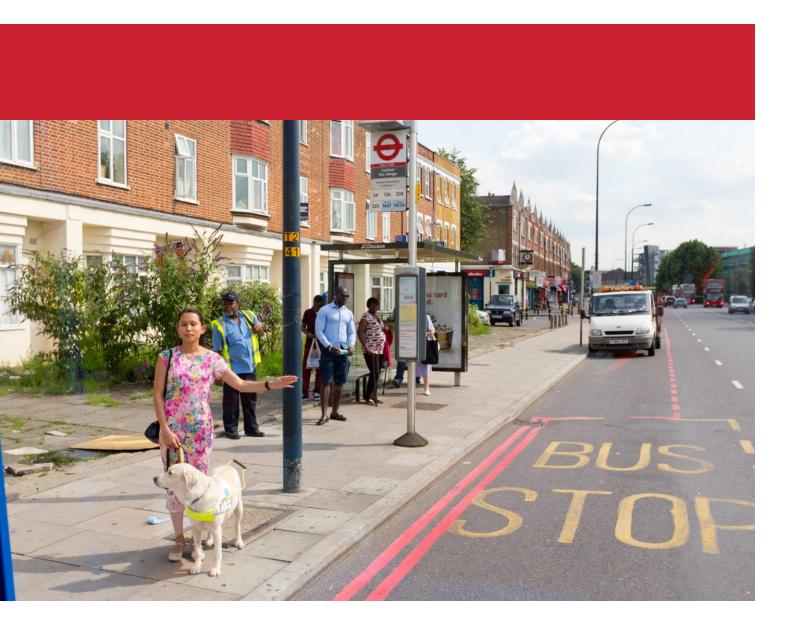
# **LONDON**ASSEMBLY

#### **Transport Committee**

# Leading the way

### Travelling with a sensory impairment in London

March 2016



#### **Chair's foreword**



In my time as Chair of the Transport Committee it has been a privilege to work with many disabled Londoners and to

endorse their call for rights as passengers on the transport network. Passengers with a sensory impairment face significant barriers to mobility, but so many refuse to accept the restrictions imposed by poorly designed services. I pay tribute to their persistence, and also to the many voluntary organisations who organise and support disability access campaigns, or provide essential insights, briefings and training to transport providers. The information and analysis they have shared with the Committee during our investigation into this topic has been invaluable.

In the past decade we have seen Transport for London make great strides to improve accessibility, reflecting a genuine commitment to make the transport network inclusive of all Londoners. Just recently, TfL has taken steps to improve disability training for bus drivers, making it consistent across all operators, addressing a long-standing concern expressed by people with a sensory impairment. We warmly welcome TfL's world-leading commitment to disability access in London, but there is no scope for complacency.

We cannot take progress for granted. Indeed, as the transport network changes, new challenges arise. For instance, while many people welcome the introduction of cleaner, quieter buses, the implications of this trend for visually impaired Londoners – who rely on sound to stay safe on London's roads – may be profound. While segregated Cycle Superhighways will help boost safety for cyclists, they create new risks for sensory impaired Londoners who may be unable to cross the Superhighways to reach a new 'floating' bus stop.

TfL's budget will come under significant pressure as its grant funding from the Government is reduced. The investment required for an accessible transport network is at risk. This is, therefore, a crucial time for Londoners seeking to travel around the city with a sensory impairment. As we heard

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during our investigation, there are two competing visions of the future. Will people with a sensory impairment be left behind, quite literally, as the last people sitting on the bus or the train? Or will London have a truly accessible transport network that reflects the needs of people with a sensory impairment at every stage from design to service delivery?

In this cross-party report we set out a practical agenda to help the new Mayor to deliver on the ambition of making London's transport network the most accessible in the world. There are no easy solutions to achieve that. A coordinated and ongoing effort to meet the needs of people with a sensory impairment across all transport modes is required. On this difficult issue, like many others, there's no substitute for sticking at it, keeping up the effort and staying alert to the opportunities new technology may offer.

## Valerie Shawcross CBE AM Chair, Transport Committee

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#### **Translations**

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assembly.translations@london.gov.uk

### **Executive summary**

London is a world leader is providing an accessible transport network and we celebrate that. The progress made in this area was reflected in praise we heard for Transport for London from a number of Londoners with a sensory impairment, for instance for the 'turn up and go' assistance available at Tube and London Overground stations, and for the introduction of the iBus system on London's buses.

However, our investigation has highlighted a wide range of issues which put this leading status at risk. Despite evidence of progress in improving accessibility, some recent developments may seem like backward steps from the perspective of Londoners with a sensory impairment, not least changes in Tube station staffing, bus design and pavement layouts.

Specific concerns raised by Londoners with a sensory impairment and representative organisations included:

- Difficulties obtaining passenger information, particularly real-time service information, which is accessible for people with a sensory impairment.
- Barriers to travelling independently with confidence, such as difficulties moving around stations or using private hire services with assistance dogs.
- A number of problems using the bus network, including those arising from the variety of bus designs in London and the provision of hearing loops.
- Variability in levels of awareness, skills and understanding among staff on the transport network.
- Difficulties navigating the street environment and 'shared space' areas, with emerging concerns about the introduction of bus stop cycle bypasses, also known as 'floating bus stops'.

The challenges facing Londoners travelling with a sensory impairment differ according to the transport mode being used. While there are inevitable differences between modes, providers need to recognise that many journeys will involves multiple forms of transport. Consistency of provision and standards, and accessible interchanges, are vital for people with sensory impairment to enable them to travel across London.

Overall, it is clear that TfL and other operators have much to do. This has to remain a priority for the next Mayor, who should guarantee the necessary investment in infrastructure, technology and staffing that is required to increase the accessibility of the transport network. Our investigation identified a number of practical measures, which we would like to see being implemented by TfL and others:

- Improving the provision of real-time travel information across the network, in formats accessible for people with a sensory impairment.
- Making 'turn up and go' a reality for passengers, by increasing the skills, availability and visibility of staff on TfL services and the National Rail network.

- Scaling up TfL's mentoring service for disabled passengers, supplemented with other initiatives such as offering station tours.
- Increasing enforcement against private hire operators and drivers who refuse to accept passengers with assistance dogs, and facilitating complaints from passengers who have experienced this problem.
- Ensuring greater consistency in bus design, including the availability of hearing loops and providing clearer, accessible signage.
- Using technology to making it easier for visually impaired bus passengers to identify the bus they need to board.
- Working with boroughs to remove excess street clutter from London's pavements, while applying consistent guidance to ensure 'shared space' environments are safe for pedestrians with a sensory impairment, including assistance dog users.

- Monitoring the impact of TfL's experimental bus stop bypasses on pedestrian safety, and undertaking thorough analysis before committing to wider roll-out.
- Strengthening TfL's customer charter to set out the service standards which people with a sensory impairment can expect when using the transport network.

These measures will help improve the accessibility of London's transport network for people with a sensory impairment, increasing their mobility and safety. We urge the new Mayor and TfL to renew their focus on this issue, and ensure they provide the necessary funding to make continued accessibility improvements. We will ask them to report back to the Committee to set out their next steps.

# **1. Introduction**

Every day in London 1.3 million journeys are made by disabled people, and 700,000 trips are taken by people aged over 75. Significant numbers of Londoners have a sensory impairment:

- Over a million Londoners have a hearing loss,<sup>1</sup> over 80,000 of whom have a severe or profound hearing loss.<sup>2</sup>
- Approximately 175,000 Londoners living with sight loss.<sup>3</sup>
- Over 30,000 Londoners have a significant dual sensory impairment or deafblindness.<sup>4</sup>

The Mayor published his Transport Strategy Accessibility Implementation Plan in March 2012. In December 2012, the Mayor and TfL launched *Your accessible transport network*,<sup>5</sup> a guide setting out action taken by TfL to make the transport network accessible. An update was published in May 2015.<sup>6</sup> TfL will also soon publish an updated set of commitments in *Action on Equality: TfL's commitments to*  *2020.* Clearly there is a corporate commitment to embed better accessibility into policy and spending programmes.

Accessibility initiatives particularly targeted at people with a sensory impairment include online information about the accessibility of the network, hearing loops and the digital iBus system in buses to provide audio and visual information on upcoming stops<sup>7</sup>, training of staff in communication and guiding skills, and developing the new Wayfindr app for visually impaired passengers.<sup>8</sup>

People with a sensory impairment may prefer to travel with or without assistance. Their preference may depend on a number of factors, including their familiarity and/or confidence with a route or mode, access to information, design of space and vehicles, and the knowledge, attitudes and behaviour of staff and the public. We explored all of these issues in our investigation.

The Committee has carried out a range of previous work in this area. Over several years we have investigated failings in the provision of door-to-door services for disabled people, including Dial-a-Ride and Taxicard. We have also examined the accessibility of both the pedestrian environment and of London's taxi and private hire services, publishing reports on these topics in 2014. In 2015 we published a report examining TfL's customer service standards, taking into account the needs of disabled people in particular. In this investigation, having identified a number of challenges facing Londoners with a sensory impairment, we decided to take a more detailed look at their experiences across the transport network.

The Committee received formal submissions from a range of organisations including operators and sensory impairment organisations. Individuals with a sensory impairment also fed in their views via an online survey, email and phone. The Chair of the Committee also shadowed two hearing aid users on a bus journey, on one of the routes served by the new Routemaster buses, and observed a trial of the new Wayfindr app for visually impaired people at Euston tube station. The Committee held a formal meeting on this issue on 9 March 2016. Our report summarises the evidence received and highlights some practical steps TfL and others can take to improve the accessibility of the transport network for people with a sensory impairment.

# 2. Passenger information

The way information is relayed to passengers has undergone a revolution in recent years. Advances in technology and new regulation have driven significant developments in the provision of audio-visual information on London's transport network. This has partly been driven by regulation in this area, but also by TfL leading the way in accelerating the provision of this information.

"The provision of rolling screens, together with clear announcements of stops coming up on the buses is absolutely brilliant for me, as a hard of hearing person. The difference this makes is so empowering."

Passenger with hearing impairment

There are also welcome developments planned for the near future. New Tube trains introduced from 2011 have greater flexibility to make ad hoc audio-visual announcements. The New Tube for London programme, during which the newlydesigned trains will be introduced on the Bakerloo, Piccadilly, Central and Waterloo & City lines during the 2020s, will extend this and increase functionality. New trains will use flat screen technology, so more information can be displayed and more clearly. This will include a line diagram of the train's route and information about delays and emergencies.

Also, TfL is continuing to trial passenger information screens on two route 12 buses, showing real time route maps and next stop information using GPS, as shown in Figure 1 below. We look forward to seeing the evaluation of this project.

# Figure 1: Experimental passenger information screens on buses<sup>9</sup> (Source: Navaho Technologies)



Rail operators are also working towards improving passenger information. For example, Thameslink will shortly be introducing new trains which will have audio-visual information installed, including the facility for the driver to make ad hoc announcements visually on their dot matrix screen, as well as audibly.

"So many times I have stood on a platform beside the open doors of a Tube listening to hear its destination being announced only for the doors to close before the announcement has finished – so frustrating!" **Passenger with visual impairment** 

However, we heard of a number of outstanding issues with the provision of passenger information across different modes, including:

 Variability in the accessibility of announcements on National Rail trains (greater consistency will be required by law from 2020.<sup>10</sup>)

- Information being given too slowly or too late, for example to identify if someone is on the right bus or if their station is coming up next, especially on buses and trams.
- Inconsistent information on which side to exit a train.
- Audio-visual information displays not operating as they should, and people being unclear how to report this.
- Difficulties identifying and boarding the correct bus, especially when they are stacked up at the bus stop and do not stop at the flag.
- Positioning of audio-visual displays on buses, including on single deckers.

A particular problem we have identified is the provision of real-time service information, for example about delays or in emergency situations, may be relayed after a delay or inaccessibly. The National Association of Deafened People said in a submission: On London Underground far more needs to be done to ensure deafened people are informed about changes to their journey when they are already in the station. Clear visual information should be available at entry and platform level. At the moment, the information is only voiced, which is not accessible. This is especially important in case of emergency.<sup>11</sup>

We also heard about the implications of this failing from Dr Roger Wicks of Action on Hearing Loss:

There are real challenges...about real-time flexible information, particularly in emergency situations and really urgent situations such as evacuating a station, and a real lack of information for people with hearing loss and deafness about what they should do. We have stories and examples of people being left abandoned on buses and trains when these things happen.<sup>12</sup>

The effective provision of real-time information helps people with a sensory impairment gain equal access to the transport network. We welcome the current direction of travel, but would like to see rail operators accelerating the introduction of new technology to increase access to realtime information. It is also vital that TfL and rail operators rapidly track failures in audio-visual and speaker systems, both to be able to correct errors and to boost customer confidence.

#### 3. Passenger assistance

People with sensory impairments need assistance for a range of reasons. Some seek practical assistance from transport staff to negotiate a journey. Others need to boost their confidence or allay concerns about personal safety. The value of this human presence should not be underestimated. We heard about its importance from Faryal Velmi of Transport for All at our meeting:

...you can have the most high-tech, modern, 21stcentury stations and rolling stock, but until you have staff who are visible, present, trained and confident to assist disabled people to get from A to B, then accessibility can be compromised.<sup>13</sup>

We were pleased to hear TfL reiterate their commitment to this sentiment:

One of the concerns that we have is that as we invest in accessibility, as we invest in technology, as we invest in better customer information... they only work if we have the right human beings in the network doing the right things on a day-to-day, case-by-case basis. That is a really important for us as TfL to address across all of our services.<sup>14</sup>

#### 'Turn up and go'

London Underground and London Overground provide a 'turn up and go' assistance service so people who need to be guided through stations do not have to book in advance, and can access support from staff whenever they want to travel. There is widespread support for this service, and it does appear to work well for most people, most of the time.

"The number of occasions I have difficulty finding staff at Tube stations has got slightly worse in the past year. Not on my daily commute to work, but at some central stations in the evenings."

Passenger with sensory impairment

TfL is committed to providing 'turn up and go' assistance at new Crossrail stations from the first to last train.<sup>15</sup> It will also be introduced to south London suburban rail services when TfL takes control of these services. This will help to address the historic disadvantage faced by disabled people in south London, where the London Underground network is smaller.

However, 'turn up and go' is not without its challenges. Since February 2015, Tube staff have been moving from ticket offices as part of the Fit for the Future programme, and overall station staffing across the network is being reduced by 900. We heard a number of associated with the recent staffing changes. These include:

- New uniforms for Tube staff, which have made them harder to spot.
- Staff, including on the Tube, not being present at the destination platforms.
- Staff being harder to locate at weekends.

 Assistance at interchanges breaking down, especially to or from National Rail services.

TfL outlined a number of ways that the staffing changes are being managed. Staff have been trained to proactively look out for passengers who may need assistance. To address some of the concerns about the new uniform design, staff will also wear red tabards at 'key stations'. Help points are also available in some station halls to mitigate for times when staff are not immediately available.

In contrast to TfL, rail operators advise disabled passengers to book assistance 24 hours in advance. We also heard reports of some rail operators requiring disabled passengers to give 48 hours' notice. Robert Harris of the charity Guide Dogs highlighted the difficulties for people changing between the two networks:

... it is when the client or guide dog owner gets to the ticket barrier and wants to continue on to a Network Rail service and the fact that guiding ends at the tube. It stops there. You can book 24 hours in advance, but if you want to turn up at a Network Rail station ad hoc you will end up waiting a very long time. Those guiding skills and that positivity end there.<sup>16</sup>

We are therefore encouraged by a number of recent examples of TOCs working towards a 'turn up and go' assistance scheme. For example:

- 'Turn up and go' is being trialled at 36 London rail stations, since May 2015.<sup>17</sup> The aim of the trail is understand if in future rail operators can offer a formalised 'turn up and go' service in London. The Association of Train Operating Companies is currently surveying individuals and organisations about experiences during the trial.<sup>18</sup>
- Following engagement with Transport for All, Southeastern<sup>19</sup> and Virgin Trains<sup>20</sup> recently amended their assistance information to reassure passengers

that staff will be able to assist passengers who have not booked assistance in advance.

 Chiltern Railways also told us how their staff are ready to offer 'turn up and go' assistance and offer a consistent service when people interchange between their and TfL services. Chiltern also described how they work with other rail operators to have consistent policy and practice, including the process of calling ahead for assistance at someone's destination station.<sup>21</sup>

#### Communicating with passengers

Staff communication skills are a crucial part of providing an accessible assistance scheme for people with a sensory impairment. Unfortunately, we heard that these skills are highly variable. Mistakes in communicating include quite basic errors such as staff not facing customers, who may be trying to lip read or gauge facial expressions, staff covering their mouth as they speak and staff relying on physical gestures when communicating with people with a visual impairment. We heard from Transport for All about why meeting disabled people, including people with a sensory impairment is so important:

Whenever we have done training with disabled trainers, it is sometimes the first opportunity that that member of staff has had to speak to a disabled person if they do not have one in their family or friend network and ask them questions about the realities of getting out and about. That is really important.<sup>22</sup>

TfL modified its station staff training as part of the Fit for the Future programme, with five days of customer service training for all station staff. We heard from TfL's Sarah Teichler at our meeting this this includes half a day's training on supporting disabled passengers.<sup>23</sup>

Chiltern Railways told us about their approach to training staff and importantly how all staff, whether working on the front-line or not, are trained: We include in our training a number of simulated and practical activities which teach our staff how to assist and lead people with visual impairments. Members of staff in customer facing roles and those who use the telephone to speak with customers are provided with specific training to assist them understand the importance of clarity of speech including intonation, emphasis and language. This training is designed to raise awareness of potential communication issues and emphasise how ineffective communication can impact upon disabled customers.<sup>24</sup>

People with a sensory impairment should have a good experience when accessing transport across different modes. TfL can make simple improvements on its own to their service, including making staff easier to spot through highly visible uniforms. More broadly it is vital that TfL and rail operators address outstanding issues with assisting people to interchange between TfL and National Rail services. We recognise that train operating companies want to provide a good service to customers and are concerned that they may not be able to offer 'turn up and go' assistance 100 per cent of the time. However, we think it is a reasonable approach for operators to offer this assistance where stations are staffed and ask people to book in advance when stations remain unstaffed. It is therefore vital that the Association of Train Operating Companies' evaluation of the London 'turn up and go' trial leads to further action to roll out 'turn up and go' and specifically recommends active promotional activity to ensure both staff and disabled people are aware this service is available.

TfL needs to be careful that its radical changes to the way stations are staffed do not adversely affect the availability of passenger assistance. TfL should monitor both the impact of staff changes on actual service provision, and passengers' perceptions of accessibility. Where rail operators implement changes to staffing on board trains

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and at stations they should learn from what TfL has done well – particularly improvement in staff training – as well as what has gone less well. Across the network, staff need to be trained in how to support people with a sensory impairment.

## 4. Travelling independently

Advice and support for independent travellers is important in two ways: first to equip people with the information and skills which they need to travel independently, and second, to build people's confidence to travel.

TfL provides a free travel mentoring service to encourage disabled people to make use of mainstream transport services. The travel mentoring service works in partnership with boroughs, disability organisations, and health and social care professionals to help them set up their own mentoring services and publicise the service. In the last financial year the travel mentoring service provided over 12,000 accompanied public transport journeys for disabled people and 59 multiple occupancy bus days, attended by over 1,900 disabled people. The latter are designed to help disabled people feel comfortable with bus travel. The overall service costs around £300,000 a year to deliver.<sup>25</sup>

We heard requests for the mentoring scheme to expand its scope, given the high levels of anxiety about using public

transport among people with sensory impairments. Dr Tom Pey of the Royal London Society for Blind People told us:

Certainly for blind young people in London, the real problem that people find is being able to understand the complexity of the routes and having the ability to practice the routes. One of the things we need to talk about is the mentoring system that TfL is, I would say, 'piloting' rather than 'rolling out' because it is not yet at a size that it is beginning to bite. There is some significant investment that needs to go into this so that certainly blind people can learn how to navigate independently in the Underground and how to navigate

We welcome TfL's acceptance that the mentoring service could be expanded and that targeted work could be carried out to offer the right kind of support to different groups. David McNeill of TfL told us: Quite a lot of people who use free door-to-door [or] Dial-a-Ride services could use the public transport system. It is just that they are not confident to use it. There are broader benefits – some of them are actually efficiency benefits – from doing this and it is something that we want to invest in and want to support further. Again, mentoring is not something that TfL can bomb our customer base with. It is something that we will need to work with organisations like Transport for All, Whizz-Kidz and others to get the right type of mentoring for the right type of customer.<sup>27</sup>

TfL also offers individual telephone advice to helps disabled passengers to plan an accessible route. Where appropriate, the service can also provide a mentor to accompany a disabled traveller for the first few journeys on mainstream transport to help them gain confidence. In the past there have also been orientation tours of stations, although there is no ongoing programme to provide tours for people with a sensory impairment.

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#### Wayfindr

Wayfindr is the first open standard for audio-based navigation and is the result of collaboration between ustwo (a global digital product studio) and the Royal London Society for Blind People (RLSB) Youth Forum. The trial at Euston Underground station guides visually impaired participants through the station, giving audio directions from a prototype smartphone app that interacts with beacons installed throughout the station. Users do not need bespoke, expensive kit to use it. Wayfindr has been developed using off-the-shelf technologies – smartphones, headphones and beacons.<sup>28</sup> In February, the Chair visited the Wayfindr trial in Euston tube station.

We welcome Wayfindr and TfL's plans to expand the trial to several more stations, including interchanges, to explore how the technology could be scaled up. A London-wide rollout would require a significant funding commitment from TfL or external funders, as well as a clear plan for maintaining the system and ensuring information can be updated in real time, for example if an entrance or exit is closed.

TfL has committed £250,000 to support expansion of the trial. We heard that a relatively modest amount – between £5,000-£7,500 per station – is required There would of course be an ongoing cost implication in terms of managing and maintaining the system. We welcome TfL's enthusiasm for this project and look forward to hearing about the next stage of the trial.

Many people with a sensory impairment want to travel independently, and can do so with the right support. TfL's mentoring scheme is a very positive programme. TfL should consider how it could scale up the programme, including targeting those who are particularly anxious about using public transport.

Station tours can also play a role in building individuals' confidence to travel. TfL should consider organising regular station tours, including new Crossrail stations as they

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open. These could be provided by volunteers, for instance the Team London Ambassadors.

Wayfindr is a clear example of where London continues to lead the way in exploring innovative ways to promote an accessible network. The initial trial appears to be producing positive results. A key test is coming up, as coverage expands to multiple stations. We hope that the new Mayor continues to support the scheme and, where necessary, ensures that TfL has the resources to further trial and then expand Wayfindr.

#### Assistance dogs

Many people with a visual or hearing impairment are supported by an assistance dog. Assistance dogs are able to travel with their owners across London's public transport network. This also applies to London's taxi and private hire services, which by law must accept passengers with assistance dogs at no extra cost.<sup>29</sup> We have heard that Londoners with assistance dogs face particular problems accessing private hire services, with some drivers refusing to accept passengers. As Robert Harris of the charity Guide Dogs told the Committee:

The experience on the ground can be very distressing for some of our clients who book a [minicab]... The call goes out from the office, the driver turns up and in quite a few cases you will get the driver saying, "I do not take dogs". You will find that that is a lucky outcome. Sometimes the driver will spot the dog from afar and just drive off, abandoning the guide dog owner by the side of the road, which has happened quite frequently.<sup>30</sup>

### Figure 2: TfL poster on assistance dogs in private hire

#### services

# A guide to assistance dogs for private hire drivers

Passengers with assistance dogs use private hire services to make their way around the Capital. In the UK there are more than 7,000 active working dogs. Assistance dogs are your passengers too.

#### **Guide Dogs**

'We wear **white** harnesses with **yellow** fluorescent stripes.' Guide dogs are for young people and adults who are blind or partially sighted.



#### Hearing Dogs for Deaf People

'We wear **burgundy** jackets.'

Hearing dogs are for adults and children with hearing impairments.



#### Dog AID (Assistance in disability) 'We wear red jackets.' Dog AID dogs are for obvietabled adults



#### **Canine Partners**

'We wear **purple** jackets.'

Canine Partners' assistance dogs are for physically disabled adults.



#### Dogs for Good 'We wear green jackets.'

Dogs for Good assistance dogs are for people with physical disabilities, or children with autism.

#### Support Dogs

'We wear **blue** jackets.'

Assistance dogs for physically disabled adults, setzure alert dogs for people with epilepsy, and autism assistance dogs for children with autism.



#### Medical Detection Dogs

'We wear **red** jackets.' Medical detection dogs are for adults and children with complex health conditions.



Did you know it is against the law to refuse or charge a passenger more because they have an assistance dog? Taxi drivers or private hire drivers and operators doing so could risk losing their licence or facing a fine.

#### MAYOR OF LONDON



TfL launched a campaign in February 2016 to raise awareness of the rights of assistance dog owners.<sup>31</sup> A poster and leaflet is being disseminated among drivers and operators, as shown in Figure 2 above. Alongside the campaign, TfL also provided an update on its compliance activities. In the last six months, TfL has successfully prosecuted five drivers and three operators for refusing to take assistance dogs, has eight prosecutions pending and is currently investigating eight more cases. TfL admits that there are likely to be more cases of this problem occurring. As David McNeill told the Committee:

If you have been the victim of this problem, tell us. Please tell us. We can then take action... The more we know about these problems the better. These problems seem pretty prevalent, but in terms of the number of reports we seem to get relatively small numbers.<sup>32</sup>

The Committee published a report, *Future Proof*, on London's taxi and private hire services in December 2014, including a recommendation for TfL to make it easier for people to complain about private hire services directly to TfL, rather than just to the operator. We suggested that TfL needs to do more to facilitate complaints from private hire passengers who have received poor service, and nowhere is this more evident than in instances of sensory impaired people denied a journey. A new webpage has been established to allow passengers to complain, and further changes by the end of March 2016 will include a dedicated telephone number.<sup>33</sup>

It is worrying to hear of instances where private hire drivers have illegally refused to accept passengers with an assistance dog. Even if it only happens in a minority of cases, the effect is to reduce the confidence of people with a sensory impairment that they can get around London independently. The number of prosecutions pursued by TfL seems implausibly low, given the evidence the Committee has heard about the prevalence of this problem.

We echo the call from TfL for people to use the complaints system to report any instances of assistance dogs not

being accepted. It is vital that TfL encourages people to submit complaints, by highlighting how people can complain, making the system fully accessible and specifying what information is required. We expect TfL to take more action to enforce the requirement for private hire services to accept assistance dogs. We will also be closely monitoring the development of TfL's new complaints system for private hire services, to ensure it is accessible for people with a sensory impairment and accurately identifies the issues they face.

# 5. Using the bus network

London's bus services are provided by a range of different operators, commissioned by TfL. There are a number of different bus designs in operation, including the new Routemaster buses being rolled out by TfL. Using the bus network presents some particular challenges for people with a sensory impairment at different stages of the journey.

### Bus stops

We heard about a wide range of problems when people are waiting at a bus stop, trying to identify and board the right bus. These include:

- Bus stops being serviced by multiple routes, making it hard to identify the right bus.
- Inaccessible timetables or spider maps at bus stops.
- Buses not stopping at the flag pole due to multiple buses being 'stacked up'.

A submission we received from the Royal National Institute of Blind People (RNIB) discussed how it was difficult for blind people to board when multiple buses arrive at a stop:

There are an increasing number of bus stops across London served by a number of routes, not something which on the face of it should be a problem. However, very often a blind or partially sighted person is faced by a queue of buses and has no idea if the second or third bus is the one they require. Very often by the time a fellow passenger has told them the bus has arrived it is pulling out into traffic and away from the stop.<sup>34</sup>

Dr Tom Pey of the RLSB echoed these concerns at our meeting:

There needs to be some form of investment put in place that allows the bus to be able to tell a blind person when it is coming. That will partly overcome some of the confusion that happens at some of the busier stops where two or three buses come together and you are not quite sure which one you are supposed to get on. By the time you get there, the bus you want to get on is gone.<sup>35</sup>

There have been suggestions for buses to have external speakers to announce information to passengers waiting at stops, although this may create excess noise concerns for others, including local residents. We heard that smartphone technology could offer a potential solution to this, if data on bus locations from TfL's iBus system could be communicated directly to waiting passengers.<sup>36</sup> TfL told us it would encourage this, and is disappointed that commercial developers have not so far developed apps to deliver this type of service to sensory impaired passengers.<sup>37</sup>

"There are way too many different bus designs. Remembering the layout of each type is next to impossible. Many have seats high up, very low down and/or all right at the rear of the bus." **Passenger with visual impairment** 

#### Bus design

Evidence we received also painted a picture of wide variability on buses and people's experiences once on board. This can be due to varied design and layout. London's bus services are provided by a range of different operators, commissioned by TfL. There are a number of different bus designs in operation, including the new Routemaster buses being rolled out by TfL. This can create problems for people with sensory impairments, as they find it more difficult to negotiate different layouts.

Transport for All's submission expands on concerns about the new Routemaster, including how aesthetic considerations appear to have 'trumped' accessibility considerations. For example, the Vehicle Accessibility Regulations state clearly that colour contrast can assist many visually-impaired people.<sup>38</sup> Yet, the new Routemaster has dull beige poles, whereas most buses have bright yellow or orange poles – maximising the contrast with other parts of the bus. There are also safety concerns for pedestrians. People with a sensory impairment can find it hard to hear newer, quieter buses. This is one example of how a positive move to greener technology can have unintended negative consequences for people with a sensory impairment. There may be various ways that TfL, operators and bus manufacturers could address this problem, perhaps using smartphone technology linked to iBus data, as discussed above.

#### **Bus drivers**

Bus drivers' understanding of sensory impairment and their ability to communicate effectively play an important part in people having a successful journey. We heard of concerns about variable skills and understanding among drivers. As Patrick Roberts, a trustee of Transport for All, told the Committee: The biggest barrier for me personally has been communication. Whether it is on the Tube, the train, the bus or whatever mode of transport, communication can be one of the biggest barriers. For example, if you are getting on a bus, you have the glass screen between you and the driver and you are trying to tell the driver where you need to go and the driver is gesturing to say that they have understood. However, being a visually impaired person, how am I supposed to know that he has understood or has acknowledged where I wish to go to?<sup>39</sup>

Since 2012, TfL has been working to involve disabled people more in staff training. Major programmes have been developed by, and delivered with, disabled people where possible. This includes introducing the new *All Aboard!* training for bus drivers, developed with Transport for All and Age UK London. In December 2014, TfL announced an investment of £25 million funding for the training of bus staff over seven years.<sup>40</sup> Drivers are also going to receive additional accessibility training in 2016. This will bring drivers from different operators together to undertake the training.

"Drivers are generally much better at now waiting for people to sit down before pulling away. I think they must have had some training on this as there has been an improvement." **Passenger with visual impairment** 

### Hearing loops

A hearing loop is a special type of sound system for use by people with hearing aids. Hearing loops help hearing aid users listen to bus announcements. The hearing loop provides a magnetic, wireless signal that is picked up by the hearing aid when it is set to the loop setting.<sup>41</sup> In London, the loop wire covers a specific area within the bus, rather than the whole bus. Hearing aid users appreciate knowing whether this facility is available before they board, so they have time to switch their hearing aid to the loop setting as it can take a few seconds to activate. Only newer buses have a loop installed so signage can play a useful role in alerting people to their existence. On some buses, signage is relatively clear and visible as you board, as shown in Figure 3 (image on left). However, on others, including the new Routemaster, there is no signage as you board – only a small sign set back in the bus (image on right).





Dr Roger Wicks of Action on Hearing Loss told the Committee of a number of issues with bus hearing loops that hearing impaired passengers may experience:

Often with hearing loops it is a case of 'so near, yet so far' because often we see, for example, hearing loops are installed but are not working properly. There may be interference on the bus or the range may not be as it should or we may have hearing loops installed but there is no signage; people are not aware and they are not being advertised. Clearly, we want all of those things to happen. We need hearing loops to be (a) installed, (b) maintained properly and looked after and (c) advertised, and also that staff are aware of what their purpose is and how to use them as well.<sup>42</sup>

"The electronic interference is terrible if a loop is even fitted on a bus. It's a constant synchronised electronic whine that matches the speed of the bus engine almost perfectly. **Passenger with hearing impairment**  On the Committee's site visit, the Chair observed the problems experienced by hearing loop users on board the new Routemaster. Electrical interference produces an unpleasant buzz, particularly immediately behind the driver's cab where there is an electrical cabinet. The loop also has a very limited reach. On the bus we travelled on, individuals could only hear it in the priority seats nearest to the middle door and not the priority seats on the other side of the aisle. TfL has hearing impaired people to explore how they could address the electrical interference, reposition the loops and increase their range.

It is vital that TfL continues to improve accessibility of the bus network for people with a sensory impairment. TfL and bus operators should build on recent improvements in bus driver training to address current passenger concerns. We are encouraged to hear that in the future bus drivers from different companies will be trained together.

We welcome the ongoing installation of hearing loops in buses. To make the most of this development, TfL should

consider how to improve signage both inside and on the exterior of buses. Inside, signs could indicate where the hearing loop works best. Outside, signs should alert passengers whether or not there is a loop on the bus.

New technology offers an opportunity to improve the experience of people with a visual impairment. For instance, passengers waiting at a stop could be alerted to the arrival of their bus, allowing them to identify the correct vehicle. Similar solutions might also be developed to tackle the problem of quieter buses, which pose a safety danger for those who rely on hearing. TfL, the bus industry and app developers should explore how to mitigate risks and take advantage of new opportunities.

# 6. Navigating the pedestrian environment

Street architecture and street clutter can have a significant impact on the ability of people with a sensory impairment to navigate the pedestrian environment. Historically street architecture has been used to enable people to navigate independently, including tactile paving to allow visually impaired people to identify crossings.

### Street clutter and 'shared space'

Submissions to the Committee have highlighted a number of difficulties associated with street clutter, including:

- Sporadic use and enforcement of legislation on street clutter.
- Obstacles around bus stops.
- Street furniture encroaching on pavement space.

Responsibility for addressing these issues lies with TfL and with boroughs, depending on the specific area. This division of responsibilities itself creates variability in the accessibility of the pedestrian environment. London TravelWatch explained this in a submission to the Committee:

It is the duty of TfL and the local highway authority to keep their footways clear and they have the powers to do so. Only a very small number of local highway authorities do this, as they should. Some defend the right of traders to clutter the streets with free-standing advertising boards [see Figure 5 below]. TfL acknowledges this issue and is starting to enforce against those that obstruct the pavement.<sup>43</sup>

# Figure 5: Advertising boards on Upper Street, Islington

(Source: London TravelWatch)



There has been a trend toward the removal of physical structures from the pedestrian environment, which may have some negative consequences for people with a sensory impairment. 'Shared space' design moves away from 'segregate and control' methods of managing traffic and pedestrians. In theory, the removal of kerbs and signage increased the perceived risk among pedestrians, motorists and other road users, and everyone therefore takes responsibility to be more careful.

However, many people with a sensory impairment rely on kerbs, differentiations in paving and formal crossings to navigate. As the Committee explored in its 2014 report on pedestrian safety, *Feet First*, there has therefore been considerable tension where shared space has been adopted, most notably the scheme at Exhibition Road in South Kensington. Furthermore, 'shared space' guidance is reported to change frequently and differs from borough to borough. Guide Dogs' submission to the Committee highlights how this adds to confusion and reduces confidence for visually impaired people living in these affected areas. Beyond issues with physical layout, people with visual impairments – as well as those with conditions such as autism and other learning disabilities – can find shared space to be more generally unsuitable for their use. This is because safe navigation of shared space is dependent upon a 'social negotiation' between drivers and pedestrians based on eye contact. People who are unable to establish communication based on visual clues may therefore feel more at risk in a shared space environment, preferring to avoid the area if possible.

The Mayor and TfL have promoted shared space design. For instance, this approach will be applied outside new Crossrail stations, which creates a risk that the network may be inaccessible for many passengers with sensory impairments. The Mayor has stated that designs have gone through an independent review process, including input from an expert on disability issues and Access Officers at relevant local authorities.<sup>44</sup>

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### Tactile paving

Tactile paving is now in place at 695 of 711 platforms on the Tube network. TfL has reported problems installing tactile paving on the remaining platforms, for example on the uneven platforms at Leytonstone and stations north of Queen's Park on the Bakerloo line. TfL has stated that it will provide tactile paving at these stations as part of other planned modernisation work. Improvements at Cannon Street have now been moved to fit in with other wider station improvements and are expected to be completed by 2019.<sup>45</sup>

Both the Department for Transport and TfL are currently considering changes to guidance on installation of tactile paving. The Committee heard particular concerns about a proposal to reduce the width or the length of what we call the 'tail' of the tactile paving. This 'tail' extends from the kerbside out so that someone walking on the pavement can detect that there is a signalised crossing coming up.

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Evidence given to the Committee raised a number of issues relating to tactile paving, including:

- A significant proportion of tactile paving being laid incorrectly or inconsistently.
- Newly-controlled Overground stations and stations outside of TfL control not yet having tactile paving.
- Tactile paving that is worn down and due for replacement, including in key locations such as Oxford Street and Westminster.<sup>46</sup>
- Inconsistencies in the colour of tactile paving, partly due to aesthetic considerations.<sup>47</sup>

Tackling street clutter and reducing obstacles in a consistent manner can greatly assist people with a sensory impairment. TfL and boroughs should have clear and coordinated plans for further progress to be made on tackling street clutter and promoting a level of consistency across the capital. TfL should place greater pressure on the least well performing boroughs to ensure all obstacles around bus stops are removed. At the same time, people with a sensory impairment should not feel that the street architecture they depend on has been removed to such an extent that some locations in the capital become 'no go areas'. TfL and boroughs should listen to and address the concerns of people with a sensory impairment about shared space schemes, finding the appropriate balance and applying consistent principles across London.

Tactile paving is an important safety feature for people with a sensory. The Department for Transport and TfL should therefore continue to promote consistent use of tactile paving and, more specifically, carefully consider the impact of any proposal to reduce the 'tail' of this paving. TfL and train operating companies should also have clear plans for auditing and replacing tactile paving.

### Bus stop cycle bypasses

Bus stop cycle bypasses are being introduced by TfL in a number of locations on the Cycle Superhighway network. The intention of this innovation is to allow for a continuously segregated cycle lane. Bypasses let cyclists up onto what would been the pavement behind bus stops, so that they can avoid the risk of being trapped behind stopped buses, and do not need to ride into general traffic to overtake a bus.

"My personal preference is to avoid using any route that involves these bike lanes. This means changing routes I've used for many years For example I will no longer be using Southwark station, as catching the 63 or 45 bus up to the river necessitates crossing the bike lane." Passenger with sensory impairment

This change in layout results in a 'floating' bus stop, with pedestrians needing to cross the cycleway to get to the bus stop (see Figure 6 for a diagram). Cyclists have right of way, although they are encouraged to slow down. When first introduced, the crossing point for pedestrians had minimal markings, although this does include tactile paving.

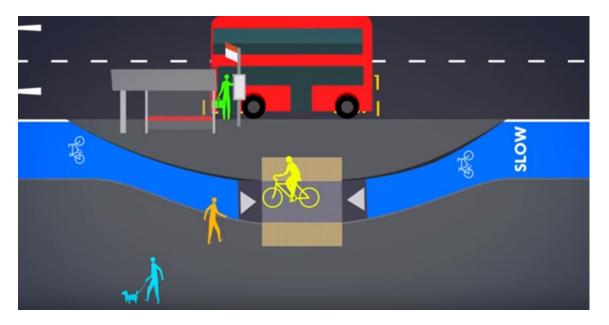
The number of pedestrian casualties involving cyclists in London is relatively low. Four per cent of pedestrian casualties in 2014 were experienced in collisions with cyclists.<sup>48</sup> However, the expectation that pedestrians must cross cycle lanes to reach some bus stops may increase risk, and Londoners with a sensory impairment have expressed genuine concern. We have heard that bus stop bypasses may be dangerous for visually-impaired people in particular, and some have said they are avoiding these locations altogether. TfL did commission tests of bus stop bypasses with sensory impaired pedestrians during the design phase, in order to identify how using different types of crossing may affect safety.<sup>49</sup>

After recent discussion with disability organisations, mini pedestrian crossings are being introduced to reduce potential risk to pedestrian safety. TfL could consider

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further safety measures to ensure pedestrian safety, such as introducing audio-visual announcements on buses which indicate when passengers are alighting at a 'floating' bus stop.

**Figure 6: Diagram of a floating bus stop (**Source: Transport for London)



TfL is right to consider new ways to keep cyclists safe on London's roads. However, there should have been more dialogue with disabled Londoners from the outset of this programme to address their concerns. We are pleased that this is now happening. Bus stop cycle bypasses should be considered an experimental innovation until multiple issues relating to pedestrian safety are addressed. We are also concerned about potential blind spots for cyclists as they go around the bus stop. We do not rule out the further use of these bypasses, but urge TfL to proceed with caution and assess the impact of this innovation on people with a sensory impairment before committing to a wider roll-out.

The introduction of Cycle Superhighways is one of several iconic transport projects in London, and one championed by the Mayor. We understand that bus stop cycle bypasses are an innovative attempt to deliver the segregation between cyclists and general traffic that is crucial to the Mayor's vision. However, TfL has a duty to protect the safety of all road users, especially vulnerable pedestrians such as those with a sensory impairment. It is important that the design of any transport scheme reflects this duty, even if this causes additional difficulties in delivering other Mayoral and TfL priorities.

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## 7. Customer feedback and expectations

Service users with a sensory impairment should feel able to easily feed back both good and bad experiences. In turn, TfL and other transport operators should be able to confidently track and analyse people's experiences.

At our formal meeting on this topic, TfL said it strongly encouraged people to provide feedback on their experiences of using the network.<sup>50</sup> TfL also has other mechanisms for gathering feedback. This includes mystery shopping, which TfL uses to identify issues people with a sensory impairment experience. This is not undertaken on every part of the network, however; for instance, TfL has not used mystery shopping on private hire services despite the evidence discussed previously of issues with acceptance of assistance dogs.

The Committee published a report on TfL's customer service in 2015, which identified a number of improvements TfL needed to make, including those which would help people with a sensory impairment engage with TfL. These included producing a charter setting out customers' rights, making it easier to complain through a variety of mechanisms, and enhancing the role of the TfL Board in ensuring TfL acts on feedback.

TfL agreed to take forward most of our recommendations, and we are pleased that there has been progress in this area. There are opportunities to go further, however, to specifically address issues faced by people with a sensory impairment. In particular TfL introduced a customer charter in early 2016, entitled *Our Customer Commitments*.<sup>51</sup> It addresses several themes, including accessibility, stating: *"London has one of the most accessible transport networks in the world and we are committed to making the network even more accessible for our customers."* 

The online version of the charter links to a variety of information sources that are helpful for people with a sensory impairment. However, the charter does not include a specific set of commitments explaining what type of service disabled people can expect from TfL, such as guaranteed availability of 'turn up and go' services or the provision of information in accessible formats. TfL told the Committee that it would consider producing a document for disabled customers with commitments of this type.<sup>52</sup>

Effective communication between TfL and people with a sensory impairment is essential to improve services and maintain passengers' confidence. TfL should be proactive in gathering and analysing evidence of performance. A specific set of commitments in TfL's customer charter about the service standards people with a sensory impairment can expect would help improve their confidence to travel and make it easier to rectify any problems they experience.

### **APPENDIX**

# **A. Transport Committee**

### Members

Valerie Shawcross (Chair)	Labour
Caroline Pidgeon (Deputy Chair)	Liberal Democrat
Kemi Badenoch	Conservative
Tom Copley	Labour
Darren Johnson	Green
Murad Qureshi	Labour
Onkar Sahota	Labour
Richard Tracey	Conservative

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### Online

Find out more about the work of the Committee and read other reports at:

http://www.london.gov.uk/about-us/london-

assembly/transport-committee

# **B. Views and information**

### **Committee meeting**

The Transport Committee met the following guests on 9 March 2016:

- David McNeill and Sarah Teichler, Transport for London
- Helen Drew, Chiltern Railways
- Robert Harris, Guide Dogs
- Faryal Velmi and Patrick Roberts, Transport for All
- Dr Roger Wicks, Action on Hearing Loss
- Dr Tom Pey, Royal London Society for Blind People

The transcript of the discussion will be published on our website here:

https://www.london.gov.uk/moderngov/ieListDocuments.as px?CId=173&MId=5718

A webcast of the meeting is available at:

https://www.london.gov.uk/transport-committee-2016-03-09. A palantypist feed for the meeting is available at: <u>https://www.london.gov.uk/transport-committee-</u> palantypist-feed-2016-03-09

#### Site visit

The Chair of the Transport Committee conducted a site visit on 25 February 2016. This included a bus journey accompanied by passengers with a hearing impairment, and observing a trial of the Wayfindr app for visually impaired people at Euston Underground station. Participants in the visit were Mike Theobald, Lidia Best and Ashar Smith, and we are grateful to Transport for London, Transport for All, the National Association of Deafened People, Wayfindr and the Royal London Society for Blind People for their support arranging the visit.

### **Submissions**

Written submissions were received from Action on Hearing Loss, Chiltern Railways, Community, Guide Dogs London, Inspire Community Trust, London TravelWatch, the London Visual Impairment Forum, National Association of Deafened People, Royal National Institute of Blind People, South East London Vision, Transport for All and Transport for London. A number of individuals with a sensory impairment also submitted their views.

Written submissions can be found on the publication page for this report via:

https://www.london.gov.uk/about-us/londonassembly/london-assembly-publications

# C. Notes

<sup>1</sup> Written submission from Action on Hearing Loss, February 2016. Written submission received by the Committee during this investigation are available to download via: <u>https://www.london.gov.uk/about-us/london-assembly-publications</u>

<sup>2</sup> London Assembly, *Access to health services for deaf people*, June 2015:

https://www.london.gov.uk/sites/default/files/london\_asse mbly\_health\_committee\_-

access to health services for deaf people -

june 2015 - updated.pdf

<sup>3</sup> <u>http://www.rnib.org.uk/knowledge-and-research-hub-key-information-and-statistics/sight-loss-data-tool</u>

<sup>4</sup> <u>https://www.sense.org.uk/publications/regional-data-</u> <u>future-deafblind-population-london</u>

<sup>5</sup> Transport for London, *Your accessible transport network*, December 2012: <u>http://content.tfl.gov.uk/your-accessible-</u> <u>transport-network.pdf</u>

<sup>6</sup> Transport for London, *Your accessible transport network: May 2015 update*, May 2015:

http://content.tfl.gov.uk/your-accessible-transportnetwork-3-main-document.pdf

<sup>7</sup> <u>https://tfl.gov.uk/info-for/media/press-</u> <u>releases/2009/april/all-londons-buses-now-fitted-with-ibus</u>

<sup>8</sup> <u>https://tfl.gov.uk/info-for/media/news-articles/visually-impaired-londoners-trial-new-travel-app</u>

<sup>9</sup> Image provided by Navaho Technologies. For further information see:

https://www.navaho.co.uk/news/item/2014/06/navahomediacat-live-on-tfl-bus-route-12-2

<sup>10</sup> <u>https://www.gov.uk/government/collections/heavy-rail-</u> <u>fleets-2020-targeted-compliance</u>

<sup>11</sup> Written submission from National Association of Deafened People, February 2016

<sup>12</sup> Transport Committee meeting, 9 March 2016. The minutes and transcript of the Committee's meeting are available at:

https://www.london.gov.uk/moderngov/ieListDocuments.a spx?CId=173&MId=5718.

A webcast of the meeting is available at:

https://www.london.gov.uk/transport-committee-2016-03-

<u>09</u>. A palantypist feed for the meeting is available at:

https://www.london.gov.uk/transport-committeepalantypist-feed-2016-03-09

<sup>13</sup> Transport Committee meeting, 9 March 2016

<sup>14</sup> David McNeill, Transport for London, Transport Committee meeting, 9 March 2016

<sup>15</sup> Question from Navin Shah AM [Question 2014/4542], Mayor's Question Time, 19 November 2014

<sup>16</sup> Transport Committee meeting, 9 March 2016

<sup>17</sup> <u>http://www.c2c-online.co.uk/assistance/mobility-</u> <u>impaired/london-trial/</u>

<sup>18</sup> <u>https://www.surveymonkey.co.uk/r/turnupgo</u>

<sup>19</sup> <u>http://www.southeasternrailway.co.uk/your-journey/assisted-travel/more-information/</u> 20

<u>https://www.virgintrainseastcoast.com/support/accessibilit</u> <u>y/</u>

<sup>21</sup> Helen Drew, Chiltern Railways, Transport Committee meeting, 9 March 2016

<sup>22</sup> Faryal Velmi, Transport for All, Transport Committee meeting, 9 March 2016

<sup>23</sup> Transport Committee meeting, 9 March 2016

<sup>24</sup> Written submission from Chiltern Railways, February2016

<sup>25</sup> Transport for London, *Social Needs Transport: A Roadmap for Future Provision*, October 2015:

https://www.london.gov.uk/moderngov/documents/s5140 4/Appendix%201%20-

%20Social%20Needs%20Transport.pdf

<sup>26</sup> Transport Committee, 9 March 2016

<sup>27</sup> Transport Committee, 9 March 2016

<sup>28</sup> <u>http://www.rlsb.org.uk/tech-hub/wayfindr</u>

<sup>29</sup> Drivers with a dog allergy can be exempted from the requirement to accept assistance dogs. The Committee has asked TfL for information on how drivers are asked to confirm a dog allergy, and will publish their response.

<sup>30</sup> Transport Committee meeting, 9 March 2016

<sup>31</sup> <u>https://tfl.gov.uk/info-for/media/press-</u> <u>releases/2016/february/tfl-reminder-assistance-dogs-are-</u> <u>your-passengers-t</u> <sup>32</sup> Transport Committee meeting, 9 March 2016

<sup>33</sup> Letter from Garrett Emmerson to the Transport Committee, 12 February 2016

<sup>34</sup> Written submission from RNIB, February 2016

<sup>35</sup> Transport Committee meeting, 9 March 2016

<sup>36</sup> Dr Tom Pey, RLSB, Transport Committee meeting, 9 March 2016

<sup>37</sup> Transport Committee meeting, 9 March 2016

<sup>38</sup> <u>https://www.gov.uk/government/publications/bus-</u> <u>coach-accessibility-faq</u>

<sup>39</sup> Transport Committee meeting, 9 March 2016

<sup>40</sup> <u>https://tfl.gov.uk/info-for/media/press-</u> <u>releases/2014/december/mayor-s-plans-to-boost-london-s-</u> <u>bus-services</u>

<sup>41</sup> The hearing loop consists of a microphone to pick up the spoken word; an amplifier which processes the signal which is then sent through the final piece; the loop cable, a wire placed around the perimeter of a specific area to act as an antenna that radiates the magnetic signal to the hearing aid.

<sup>42</sup> Transport Committee meeting, 9 March 2016

<sup>43</sup> Written submission from London TravelWatch, February2016

<sup>44</sup> Question from Navin Shah AM [Question 2014/4542], Mayor's Question Time, 19 November 2014

<sup>45</sup> Transport for London, *Your accessible transport network: May 2015 update*, May 2015: http://content.tfl.gov.uk/your-accessible-transportnetwork-3-main-document.pdf

<sup>46</sup> Written submission from Transport for All, February 2016

<sup>47</sup> Written submission from RNIB, February 2016

<sup>48</sup> TfL, *Casualties in Greater London during 2014*, June 2015: http://content.tfl.gov.uk/casualties-in-greater-london-

<u>2014.pdf</u>. This figure refers to all pedestrians, not just those with a sensory impairment.

<sup>49</sup> Transport Research Laboratory, *Off-street trials of a Bus Stop Bypass*, December 2014:

http://www.trl.co.uk/media/573524/ppr730 bus stop byp ass main report v1.pdf

<sup>50</sup> David McNeill, Transport for London, Transport Committee meeting, 9 March 2016

<sup>51</sup> TfL customer service: Next steps, Transport Committee, March 2015: <u>https://www.london.gov.uk/about-us/london-assembly/london-assembly-publications/tfl-customer-asservice-next-steps</u>

<sup>52</sup> David McNeill, Transport for London, Transport Committee meeting, 9 March 2016

Published by Greater London Authority, March 2016