



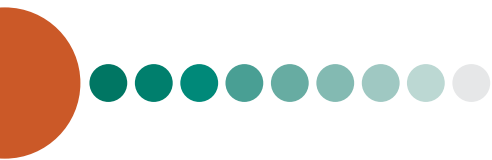
wheels within wheels

a guide to using
a wheelchair on
public transport



Department for
Transport





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wheels within wheels

a guide to using
a wheelchair on
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Public transport is changing. More and more of it can be used without difficulty by wheelchair users. And, probably sooner than you think, all of it will be accessible.

This guide tells you what you can expect from newer trains, coaches, buses and taxis. It has information on how you can find out where accessible services are running and gives tips on travelling in a wheelchair. It lists the key dimensions of the wheelchairs available in the UK at the moment, and tells you which of them will fit onto public transport without hassle.

The law

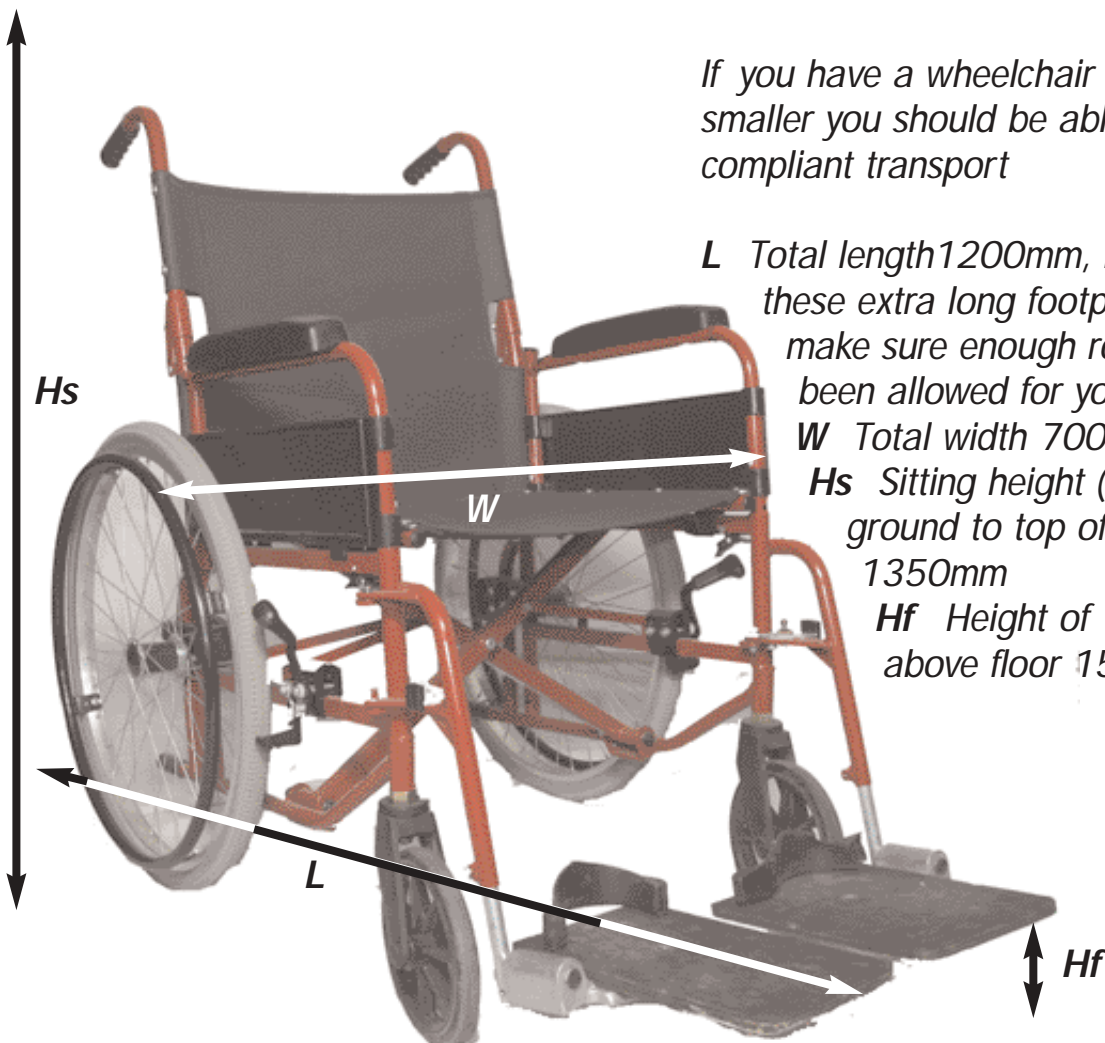
Improvements in the accessibility of public transport have been mostly brought about by a series of requirements which were set following the Disability Discrimination Act (DDA).

The DDA became law in 1995. It made it illegal to discriminate against disabled people on the grounds of their disability. Since 1999 service providers, including those who run airports, ports, train and bus stations, have had to make 'reasonable adjustments' to make them accessible.

From October 2004 all physical obstacles will have to have been removed or a means found of avoiding them in all these places.

Transport *vehicles* are covered in a different way. The DDA gave the Government powers to set standards of accessibility for different types of transport. This has been done for trains, buses and coaches and standards for taxis are being developed.

The regulations set out *minimum* requirements – there is nothing to stop transport operators providing services to an even higher standard.



If you have a wheelchair this size or smaller you should be able to use all compliant transport

- L** Total length 1200mm, including these extra long footplates, which make sure enough room has been allowed for your feet
- W** Total width 700mm
- Hs** Sitting height (from ground to top of head) 1350mm
- Hf** Height of footrest above floor 150mm



Compliant and accessible transport

Buses, coaches and trains that meet the regulations are known as being DDA *compliant*. We refer to them as 'new' and use this symbol for them:



Many buses, coaches and trains built before the regulations came in can also be used by people in wheelchairs, although the standard may not be quite as high. We refer to these vehicles as being accessible, or 'pre-DDA' and use this symbol for them:



This guide describes what wheelchair users can expect from both types of transport. Services are more likely to be accessible than fully compliant at present, but this will change as more new vehicles are introduced. The guide tells you when this will happen for each type of transport.

Wheelchairs

DDA regulations say that new transport should be wheelchair accessible. This means they must have enough space for a specially designed *reference* wheelchair – see left. This is bigger than most wheelchairs, so means that most wheelchair users should have no difficulty. Note that the DDA regulations do *not* apply to scooters and buggys.

Travelling in a wheelchair

Size

If the chair is no bigger than the wheelchair shown opposite, you should be able to use any new and most pre-DDA public transport vehicles.

If your wheelchair is bigger than this get in touch with the transport operator. Although they are not legally obliged to take you, many will make every effort to help. Generally

- if the chair is higher, this should not be a problem, except in taxis – you may have to duck when getting in and out. On some trains tables may be at the wrong height for you
- if your chair is wider you may need to be able to steer very accurately to get into the wheelchair space
- if the chair is longer (because you travel with the backrest reclined or footrests extended, say) manoeuvring into the space may be more difficult.

Safety in buses, coaches and trains

- buses, coaches and trains have a padded backrest for wheelchairs to park against. Place the back of your chair against the padded backrest. Your chair's backrest should be in the upright position so that it fits against this pad
- put on your brakes when in position
- only powered chairs with sealed batteries can be carried. Turn off the power when in place
- do not travel facing sideways.

Maintenance

A transport operator can refuse to carry you if they have reasonable grounds for thinking that your chair may be a safety risk to other passengers. Avoiding this is just a matter of following common sense rules. Make sure that:

- the chair has been correctly maintained
- tyres are at the right pressure
- the back of the chair is not loaded with bags which could cause it to tip over backwards on a ramp
- batteries on a powered chair are secure
- kerb climbers are adjusted so that they do not catch on a ramp.

Scoters and buggies

Transport operators are not legally required to carry scooters or buggies. This is mainly because they may have trouble fitting into spaces designed for wheelchair users. It is also possible that you might get stranded if you cannot get your scooter or buggy into one of the vehicles you need to use for part of your journey.

Ramps

Buses, coaches, some taxis and some trains have ramps.

Manual wheelchairs. The steepness of the ramps you can use will depend on the strength of your pusher. If you propel yourself you will also have to consider any danger of tipping. Ramps on buses slope no more than 8° when

resting on a kerb 125mm high. When unfolded onto the road the slope can be steeper – up to 20°. There may be steeper slopes (no more than 15mm long) where the ramp meets the pavement and where parts of the ramp join.

The angle of ramps used on trains vary with the height of the platform and the type of rolling stock.

Taxi ramps slope from 11° to 29°, depending on the taxi, whether the ramp rests on the pavement or the ground, and on how far the ramp is extended. Some taxis use two *channel* ramps which cannot be used with a 3 wheeled scooter.

Powered wheelchairs. The steepness of slope a chair will go up under its own power varies between models – see Table. You may need to be pushed.





Trains and trams

The regulations

Trains, light railways and trams come under the *Rail Vehicle Accessibility Regulations 1998 and the Rail Vehicle Accessibility (Amendment) Regulations 2000*.

When from?

Broadly, new trains have had to meet these regulations since 1999. Train companies can apply for exemption, but they have to have very good reason for doing so. Any exemption may only be allowed for a short time.

All trains should be accessible in the next 2-3 years, and a third should be compliant by then. All trains should be compliant by 2040. Note that these dates are estimates and may change. Also see *Stations* on page 6.



New trains and trams what you can expect

Wheelchair spaces. At least one on every train, with more on longer trains – for example trains with 12 or more carriages have up to 4 spaces.

Information. The destination is shown on the inside and outside of the train, and is also announced.

Doors. Trams and rapid transit systems have floors which are level with the platform so there is no need

for a ramp or lift. On other trains there is a lift or, more often, a ramp. Most are portable and fitted by station staff. This will be arranged when you book your journey.

Doors which are large enough for wheelchair users are marked by this symbol:



An audible signal and a light tell you when the door can be opened or closed. Door controls are easy to reach from a wheelchair and are easy to see. Doors open by power and the controls need only a light touch.

Inside. The passage from the door to the wheelchair area is at least 850mm wide. There is space to turn. Internal doors are automatic or only need a light touch to open them. Handrails and handholds are in contrasting



colours so they are easy to see. The wheelchair area will be at least 1300mm long by 750mm wide. There is a backrest to park against or there will be some other way of making sure that the chair does not tip. The space will be fitted with some way of attracting attention in an emergency. If the carriage has a telephone, it will be reachable from a wheelchair. If it isn't in reach a mobile phone will be lent to you if you ask.

Toilets. The nearest toilet to the wheelchair space is accessible.

Catering. If the buffet or restaurant is not accessible, you will be served at your seat.

Substitute transport. If a train is replaced by a bus or other transport, it

will be accessible unless it had to be provided at short notice. In this case the train company should provide an accessible taxi at no extra cost to you.

Travelling on. Station staff should be able to give you information about accessible connecting services.

Stations. City terminals and larger stations are accessible to wheelchair users. However it will be many years before all stations are accessible. Get in touch with your local train operator for details of stations on their routes. Until they are all accessible you may not be able to use the station nearest your destination or may need help once there.

NRES (see page 12) aim to be able to provide information on the accessibility of all stations in future.



Accessible Services

Some newer light railway, tram and metro systems are entirely accessible. These are

- Birmingham Midland Metro
- Croydon Tramlink
- Docklands Light Railway
- Manchester Metrolink
- Merseyrail Underground (although some stations are difficult for wheelchairs)
- Midland Metro
- Sheffield Super Tram
- Tyne and Wear Metro



Pre-DDA trains

what you can expect

The days of sitting in the guards van are nearly over. Trains with slam doors are now only found in SE England and should be gone in the next 2-3 years.

Almost all mainline InterCity, suburban and cross-country trains, trams and light rapid transit systems have wheelchair spaces. Those on InterCity trains and some long distance regional trains are only slightly smaller than those on new rolling stock. Many trains have wide exterior doors and automatic interior doors. They have ramps on board or these are provided by platform staff. Some have been fitted with accessible toilets – sizes and layouts vary and space may be tight. Check with the train operating company.

Suburban and short distance regional trains usually have sliding doors and spaces for wheelchair users in the vestibule.



Buses

The regulations

Buses which carry more than 22 passengers come under the *Public Service Vehicles Accessibility Regulations 2000*.

When from?

Broadly, since 2001 all *new* buses used on local and scheduled services have had to meet these regulations, except for smaller single deck buses which don't have to be wheelchair accessible until 2005.

The speed at which older buses are being replaced by new accessible buses varies from area to area and from route to route. Buses are sometimes switched between routes so the proportion of accessible buses will also vary from time to time.

However all single decker buses will be accessible by 2016 and all double deckers will be accessible a year later.



New buses

what you can expect

Doors. Low floor buses have ramps. In towns they are often powered and worked by the driver. In the country, ramps may have to be unfolded by hand by the driver. Ramps slope no more than 8° when resting on the pavement. A few buses with higher floors have lifts.

Doors are at least 800mm wide, and gangways at least 750mm wide. Floors will be flat or the slope will be no more than 5° in the doorway area and 3° elsewhere.

Wheelchair space. There is at least one space for a wheelchair user. It is at least 1300mm long by 750mm wide, with headroom of at least 1500mm. You may need to manoeuvre your wheelchair back and forwards to get into the space. It has a vertical pole and other grab rails which you can use to steady yourself while travelling. The wheelchair space may have a folding seat which other passengers can use. However wheelchairs have priority. The seat will



be easy to fold up, even if you have restricted movement or strength.

In most buses you sit facing backwards. There is a padded backrest to stop you tipping, shaped so that the wheelchair's handles and wheels should pass on either side of it. You don't have to secure the chair or wear a seat belt.

A few buses have wheelchair spaces in which you face forwards. In these the wheelchair needs to be secured. The fixings may vary slightly from bus to bus but they are all easy to use and there are instructions. They all have webbing which you hook on to the frame of your wheelchair and then tighten to hold the chair in place. The driver should check that your wheelchair is properly secured and will help you fasten it down if you wish. These buses also have seat belts.

Bells. The bell push can be worked by the palm of the hand. There is one in reach of the wheelchair space.

Handrails and handholds. There are vertical handholds at regular intervals and horizontal rails in some places. Entrances and exits have rails on both sides.

Route and destinations are shown on the front, side and back of the bus. They can be easily seen – route numbers are at least 200mm high and destinations are shown in letters at least 125mm high in front and 70mm high on the side of the bus.



Pre-DDA buses

what you can expect

Some buses have lower steps, easy to grip handholds, non-slip floors and bright lighting. Many have easy to use bell pushes and clear stopping signs. There are seats for older and disabled people. Some larger towns have low floor buses, although not all of them are accessible to wheelchair users. Those that are have a ramp.

Help

Within reason, drivers will help a disabled person get on or off a bus. A few bus companies have *helping hand schemes* – volunteers who help you on and off or even travel with you for the journey. Someone on hand to help can be very useful on buses which are not wheelchair accessible if you can get out of your wheelchair and it is a type which folds. Contact your local bus company to see if they can help.

Post buses

These carry passengers as well as delivering mail. They use estate cars, 4x4s or minibuses so most are not accessible for wheelchair users. However the number that are accessible is growing. There is no list of accessible services but you can get details of routes and timetables:
Tel: 08457 740740
Text: 0845 6000606

Coaches

The regulations

Coaches on local and scheduled services have to meet the same regulations as buses, but see below.

When from?

New coaches that carry more than 22 passengers have to be compliant from 2005 and all coaches will be compliant by 2020. Currently only one scheduled service is accessible in a wheelchair – see page 13.



New coaches

See the details for buses, page 7. The main differences are

- The wheelchair space faces forward and has an anchoring system for the wheelchair and a passenger's seatbelt
- Entrances, exits and gangway floors will not slope more than 5°.



Taxis



Regulations for licensed taxis are in the pipeline but it will take some time before new taxis are introduced.

Although regulations have not yet been agreed many licensed cabs are already wheelchair accessible. Other useful features they have may include good lighting (inside the cab, around the fare window and around the door), easy to use door handles and induction loops.



Other taxis. The new regulations are likely to allow existing cabs to be used for a number of years if they have

accessible features. These may include

- a swivel seat
- a step
- doorways at least 680mm wide and 1170mm high
- wheelchair areas at least 700mm x 1200mm with minimum headroom of 1310mm.

However in some areas taxis may be allowed which do not meet these standards – for example if applying the regulations too strictly might lead to a reduction in the number of taxis.

Taxis outside London. Some local authorities will only give new licenses to cabs which can carry wheelchairs. In many cases taxis in these areas will use the same vehicles as in London – see table below for dimensions. Elsewhere they may use adapted people carriers or vans. There are no

London taxis. From January 2000 all licensed London taxis have had to be wheelchair accessible. There are three versions of the London 'black cabs'.

Key dimensions are:

	Fairway	Metrocab II	TXI & TXII
width of door	640	650	800
height of door	1170	1240	1370
internal height	1300	1300	1400
length of ramp	888-1540	900-1590	700- 1250
angle of ramp – to kerb	18-11	16-10	17-11
angle of ramp – to ground	28-16	24-14	29-17

TX cabs also have a swivel seat and an extra step and are fitted with an induction loop. Drivers will help disabled passengers get in and out if asked.



minimum standards for these, but they are likely to have at least the same amount of room for wheelchairs as London cabs. Some van conversions may be bigger and will take two wheelchairs. To find out what is available in a particular area, contact Tripscope (page 16).

Minicabs

Minicabs, or private hire cars, come outside the proposed regulations, and mostly use saloon cars. However some companies may have accessible vehicles – check with the company, under *taxis* in the phone book.

Safety in taxis

Some taxi drivers have been concerned that wheelchairs might not be strong enough to stand up to an accident. However research suggests that you should be safe if you travel in the right position, secure the chair and wear a seat belt. Never sit sideways.



Putting it to the test

Many disabled and older people assume that public transport is too difficult to use. Some have been put off by bad experiences. If you want to try the service ask the bus or train company to tell you what they offer. Some arrange tours or visits to demonstrate what they can do.

If you haven't used public transport before or haven't used it for some time pick a quiet time to travel for your first journey, such as the middle of the day. There will be more space, less rush and staff will have more time if you need help. If you are worried about the journey, start by travelling with a companion. And

- plan ahead
- make sure you have information for each link in the transport chain
- if you are likely to need help, tell the transport operator well in advance – give at least 24 hours notice
- check with transport companies that toilets are accessible.

Information and booking a journey

Eventually all public transport will be fully accessible. Until then you will need to check out any new journey before you travel. Information is provided by different organisations:

- *Local authorities* are responsible for the public transport networks in their area. They should know what accessible services exist. They also know about concessionary fares.

Some areas have a Passenger Transport Executive (PTE) who should be able to provide information about the transport in your area. There may be a transport information officer,

Some local authority websites gives transport information.

Some areas have access guides to transport as well as buildings.

Contact your town hall for more detail.

- Local disability information information agencies (look under *disability* in the phone book) should have up to date information about local transport.

- *Transport operating companies* should be able to tell you what type of vehicles they operate on each route, and when any wheelchair accessible services are running. In many cases these will follow a regular pattern so there may be no need to get in touch for every journey. Look under the name of the company in the phone book or contact the town hall if you don't know the name.

- *Tripscope* (see page 16) can provide information about any individual journey.

- *Traveline* can give timetable information for local and national journeys made on bus, coaches and trains in England, Scotland and Wales. They have details on accessibility. It's open 8am to 8pm, and calls are charged at national rates.

Tel: 0870 608 2 608

Text: 0870 241 2216

www.traveline.org.uk

In Northern Ireland contact Disability Action for transport information:

Portside Business Park
189 Airport Road West
Belfast BT3 9ED

Tel : 028 9029 7880

Text : 028 9029 7882

Fax : 028 9029 7881

e-mail: tac@disabilityaction.org

www.disabilityaction.org

Booking

Trains

To make a journey in a wheelchair you need to make a reservation through the train operating company's helpline for disabled people. To find the number look under *Trains* in the phone book or phone the National Rail Enquiry Service (NRES). It's open 24 hours a day:

Tel: 0845 7 48 49 50

Text: 0845 60 50 600

www.nationalrail.co.uk

In future NRES should be able to transfer you to the train operating company directly. Until then they will give you the number to call. The train operating company will arrange for you to travel and provide reasonable assistance at the station.

Buses

With buses it's more a matter of waiting than booking. Bus operators should have timetables which show clearly which services are accessible. In some



cases all the buses on a particular route will be accessible, so you just wait for the next one. On other routes there will be a mixture of buses – ask the transport operator what proportion are accessible and how long, on average, you will have to wait for one.

Coaches

In spring 2003 there was only one accessible coach service. It runs from Bath to Victoria Coach Station via Heathrow Airport. It is being run to help find out how accessible services might work in future. For more information, and to find out if more accessible services have been introduced since this guide was published contact:

Additional Needs Unit
National Express
PO Box 9854
Birmingham B16 8XN
Tel: 0121 423 8479
text: 0121 455 0086
email:
additionalneeds@nationalexpress.co.uk
www.nationalexpress.co.uk

Concessions

You may be entitled to reduced fares on public transport.

- for buses, your local authority may run a Disabled Persons Concession scheme. Contact the council's transport information officer or the local Passenger Transport Executive
- your local authority may have a taxi scheme, which means cheaper taxi fares. Conditions and rates vary –

contact your local authority for details. For information on the London scheme contact ALG Taxicard:

New Zealand House
80 Haymarket
London SW1Y 4TZ
Tel: 020 7484 2929
fax: 020 7484 2919
www.taxicard.org.uk

- the Disabled Person's Railcard, gives you to up to a third off a standard fares. It costs £14 per year.

Tel: 0191 269 0303
text: 0191 269 0304
www.disabledpersons-railcard.co.uk

Reporting back and complaining

Transport companies are trying to make their services accessible. They want your custom. Accessible vehicles are only part of the story and travelling can be difficult if staff have not been properly trained, or if some of the facilities you need are poor. There have been a few cases where disabled people have been refused help or been poorly treated in some other way.

If you think you have been unfairly treated make this known so that whatever has caused the problem can be put right. In some cases transport companies may be unaware of the difficulties caused by their policies. Similarly if the service is good, tell them. Information about your experiences, good and bad, will help them get their services right.

If the transport company is not helpful, contact one of these organisations:

● for complaints about buses go to:
(England and Wales) National Federation of Bus Users
Tel: 0239281 4493
Fax: 0239286 3080
www.nfbu.org

London Transport Users Committee
Tel: 0207 505 9000
Fax: 0207 505 9003
www.ltuc.org.uk/complaints

(Northern Ireland) General Consumer Council, Northern Ireland
Tel: 0845 6016022
www.gccni.org.uk/complaints

(Scotland) Bus Users Complaints Tribunal, Scotland
Tel: 0131 2285478
Fax: 0131 2285497

● for complaints about taxis go to your local Authority's Licensing Officer. In London, contact:
Tel: 0207 941 7800
Fax: 0207 941 7894
www.tfl.gov.uk/pco

● for trains contact the Rail Passengers Council to get details of your local Rail Passengers Committee.
Tel: 020 7713 2700
Fax: 020 7713 2729
www.railpassengers.org.uk
In Northern Ireland contact the General Consumer Council – see above.

Door to door and other transport

Although outside the scope of this guide, there are several door to door transport services which carry passengers in a wheelchair. For more information about these contact Tripscope (page 16), a local disability information service (look under disability in the phone book) or one of the organisations listed on page 15.

Organised by voluntary groups

Voluntary groups often offer door to door transport services for local trips and sometimes for longer journeys. Vehicles vary from ordinary cars to wheelchair accessible minibuses. You have to make arrangements in advance and pay a small amount towards the cost. Community Transport (page 15) have vehicles they hire out for such journeys.

Dial a ride services

Many areas have these. They may be operated by the local authority, transport operator or by a voluntary organisation. Vehicles will be accessible and can take you door to door. You have to book in advance. Fares will be low – probably similar to the bus fare for a journey over a similar distance. Generally you cannot use these service for journeys for which there is alternative transport and they cannot be used for trips you have to do every day, such as getting to work. Contact your local authority, Community Transport (page 15) or Tripscope (page 16).

Information, help and advice

British Healthcare Trades Association

The BHTA is a trade association that represents the companies that provide products and other specialist healthcare for disabled people. Most of the manufacturers of wheelchairs are members.

1 Webbs Court
Buckhurst Avenue
Sevenoaks
Kent TN13 1LZ
Tel: 01732 458868
Fax: 01732 459225
email: bhta@bhta.com
www.bhta.com

Community Transport Association

The Community Transport Association is the national representative body of the voluntary sector organisations which provide transport, including dial-a-ride services, minibus transport, the hire of vehicles and private car schemes. For information about any of these contact.

Highbank
Halton Street
Hyde
Cheshire SK14 2NY
Tel: 0161 366 6685
Fax: 0161 351 7221
email: ctauk@communitytransport.com
www.ommunitytransport.com

England & Wales:
Tel/fax: 0161 367 8780
email Advice@communitytransport.com
Scotland
Tel/fax: 01674 677443
email: lain@communitytransport.com
Northern Ireland
Tel/fax: 028 9040 3535
e-mail: brian@communitytransport.com

Disabled Living Foundation

The DLF provides comprehensive information about equipment and services for disabled people, and on much else. Free factsheets on wheelchairs and scooters are available in print and can be downloaded from their website.

Disabled Living Foundation
380-384 Harrow Road
London W9 2HU
Helpline: 0845 130 9177
10-1pm weekdays; calls charged at local rate
Text: 0207 432 8009
Fax: 020 7250 0212
email: info@dlf.org.uk
www.dlf.org.uk

Holiday Care

Provides information to help disabled and older people to make independent holiday and travel arrangements. Where possible they try to find accessible accommodation and travel services that are open to all rather than only for disabled people.

They inspect accommodation in the UK and can make reservations for you



in B&Bs, farmhouses, hotels and in self catering accommodation.

Holiday Care Information Unit
7th floor, Sunley House
4 Bedford Park
Croydon, Surrey CR0 2AP
Tel: 0845 124 9971
Text: 0845 124 9976
Fax: 0845 124 9972
email: holiday.care@virgin.net
www.holidaycare.org.uk

Mobility Centres

Mobility centres give practical advice and carry out assessments. They are well informed on most mobility and disability issues. Each centre has friendly and expert staff and they are independent. There are over 20 centres in the UK. Contact:

Mobility and Vehicle Information Service (MAVIS)
Tel: 01344 661000
Fax: 01344 661066
email: mavis@dft.gov.uk
www.mobility-unit.dft.gov.uk

Mobility & Inclusion Unit

Part of the Department for Transport. They provide information on public and private transport, on legislation and on your rights as a traveller with a disability as well as about the DDA and transport.
Department for Transport
Zone 1/18, Great Minster House
76 Marsham Street
London SW1P 4DR

Tel: 020 7944 3277
Fax: 020 7944 6102
email: miu@dft.gsi.gov.uk
www.mobility-unit.dft.gov.uk

Shopmobility

You can borrow a manual or powered wheelchair from a Shopmobility scheme. Most are based in shopping centres. You may have to pay a small one-off hire fee for the hire of the wheelchair, or an annual membership charge, but the service is free.

National Federation of Shopmobility
12 City Forum
250 City Road
London EC1V 8AF
Tel: 020 7689 1040
Fax: 020 7689 1041
nfsuk@lineone.net
www.justmobility.co.uk/shop

Tripscope

Tripscope can tell you about accessible scheduled transport services, door to door transport and provide any other information you need to plan any kind of journey. They can also answer other questions about mobility. You pay only for the cost of the phone call, which is charged at local rates.

The Vassall Centre
Gill Avenue
Bristol BS16 2QQ
Tel/text: 08457 58 56 41
Fax: 0117 939 7736
email: enquiries@tripscope.org.uk
www.tripscope.org.uk



How to use the Table

Sizing up

The Table gives the sizes of manual and powered outdoor and indoor/outdoor wheelchairs available in the UK. Chairs which are custom built and sports models have not been included. Measurements are given to the nearest 5 millimetres. Information has been provided by manufacturers, and has been checked with them.

Key

Manufacturer and model

Model names are those used the manufacturer – we've given them in full.

Width

Where a range is given, the width of the chair can be adjusted.

Length

The minimum length of the wheelchair with the backrest in the upright position and leg rests at an angle of 90°. It includes handles or any other fittings which affect length.

Height

The height of the chair to the top of the backrest. Figures in brackets are the height with the headrest.

Turning radius

The minimum space needed to turn the chair 180° to face the other way, with the backrest upright and leg rests at 90° (or the closest position the chair can get to it).

Maximum weight carried

The heaviest weight the chair can safely carry.

Steepest slope chair can go up

The Table gives the maximum gradient manufacturers say the chair can go forwards without tipping. For powered chairs the figure represents the maximum slope that the chair will climb under its own power.

Possible problems

We asked each manufacturer if their chairs could be used on public transport and compared the chair's measurements with the space available on public transport vehicles:

Handles Manufacturer says handles are too narrow for chair to fit against backrest on buses or trains.

Box Manufacturer says the control box stops chair resting against backrest on buses or trains.

Pole Wheelchair may be too wide for buses, coaches or trains if the vertical pole is placed at the minimum permitted distance of 740mm.

Length Wheelchair may be too long for some buses, coaches or trains.

Taxis Wheelchair may be too wide, or too high to get into the cab with its headrest in place. This is based on the height of the wheelchair – you will also have difficulty in other models if you can't bend enough to get through the door.

Taxi F – Fairway

Taxi M – Metro II

Taxi T – TX1 or TXII

Width Wheelchair may be too wide for some buses, coaches or trains.

(Width) Wheelchair may be too wide if chair adjusted to its widest setting.

Manufacturer	Model	Width [mm]	Length [mm]
MANUAL CHAIRS			
Days Medical Aids	238/23 Manual Steel	635	790
Days Medical Aids	218/23 WHD Manual Steel	680	1070
EV Technology / Genemax	Millenium Glide	660	1110
HandiCare	Cirrus Jubilee Narrow	610	1170
IDC Lifestand	Adult	630	1090
IDC Lifestand	Large	670	1090
Independence Technology	iGLIDE	630	880
Invacare	Zipper 2 S / 2 T	660	1105
Invacare	Zipper S / T	660	1070
Invacare	Imperial Heavy Duty	730	1145
Invacare	Imperial	675	1095
Invacare	Ben 9	610	940
Invacare	Ben 8	580	1015
Karma Medical Products	Adult Recliner KM-5000Q24.20	720	1250
Karma Medical Products	Adult Recliner KM-5000Q24.18	670	1250
Karma Medical Products	Adult Recliner KM-5000Q24.17	635	1250
Karma Medical Products	Adult Recliner KM-5000Q24.16	620	1250
Karma Medical Products	Swallow KM-6520Q24	660	1160
Karma Medical Products	Robin KM-1500Q24	690	1050
Karma Medical Products	Robin KM-1510Q24	690	1050
Karma Medical Products	Soma 150Q24	690	1050
Lomax Mobility	SA	575 - 725	840
Lomax Mobility	Easy	610	990
Lomax Mobility	Volant Standard	600 - 695	1040
Lomax Mobility	Active Folding Sport (Volant Sport)	560 - 710	970
Lomax Mobility	Active Folding (Volant Folding)	550 - 700	1010
Lomax Mobility	Uni 8	650	1030
Lomax Mobility	Uni 9	600	1020
Millbrook Healthcare	Merlin	660	1168
Ortho-Kinetics	MG200	670	1080
Ortho-Kinetics	MG400	640	1112
Ortho-Kinetics	MG400T	590	950
Ortho-Kinetics	OK600	640	1060
Ortho-Kinetics	T1000	615	900
Otto Bock HealthCare	Start Basic	580 - 775	1010
Otto Bock HealthCare	Start Plus	560 - 755	900
Otto Bock HealthCare	Start Hemi	560 - 755	855
Otto Bock HealthCare	Start Multi	560 - 755	855
Panthera	U2	620	830
Panthera	S2	620	830



Height of chair (with headrest)	Turning radius [mm]	Max weight carried [kg]	Steepest slope chair can go up [degrees]	Possible problems
910	990	115	12	
910	1030	140	12	taxi M F
980	690	137	15	taxi M F
1070 (1270)	1000	140	9	taxi M F, length
1110	1200	143	20	
1110	1200	144	20	taxi M F
720	900	100	6	
940	800	132	15	taxi M F
940	800	113	15	taxi M F
960	860	192	12	taxi M F
930	920	120	12	taxi M F
965	790	124	11.5	
965	750	126	10.5	
940 (1300)	970	115	12	taxi M F, length, handles
940 (1300)	970	115	12	taxi M F, length, handles
940 (1300)	970	115	12	length, handles
940 (1300)	970	115	12	length, handles
965	850	115	12	taxi M F, handles
920	780	115	12	taxi M F
920	780	115	12	taxi M F
920	780	115	12	taxi M F
920	760	115	11	taxi M F
960	740	108	13	
910	730	115	9	taxi M F
940	670	115	11	taxi M F
930	700	115	8	taxi M F
960	750	115	12	taxi M F
960	760	115	13	
940	750	115	12	taxi M F
980	1550	100	10	taxi M F
980	1700	100	10	taxi F
940	800	100	10	
900	800	120	10.5	taxi F
980	1000	100	10	
920	720	120	7	taxi M F, (width)
775	610	120	7	taxi F, (width)
780	565	120	7	taxi F, (width)
780	565	120	7	taxi F, (width)
840	660	95	7.5	
840	660	95	7.5	

Manufacturer	Model	Width [mm]	Length [mm]
MANUAL CHAIRS <i>continued</i>			
Panthera	STD	620	830
Remploy	Ranger 8TRL 17	635	1040
Remploy	Ranger 8TRL 18	660	1040
Remploy	Ranger 9TRL 17	635	915
Remploy	Ranger 9TRL 18	660	915
Remploy	Ranger 9TRL 19	685	915
Remploy	Folding Roller 16.14	585	940
Remploy	Folding Roller 16.15	610	940
Remploy	Folding Roller 16.16	635	940
Remploy	Folding Roller 16.17	660	940
Remploy	Folding Roller 16.18	685	940
Remploy	Roller 14.12	540	940
Remploy	Roller 14.14	565	940
Remploy	Roller 14.15	595	940
Remploy	Roller 14.16	615	940
Remploy	Roller Rider 14H.16	615	990
Remploy	Roller Rider 14H.17	640	990
Remploy	Roller Rider 14H.18	655	990
Remploy	Ranger 800	650	1040
Remploy	Ranger 900	610	990
Remploy	Access O6A17	650	1040
Remploy	Access O6A18	675	1040
Remploy	Access O6A19	700	1040
Remploy	Access Heavy Duty 06H18	675	1040
Remploy	Access Heavy Duty 06H19	700	1040
Remploy	Access Heavy Duty 06H20	725	1040
Remploy	Access Heavy Duty 06H22	775	1040
Remploy	Access Heavy Duty 06H24	825	1040
Remploy	Access Actilite 07A17	650	1015
Remploy	Access Plus 06PH18	675	1040
Remploy	Access Plus 06PH19	700	1040
Remploy	Access Plus 06PH20	725	1040
Remploy	Access Plus 06PH22	775	1040
Remploy	Access Plus 06PH24	825	1040
Remploy	Stowaway 05.31 16 seat width	570	915
Remploy	Stowaway 05.31 17 seat width	595	915
Remploy	Stowaway 05.41 16 seat width	570	940
Remploy	Stowaway 05.41 17 seat width	595	940
RJ Mobility	Barrett 7	635	1050
RJ Mobility	Barrett 10	635	1050



Height of chair (with headrest)	Turning radius [mm]	Max weight carried [kg]	Steepest slope chair can go up [degrees]	Possible problems
840	660	95	7.5	
940	1070	112	15	
940	1070	112	15	taxi M F
940	1070	112	12	
940	1070	112	12	taxi M F
940	1070	112	12	taxi M F
915 - 1020	890	112	16	
915 - 1020	890	112	16	
915 - 1020	890	112	16	
915 - 1020	890	112	16	taxi M F
915 - 1020	890	112	16	taxi M F
940	735	112	15	
940	785	112	15	
940	815	112	15	
940	840	112	15	
940	840	136	15	
940	915	136	15	taxi F
940	965	136	15	taxi M F
940	1050	112	15	taxi M F
940	1070	112	12	
940	1070	112	15	taxi M F
940	1070	112	15	taxi M F
940	1070	112	15	taxi M F
940	1095	135	12	taxi M F
940	1095	135	12	taxi M F
940	1095	135	12	taxi M F
940	1095	135	12	taxi M F T, pole
940	1095	135	12	taxi M F T, width, pole
940	1045	112	12.5	taxi F
940	1095	135	12.5	taxi M F
940	1095	135	12.5	taxi M F
940	1095	135	12.5	taxi M F
940	1095	135	12.5	taxi M F T, width, pole
940	1095	135	12.5	taxi M F T, width, pole
940	990	100	16	
940	990	100	16	
940	990	100	16	
940	990	100	16	
890	550	130	30	
890	550	130	30	

Manufacturer	Model	Width [mm]	Length [mm]
MANUAL CHAIRS <i>continued</i>			
RJ Mobility	Barrett 101	640	1000
RJ Mobility	Maxi	660	1000
RJ Mobility	Meteor	690	1000
RMS	Gillingham Tilt-in-Space 16" SWB	550 - 700	1015
RMS	Gillingham Tilt-in-Space 16" LWB	550 - 700	1065
RMS	Gillingham Tilt-in-Space 18" SWB	600 - 750	1015
RMS	Gillingham Tilt-in-Space 18" LWB	600 - 750	1065
Roma Medical / Invamed	Deluxe 1418	620	1030
Roma Medical / Invamed	Standard 1110	635	1070
Roma Medical / Invamed	Standard 1210	635	1070
Roma Medical / Invamed	Standard 1410	635	1070
Roma Medical / Invamed	Heavy Duty 1472	710	1140
Roma Medical / Invamed	Standard 1415	635	1070
Roma Medical / Invamed	Lightweight 1300/FB	680	1080
Roma Medical / Invamed	Lightweight 1107/FB	680	1080
Shine International	WA-2710 Kinrin Lightweight	655	1065
Shine International	WA-2170 Wayney	660	1105
Shine International	WA-2350 Haveton	580	985
Shine International	WA-2150 Lenons	630	1005
Sidhil	Tommy	520	790
Sidhil	Budget	650	1120
Sidhil	Impuls Vario	640 - 670	1110
Sidhil	Impuls XX	735	1000
Sidhil	Avanti	650	1020
Sidhil	XL	650	870
Sunrise Medical	Quickie RXS	740	990
Sunrise Medical	Quickie GP range	685	880
Sunrise Medical	Quickie 2	670	990
Sunrise Medical	Quickie 2 Millenium	610	1000
Sunrise Medical	Quickie Revolution	675	815
Sunrise Medical	Quickie Classic 100	700	1150
Sunrise Medical	Quickie Classic 160	700	1150
Sunrise Medical	Quickie Easy Max	700	1015
Worldwide Mobility	Freedom	650	1120
Worldwide Mobility	Economy	590	900



Height of chair (with headrest)	Turning radius [mm]	Max weight carried [kg]	Steepest slope chair can go up [degrees]	Possible problems
980	550	130	30	taxi F
940	550	202	30	taxi M F
760	450	116	30	taxi M F
1015 (1315)	1015	102	11	taxi M F T
1015 (1315)	1015	102	11	taxi M F T
1015 (1315)	1015	102	11	taxi M F T, (width), pole
1015 (1315)	1015	102	11	taxi M F T, (width), pole
890	910	114	12	
890	915	114	12	
910	915	114	12	
910	915	114	12	
910	965	135	12	taxi M F
910	915	114	12	
890	910	110	12	taxi M F
830	910	110	12	taxi M F
955	535	130	12	taxi M F
920	550	134	12	taxi M F
970	490	128	12	
940	505	130	12	
850	1200	120	12	
910	1500	140	12	taxi M F
900	1600	145	12	taxi M F
950	1770	182	12	taxi M F
980	1600	136	12	taxi M F
850	1330	131	12	taxi M F
915	710	113	10	taxi M F, pole
845 - 935	605	113	10	taxi M F
915	720	113	10	taxi M F
920	720	113	10	
850 - 1105	580	113	10	taxi M F
1000	720	125	10	taxi M F
1000	720	125	10	taxi M F
1010	750	120	10	taxi M F
950	1000	115	10	
940	1000	100	10	

Manufacturer	Model	Width [mm]	Length [mm]
MANUAL CHAIRS (to be pushed by someone else)			
Autoadapt	Carony [Z]	620	1175
Constables Mobility	CarChair Classic [A]	585	1080
Karma Medical Products	Adult Recliner KM-5000F14.20	680	1255
Karma Medical Products	Adult Recliner KM-5000F14.18	640	1255
Karma Medical Products	Adult Recliner KM-5000F14.17	615	1255
Karma Medical Products	Adult Recliner KM-5000F14.16	585	1255
Karma Medical Products	Swallow KM-6520F12	660	1140
Karma Medical Products	Robin KM-1500F14	650	970
Karma Medical Products	Robin KM-1510F14	650	970
Karma Medical Products	Soma 150F14	650	970
Lomax Mobility	Genie	580 - 650	1030
Lomax Mobility	Classic	480 - 630	980
Remploy	Access 06A17	610	990
Remploy	Access 06A18	635	990
Remploy	Access 06A19	660	990
Remploy	Access Heavy Duty 06H18	675	995
Remploy	Access Heavy Duty 06H19	700	995
Remploy	Access Heavy Duty 06H20	725	995
Remploy	Access Heavy Duty 06H22	775	995
Remploy	Access Heavy Duty 06H24	825	995
Remploy	Access Actilite 07A1	610	965
Remploy	Access Plus 06PH18	675	995
Remploy	Access Plus 06PH19	700	995
Remploy	Access Plus 06PH20	725	995
Remploy	Access Plus 06PH22	775	995
Remploy	Access Plus 06PH24	825	995
Remploy	Stowaway 05.21 16 seat width	570	915
Remploy	Stowaway 05.21 17 seat width	595	915
Roma Medical / Invamed	Deluxe Transit 1419	450	1000
Roma Medical / Invamed	Standard Car Transit 1430	620	890
Roma Medical / Invamed	Standard Car Transit 1435	620	890
Roma Medical / Invamed	Standard Car Transit 1130	620	890
Roma Medical / Invamed	Lightweight Car Transit 1106/FB	600	940
Roma Medical / Invamed	Lightweight Car Transit 1232	600	900
Roma Medical / Invamed	Heavy Duty Car Transit 1485	790	910
Worldwide Mobility	Economy	590	900
Worldwide Mobility	Freedom	650	1120
Worldwide Mobility	Supalite	495	845



Height of chair (with headrest)	Turning radius [mm]	Max weight carried [kg]	Steepest slope chair can go up [degrees]	Possible problems
1025 (1300)	590	100	11	taxi M F T
920 (1300)	1000	115	12	taxi M F T
940 (1300)	1000	115	12	taxi M F T, handles
940 (1300)	1000	115	12	taxi M F T, handles
940 (1300)	1000	115	12	taxi M F T, handles
940 (1300)	1000	115	12	taxi M F T, handles
990	910	115	12	taxi M F T, handles
935	780	115	12	taxi M F
935	780	115	12	taxi M F
935	780	115	12	taxi M F
1100	810	133	7	taxi M F
920	790	115	11	
940	1070	112	15	
940	1070	112	15	
940	1070	112	15	taxi M F
940	1095	135	13	taxi M F
940	1095	135	13	taxi M F
940	1095	135	13	taxi M F
940	1095	135	13	taxi M F, width, pole
940	1095	135	13	taxi M F T, width
940	1045	112	13	
940	1095	135	13	taxi M F
940	1095	135	13	taxi M F
940	1095	135	13	taxi M F
940	1095	135	13	taxi M F, width, pole
940	1095	135	13	taxi M F T, width, pole
940	990	100	16	
940	990	100	16	
890	910	114	12	
910	875	114	12	
910	875	114	12	
910	875	114	12	
890	910	110	12	
930	910	110	12	
965	965	135	12	taxi M F
940	1000	100	10	
950	1000	115	10	taxi M F
925	1000	80	10	

Manufacturer	Model	Width [mm]	Length [mm]
POWERED CHAIRS			
Adaptachair	Drive From	615	1080
Aldersley Battery Chairs	Excel	790	900
Aldersley Battery Chairs	Mini T	635	1080
Aldersley Battery Chairs	Senior	710	1270
Aldersley Battery Chairs	Mini	710	880
Aldersley Battery Chairs	Mini S	710	880
Balder	Finesse F280	640	885
Balder	Finesse F290	640	885
Balder	Liberty L280	640	885
Balder	Liberty L290	640	885
Bruno	PWC 2210	610	985
Bruno	PWC 2200	610	985
Chaswheel	4X	680	1000
Constables	CarChair Classic PWR [A]	585	1020
Constables	CarChair Classic Electric [A]	585	1080
Dan Medica	HandiVipp	600 - 730	1700
Days Medical Aids	Kestrel 738-23FB	640	1120
Easy Care	Genie	560	1440
Electric Mobility Euro	Viva X48	680	1100
Electric Mobility Euro	Turnabout	620	1050
Electric Mobility Euro	Lil Viva 250 PC	600	1010
Euroflex	DX Compact	620	870
Euroflex	Miniflex	580	740
Euroflex	Flexmobil	570	820
IDC Lifestand	Adult	630	1090
IDC Lifestand	Large	670	1090
Invacare	Spectra Plus	690	1070
Invacare	Phoenix	705	1120
Invacare	Phoenix Plus	705	1120
Invacare	Harrier Heavy Duty	640	1040
Invacare	Harrier Plus	640	1040
Invacare	Apollo indoor / outdoor MK I	640	950
Invacare	Apollo indoor / outdoor MK II	640	950
Karma Medical Products	KP-25 Falcon	650	1140
Karma Medical Products	KP-25 Pathfinder	650	1140
Lomax Mobility	Modular Vitesse range	660 - 710	1125
Lomax Mobility	Modular Travvla	500 - 680	930
Mangar International	Freestyle	600	1060
Mangar International	Freestyle 2000	600	1060
Millbrook Healthcare	Osprey	675	1150



Height of chair (with headrest)	Turning radius [mm]	Max weight carried [kg]	Steepest slope chair can go up [degrees]	Possible problems
960 (1130)	1700	113	16	
(750 - 1070)	950	447	25	taxi M F T, width, pole
750 (915)	1905	163	20	
815 (1040)	2000	362	20	taxi M F, length
750 (915)	1880	330	20	taxi M F
750 (915)	1880	330	20	taxi M F
960 (1400)	700	140	25	taxi M F T
960 (1400)	700	140	25	taxi M F T
960 (1400)	700	140	25	taxi M F T
960 (1400)	700	140	25	taxi M F T
1020	770	136	12	
960	590	159	9	
700	1680	120	45	taxi M F
920 (1285)	1030	102	13.5	taxi M F
920 (1285)	1090	102	13	taxi M F
750	1020	120	10	taxi M F
920	760	115	8	taxi F
1030 (1260)	1040	220	7	taxi M F, length
1130	810	303	25	taxi M F
1010	580	196	25	
1020	430	228	25	
B	1170	125	7	
B	1200	60	7	
B	960	75	7	
1110	1200	143	20	
1110	1200	144	20	
890	960	183	12	taxi M F
970 (1230)	975	158	15	taxi M F
970 (1230)	975	158	15	taxi M F
930	960	203	12	taxi F
930	960	190	12	taxi F
1065	1620	156	17.5	taxi F
1065	1620	183	17.5	taxi F
1035	950	115	12	taxi M F, box
1035	950	115	12	taxi M F, box
1045	900	160	14	taxi M F
940	790	115	14	taxi M F
375 - 590	625	190	6	
375 - 590	625	190	6	
990	880	130	12	taxi M F

Manufacturer	Model	Width [mm]	Length [mm]
POWERED CHAIRS <i>continued</i>			
Newton Products	Vixen Epic	610	990
Newton Products	Vixen Epioc	610	990
Newton Products	Vixen Heavy Duty	610	1145
Nuova Blandino	GR 570	610	1110
Pride Mobility	Jazzy 1120	640	1000
Pride Mobility	Blast 850 / Jazzy 1120rwd	680	1145
Pride Mobility	Jazzy 1121	600	1000
Pride Mobility	Jazzy 1400	675	1145
Pride Mobility	Jazzy 1420	550	1195
Pride Mobility	Jazzy 1103 / Jet 3-1	580	880
Pride Mobility	Jet 7	580	860
Pride Mobility	LX	610	1090
Remploy	Power Rider 20-00	420 - 595	890
Remploy	Power Rider 21-00	515 - 690	980
R J Mobility	Independent Maxi Meteor	750	1000
R J Mobility	Crystal	635	1050
R J Mobility	Gem	630	1000
RMS	Gillingham Tilt-in-Space 16"	610 - 700	1015
RMS	Gillingham Tilt-in-Space 18"	660 - 750	1015
Roltec	Vision range (standard version)	660	1160
Roltec	Vision range (narrow version)	620	1160
Roma Medical / Invamed	Sirocco P100	640	1120
Sidhil	Access 2	600	1050
Sidhil	926	680	1070
Sidhil	Optimus Light	670	1300
Sidhil	900c	660	1150
Sidhil	Power Picco	530	770
Stannah	F450	640	1140
Stannah	J103	580	910
Stannah	J121	610	1000
Sunrise Medical	Quickie P220	620	1160
Sunrise Medical	Quickie F35	600	1080
Sunrise Medical	Spirit	640	1090
Sunrise Medical	Breezy P100	630	1140
Sunrise Medical	PowerTec F16	640	1150
Sunrise Medical	PowerTec F45	640	1140
Sunrise Medical	Quickie F75	640	1040
Sunrise Medical	Quickie F55	640	1100
Worldwide Mobility	Powerglide	630	1000

FOOTNOTES: [A] = car chair, [B] = height is custom built



Height of chair (with headrest)	Turning radius [mm]	Max weight carried [kg]	Steepest slope chair can go up [degrees]	Possible problems
965 - 1165	1525	171	12	
965 - 1165	1575	190	12	
965 - 165	2130	236	12	
950	1200	207	20	
1200	490	136	8.7	taxi F
1200	820	136	8.7	taxi M F
1200	495	136	8.7	taxi F
1200	570	159	8.7	taxi M F
1300	570	159	8.7	taxi M F T
920	470	113	8.7	
920	420	136	8.7	
1020	910	113	10	handles
865 - 965	860	112	25	
865 - 965	900	112	25	taxi M F
940	600	115	30	taxi M F, width, pole
890	550	184	30	
940	550	114	30	
1015 (1315)	1050	102	6	taxi M F T
1015 (1315)	1050	102	6	taxi M F T (width)
410 - 480	680	250	17	taxi M F
410 - 480	680	250	17	
890 - 990	965	114	12	taxi F
920 (950)	1420	120	12	
950	2390	130	20	taxi M F
1020	2130	130	20	taxi M F, length
1010	1320	130	20	taxi M F
710 (910)	1100	65	12	
1050	1725	118	14	taxi F, length
1150	1000	111	14	
1250	1025	136	14	taxi M F
980	780	140	18	
940	900	120	18	
930	1220	118	18	taxi F
930	1320	118	18	
910	1220	118	18	taxi F
1040	1295	118	18	taxi F
980	1615	118	18	taxi F
1050	1330	127	18	taxi F
1000	1000	115	10	



Ricability is a charity that researches and publishes information on products and services for older and disabled people.

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