Guide Dogs

Making the built environment inclusive – guidance on ensuring regeneration schemes are accessible for people with sight loss

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Introduction

In the past five years numerous government initiatives aimed at revitalising and regenerating town and city centres have been announced. These initiatives have been backed by several funding streams including the Transforming Cities Fund and the Levelling Up Fund. While the majority of these funds have focussed upon regeneration projects in England, the Levelling Up Fund includes projects in Scotland, Wales and Northern Ireland. These funds operate in different ways and have different priorities however, they will all lead to major changes to the public realm, public buildings and transport hubs in over 300 towns and cities across the country.

The regeneration schemes facilitated by these funds have the potential to change the way towns and cities look across the country, and have a significant impact on the residents, commuters and visitors that use them. People with a vision impairment will most likely benefit from the regeneration of their hometowns and towns where they work. However, if aspects of the regeneration schemes are completed in a none-inclusive way, it will make everyday life harder for people with a vision impairment. Inaccessible designs may make maintaining a job, accessing recreational activities, or accessing public services, more difficult.

About Guide Dogs

Guide Dogs provides services that support the independence of people with sight loss in the UK. Alongside our services, we campaign to remove barriers that prevent vision impaired people living their lives as they choose. Guide Dogs has provided advice to public bodies including the UK Government, devolved governments and local authorities on how to create an inclusive and accessible built environment. In 2024, Guide Dogs commissioned University College London (UCL) to carry out research into particular infrastructures to obtain evidence of the impact these features have on people with vision impairment and other disabled people[1]. Current estimates suggest over two million people with sight loss are living in the UK, of which around 360,000 are registered as blind or partially sighted.[2]

Using this guidance

We have compiled this comprehensive guidance to assist designers, architects and local authorities in creating places that are both inclusive of people with sight loss, and ready to address the challenges towns and cities face in the future. This guidance is aimed at schemes delivered through regeneration funds administered directly by central Government. Therefore, where we make reference to Government, it is to the Westminster Government, rather than to the Welsh, Scottish or Northern Irish Governments. The guidance is separated into three sections:

Chapter 1: The Public Realm – including town centres, public spaces, micro-mobility and cycling infrastructure

Chapter 2: Internal Environments – including shopping malls, museums and other public buildings

Chapter 3: Public Transport, Stations and Interchanges – including bus stations, train stations, multi-modal interchanges and their immediate surroundings.

We have tried to make the guidance as user friendly as possible, so that it can be read as a whole, but also as a reference document. Therefore, there may be some overlap between the sections, for example, you will find the key considerations when designing the public realm at a transport hub within Chapter 3, without also having to read Chapter 1.

General Considerations

Equality Duties

Legislation and Treaties

Article 9 of the United Nations Convention on the Rights of Persons with Disabilities sets out the right of disabled people to freedom of movement, independent mobility and access to the public realm.

England, Scotland and Wales

The Equality Act 2010 sets out several key equality duties for public bodies engaged in the design and delivery of regeneration schemes. In addition to the general duties and prohibitions on discrimination, public bodies are also subject to the Public Sector Equality Duty (PSED).

Under its PSED, a public body, including local authorities, must consider the potential impact of urban design on people with disabilities.

In England, there is no specific requirement that this be in the form of an Equality Impact Assessment (EQIA), whereas there are specific requirements in Wales[3] and Scotland[4] to assess the impact of policies and practices. EQIAs are an established method of demonstrating that a public body has fulfilled the PSED. Therefore, we strongly recommend that an EQIA is conducted at the outset of the design process to allow local authorities to address specific issues early on. The EQIA should then be refreshed at key stages throughout the design and delivery of the project.

The Equality and Human Rights Commission (EHRC) has issued extensive guidance regarding the obligations on public bodies, community groups and private businesses under the Equality Act. Some useful documents from the EHRC include:

- Guidance on disability discrimination[5]
- Advice and guidance on the Public Sector Equality Duty[6]
- Advice and guidance on Equality Impact Assessments[7]
- Statutory Code of Practice for Services, public functions and associations[8]

Northern Ireland

The Disability Discrimination Act 1995 establishes the prohibition of discrimination and requirement to make reasonable adjustments.

Similar to the PSED in the Equality Act, s. 75 Northern Ireland Act 1998 requires public authorities to promote equality of opportunity 'between persons with a disability and persons without'.[9] EQIAs play the same vital role in discharging an authority's s. 75 duty in Northern Ireland as they do in discharging the PSED under the Equality Act.

The Equality Commission for Northern Ireland (ECNI) has detailed advice on the equality duties of public bodies in Northern Ireland. These include:

- Section 75 duties for Public Authorities[10]
- Disability Duties on Public Authorities[11]

Planning Policy

It is likely that projects utilising funding from a regeneration fund will require planning permission. The National Planning Policy Framework (NPPF)[12] highlights the obligations upon Local Planning Authorities in England to create plans and take decisions that are inclusive and accessible, including for disabled people.[13]

These include:

Paragraph 96

"Planning policies and decisions should aim to achieve healthy, inclusive and safe places."[14]

Paragraph 117

In the context of highway safety, "applications for development should address the needs of people with disabilities and reduced mobility in relation to all modes of transport."[15]

The guidance within this document will help local authorities, town deal boards, and other stakeholders, to fulfil their obligations both in terms of development management and as an applicant.

Consultation and Engagement

Although the pace of change means that consultation may be less formalised, it remains important to seek input on how schemes will affect people with vision impairment. Local sight loss organisations will often be best placed to provide this input. Additionally, in Wales there is a statutory requirement to conduct engagement with persons who 'represent the interests of persons who share one or more of the protected characteristics; and have an interest in the way that the authority carries out its functions.'[16]

To ensure effective consultation and engagement you should:

- Seek input from local sight loss organisations and residents with a vision impairment at the design stage.
- Ensure consultation and engagement activities are carried out in an accessible way. For example, all websites should comply with website accessibility regulations,[17] documents should be available in alternative formats and an accessible consultation process should be followed.
- Ensure the consultation is open for a sufficient period of time. The standard length is around 12 weeks however, this may differ depending on the type of consultation.[18]
- Genuinely engage with responses and guidance, demonstrating 'real deliberation and thought over the results'.[19]

Further information on a local authority's obligations relating to consultations and engagement exercises can be found in guidance from the Local Government Association.[20]

Chapter 1 – The Public Realm

Hierarchy of Road Users

As a general rule, local authority planners and architects should adhere to the fundamental principle of transport policy known as the 'Hierarchy of Road Users'. This is a well-established concept which places the road users considered most vulnerable at the top: pedestrians, and in particular people with disabilities, followed by cyclists, then public transport and finally other motorised transport.

The importance of this principle is reinforced in the Government's response to the consultation on the Cycling and Walking Investment Strategy underlining that the needs of the most vulnerable road users should be considered first.[21]

Electric Vehicle Charging Points

Charging points are a form of street clutter that can be a hazard for people with sight loss. This sort of street furniture can cause an issue, with 1 in 5 people saying they have hurt themselves, and 74% saying they have either hurt themselves or walked into street furniture in the past.[22]

The rapid growth in the number of electric vehicles has seen a parallel rise in the number of electric charging points on our streets. While we welcome measures to reduce our carbon footprint, electric charging points can prove a hazardous obstruction for people with sight loss if they are not installed with care.

As part of their Greener Transport Future strategy, the UK Government has set an ambition to phase out the sale of new petrol and diesel vehicles by 2030. The sale of electric vehicles (EV) has increased significantly in the last five years. This has in turn seen an increase in the installation of electric vehicle charging points into the public realm, including on-street and car park locations.

In response to the Government's strategy, local authorities are introducing EV charge point plans and policies. Currently, developers have 'permitted development rights' which means that there could be less oversight and scrutiny over the charging points.

People with sight loss will often use the building line as their shoreline for orientation and navigation. Most long cane users use the building line and therefore any obstacles placed along this route could pose a hazard or make them move away from their line of travel.

Guide dog users tend to walk along the centre of the footway as the guide dog is trained to walk in a straight line. However, if there are obstacles along this route, the dog would guide their owner to the left or right to avoid any obstacles.

Locating charging points in the middle of the pavement or placed indiscriminately on the footway are likely to be an obstacle to someone with sight loss. Cables trailing across a footway, between a charging point and vehicle will result in pavements being hazardous for vision impaired pedestrians. This can also be the case if charging points are poorly located in other locations, such as car parks.

Our position

We strongly recommend a hierarchy of locations for EV charging infrastructure. Pavements should be the last resort and only if all other options have been exhausted. Guide Dogs is asking for the following:

1. The design of EV charging points, hubs or pods should be consistent to assist people with sight loss identify when they encounter them in the public realm.
2. Ideally, charging points should be placed on the carriageway or at fast charging locations such as public / retail car parks and petrol stations.
3. If charging points are installed on the pavement, there should be a clear width of 2m on the pavement for pedestrians to get around, and they should be located by the kerb edge. Particular consideration should be given to prevent cables from being a trip hazard, particularly people with sight loss. Incorporating them with current street furniture such as lampposts and bollards located close to the kerb would also reduce street clutter.
4. Charging points/pods/hubs should have contrasting features to enhance their visibility for people with sight loss, including good tonal contrast, and reflectors or lighting to ensure they are visible during dull weather conditions or at night.
5. If cables from charging points in residential dwellings have to cross a pavement, the cable must be recessed or sunk into the pavement in a way that will prevent a trip hazard.

Cycle Infrastructure

76% of people with sight loss said that shared pedestrian and cycling routes on pavements reduce their confidence to leave the house[23]

Public bodies from the Department for Transport downwards increasingly focus on active travel to improve public health and the environment. Special focus has been given to using active travel as the mode of transport for 'last mile' journeys. Therefore, dedicated cycling infrastructure, including cycle tracks, bus stop bypasses, shared bus stop boarders or shared use paths, are becoming a more prominent around stations and interchanges.

What are the challenges people with sight loss face?

Cycle traffic can be difficult to detect for people with a vision impairment, who may rely on hearing to navigate safely. Without adequate provision for people with sight loss, cycle traffic can make walking the streets a stressful experience, particularly when cyclists and pedestrians share space on the pavement or where bus stops are separated from the pavement by a cycle track. Existing guidance on street design does not reflect the impact on people with sight loss when cycling infrastructure does not consider their specific needs . UCL research commissioned by Guide Dogs provides evidence that more research needs to be carried out to address the concerns these types of infrastructure pose for people with vision impairment and other disabled people.

How should you minimise the negative impact on people with sight loss?

We believe that as far as possible, cycling should be accommodated on the carriageway, rather than on the pavement. This benefits both pedestrians with sight loss and cyclists, which is reflected in current guidance which states that 'the conversion of a footway to shared use (between cyclists and pedestrians) should be regarded as a last resort'.[24]

Key considerations for local authorities include:

- People with sight loss often rely on hearing to navigate safely and find it difficult to detect and avoid quiet cycle traffic. This has the largest impact where pedestrians and cyclists share space.
- The default position of any proposed changes should be that space is reallocated to cycling on the carriageway.
- Shared use areas where pedestrians and cyclists use the same space are inaccessible for people with a vision impairment even with low levels of cycle traffic.
- There should be a physical demarcation between pedestrian areas and cycle tracks, such as a kerb, barrier or, where these are not possible, a raised tactile strip. A change in colour is also desirable, but a sign or a purely visual cue, such as a white line alone, will not be effective.[25]
- Where pedestrians would need to cross a new cycle lane, there must be adequate controlled crossings for people with sight loss to do this safely, particularly where cycle lanes affect access to bus stops or other public transport.
- Where significant increases in cycle traffic are anticipated, existing crossing provision should be upgraded to allow pedestrians to cross safely.

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Segregated cycle-footways (Pedestrians/Cyclists)[26]

This section should be read in conjunction with the sections on Shared Spaces (Vehicles) and Cycle Infrastructure, as many of the issues facing people with sight loss are similar and contain additional information regarding mitigation measures. 'Designing for Inclusion report which highlights the Impact of segregated cycle-footways for people with vision impairment and other disabilities. It says ' The problem is where the delineation between the two paths is absent for some reason. A delineator that is just a painted line is insufficient and likely to invite or at least make it easier to cross from one side to the other. A continuous raised delineator makes it easier for blind and vision-impaired people using a cane to detect, and thus this should be a preferred option'.

What are the challenges people with sight loss face?

Even where vehicles are removed from a particular environment, there are substantial risks to people with a vision impairment where a surface will be shared by cyclists and pedestrians. Cyclists are difficult for people with sight loss to hear and so they may not know which direction a cyclist is coming from or where to go to avoid them. This can lead to collisions, which may result in serious injury.

How can you minimise the negative impact on people with sight loss?

Segregating shared routes using a kerb, a raised tactile strip, level difference or street furniture, helps people with sight loss use such routes safely and confidently without fear of walking into the path of a cyclist. Where there are open spaces which are shared between pedestrians and cyclists, features should be included to encourage cyclists to use a different route instead of travelling through them.

Image 1 – a segregated shared cycle and pedestrian route that conforms to the recommended design guidance.

Shared Spaces (Vehicles)

64% of people with sight loss said level surfaces between the pavement & road reduce their confidence to leave the house[27]

Increasingly regeneration schemes are incorporating shared space design features. This often entails removing traditional features such as pedestrian crossings and pavements (including kerbs), resulting in no boundaries between cars and pedestrians and confusion over priority. Such schemes are believed to be more attractive and to "calm" traffic as drivers are theoretically required to proceed with more caution than they might on a conventional street. However, people with sight loss feel unsafe when forced to navigate wide open spaces and walk amongst moving vehicles.

What are the challenges people with sight loss face?

The problem with this approach is that all pedestrians, especially people with disabilities, rely on many of the traditional features that are removed to get around safely, independently and confidently. For example, shared spaces rely on visual signals between pedestrians and drivers to determine priority, an interaction which is impossible for people with sight loss. Furthermore, what is frequently introduced in place of these features does not make the environment inclusive, meaning that it cannot actually be enjoyed by all.

Guide Dogs recommends that a 60mm kerb be in place to separate footways and carriageways to help avoid collisions and assist people with a vision impairment navigate around a town centre. Having the right balance between attractiveness and inclusiveness is crucial in determining if the overall objective is a success. These two things are not mutually exclusive, and both need to be considered.

How can you minimise the negative impact on people with sight loss?

Shared spaces should be avoided under all circumstances, as they make areas of towns and cities inaccessible and dangerous for people with sight loss. In 2018 the Government recommended that local authorities 'pause the development of shared space schemes' whilst the relevant guidance was updated.[28] The Government later clarified the position stating that 'the focus of the pause is on level-surface schemes in areas with relatively large amounts of pedestrian and vehicular movement, such as high streets and town centres'.[29]

If a shared space is going to be included, with no kerb, then present corduroy tactile paving should be installed along the length of the carriageway on both sides. Corduroy hazard warning surfaces warn people of the presence of hazards e.g. steps and level crossings.[30] This is the message that needs to be conveyed here, specifically warning pedestrians with sight loss that there may be vehicular or cycle traffic, and they need to proceed with caution. Further, in line with the guidance on corduroy tactile paving, the paving should be 800mm deep to give enough warning of the hazard ahead. The paving should also be of one consistent colour, which should contrast against its surroundings.

Limited Vehicle Access

There are numerous examples where shared surfaces have been proposed, but traffic is limited to residents, deliveries or to a certain time period in an attempt to reduce the negative impact of the shared space. This does not sufficiently reduce the danger or impact upon the confidence of people with a vision impairment. Further, it continues to create areas, often in key locations, that are inaccessible, even if they are inaccessible for a reduced period of time. People with sight loss should be free to live the life they choose, including travelling when they wish to. Therefore, Guide Dogs believes that shared spaces should be avoided on all occasions, even with limitations.

Continuous Pavements

Continuous pavements/footways are where a footway adjacent to a carriageway extends over a junction where a side road joins a main road. The key feature of these junctions being that both vehicles and pedestrians are using the same level surface at the junction.

What are the challenges people with sight loss face?

These junctions are dangerous for people with sight loss, as people with a vision impairment may not be aware that they are entering onto a crossing area. Further details of continuous pavements/footways or blended crossings can be found in our research 'Designing for Inclusion (Streets Ahead Campaign | Guide Dogs).

How can you minimise the negative impact on people with sight loss?

Continuous footways should be avoided. However, where they are used, a tactile surface (with appropriate contrast) should be placed along the width of the crossing points where the traditional kerb has been removed. The tactile should be 800mm deep at all points and should not extend around the corner of the junction, as this would cause confusion to a visually impaired person and create a risk that they would cross at this point and not proceed directly across to the opposite side. Tactile paving should also be provided at the other side to indicate the end of the crossing. Additionally, there should be clear signage for pedestrians when approaching the junction that identifies the continuous footway across a side road to assist those with some residual vision.

Crossings

Further details on the types of crossings can be found in Appendix 1 and our comprehensive guidance on crossings.

What are the challenges people with sight loss face?

Road crossings are a vital ingredient in ensuring pedestrians' journeys are both safe and convenient. For people with sight loss, crossings are essential to their orientation and mobility. Using the correct crossing provides greater certainty when crossing a road, especially as visual clues are of no use to someone with a significant vision impairment.

Image 2 – Signalised crossings should be the first type of crossing considered, as they provide certainty for people with sight loss when crossing a road.

How can you minimise the negative impact on people with sight loss?

- Signalised controlled crossings should be the default crossing, and used in the first instance, with other crossings being used where circumstances make it necessary.
- Major High Streets should have at least one signalised controlled crossing to give all pedestrians the choice of somewhere to cross safely and confidently.
- All crossings should comply with official guidance including the provision of appropriate tactile paving, visual, audible and tactile signals.[31]
- Where possible crossings should be away from junctions, especially in shared space schemes.
- Both sides of all crossings should be aligned to promote straight-line crossing which will normally be the shortest distance.
- Guidance paving to assist with locating crossings should be provided where a crossing is located on wide pavements or in open spaces (further information can be found in the section on Wayfinding).
- Where raised tables are used at crossings, tactile paving should be used to identify the designated crossing points.

- Tactile paving should have good colour and tonal contrast within its surroundings to assist those with some vision to find it. Each surface or material has a Light Reflectance Value. The higher the difference the better the contrast. The current recommendation is a difference of 30pt between the two surfaces. However, it can go up between 50 – 70pt for critical areas or features.
- An additional control box should be provided at crossings with a high number of pedestrians using the crossing.
- Where possible the installation of additional technological components should be considered alongside existing features at pedestrian crossings, for example, the use of Apps that support the use of crossings, the use of smart watches, etc.

Tactile Paving

Tactile paving is a critical tool that assists people with sight loss to navigate independently. Not only is it important that it is present, but also that it is correctly installed as it conveys information about the surroundings in which it is placed.

Image 3 – Tactile paving comes in different types and materials. This image shows blister, guidance and corduroy vinyl paving in light and dark colours.

Image 4 – Tactile paving has to be laid in specific places depending on the context. This image shows blister paving laid at the edge of a train platform. There is a yellow warning line running along the edge of the blister paving and another white line 800mm beyond the yellow line on the edge of the platform.

Image 5 – this photo shows ascending stairs with 800mm of buff coloured corduroy paving at the bottom of the last step.

The three main types of tactile paving used most commonly are:

- Blister paving: only used at road crossings and train platforms.
- Corduroy paving for warning.
- Guidance paving for guiding.

(Further details on the different types of tactile paving can be found in Appendix 3)

Image 6 – The contrast of tactile paving is extremely important to people with sight loss, who have some residual vision. The top left photo shows red blister paving against light coloured pavement. The top right photo shows dark charcoal grey blister paving against a light-coloured pavement. Both are taken in colour and then in black and white. The black and white photo of the red blister paving does not come up with any contrast; whereas, the dark charcoal grey blister paving contrasts well against the surrounding.

Colour and tonal contrast are particularly important with respect to tactile paving, as it lets a person with some residual vision know what is ahead of them. Contemporary design trends tend to base the colour of tactile paving on aesthetics with minimal contrast making it difficult for someone with sight loss to effectively identify them.

It is important that all tactile paving is installed in line with the official guidance on tactile paving.[32] The 'guidance on the use of tactile paving surfaces' provides detailed advice on which tactile paving to use at particular locations, along with how to install it correctly.

There have been occasions where local authorities have sought to install tactile paving, but at a lower height than the minimum 5mm. If the paving falls below this height the guidance paving will be ineffective and undetectable.[33]

Street Furniture and Clutter

83% of people with sight loss said that reducing obstacles on pavements and street clutter was important to improving their quality of life[34]

Street clutter is a broad term used to classify different features on streets that become obstacles and hazards which in turn make it difficult for pedestrians with sight loss to use pavements safely and independently.

There are a number of features that are classed as street clutter: parked cars on pavements, street works, overhanging branches, wheelie bins, advertising boards (including A-boards), e-scooters, dockless bicycles, café furniture or shop displays, uneven pavement, planters, electric car charging points, unnecessary road markings, redundant traffic signs and lamp posts.

Key issues for people with sight loss

People with a vision impairment can have difficulties when there are changes to areas they are familiar with. For example, where there are unexpected street works or obstacles in the street, or when temporary structures or litter are left on pavements.

Guide dogs are trained to avoid street clutter, but many pathways do not allow enough space for guide dog partnerships to get through without going into the road. This can put the guide dog owner at risk.

People with a vision impairment normally use the building line as their shoreline for orientation and navigation. Most long cane users use the building line and therefore any obstacles placed along this route could pose a hazard or make them veer off their line of travel.

Guide dog owners tend to walk along the centre of the footway as the guide dog is trained to walk in a straight line, however if there are obstacles along this route, the dog would veer to the left or right to avoid any obstacles. Having street furniture and clutter placed inconsistently along the footway makes using the walkways very difficult and stressful.

How can you minimise the negative impact on people with sight loss?

There are two broad actions local authorities can take to reduce the obstacles street clutter present.

First, by designing a scheme which does not include unnecessary street furniture and obstacles.

Image 7 – Obstacles that obstruct the pavement can make journeys difficult for people with sight loss, including guide dog owners.

Image 8 – Other obstructions that can make journeys difficult include bikes that have been parked in the middle of pavements.

Second, ensure that transport operators or local authorities utilise their powers to secure the removal of, and prevent additional, street clutter by businesses (e.g. A-boards) and private individuals (e.g. bikes or e-scooters).

Street furniture within an area should be regularly reviewed to ensure items are fit for purpose, cleaned and repaired as needed.

- Ensure visual and tactile contrast is maintained.
- Redundant items should be removed, and consideration given to combining items where this would reduce street clutter.
- Street lamps and signs should be wall mounted whenever possible.
- Trees, plants, etc., should be selected and sited to avoid any parts becoming a hazard. They should be regularly cut back where they overhang or encroach on pedestrian routes.

A-boards

Local authorities should utilise their powers by introducing a licensing scheme for A-boards which in turn would stipulate the volume, size, and location where they should be placed to prevent them posing a hazard to pedestrians. Monitoring and regulating the use would ensure that the benefits of A-boards are maximised while the potential hazards are minimised.

Street cafés, outside seating and associated furniture

Local authorities should ensure accessible physical barriers mark out an area where street furniture is located, as this will help people with sight loss avoid it. An accessible barrier would feature colour contrast to help people with some residual vision to identify it and a "tapping rail" at the top and bottom so that long cane users do not walk into them or get their cane trapped under it.

Where outside seating is proposed for use by businesses or others, a physical solid barrier with a top and bottom tapping rail should be used to demarcate the area where the seating will be located. This will allow it to be detected by long cane users. If there is to be a permanent outside seating area, for example in public squares, local authorities should consider utilising the relevant tactile paving to mark out the area.

Streetworks

Streetworks which affect the footway should be effectively protected and well lit. Where necessary, alternative accessible routes should be provided and information on this disseminated through a range of local communication channels, including via local organisations, radio and talking newspapers.

Image 9 – Streetworks can block off pedestrian routes, forcing pedestrians to walk into the road around the barriers.

Overhanging branches and wheelie bins

Local authorities should manage overhanging vegetation on streets and pavements, including ensuring that vegetation on private land is appropriately trimmed back by the relevant landowner. Local authorities ought to consider utilising powers under the Highways Act[35] to enforce such maintenance, where required. Local authorities should also ensure that wheelie bins are replaced correctly, so that they do not obstruct the walkway or pavement.

Planters

Planters placed in the public realm must not obstruct or reduce the walkways. They must contrast well against their surroundings, so they are visible for people with some residual vision. They must not have sharp edges and should be of appropriate height so as not to cause injury if someone walks into them.

Dockless bicycles and e-scooters

68% of people with sight loss said that electric bikes/scooters reduce their confidence to leave the house[36]

These must not obstruct walkways as they present dangerous trip hazards to pedestrians, particularly those with sight loss. For long-term use, accessibly designed fixed docking stations and charging points are the only safe parking solution.

Guide Dogs recommends that:

- Parking bays for e-scooters and bikes are provided with a kerb height of 60mm (which is detectable for people with sight loss) separating walkways from docking stations.
- Enforcement on compliance with parking rules should be written into contract documents.
- Charging points are located along the edge of the carriageway and not on or obstructing the pavements (see Guide Dogs position statement on EV charging points).

Uneven pavements and walkways

It is essential that the pedestrian environment is well managed and maintained to help retain features that augment the accessibility of the public realm. Uneven and badly maintained pavements, footways and walkways present a trip hazard for people with sight loss.

Signage and Wayfinding

In addition to ensuring that regenerated town centres are safe, local authorities need to ensure that they are easy to navigate for people with sight loss, using accessible signage and wayfinding tools. These are not only helpful for people with a vision impairment, but for visitors generally.

Key issues for people with sight loss

Wayfinding within a town centre is often facilitated through visual cues and signage, which are of little value to someone with a severe sight impairment. This can make it difficult to both find things within a town centre or navigate through it.

How can you minimise the negative impact on people with sight loss?

The streetscape should be designed with logical layout and good reference points to ease orientation and navigation. In addition to guidance paving, wayfinding tools can include features such as physical landmarks (identifiable by surrounding warning tactiles) and sensory or auditory clues.

There are also digital and manual mechanisms for aiding wayfinding around a town centre. For example, mobile applications can be used to provide detailed navigation information, as well as using traditional tactile maps.

Image 10 – Tactile maps can be useful tools in helping people with sight loss navigate around a shopping centre or town centre.

Image 11 – Tactile maps can also be used to help people with a vision impairment navigate recreational spaces, such as public parks.

Floating Bus Stops, Bus Stop Bypasses and Bus Stop Boarders

Definitions of Floating Bus Stops/Bus Stop By-passes and Bus Stop Borders can be found in Appendix 2.

People with sight loss rely on public transport and the pedestrian environment as their main means of getting around. If they are not accessible, people with sight loss are prevented from getting out and about independently and safely. The intention behind floating bus stops/bus stop bypasses and bus boarders is to prevent conflict between cyclists and buses. However, this design tends to confuse and, in some instances, pose barriers for people with a vision impairment who have to navigate across a cycle track to access bus stops; especially as it is difficult or impossible to detect the presence of bicycles. Actual conflict, in addition to anxiety levels caused by potential conflict, makes this type of design unsafe for vision-impaired people along with other disabled people. The Designing for Inclusion research found that this type of design is avoided by some disabled people[37].

Image 12 - Bicycles are difficult to hear, which makes floating bus stops difficult for people with sight loss to use, as they have to cross a cycle path to reach the bus stop.

What are the problems people with sight loss face?

- Bus stop bypasses or boarders that do not have a detectable cycle track put people with sight loss at risk of walking in front of a cyclist they cannot see or hear approaching.
- Not knowing which bus stop has a bypass or boarder and stepping out into a shared area with cyclists.
- Not able to detect the crossing point to get onto the island due to wide pavements and lack of cues. It would be helpful if guidance paving is used to lead someone with a vision impairment to the tactile paving located at the crossing point.
- The indiscriminate designs of bus stop by passes and boarders.
- The speed of cyclists using the bypasses. Lack of measures to reduce the speed of cyclists using this route for instance raised bumps at the beginning and end of the bypass.
- The removal of kerb upstands on bus boarder islands makes it difficult to know where the island ends and the cycle track begins and vice versa depending on whether you alight from the bus or want to get on the bus.
- The introduction of level islands and crossings without the appropriate tactile paving to assist people with sight loss in identifying and using them safely and independently. Someone with significant sight loss is not able to detect where a crossing point is located, or when they have completed a crossing if there is no tactile paving on the opposite side.
- Reduction of cues and clues that assist people with a vision impairment with orientation and navigation. Some people with sight loss use certain features within the built environment to determine where they are, the lack of such features can make it difficult to navigate. For example:
    - clear signage.
    - contrasting colour between raised roadway or cycle path and footpath.
    - the importance of tactile paving.

How do you keep public transport accessible?

Guide Dogs believes that the external environment should be inclusive and consider the needs of people with sight loss.

Guide Dogs is not opposed to cycling and investment in cycle infrastructure, so long as it is designed inclusively which should include the following:

- All pedestrian crossing points over cycle tracks running behind bus stops should have an auxiliary aid, such as an audible and/or tactile signal, which indicates to someone with a sight impairment when it is safe to cross the cycle track. In addition to an audible signal at the crossing, a raised hump, or other traffic calming measure, should be used to encourage cyclists to slow down or stop.
- Markings and signage must be provided to instruct cyclists to stop when pedestrians are near or on the crossing point.
- We recommend a notice to reduce speed should be marked on the bypass approach to remind cyclists that the area they are cycling through is predominantly a footway.
- We recommend some measure of enforcement to improve cycling behaviour around such features.
- We recommend measures for vision impaired passengers to determine when it is safe to alight from the bus onto a bus boarder or floating Island.
- We strongly recommend full kerb upstands between the cycle track and the pavement and the cycle track and the bus stop island, with the recommended tactile paving at the crossing points.
- Where a floating bus stop is located along a wide pedestrian footway or pavement, guidance paving should be installed to guide someone with sight loss to the blister paving on the crossing point to get onto the bus.

Pavement Parking

What are the problems people with sight loss face?

80% of people with sight loss said that vehicles parked on the pavement were their biggest pavement obstacle[38]

Pavement parking puts pedestrians in danger, including disabled people, older people, and parents with children. People with sight loss are particularly at risk as they may have to walk in the road with traffic which they cannot see. Navigating the pavement with parked vehicles is stressful and dangerous. Pavement parking can act as a barrier, cutting people with sight loss off from work, study or social activities.

Image 13 – Pavement parking can make journeys difficult and dangerous for people with sight loss. Where there is little or no space on the pavement, pedestrians are forced to walk in the road with traffic which is difficult to hear.

How can you minimise the impact on people with sight loss?

Many regeneration schemes revisit the role of parking and vehicles in town centres. This presents a perfect opportunity to look at making footways more accessible for pedestrians with sight loss by restricting pavement parking.

In addition to waiting restrictions (Double Yellow Lines), local authorities can use Traffic Regulation Orders (TROs) to restrict parking upon pavements within defined areas. Whilst the position may not apply within Greater London, there is an opportunity to look at streets which are exempt from the prohibition of pavement parking. Guide Dogs recommends using this opportunity to restrict pavement parking in town and city centres.

Additionally, the National Design Guide states that "well-designed car and cycle parking at home and at other destinations is conveniently sited so that it is well used. This could be off-street to avoid on-street problems such as pavement parking or congested streets. It is safe and meets the needs of different users including occupants, visitors and people with disabilities."[39]

Lighting

Light is important and can increase or diminish visibility within an area. People with sight loss require uniform lighting and transition into lighter or darker areas i.e. entering a building, as this could be disorientating depending on the individual's eye condition. Uneven lighting in areas like hallways, corridors or large open spaces gives off light and dark pools of light. For someone with a visual impairment this gives the impression of holes or uneven surfaces which can be very disorientating and affect how they navigate the area. Using certain types of light can also diminish the colours and decrease the colour contrasting features. It is really important to use the correct type of lighting within buildings or premises and make sure it does not cause glare on surfaces they reflect on.

When deciding on lighting provision, designers should:

- Ensure an even, uniform distribution of lighting – this is especially relevant where vertical lighting is being used, such as spotlights.
- Ensure lighting does not cause glare.
- Avoid polished reflectors or other diffusers that produce large areas of brightness.
- Light needs to be bright enough to enable lip reading.
- Remember to think of natural light.

Sanitary Facilities

The design of sanitary facilities should take into consideration the local demographics and ensure that a broad range of backgrounds have been considered. The recommendation from BS8300-2:2018, Building Regs part M, Inclusive Design Standards (LLDC) and other local design standards, should influence the design and types of sanitary facilities. Standard toilets, accessible toilets and changing places should be provided. Standard toilets should also include provisions for people with ambulant impairment. Family and baby changing facilities should not only be provided within the accessible toilets but also amongst standard toilets to provide inclusion and choice. Furthermore, accessible toilets should be available for the same duration as standard toilets. People with sight loss require certain features and cues to be able to access these areas.

Sanitary facilities should:

- Have clear signage leading to where the sanitary facilities are located.
- Have good visual contrast between the main features, equipment, controls and grab rails.

- Not use materials that are reflective or which cause glare.
- Use of materials that absorb sounds to maintain the acoustics within the toilets.
- Use mirrors sparingly, as the reflections can be disorientating for people with residual vision.
- Have uniform lighting to allow easy use and detection of features within these areas.
- Have automatic sensors placed in a logical position for ease of use.

During Construction

90% of people with sight loss said that they find it difficult to navigate new temporary layouts unaccompanied[40]

What are the problems people with sight loss face?

During the construction or redevelopment of a station, interchange or the surrounding public realm, new pedestrian layouts may be required. For people with a vision impairment, such new layouts can be disorientating for several reasons, including that they cannot see the changes that have been made and the presence of new obstacles.

How can you minimise the impact on people with sight loss?

There are a number of key actions that can be taken to reduce this impact on people with a vision impairment. Notably, purely visual cues on the street, such as signs indicating changed layouts, are unlikely to achieve this. Instead, consideration should be given to the following:

- Changes to street layouts must be communicated in an accessible format: for instance, online maps which meet web accessibility standards should be made available to show changes across a neighbourhood, and updated regularly.
- Local sight loss organisations and people with sight loss should be consulted on how to communicate changes effectively.
- Existing kerbs, tactile paving and controlled crossings should be maintained to ensure that people with a vision impairment know where the pavement ends and the road begins.

- Consider whether additional, temporary tactile paving will be needed to enable people with sight loss to use reallocated space safely. This is particularly important where pedestrian areas are only separated from the road by permeable barriers, and there is a risk of people with a vision impairment inadvertently walking into the road.
- For longer-term interventions, consider creating a temporary kerb to assist people with sight loss.
- Temporary features, such as planters or barriers, used to reallocate space, must contrast against their surroundings, avoid any trip hazards and be easy for people with a vision impairment to detect with a long cane. Cones are not appropriate markers for pedestrian areas.
- One-way systems for pedestrians should be avoided, as people with sight loss may be unable to follow them without additional support. This may result in conflict with other pedestrians. If a one-way system is to be used, the layout must be communicated effectively to people with sight loss. Each direction must be separated from the other with physical features, such as an accessible barrier.
- New signage indicating changed layouts should be kept to a minimum to avoid additional street clutter, with signs positioned so that they do not present a potentially dangerous obstacle for people with sight loss.
- All signage should be in clear, large print with strong contrast.
- Remove non-essential street furniture such as A-boards to increase space on the pavement and reduce obstructions.
- Restrict pavement parking wherever possible, as it reduces space available for pedestrians; with a temporary TRO in place, it may be possible to co-locate the signage needed for pavement parking restrictions with signs indicating new layouts.

Chapter 2 – Internal Environments

78% of people with sight loss said that the design and accessibility of public buildings was important to improving their quality of life[41]

Introduction

This section covers the internal design of buildings, such as, but not limited to, arenas, shopping centres, train stations, bus station concourses, offices, apartment buildings, museums and community venues.

For people with sight loss there are a number of features that are required to allow for easy access, orientation and navigation within buildings. They ensure that people with a vision impairment can move within buildings to access the services or use the facilities safely and independently. These features need to be incorporated seamlessly within the design of the different parts of the building. These include:

- Signage
- Good Colour/Tonal contrasting features
- Good Lighting
- Tactile information
- Audible & visual information
- Acoustics
- Clear routes and logical layout

External Approach

Most blind or vision impaired people use public transport as their main form of transport. Therefore, it is vital that approaches to interchanges, along with access routes are accessible and considered at an early stage of the design process. There should be access via a variety of modes of travel to promote choice and facilitate easy transfers. However, the pedestrian route is paramount for people with sight loss, therefore the design and layout must promote independence and safety.

- New developments should be accessible and include good transport links.
- Where crossings are provided in close proximity to major interchanges and public buildings, signalised controlled crossings should be the first option to ensure that pedestrians can access them safely and independently. People with sight loss prefer signalised pedestrian crossings because they are safer, and the signals (audible, visual and tactile) indicate when it is safe to cross. Guide Dogs research and guidance on signalised crossings[42] provide evidence on the importance and significance of this type of crossing.[43]
- Pedestrian routes to the premises should be clear of obstructions such as vegetation, street furniture, signage, docking stations for bikes and e-scooters with the recommended width of 2m and a minimum of 1.8m.[44]
- If a car park is provided, it should be close to the building(s) with clear markings and a suitable surface (smooth and level). There should be clear pedestrian routes through and around the car park with the appropriate tactile paving should be provided (for further information please see Appendix 3).
- Car parking should be clearly signed and provide accessible/disabled parking bays as well as drop off points, where appropriate. Accessible parking bays should be in close proximity to the premises.
- Good lighting and signage within car parks, as well as effective of colour contrast will assist people who have some residual vision to identify features and navigate within car parks.

Entrance

The entrance into any building should be clearly identified. The internal design or layout design of a building should be in line with the function of the building or type of service it is built for. For buildings where a reception desk or information point is provided, the design should have these facilities close to the entrance. The use of good wayfinding cues, textured surfaces and signage will assist with access to the service and getting assistance if required.

How can you minimise the impact on people with sight loss?

- Good colour and tonal contrast to highlight the main entry point will assist with identifying the entrance doors of the building.
- Signage (directional and information) should be clear and visible on approach. It should follow the recommendations on signage with good contrasting features i.e. contrast between the background and the text, the use of upper and lowercase letters and the sign must contrast against its surroundings as recommended in the guidance[45]

- Effective lighting to highlight the entrance at night and in poor weather conditions.
- Entrance doors should be accessible for all users. Revolving doors should be avoided. Where they are provided an additional automatic door with audible features should also be included.
- Glass doors should have manifestations to warn people with sight loss of the presence of glass.
- Automatic or sliding doors should have an audible announcement to warn people with sight loss which direction the doors are opening.
- An information point or reception desk close to the entrance to enable quick assistance when required.

Waiting/seating areas/concourse/lobby areas

It is vital that waiting areas are easy to locate and navigate. Providing a logical layout of furniture and features will prevent some of them becoming obstructions or potential hazards. Clear circulatory routes should be different from seating or waiting areas, this can be achieved using colour/tonal contrast and different surface textures between these areas. Where there are pillars, columns or other vertical features, these should contrast against the surroundings and in some cases also include a contrasting strip at eye level to assist someone with some residual vision to detect its presence, as recommended in Inclusive Mobility.[46]

Other design features to minimise the impact for people with sight loss are:

- This area should have good colour/tonal contrast between the floor surface, walls and furniture.
- Clear walkways in between furniture and circulation routes should be well lit, have a logical layout and directional signage to the different parts of the premises or building.
- The seating should not be placed in the line of travel or on circulatory routes and should contrast well from the floor surface, so they are easily detectable.
- Good lighting is essential and should be uniform to prevent light and dark pools of light on the floor, which can be disorientating for people with a vision impairment giving the impression of holes or pools on the floor. The type of lighting should not diminish the contrasting features within the space.

Horizontal Circulation

Corridors, passages and aisles

Circulatory routes within buildings should be strategically designed to do exactly what they are supposed to, which is to get people in and around safely. Inclusive design, layout, signage and materials make it easier to navigate a building.

Image 14 – Contrasting features on doorways are extremely important in helping people with some residual vision identify entrances to rooms. Audio boxes and tactile signs, as shown in this image, can also provide additional information and help people with a vision impairment navigate inside buildings.

Other features to include to minimise the impact on people with sight loss in such areas are:

- Be well lit with uniform lighting to allow for easy detection and identification of the features within the area.
- Have clear routes with no obstructions or barriers to prevent free flow of movement. The width of corridors or passageways should be in line with the Building Regs Part M and the relevant British Standards.[47]
- There must be good colour contrast between the walls, floor surface and internal doors and door opening furniture e.g. door handles and automatic entry systems.
- The door frame should contrast well against the main door as well as with the door opening facility to identify the entry and opening facility to access area off the corridor or passage.
- Doors that are fully or partially glazed should have a contrasting strip, or manifestations, to highlight the presence of glass, thereby preventing people with vision impairment from walking into doors.
- Good directional signage to encourage wayfinding. Signage must be strategically placed to prevent it being an obstruction or trip hazard or diminish their visibility by putting furniture or fittings to obscure them.
- Careful consideration is required when selecting the materials to be used within buildings, especially in communal areas. Refrain from using materials that are reflect sound and cause an echo. This can be very disorientating for people with vision impairment who may rely on their hearing to understand their immediate surroundings. Using absorbent materials like wood, fabric, etc., can reduce reverberant sounds.

Vertical Circulation

All stairs, escalators and lifts must follow the relevant regulations and guidance.[48] Some key requirements for people with sight loss are:

Stairs

Stairways should be accessible but can be potential hazards if they are not detected in time by people with sight loss. If tactile and contrasting features are not implemented, a step/flight of stairs could be perceived as a ramp, thereby becoming a trip hazard, or not be detectable at all.

Key considerations include:

- Handrails must contrast against the wall and run continuously over any landings and extend beyond the last step. This configuration can be used to guide someone with a vision impairment down or up the complete set of steps.
- Staircases should be well lit with uniform levels of illumination to prevent disorientation or misconception of what is ahead of someone. When lighting is not uniform, it forms pools of light and dark on flooring. This can come across as holes on the ground, which can be disorientating for people with vision impairment.
- Steps must have contrasting nosings on both the risers and tread. This is required to highlight the edge of the step when ascending or descending steps.
- It is good practice to provide corduroy paving at the top and bottom of stairs withing large or complex buildings.

Steps

Key considerations include:

- Steps must have contrasting nosings on both the risers and tread. This is required to highlight the edge of the step when ascending or descending steps. Some people with sight impairment may think it is a ramp when the edge is not clearly defined, thereby making it a potential hazard
- Step nosings must be solid strips running along the entire width of the step for easy detection.
- The steps must contrast against the walls and handrails for easy identification
- Tactile paving should be provided at the top of the first step and bottom of the last step where there is high pedestrian flow or in large complexes.
- The depth of the step must be as recommended in the guidance so that it is deep enough for comfort and stability.
- Steps for should be of a consistent height and depth.
- Winding or spiral stairs should be avoided as steps of different width and size can become a trip hazard for people with sight loss.

Escalators

Escalators are not accessible for all users for example, most guide dogs are not trained to use them. Therefore, additional ways to move from one floor to another should be provided.

In addition to some considerations relating to stairs escalators should:

- Be well signed
- Contrast against its surroundings
- Have a contrasting edge on each step
- Have audible information to alert someone with vision impairment at the start and end of the escalator so they are prepared.

Lifts

Lifts are one of the vital elements for safe navigation within buildings and should be accessible to all users. Therefore, where lifts are provided, it is vital that the route, and access, to them is signed, safe and accessible. Ensuring that the location is clear and easy to find is paramount in promoting inclusivity. All lifts should be manufactured and installed in line with relevant legislation and guidance.[49]

Key considerations include:

- Accessible signage should be placed both leading up to and within the lift. This must be embossed/tactile, visible and audible.
- Signage to the lift must be identifiable within the area it is placed.
- Both internal and external tactile signage should be positioned so it is easy to touch for people with a vision impairment and located where they can be touched.
- The control panel should be both tactile and visible and include audible announcements.
- Audible information is required to provide information on the floor or section of the building someone with a vision impairment has arrived at and which side the doors are opening.
- The panel must contrast well against its surroundings to help locate it.
- Within the lift car good colour/tonal contrast should be maintained between the floor, walls and control panel.
- Lighting should be 100lux, as recommended in the relevant Guidance.[50]

- Uniform lighting should be provided within the lift car and should not diminish the contrasting features within the car.
- Sufficient space is necessary for wheelchair users and people with assistance dogs. The appropriate type of lift must be considered depending on the size and type of building it is installed in.

Sanitary Facilities

The design of sanitary facilities should take into consideration a broad range of abilities and backgrounds. The recommendation from BS8300-2:2018, Building Regulations Part M, Inclusive Design Standards (LLDC) and other local design standards, should influence the design and types of sanitary facilities. Standard toilets, accessible toilets and changing places should be provided. The standard toilets should also include provisions for people with ambulant impairment. Family and baby changing facilities should not only be provided within the accessible toilets but also amongst standard toilets to provide inclusion and choice. Furthermore, accessible toilets should have the same opening times as standard toilets.

People with sight loss require certain features and cues to be able to access these areas. Sanitary facilities should:

- Have clear signage leading to where the sanitary facilities are located
- Have good visual contrast between the main features, equipment, controls and grab rails
- Do not use materials that are reflective or which cause glare
- Use materials that absorb sounds to maintain the acoustics within the toilets
- Use mirrors sparingly, as the reflections can be disorientating for people with residual vision
- Have uniform lighting to allow easy use and detection of features within these areas
- Have automatic sensors placed in a logical position for ease of use

Signage

Most information is given through vision which makes signage one of the most important features within buildings or interchanges. Maximising the visibility and legibility of signs enables people with sight loss to orientate and navigate areas with as little difficulty as possible. In addition to the requirements below, signage should confirm to the Sign Design Guide +.[51]

Image 15 – Signage on doors should be: at eye level, have text which contrasts well against its background, contain embossed braille. Small audio boxes can also provide crucial additional information.

Image 16 – In addition to contrasting text and braille, relevant embossed images can also be used to provide information.

Signage should be:

- Clear – the sign should convey easily understandable information
- Concise – the message a sign gives should be short, simple and easy to understand.
- Consistent – the design, layout and characteristics should be the same. Consideration on where signs are placed is paramount to enable their use. They should be placed where they are easy to read. Signs should also have the following characteristics:
  - The sign should contrast against its surroundings.
  - Good contrast between the background of the sign and the text.
  - The text should have the first letter of the word in uppercase and the rest in lowercase, with a consistent typeface.

Colour and tonal contrast

People with some residual vision rely on good colour contrast to identify, recognise, or detect something. Colour contrast is the difference in colour between two colours/ surfaces. Each surface or material has a difference in colour or light reflection. This measure is known as the Light Reflectance Value. The higher the difference the better the contrast. The current recommendation is a difference of 30pt between the two surfaces. However, it can be up to 50 – 70pt for critical areas or features. Using colour/tonal contrast between features like doors, walls, flooring helps to detect where the wall ends, and floor begins. It also helps to identify where fixtures and fittings are located. It is good practice to use colour/tonal contrast to implement wayfinding systems within large buildings to assist with orientation and navigation.

Image 17 – Using different textured flooring in contrasting colours can help people with sight loss identify different areas within a building. In this image, the walkway is tiled and the waiting area carpeted.

Image 18 – Reception areas and information points should be in clear sight of the entrance to a building, so they are easy to find.

Lighting

Light is important and can increase or diminish visibility within an area. People with sight loss require uniform lighting and transition into lighter or darker areas i.e. entering a building, as this could be disorientating depending on the individual's eye condition. Uneven lighting in areas like hallways, corridors or large open spaces gives off light and dark pools of light. For someone with a visual impairment this gives the impression of holes or uneven surfaces which can be very disorientating and affect how they navigate the area. Using certain types of light can also dimmish the colours and decrease the colour contrasting features. It is really important to use the correct type of lighting within buildings or premises and make sure it does not cause glare on surfaces they reflect on.

When deciding on lighting provision, designers should:

- Ensure an even, uniform distribution of lighting – this is especially relevant where downward vertical lighting is being used, such as spotlights.
- Ensure lighting does not cause glare.
- Avoid polished reflectors or other diffusers that produce large areas of brightness.
- Light needs to be bright enough to enable lip reading.
- Remember to think of natural light.
- Vertical blinds are effective in limiting dazzle.
- Avoid up-lighting.

Acoustics

Different materials reflect sound and lighting in different ways, which could affect the hearing and vision of people with a sensory impairment. Designers should ensure consideration is given to the reflectance value of any materials or surface (this can be obtained from manufacturers). For example, glass and shiny surfaces are reflective and give off an echo, whereas matt finish wood is not reflective and does not produce an echo.

Means of Escape

People with sensory impairment require audible and visual signals in place to allow for safe evacuation. There should be systems in place to record when people with sensory impairments visit or occupy a large building. Employees or residents in large apartment complexes require a Personal Emergency Evacuation Plan (PEEP). National guidance on fire evacuation and other requirements and procedures, within the building regulations and British Standards, must be implemented.

Chapter 3 – Public Transport, Stations and Interchanges

Inclusive transport caters for all users. People with sight loss are more likely to walk and use public transport – taxis, buses and trains. Of particular importance for people with a vision impairment is transferring between different modes of transport. Therefore, it is vital that both the internal environment of stations and interchanges, as well as the public realm surrounding them, are designed in an inclusive way.

Signage, wayfinding and communication

In addition to ensuring that transport infrastructure is safe, local authorities and transport operators need to ensure that they are easy to navigate for people with sight loss using accessible signage and wayfinding tools. These are not only helpful for people with a vision impairment, but also other passengers.

Key issues for people with sight loss

People with sight loss are more likely to rely on public transport for their journeys. When using public transport, passengers are inundated with information, ranging from display screens to the layout of station and directions. Most of the information received is given in visual formats however, for people with sight loss visual information can be inaccessible, making other ways of providing this information important.

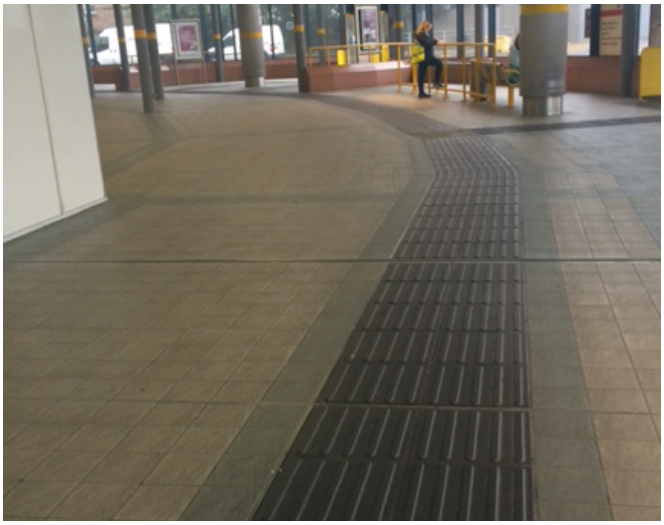


Image 19 – Using tactile guidance paving within stations and interchanges can assist people with sight loss find individual bus bays and other facilities.

Image 20 – Guidance paving can help identify where the doors of a tram will open.

How can you assist people with sight loss with wayfinding?

Please see the Chapter 1 for further information on wayfinding.

There are a variety of key features that should be included:

- The streetscape should be designed with logical layout and good reference points to ease orientation and navigation.
- In addition to guidance paving, wayfinding tools can include features such as physical landmarks (identifiable by surrounding warning tactile paving) and sensory or auditory clues.
- Guidance paving should be included in stations and interchanges (see Appendix 3 for further information).
- Inclusion of digital and manual mechanisms for aiding wayfinding around bus or train stations. For example, mobile applications can be developed/used to provide detailed navigation information, as well as using traditional tactile maps.
- Maximise the visibility and legibility of signs to enable people with sight loss to be able to orientate and navigate areas with as little difficulty as possible. Signage should conform to the Sign Design Guide +.[52] Signage should be:
    - Clear – the sign should convey easily understandable information
    - Concise – the message a sign gives should be short, simple and easy to understand.

- Consistent – the design, layout and characteristics should be the same. Consideration on where signs are placed is paramount to enable their use. They should be placed where they are easy to read. Signs should also have the following characteristics:
  - The sign should contrast against its surroundings.
  - Good contrast between the background of the sign and the text.
  - The text should have the first letter of the word in uppercase and the rest in lowercase.

- Audio announcements should be available at stations and interchanges as well as on buses, trains and trams.

Tactile Paving

Tactile paving is a critical tool that assists people with sight loss to navigate independently and safely around stations and between modes of transport. Not only is it important that it is present, but that it is correctly installed as it conveys information about the surroundings in which it is placed. There are three main types of tactile paving used most commonly (details on the different types of tactile paving can be found in Appendix 3):

- Blister paving: only used at road crossings and train platforms
- Corduroy paving which is for warning
- Guidance paving which is for guiding.

Colour and tonal contrast are particularly important with respect to tactile paving, as it lets a person with some residual vision know what is ahead of them. Contemporary design trends tend to base the colour of tactile paving on aesthetics with minimal contrast making it difficult for someone with sight loss to effectively identify them.

Image 21 – Colour and tonal contrast is extremely important when using tactile paving. There are six images in this photo. The first picture is blister paving laid on the edge of a road. The black blister paving is laid amongst light grey pavement. The black and white version shows good contrast between the blister paving and its surroundings. The second is a set light grey steps with light grey handrails against a set of dark railings. The black and white version shows the dark railings standing out against the other lighter features. The third picture is of a ramp with yellow handrails, against white railings, light surrounding walls and dark ramp surface. The black and white version shows no contrast between the yellow handrails and the white railings but there is contrast against dark surface of the ramp.

It is important that all tactile paving is installed in line with the official guidance on tactile paving. The 'guidance on the use of tactile paving surfaces' provides detailed advice on which tactile paving to use at particular locations, along with how to install it correctly. There have been occasions where local authorities have sought to include tactile paving, but at a lower height than the minimum 5mm. If the paving falls below this height the guidance paving will be ineffective and undetectable.[53]

Street Furniture and Clutter

Street clutter is a broad term used to classify different features on streets that become obstacles, hazards which in turn makes it difficult for pedestrians with sight loss to use the pavements safely and independently.

Many forms of street clutter can be found around stations and interchanges, including ancillary transport infrastructure and restaurants/bars that cater to passengers. Common forms of street furniture and clutter around stations include: advertising boards (including A-boards), e-scooters, dockless bicycles or bikes, café furniture or shop displays, uneven pavement and planters.

Key issues for people with sight loss

People with a vision impairment can have difficulties when there are changes to areas they are familiar with. For example, where there are unexpected street works or obstacles in the street, or when temporary structures or litter are left on pavements.

Guide dogs are trained to avoid street clutter, but many pathways do not allow enough space for guide dog partnerships to get through without going into the road. This can put the guide dog owner at risk.

People with sight loss normally use the building line as their shoreline for orientation and navigation. Most long cane users use the building line and therefore any obstacles placed along this route could pose a hazard or make them veer off their line of travel.

Guide dog owners tend to walk along the centre of the footway as the guide dog is trained to walk in a straight line. However, if there are obstacles along this route, the dog would veer to the left or right to avoid these obstacles. Having street furniture and clutter placed inconsistently along the footway makes using the walkways very difficult and stressful.

How can you minimise the negative impact on people with sight loss?

There are two broad actions that can be taken to reduce the obstacles street clutter present.

First, by designing a scheme which does not include unnecessary street furniture and obstacles.

Second, ensure that transport operators or local authorities utilise their powers to secure the removal of, and prevent additional, street clutter by businesses (e.g. A-boards) and private individuals (e.g. bikes or e-scooters).

Street furniture within an area should be regularly reviewed to ensure items are fit for purpose, cleaned and repaired as needed.

- Ensure visual and tactile contrast is maintained.
- Redundant items should be removed, and consideration given to combining items where this would reduce street clutter.
- Streetlamps and signs should be wall mounted whenever possible.
- Trees, plants, etc., should be selected and sited to avoid any parts becoming a hazard. They should be regularly cut back where they overhang or encroach on pedestrian routes.

A-boards

Local authorities should utilise their powers by introducing a licensing scheme for A-boards which in turn would stipulate the volume, size, and location where they should be placed to prevent them posing a hazard to pedestrians. Monitoring and regulating their use would ensure that the benefits of A-boards are maximised while the potential hazards are minimised.

Street furniture and barriers

Local authorities should ensure an accessible physical barrier marking out the area where street furniture is located, that will help people with sight loss avoid it. An accessible barrier would feature colour contrast to help people with some residual vision identify it and a "tapping rail" at the top and bottom so that long cane users do not walk into them or get their cane trapped under it.

Planters

Planters placed in the public realm must not obstruct or reduce the walkways. They must contrast well against their surroundings, so they are visible for people with some residual vision. They must not have sharp edges and should be of appropriate height so as not to cause injury if someone walks into them.

Dockless bicycles or bikes and e-scooters

These must not obstruct walkways and present dangerous trip hazards to pedestrians, particularly those with a vision impairment. For long-term use, accessibly designed fixed docking stations and charging points are the only safe parking solution. Guide Dogs recommends that:

- Parking bays for e-scooters and bikes are provided with a kerb height of 60mm (which is detectable for people with sight loss) separating walkways from docking stations.
- Enforcement on compliance with parking rules should be written into contract documents.

- Charging points should be located in parking areas, so that they do not cause an obstruction to pedestrians (see Guide Dogs position statement on EV charging points).

Uneven pavements and walkways

It is essential that the pedestrian environment is well managed and maintained to help retain features that augment the accessibility of the public realm. Uneven and badly maintained pavements, footways and walkways present a trip hazard for people with sight loss.

Outside seating

Where outside seating is proposed for use by businesses or others, a physical barrier with a top and bottom tapping rail should be used to demarcate the area where the seating will be located. This will allow the area to be detected by long cane users. If there is to be a permanent outside seating area, consideration must be given to utilising relevant tactile paving to mark out the area.

Floating Bus Stops/Bus Stop Bypasses and Bus Boarders

37% of people with sight loss said floating bus stops/bypasses reduce their confidence to leave the house[54]

Definitions of Floating Bus Stops/Bus Stop By-passes and Bus Borders can be found in Appendix 2.

People with sight loss rely on public transport and the pedestrian environment as their main means of getting around. If they are not accessible, people with sight loss are prevented from getting out and about independently and safely. The intention behind floating bus stops/bus stop bypasses and bus boarders is to prevent conflict between cyclists and buses. However, this design tends to confuse and, in some instances, pose barriers for people with a vision impairment who have to navigate across a cycle track to access bus stops; especially as it is difficult or impossible to detect the presence of bicycles. The conflict and fear of conflict makes it unsafe and stressful for people with sight loss as it creates anxiousness, fear and, for some, can lead to them avoiding certain areas.

What are the problems people with sight loss face?

- Bus stop bypasses or boarders that do not have a detectable cycle track put people with sight loss at risk of walking in front of a cyclist they cannot see or hear approaching.
- Not knowing which bus stop has a bypass or boarder and stepping out into a shared area with cyclists.
- Not able to detect the crossing point to get onto the island due to wide pavements and lack of cues. It would be helpful if guidance paving is used to lead someone with a vision impairment to the tactile paving located at the crossing point.
- The indiscriminate designs of bus stop by passes and boarders.
- The speed of cyclists using the bypasses. Lack of measures to reduce the speed of cyclists using this route for instance raised bumps at the beginning and end of the bypass.
- The removal of kerb upstands on bus boarder islands makes it difficult to know where the island ends and the cycle track begins and vice versa depending on whether you alight from the bus or want to get on the bus.
- The introduction of level islands and crossings without the appropriate tactile paving to assist people with sight loss in identifying and using them safely and independently. Someone with significant sight loss is not able to detect where a crossing point is located, or when they have completed a crossing if there is no tactile paving on the opposite side.
- Reduction of cues and clues that assist people with a vision impairment with orientation and navigation. Some people with sight loss use certain features within the built environment to determine where they are, the lack of such features can make it difficult to navigate. For example:
    - clear signage.
    - contrasting colour between raised roadway or cycle path and footpath.
    - the importance of tactile paving.

How do you keep public transport accessible?

Guide Dogs believes that the external environment should be inclusive and consider the needs of people who are blind or vision impaired.

Guide Dogs is not opposed to cycling and investment in cycle infrastructure, so long as it is designed inclusively which should include the following:

- All pedestrian crossing points over cycle tracks running behind bus stops should have an auxiliary aid, such as an audible and/or tactile signal, which indicates to someone with a sight impairment when it is safe to cross the cycle track. In addition to an audible signal at the crossing, a raised hump, or other traffic calming measure, should be used to encourage cyclists to slow down.
- Markings and signage must be provided to instruct cyclists to stop when pedestrians are near or on the crossing point.
- We recommend a notice to reduce speed should be marked on the bypass approach to remind cyclists that the area they are cycling through is predominantly a footway.
- We recommend some measure of enforcement to improve cycling behaviour around such features.
- We recommend measures for vision impaired passengers to determine when it is safe to alight from the bus onto a bus boarder or floating Island.
- We strongly recommend full kerb upstands between the cycle track and the pavement and the cycle track and the bus stop island, with the recommended tactile paving at the crossing points.
- Where a floating bus stop is located along a wide pedestrian footway or pavement, guidance paving should be installed to guide someone with sight loss to the blister paving on the crossing point to get onto the bus.

External approach to transport infrastructure

Most blind or vision impaired people use public transport or walk as their main mode of transport. Consequently, it is vital that the approach to transport infrastructure is accessible. Good transport links and access routes should be part of the design process. There should be access via a variety of modes to promote choice and facilitate easily.

- Where crossings are provided in close proximity to major interchanges and public buildings, signalised controlled crossings should be the first option to ensure that pedestrians can access them safely and independently. People with sight loss prefer signalised pedestrian crossings because they are safer, and the signals (audible, visual and tactile) indicate when it is safe to cross. Guide Dogs research[55] and guidance on signalised crossings[56] on signalised crossings provide evidence on the importance and significance of this type of crossing.
- Pedestrian routes to the premises should be clear of obstructions such as vegetation, street furniture, signage, docking stations for bikes and e-scooters, with the recommended width of 2m and a minimum of 1.8m.[57]

- If a car park is provided, it should be close to the building(s) with clear markings and a suitable surface (smooth and level). There should be clear pedestrian routes through and around the car park with the appropriate tactile paving should be provided (for further information please see Appendix 3).
- Car parking should be clearly signed and provide accessible/disabled parking bays as well as drop off points, where appropriate. Accessible parking bays should be in close proximity to the premises.
- Good lighting, signage within the car park as well as effective use of colour contrast will assist people who have some residual vision to identify features and navigate within the car park.

Footbridges, tunnels and underpasses

While it is preferable to have crossing on the same level, sometimes it is not feasible, and bridges or underpasses may be necessary. It is vital that these features are inclusive, accessible and safe to use. Some suggestions are:

- The approach to bridges and underpasses should be wide enough to accommodate pedestrian flow.
- Lighting should be at least 350lux during the day and 100lux at night.
- CCTV should also be installed to create a sense of security and deter vandalism.

Modes of transport

Bus stops

Bus stops should be located where there is sufficient room to accommodate passengers. There should be a standard kerb height of 125-140mm. Bus shelters should be well lit, with good colour contrasting features. The main shelter should be of transparent material to assist with visibility and for security reasons. Where glass or other transparent materials have been used, a contrasting strip should be provided between 1400 – 1600m and a width of 150mm to highlight its presence for people with sight loss who due to their eye condition may not know it is there. Signs should be clear and visible as recommended in the Sign Design Guide + and BS8300-1:2018. Bus stop shelters and poles must have a clearance of at least 500mm with coloured bands or strips located on the pole. Good, clear visual displays should be provided, the timetable should be accessible and legible. The provision of voice activated information would assist people with a vision impairment.

Bus Stations

In addition to the requirements set out below in relation to entrances, it is preferrable for bus and train stations to have automatic doors with audible features, rather than revolving doors. To assist people with sight loss to navigate, clear signage and good contrasting features, to assist with locating them, are of particular importance. The following will assist people with sight loss accessing these premises:

- Concise and clear signage throughout transport sites and buildings.
- Clearly marked pedestrian crossing areas with the associated tactile paving should be provided in bus stations where people cross the bus lanes to get from one platform to another.
- Good logical layout to assist with orientation and navigation for people with sight loss, e.g., having the assistance/help desk near the entrance for easy access.
- Effective wayfinding systems to assist with locating the bays and other facilities provided within the premises.
- Tactile information provided i.e. tactile maps, tactile signs (where it can be accessed).
- Clear audible announcements.
- Good lighting to enhance use of the premises.

Train stations

Platforms on off-street train stations must have tactile paving along the edge of the platform as recommended in the guidance.[58] It should be laid 500mm – 700mm back from the platform and a depth of 400mm minimum. In addition, a white line should be marked with a depth of 100mm running along the platform. The help point must be visible, have contrasting features for easy identification and signs should be clear, visible and concise. Seating, lamp posts, bins and other furniture must contrast against their surroundings. Signage must be as recommended in the Sign Design Guide +. Visual information displays must be accessible. Audible announcements must be clear.

Image 22 – 'Help points' at stations should be easily identifiable, and should have tactile features such as embossed text or braille.

Image 23 – Train station platforms should have minimal furniture and clutter. Seating should contrast against its surroundings, so it is easy to locate.

On-street tram stops

These platforms are raised above the road level and must be easily identified with clear signage. Tactile paving must be provided at the beginning of the ramp and along the edge of the platform as recommended in the 'Guidance on the use of tactile paving surfaces' along with a white line running along the edge of the platform as mentioned within the on- street platform section. The ramp leading onto the platform must have a gradual gradient and have protection on the rear of the platform.

Taxi ranks

Many people with sight loss rely on taxis to get out and about. Taxi ranks should be located close to facilities with clear access to the near side of the taxi to allow easy access getting in and out of the vehicles. They should be well signed and have seating close by. It is good practice to provide embossed information to assist people with a vision impairment in gaining information about the service.

Building Entrance

The entrance into any building should be clearly identified. The internal design or layout of a train or bus station must be easy to navigate, and good wayfinding systems should be provided to assist with a seamless experience. Ticket booths and the information desk or assistance point should be located close to the entrance for ease of access when required.

Good wayfinding cues, lighting, textured surfaces and signage will assist with access to the service and getting assistance if required.

Features that would assist people with sight loss:

- Good colour and tonal contrast to highlight the main entry point will assist with identifying the entrance doors of the building.
- Signage (directional and information) should be clear and visible on approach. It should follow the guidance recommendations 'The Sign Design Guide +[59]' signage with good contrasting features i.e. contrast between the background and the text, the use of upper and lowercase letters and the sign must contrast against its surroundings.[60]
- Effective lighting to highlight the entrance at night and in poor weather conditions.
- Entrance doors should be accessible for all users. Revolving doors should be avoided. Where they are provided an additional automatic door with audible features should also be included.
- Glass doors should have manifestations to warn people with sight loss of the presence of glass.
- Automatic or sliding doors should have an audible announcement to warn people with sight loss which direction the doors are opening.
- An information point or reception desk close to the entrance to enable quick assistance when required to access the building when required

Waiting/seating areas/concourse/lobby areas

It is vital that waiting areas are easy to locate and navigate. Providing a logical layout of furniture and features will prevent some of them becoming obstructions or potential hazards. Clear circulatory routes should be different from seating or waiting areas, this can be achieved using colour/tonal contrast and different surface textures between these areas. Where there are pillars, columns or other vertical features, these should contrast against the surroundings and in some cases also include a contrasting strip at eye level to assist someone with some residual vision to detect its presence, as recommended in Inclusive Mobility[61]. In addition, noise levels in this area should be minimal to allow people with a vision impairment to benefit from any announcements.

Features that would assist people with sight loss:

- The area should have good colour/tonal contrast between the floor surface, walls and furniture.
- Clear walkways in between furniture and circulation routes should be well lit, have a logical layout and directional signage to the different parts of the premises or building.
- The seating should not be placed in the line of travel or on circulatory routes and should contrast well against the floor surface, so they are easily detectable.
- Good lighting is essential and should be uniform to prevent light and dark pools of light on the floor, which can be disorientating for people with a vision impairment giving the impression of holes or pools on the floor. The type of lighting should not diminish the contrasting features within the space.
- The design materials should be considered carefully to prevent echo, which could make announcements difficult to understand. Glass and stainless steel tend to reflect sound and produce echo.
- The design of the service counters should be accessible, with good colour contrast
- Where the service counter has glass screens, they should be non-reflective and have manifestations to highlight its presence for people with sight loss.

Horizontal Circulation

Circulatory routes within buildings should be strategically designed to do exactly what they are supposed to, which is to get people in and around safely. Inclusive design, layout, signage and materials make it easier to navigate a building.

- Should be well lit with uniform lighting to allow for easy detection and identification of the features within the area.
- Have clear routes with no obstructions or barriers to prevent free flow of movement. The width of corridors or passageways should be in line with the Building Regs Part M[62], Inclusive Mobility[63] and the relevant British Standards.[64]
- There must be good colour contrast between the walls, floor surface and internal doors and door opening furniture e.g. door handles, automatic entry systems.
- The door frame should contrast well against the main door as well as with the door opening facility to identify the entry and opening facility to access area off the corridor or passage.
- Doors that are fully or partially glazed should have a contrasting strip, or manifestations, to highlight the presence of glass, thereby preventing people with vision impairment from walking into doors.
- Good directional signage to encourage wayfinding. Signage must be strategically placed to prevent it being an obstruction or trip hazard or diminish their visibility by putting furniture or fittings to obscure them.
- Careful consideration is required when selecting the materials to be used within buildings, especially in communal areas. Refrain from using materials that reflect sound and cause an echo. This can be very disorientating for people with vision impairment who may rely on their hearing to understand their immediate surroundings. Using absorbent materials like wood, fabric, etc., can reduce reverberant sounds.
- Where vendors or cafés are present within the concourse of stations, their displays, chairs and tables should be managed so they do not obstruct or encroach into the circulatory routes. Café table and chairs should have a physical barrier sectioning them off with both a top and bottom tapping rail to prevent people with sight loss walking into them.
- The provision of guidance paving in wide open spaces i.e. routes to platforms and bus bays to assist people with vision impairment navigating such areas.

Vertical Circulation

All stairs, escalators and lifts must follow the relevant regulations and guidance.[65] Some key requirements for people with a vision impairment are:

Stairs

Stairways should be accessible but can be potential hazards if they are not detected in time by people with sight loss. If tactile and contrasting features are not implemented, a step/flight of stairs could be perceived as a ramp, thereby becoming a trip hazard, or not be detectable at all.

Image 25 – Staircases should have corduroy tactile paving at the top and bottom of stairs. Handrails, the nosings and other features should contrast well against the stairs, so they are easily identifiable.

Key considerations include:

- Handrails must contrast against the wall and run continuously over any landings and extend beyond the last step. This configuration can be used to guide someone with a vision impairment down or up the complete set of steps.
- Staircases should be well lit with uniform levels of illumination to prevent disorientation or misconception of what is ahead of someone. When lighting is not uniform, it forms pools of light and dark on flooring. This can come across as holes on the ground, which can be disorientating for people with vision impairment.
- External stairs should have corduroy tactile paving at the top and bottom of stairs to warn someone with a vision impairment that there is something ahead and to proceed with caution.

Steps

We strongly recommend following BS8300-1:2018 and Building Regulations when designing steps and stairs.

Key considerations include:

- Steps must have contrasting nosings on both the risers and tread. This is required to highlight the edge of the step when ascending or descending steps. Some people with vision impairment may think it is a ramp when the edge is not clearly defined, thereby making it a potential hazard.
- Step nosings must be solid strips running along the entire width of the step for easy detection.
- The steps must contrast against the walls and handrails for easy identification
- Tactile paving should be provided at the top of the first step and bottom of the last step where there is high pedestrian flow or in large complexes.
- The depth of the step must be as recommended in the guidance so that it is deep enough comfort and stability.[66]
- Steps for should be of a consistent height and depth.
- Winding or spiral stairs should be avoided as steps of different width and size can become a trip hazard for people with sight loss.

Travelators/Moving Walkways

These should be clearly signed with directional information and well lit. Good colour contrast at the beginning and end of the walkway with a different texture surface. In addition, audible information to warn passengers they are embarking onto or coming to the end of the walkway. The surface material must be non-slip with handrails. The emergency stop button must be clearly visible so it can be reached and used when required.

Escalators

Escalators are not accessible for all users for example, most guide dogs are not trained to use them. Where escalators are provided, in addition to the considerations outlined in relation to stairs above, the moving handrail must have good colour contrast and extend at least 300mm beyond the end of the escalator. Furthermore, the handrail should also synchronise with the escalator, with the direction of travel being indicated both tactilely and visually.

Escalators should:

- Be well signed
- Contrast against their surroundings
- Have a contrasting edge on each step
- Have a clear space on the approach to an escalator used in heavily trafficked places should be 10 metres or more
- Have audible warning to alert someone with vision impairment at the start and end of the escalator so they are prepared.

Lifts

Lifts are one of the vital elements for safe navigation within buildings and should be accessible to all users. Therefore, where lifts are provided, it is vital that the route, and access, to them is signed, safe and accessible. Ensuring that the location is clear and easy to find is paramount in promoting inclusivity. All lifts should be manufactured and installed in line with relevant legislation and Guidance.[67]

Key considerations include:

- Accessible signage should be placed both leading up to and within the lift. This must be embossed/tactile, visible and audible.
- Signage to the lift must be identifiable within the area it is placed.
- Both internal and external tactile signage should be positioned so it is easy to touch for people with a vision impairment and located where they can be touched.
- The control panel should be both tactile and visible and include audible announcements.
- Audible information is required to provide information on the floor or section of the building someone with a vision impairment has arrived at and which side the doors are opening.
- The panel must contrast well against its surroundings to help locate it.
- Within the lift car good colour/tonal contrast should be maintained between the floor, walls and control panel.
- Lighting should be 200lux, as recommended in the Guidance.[68]
- Uniform lighting should be provided within the lift car and should not diminish the contrasting features within the car.
- Sufficient space is necessary for wheelchair users and people with assistance dogs. The appropriate type of lift must be considered depending on the size and type of building it is installed in.

Sanitary Facilities

The design of sanitary facilities should take into consideration a broad range of abilities and backgrounds. The recommendation from BS8300-2:2018, Building Regs part M, Inclusive Design Standards (LLDC) and other local design standards should influence the design and types of sanitary facilities. Standard toilets, accessible toilets and changing places should be provided. The standard toilets should also include provisions for people with ambulant impairment. Family and baby changing facilities should not only be provided within the accessible toilets but also amongst standard toilets to provide inclusion and choice. People with sight loss require certain features and cues to be able to access these areas, such as:

- Have clear signage leading to where the sanitary facilities are located
- Have good visual contrast between the main features, equipment, controls and grab rails
- Not use materials that are reflective or which cause glare

- Use of materials that absorb sounds to maintain the acoustics within the toilets
- Use mirrors sparingly, as the reflections can be disorientating for people with residual vision
- Have uniform lighting to allow easy use and detection of features within these areas
- Have automatic sensors placed in a logical position for ease of use

Signage

Most information is given through vision which makes signage one of the most important features within buildings or interchanges. Maximising the visibility and legibility of signs enables people with sight loss to orientate and navigate areas with as little difficulty as possible. In addition to the requirements below, signage should confirm to the Sign Design Guide +.[69]

Image 26 – The text on signs in stations and interchanges should contrast against its background. Embossed text and braille should also be used to ensure a sign is accessible.

Image 27 – Signage should be legible, be in a large print and contrast against its background.

Signage should be:

- Clear – the sign should convey easily understandable information.
- Concise – the message a sign gives should be short, simple and easy to understand.
- Consistent – the design, layout and characteristics should be the same. Consideration on where signs are placed is paramount to enable its use. They should be placed where it is easy to read. Signs should also have the following characteristics:
  - The sign should contrast against the surroundings it is placed
  - Good contrast between the background of the sign and the text
  - The text should have the first letter of the word in uppercase and the rest in lowercase, with a consistent typeface.

Colour and tonal contrast

People with residual vision rely on good colour contrast to identify, recognise or detect something. Colour contrast is the difference in colour between two colours/surfaces. Each surface or material has a difference in colour or light reflection. This measure is known as the Light Reflectance Value. The higher the difference the better the contrast. The current recommendation is a difference of 30pt between the two surfaces. However, it can be up to 50 – 70pt for critical areas or features. Using colour/tonal contrast between features like doors, walls, flooring helps to detect where the wall ends and floor begins. It also helps to identify where fixtures and fittings are located. It is good practice to use colour/tonal contrast to implement wayfinding systems within large buildings to assist with orientation and navigation.

Lighting

Light is important and can increase or diminish visibility within an area. People with sight loss require uniform lighting and transition into lighter or darker areas i.e. entering a building, as this could be disorientating depending on the individual's eye condition. Uneven lighting in areas like hallways, corridors or large open spaces gives off light and dark pools of light. For someone with a visual impairment this gives the impression of holes or uneven surfaces which can be very disorientating and affect how they navigate the area. Using certain types of light can also dimmish the colours and decrease the colour contrasting features. It is really important to use the correct type of lighting within buildings or premises and make sure it does not cause glare on surfaces they reflect on.

When deciding on lighting provision, designers should:

- Ensure an even, uniform distribution of lighting – this is especially relevant where downward vertical lighting is being used, such as spotlights.
- Ensure lighting does not cause glare.
- Avoid polished reflectors or other diffusers that produce large areas of brightness.
- Light needs to be bright enough to enable lip reading.
- Remember to think of natural light
- Vertical blinds are effective in limiting dazzle.
- Avoid up-lighting.

Acoustics

Different materials reflect sound and lighting in different ways, which could affect the hearing and vision of people with a sensory impairment.

Ensure consideration has been given to the Light Reflectance Value (LRV) of any materials, surface or colour. This can be obtained from manufacturers. For example, glass and shiny surfaces are reflective and cause an echo, whereas matt finish wood is not reflective and does not cause an echo.

Announcements in transport infrastructure are vital for people with sight loss who may not be able to see the signage. It is important that areas where announcements are made should have non reflective materials used to prevent unclear announcements.

Means of Escape

People with sensory impairment require audible and visual signals in place to allow for safe evacuation. National guidance on fire evacuation and other requirements and procedures, within the building regulations and British Standards, must be implemented.

During Construction

What are the problems people with sight loss face?

During the construction or redevelopment of a station, interchange or the surrounding public realm, new pedestrian layouts may be required. For people with a vision impairment, such new layouts can be disorientating for several reasons, including that they cannot see the changes that have been made and the presence of new obstacles.

How can you minimise the impact on people with sight loss?

There are a number of key actions that can be taken to reduce this impact on people with sight loss. Notably, purely visual cues on the street, such as signs indicating changed layouts, are unlikely to achieve this. Instead, consideration should be given to the following:

- Changes to street layouts, including the temporary closures of bus stops, must be communicated in an accessible format: for instance, online maps which meet web accessibility standards should be made available to show changes across a neighbourhood, and updated regularly.
- Local sight loss organisations and blind and partially sighted people should be consulted on how to communicate changes effectively.
- Audio announcements should be used to advise passengers of changes, including changes to where buses or trains depart from.
- Signage detailing changes should be easy to read to make them accessible to people with some residual vision (for further information please see the section on accessible signage).
- Existing kerbs, tactile paving and controlled crossings should be maintained to ensure that people who are blind or vision impaired know where the pavement ends, and the road begins.

- Consider whether additional, temporary tactile paving will be needed to enable people with sight loss to use reallocated space safely. This is particularly important where pedestrian areas are only separated from the road by permeable barriers, and there is a risk of people with a vision impairment inadvertently walking into the road.
- For longer-term interventions, consider creating a temporary kerb to assist people with sight loss.
- Temporary features, such as planters or barriers, used to reallocate space, must contrast against their surroundings, avoid any trip hazards and be easy for people with a vision impairment to detect with a long cane. Cones are not appropriate markers for pedestrian areas.
- One-way systems for pedestrians should be avoided, as blind and partially sighted people may be unable to follow them without additional support. This may result in conflict with other pedestrians. If a one-way system is to be used, the layout must be communicated effectively to people with sight loss. Each direction must be separated from the other with physical features, such as an accessible barrier.
- New signage indicating changed layouts should be kept to a minimum to avoid additional street clutter, with signs positioned so that they do not present a potentially dangerous obstacle for pedestrians with sight loss.
- All signage should be in clear, large print with a strong contrast.
- Remove non-essential street furniture to increase space and reduce obstructions.
- Restrict pavement parking wherever possible, as it reduces space available for pedestrians; with a temporary TRO in place, it may be possible to co-locate the signage needed for pavement parking restrictions with signs indicating new layouts.

Appendix 1 – Crossings

Formal Crossings

There are two types of formal crossings: controlled and uncontrolled.

Controlled Crossings

A controlled crossing is a pedestrian crossing where the pedestrian can initiate the crossing phase via the control box during which traffic is required to stop at a red traffic signal. Controlled crossings have visual, tactile and audible signals.

The tactile paving provided at signalised controlled crossings have a stem and is in the shape of the letter 'L'. However, due to incorrect installation or, changes overtime some zebra crossings may have L shaped tactile paving. They are not signalised controlled crossing points.

Signalised (controlled) pedestrian crossings have visual, tactile and sometimes audible (if one crossing is not in close proximity to another and create confusion) signals to assist a range people with vision impairments. It uses both traffic and pedestrian signals to communicate which road users have the right of way.

Uncontrolled Crossings

The right of way at an uncontrolled formal crossing is not controlled by pedestrian or traffic signals, 'instead, pedestrians and drivers react to each other's presence based on learnt rules regarding who has priority. E.g. the Zebra Crossing.

Informal Crossings

Informal crossings do not have a control box, are not signalised and the tactile paving does not have a stem. Examples of such crossings include: courtesy crossings and crossings on side roads.

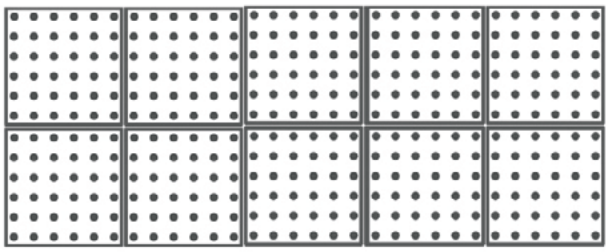
Appendix 2 – On-road Bus Infrastructure

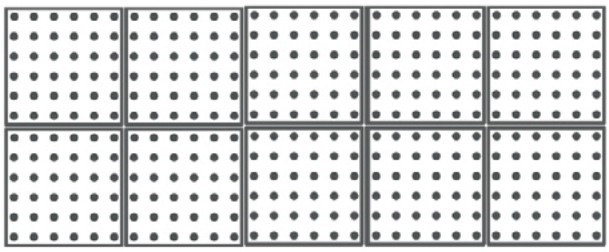
A floating bus stop or bus stop bypass 'is an arrangement that involves a cycleway running behind the passenger boarding area at a bus stop, between an island and the footway. The bypass consists of cycle track which should be separated by kerbs from the footway, with minor level difference.[70]' Some bypasses will have an informal crossing e.g. mini zebra crossing, signage and tactile paving to indicate the crossing point across the cycle track and onto the bus stop island. The idea behind this design is to prevent conflict between cyclists and buses.

A bus boarder is 'a platform onto which bus passengers alight. Can be used in isolation, as a build-out from a footway, or as part of a floating bus stop arrangement'[71]. The main difference between the floating bus stop and bus boarder is the location of the bus stop. On bus boarders the bus shelter is place on the pavement and not the island.

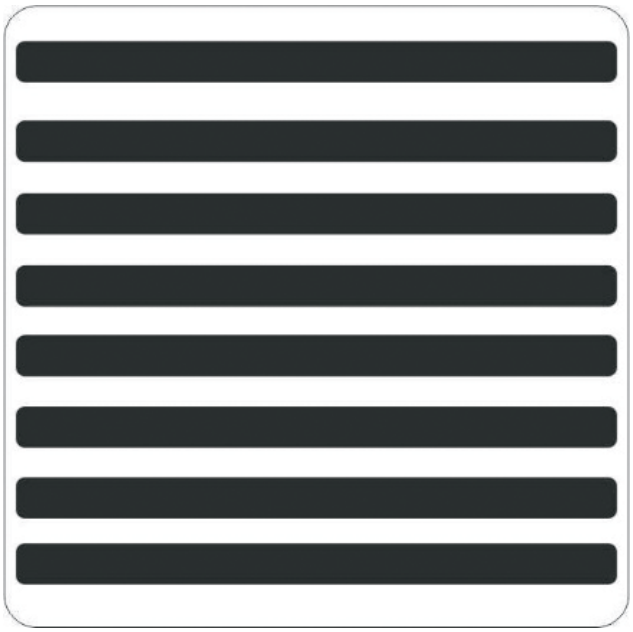
Appendix 3 – Tactile Paving

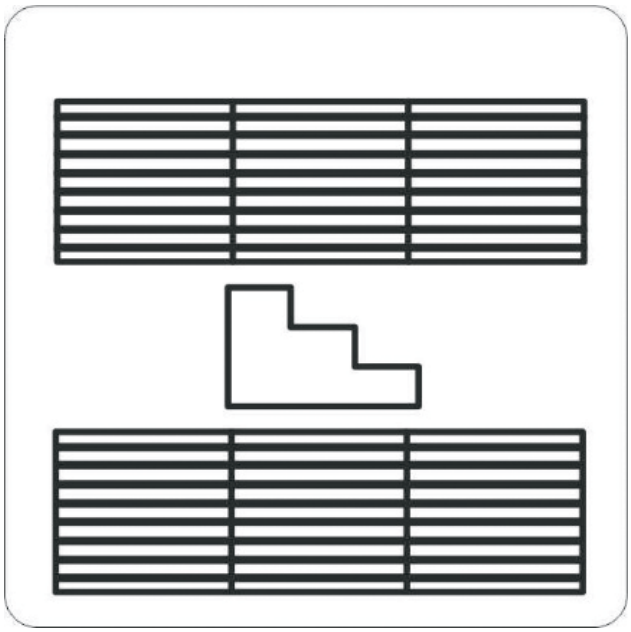
Blister paving is commonly used at controlled, uncontrolled crossings and informal crossings. For controlled crossings such as Pelicans and Zebras it is laid in an 'L' shape with a stem or tail stretching out at 90 degrees from the kerb edge across the pavement indicating to the pedestrian that they have arrived at the crossing point. At uncontrolled and informal crossings there is no stem but simply two or more rows of blister paving parallel to the kerb edge.



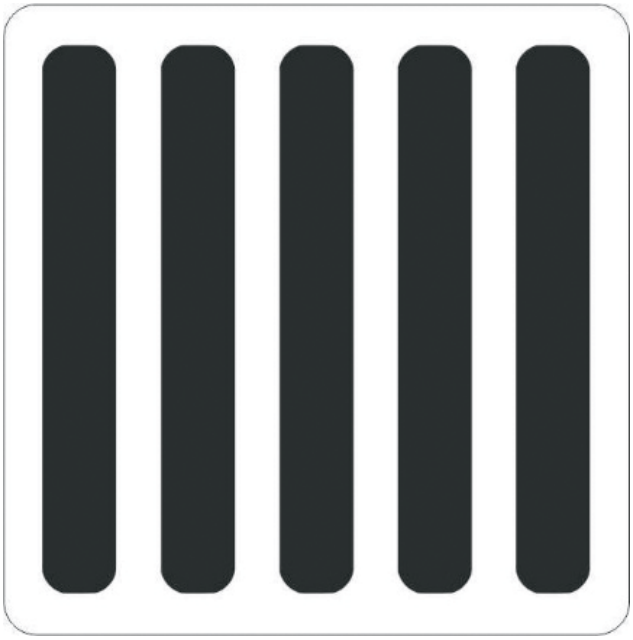


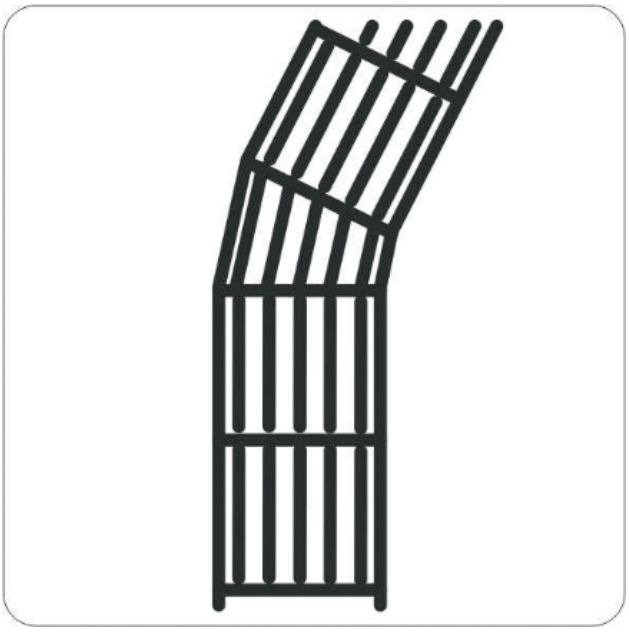
Corduroy paving is a hazard warning surface consists of evenly spaced raised lines with rounded tops. There are eight bars per paving tile. It is most commonly used at the top and bottom of steps but can be used to warn of changes ahead.





Guidance path surface is used to guide blind and partially sighted people along a route. It is most useful in wide open areas where navigation using the building line would be problematic or where traditional landmarks maybe absent. For instance, to guide people from a railway station concourse to the taxi rank to or through an open pedestrian square or precinct. It is similar to corduroy but this paving has 5 bars instead of 8 and the bars are flat topped instead of rounded.





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