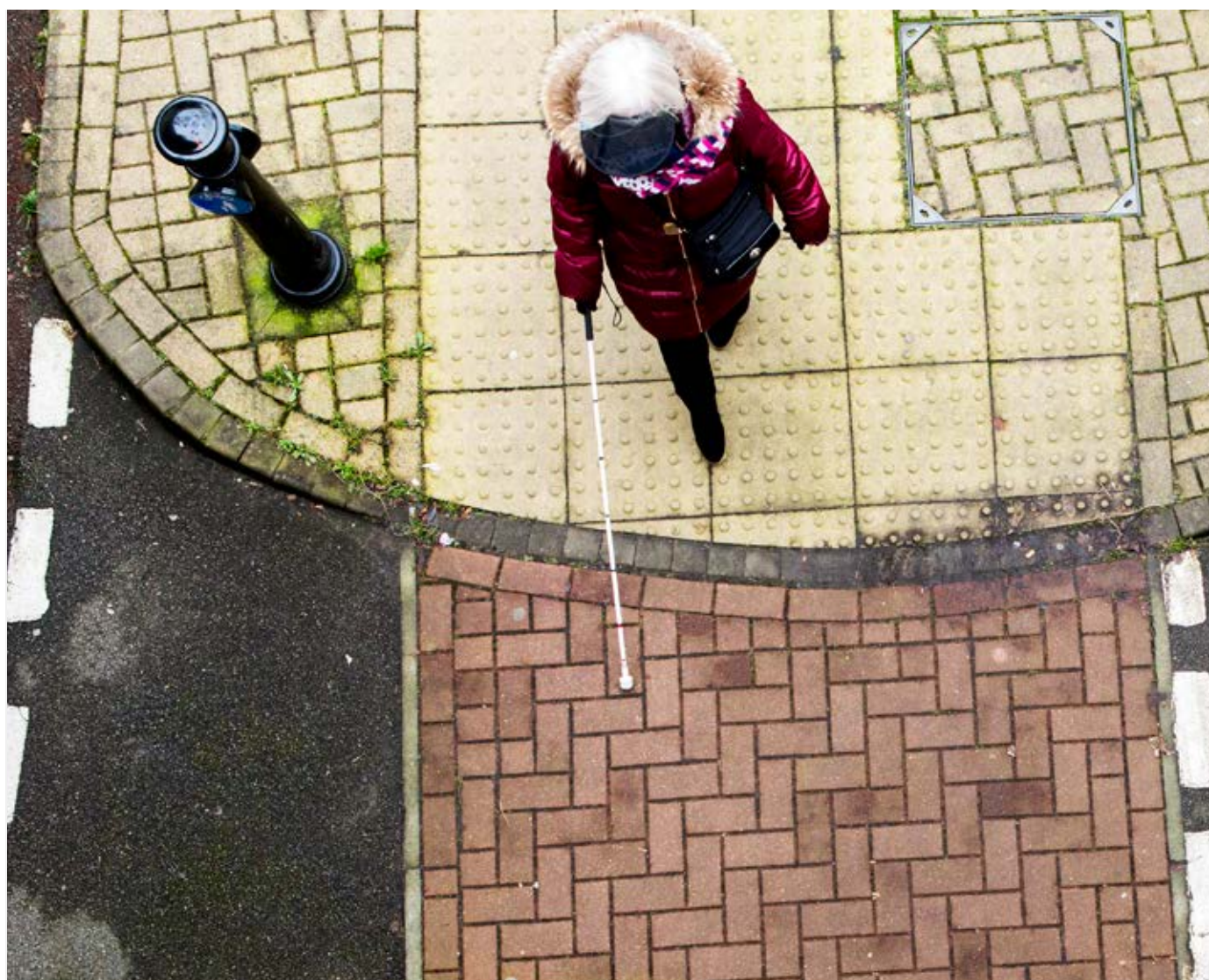


Seeing streets differently:

How changes to our streets and vehicles are affecting the lives of blind and partially sighted people



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About RNIB

We are the Royal National Institute of Blind People (RNIB), the UK's leading sight loss charity and its largest community of blind and partially sighted people. Every day, 250 people begin to lose their sight. RNIB has a crucial role to play in creating a world where there are no barriers to people with sight loss. We want society, communities and individuals to see differently about sight loss.

About sight loss

There are around 340,000 people registered blind or partially sighted in the UK and an estimated two million people are living with sight loss that affects their daily lives.

Sight loss is a spectrum, and every eye condition affects someone's sight differently. For example, glaucoma affects peripheral vision, and cataracts cause cloudy vision. This means that one size does not fit all when making things accessible.

Different people will rely on different things – sound, sight, or touch – to varying degrees to understand their environment and get around. To help, it is vital that the right adjustments are in place, such as inclusive infrastructure and design.

Summary

Walking journeys are of fundamental importance in ensuring blind and partially sighted people can live their lives with as much independence as possible. However, recent – and sudden – changes to the layouts of our towns and cities and the way we travel have impacted on the safety of people with sight loss to get around independently, and their confidence to do so.

Our research shows there are a range of factors at work – from new street designs to e-scooter trials – and we call on local authorities, transport operators, designers and the Department for Transport to work with us to ensure our streets are truly inclusive.

Inclusive design is better for everyone, ensuring the whole community can access and enjoy their area and key services like healthcare, education and work.



Methodology

485 blind and partially sighted people responded to our Travel Survey on their experiences of walking journeys and what made them easier or more difficult.

RNIB would like to thank all the respondents for giving their time to take the survey, without which this report would not have been possible.

The **Travel Survey** was a self-selecting online survey run in May 2020 across the UK and advertised through email and social media, and although we took some responses over the phone, it is likely to exclude the experience of those people with sight loss who do not use the internet.

We received 302 responses from blind people, and 153 responses from partially sighted people. Of the 340,000 people in the UK registered blind or partially sighted, half are registered blind and half are registered partially sighted, demonstrating a higher than average uptake of our survey among the registered blind population.

All the quotes we use, unless indicated otherwise, are from our research and are anonymous to protect confidentiality. However, our respondents are from across all nations of the UK.

The recommendations in this report focus on calls to the Department for Transport and are England-specific. However, key sections of the report on understanding how a blind or partially sighted person gets around apply for visually impaired pedestrians across the UK, including: issues related to detecting and keeping out of the way of moving vehicles, the importance of kerbs and crossings, and the hazards of cluttered pavements.

For further information, or for any questions about the data and research presented in this report, please do get in contact with us at publicaffairs@rnib.org.uk

Introduction

Rapid changes are taking place in the way our towns and cities are designed and the way we travel in order to reduce car-dependence, improve air quality and increase active travel opportunities like cycling.

While RNIB supports these initiatives, we are concerned these changes are often taking place without the necessary understanding of how blind and partially sighted people get around. However well-meaning, inaccessible changes have the potential to have a huge impact on blind and partially sighted people's safety, independence and physical health.

In May 2020, we surveyed more than 480 blind and partially sighted people and asked them about their experiences of walking journeys and what made them easier, or more difficult.

.....
"I live alone and obviously don't drive so walking is essential for me to get anywhere. Even if only to the bus stop or tube station, if I can't walk outside I basically lose my independence."

Blind and partially sighted people have fewer transport options available to them. Driving or cycling independently is not an option, so walking is even more important. Whether walking down the street to get a taxi, a walk to the bus stop, or a trip on foot to the town centre, being able to make walking journeys is fundamental, as our respondents told us.

Walking is key to maintaining independence, getting exercise, staying connected with family and community, and accessing work, and key services such as healthcare.

- 96 per cent of respondents told us it's important to them to be able to make walking journeys independently, without a sighted guide.
- 73 per cent said they rely on being able to make walking journeys for independent travel.
- 78 per cent told us walking journeys were their only, or main, form of outdoor physical exercise.

People also told us of the key issues that were important for them to help them get around safely. In the main, these fell into three key themes:

- Avoiding moving vehicles;
- The importance of kerbs and crossings; and
- The hazards of cluttered pavements.

When these issues are not fully addressed, streets can become inaccessible, putting people at risk of injury or loss of life. Even near misses or the perception that areas are inaccessible can damage confidence and mental health, affecting independence and significantly reducing opportunities for exercise.

These can have the effect of making people more reliant on sighted guides or taxis to get around, and mean they avoid going to certain areas or even stay at home.

Working together to make streets more inclusive

This report considers and makes recommendations on some of the ways in which we can work together to make streets more inclusive. We will look to embed these recommendations and the principles they embody across the UK, working with the Westminster Government and the devolved Governments of Northern Ireland, Scotland and Wales, councils, planners, architects, other stakeholders, and other road users. We will explore how they can be built into all planning and design, and the education and training of built environment professionals.

As our society recovers from the pandemic, following principles of inclusive design will help to ensure that our streets are made as accessible as possible. While our starting point is naturally the views, perspectives and needs of blind and partially-sighted people, inclusive design is better design for everyone: people with sight loss, other disabled groups, families, and ultimately all of us who make use of our streets as we go about our daily lives.

Building on discussions and collaboration we have undertaken during this research, we will seek to start a conversation to help bring together different street users and the groups and organisations that represent them. Together, we can identify joint priorities and the principles behind them, so that we can work towards making street design truly inclusive for all.

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"I've had a lot of issues with having to avoid some routes. This has made me more dependent on taxis and other public transport, as it's just not possible to safely walk to these places."

Understanding how a blind or partially sighted person gets around

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 by 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.



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rnib.in/Getting-Around



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, they 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.



How moving vehicles affect blind and partially sighted people's journeys

Moving vehicles can make walking journeys harder for blind and partially sighted people. Detecting moving vehicles approaching and judging their distance, speed, and direction is often difficult. If the vehicle is quiet, like a cycle, an electric vehicle or an e-scooter, this is even harder to do, if not impossible.

"One of the things I have noticed which makes crossing the road harder is car engines are quieter and you cannot hear a car coming."

It may not always be obvious to a driver or cyclist that they are approaching a pedestrian with sight loss, as many people with sight loss do not use either a cane or guide dog. Drivers and cyclists may then expect the pedestrian to see them and move out of the way, but pedestrians with sight loss who have not seen them approaching will not know to do this. They may not be able to move in time, or to judge which way to go.

These difficulties are potentially dangerous. In addition, cycles and micromobility vehicles are smaller and more agile than cars; this can make it particularly difficult for them to be detected, and for movements to be predicted, even when their presence is known.

"They weave in and out of pedestrians, often at speed, and I don't see well enough to map their progress."

Cycling

RNIB supports Government efforts to encourage more people to cycle and to increase active travel. However, it is vital that the needs of pedestrians are at the heart of these plans.

For blind and partially sighted pedestrians, knowing they can be in the same space as cyclists can be intimidating, particularly because bikes are so hard to detect. 82 per cent of respondents to our survey said bicycles affected their ability to make walking journeys. Many of our survey respondents who identified bikes as an issue reported being run into by a cycle, had experienced near misses, or had concerns about being knocked over.

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"We have collisions very often; [cyclists] simply are not aware that blind people do not see them or hear them coming."

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"Repeated near misses with cyclists build up the fear and trauma I and other disabled people feel."

One of the challenges is that cycleways and pedestrian areas are not always separated. In a survey we carried out in 2017, 78 per cent of respondents said they would avoid a shared route with bikes (RNIB, 2017). Public spaces where bikes are not separated from pedestrians can become no-go zones for blind and partially sighted people.

Even when bikes and pedestrians are separated, this is not always with a detectable physical barrier. In some areas, cycle lanes are put onto pavements with just a painted line, or a low raised hump, between the cycleway and the pedestrian area. This type of segregation is not easily detected by most blind or partially sighted people, who can use their feet, a cane, or the help of a guide dog to understand where the pedestrian walkway starts and ends.



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"Bicycles are impossible for me to hear... if there is a shared pedestrian and cycle way or if there is no tactile separation between pedestrian and cycle lanes, I am at high risk of getting hit by cyclists."

Some new street designs extend cycle lanes across pavements to avoid dismounting at junctions; some even cross the tactile paving relied on by blind and partially sighted people to navigate. It is important that the needs of pedestrians and cyclists are both considered, so increased cycling infrastructure does not hinder pedestrians' ability to get out and about safely.

Cycling infrastructure guidance usefully suggests designers of cycleways and streets should try out the infrastructure as a cyclist to experience using it for themselves. User testing of streets by blind and partially sighted people will help designers experience the space as someone with sight loss and understand how comfortable and navigable, or otherwise, it is for them.

Work is needed on how cycles can be made more detectable. Bells can be helpful in alerting pedestrians to the presence of vehicles but also have limits. Often, it is not clear to pedestrians with sight loss what the ringing of a bell is meant to communicate – it could mean “get out of the way now!”, or “stay where you are, don’t move!” or simply: “hello there!” Again, knowing which way to move or having enough time to move are problems.

We would like to work with cycling groups to examine how cycles can be made more detectable in terms

of sound and visibility. This could include the use of lights and high visibility materials.

For our walking and cycling infrastructure to be inclusive it must be designed to promote safer cycling and safer walking. Safer walking provision means:

- 1.** Dedicated pedestrian-only footways (no shared use areas);
- 2.** Detectable kerbs (of no less than 60mm upstand, and high tonal contrast) separating pedestrians from all vehicles including cycles and cycle lanes; and
- 3.** Accessible pedestrian crossings over roads and cycleways to ensure pedestrians are always kept separate from vehicles.



E-scooters and micromobility

The Government is currently trialling the use of electric scooter (e-scooter) hire schemes in many areas across England. These are similar to short-term bicycle hire models, like the Santander scheme in London or dockless hire bikes. Following the trials, the Government will consider the legalisation of privately owned and hire e-scooters for use on our roads.

There are also micromobility vehicles commercially available, which are currently not legal to use on public roads, including e-scooters, but also electric skateboards, self-balancing scooters, Segways, and self-balancing vehicles. If any of these vehicles are to be legalised, it is vital that the impact on the independence of blind and partially sighted pedestrians is fully considered.



As with cycles, micromobility vehicles are quiet and difficult to detect. In our survey, people told us of their concerns with these new types of vehicles.

"If I have to share spaces with these vehicles or cross their spaces without accessible controlled crossings, and if nothing is done to stop them riding on pavements, speeding or not stopping at crossings as cycles already often do, then this would seriously restrict my independence and freedom of movement."

"The risk I, and other disabled people, already experience from pavement cyclists and cyclists without bike lights would be increased 100 per cent [by e-scooters]. The only way I could deal with this would be to get taxis. I would be prevented from walking and this would affect my health as I would not be able to get any exercise."

We are currently working with central Government, local councils and rental e-scooter companies to identify the measures needed to make the presence of e-scooters safe. We are interested in how e-scooters can be prevented from being ridden or parked on pavements; we have explored enforcement

methods such as licensing, insurance and registration. We are still assessing the risks and gathering evidence, but it is clear any new laws or regulations that are developed to legalise these types of vehicles must reflect the specific challenges facing blind and partially sighted pedestrians.

Keeping pavements safe

The right infrastructure is needed to ensure all vehicles are kept physically separate from pedestrians, and ensure safe places to cross where all vehicles, including cycles, must stop. However, our survey also shows that some road users are not following the rules of the road and that this is having a significant detrimental impact.

Despite it being illegal unless specifically authorised, cycling on pavements or other pedestrian spaces was specifically mentioned by just over one in three respondents who commented in our survey. This research was carried out ahead of the introduction of e-scooter trials, but the feedback we have received since the start of these trials indicates significant numbers of e-scooters being ridden on pavements and pedestrianised areas.

As well as pavement cycling, people in our survey also talked about the difficulties caused by not being able to hear cycles when trying to cross a road or cycleway, and cycles not stopping at pedestrian crossings.

"I have been knocked over by bicycles on both zebra and pelican crossings. I had to take anti-anxiety medication because I was hit while the light was green for me to cross. They ran a red light. It makes me incredibly nervous about walking if I know there will be bicycles around. There are obviously considerate cyclists, but too often they are not considerate and frighten me."

We know that lots of cyclists feel unsafe on roads, and we fully support Government efforts to address this and to make cycling safer by segregating cyclists from vehicles. But these efforts must not create inaccessible street design for blind and partially sighted people. Indeed, it is likely that dangerous roads are contributing to pavement cycling.

However, pedestrian safety is also imperative. It is essential that greater efforts are made to enforce rules on cycling or using e-scooters on pavements, and on cycles fully stopping at crossings. It is also clear that more needs to be done working with cyclists and e-scooter riders so that there is a better understanding of the challenges blind and partially sighted pedestrians face in getting around. We are keen to work with Government, cycling groups and e-scooter manufacturers on this.

Tandem cycling

Blind and partially sighted people want to be able to make walking journeys safely as pedestrians. For most people with sight loss, cycling independently is not an option. But inclusive cycle infrastructure will benefit the many blind and partially sighted tandem cyclists.

Rachel, 48, who hadn't been on a bike for more than twenty years, told us about her experiences with a tandem team as part of a community cycling group:

"My only experience with cyclists had been being frightened that they're going to hit me or my guide dog when they're flashing past in 'shared spaces' in our city centre or getting knocked into a hedge by one riding on the pavement some years ago when I was a long cane user. So hugely negative in other words.



"Since joining the community cycling group I've learned that many serious cyclists are considerate and not the kind of people that would ride on pavements where they're not meant to. Serious and considerate cyclists don't want shared surfaces any more than blind or sight impaired people do, but often they're stuck with the option just as we are.

"I love being the stoker on a tandem because when I get on the bike I am just like any other cyclist – I just can't see the scenery. I am not required to make navigating decisions as I am when I'm working my guide dog, and I don't have to worry about walking into things like I am when I use my long cane. I truly love the speed and the feel of the wind rushing by, the smells of the greenery or of car exhausts and the sound of the tyres on the surface underneath us. I love the camaraderie. And the calorie burn from the workout!"

Electric vehicles

Hybrid and electric vehicles are powered partly or fully by an electric motor and rechargeable battery, rather than by an internal combustion engine. Electric vehicle technology is great for reducing air pollution and noise. However, because these vehicles are so quiet, they are extremely difficult for blind and partially sighted people to detect by sound alone. This has made crossing the road more difficult, as before these vehicles were available it was possible to rely on engine sounds to judge a motor vehicle's approach.

Research commissioned by Guide Dogs (2014) showed that pedestrians are 40 per cent more likely to be hit by a hybrid or electric car than a car with a typical combustion engine.

In our research, people told us about the problems silent electric vehicles created for them:

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"Electric cars have little sound. I stepped into the road and an electric car had to slam on the brakes. I was so upset. These silent killers might be good for the environment, but not for me."

.....

"Silent electronic vehicles are a potential danger, especially in more noisy areas."

Following campaigning by RNIB, Guide Dogs UK, European Blind Union and many others, a new regulation on adding sound to silent vehicles was passed by the European Union in April 2014.

The regulation means that from July 2019 all "new types" of electric and hybrid cars had to be fitted with an Acoustic Vehicles Alert System (AVAS), which means they will emit sound when travelling below 12 mph. From 1 July 2021, all new hybrid and electric cars, regardless of their type, must be fitted with AVAS.

However, there are currently no legal provisions for fitting AVAS retrospectively to the vehicles which are already being used but are exempt from the regulation because they were produced before it came into effect. The safety case on this issue has already been proven; therefore AVAS should be being fitted to these vehicles as they are serviced.

Further research is needed to make sure that just above 12 mph is the right speed for AVAS to stop making sound. Many town and city speed limits in the UK are 20 or 30 mph and it is likely that vehicles moving between 13 mph and 30 mph, may not generate enough sound from tyres on road surfaces to create audibility at these lower speeds (EBU, 2019).

RNIB is still hearing reports from people who have been hit by silent electric vehicles which they could not see or hear approaching. In addition to ensuring vehicles are always kept separate from pedestrians, it is clear more work is needed to make sure all electric vehicles are detectable.

The importance of kerbs and crossings

Having the right infrastructure to ensure streets are safe and pavements are accessible is crucial. Kerbs and crossings are very important to blind and partially sighted people. A more inclusive approach to street design can help to move policy and practice closer to delivering public spaces which work for everyone.

Detectable kerbs

A detectable kerb is a kerb which is easily detectable by touch – through shoes or canes – in addition to being visually detectable to people with low vision. The standard height kerb in the UK has a 120mm (around 5 inch) upstand, which is widely recognised as detectable. Research shows that kerbs with an upstand of less than 60mm are unlikely to be detectable to blind and partially sighted people (Childs et al., 2009).

.....

"I am a white cane user and severely sight impaired, so when travelling I rely heavily on tactile clues such as raised kerbs and tactile paving. Without these, independent travel would be impossible for me."

Detectable kerbs do a number of important jobs to make independent walking journeys possible. They help people identify where the road is, keep pedestrians separate from moving vehicles, help people to find their way by following the line of the kerb, and are used by guide dogs in guiding.

Many new street designs remove detectable kerbs between pedestrians and vehicles. For example, designs such as shared spaces, shared use pathways and areas, continuous footways, Copenhagen crossings and Mini-Hollands often have no detectable kerbs.

These designs sometimes replace detectable kerbs with painted lines or material changes. But these measures are often undetectable to people with sight loss, or their guide dogs. Replacing kerbs with tactile paving does not work either, because there are specific conventions for where tactile paving should be used in order to have meaning.

For example, tactile paving in combination with the slope of a dropped kerb indicates a crossing. A few slabs of tactile paving in a large area of level surface does not have a clear message and is difficult or impossible for blind or partially sighted people to find. Also, it does not indicate on which side of the tactile paving vehicles will be.

“[On] flat surfaces I cannot detect where I am, I cannot tell if I am on the road or pavement, I cannot find any pavement markings to get across a busy road via a crossing.”

It is also important to note that detectable kerbs are just as essential between pavements and cycleways as they are between pavements and roads.

“I’ve had a lot of issues with having to avoid some routes due to level paving, also there is no clear distinction between pedestrian walkways and cycle lanes. This issue in particular has made me more dependent on taxis and other public transport as it’s just not possible to safely walk to these places.”

“The use of shared space areas is particularly confusing and frightening for blind people. There is no delineation between cyclists and visually impaired people and we cannot hear when they are approaching. I would choose a walking route that avoided shared space areas if at all possible.”

In July 2018, pending further research and a review, the Department for Transport instructed councils in England to pause new shared space schemes in town and city centres which incorporate a level surface (i.e. those without a kerb or other difference in level to separate pedestrians and vehicles) (DfT, 2019). While we welcomed this pause, the scope of the pause was unclear. It seemed to concentrate mainly on entirely “level surfaces” shared by pedestrians and motor vehicles, and not those shared by pedestrians and cyclists. The pause was also concentrated mainly on town and city centres – shared spaces are inaccessible whether they are in a town centre or a low traffic flow village street. The outcome of the review and plans for next steps are long overdue.



In addition to shared space schemes in town and city centres there are many other public space designs not defined as "shared space", but which present the same problems. Copenhagen crossings or continuous footways, for example, are designs which extend the appearance and feel of a pavement over a road, or a junction where side roads join onto a main road, creating a level surface by removing detectable upstanding kerbs. Copenhagen crossings create problems because blind and partially sighted pedestrians have no way of knowing when they are in the road or walking into the path of oncoming traffic.

Bus stop bypasses are designs which divert cycleways around the back of bus stops so that cyclists do not have to wait behind or overtake a parked bus. They are often installed without detectable kerbs or accessible crossing facilities. The impact of this is that blind and partially sighted people – who are often particularly dependent on public transport – must navigate fast-moving silent cycle traffic in order to reach the bus stop, which can be extremely intimidating. These designs worsen the existing barriers disabled people already face in both walking journeys and accessing public transport. All street designs must have detectable kerbs between pedestrian areas and roads or cycleways.

"I stopped liking going out walking, since 2014 in my borough, when they brought in new road schemes for cyclists, to the detriment of pedestrians, especially us visually impaired people.

I very soon had injuries on pavements and the new Copenhagen crossings (shared spaces) after kerb removal, from cyclists who didn't stop. And cyclists that didn't stop at pedestrian crossings or traffic lights, hidden behind cars which had stopped!

The traffic islands were removed which made me restricted to very few local journeys by foot. And lots more pavement cyclists now since the new cycle lanes were introduced, which is one of the main reasons I stay indoors these days even before the coronavirus epidemic, as much as possible. I always used to like going out for a walk and fresh air before."

"Bike lanes going through pavements at bus stops. Have had some narrow escapes when bikes have appeared while trying to get from [where] you stand to where you actually get on the bus."

To ensure streets are inclusive, it is essential that detectable kerbs separate areas for pedestrians from all areas where vehicles are moving, including cycleways and roads.

Accessible pedestrian crossings

- Pedestrian crossings play an essential role in enabling blind and partially sighted people to get across roads and cycleways, with 99 per cent of respondents telling us that pedestrian crossings are important to them for making walking journeys.
- Negotiating your way around moving vehicles which you cannot see is really difficult. The growing number of quiet vehicles like electric cars, cycles and e-scooters means you can't rely on hearing alone to judge when it is safe to cross. Even for partially sighted people with more useful vision, judging gaps in traffic can be extremely difficult or impossible.

"Limitations of my sight means crossing any road is very dangerous. I cannot judge distance or speed of anything approaching me."

While a few people told us that pedestrian crossings provide added reassurance or confidence on busy roads, many described them as crucial to their ability cross safely and independently:

"Vital, not just important. I would not be able to move around safely without them."

"I simply cannot cross roads without them."

Some types of pedestrian crossings work better than others. It was clear from comments we received in the survey that fully accessible signal controlled pedestrian crossings like pelican crossings are the safest option. They include traffic lights to stop the traffic and push button boxes to request traffic to stop. They also use sound and touch (beeping sound, and rotating cones underneath the push button boxes) to let people know when it's their turn to cross and the direction of crossing. Dropped kerbs and red blister tactile paving also help people with sight loss locate these accessible crossing points.

It has been reported to us that there is a worrying trend to remove signal controlled crossings like pelicans and replace them with zebra crossings or courtesy crossings. These types of crossings, particularly courtesy crossings, are much less safe.

The need for pedestrians to make and read visual cues to use courtesy crossings to safely cross roads makes these one of the least accessible crossings for blind and partially sighted people. Even with the correct tactile paving, it is not always obvious to a pedestrian with sight loss whether they are at a zebra or a courtesy crossing. This can cause confusion and can be dangerous if the pedestrian mistakenly assumes they are at a zebra crossing – and has right of way – and steps onto the crossing.



"You need to hear the audio to know you can cross, so you can avoid being run over by cars! I don't want to take my life into my own hands. We need the rotating knob too, so we know it is safe to cross. I don't like zebra crossings, because you can't see when it is safe to go."

There must be a sufficient number of accessible signal controlled pedestrian crossings over roads and cycleways in the right places to help people get around, particularly along routes to essential services, e.g. transport hubs, shops, offices, hospitals, schools and health and community facilities such as parks. Given the challenges the increase in quiet vehicles present for people with sight loss, accessible signal crossings are also necessary in lower traffic flow areas.

"Many junctions cannot be used because [there is] no indication when it's safe to cross. Quiet cars and bikes are scary and discourage me from travelling for fear of my own safety. Removal of controlled crossings has been a particularly retrograde step."

In addition to removing kerbs, many shared space-style street designs involve the removal of accessible pelican crossings. Research by the Chartered Institute of Highway Engineers (CIHE, 2018) reported evidence that some blind and partially sighted people were avoiding shared space areas where pelican crossings had been replaced by zebra or courtesy crossings. Our own evidence confirms this.

This experience of people self-excluding – being unable to make certain journeys and not going to certain places – because of a lack of accessible pedestrian crossings, or shared space developments, and even being trapped in their house or immediate local area, was described by a number of respondents to our survey:

“I can’t go out walking locally as there aren’t pedestrian crossings on my route.”

“Where I live, I have become marooned in my house because of lack of pedestrian crossings.”

“I am OK in a traditional street where I know that I walk on the pavement and step off the kerb to cross over a crossing to get to the other side. But if it gets more complicated than that then I am risk. Shared spaces, particularly big squares with things coming from unexpected directions, are a nightmare for me. I can’t see to negotiate the traffic or know where I’m meant to be. There also needs to be a good level of visual contrast for me to navigate.”

“Shared spaces are a nightmare so creating more would stop me being as confident to walk alone which is essential to my independence.”

Designs where pedestrians have to share space with vehicles, including cycles, clearly disadvantage and exclude blind and partially sighted pedestrians. More needs to be done to stop inaccessible spaces from being built.

Cycleways also need accessible pedestrian crossings

Respondents to our survey also emphasised the importance of accessible crossings for being able to get across cycleways, particularly because of how difficult it can be to detect cycles:

“If I’m waiting to cross the road (locally, so there is no crossing) I do not hear a cyclist coming towards me, often at speed.”

“[Cycles] can be so quiet that I don’t know they are there until too late; and the cyclist assumes I can see them coming!”

Unfortunately, as mentioned above, new street designs, such as “bus stop bypasses” (also known as a “floating bus stop”) and other designs which take cycle lanes out of signal control, often do not take these accessibility issues into consideration.

These bus stop designs create problems for blind and partially sighted people because they then have to cross a cycleway to get onto or off a bus. In some cases, a mini-zebra crossing is provided for pedestrians to cross over the cycle track to the bus stand, or vice-versa, but in many cases the cycle track has no provisions for pedestrians crossing.

Research conducted by the Transport Research Laboratory (TfL, 2018) into bus stop bypasses found that:

- The proportion of cycles who gave way to pedestrians at a bus stop bypass with no pedestrian crossing point was just 33 per cent; and
- Where a zebra crossing was present on a bus stop bypass, the proportion of cycles who gave way to pedestrians trying to cross was still only 40 per cent (TfL, 2018).

The term “give way” in this research included slowing down, or swerving around the pedestrian, rather than coming to a complete stop. However, it still found even with a zebra crossing, over half of the cyclists using the bus stop bypass did not “give way” to pedestrians trying to cross over to get onto or to get off their bus, relying on the pedestrian to stop for them.

The research also examined the dangerous incidents – defined as a “very near miss” or “collision” – that did occur on bus stop bypasses, and analysed the reasons these had taken place.

All of the four reasons identified in the report – “pedestrian appeared inattentive”, “pedestrian distracted by companions”, “cyclist arriving from behind pedestrian”, “visibility obscured by bus shelter or other pedestrians” – relate to the ability to see what’s happening on the cycle lane in order to cross safely. Because of cycles’ size, speed and silent movement, it can be impossible for blind or partially sighted people to be “attentive” on these crossings, making them much more likely to be at risk of collisions.

Other evidence backs up the findings that the number of cyclists stopping at these types of crossings can be very low. In the evaluation of the Manchester Oxford Road bus stop bypass trial, the transport authority observed that only 63 out of more than 5,500 cycles stopped at any of the zebra and courtesy crossings over a period of seven days' video footage, with only 27 stopping at the zebra crossing (TfGM, 2016).

The Manchester Oxford Road report stated: "A cyclist stop is counted when a bicycle has come to a complete stop for a crossing... While the numbers indicate few cyclists giving way, the figures do not really account for the more fluid interactions of cyclist and pedestrians that appeared to arise where pedestrians crossed the bypass lane by means of 'gap-selection' between cyclists." (TfGM, 2016, p.15)

However, "gap selection" involves judging traffic and is not a safe or effective way for many blind and partially sighted people to cross roads. They rely on knowing that vehicles will come to a full stop. If they cannot rely on this, there is a risk to safety but also long term confidence to cross roads and cycle lanes independently.

In light of this evidence, it is disappointing that transport authorities including both Transport for London and Transport for Greater Manchester went on to recommend the continued use of bus stop bypasses. We believe they should not be deployed, as the designs cause confusion for all users. They present particular difficulties for blind and partially sighted pedestrians.

This report contains a number of recommendations aimed at different authorities, which aim to promote an inclusive approach to street design. We would like to invite the Westminster Government and devolved Governments of Northern Ireland, Scotland and Wales, councils, planners and architects, and other stakeholders to work with us to develop this approach further, and to look at how principles of inclusive street design can be built into the education of public space design professionals. It is essential that inclusive design principles are at the heart of policy, guidance, and delivery of street design.



The hazards of cluttered pavements

When pavements or walkways are cluttered, or obstructed, this can make independent walking journeys harder or impossible for people with sight loss. A survey we ran in 2015 showed that 95 per cent of blind and partially sighted people have collided with an obstacle in their local neighbourhood over a three month period, and that nearly a third of those were injured (RNIB, 2015). Responses to the **Travel Survey** demonstrate pavement obstructions are still a serious problem.

"Obstacles on the pedestrian walkways limit my ability to move around independently and safely – e.g. street furniture, roadworks and temporary traffic measures – all make it harder for me to navigate my local area by walking as I rely on being able to practise and memorise a route, so any changes to that practice route naturally present challenges and can be stressful."

"It's difficult with cars parking on the pavement. I have walked into trucks before which were parked half on the pavement and half on the road. Dustbins being left out are a continual problem, as are overhanging trees. People just don't realise."

"The environment is full of potential hazards such as cars parked on pavements, cyclists on pavements, uneven paving slabs, overhanging shrubs. If I used a white cane rather than a guide dog these would be even more of a problem."

Pavement obstructions can range from vehicles parked on pavements, chairs and tables on pavements (for café, restaurant and bar seating), advertising boards, wheelie bins and bin bags, and overhanging trees and shrubs.

These everyday objects may not sound threatening, but they have a very real and negative impact on the accessibility of pavements for blind and partially sighted people and on confidence in getting out and about.

"In my experience, it is also the fact that you encounter unexpected issues when you are out walking. These are things like dust bins, A-boards, dog mess and other road users. Whilst you can usually deal with each of these challenges, it does add extra stress to the journey which makes it less pleasant, and therefore I am less keen to try to do this. The thing that makes it easier is if you have a clear, well defined and uncluttered route to follow."

New commercial demands on pavements and walkways – such as dockless hire vehicles – are now further adding to the existing problems caused by obstructions like advertising boards and vehicles parked on pavements.

Pavement parking

People with mobility or visual impairments, wheelchair and mobility scooter users, and those with buggies and prams are disproportionately affected by pavement parking (Transport Committee, 2019). Blind and partially sighted people have been injured from walking into parked cars. People are also regularly forced out into the road to get around parked cars, posing significant risks to their safety. One in four respondents specifically mentioned pavement parking as a barrier when asked what made walking journeys harder or easier.

"Cars parked on the pavement again pose as an obstacle to walk in to and possibly be injured by, or cause people to walk in the road when they may not be sure if it is safe to do so or not. This is an increasing problem nationwide."

"Vehicles parked on crossing point 'bobbles' (tactile paving) so that you can't find [the crossing] and lose your route."

"Cars parked on pavements make it very hard and dangerous as we have to walk on the road."



Even where there is no physical injury, the shock of a collision with a parked vehicle or threat of a near miss with traffic when forced to divert into the road can damage confidence, meaning people with sight loss may avoid getting out and about altogether or only feel able to make journeys with a sighted guide.

Pavement parking is a serious barrier to blind and partially sighted people making walking journeys. It is illegal to park on pavements in London, with some exceptions, and the Government held a consultation on introducing a new law on pavement parking in England. A new law to manage pavement parking is already in place in Scotland with implementation projected by the end of 2023, and the Welsh Government announced similar plans in June 2021. We welcome the fact the Westminster Government has consulted on this important issue and would like to see a new law introduced in England as soon as possible.

Dockless hire vehicles

Dockless bikes are a type of short-term vehicle hire scheme. They allow people to hire bikes which are located through a smartphone app. As the name suggests, dockless bikes do not need to be returned to a fixed docking station like other bike hire schemes (such as Santander Cycles).

Rental dockless bike schemes have been operating in the UK since 2007 and have caused significant problems for disabled pedestrians because they are often left partly, or entirely,

obstructing pavements. Dockless e-scooters becoming a feature on our streets is also of significant concern.

"I have fallen and hurt myself a couple of times over bikes that were left on the pavement and my guide cane unfortunately didn't pick up the obstacle quick enough. This will get worse as more are allowed to be out on the pavements and will be another piece of street furniture that will challenge my ability to navigate around."

"Horrendous. Dockless bikes have significantly impacted on my ability to navigate independently around London. I now can't walk the 10 minutes from the train station to work and have to take a bus instead because I was constantly injuring myself on bikes left abandoned on the pavements."

Dockless bikes have already created additional and serious barriers to walking journeys for blind and partially sighted people. Now other types of vehicles such as e-scooters are allowed to be rented as dockless hire vehicles in trials across England, it is likely to further compound this problem, making streets even less accessible, as has been experienced by blind and partially sighted people in other countries.

Other obstructions

In our research, people also identified the following as regularly problematic obstructions:

- Street furniture like tables and chairs, outside of bars and restaurants.
- Advertising boards, or A-boards, which are used by businesses and other organisations to position advertising messages at pavement level.
- Poorly placed and insufficiently contrasted bollards, planters and fixed seating.
- Wheelie bins and bin bags left on pavements.
- Overhanging trees and shrubs.
- Building and maintenance works which are not sturdy or not placed appropriately.
- Electric vehicle charging points which are poorly placed or maintained, for example where charging cables trail across the pavement.

All of these can cause injury, force people out into the road or cause challenges for navigation if placed against building lines, walls, fences or kerbs, which people use to follow to find their way.

"I walk using a long cane to check my route is clear. Any permanent or temporary obstacle in my route is a hazard. If there are changes to the layout of my regular routes they confuse and disorientate me."

Collisions with obstacles on pavements and the unpredictability of street clutter can cause specific challenges. It is vital that pavements are kept as clear and clutter free as possible.

For all permanent street obstructions, it is essential that local authorities comply with the substantive duties of the Equality Act as well as the Public Sector Equality Duty, including not (indirectly) discriminating and making reasonable adjustments where, for example, a physical feature places a disabled person at a substantial disadvantage. It is also essential that accessible public consultations are carried out, as well as Equality Impact Assessments. For any temporary changes, these must be communicated effectively to local residents in accessible formats.

Conclusion

Walking journeys are of fundamental importance in ensuring blind and partially sighted people can live their lives with as much independence as possible. The more difficult it is to get around, the less freedom and opportunity people have to participate in their local community and stay connected. These are essential to protect mental wellbeing and physical health.

The accessibility of streets is determined by the way streets are designed, the way that vehicles are designed, and the way streets are used by other pedestrians and by vehicles.

Unfortunately, understanding about how blind and partially sighted people navigate and travel is not widespread. It is not built into training for street designers and planners.

This affects new designs of streets which, inadvertently, systematically disadvantage people with sight loss, either because designs strip away essential accessibility features like detectable kerbs and pedestrian crossings, or because they rely solely on visual cues and information.

Disabled people and the organisations which represent them do not have the resources to respond to every one of the hundreds of local authority consultations proposing inaccessible street designs. It is up to Government, councils, and planners and designers to do more to ensure designs which are

not accessible are not proposed in the first place. Instead, they should look to familiarise themselves with some of the core principles of inclusive street design set out in this report.

Designers and developers of transport technology could also help by improving their understanding of how blind and partially sighted people get around.

A proliferation of silent vehicles, small vehicles, and dockless hire vehicles are creating new challenges which are further compounding existing barriers. Measures must be taken to ensure all vehicles, cycles and micromobility vehicles are kept separate from pedestrians. Meanwhile some road users don't understand the serious and negative impact on blind and partially sighted people of riding on pavements or jumping traffic lights, limiting their confidence and independence. Greater awareness of this impact is needed.

The drive for environmental improvements is likely to mean an increase in transport technology innovations aiming to reduce emissions and environmental impact. While these moves are welcome, the development and delivery of new types of transport technology, such as driverless vehicles, drones, and autonomous delivery pods, must have accessibility considerations built in from the start. Retrofitting accessibility is slow and expensive.

In transport design and development, accessibility needs to be properly thought through, consulted on, and tested so new designs do not have unintended negative consequences for disabled people. But more than this, new transport technology should be actively seeking to improve the lives of disabled people.

More needs to be done to recognise and champion the needs of pedestrians as a distinct group. Combining the needs of pedestrians with the needs of other groups such as cyclists in guidance results in confusion about the different needs of these individual groups, and as a result, the needs of pedestrians are often being overshadowed and not properly met. A hierarchy of road users which prioritises pedestrians, as set out in recently proposed revisions to the Highway Code, is a step in the right direction, but this needs to be translated into practice in street design and town planning.

Inclusive design is better for everyone, ensuring the whole community can access and enjoy their area and key services like healthcare, education and work.

Recommendations for local authorities

Local authorities have a number of obligations and powers to ensure that principles of accessible, inclusive street design are followed. As local authorities make changes to local infrastructure to encourage walking and cycling, it is as important as ever that accessibility is maintained for blind and partially sighted people.

1. Under the Public Sector Equality Duty, local authorities need to consider how people with protected characteristics may be affected by any temporary or permanent changes. Changes must not discriminate against blind and partially sighted people by, for example, placing them at a substantial disadvantage when accessing local amenities. To help ensure this, local authorities should carry out an Equality Impact Assessment, involving disabled people in an accessible way, and considering steps to mitigate any negative impacts or making alternative proposals.
2. This report identifies a number of key principles that councils should ensure they are embedding into street design, including: safe pedestrian spaces, detectable kerbs, uncluttered pavements, and accessible crossings. Any changes must comply with existing guidance on accessibility, e.g. Inclusive Mobility, and guidance on the use

of tactile paving surfaces. It is crucial to inform blind and partially sighted people who live in the local area of proposed changes, liaising with local sight loss organisations and taking into account the accessibility of any notices, newspaper adverts or published plans.

3. We would like to invite the Westminster Government and devolved Governments of Northern Ireland, Scotland and Wales, councils, planners and architects, and other stakeholders to work with us to ensure that principles of inclusive street design are built into the education of public space design professionals, and put at the heart of policy, guidance, and delivery of street design.

Keep pavements safe

1. Councils should keep in touch with disabled and elderly residents and understand the impact of changing street use. Where e-scooter hire schemes have been introduced, councils should consider RNIB's advice for making their schemes as accessible as possible, available at **rnib.in/Advice-for-LAs** and make sure they provide accessible ways for residents to feed back on any impact, including offline options.
2. Pavements which are clear from obstructions and clutter free are essential, to enable disabled people to make independent walking journeys. It is against the law to put anything on pavements, without permission, which creates an

obstruction, and councils have a legal duty to keep pavements free from obstruction. Councils can help by monitoring street accessibility regularly and working with police to act quickly when pavement obstructions are found.

3. Greater efforts should also be made in partnership with local police to enforce rules on cycling or use of e-scooters on pavements, stop private-use e-scooters being ridden illegally, and ensure cycles fully stop at crossings. More also needs to be done working with cyclists and e-scooter riders so that there is a better understanding of the challenges blind and partially sighted pedestrians face in getting around and the effect these behaviours can have.



Recommendations for the Department for Transport

Inclusive street infrastructure

We would like to invite the Department for Transport, along with councils, planners and architects, and other stakeholders to work with us to ensure that principles of inclusive street design can be built into the education of public space design professionals, and put at the heart of policy, guidance, and delivery of street design.

We call on the Department for Transport to:

1. Instruct the new funding body and inspectorate Active Travel England to incorporate the advice set out in the Key Principles of Inclusive Street Design resource into its work. Any funding granted and designs approved should be fully compliant with the Key Principles of Inclusive Street Design. Designs or proposals which do not comply with these principles should not be approved or funded.
2. Introduce a national ban on all shared space designs and public space designs which incorporate shared use areas, and which do not have detectable kerbs and accessible signal-controlled crossings. This includes ensuring areas for pedestrians are always separated by a detectable kerb of at least 60mm upstand from areas where vehicles – including cycles – are travelling.
3. Work with us and others, and hold a full public consultation, to update the “Guidance on the use of tactile paving surfaces, Inclusive Mobility and the Using shared space to improve high streets for pedestrians (LTN 1/11)” guidance and “Cycle Infrastructure Design (LTN 1/20)” to ensure these documents uphold principles of inclusive street design.
4. Work with us to undertake research to inform updates to the Pedestrian Crossings Guidance.
5. Work with us to ensure that parks, greenways, and canal paths are safe and accessible for people with sight loss, by exploring solutions for these areas where it may not always be possible to install detectable kerbs or accessible signal controlled crossings.

Keep pedestrians separate from moving vehicles

RNIB supports Government efforts to encourage more people to cycle and to increase active travel. However, it is vital that the needs and safety of pedestrians are at the heart of these plans.

We call on the Department for Transport to:

1. Review and update existing guidance on walking provision (including Framework for a Local Walking Strategy 2/00 and Encouraging Walking: Advice to Local Authorities 2000) to clarify and strengthen the priority of pedestrians, including their safety, comfort and convenience over other road users, and to ensure that all walking guidance fully embodies principles of inclusive street design.
2. Strengthen existing guidance on cycling infrastructure and street design (including Cycle Infrastructure Design LTN 1/20) to ensure that all vehicles, including smaller vehicles like cycles, e-bikes, e-scooters, other micromobility vehicles, and autonomous delivery pods are always kept separate from pedestrians.
3. Work with the sight loss sector and cycle groups to explore how cycles can be made more detectable to pedestrians, and how detectability measures (including visual and sound) can be supported by guidance and legislation.
4. Ensure that when resources are going into promoting cycling and micromobility this includes actions and adequate resources to make sure that the law around their use, including not being used on pavements and stopping at controlled pedestrian crossings, is enforced.



5. Work with the police and local councils to ensure they are enforcing the law on pavement use by cycles and micromobility vehicles.
6. Run public understanding campaigns to highlight the importance of responsible riding of cycles, e-scooters, and other micromobility vehicles including e-bikes.

E-scooters and micromobility

Micromobility vehicles, such as e-scooters, pose potential risks to pedestrians because they are fast moving, operate quietly and are often ridden on pavements. These risks must be fully addressed before e-scooters are legalised in the longer-term.

We call on the Department for Transport to:

1. Ensure licensing, insurance and registration requirements are put in place to make sure that riders/drivers of small vehicles access appropriate training and can be held accountable for not following the rules on pavement riding, poor parking and when there is a collision.

2. Make sure that in developing regulations on the specification for e-scooters, the specific needs of blind and partially sighted pedestrians are taken into account, notably through ensuring detectability measures – both visual and sound – are included in the specification.
3. Review the regulations for other small vehicles like e-bikes to ensure that all micromobility vehicles are regulated in a similar way.
4. Commission research on the impact of and best way to add sound to e-scooters and other small vehicles. A safety sound would need robust research to ensure it was detectable, directional and distinctive.

Electric vehicles

The Department for Transport should:

1. Ensure existing electric vehicles and hybrid cars are retrofitted with AVAS.
2. Commission further research into the speed at which AVAS should safely cut out or require it to continue to 30mph, fitting in with city speed limits.
3. Bring forward the prohibition of the AVAS pause function and provide resources to raise awareness of electric vehicle drivers on the importance of keeping AVAS turned on.

Keep pavements clear and clutter-free

Pavements which are clear from obstructions and clutter-free are essential to streets which are inclusive, to enable disabled people to make independent walking journeys.

We call on the Department for Transport to:

1. Introduce new legislation on pavement parking in England, in line with that already in place in London, as soon as possible.
2. Require all small short-term hire vehicles to be docked, and create clear rules for making sure the docking stations do not become an obstruction for pedestrians. This would include that docking stations be placed on the road wherever possible, or that a minimum of two metres of unobstructed pavement space is left. Users should also be charged for the hire until the vehicles are physically locked into the dock, and there must be a physical barrier (e.g. tapping rail or detectable kerb) around the docking station.
3. Review and strengthen the Guidance on Pavement Licensing (Outdoor Seating Proposal) 2020 to ensure that street furniture is kept to a minimum and does not compromise pavement accessibility.
4. Introduce a national law restricting the use of advertising boards.

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