast between the colours will be determined by the **light reflectance value**, the **hue** and by the **chromatic value** of each.

Light Reflectance Values

The light reflectance value (LVR) is the proportion of useful light reflected by a colour. This is generally measured in daylight conditions. The greater the light reflectance value, the lighter the colour. White and very bright yellows have the highest light reflectance values and are therefore recommended as colours to be used in highlighting key safety features. Bright blues on the other hand have comparatively low light reflectance values.

The impact of a colour within the colour scheme can be estimated by multiplying the light reflectance value by the proportion of the area in which it is used. The total light reflectance value of a scheme can be estimated by adding together the figures for each colour used.

In static conditions, a difference of 30% or more is considered in these values to be adequate, though a best practice application would employ a considerably stronger contrast than this, particularly in relation to key safety features, where the strongest possible contrast should be used.

This guidance uses a scale of 0 -100, where 0 = black and therefore total light absorption, and white =100 and therefore total light reflection.

Contrasting by Hue

The level of contrast in hue will be determined by the proximity of the two colours within the colour spectrum, so that colours that are close to each other within the spectrum will contrast less well than those that are further apart.

Colours such as blues and greens are close to each other within the spectrum and therefore when applied on adjacent surfaces with the same chromatic intensity they are unlikely to contrast very well. The same will apply to contrasts that employ yellows and oranges on adjacent surfaces.

Colours that are from opposite ends of the spectrum will clearly contrast most well so that blues and yellows contrast very well in hue, as do generally greens and reds.

Contrasting colour by chroma

The value of chroma in any colour definition describes its intensity and the level of its saturation. The more heavily a colour is saturated, the greater its intensity will be. Level of contrast required Visually impaired passengers may need to consciously scan the area in front of them by between two and three metres and from ground level up to 1200mm. Understanding the nature of the space ahead provides them with the confidence to take the next step. To ease this process in terms of boarding, the bottom of the door must be clearly identifiable.

As a general rule, where blocks of flat colour are used in contrast to each other, a difference in light reflectance values will be at least 30 points on a scale of 1 -100. Where the colours are broken, the visual clarity begins to diminish, and the contrast is disrupted. In these designs, a higher level of difference is needed; perhaps 40 points to achieve the same contrast and clarity. Changes in hue and chromaticity will always help in achieving greater contrast.

Very glossy finishes are likely to contribute to glare and dazzle and may veil the image behind. Whilst manufacturers are not expected to produce everything with a matt finish, they must consider carefully the use of any very glossy finishes such as metallic or pearlescent paints.

Best Practice

The application of a single colour that provides a strong contrast in luminance with the remainder of the surface would be considered best practice. Ideally, the two colours will be from opposite ends of the colour spectrum and will also contrast in terms of their light reflectance values.

Interior finishes

General principles of contrast

When considering a colour scheme for the interior of a vehicle, it is important to recognize that a person with a visual impairment may rely on the language of colour and contrast as a means of orientation and navigation. It is therefore helpful to identify what needs to be coloured to provide consistency, as well as that needed to communicate change.

The corporate identity of the operating company may begin with a livery, and can continue throughout the vehicle interior. To ease use by visually impaired people areas that serve the same function, should be duplicated as modules throughout the vehicle, but should communicate their difference to areas that serve different functions.

Each doorway area should use the same contrasting colour scheme and should contrast with the rest of the passenger saloon. Simple but creative changes to floor coverings will often provide the clearest way of defining two adjacent areas.

Safety features, including handrails, handholds, communication devices (bell pushes), step nosings, and the edge of any boarding device should be coloured with consistency throughout the vehicle regardless of their location. Ideally, those features which people are encouraged to touch will have a single and consistent colour and will be coloured differently to those that warn people of danger.

Passenger Saloons

Critical Surfaces

The critical surfaces within the passenger saloon are the floor, the wall panels, the ceilings, the doors and the seating. In a best practice vehicle these surfaces will be distinguishable from each other.

Floor surfaces

Floor surfaces should contrast with the adjacent wall panels, and this contrast should be most clearly defined at the junction of the floor to the wall. Often a heating grill is fitted at this point, and grill itself should be considered exactly as it will be viewed; as the bottom of the wall, and therefore rendered accordingly to achieve the appropriate contrast. The walls must also contrast with the other critical planes within the saloon such as the moquette covering of the passenger seating.

When choosing floor surfaces to provide a contrast in colour through the light reflectance value, it is important to consider the texture of the material. Smooth surfaces, for example vinyls, will reflect more light than textured materials of identical hue and chromatic intensity such as carpet, and will therefore have a comparatively higher light reflectance value.

Consideration should also be given to practical considerations such as general deterioration through wear, or soiling both of which may undermine the colour considerably.

Ideally, all floor surfaces between different areas of the vehicle will contrast with each other and this will assist people to orientate themselves and navigate through the vehicle. Changes in the tactile qualities of the surfaces will also assist navigation.

Within a static environment, it would not be usual to consider seating to be a critical surface. However, within the context of a vehicle, since seating dominates and obscures large areas of both the floor surface and the wall panels, the seating itself takes on greater significance as a surface.

Therefore, whilst the strongest contrast should still be sought between the floor and the wall panels, the moquette of the seating should provide a contrast with both the floor and the adjacent wall panels.

Key safety features

Handholds and Handrails

Handholds and Handrails are much more important within the bus or coach environment than they would be in a static environment. All passengers will be less steady on their feet on a moving vehicle. People who are visually impaired are sometimes less confident than sighted people when walking because of an uncertainty of what is ahead. It is important that handrails are highlighted with a maximum level of contrast. The colour of the handholds and handrails should be chosen to contrast with the surrounding surfaces. These will include seat moquettes and interior wall panels.

Other considerations

Luggage racks are often constructed with a tubular framework. They should contrast with the surrounding planes so that they are visible to people with visual impairments.

Wheelchair accessible vehicles

Passengers who use wheelchairs may also have a visual impairment, and it is essential that the wheelchair accessible area employs the same application of colour and contrast issues as the rest of the interior.

A backrest used to stabilize wheelchairs must contrast with the floor and the adjacent wall panels.

Appendix C Identifying Control Devices

This appendix details best practice guidance on control devices.

The minimum degree to which a control should be identifiable by touch is that the button is raised at a level to protrude by at least 3mm from its surround.

The control device should not have any sharp edges and if fitted into a frame, then the frame should not have any sharp edges.

The content of information on the control device or next to a control device should be simple, short and easily understood, with any text or lettering provided in a clear uncomplicated font. Helvetica, Ariel and other Sans Serif fonts are easiest to read both visually and by touch.

Any text below 15mm in height will be impossible to read by touch as will characters that are poorly spaced. Since controls using text on this small area may prove to be unnecessarily complicated, and it may be helpful to provide a simple raised symbol rather than text.

It is important not to assume that any symbol will be understood by the first time reader, and stylised raised graphics should therefore be avoided. As far as possible, the pictorial symbols should be consistent with other vehicles. Any symbol or text will need to be consistent in its application throughout the vehicle where it is used to communicate the same information.

The colour of any symbol or character should contrast with the colour of the control device, and should be in a non-reflective material or finish. The characters should not have any sharp edges, but must equally be clearly defined by being slightly rounded or chamfered.

Where text is used, a mixture of upper and lower case text should be used in preference to all uppercase, for example, Push. The text should have a very strong contrast in colour with the background against which it is seen.

For tactile characters the thickness of the embossing should be 1mm - 1.5mm and should not be engraved. The stroke width should allow for both sides of the embossed letter or number to be felt with the fingers in a single pass.

If possible English Standard Braille should be used wherever embossed characters are used. The Braille dot should be dome shaped. Grade I Braille should be used for single words.

A Braille locator is a very useful aid to include on the control. A small tactile arrow can be used to indicate a direction, either before or after the Braille. Braille text should be located directly below the text and/or arrow, ranged (justified) to the left.

Braille characters should not contrast in colour with their background, since they will only be read by touch.

4. Special Authorisations

The Regulations set out requirements aimed at ensuring that new double-deck buses and new large single deck buses entering service from 31 December 2000 meet the transport needs of disabled people including wheelchair users. Coaches and smaller buses must also meet the general access requirements from this time with wheelchair access being provided from 1 January 2005.

However, it is recognised that when the Regulations were introduced the time available for manufacturers to comply in every detail with them was very short. In some cases, orders for vehicles have been taken which may not be completed before the Regulations come into effect. Many of these vehicles cannot comply with the Regulations or cannot comply without undue burdens being placed on manufacturers and their customers.

Initiatives in certain areas to introduce infrastructure improvements such as raised kerbs or a guided busway may also have a bearing on whether vehicles need to meet all the requirements of the Regulations. It is possible too, that in certain areas vehicle design may need to differ due to local conditions or where new developments for the benefit of disabled passengers or passengers in general need to be tried and tested.

Catering for such circumstances, Section 43 of the Disability Discrimination Act 1995 provides for special authorisations to be issued by means of an order to allow for regulated public service vehicles which do not comply with the Regulations to be operated in service.

Special authorisation orders may specify such provisions of the Regulations that need not be met and to apply such conditions to that order as may be appropriate. Conditions may include time limited orders or may relate to the use of a vehicle only within a restricted area or may impose alternative provisions.

On receipt of an application for a Special Authorisation the Mobility and Inclusion Unit (MIU) may consult other interested parties as appropriate. If alternative provisions are appropriate the applicant will be notified accordingly.

A vehicle inspection will usually be required in every case. The applicant will apply to the Vehicle Inspectorate (VI) for an inspection and pay the appropriate fee in the normal manner. The inspection will cover all aspects of the vehicle that must comply with the relevant Schedule(s) and may include any alternative provisions applicable to the vehicle. An inspection report will be issued to the applicant a copy of which should be sent to the MIU. Subject to review of this report, the MIU may issue a Special Authorisation for the vehicle.

Manufacturers and operators should not assume that special authorisation orders will be granted automatically as each case will be considered on its merits. However, particular consideration will be given to the difficulties facing manufacturers as these Regulations come into effect for the first time.

Special authorisations may only be granted in relation to the requirements of the Public Service Vehicles Accessibility Regulations 2000 and not in relation to any requirements specified in any other regulations.

Any one seeking a special authorisation may find it helpful to discuss their particular circumstances at an early stage to seek the Department's advice.

DETR are willing to discuss all aspects of the Regulations but operators and manufacturers should note that DETR cannot offer a legal interpretation.

Revocation of special authorisations

A special authorisation may be revoked if any conditions specified therein are not complied with. Should a vehicle continue to be used as a regulated public service vehicle following revocation of a special authorisation the person operating that vehicle will be guilty of an offence as if no accessibility certificate or special authorisation had been issued.

Form of Application

THE PUBLIC SERVICE VEHICLES ACCESSIBILITY REGULATIONS 2000 APPLICATION FOR A SPECIAL AUTHORISATION	
1	Full name of applicant, company name, address and contact details
2	Vehicle type Weight Maximum number of passengers Date of manufacture Vehicle chassis number and registration mark (if known)
3	Circumstances in which the special authorisation is to apply
4	Relevant requirement from which special authorisation is sought
5	Technical, economic and operational reasons why special authorisation is sought
6	The effect which non-compliance would have on a disabled persons ability to use the vehicles of the description to which the application relates
7	Any measures which could be taken to enable disabled people to use the vehicle if the special authorisation sought is granted
8	Any proposals for later modification of the vehicle(s) to secure compliance with Regulations within a stated period
9	Unless permanent special authorisation sought, the period during which special authorisation is to apply
If there is insufficient space please continue on a separate sheet	

5. Enforcement and Vehicle Inspection

Enforcement

Unless an appropriate special authorisation order is in place, it is a criminal offence (under Section 40(3) of the Disability Discrimination Act 1995) for an operator to use a regulated public service vehicle for a local service or scheduled service if that vehicle does not conform with any relevant provision of the Regulations.

The offence carries a fine not exceeding Level 4 on the standard scale (currently Â£2,500). The offence can be both a corporate and individual one, ie both the operating company and/or an individual responsible (e.g. director, manager or secretary) for a non-compliance with the Regulations can be prosecuted. It is essential, therefore, that everyone involved understands the requirements of the Regulations and their responsibilities. Operating companies may wish to set up training courses to ensure that their staff are briefed fully on their legal obligations.

The 1995 Act does not prescribe any authority as the one responsible for initiating prosecutions. Both the Vehicle Inspectorate and the police may bring prosecutions for non-compliance with vehicle regulation.

The DETR hopes that prosecutions will be unnecessary. However, prosecutions will be considered where systematic abuse of the Regulations has taken place, or where operators deliberately flout the law. It is not envisaged that one-off non-compliances, such as a "stopping" sign not working, would lead to prosecution.

Inspection

The Public Service Vehicles (Conditions of Fitness, Equipment, Use and Certification) Regulations 1981 require all buses and coaches to be issued with a Certificate of Fitness or a Certificate of Conformity if they are to be used as Public Service Vehicles. The Public Service Vehicles Accessibility Regulations 2000 require Public Service Vehicles (except exempt vehicles) which are to be used on a local service or scheduled service to be issued with an accessibility certificate or a conformity certificate relating to certain Schedules of these Regulations. The Vehicle Inspectorate are responsible for the inspection of vehicles for compliance with both these Regulations and for the issue of the appropriate certificates. The majority of Public Service Vehicles will be used on services that require both a Certificate of Fitness and an Accessibility Certificate and therefore such inspections may be conducted concurrently. DETR does, however, expect to continue to be closely involved in advising on projects where new design concepts are used.

Manufacturers are strongly advised to ensure DETR and the Vehicle Inspectorate are kept informed of any proposed designs that could conflict with regulatory compliance. DETR will be pleased to work with all manufacturers to identify any areas where their design may conflict with Regulation compliance. Liaison at an early stage should help to overcome any non-compliance difficulties.

Any non-compliances with the Regulations coming to the attention of DETR officials will be notified to the manufacturer in question but DETR does not accept any liability for any errors or omissions arising from any such observations. It remains the manufacturer's (or operators) responsibility to ensure special authorisation for all non-compliances is sought.

6. Useful Contacts

Mobility and Inclusion Unit Department of the Environment, Transport and the Regions (DETR)

Great Minster House
76 Marsham Street
LONDON
SW1P 4DR

Tel: 020 7944 6100

Fax: 020 7944 6102

The Disabled Persons Transport Advisory Committee (DPTAC)

C/O Secretariat
Great Minster House
76 Marsham Street

LONDON
SW1P 4DR

Tel: 020 7944 8011
Fax: 020 7944 6998

Access & Mobility
Transport for London
Windsor House
42-50 Victoria Street
London
SW1H 0TL

Tel: 020 7941 4600
Fax: 020 7941 4605

Joint Mobility Unit Royal National Institute for the Blind (RNIB)
224 Great Portland Street
London
W1N 6AA

Tel: 020 7388 1266

Royal National Institute for Deaf People (RNID)
19-23 Featherstone Street
LONDON
EC1Y 8SL

Tel: 020 7296 8000

7. Useful Publications

The Disability Discrimination Act 1995 (ISBN No. 0105450952)
Price Â£9.25

The Public Service Vehicles Accessibility Regulations 2000 (SI 2000 No. 1970) (ISBN 0110996003)
- Price Â£5.80

The Road Vehicles (Construction and Use) (Amendment) (No. 2) Regulations 2000 (SI 2000 No. 1971)
(ISBN 0110996011)
- Price Â£1.00

Public Passenger Vehicles Act 1981 (ISBN 0105414816)
- Price Â£8.20

Transport Act 1985 (ISBN 0105467855)
- Price Â£18.60

The Public Service Vehicles (Conditions of Fitness, Equipment, Use and Certification) Regulations 1981
(SI 1981 NO. 257) (ISBN 0110162579)
- Price Â£6.75

The Public Service Vehicles (Conduct of Drivers, Inspectors, Conductors and Passengers) Regulations
1990 (SI 1990 No. 1020) (ISBN 0110040201)
- Price Â£6.00

The Public Service Vehicles (Carrying Capacity) Regulations 1984 (SI 1984 No. 1406) (ISBN
0110474066)
- Price Â£6.00

Above documents are available from The Stationery Office; The Publication Centre, PO Box 276, London
SW8 5DT; Telephone orders: 0870 600 5522/ Fax Orders 0870 600 5533.

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