

Understanding how blind and partially sighted people get around

R N I B

See differently

Touch, sound and specific visual indicators all provide important information for people with sight loss. Although the majority of people who are registered blind or partially sighted have some residual vision, most people with sight loss have severely reduced distance vision (1). This can cause problems getting around, like, for example, when detecting approaching vehicles and judging gaps in traffic while trying to cross roads and cycleways. So it is essential to have reliably detectable, unobstructed, safe spaces to walk which are away from vehicles, and crossings where traffic can be relied on to come to a full stop.

Although these key features will help most blind and partially sighted

people, people with different levels and types of sight loss will access them in different ways. People with little to no useful vision often rely on what can be felt and heard in the built environment, such as raised dots in paving stones (tactile paving), or the beeping sound or spinning cone of a pelican crossing. They may also use mobility aids to detect tactile features. Others with low vision may instead make use of visual clues, such as the high contrast of tactile paving slabs at controlled crossings.

For regular journeys – such as travelling to work, or visiting the GP – people will often have memorised routes, making it essential for street layout changes to be communicated effectively.



Mobility aids

- Some people use mobility aids to help them get around. These include canes, and guide dogs.
- Different types of cane do different jobs. For example, guide canes and long canes are used to sweep, roll or tap from side to side along the ground to detect and avoid obstacles, whereas symbol canes are used when walking to let other pedestrians and road users know that someone has sight loss, and alert them to take particular care when navigating around them.
- Canes will not be able to immediately help someone detect every obstacle, particularly where some sections or all of the obstacle is above ground level, such as overhanging shrubbery, A-boards or parked vehicles.
- Guide dogs are a type of assistance dog. Guide dogs and their owners receive specialist training to communicate to each other, learn regular routes, and use key features on streets to navigate safely. For new, unfamiliar routes, dogs follow their owners' instructions, for example to walk in a straight line, to turn right or left, or to stop.
- Not everyone with sight loss uses a mobility aid, and this means it is not always obvious that someone has sight loss.

Detectable kerbs

- Kerbs which are easily detectable by touch (through shoes or canes) and to those who have low vision, are used to help distinguish between the pavement and the road. According to the Effective Kerb Heights for Blind and Partially Sighted People research by Childs et al. (2009), for a kerb to be reliably detectable it must have an upstand of at least 60mm.
- Dropped kerbs help to identify crossing points, and the slope of the pavement towards a dropped kerb indicates when you are approaching a crossing point.
- Some people follow detectable kerbs with a cane, to keep on course to a destination. Guide dogs are also trained to use kerbs to keep on course and to keep a safe distance from the road.
- Guide dogs are trained to stop at kerbs so their owners can check it is safe before crossing over roads. This is most effective when there is a clear delineation between the kerb and the road, such as a change in height.

Building lines

- Building lines are the right angle where the pavement meets the edge or wall of a building.
- Some people follow building lines with their canes to keep on course to a destination.
- Guide dogs are trained to guide their owners by following building lines or kerbs, and use these to keep to the centre of the pavement, with an equal distance between the building line and the kerb edge, so they have space to navigate around obstacles.
- Any obstruction to the building line (such as street furniture or people queuing) can make it difficult or impossible to follow and keep on course.

Tactile paving

- Tactile paving is paving slabs with raised bumps which can be felt through shoes or canes.
- Tactile paving is used to indicate a hazard. Different types of tactile paving mean different things. For example, raised horizontal lines indicate the top of a flight of stairs, and raised blister dots on a pavement indicate a crossing point over a road.
- Cane users and guide dogs are trained to find tactile paving to locate crossing points.
- Tactile paving works with other features of the built environment. For example, red blister tactile paving works with the slope of the pavement to a dropped kerb, and

guides people towards the push button box at a signal controlled pedestrian crossing.

Pedestrian crossings

- Signal controlled pedestrian crossings, like pelican crossings, are the most accessible. They tell traffic to stop with a red light, and have tactile paving, beeping sounds and rotating cones located under push button boxes to let people know when it is their turn to cross. The sound also indicates which direction to head in, helping people walk in a straight line across the road as quickly as possible. Indicating when it is safe to cross the road using signals accessible to all senses (sight, sound, touch) ensures pedestrian safety.
- Zebra and courtesy crossings are less safe because there are no traffic lights to stop vehicles; pedestrians need to use sight and sound to judge when it is safe to cross, and to communicate with vehicle drivers about right of way. This is not possible for most blind or partially sighted people.
- Crossings which create level surfaces (continuous footways) from pavements across roads are also not accessible. Without detectable tactile boundaries like upstanding kerbs and graded slopes from the pavement to the road at crossing points, road junctions become "invisible" for people who can't see the active space for vehicles. It can be very frightening to be passed by a car or bike when you believed you were still on the pavement.

Vehicle sound

- Vehicle sound helps to alert someone who can't see the vehicles that they are there.
- Effective vehicle sounds can indicate where the vehicle is coming from (directionality) and how fast the vehicle is approaching.
- Vehicles with traditional combustion engines like petrol or diesel cars already make a distinctive "broom" sound when the engine is running. But electric vehicles, micromobility vehicles (typically small, lightweight, and motor-powered) and cycles do not make this sound, and so are difficult, if not impossible, to hear and detect if you can't see them.

High contrast and bright colours

- The colour and contrast of the red surface of tactile paving at controlled crossing points - or buff tactile paving at courtesy crossing points - can provide a visual beacon to follow to locate safe pedestrian crossing points.
- If obstacles in the street, like a bench or bollard, are brightly coloured and have a high tonal contrast to their surroundings, this will make them more visually detectable.
- High tonal contrast is also important for delineating pedestrian areas and highlighting dangers to those who rely on low vision.

Without this tactile, audio and visual information, it is much harder, if not impossible, for blind and partially sighted people to navigate independently.

Endnote

- (1). Registered blind people who have vision typically need to be 3 metres away or less to see something a fully sighted person would see from 60 metres away. Registered partially sighted people typically need to be 6 metres away or less to see something that a fully sighted person can see from 60 metres away (RNIB, 2020).



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