



CLEAR SIGNALS

Improving transport accessibility for
deaf people and people with hearing loss

**RN
I:D** | Supporting people
who are deaf, have
hearing loss or tinnitus

Funded by



**Motability
Foundation**

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About RNID

We are RNID: the national charity supporting more than 18 million people in the UK who are deaf, have hearing loss or tinnitus. We campaign to change public attitudes and help people hear better now. We fund groundbreaking biomedical research that will stop hearing loss and silence tinnitus. And we provide practical support and information over the phone, online and in local communities.

Prevalence of deafness and hearing loss

More than 18 million people in the UK are deaf, have hearing loss or tinnitus. An estimated 2.4 million people have a level of hearing loss that means they would struggle to hear conversational speech. Approximately 45% of people aged 40 and over have some degree of hearing loss, rising to almost 80% of people over 70.

In addition, there are an estimated 25,000 people in the UK who use British Sign Language (BSL) as their main language, but data suggests there are approximately 117,000 people who use BSL, not necessarily as their main language, of whom 87,000 are deaf.



**More than
18 million**

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2.4 million

people have a level of hearing loss that means they would struggle to hear conversational speech



There are approximately 150,000 people who use BSL, of whom an estimated¹ **87,000 are deaf**

¹ RNID. Prevalence of British Sign Language. Retrieved: [Prevalence of British Sign Language - RNID](#)

Executive Summary

This research, generously funded by the Motability Foundation, fills an important gap in our understanding of how deaf people and people with hearing loss experience public transport in the UK. Despite more than 18 million people in the UK being deaf, having hearing loss or tinnitus, there is no previous published research focused exclusively on their experiences of public transport.

At a time when the UK government is seeking to strengthen integration across the transport system, these findings provide clear evidence that accessibility barriers remain across all modes of public transport. The research examines how these barriers affect confidence, independence and travel behaviour and highlights the distinct experiences of BSL users and people with multiple disabilities. This report also identifies practical actions that government, transport authorities and operators can take to create a system in which deaf people and people with hearing loss can travel confidently and independently wherever they are in the UK.

Key findings

Accessibility barriers on public transport are widespread and persistent, affecting more than three quarters (77%) of deaf people and people with hearing loss, and almost all BSL users (94%).

Access to information

Access to information is the most significant challenge. Nearly three quarters (72%) report that the way travel information is provided acts as a barrier. The transport system continues to rely heavily on audio announcements, particularly during disruptions, despite many deaf people and people with hearing loss being unable to access them consistently, if at all.

Visual information, while essential, is often described as inconsistent, unreliable or unavailable. Broken displays, missing real-time updates and poor alignment between audio and visual information leave many people without access to critical journey information.

People whose main or preferred language is BSL face additional barriers because written English is not always accessible and information in BSL is rarely available.

Communication with staff

Staff provide essential support when audio-visual information systems fail, but this can be inconsistent. Nearly two thirds (62%) rely on staff when information is inaccessible, yet only 6% say that staff are always available when needed. More than half (55%) identify communication with staff as a barrier, and for BSL users, this figure is 70%. People told us that staff lack deaf awareness to communicate effectively and that support through passenger assistance services is also unreliable and inconsistent.

Physical environment

Two thirds (66%) identify factors such as noise, poor lighting and overcrowding as barriers when using public transport. These challenges can affect access to information, communication with staff and overall confidence during journeys.

The impact

The consequences extend beyond the journey itself. People describe anxiety, stress, fatigue and a need to remain constantly vigilant while travelling. Nearly four in five (79%) say they are constantly “on alert” during journeys, while 41% feel that accessibility barriers limit their independence.

The impact is particularly severe for: BSL users, people with multiple disabilities for whom barriers compound, and those travelling in rural areas, where services are less frequent, staffing is lower and information is harder to access.

Many people rely on extensive journey planning, support from others or avoid certain journeys altogether. More than a third (35%) avoid public transport because of accessibility challenges, as do almost half (48%) of BSL users specifically. Yet when people attempt to complain about their experiences on public transport, the complaints system itself can be inaccessible.

What needs to change

The findings point to a clear agenda for action, with priorities identified by deaf people and people with hearing loss in this report. This includes reliable, consistent access to information across transport modes, through:

- **improved audio-visual passenger information systems** accessible to all passengers
- **audio announcements made accessible** through technologies such as hearing loops, Auracast and, where possible, BSL translation
- **deaf awareness training** for all customer-facing staff, including use of accessibility technologies

Recommendations

Achieving this requires coordinated action by governments, regulators, transport authorities, operators and manufacturers.

- **policy and regulatory reform**, including creation of a consistent pan-modal approach to accessible information. This must include alignment of all legal requirements for audio-visual information and an obligation to make audio information accessible to people with hearing loss.

- **support for innovation** through investment in pilots and trials of new technology such as Auracast and AI-enabled BSL translation, with support for roll-out when proven. People with lived experience should be involved throughout testing, implementation and evaluation.
- **improved service delivery and accountability** achieved by embedding accessibility improvements in transport plans at national and local level. Transport operators should improve staff deaf awareness training and the availability of accessible customer support.

Conclusion

This research provides the first comprehensive UK evidence on the experiences of deaf people and people with hearing loss using public transport.

The findings show that inaccessible information affects confidence, independence and public transport use, requiring many people to compensate through additional effort, planning and reliance on others. However, creating a more inclusive transport system is possible. It will require a consistent approach to accessible information, investment in piloting and rolling-out new technologies, effective staff support and recognition that access to information is a fundamental requirement for safe, confident and independent travel.



Section 1: Introduction

Background and rationale

Our report presents the first comprehensive, dedicated insight into the experiences of deaf people and people with hearing loss using UK public transport. Despite there being more than 18 million people who are deaf, have hearing loss or tinnitus, there has been a distinct absence of focused research in this area.

A rapid evidence review of academic and grey literature revealed a clear gap in data on how deaf people and people with hearing loss experience public transport in the UK. Without robust evidence, we cannot understand the scale and impact of the barriers nor how to address them.

With the UK Government seeking to strengthen integration across the transport system through its *Better Connected* strategy,² this report provides timely and practical insights, setting out recommendations for buses, trains, metro systems (which includes the London Underground), trams and domestic ferries.

The foreword to the strategy clearly sets out the government's ambition to build an integrated transport network that: "...connects communities, considers accessibility and safety by default and gives people affordable choices over how they travel. It means championing innovation that will knock down the small hurdles that we know become big barriers to travel; working with the private sector to embed these innovations to make sure they have real impact."³

Delivering this change requires coordination across a complex system. Transport planning is devolved to many levels within the UK, with powers held by governments in Northern Ireland, Scotland and Wales, alongside increasing control over services by local authorities in England. At the same time, the creation of Great British

Railways presents a clear opportunity to take a more consistent approach to accessibility.

By addressing the long-standing evidence gap, this report moves beyond anecdote to provide a clear foundation for action. It highlights both the barriers faced and the steps needed to create a more inclusive public transport system for deaf people and people with hearing loss.



^{2,3}Department for Transport. (2026). Better Connected: A strategy for integrated transport. [Better Connected: a strategy for integrated transport - GOV.UK](#)



Aims and scope

In the absence of existing evidence, the research was designed with a broad scope and set out to achieve the following objectives:

- identify the barriers faced by deaf people and people with hearing loss across all major modes of public transport in the UK, including buses, trains, metro systems (which includes the London Underground), trams and domestic ferries
- understand how these barriers impact people's journeys and explore subsequent emotional and behavioural responses
- explore the distinct challenges faced by BSL users in accessing and using public transport
- explore how accessibility varies by journey context, including factors such as differences between rural and urban settings and familiarity with journeys
- explore the experiences of people with multiple disabilities, highlighting how intersecting needs shape their experiences of using public transport
- understand how well current support services, such as passenger assistance services, meet the needs of deaf people and people with hearing loss, and explore experiences of using complaint mechanisms
- identify priorities for improvement by evidencing the changes that deaf people and people with hearing loss want to see on public transport and the impact these changes would have on their experience
- explore potential solutions, including new technologies, to address the barriers identified

Working with an advisory board

To ensure that all aspects of the research were grounded in the real-world experiences of deaf people and people with hearing loss, an advisory board was established at the outset of the project.

The Advisory Board was recruited through RNID's Research Panel and comprised a diverse group of seven individuals with lived experience who are deaf or have hearing loss, including BSL users and people with multiple disabilities. Their input has been vital in shaping the design and delivery of the research and in ensuring that the project remains relevant, accessible and reflective of the communities it represents.

Over an 18-month period, the Advisory Board members attended meetings every two months to guide each phase of the project. Their contributions included reviewing and shaping discussion guides, advising on survey content and design, and supporting decisions around dissemination and engagement. All members were remunerated for their time and expertise in recognition of the value of their lived experience and the important role they played in shaping the project.

The Advisory Board has shared why this project matters to them and what they hope will come from this research:

"We feel it is an honour to be part of the Advisory Board and to contribute to shaping the future of public transport. Taking part has given us the opportunity to highlight the barriers and stress that many deaf people and people with hearing loss face when travelling day to day. Throughout the project, our views and contributions have been taken on board by the research team."

We believe it is important that accessibility is discussed openly and that different perspectives, including those of BSL users as well as those living in rural areas, are represented to ensure public transport can be much more inclusive for deaf people. Public transport is a basic need and should be accessible to everyone – it enables people to work, attend appointments and socialise, and no one should be excluded because of disability.

By being involved, we hope to ensure that this project reflects real experiences and supports practical improvements. We feel a sense of hope that change within public transport can make it a less stressful experience. We want this work to help transport providers better understand user needs and to prompt meaningful action towards more inclusive and equitable services. We hope this research will prompt action to change delivery models and give those who commission services a starting point to improve access for deaf people and people with hearing loss. We hope public transport companies will take on board our suggestions on how to improve and make their services even better for deaf people."

As an organisation, we are committed to embedding the voices of people who are deaf or have hearing loss throughout our work, recognising that collaboration results in better research, more meaningful insights and more effective recommendations.

We would like to extend our thanks to each member of the Advisory Board for the commitment, enthusiasm and expertise they have brought to this project. Their insights and perspectives have been the foundation to the success of this project.



Emily's story

Emily is in her 40s and lives in Cardiff. She began to lose her hearing in her 20s and has now lost all hearing in her left ear and has severe-to-profound hearing loss in her right ear. Below Emily shares her story:

Navigating public transport

Using public transport is very stressful for me when travelling on unfamiliar routes or when announcements are made over tannoy that I cannot hear properly.

Accessible information has improved in recent years through smartphones and transport apps that allow you to buy tickets and check routes without having to have a conversation with staff, but 'on the spot' situations like the bus driver unexpectedly saying something makes me nervous and I unnecessarily panic.

Platform alteration

Once I was waiting at the platform and my train disappeared off the screen. There was an announcement over the tannoy, which I couldn't understand, but I watched in horror as most of the people waiting on the platform suddenly left.

I asked someone in the crowd what was happening, but I couldn't understand her

either, and there were no signs or main screens to check on the platform. I followed everyone going downstairs and finally found the platform where my train had arrived, but it was too late... it left before I could reach it.

Delayed and frustrated

I was very annoyed and upset. It's frustrating that only a small thing like displaying 'platform has changed to X' on the screen could have solved the problem. It made me feel, as I have felt for years when not understanding people, that it was somehow my fault that I couldn't hear well enough to understand the announcement. Unexpected changes make me remember that I miss out on so much that other people don't.

A 'mind-blowing' solution

Being involved in a trial of Auracast at Bristol Temple Meads was very simply mind-blowing. The announcements delivered through Auracast were crystal clear, and I haven't been able to hear platform announcements properly for a few decades.

If Auracast were available on public transport, it would improve my confidence drastically and I would be able to travel more easily. I wouldn't have to panic that I wouldn't understand, or need back-up plans, or depend on other people to translate an announcement for me.

Section 2: Methodology

This research used a mixed-methods approach including an evidence review, qualitative research, and a large-scale survey. This allowed us to explore lived experience in depth and measure how widespread key issues are. The full methodology is available in the Technical Appendix.

The research focused on buses, trains, metro systems (such as the London Underground), trams and domestic ferries (such as those serving Scottish islands, services to Northern Ireland, and the Isle of Wight) as the main forms of public transport in the UK. Taxis, coach services, air travel and micro-mobility solutions (such as hire bikes and e-scooters) were out of scope, but some of the learnings are applicable to these services.

Evidence review

We conducted a rapid evidence review to explore existing research on transport accessibility for deaf people and people with hearing loss:



Over 2300 records screened



21 published papers reviewed



19 grey literature sources reviewed



published research focused exclusively on deaf people and people with hearing loss in the UK

The review identified a significant gap in evidence specific to the UK, highlighting the need for dedicated research in this area. We identified no published research dedicated exclusively to the experiences of deaf people and people with hearing loss on public transport in the UK, although some insights were obtained from pan-disability studies which included deaf people and people with hearing loss. However, insights from the evidence review allowed us to begin to identify barriers and enablers to equitable public transport use and informed the design of our qualitative and quantitative research phases.

Qualitative phase

To explore lived experience in depth, we conducted qualitative research with a broad sample of people across the UK, including a substantial proportion of BSL users, reflecting a wide range of experiences and travel contexts.



86 participants



33 interviews



25 BSL users



16 small focus groups

Quantitative phase

The survey captured a broad sample of deaf people and people with hearing loss, including 16% BSL users, with representation across age groups, predominantly female (60%), majority white (90%) but including ethnic minority groups, and UK-wide coverage.

Throughout the report, comparisons are made between the overall sample (n=1,762), which includes BSL users, and the subset of only BSL users (n=283) to highlight where barriers and impacts are, in some instances, intensified for sign language users. This group is defined broadly to include people who use BSL in any capacity, rather than only those who consider it their main language. This approach ensures the findings capture a wider group who may rely on signed information in situations where audio information is inaccessible and who therefore could benefit from its provision on public transport.



1,762 overall responses



283 BSL users (which included people who use BSL in any capacity)

Patterns of travel behaviour

In line with the survey aims, people taking part were current public transport users (defined as those who use or have used public transport within the past two years). Most people reported using buses and trains, although all modes of public transport were represented, with usage patterns reflecting frequent travel, including commuting (see the Technical Appendix for a full breakdown of mode of transport use). The findings, therefore, provide a robust picture of experiences among active users, though they are not representative of those who do not use public transport.

Throughout the report, we provide breakdowns by type of public transport to highlight the varying experiences across different modes. Where sample sizes are too small, for example BSL users who use trams (n=47) and ferries (n=27), these have not been reported.

Structure of the report

Throughout, the report integrates findings from both the qualitative and quantitative research to provide both depth and breadth of experience.

The remainder of the report is broken down across eight core sections. In **Section 3: The barriers to travelling on public transport**, we outline the challenges deaf people and people with hearing loss face when using public transport. In **Section 4: Experiences across transport modes throughout the journey**, we follow journeys across different transport modes to explore how experiences vary, while **Section 5: How journey context affects accessibility** considers how situational factors shape accessibility.

Building on this, **Section 6: Accessibility needs and support when travelling** sets out the types of support people require, before **Section 7: The impact of inaccessible public transport** examines the consequences of these barriers.

The report then turns to solutions. **Section 8: Improvements and priorities for change** explores the priorities that are important to deaf people and people with hearing loss, and the potential role of technology. Finally, **Section 9: Summary of findings** and **Section 10: Recommendations** brings together the key insights and outlines practical actions.

Section 3: The barriers to travelling on public transport

Inaccessible information

Barriers to travel caused by access issues are not isolated incidents for deaf people and people with hearing loss, but a defining feature of journeys on public transport. Overall, more than three quarters (77%) say they experience barriers when using public transport (at least of some of the time), whereas for BSL users specifically, this figure is 94%. While overall only 7% say they never experience barriers, for BSL users this figure is just 1%, highlighting the scale and frequency of accessibility barriers across the public transport system.

The most consistent and significant barrier is the lack of clear, consistent and reliable real-time travel information. Nearly three quarters (72%) say the way travel information is provided is a barrier when using public transport, and for BSL users specifically, this figure is 80%. This has a clear negative impact where overall, 89% of those who identify this as a barrier say it affects their confidence using public transport.

This lack of access to essential travel information stems from an over-reliance on audio-only announcements, poor or inconsistent provision of visual information and, for BSL users, a lack of information provided in BSL.

During disruptions, the barriers experienced are further intensified and become a significant pressure point for deaf people and people with hearing loss. When delays, changes or cancellations occur, the limitations of current systems are exposed, leaving people without access to critical journey information due to the continued reliance on audio announcements and a lack of accessible alternatives.



Reliance on audio announcements

Public transport still relies heavily on audio announcements for essential travel information, which many deaf people and people with hearing loss will either struggle to access or cannot access at all. Four in five (81%) agree that public transport relies too much on poor quality audio announcements to provide travel information, especially when there are disruptions. When key information is announced only through audio, journeys on public transport become extremely difficult, if not completely inaccessible.

Even people who can hear some announcements say they are often unclear, muffled or too quiet. There is also limited technology, such as hearing loops, to make announcements accessible. For some BSL users and those with severe to profound hearing loss, audio-only announcements exclude them from the information they need to travel independently.



“Imagine if all transport provided full BSL visuals everywhere, but no audio announcements at all. Hearing people would suddenly feel confused, excluded, and frustrated. They would struggle to get information, especially during delays or cancellations. This is the same way deaf people often feel now when travelling, because important information is shared mainly through sound.”
- 25-34, deaf BSL user, Greater London

People told us the difficulties in accessing audio announcements. Only around one in five say that audio announcements are clear whilst waiting for public transport (ferries 22%, trains 20%, trams 18%, buses and metro systems 17%). Once on board, only around a quarter of people say that announcements are clear with small variations depending on the mode of transport (buses and trams 27%, ferries 25%, trains 24% and metro systems 21%).

Notably, between 62% and 66% of BSL users who use buses, trains and metro systems told

us that audio announcements are unclear or they cannot access audio announcements at all, demonstrating once again that BSL users are systematically excluded from essential travel information.

People told us they are frequently unable to access information about delays and disruptions, next stop information, platform changes, and safety or emergency updates. Across all modes of transport, difficulties accessing information are common.

Figure 1. Unable to access information about delays and disruptions

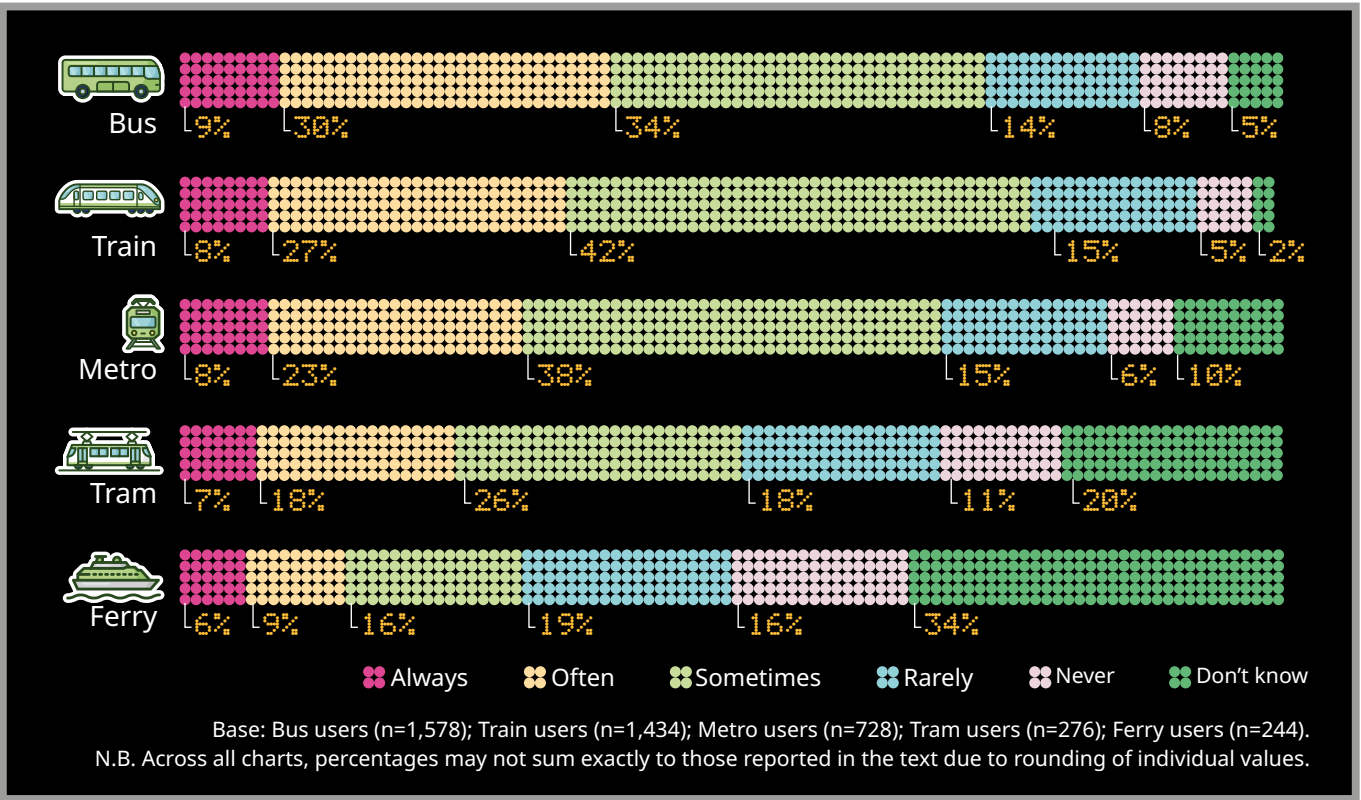


Figure 2. Unable to access information about platform changes and announcements

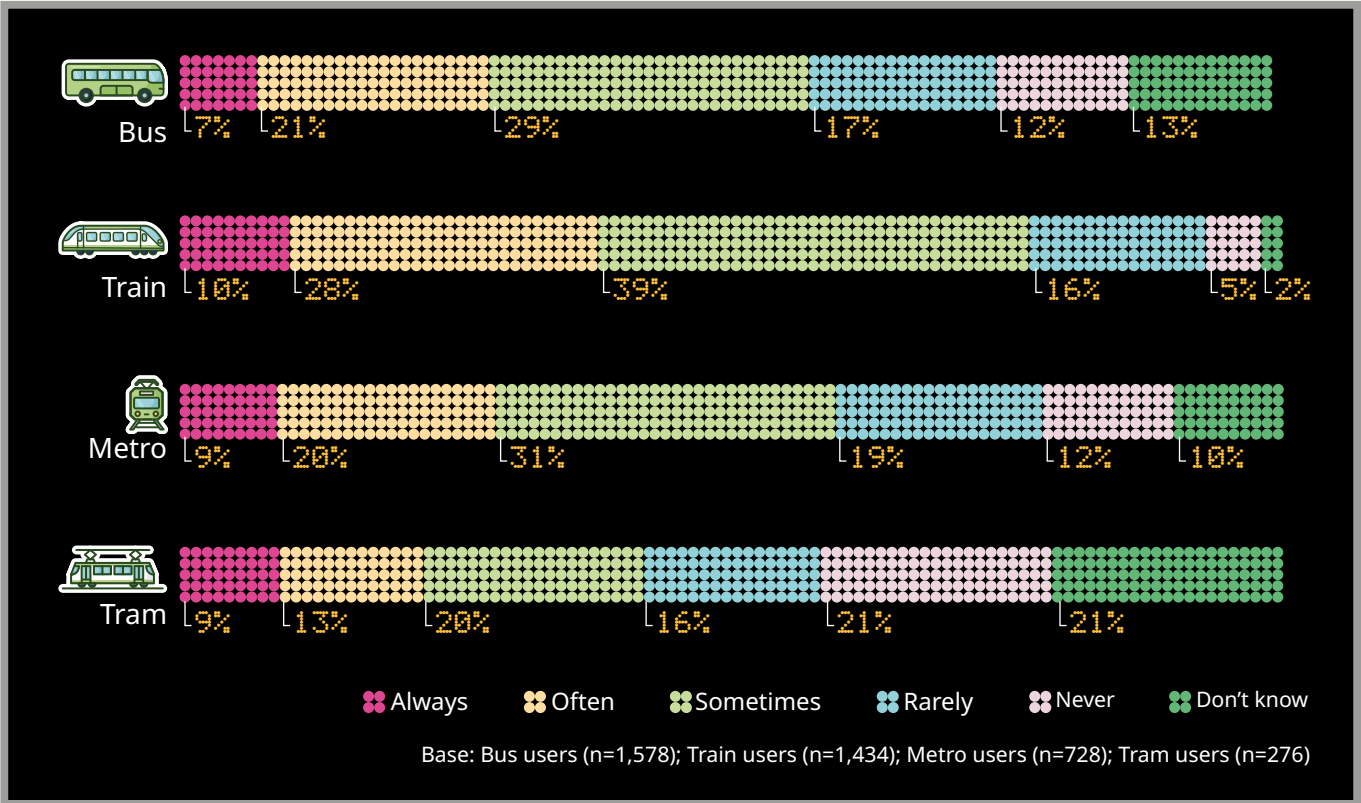
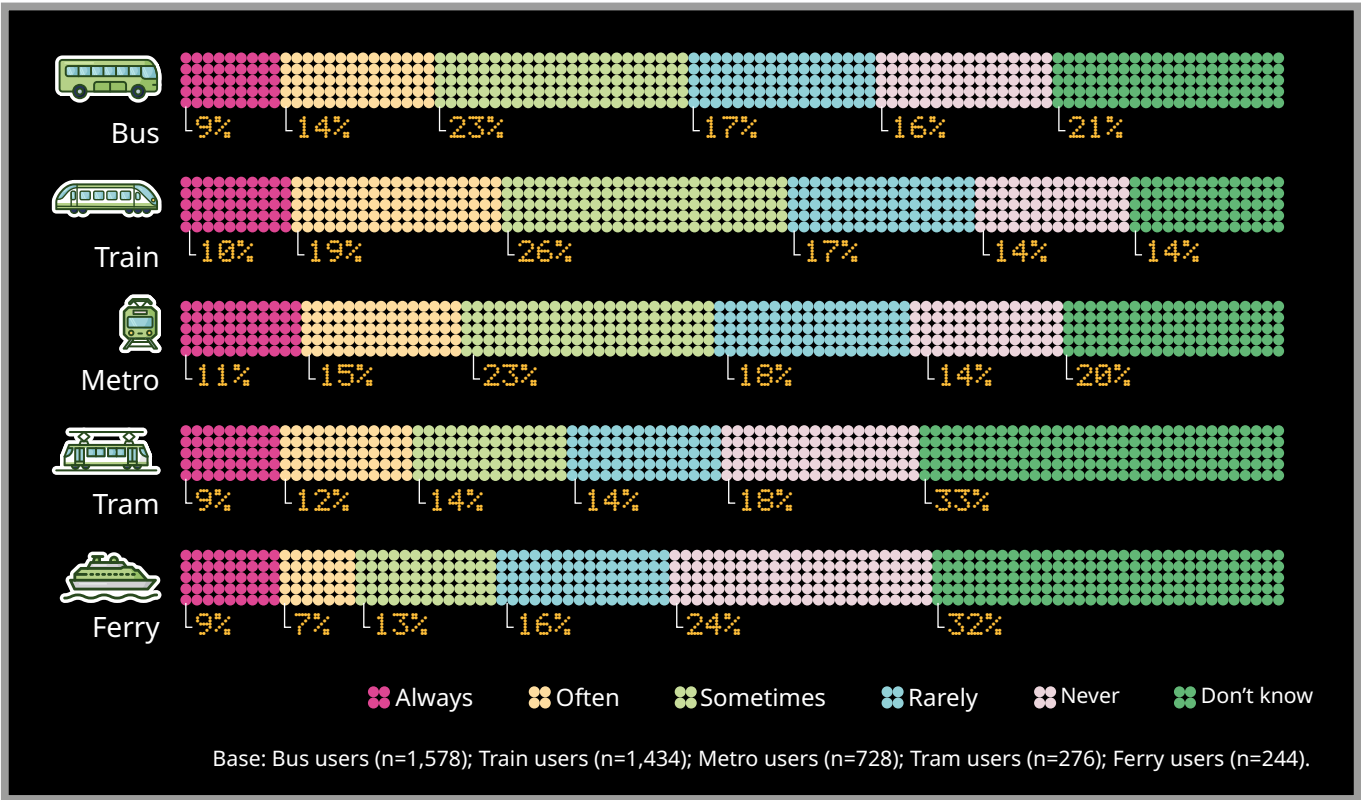


Figure 3. Unable to access information about safety or emergency announcements



A substantial proportion of people selected “don’t know”, particularly for safety or emergency announcements (14% to 33% depending on the mode of transport). This may reflect differences in how frequently and prominently safety announcements are delivered across modes and operators. It may also indicate that some people are not actively seeking this information and are unaware announcements occur and therefore cannot accurately report whether they have missed them.

Notably, among BSL users specifically, a consistent pattern emerges across buses, trains and metro systems and all information types, with a greater likelihood of them reporting being often or always unable to access information. Across these modes, between two fifths and half of BSL users report this. This highlights how BSL users are more likely to experience gaps in access to essential travel information.

When audio announcements are inaccessible, many deaf people and people with hearing loss must rely on visual information. Unlike hearing people, they cannot passively receive audio announcements and

must instead continually check screens, boards and apps to avoid missing important information. Where visual information is inconsistent or absent entirely, they can effectively be cut-off from essential, and at times critical, information altogether.

“I do feel excluded at times when there are announcements which I struggle to hear using my hearing aids. Was it important? Why are some people laughing? Sometimes I only work out what the message was when my journey is over.”
- 65-74, hearing loss and tinnitus, South West

Lack of visual information

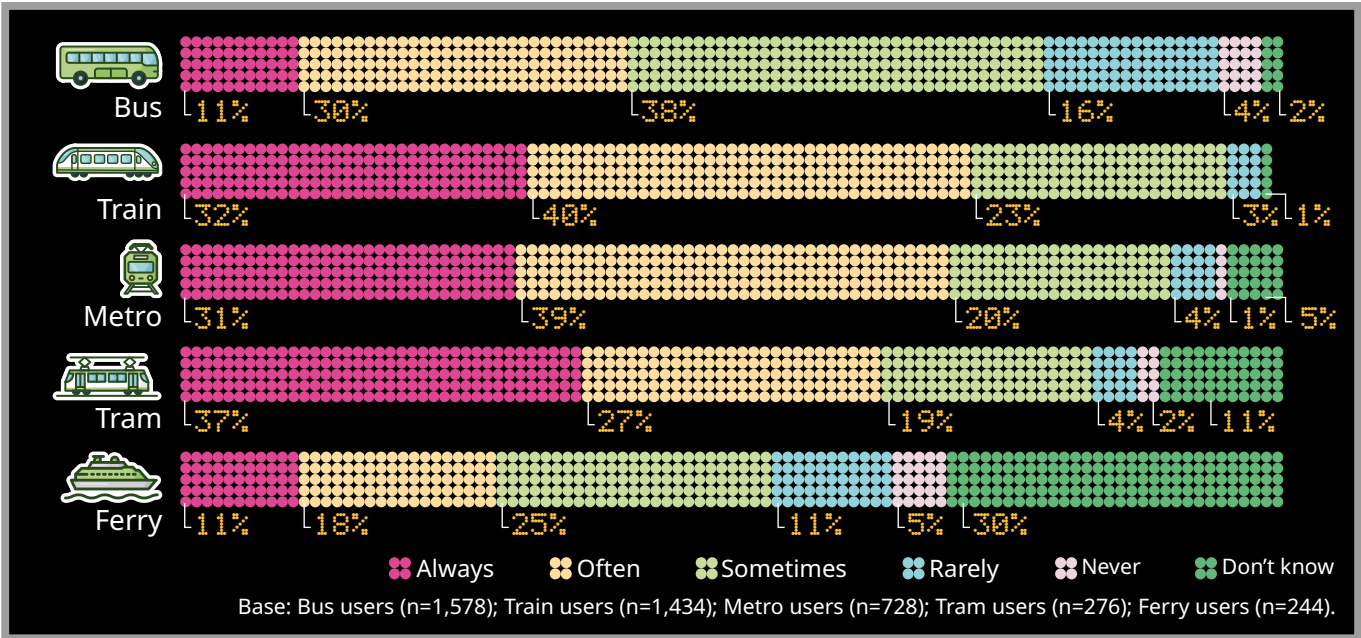
The lack of clear, consistent and reliable real-time visual information is a major accessibility failure in UK public transport. For many deaf people and people with hearing loss, visual information is their primary or only accessible source of essential travel information. Yet almost three quarters (72%) agree there is insufficient provision of live information in visual formats.

Each mode of transport has its own regulatory regime for what audio-visual information must be available as a bare minimum, with exemptions for older vehicles and other technicalities.

Although there are variations in the requirements for rail, light rail, and buses, there are some similarities in the obligation to provide both audio and visual information for passengers about their journey, and prescriptions on minimum requirements for how many seats must have visible information. Bus regulations go further than rail and include an obligation to make audio information accessible to people with hearing loss, such as through hearing loops. There are no legal obligations to provide information in BSL.

In practice, however, lived experience suggests that provision often falls short of what might be expected. People describe visual information as inconsistent and unreliable, with screens that are often absent, broken, or turned off.

Figure 4. Reported availability of visual information when waiting for public transport



In particular, perceived availability of visual information while waiting for public transport varies by mode, but overall indicates uneven and often unreliable provision:

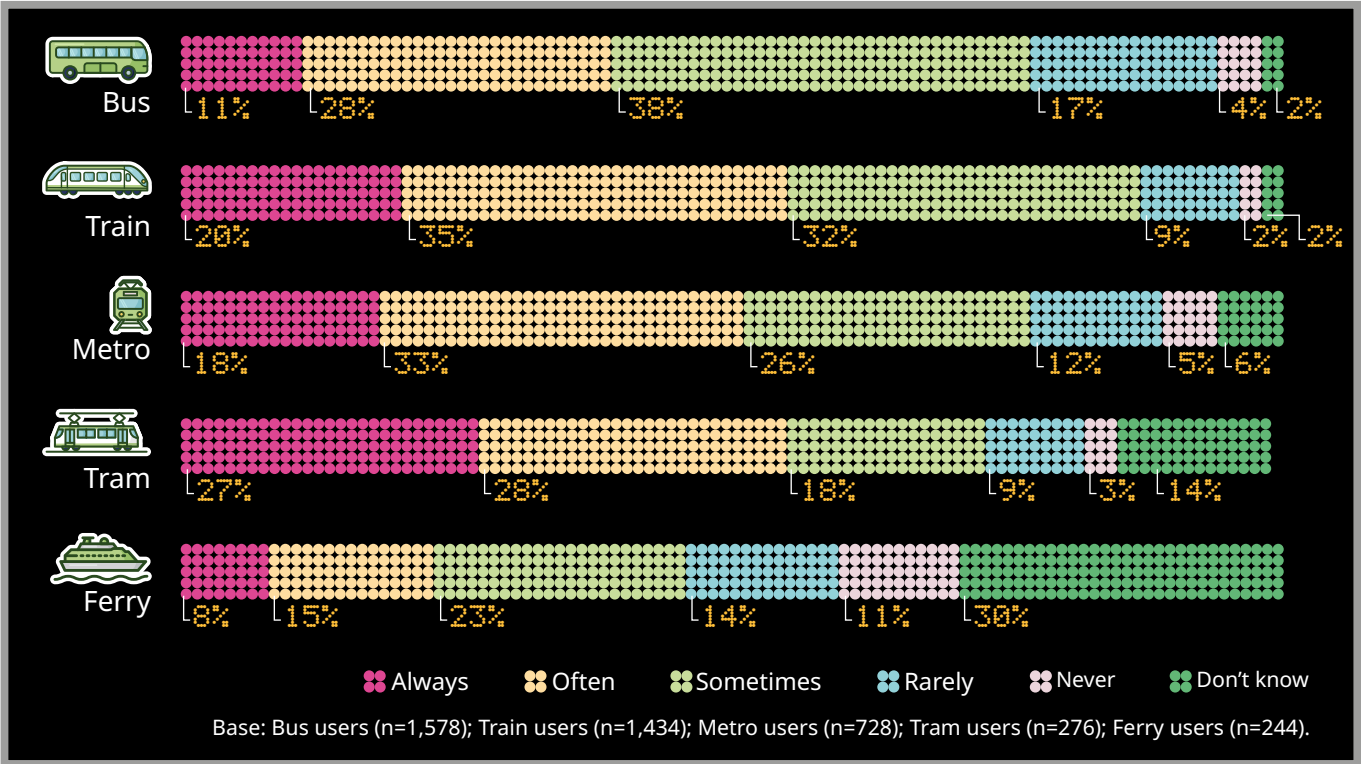
- Trains, metro systems and trams show the highest reported availability, with a majority indicating visual information is often or always available (trains 72%, metro systems 70% and trams 64%). Reports of rarely or never are low (generally under 5%).
- Buses stand out as less reliable, with only 40% reporting often or always, and a higher share reporting sometimes (38%) and rarely or never (20%). However, this likely reflects the nature of the UK's bus network with its many stops that are little more than a post in the ground.
- Ferries have the lowest reported availability and the greatest uncertainty, with just 29% reporting often or always. 30% don't know, which may reflect the relative infrequency with which most survey participants use a ferry and hence their recall of the experience.

Once on board, the perceived availability of visual information drops across all modes of transport and again suggests mixed reliability:

- Trains, trams and metro systems show relatively higher perceived provision, with around half to just over half reporting visual information is often or always available.
- Visual information on buses is again perceived to be less available, with only 39% reporting it as often or always present.
- As with information when waiting, a high proportion of people don't know about provision on ferries.



Figure 5. Perceived availability of visual information when on board



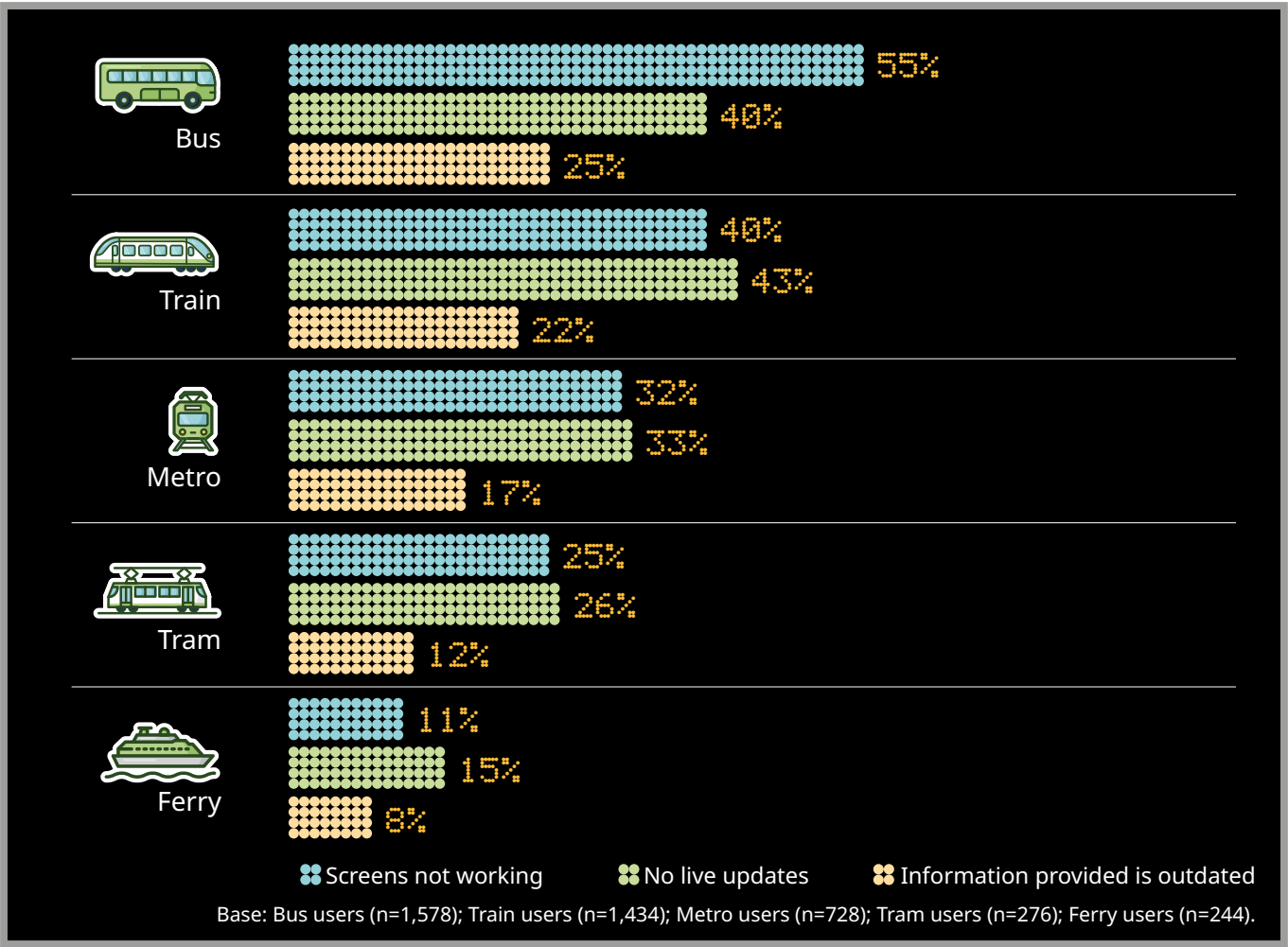
Even when displays are present, this does not guarantee they are working properly or showing accurate, up-to-date information. Experiences of screens not working are reported to be particularly widespread on buses (55%) and on trains (40%).

Evidently, there are inconsistencies between what policy and regulation intends to achieve and people's lived experience. This data does not represent an objective measure of visual display provision across the transport network but reflects perceptions of availability; people are likely to be assessing not just whether visual information exists, but availability more broadly, taking into account consistency, reliability and usability, rather than physical presence alone.

During disruptions, the lack of reliable visual information becomes an even greater issue.

People report that visual displays may not be synchronised with audio announcements, meaning hearing people receive information first and deaf people and people with hearing loss are left trying to work out what is happening. More than two in five (43%) who use trains, and 40% of those who use buses have experienced situations where no live updates have been provided about delays, disruptions or platform changes on visual displays. Similarly, people have encountered situations where information on screens is outdated, particularly on buses (25%) and trains (22%).

Figure 6. Issues previously experienced with visual information displays across different modes of transport



Overall, these findings highlight that the issue is not simply the presence of visual information, but its consistency, reliability and usability. Thus, even where infrastructure exists, it does not consistently function as an effective or dependable source of travel information, leaving deaf people and people with hearing loss at a disadvantage, particularly during disruptions when this information is most critical.

Lack of information provision in BSL

For some BSL users, visual information alone (e.g. in written English) is not an appropriate substitute for audio information, without accompanying BSL translations. BSL is a distinct language with its own grammar, structure and linguistic rules, which differ significantly from written and spoken English. For many deaf people who use BSL as their main or preferred language, English is acquired as a second language. In addition, reduced access to spoken English during language development can affect literacy levels, making written English more difficult to understand. This is particularly

the case when information is lengthy, complex or contains technical language or specialised terminology.

Transport websites and apps can be hard to navigate due to jargon and complex booking processes. For example, information about tickets (such as prices, routes and validity) can be particularly complex, yet 45% of BSL users say this type of information is rarely or never made available to them in BSL. Consequently, half (50%) of BSL users report having bought the wrong type of ticket because the information was not accessible.

“There are lots of different times, different tickets, different names of tickets. I don’t know which one’s best for me – I end up just picking one and booking that”
- 35-44, deaf BSL user, Yorkshire and the Humber

Even when information displays with BSL are available, they are often positioned separately from the main digital displays (such as in the main concourse of stations instead of on all platforms), which fragments information accessibility. Provision is also inconsistent, with BSL users often seeing it only at a few stations or on certain services.

When using the bus, around two thirds (63%) of BSL users tell us that information in BSL is rarely or never available to them when waiting for the bus, rising to 66% once on board. Similar patterns are observed on metro systems (59% when waiting versus 64% on board) and trains (54% when waiting versus 64% on board).

Figure 7. Reported availability of information in BSL (such as on screens, signs and digital boards) when waiting for public transport

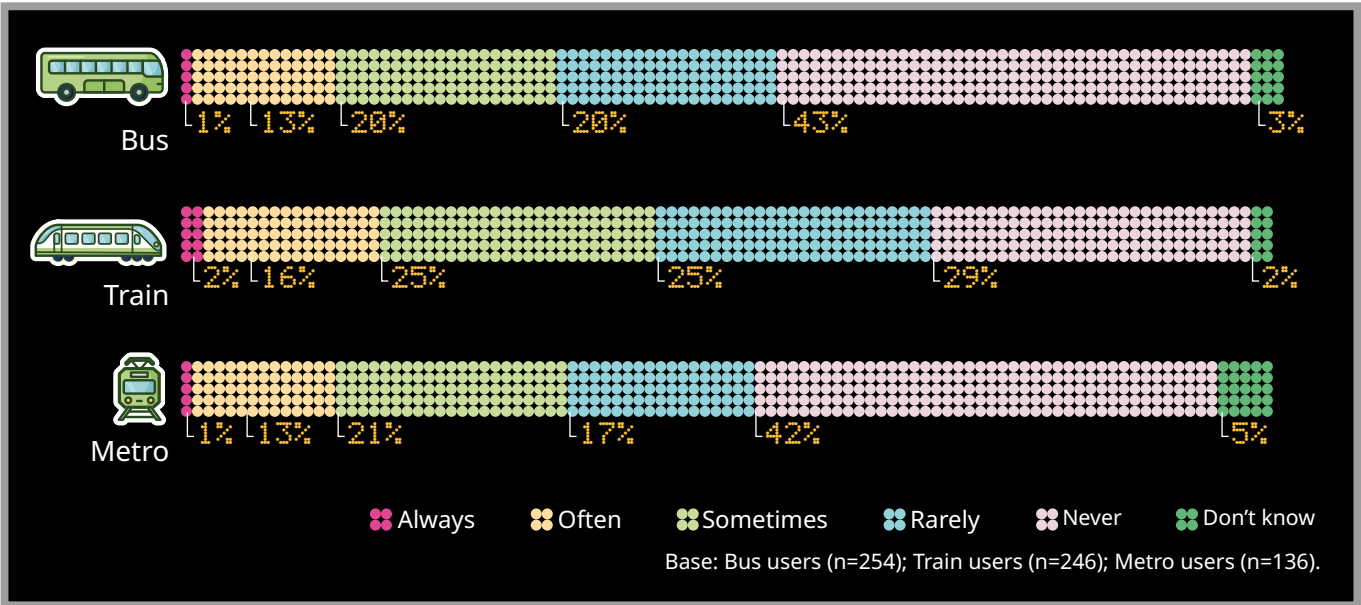
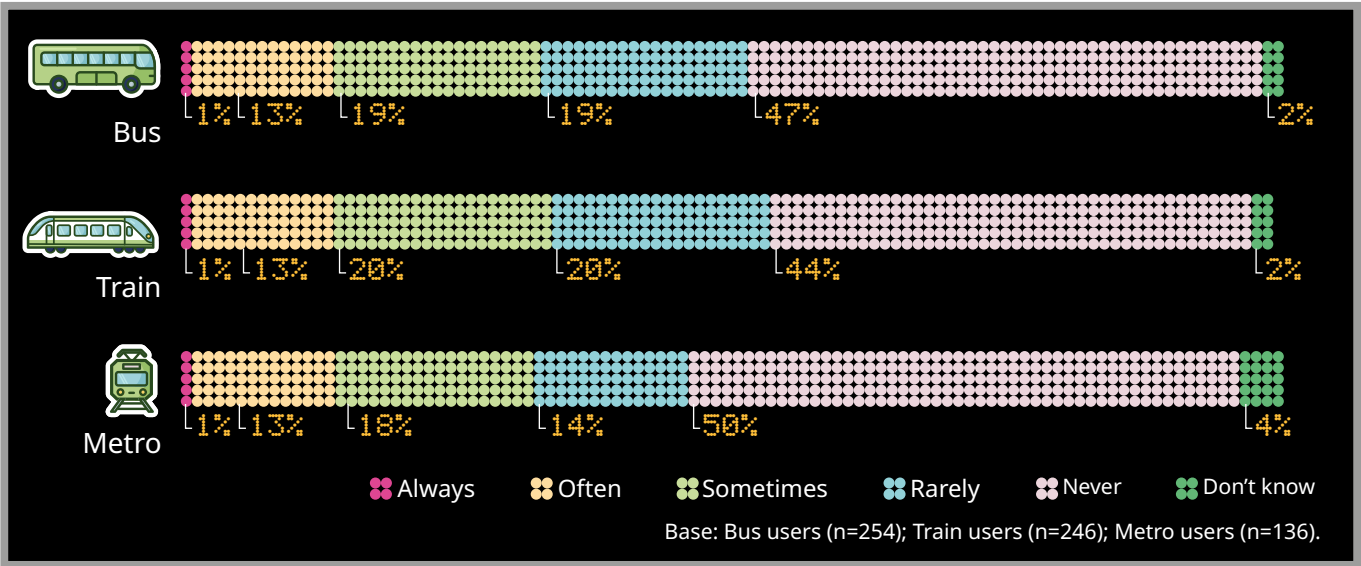


Figure 8. Reported availability of information in BSL (such as on screens, signs and digital boards) when on board public transport



The government's *Accessible Railways Roadmap*⁴, published in late 2025, includes plans to develop a real-time BSL translation service to expand the provision of information in BSL. However, expanding the availability of this type of service could be constrained by the capabilities of existing screen technology (dot matrix screens) and, under the traditional model of human

translation, the time required to develop or verify BSL translations in response to rapidly changing situations, such as disruptions. Later in the report, we explore how advances in technology, including the use of AI, may help overcome current scalability challenges, particularly during disruptions.

Staff presence and communication

The presence of approachable staff and the quality of their communication play a crucial role in shaping the experiences of deaf people and people with hearing loss when using public transport, especially when there are barriers to accessing travel information.

Staff provide vital support, especially during disruptions when people need timely advice and

reassurance to navigate unexpected changes. This is particularly the case for those without access to smartphones and the internet, either due to digital exclusion or simply unreliable internet connectivity during journeys.

Indeed, nearly two thirds (62%) rely on asking staff for help when information is not accessible to them. However, just 6% say that staff are always available when they need help.

“Knowing that there is always going to be someone there to help would really improve or reduce my anxiety.”
- 35-44, hearing loss, South East

⁴Department for Transport. (2025). Accessible railways roadmap. [Accessible railways roadmap - GOV.UK](#)

Even when staff are available, communication remains a challenge. Overall, more than half (55%) say that communicating with staff or other passengers is a barrier, and for BSL users specifically, this figure is 70%. Crucially, overall, 94% of those who identify communication as a barrier say it affects their confidence when using public transport.

Challenges occur before journeys even start. When asked about how easy or difficult it is to buy tickets from staff at a ticket office, more than a third (35%) say they find this difficult. Focusing on BSL users, more than half (53%) tell us they find this difficult. Once on board, nearly a third (32%) overall, and 55% of BSL users, find it difficult buying tickets from a driver or ticket conductor.

The quality of interactions with staff appears

to be inconsistent, with BSL users experiencing poorer interactions with staff. Specifically, less than half (46%) of BSL users say they often or always encounter staff that are friendly or helpful, compared to over half (55%) overall. These negative interactions influence whether people feel comfortable asking staff for help, with 71% of BSL users saying they feel uncomfortable seeking help due to communication barriers (compared to 54% overall).

A similar pattern emerges for people reporting staff that are often or always impatient, where two in five (40%) BSL users experience this compared to 27% overall. A quarter (25%) of BSL users also report they often or always experience staff that are rude or dismissive, compared to 16% overall. This demonstrates the frequency of poor-quality staff interactions for BSL users on public transport.

“I hate that the deaf person’s always the last person to know what’s going on.”
- 55-64, deaf BSL user, West Midlands

People feel that negative experiences with staff may be linked to hearing loss and deafness being a hidden disability, meaning that communication needs are not always immediately apparent. As a result, people report that their needs can go unnoticed and unmet, leaving them feeling excluded and undervalued as passengers. This is compounded by a perceived lack of deaf awareness among staff and limited knowledge of how to communicate effectively with deaf people and people with hearing loss. More than a third (34%) report that staff rarely or never communicate in an accessible way (such as facing them when speaking, writing things down, speaking clearly, using gestures, or using basic BSL signs).

Some describe positive experiences where staff adapted their communication effectively once they became aware of their hearing loss or communication needs. However, these experiences often depended on individuals disclosing their hearing loss or requesting adjustments themselves.

People feel that more consistent deaf awareness and inclusive communication practices among staff

would reduce the need for self-advocacy and help ensure that deaf people and people with hearing loss can access information and support more easily.

For BSL users, staff who take the time and effort to learn even a few simple BSL signs can have a noticeable impact, helping them feel confident and reassured when travelling.

“He just typed on his phone, ‘platform five, go now’. He just understood how to communicate. It was just the most wonderful experience. I almost gave him a hug. I was just like, thank you! You are an amazing man!”
- 55-64, deaf, North West

These findings underline the critical role that staff play in enabling accessible journeys, while also highlighting significant inconsistencies in both their availability and the quality of communication. Where staff are present and equipped with the skills and awareness to communicate effectively, they can provide reassurance and help mitigate barriers. However, unpredictable support and limited deaf awareness mean that many continue to face avoidable challenges.

“It just makes a world of difference, having that little bit of communication before you’re having to go onto the train. It gives me that bit more confidence to take that journey, and to build rapport – I think that’s really important.”

- 45-54, deafblind BSL user, South East

Physical environment and infrastructure

The physical environment can make independent travel difficult, and sometimes impossible for deaf people and people with hearing loss. Two thirds (66%) say the physical environment, such as lighting levels, noise levels and overcrowding, creates barriers for them, with 86% of those who identified this as a barrier saying it affects their confidence using public transport.

A third (33%) say that poor lighting on public transport often or always makes it harder for them to access the information they need,

which is particularly relevant for those who rely on lipreading. Among BSL users specifically, 45% flag this as a barrier, as clear visibility is essential for signing. Poor lighting can obscure hand movements, facial expressions and body language needed for effective communication.

Nearly three quarters (72%), say that noise levels often or always make it harder for them to access the information they need. Busy environments on public transport filled with engine noise, competing audio announcements and passenger noise make it difficult to hear and process audio information, as well as interact with staff.

“It’s the noise level. Even when I twist to the loop setting, the noise level still gets to me. It’s like everything is rumbling in the background and you don’t hear what you’ve got to hear. That affects me.”

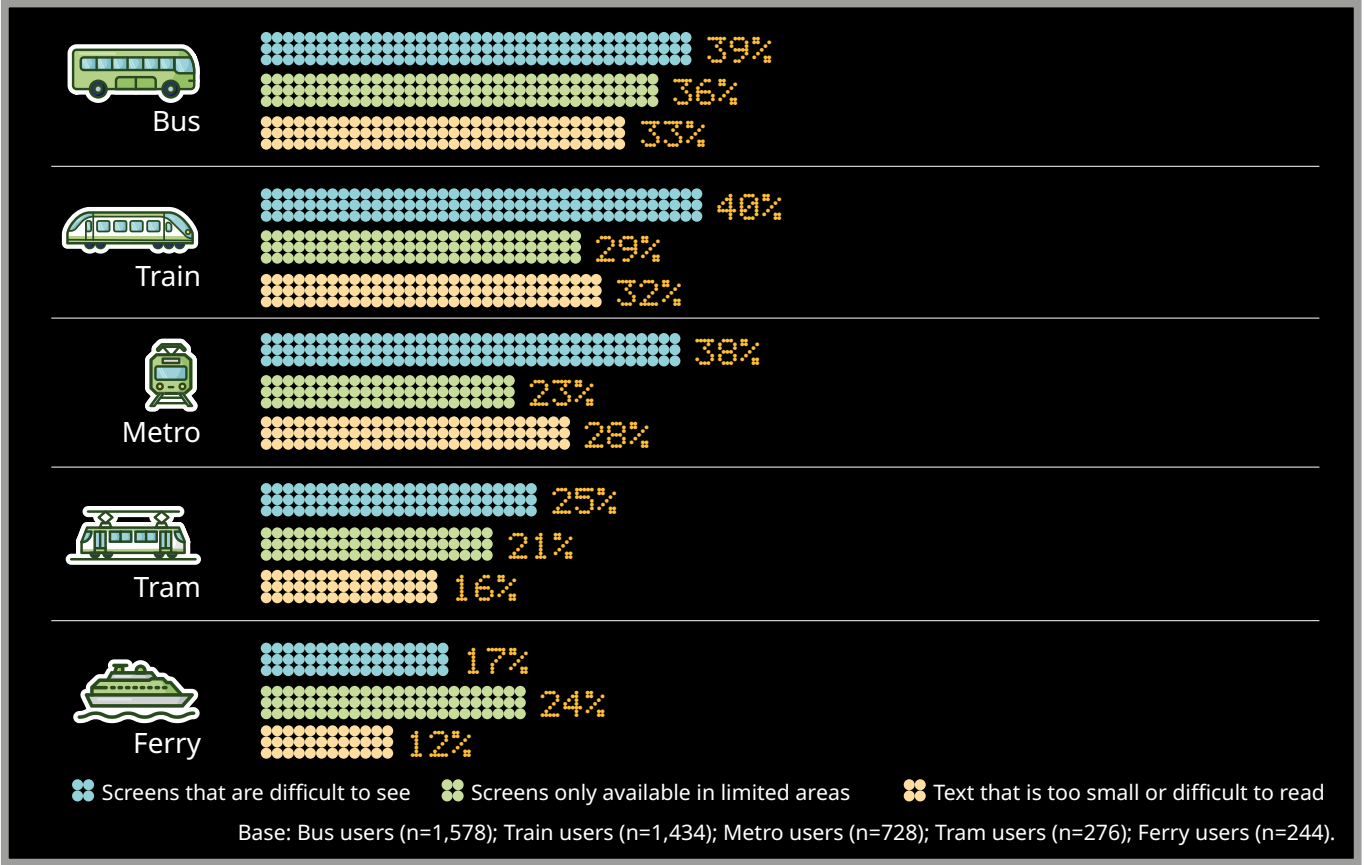
- 65-74, hearing loss, Greater London

More than half (52%) report that overcrowding, often or always makes it harder for them to access the information they need when using public transport.

This can be exacerbated by how spaces are designed, where poorly positioned signs and

screens mean that, even when information is available, it may still be inaccessible. Visual displays may be located too far away, placed only at the end of a carriage or platform, confined to main station areas, or positioned out of the sightline of passengers when seated.

Figure 9. Issues experienced with screens across different modes of transport



Nearly a quarter (22%) say the design of facilities (such as ticket machines or help points) creates barriers, with 83% of those who identify this as a barrier saying it affects their confidence using public transport. Additional physical design features that can negatively impact communication include glass barriers at ticket windows and the use of intercom systems. Poor microphone quality on intercom systems is described as frustrating and stressful, while glass screens and partitions can obscure people’s lip patterns and facial expressions, which makes lipreading challenging.

In contrast, many people shared positive experiences when using public transport outside of the UK, particularly in other European countries, where they describe infrastructure and systems that offer consistent visual information, clear signage, and attentive staff. Some also report travelling further afield and still being able to access the information they need, even without knowledge of the local language.

“I think it was in Holland – they have lights that pop up so when you’re on the train, you can see where you’ve been. It’s very visual and you can see where you are on the journey.”

- 45-54, deafblind BSL user, South East

These comparisons highlight an important lesson: when information is designed to embed clear, consistent and reliable real-time visual information, it reduces the need to rely on written and spoken language. This approach would not only benefit deaf people and people with hearing loss, but it would also support a wider range of language and communication needs, contributing to a more universally accessible system.

Section 4: Experiences across transport modes throughout the journey

Public transport is not a uniform experience. Instead, the accessibility of information, availability of support, and ease of navigation vary by mode. Building on the barriers previously identified, this section explores the distinct challenges encountered at different stages of a journey on each mode of transport.



Suzie's story

Suzie has been Deaf from a young age and relied on lipreading. Learning BSL when she moved to Scotland six years ago transformed her communication, confidence and independence.

Suzie uses public transport daily. While provision is good, information is not always accessible and last-minute changes are easily missed. Suzie would feel more confident if information was available visually and staff learnt some BSL. Below Suzie shares her story:

Challenging barriers

Growing up, I was much more accepting of barriers, but as I've got older, I've become more proactive and want to challenge these barriers.

Learning sign language and becoming part of the deaf community has changed my attitude.

Embracing BSL

Now I use BSL, it's easier to communicate. It's opened up a whole new world for me. At Glasgow train station there's a board with someone signing information. It makes me feel represented in a world where there is not enough representation of deaf people.

Stressful sudden changes

Usually, the information signed on the board is minimal – train times and platforms – and it's just on the concourse. When there is a change of plan last-minute, I have never seen that information

signed. It's always an audio announcement. There's a delay updating written information which is very stressful.

I use a speech-to-text app, but busy stations mean it misses a lot of what's said. If there's a sudden change and the announcement is only audio, I have to ask someone and hope they have time to write it down for me.

Disrupted journeys

Earlier this year, I planned to travel home by train after a day trip with a friend. Nothing arrived, there were no visual updates, no signs, nothing. My friend overheard a passerby discussing a replacement bus service. Had my friend not been with me, I'd have been none the wiser. It highlights my reliance on visual cues.

Anxiety, fear and doubt

Travelling on public transport can be daunting, when access is so limited. It impacts my confidence to travel independently and my trust in public services. Whilst I have become good at masking, it doesn't stop internal anxiety, fear and doubt.

Simple solutions

If more people involved in providing public services knew some BSL, it would make such a difference. If more information was available visually – not just in audio – that would avoid confusion. There should be live captions for all audio announcements as standard. It's during live announcements when things can be missed, like a delay or platform change. That would improve my confidence so much.



Buses

1. Before travelling

Missing, outdated, or inconsistent timetable and route information is a common problem, making it difficult to plan journeys. This leaves people unsure whether a bus will arrive or if the timetable has changed, heightening anxiety and anticipation of experiencing barriers before a journey has even begun.

2. At a bus stop

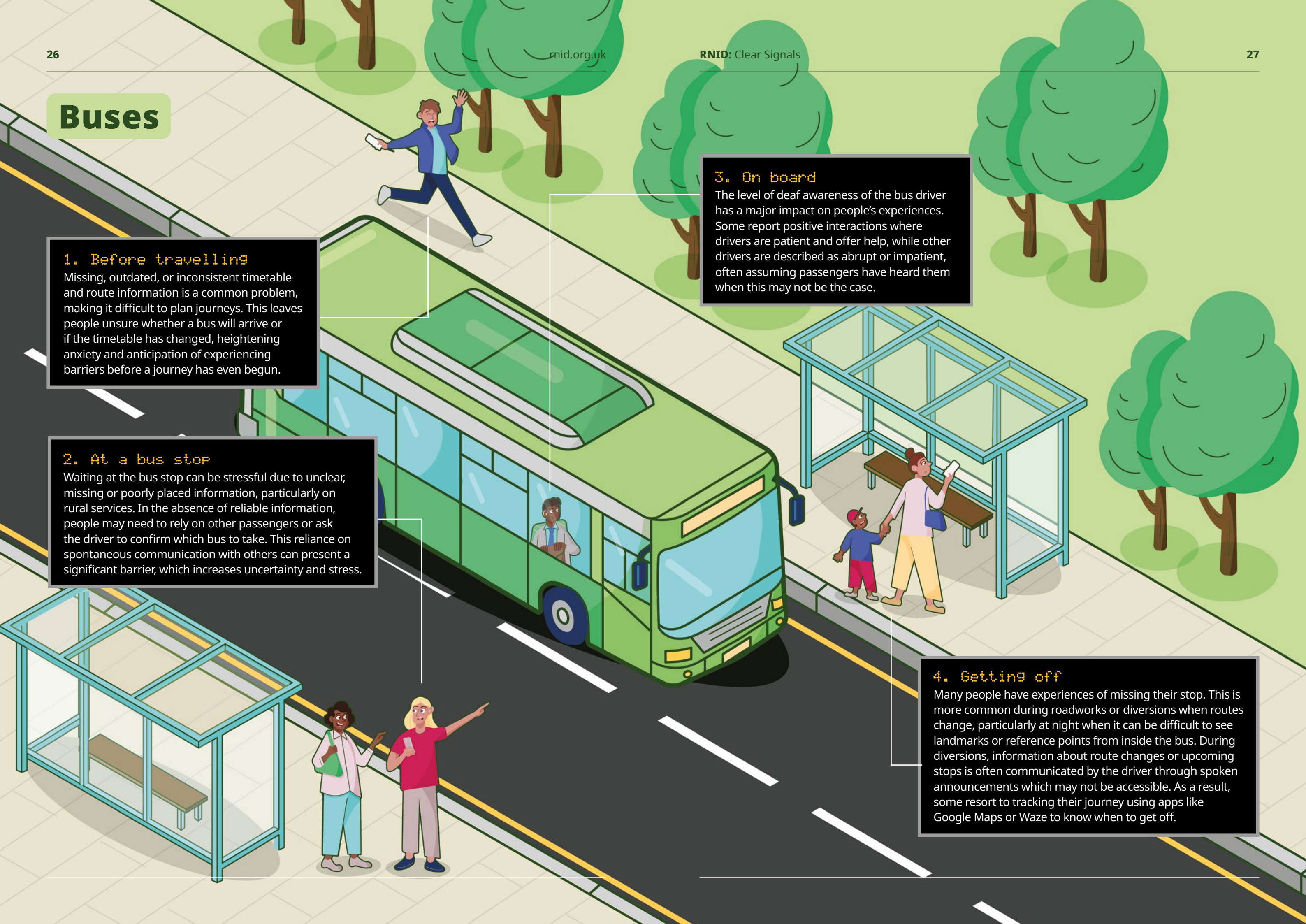
Waiting at the bus stop can be stressful due to unclear, missing or poorly placed information, particularly on rural services. In the absence of reliable information, people may need to rely on other passengers or ask the driver to confirm which bus to take. This reliance on spontaneous communication with others can present a significant barrier, which increases uncertainty and stress.

3. On board

The level of deaf awareness of the bus driver has a major impact on people's experiences. Some report positive interactions where drivers are patient and offer help, while other drivers are described as abrupt or impatient, often assuming passengers have heard them when this may not be the case.

4. Getting off

Many people have experiences of missing their stop. This is more common during roadworks or diversions when routes change, particularly at night when it can be difficult to see landmarks or reference points from inside the bus. During diversions, information about route changes or upcoming stops is often communicated by the driver through spoken announcements which may not be accessible. As a result, some resort to tracking their journey using apps like Google Maps or Waze to know when to get off.



Trains

1. Before travelling

In advance of train travel, many people prepare extensively. This can involve checking routes, platforms, times, and disruption updates repeatedly because they know they cannot rely on accessing this information at the station if it is only provided through audio announcements. If there is a choice of routes, some people pick the option perceived to have 'least risk', even if it may take longer or cost more.

2. At a station

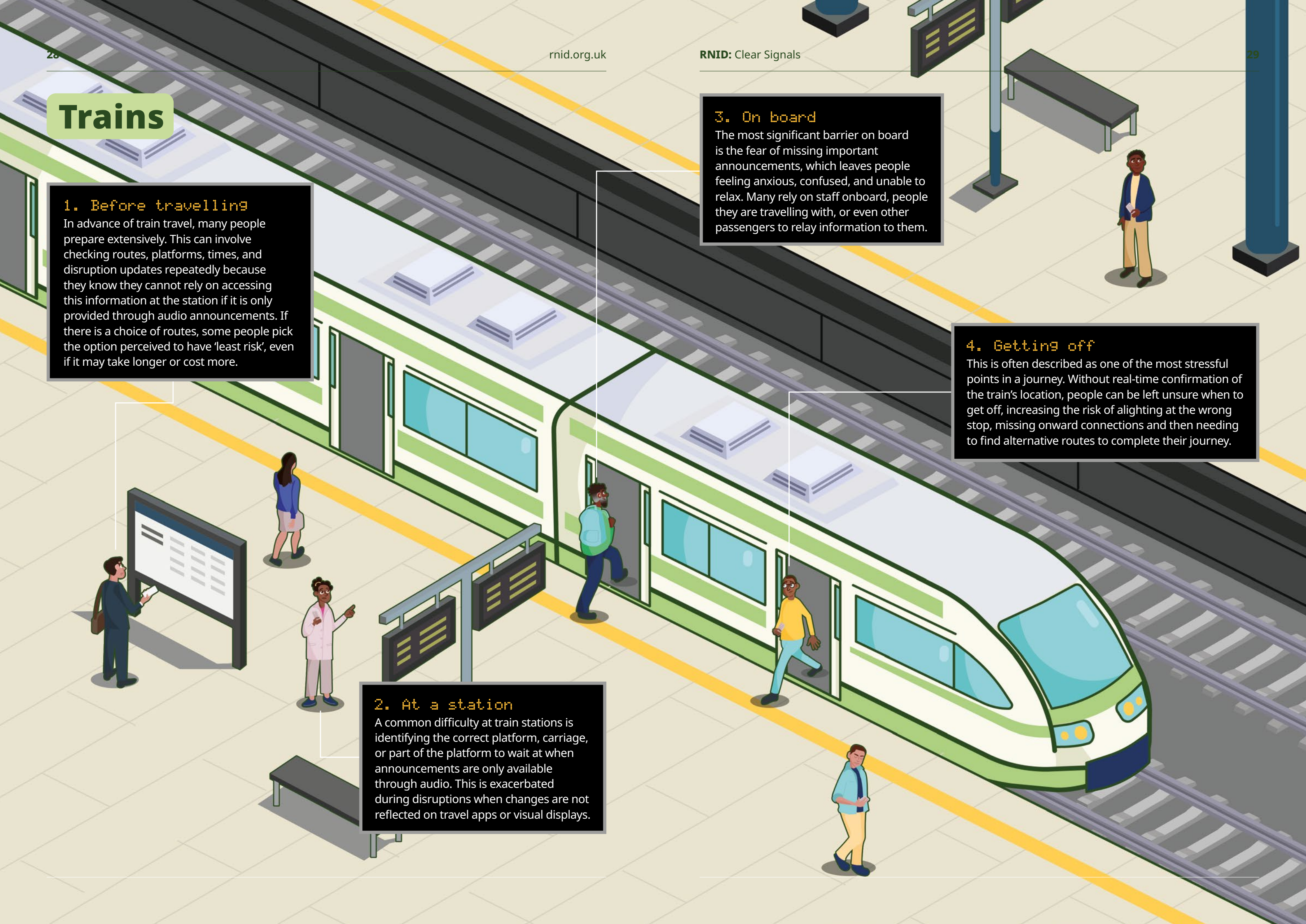
A common difficulty at train stations is identifying the correct platform, carriage, or part of the platform to wait at when announcements are only available through audio. This is exacerbated during disruptions when changes are not reflected on travel apps or visual displays.

3. On board

The most significant barrier on board is the fear of missing important announcements, which leaves people feeling anxious, confused, and unable to relax. Many rely on staff onboard, people they are travelling with, or even other passengers to relay information to them.

4. Getting off

This is often described as one of the most stressful points in a journey. Without real-time confirmation of the train's location, people can be left unsure when to get off, increasing the risk of alighting at the wrong stop, missing onward connections and then needing to find alternative routes to complete their journey.



Metro systems

1. Before travelling

Many people rely on apps to plan journeys on metro systems. This includes Google Maps, Citymapper and the TfL Journey Planner. People frequently check these apps for real-time updates in anticipation of disruptions or changes to their journey.

2. At a station or stop

The move towards contactless 'tap in, tap out' systems is largely seen as positive as it reduces the need for staff interaction which can be challenging due to significant background and environmental noise. The busy and often chaotic nature of these stations makes it a stressful experience, especially to know which line, platform and direction to go to.

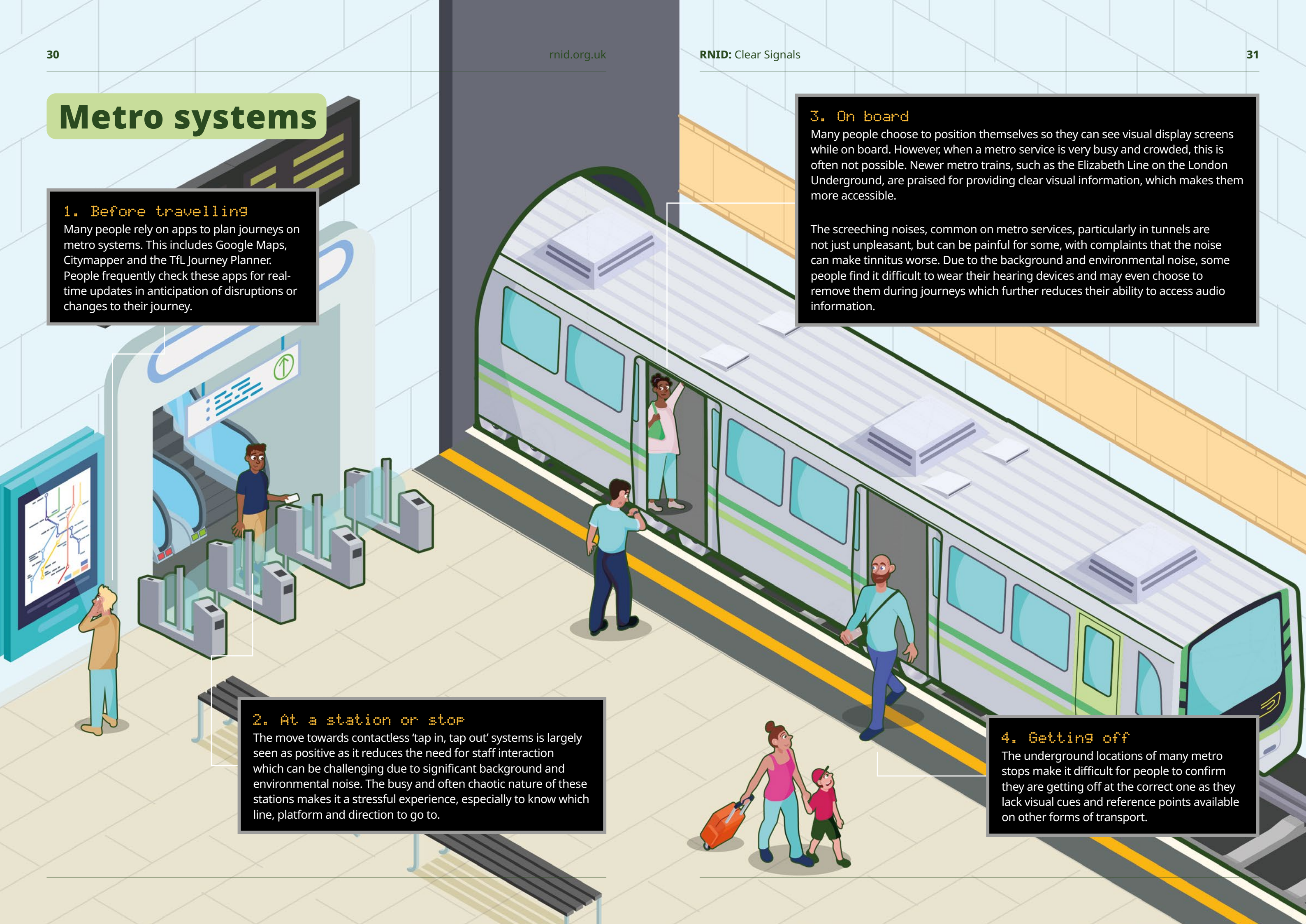
3. On board

Many people choose to position themselves so they can see visual display screens while on board. However, when a metro service is very busy and crowded, this is often not possible. Newer metro trains, such as the Elizabeth Line on the London Underground, are praised for providing clear visual information, which makes them more accessible.

The screeching noises, common on metro services, particularly in tunnels are not just unpleasant, but can be painful for some, with complaints that the noise can make tinnitus worse. Due to the background and environmental noise, some people find it difficult to wear their hearing devices and may even choose to remove them during journeys which further reduces their ability to access audio information.

4. Getting off

The underground locations of many metro stops make it difficult for people to confirm they are getting off at the correct one as they lack visual cues and reference points available on other forms of transport.



Trams

1. Before travelling

When using trams, many people rely on apps, online maps and journey planners to help plan their route. This is particularly important when making unfamiliar journeys, where people tend to build in extra time and double-check their route before leaving.

2. At a station or stop

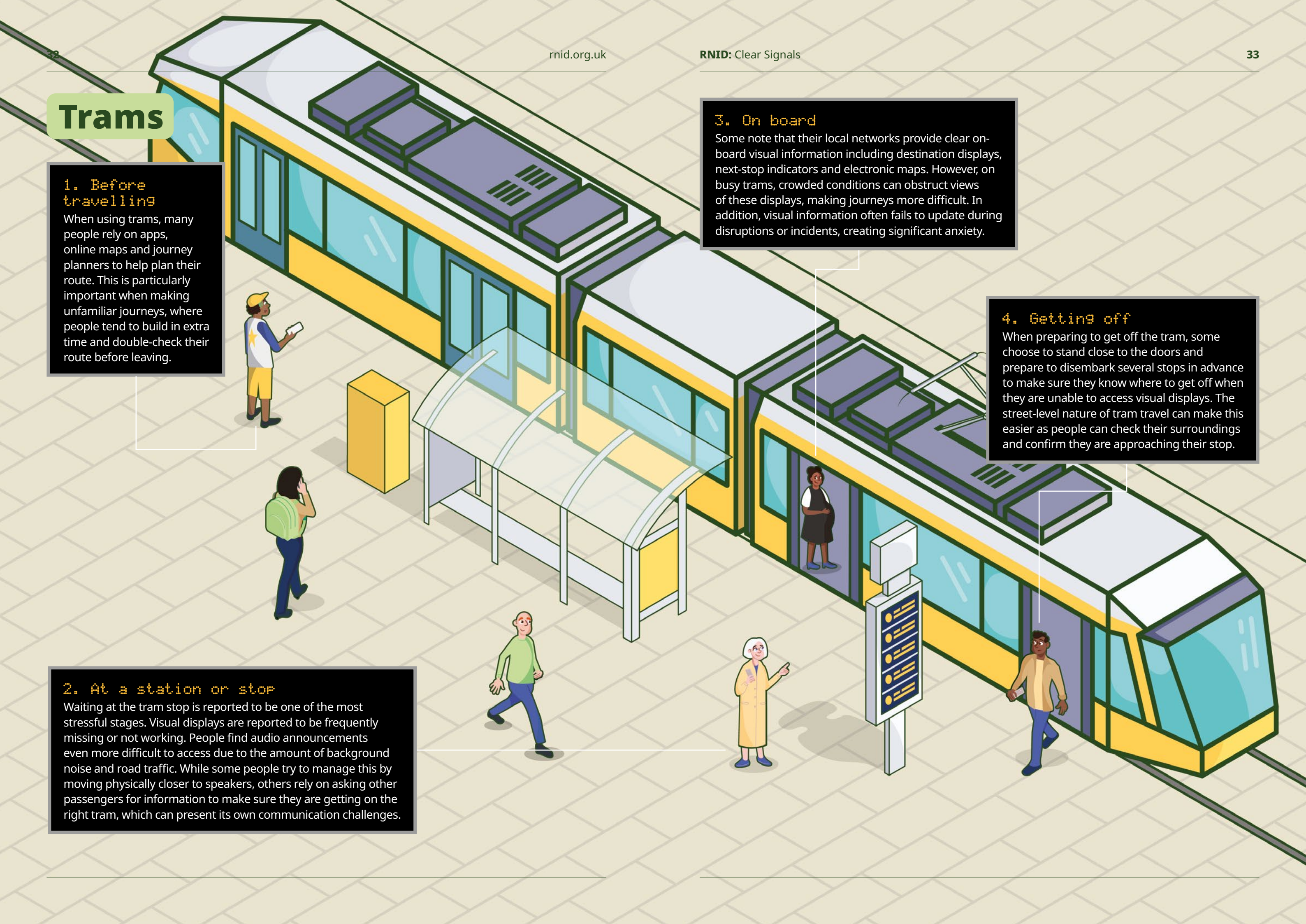
Waiting at the tram stop is reported to be one of the most stressful stages. Visual displays are reported to be frequently missing or not working. People find audio announcements even more difficult to access due to the amount of background noise and road traffic. While some people try to manage this by moving physically closer to speakers, others rely on asking other passengers for information to make sure they are getting on the right tram, which can present its own communication challenges.

3. On board

Some note that their local networks provide clear on-board visual information including destination displays, next-stop indicators and electronic maps. However, on busy trams, crowded conditions can obstruct views of these displays, making journeys more difficult. In addition, visual information often fails to update during disruptions or incidents, creating significant anxiety.

4. Getting off

When preparing to get off the tram, some choose to stand close to the doors and prepare to disembark several stops in advance to make sure they know where to get off when they are unable to access visual displays. The street-level nature of tram travel can make this easier as people can check their surroundings and confirm they are approaching their stop.



Ferries

1. Before travelling

Planning ferry journeys is reported to be manageable for those who can access online booking systems. However, for those whose first language is BSL, online booking systems and pre-boarding administration can be very difficult.

Text-heavy forms and a lack of information available in BSL means that some BSL users have to rely on hearing friends or family members to be able to complete their bookings.

As booking systems do not always allow people to flag their access or communication needs, ferry staff are not alerted in advance. These systems tend to prioritise mobility-related assistance, sometimes generating unsuitable support (such as step-free access) that does not address communication needs. This creates uncertainty and stress ahead of travel, particularly around whether important information, including safety announcements will be accessible.

2. Before boarding

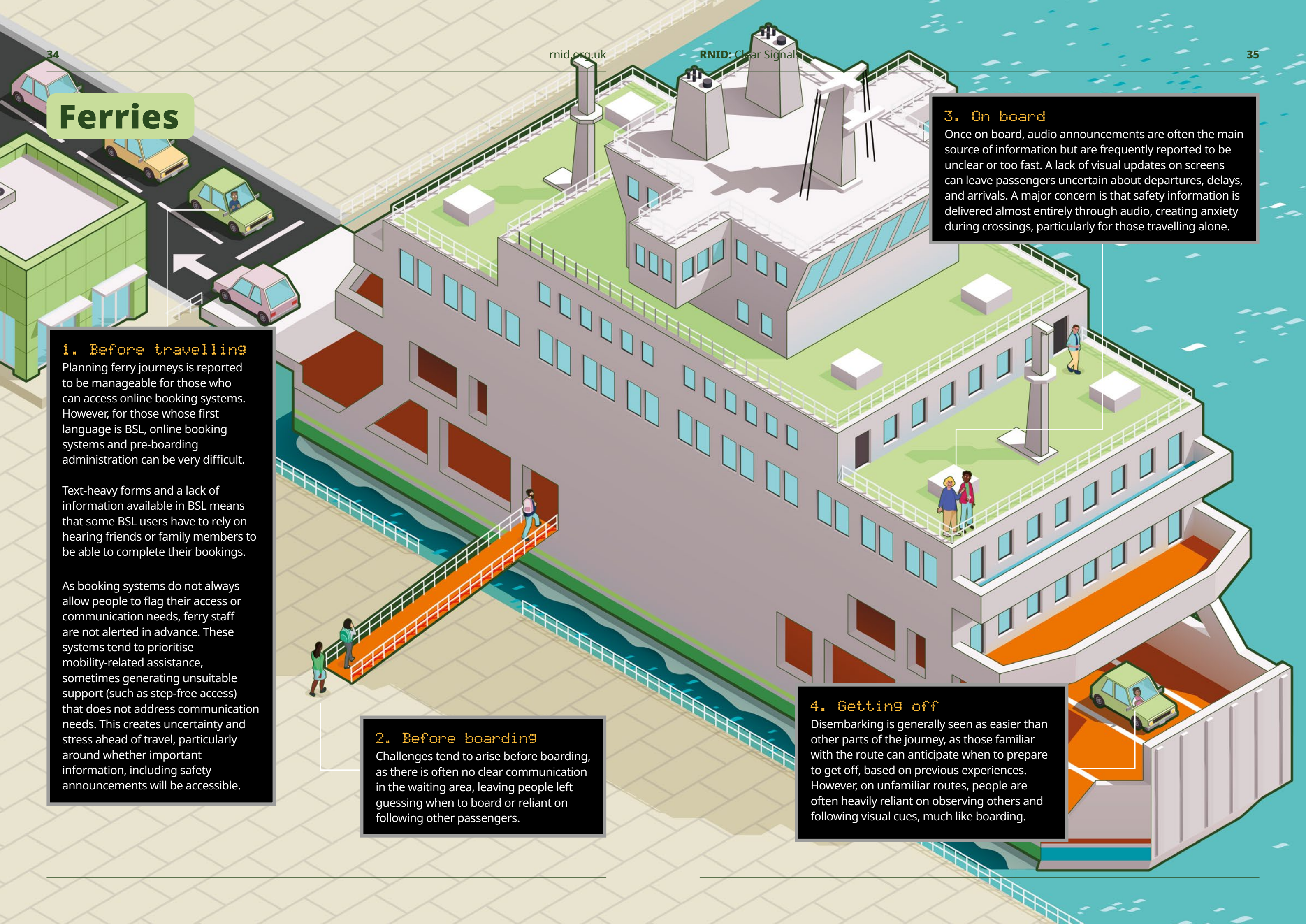
Challenges tend to arise before boarding, as there is often no clear communication in the waiting area, leaving people left guessing when to board or reliant on following other passengers.

3. On board

Once on board, audio announcements are often the main source of information but are frequently reported to be unclear or too fast. A lack of visual updates on screens can leave passengers uncertain about departures, delays, and arrivals. A major concern is that safety information is delivered almost entirely through audio, creating anxiety during crossings, particularly for those travelling alone.

4. Getting off

Disembarking is generally seen as easier than other parts of the journey, as those familiar with the route can anticipate when to prepare to get off, based on previous experiences. However, on unfamiliar routes, people are often heavily reliant on observing others and following visual cues, much like boarding.



Section 5: How journey context affects accessibility

The context in which journeys take place plays an important role in shaping accessibility for deaf people and people with hearing loss. Factors such as whether travel occurs in a rural or urban area, how familiar someone is with the journey, and whether they are travelling alone or with a companion can all affect their experience.

Rural versus urban experiences

A key difference between rural and urban travel is the availability of accessible information and assistance. Urban transport networks typically offer more digital screens, maps and clear signage, which reduces reliance on audio announcements. In contrast, rural transport often depends heavily on spoken communication, either with the driver or through intercom-based help points.



Experiences of urban travel are, however, also mixed. Major cities and transport hubs such as Birmingham, London, Manchester and Glasgow are often described as overwhelming, crowded and noisy, which can make communication particularly challenging. Despite this, urban travel is still perceived by some as easier in comparison to rural travel. Services are more frequent, there are more route options, and it is often possible to switch to another mode of transport if something goes wrong.

In contrast, the lower frequency of services in rural areas increases the consequences of disruption. Missing a train or connection can mean long delays and limited alternatives, creating added pressure when navigating journeys.

“Especially with rural trains, they’re not as sophisticated as the new, modern trains. Older trains don’t even have a display, so you are at the mercy of hoping you arrive where you intend to get to.”

- 35-44, deaf, South East

“It does hit me outside of London that you have less frequent travel. In London, it’s never too much of an issue as you can always go a different way. You’ve got different options, you’ve always got a Plan B, but outside of London it’s difficult because you haven’t got a Plan B.”

- 35-44, deaf BSL user, Greater London

People travelling in rural areas often feel they have limited transport options and may be forced to rely on services that are not fully accessible to them. Many rural stations and stops provide minimal support, with unmanned facilities, closed ticket offices, poor signage, and outdated timetables. While these conditions can be challenging for all passengers, they create additional barriers for deaf people and people with hearing loss, who may be unable to hear spoken announcements or seek clarification when information is unclear.

These challenges mean rural stations can feel particularly isolating, especially during disruptions. In environments where information is limited or scarce, people may struggle to understand what is happening, verify information independently, or identify alternative travel options. This can leave people feeling uncertain how to proceed, and, in some cases, stranded when unexpected changes occur.

The availability of staff can play a key role in shaping how manageable these situations feel. Larger urban stations are often perceived as more supportive because staff are more readily available to provide assistance and communicate information through alternative methods when required. By contrast, at smaller rural stations where staff are

absent or only intermittently available, passengers may have no reliable way to access real-time information or resolve problems. This combination of limited support and a continued reliance on spoken communication can make rural travel feel disproportionately challenging, reducing confidence and increasing the risk of journeys breaking down.

Familiar versus unfamiliar journeys

Familiarity plays an important role in shaping confidence when travelling on public transport. Familiar journeys are generally felt to be easier to navigate as people can rely on established routines and cues, rather than operator-provided information. This supports greater confidence, reflected in the finding that 81% feel somewhat confident or very confident when travelling alone on public transport on those journeys that are familiar to them.

In contrast, unfamiliar journeys are more challenging - they require greater reliance on the availability of accessible information and are often described as more stressful and unpredictable. This is reflected in the sharp drop in confidence levels where, overall, only 6% say they feel very confident on unfamiliar journeys, compared with 40% for familiar journeys.

Figure 10. How confident people feel when making familiar and unfamiliar journeys

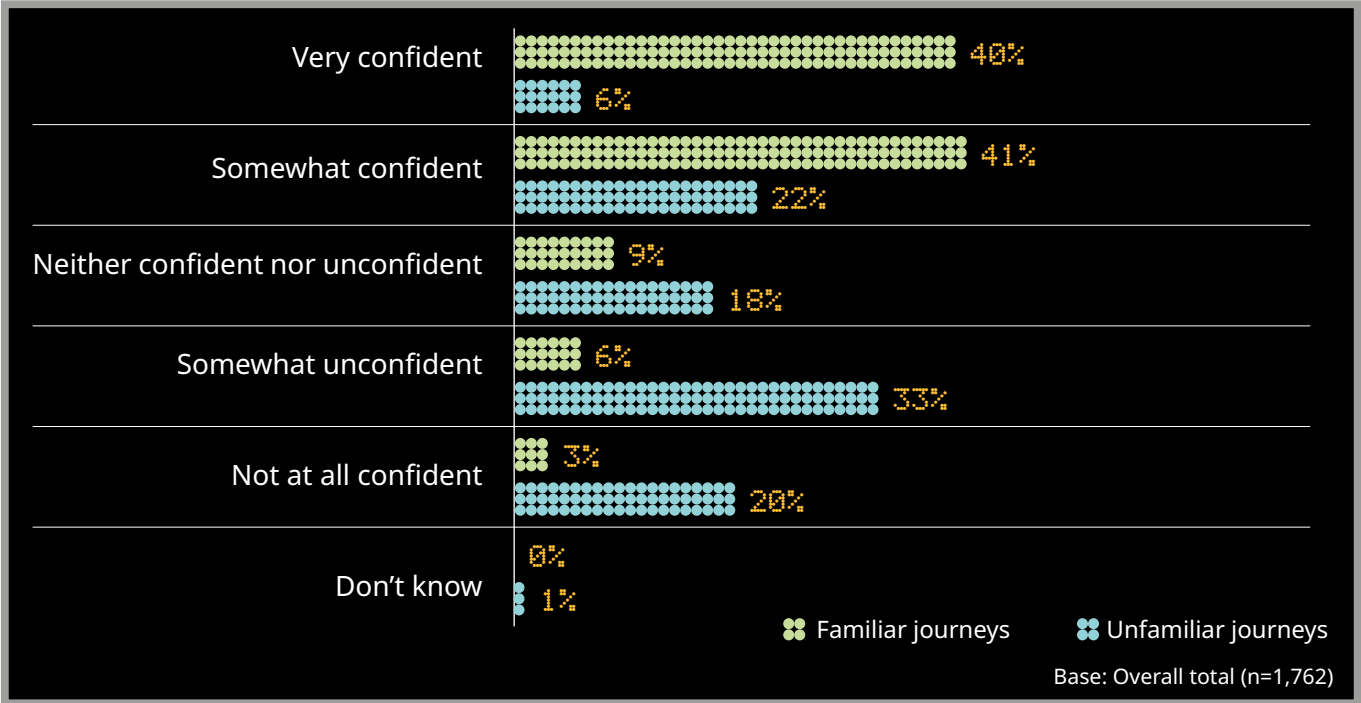
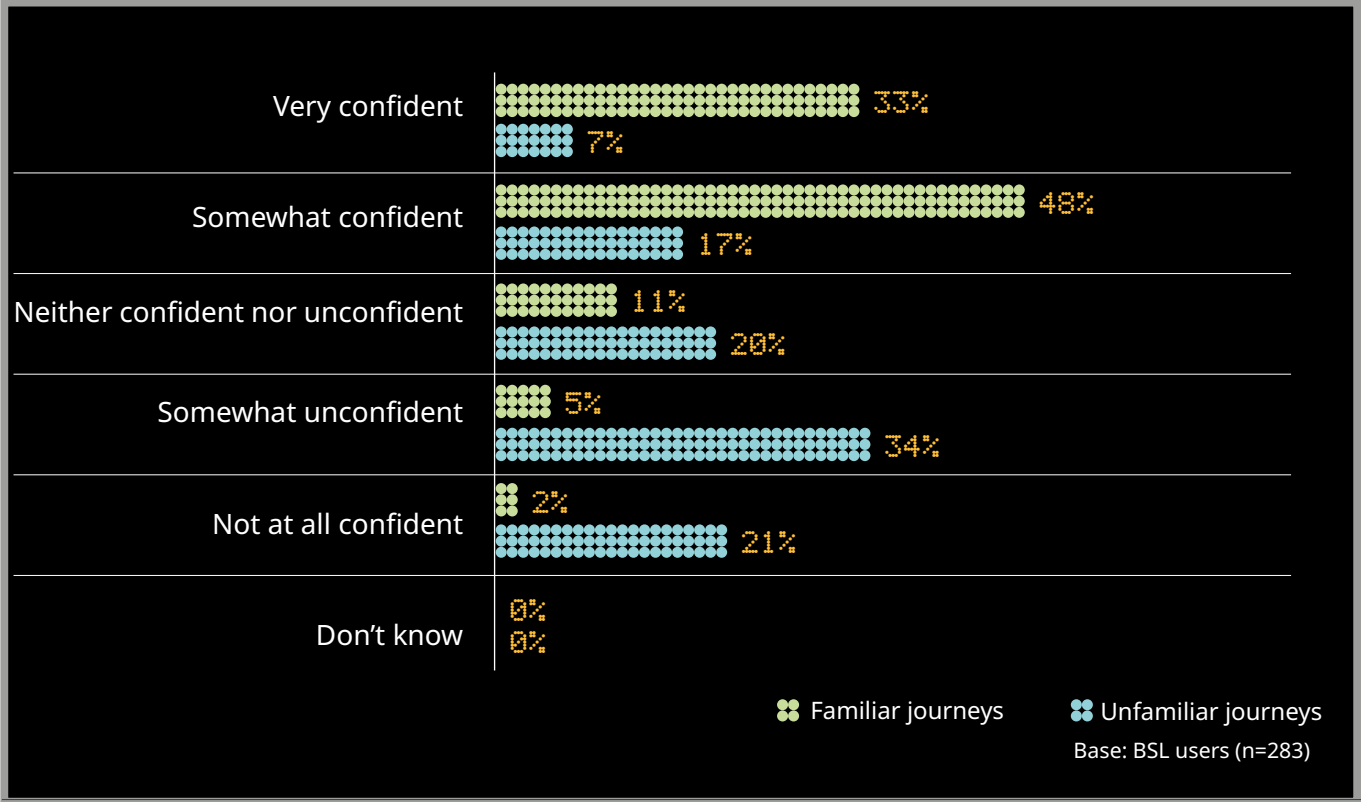


Figure 11. How confident BSL users feel when making familiar and unfamiliar journeys



People describe taking additional steps to prepare for unfamiliar journeys, such as researching routes in advance, planning alternative options in case of disruption, and allowing extra time to feel more in control. However, when disruptions occur or information is unavailable, these journeys can become particularly challenging because people cannot draw on prior knowledge or experience to adjust their plans. As a result, many choose to travel with a companion on unfamiliar journeys, relying on their support to navigate unexpected issues and overcome potential communication barriers, reflecting an expectation that challenges will arise along the way.

Travelling with a companion

Travelling with a companion can significantly reduce the stress and anxiety associated with the unpredictable nature of public transport by mitigating some of the challenges of travelling alone. During disruptions, companions act as an ‘extra pair of ears’, alerting them to announcements or changes they might otherwise miss.

Overall, more than a quarter (26%) report they often or always travel with a companion or support person on journeys that are familiar to them, and for BSL users specifically, this is the case for two in five (40%). On unfamiliar routes, there is an increased reliance on support, with three in ten (30%) saying they often or always travel with a companion. For BSL users, this figure is nearly half (46%), highlighting the greater reliance on others to navigate unfamiliar journeys when accessible information is limited.

“I think for the whole trip it’s more enjoyable because you feel like you’ve got that backup. They’re going to be an extra pair of ears for you if there’s an emergency. It definitely feels safer.” - 35-44, hearing loss and tinnitus, South East



Charlotte's story

Charlotte, 44, lives in Cumbria. After years of trying to manage severe hearing loss, Charlotte had cochlear implant surgery. Charlotte's confidence has increased so much that she's changed careers and launched her own podcast. Yet travelling on public transport remains a challenge. Below Charlotte shares her story:

A layer of nervousness

When I'm travelling on my own, it can be nerve-racking because there are a lot of unknowns. There's a layer of nervousness: 'What if something happens and I don't hear it? What if I miss something?'

Left alone

I remember travelling down to London on a train and at Warrington, everyone piled off. I thought it was just a busy stop. I sat there for what felt like ages, with no idea what was going on. I was scared and thinking, 'Crikey, I've no idea what's going on'. I felt isolated, nervous and really foolish, to be honest.

Lack of deaf awareness

Eventually the train manager came over and said, 'Why have you not got off?' I'd missed an announcement over the tannoy. I was so embarrassed that I apologised. He told me to get my stuff and then he rushed me off the train. I didn't even have a chance to explain I

had hearing loss, so I felt like an absolute idiot.

When I got to the platform, there was nothing at all on any visual boards saying what was going on.

Finally, the display board showed some information. I was really delayed, which messed up my plans, but the worst thing was the whole stress of not knowing what the heck was going on, feeling like an idiot, and staff members being so inconsiderate. That definitely impacts my confidence travelling on public transport.

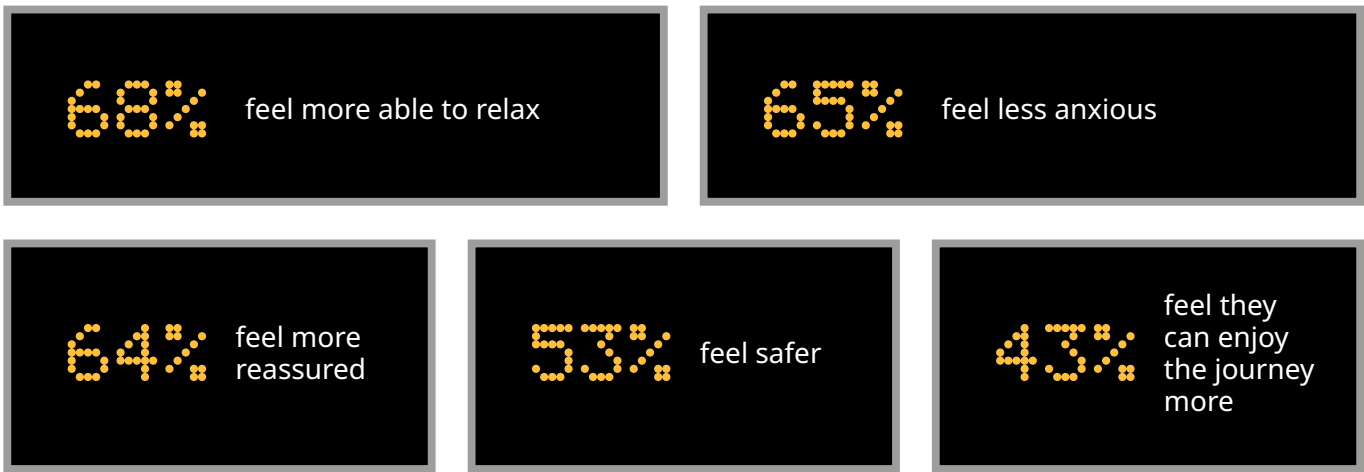
Planning

If possible, I prefer to travel with someone. But if I'm alone, I plan in advance and look at earlier train times so that I've got more time to sort things out. Planning ahead is a big thing for me and I'll try and do an open return because it gives me a bit more leeway.

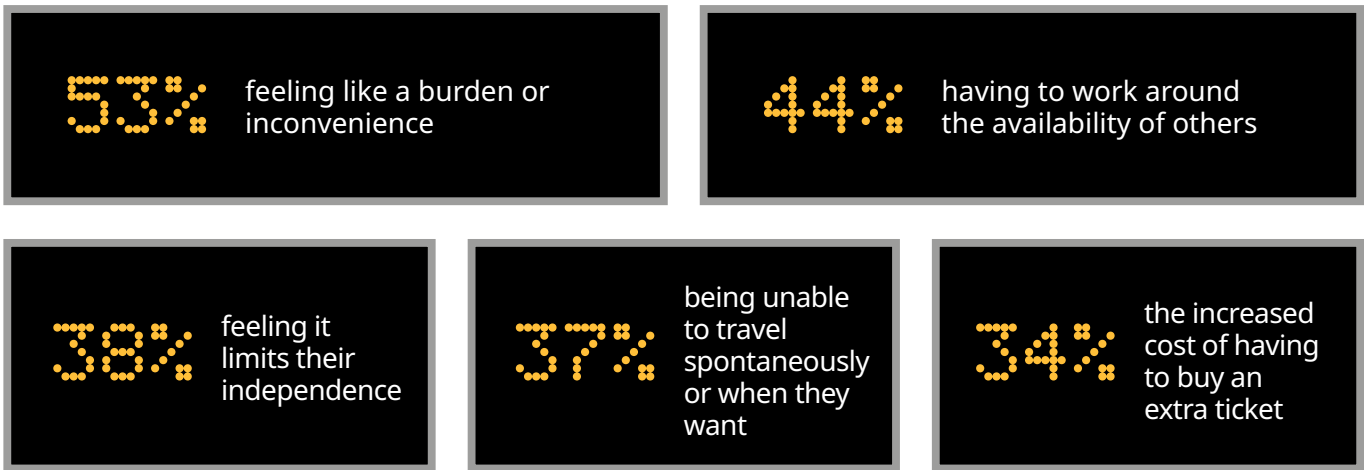
If I'm travelling alone, I have to be more switched on, so it can be exhausting just to travel a short distance because my senses are on hyper-alert.

In the future I'd like to see more visual displays on public transport and for staff to be more deaf aware so, if you tell staff, 'I'm deaf' they'll understand how to support you.

Nearly two in five (39%) say that having a companion or support person helps them to make journeys they would otherwise avoid, underlining the significant support that companions provide. Their presence also improves the overall experience of travelling:



While nearly one in five (19%) of those who travel with a companion report no downsides, others report a range of challenges associated with travelling in this way:

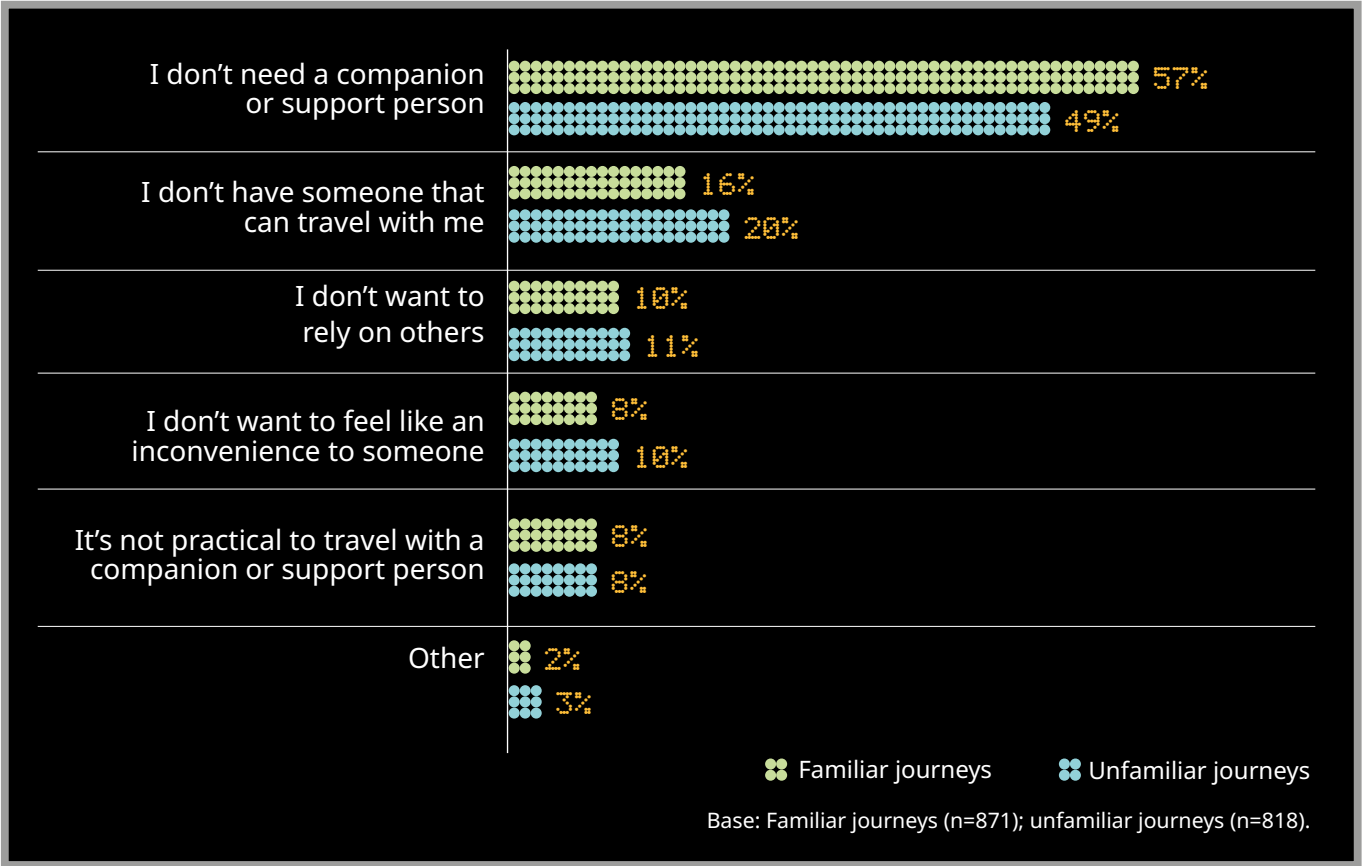


“It ends up making journeys not viable, really, if you’re incurring extra costs and they are taking the time up just to help you with the communication barriers.”

- 55-64, deaf, South East

For those who do not travel with a companion or support person, this is not necessarily because they do not need or want one. While 57% say they do not need a companion or support person on familiar journeys, and nearly half (49%) say the same for unfamiliar journeys, others face practical and emotional barriers to accessing this type of support. These include not having someone that can travel with them or being reluctant to ask for help because they do not want to feel like a burden or inconvenience to others.

Figure 12. Reasons people rarely or never travel with a companion or support person on specific journey types



Overall, these findings demonstrate that accessibility is not only shaped by the transport system itself, but also by the context in which journeys take place. While factors such as familiarity and travelling with others can help mitigate some barriers, they do not remove the underlying challenges faced by deaf people and people with hearing loss. The following section builds on this by exploring how intersecting accessibility needs and more formalised support influence people’s ability to travel independently and with confidence.



Section 6: Accessibility needs and support when travelling

In addition to the context in which journeys take place, people’s accessibility needs and the support available to them play a critical role in shaping their travel experiences. Many deaf people and people with hearing loss have additional disabilities or long-term health conditions that can interact to create more complex and compounded barriers. In response, some rely on formal services such as passenger assistance.

Experiences of travelling with multiple disabilities

Nearly two thirds (64%) of people told us they have another disability or long-term health condition in addition to being deaf or having hearing loss (see the Technical Appendix for a breakdown of these conditions).

People’s access needs can intersect to compound barriers, with 71% agreeing this makes travelling more difficult. People with multiple disabilities stress the importance of their needs being understood holistically, rather than treated separately. For example, difficulty hearing announcements is compounded by problems reading visual displays due to sight loss.

“If I can’t hear the next stop announcement, then I can’t just look out the window and see as that’s not possible. So that’s why I’m saying you really need to take it as a combined loss.”
- 55-64, deafblind, Scotland

When announcements about delays or platform changes are missed, people with mobility needs report not being able to react quickly which is not only stressful, but can create safety risks when boarding, alighting, or navigating stations. Physical aspects of the travel environment can also make it difficult to access visual information, such as display boards. Wheelchair spaces on buses, for example, are often rear-facing making it difficult to see visual displays and screens from these positions.

“I use a wheelchair as well as hearing aids. On a bus I have to be with my back to the driver, so I can’t actually see the next stops. They have it on the board behind me and I can’t see it at all. I hate facing everything else – I feel like I’m a spectacle for everybody else to look at.”
- 55-64, hearing loss, South East

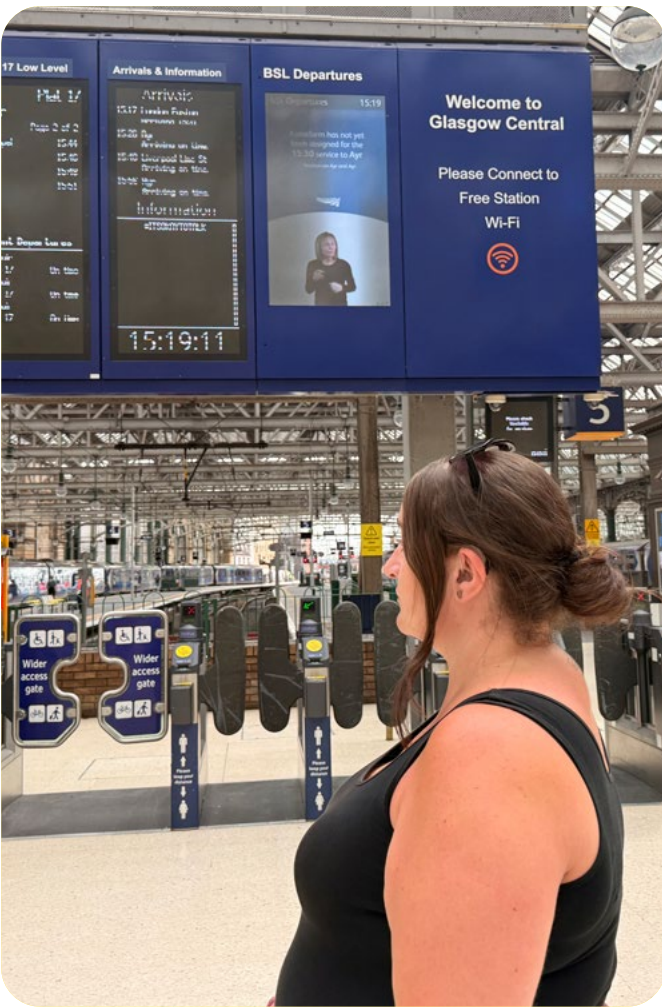
People with autism, ADHD, or auditory processing difficulties describe how noisy, crowded, and bright environments like train stations can make it harder to hear or process speech. In some cases, people choose to turn off or remove their hearing devices to manage the sensory overload. However, this increases the risk of missing information, creating a tension between managing sensory needs and staying informed while travelling.

Subsequently, many people with multiple disabilities report avoiding public transport altogether or opting for taxis as an easier, though more expensive, alternative. For others, support when travelling is often essential to make journeys possible. This support may come from companions such as a friend, family member or carer who accompanies them on journeys, or the use of formalised support such as passenger assistance services.

“I am autistic and ADHD as well as deaf. Due to sensory overload, I like to travel with hearing aids off or very low volume, but this adds to anxiety around missing spoken announcements. I struggle to understand announcements even when wearing hearing aids. My autism makes me anxious to ask other people what is happening.” - 35-44, deaf, Greater London

People with multiple disabilities also told us that their deafness or hearing loss is often less recognised by staff and the public than their other conditions. As deafness and hearing loss are not always visible, some feel that when they also have disabilities with more visible indicators, such as using a mobility aid, these needs are more readily recognised by others. In contrast, their hearing-related needs are sometimes overlooked or dismissed. Some younger disabled people feel that others assume they cannot be disabled because of their age, leading them to being challenged when using Disabled Person’s Railcards or bus passes. When disabilities are misunderstood in this way, people can feel embarrassed, invalidated and reluctant to disclose their needs in the future.

“They see things like mobility aids, and they are like ‘Oh okay you clearly are disabled. You’re a ‘real’ disabled person.”
- 18-24, deaf, Yorkshire and the Humber



Passenger assistance services

Passenger assistance services aim to support safe, confident travel and are designed to remove barriers for people who may need additional help, including deaf people and people with hearing loss. They are widely used across all rail networks in the UK and are increasingly available on other modes of transport. However, use and awareness of these services among deaf people and people with hearing loss is mixed.

Although awareness of passenger assistance is relatively high, with only around one quarter saying they are not aware of these services (26%), nearly half (48%) are aware of the services but

have not used them. However, some people assume it is not intended for them or should be reserved for those with greater needs. Consequently, some people who are aware of the services may not feel they are appropriate for them to use. In addition, some people are aware of passenger assistance services but do not feel they need support and therefore have no reason to use them.

Regular use of these services is low; only 5% overall use them regularly and 14% occasionally. Among BSL users specifically, use is slightly higher, with 11% using it regularly and nearly a third (32%) occasionally.

Table 1. Use of passenger assistance services

	Overall total (n=1,762)	BSL users (n=283)
Yes, regularly	5%	11%
Yes, occasionally	14%	32%
Tried once, but not again	7%	17%
No, I have never used these services (but I am aware they exist)	48%	26%
No, I was not aware these services exist	26%	15%

Most report positive experiences of using these services and overall, 65% say that their needs have been met well. Positive experiences include proactive staff who adapt their communication and regularly check in with passengers, which helps people feel confident, supported and able to make journeys they might not otherwise be able to.

Table 2. How well passenger assistance services meet people’s needs overall

	Overall total (n=460)	BSL users (n=168)
Very well	21%	12%
Quite well	44%	53%
Neither well nor poorly	18%	21%
Quite poorly	8%	7%
Very poorly	8%	6%
Don’t know	0%	1%

However, people report inconsistencies in both the availability and quality of assistance, as well as negative experiences when booking support and receiving it on the day of travel. Communication barriers are a particular challenge during the booking process. Even when deaf people and people with hearing loss clearly specify their communication preferences, such as text or email, these are often overlooked, with a continued reliance on phone calls.

The reliability of these services is also an issue, with staff not arriving as expected or being unaware of the type of support that has been booked. Nearly two in five (39%) report pre-booked assistance not arriving or nobody being available to help them. This

has practical consequences leading to travel disruptions, missed connections, or having to take alternative transport, such as taxis. These experiences can be very distressing, where people tell us they have been left stranded at stations, trapped on trains due to a lack of ramps or assistance, and left alone late at night at stations or stops.

“It’s the only thing that’s actually made me get on a train again.”
- 25-34, deaf, East Midlands

“I do use the Passenger Assist app. I put in what my needs are but it’s potluck when you get to the actual platform whether or not that assistance is going to occur.” - 55-64, hearing loss, South East

This unpredictability undermines the confidence that these services are there to provide. For some, uncertainty about whether the support they need will be available leads them to reduce or avoid using public transport altogether.

Therefore, while passenger assistance services are valued, inconsistent delivery and inaccessible communication reduce their effectiveness. Addressing these issues is essential to facilitate independent travel for those who depend on these services.



Section 7: The impact of inaccessible public transport

Inaccessible public transport affects far more than the practical completion of a journey. It creates a significant emotional burden with the cumulative effects of anxiety, constant vigilance, and repeated barriers undermining people’s confidence, limiting their independence and reducing their ability to travel with autonomy.

The emotional and cognitive impact

The emotional toll

Navigating an inaccessible public transport system can create significant emotional distress. When asked about how they typically feel when using public transport, negative emotions are widespread and overall, 75% gave at least one negative emotion. Among BSL users, nearly nine in ten (86%) gave at least one negative emotion.

Table 3. How people typically feel when using public transport

Overall total		BSL users	
Anxious	57%	Anxious	66%
Vulnerable	43%	Frustrated	49%
Frustrated	42%	Vulnerable	47%
Overwhelmed	32%	Overwhelmed	44%
Isolated	24%	Isolated	31%
Independent	17%	Independent	18%
No strong feelings either way	11%	Relaxed	12%
In control	10%	In control	10%
Relaxed	10%	Safe	7%
Safe	8%	Reassured	7%
Reassured	4%	No strong feelings either way	5%

Base: Overall total (n=1,762); BSL users (n=283).

More than three quarters (76%) agree that inaccessible information makes travelling on public transport stressful, whereas among BSL users specifically, 81% agree. This emotional impact can be felt at every stage of a journey. It often begins before travel even starts, with the extensive planning required to reduce anxiety and uncertainty about an upcoming journey. This preparation is not only practical but also emotional, helping people feel more confident and better equipped to manage the challenges they anticipate encountering along the way.

This anxiety often persists throughout the journey (even when everything goes according to plan), because people carry an underlying expectation that something could go wrong at any moment. Overall, most people frequently worry when using public transport, including worrying about missing updates or changes, getting on the wrong service, missing their stop or being stranded. Levels of concern are consistently highest among BSL users specifically.

Figure 13. Percentage who worry about missing important updates or changes

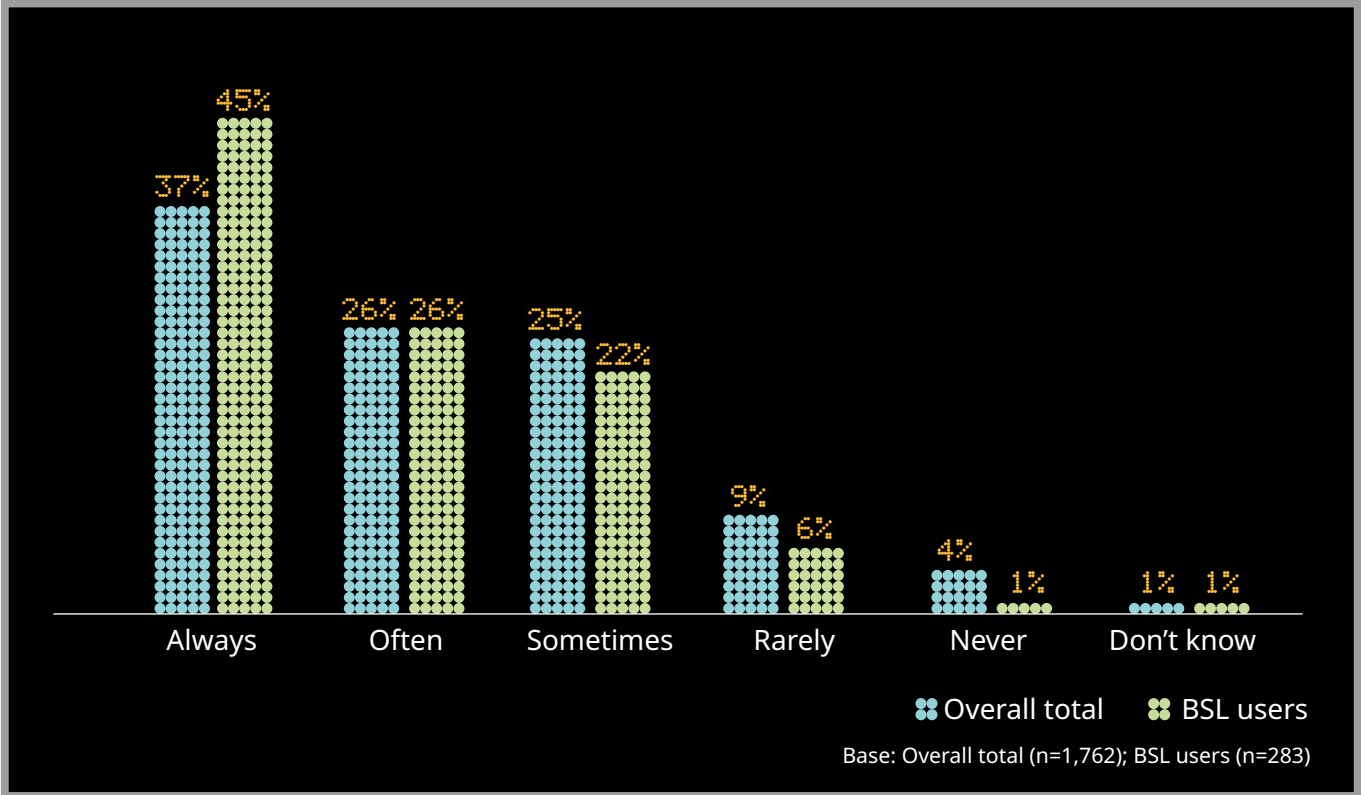


Figure 14. Percentage who worry about getting the wrong service

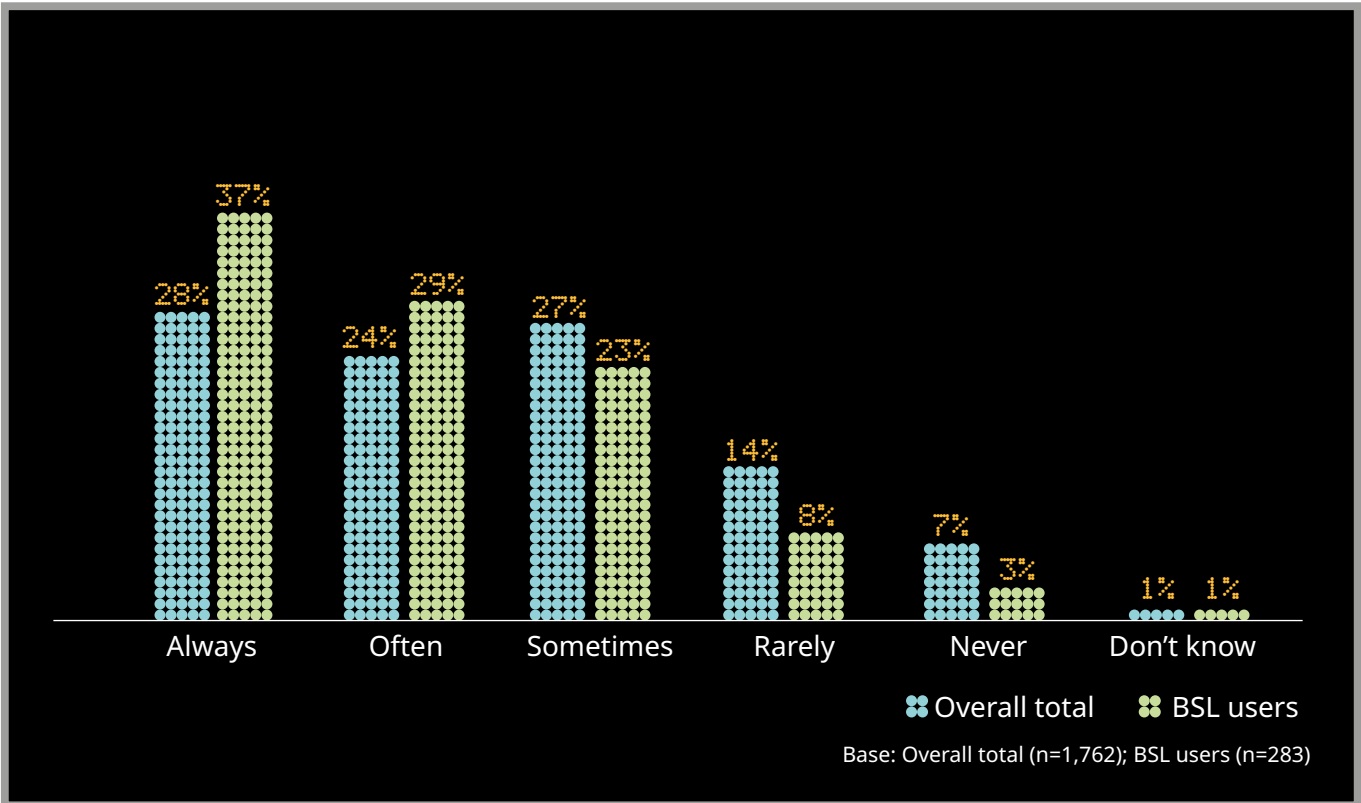


Figure 15. Percentage who worry about missing their stop

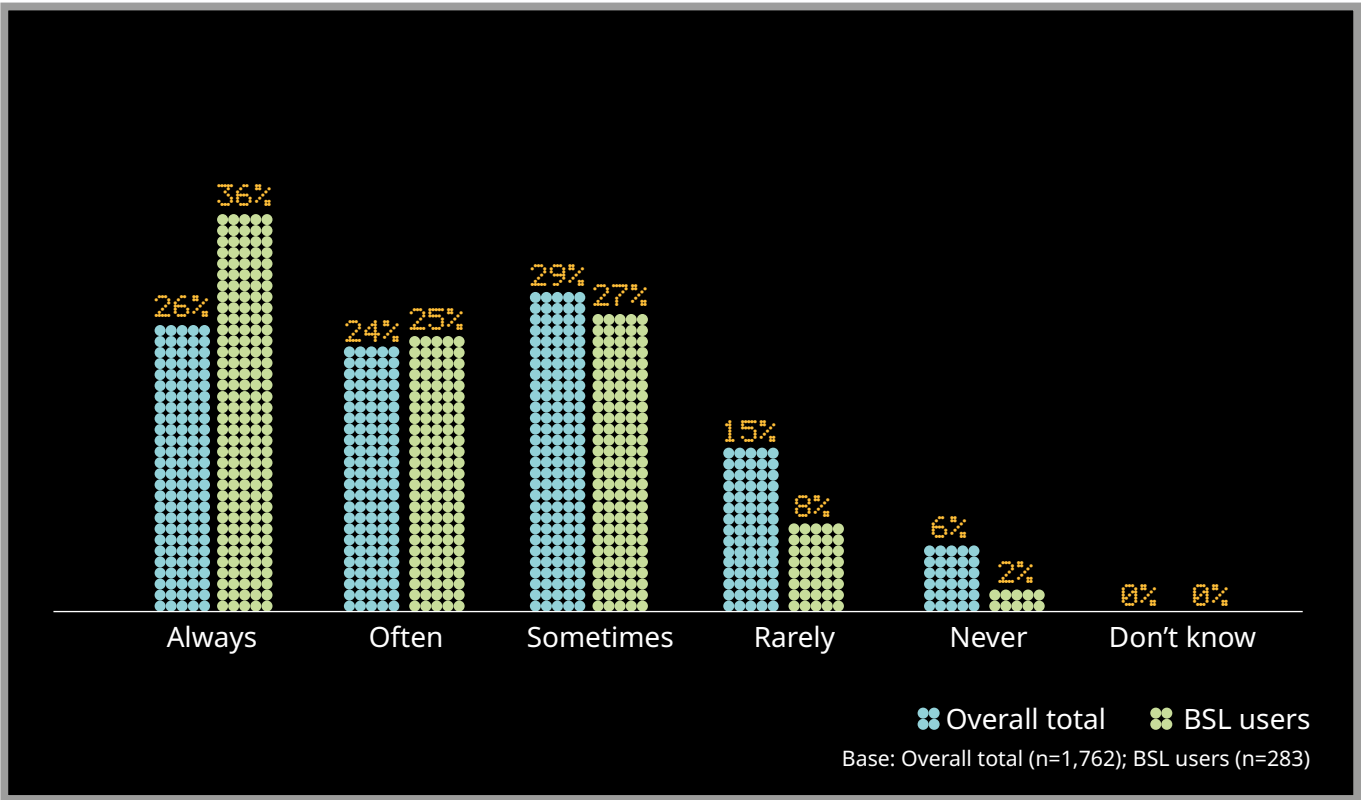
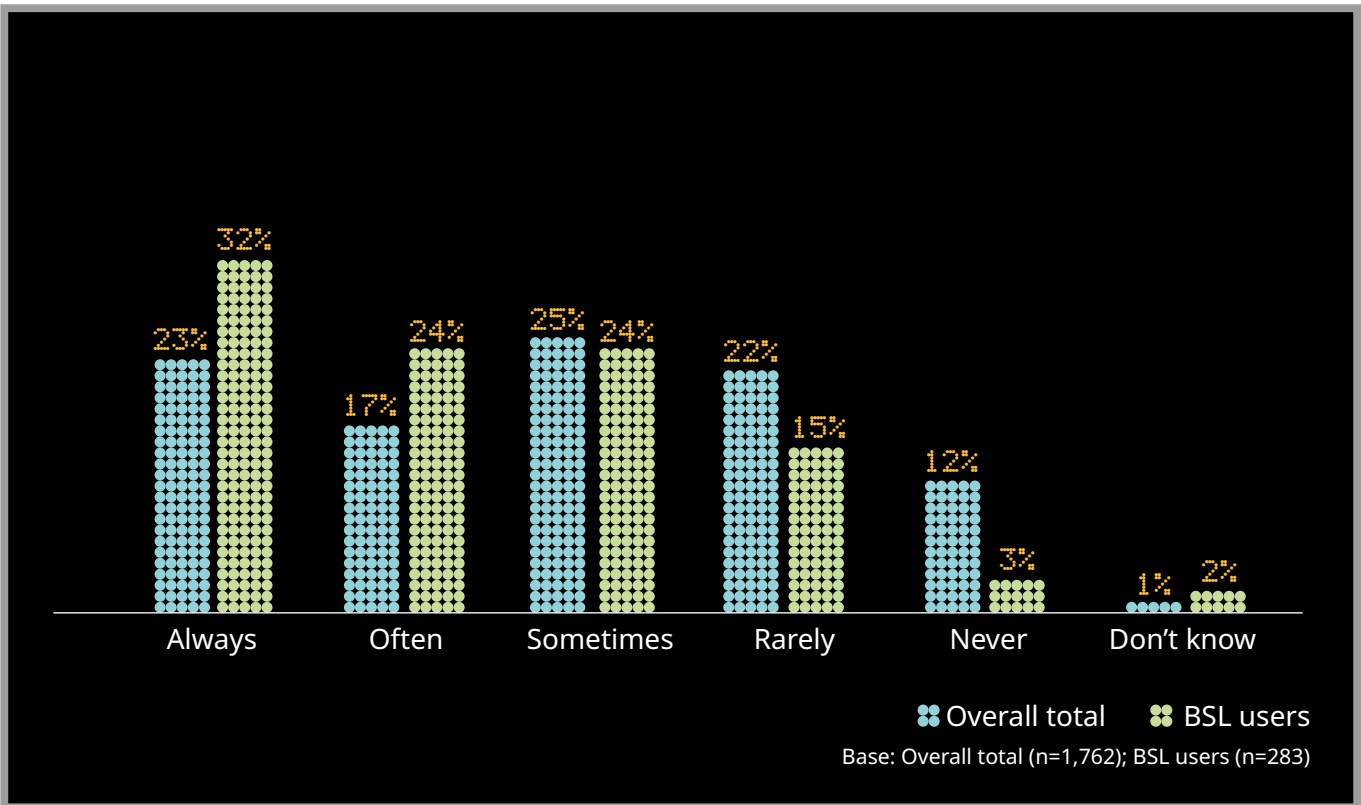


Figure 16. Percentage who worry about being stranded



"I missed my train connection because the platform was changed and I did not know. I felt terrible and then I did not know how to complete my journey as I couldn't understand what the staff were saying. I felt completely overwhelmed and, in some ways, desperate. I just wanted to cry because I felt so powerless and lost." - 55-64, deaf, East Midlands

Missing or inaccessible announcements, delays, cancellations, and last-minute changes create uncertainty and can trigger stress and panic. This uncertainty about what is happening can make journeys feel overwhelming and chaotic. For some, the anxiety can escalate into panic attacks, while others are left feeling lost or helpless.

There is also a social burden associated with asking for clarification when important information is missed due to limited access. Having to continually ask for information to be repeated or explained can feel uncomfortable or embarrassing, which may discourage some people from seeking support. These experiences can be compounded by a lack of staff awareness and training, meaning communication needs are not always recognised or accommodated effectively. Some people

report encountering impatience when requesting information to be repeated, while others feel they are perceived as rude, inattentive, or unintelligent. In some cases, requests for help are met with dismissive or hostile responses. Because deafness and hearing loss are often not immediately visible, communication needs can go unnoticed, leaving people feeling overlooked, unsupported, and at times like a burden.

Even when individuals disclose their hearing loss, this information is not always acknowledged or acted upon, reinforcing the perception that their needs are not taken seriously. Dismissive or impatient responses from staff, including behaviours such as shouting instead of adapting communication methods, can feel humiliating and disrespectful.

Cognitive load and fatigue

The emotional toll of using public transport is closely linked to cognitive load and the need to constantly compensate for inaccessible systems. During journeys, hearing passengers can passively absorb audio updates, whereas deaf people and people with hearing loss report having to continuously scan their surroundings for changes. This constant monitoring creates a state of hypervigilance, leaving people unable to relax.

Nearly four in five (79%) say they often or always feel the need to stay 'on alert' to avoid missing their stop or an announcement, demonstrating the significant cognitive load associated with travelling on public transport. As a result of this disproportionate cognitive load, nearly half (49%) say they often or always experience fatigue from concentrating, whereas for BSL users specifically, this figure is 59%.

"I could see people sat on the train, head in a book, listening to music, fully relaxed, totally enjoying their journey. Whereas me, by comparison, I'm sat there gripping the handles of the seat, staring at a screen and looking out the window, desperate to see: Where am I? What stop is it? What station am I going by? Not relaxing at all."

- 45-54, deaf BSL user, South East

Erosion of confidence and independence

Ultimately, the repeated barriers faced on public transport erode confidence over time, making journeys feel difficult and unpredictable. This directly affects independence with only 17% saying they typically feel independent when using public transport. Indeed, more than two in five (41%) often or always feel their independence is limited when using public transport, and among BSL users specifically this figure is 57%.

Many feel unable to travel alone confidently, describing a loss of autonomy where inaccessible information, absent staff and unreliable announcements increase their reliance on others. This dependence is frustrating, with 43% often or always feeling frustrated about needing help. Among BSL users specifically, this figure is 55%.



Behavioural responses

Workarounds and coping strategies

Faced with persistent barriers to accessing information, deaf people and people with hearing loss are often required to adapt their behaviour, relying on a range of coping strategies and workarounds to travel successfully.

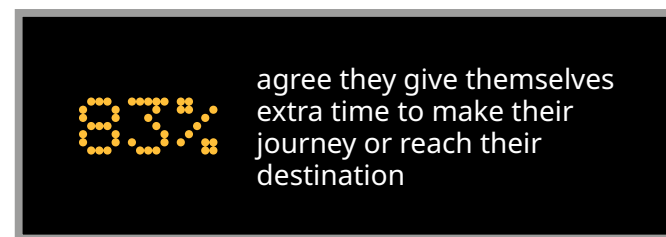
Extensive planning

One of the most common strategies people use is extensive pre-planning and preparation. More than two thirds (68%) over-prepare and plan ahead for journeys because they cannot rely on information being accessible to them when travelling. For BSL users specifically, this figure is 83%. However, while planning and over-preparation can help people feel more in control at the outset, that can quickly disappear when disruptions or unexpected changes occur.

Less than half (43%) agree that when there are disruptions, they feel able to understand what is happening and can plan an alternative route. For this reason, nearly half (46%) overall report planning an alternative route in advance in case something changes and they can't access the information they need. For BSL users specifically, this figure is nearly three quarters (71%), indicating their greater reliance on pre-planning, which is likely driven by the additional barriers they face in accessing real-time information.

Building in extra time

Building in extra time is another common strategy used to compensate for a lack of accessible information and the anticipation of experiencing barriers. While this may seem like a general precaution taken by many public transport users, building in extra time is a deliberate and consistent approach to managing uncertainty. Overall, 83% agree they give themselves extra time to make their journey or reach their destination, whereas for BSL users specifically, this figure is nine in ten (90%).



“Usually, I’ve worked out and maybe even written down a couple of alternate routes home if one isn’t working.”

- 35-44, deaf, South East

Using digital tools

Digital tools play a critical role in helping people navigate inaccessible transport systems. Many rely heavily on smartphones to plan journeys, book tickets, and get live updates, with 62% using digital journey planning apps such as Google Maps or Citymapper; among BSL users specifically, this figure is 70%.

Digital tools allow people to track their journey in real time, receive alerts and live updates, and even access multiple apps simultaneously to cross-check information and verify its accuracy. Nearly half (46%) use travel apps as an alternative source of information when they are unable to obtain the travel information they need through other means, and for BSL users specifically, this figure is 51%.

“I can use Google Maps to actually work out and follow where I am, which means that I know that I can get off at the right place. If I didn’t have my phone, I’d be panicking.”

- 55-64, deaf BSL user, West Midlands

“If it all became completely reliant on technology, then I would stop travelling by train. It would force me off the train.”

- 75+, hearing loss, South East

While many report relying on travel apps as a workaround to help increase feelings of independence and reduce reliance on others, those who do not have a smartphone or do not know how to use these tools cannot access information in this way. While digital systems are straightforward and accessible for many, reflected in the 72% who say they feel confident using digital journey planning tools, 13% overall (and 10% of BSL users specifically) say they are not confident using them, placing them at a further disadvantage.

For BSL users, smartphones are also important communication tools. Some use their smartphone to access Video Relay Services (VRS) which enable BSL users to communicate with hearing staff through a remote interpreter using a video call. Smartphones can also be used for note-taking apps and speech-to-text tools. Two in five BSL users (40%) tell us they rely on writing things on their phones to communicate with others, and over a quarter (26%) rely on using a speech-to-text tool on their phone when they are unable to access travel information. While speech-to-text tools can be used to transcribe audio announcements,

these transcription apps are often inaccurate, particularly in noisy environments like public transport. Despite this, even partial or inaccurate transcription is felt to be preferable to having no information at all.

This reliance on smartphones also requires significant additional preparation. People describe needing to check Wi-Fi availability, ensure their devices are fully charged, and carry power banks so they are not left without access to their smartphone. Some even carry backup communication tools and information, including notebooks and pens, screenshots of tickets and timetables, or printed journey information.

If accessible information is only available via smartphones, it creates a two-tier system of access. This can exclude people who do not use smartphones and create additional barriers for those who do when they are unable to access information during a journey because of poor signal, a flat battery, or other connectivity issues. For some, the prospect of public transport becoming increasingly dependent on digital technology raises concerns about being excluded from travel altogether.

Relying on others

When individual strategies are not enough, people rely on the kindness of strangers to fill the gap when transport systems fail to provide accessible information. More than half (51%) report having to ask other passengers for help, for example explaining announcements, alerting them to stops or providing reassurance.

During disruptions, some people describe having to follow crowds or copy the actions of other passengers when information is not

accessible. More than half (54%) say they rely on watching other passengers to know what is happening.

Nearly half (46%) overall (and 50% of BSL users) rely on those they are travelling with to relay announcements, support communication with staff, or help them understand what is happening. Nearly one in five (18%) overall (and 25% of BSL users) even rely on contacting family members or friends who are not travelling with them to find out information.

Together, these coping strategies highlight the significant effort required to navigate public transport when information is inaccessible. Workarounds become the norm, with only 4% saying they do not rely on any strategies or workarounds when they cannot access the information they need. For BSL users, the need for workarounds is universal (100%).

“I had to ring my son and get him to listen to the loudspeaker announcement on the phone; then he told me that the train had broken down.” - 75+, deaf BSL user, South East

Patterns of avoidance

Despite extensive planning, preparation and use of technology to overcome the barriers they experience, many deaf people and people with hearing loss reach a point where they start to restrict their use of public transport.

When journeys go wrong, the impact can stay with people for a long time. Confidence can gradually erode through the accumulation of many small negative experiences rather than a single event.

For others, a particularly difficult or distressing experience can have a more immediate and lasting

effect, undermining their confidence in using public transport in the future.

As confidence declines, some people begin to limit or adapt their travel behaviour - they may avoid unfamiliar routes, travelling at busy times or at night, and in some cases may stop using certain modes of transport altogether. This can have wider impacts on daily life, affecting people's ability to work, socialise, and participate in activities. Some describe staying closer to home, declining opportunities, or cancelling plans when the prospect of travel feels too difficult or overwhelming.

“After that case [missing a train due to a platform alteration] I didn’t travel for half a year. I was just like – no. I didn’t travel anywhere.”
- 35-44, deaf, West Midlands

Figure 17. Percentage of people who avoid travelling on unfamiliar routes

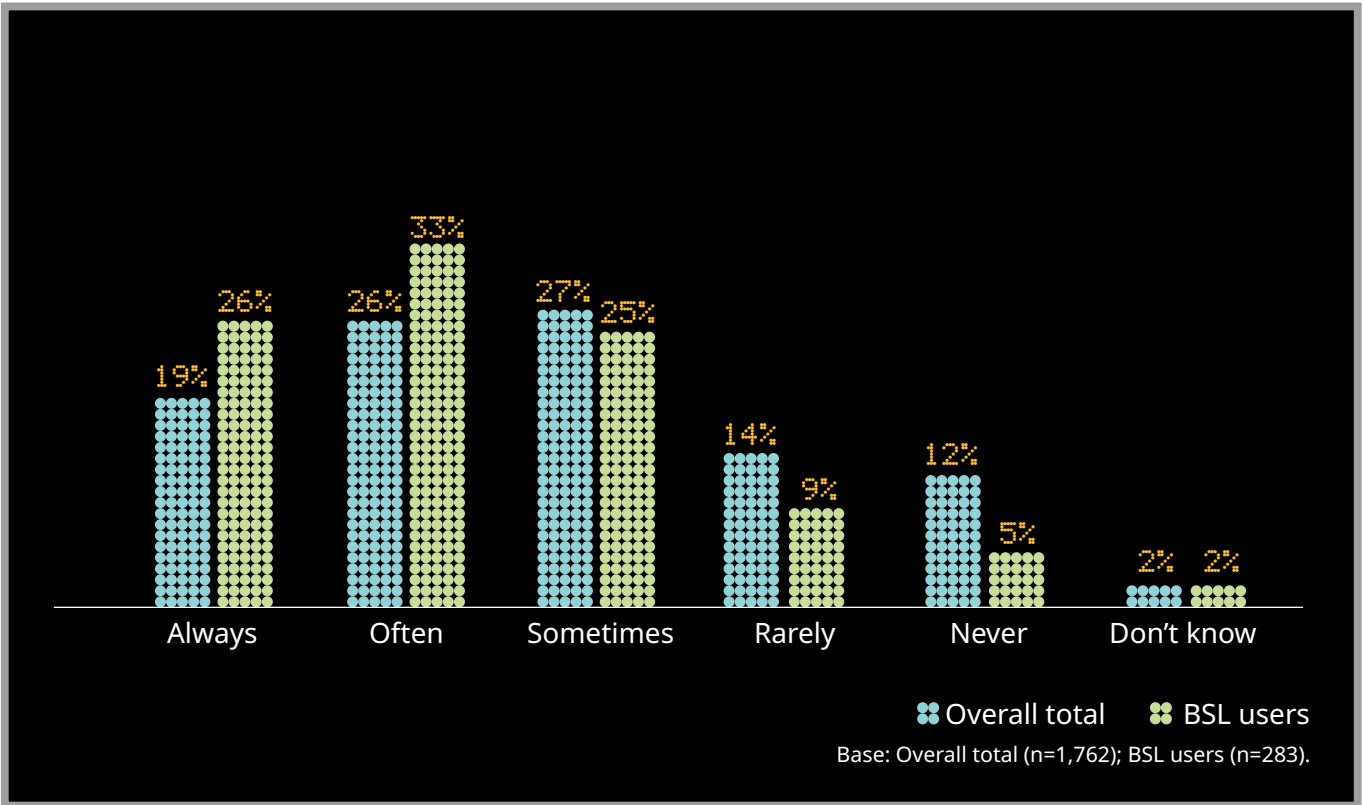


Figure 18. Percentage of people who avoid travelling at busy times

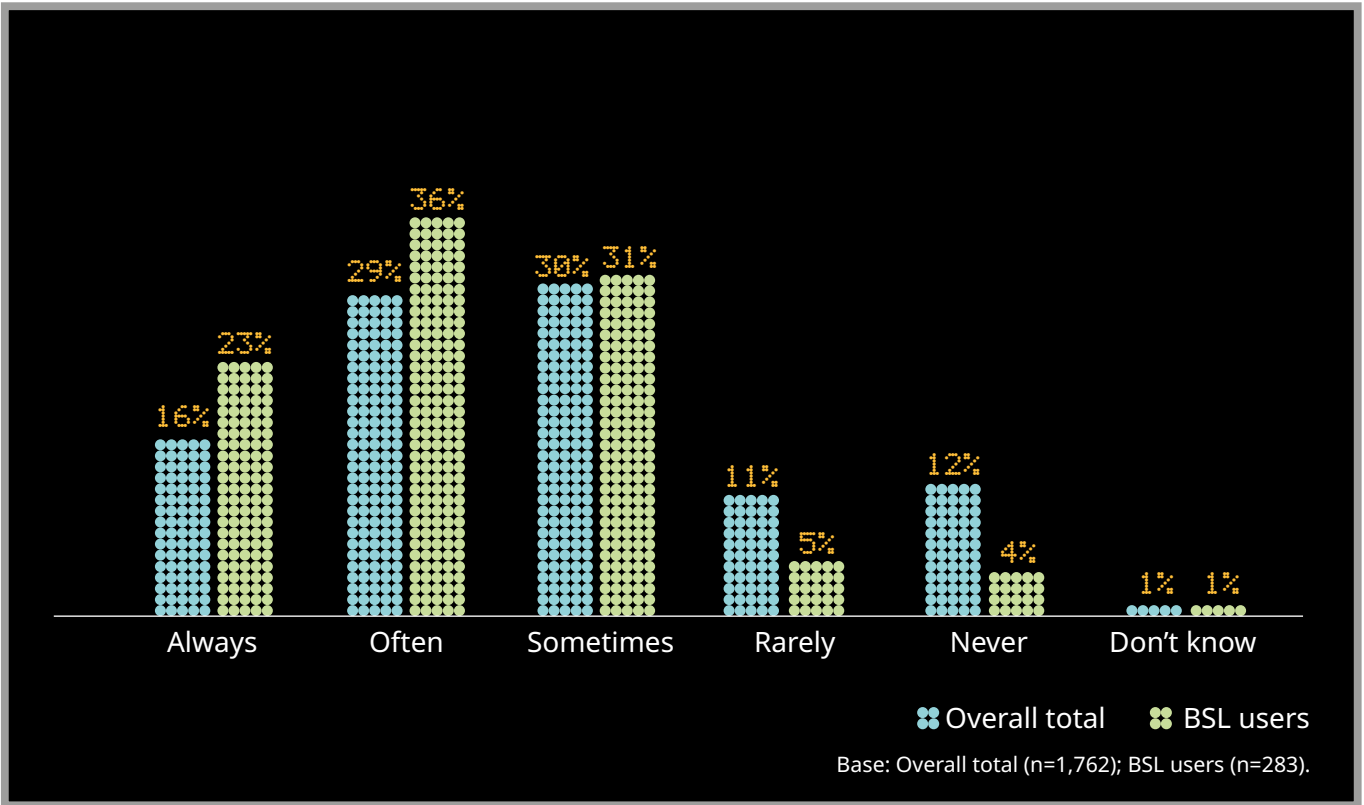


Figure 19. Percentage of people who avoid travelling at night

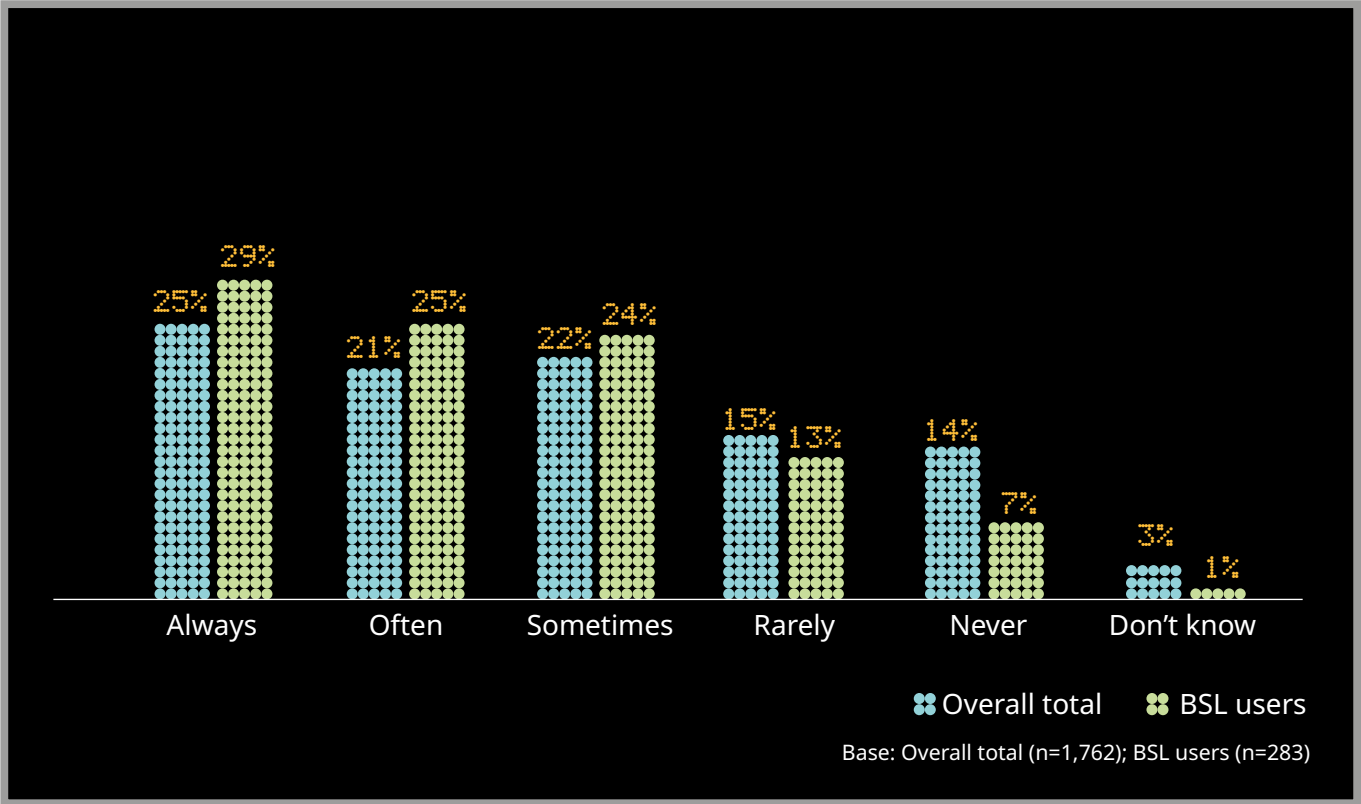
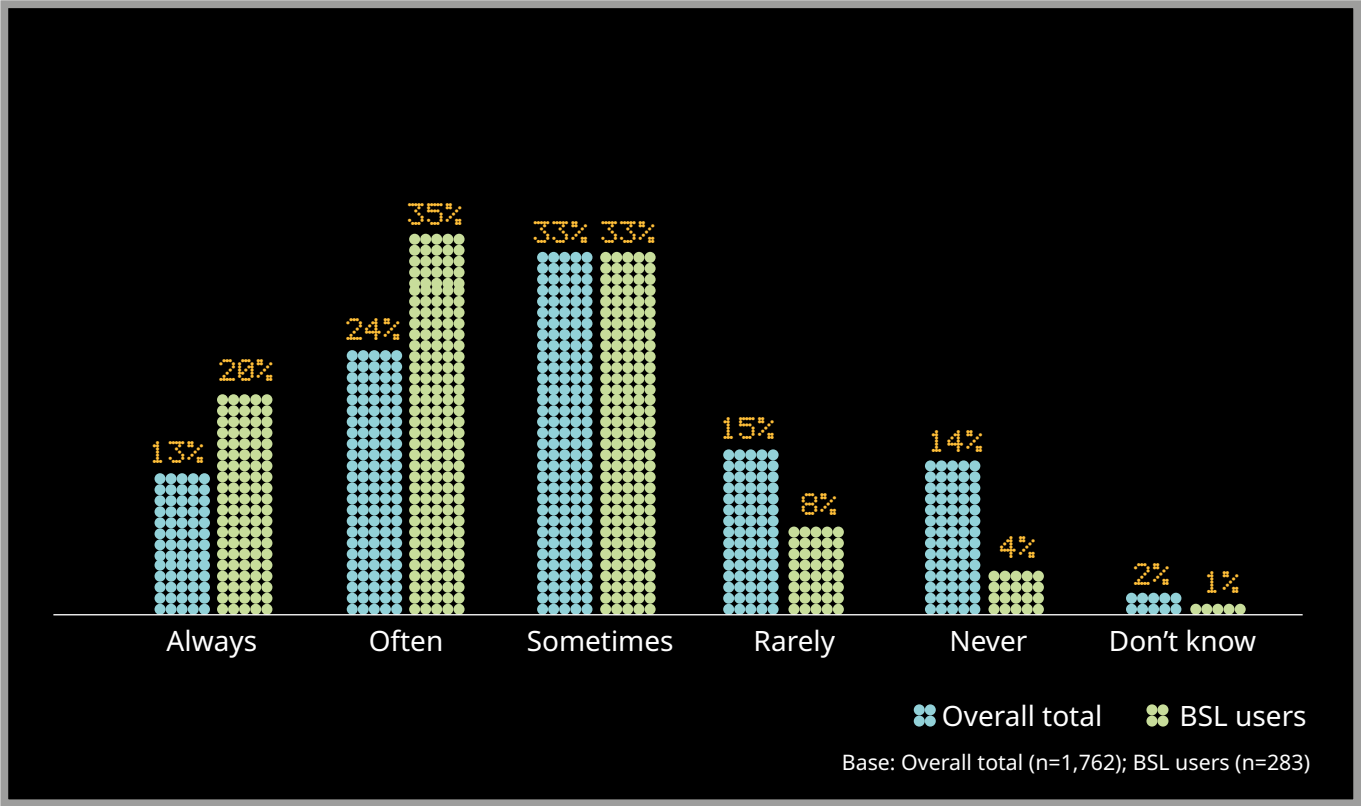
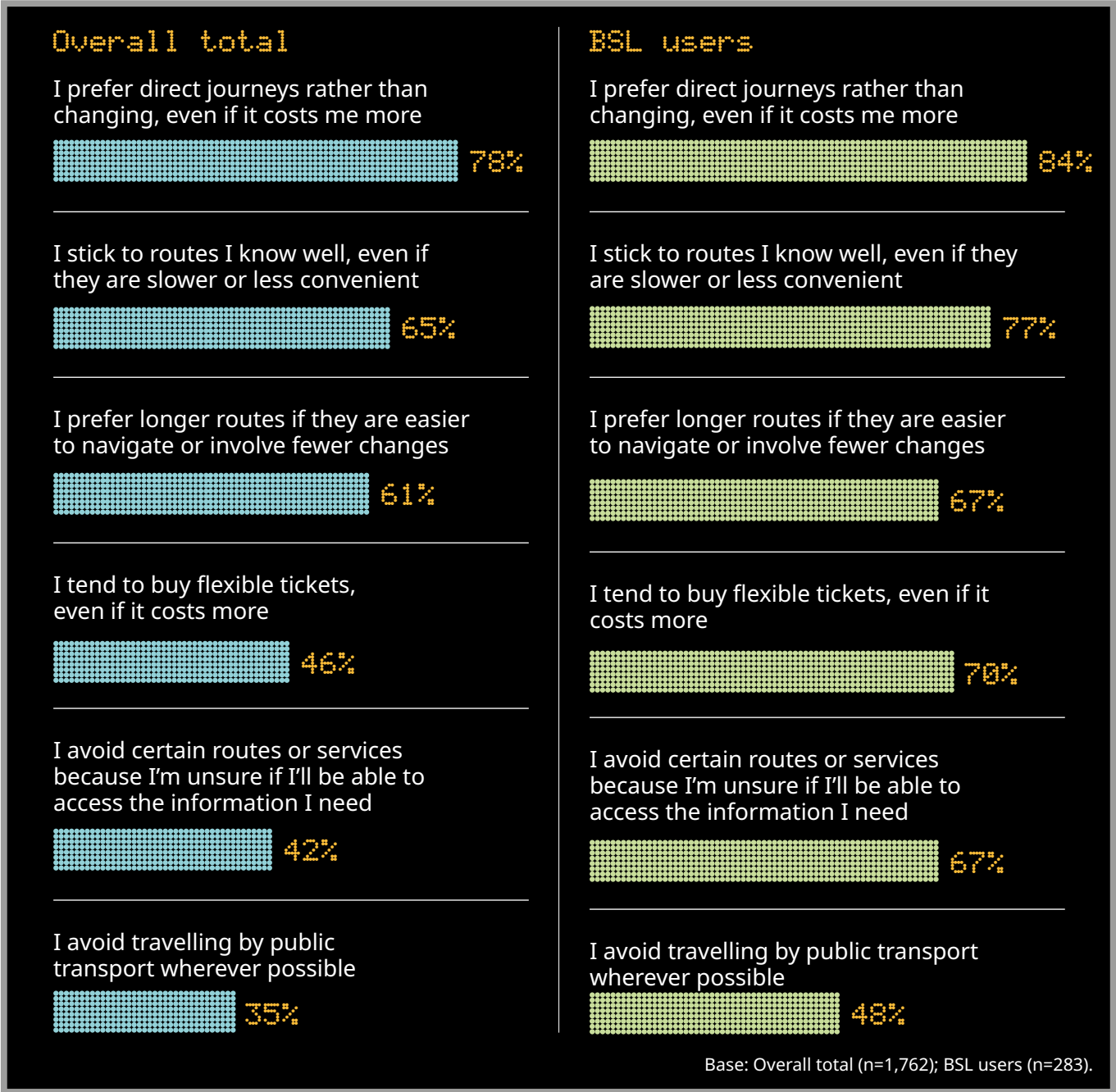


Figure 20. Percentage of people who avoid travelling on certain types of transport



People consistently prioritise certainty, simplicity, and flexibility in their journeys even if this costs more or takes longer. This reflects how the challenges people face lead to more cautious travel behaviours, higher levels of avoidance and route restriction. More than a third (35%) overall (and 48% of BSL users specifically) even report avoiding travelling by public transport whenever possible.

Table 4. Percentage of people who agree with the following statements about how they adapt their travel behaviours



Taken together, these findings demonstrate that inaccessible public transport does not only affect individual journeys but has cumulative emotional, social, and financial consequences, shaping long-term travel behaviour, independence, and participation in work and social activities.

Safety and vulnerability

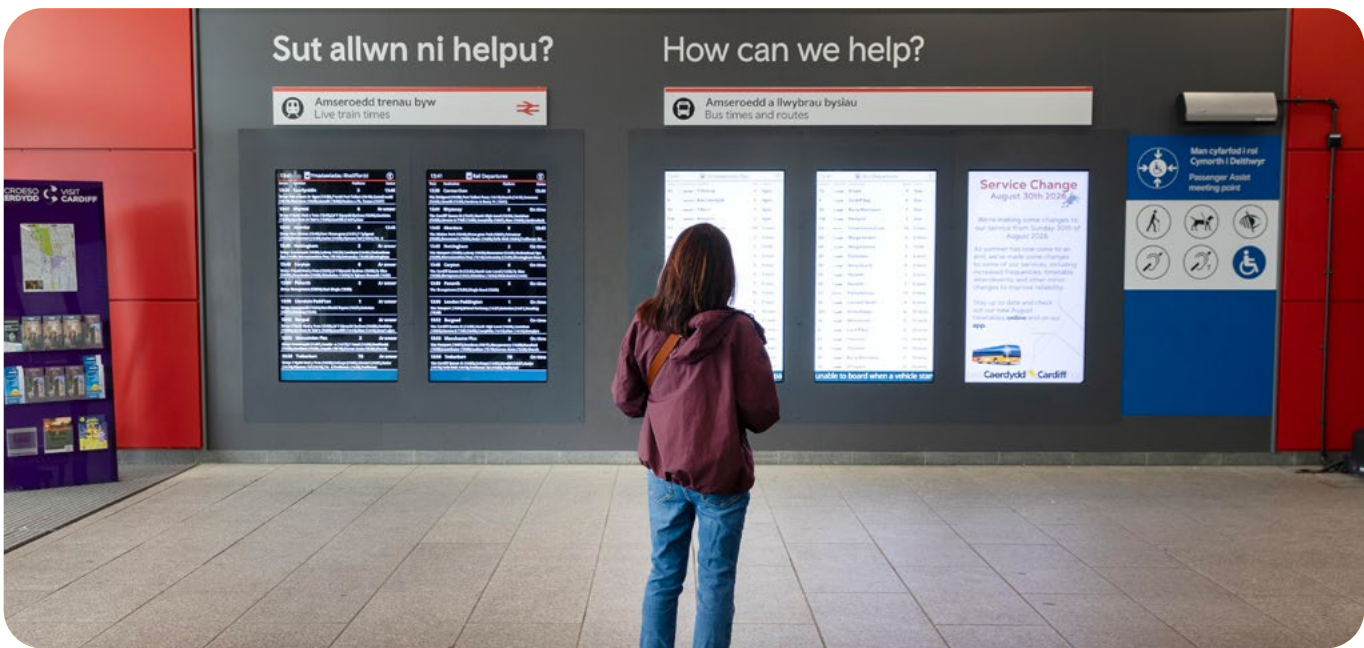
As shown, limited access to real-time information leaves many deaf people and people with hearing loss without essential updates. This impacts their ability to assess risk, maintain independence and travel safely.

Without access to announcements or visual information, people are unable to distinguish between routine changes or more serious incidents. This uncertainty leads to heightened anxiety and hypervigilance.

This is further compounded by a lack of accessible help. At unmanned stations, help points rely on audio intercoms, making them inaccessible to many deaf people and people with hearing loss. Reduced staffing exacerbates concerns about how to access urgent assistance in emergencies.

In some cases, these negative experiences can lead individuals to raise formal complaints about accessibility.

“I get into a panic. You don’t know if there’s a terrorist or a bomb’s gone off. You just don’t know. The bus stops, the people leave and that’s all you know. That’s all you can see.” - 35-44, deaf BSL user, Greater London



“At the train stations there’s a button you can press and you can get help. You can speak to somebody, but it’s just coming out of a wee speaker at the side of the railway line. That’s just no use to me whatsoever. That’s just impossible to hear.” - 55-64, hearing loss and tinnitus, Scotland

Complaints and feedback on public transport accessibility

Despite the widespread barriers faced by deaf people and people with hearing loss when using public transport, only 9% have made a complaint related to accessibility. Complaint rates are, however, higher among BSL users specifically, where 22% have made an accessibility complaint. Nearly one quarter overall (24%) felt that, while they had reason to complain, they decided not to as they did not think it would change anything. This is exacerbated by some seeing the complaints process as lengthy and complex, and therefore not worth the time and effort if it does not lead to change. Guilt, embarrassment and fear of being seen as a burden are also given as reasons that stop people from making complaints.

Others are unsure how to make a complaint or who they should complain to. Nearly one in ten (9%) overall and 16% of BSL users specifically say they wanted to complain about their experiences when using public transport but did not know how or did not have the support they needed to make the complaint.

The communication barriers already highlighted extend to the complaints process too. Complaints mechanisms often use phone-based or lengthy written English communication which may be

“I think we are absolutely socialised as deaf people, and maybe this applies to people with other disabilities as well, to minimise the disruption and discomfort that we cause to other people. I think that is what stops us complaining, stops us making a fuss, because it’s all about making life easier for other people. But I do think it’s time people thought about making life easier for us.”
- 35-44, deaf, West Midlands



inaccessible for those whose first language is BSL. Over one in five (22%) who have complained say the process was not accessible.

Nearly half (47%) of those who have made a complaint were not satisfied with the outcome. Many feel that their complaints were noted but not meaningfully resolved. An apology or statement that the issue would be passed on may have been received but was followed by no further update or action. Others report that their complaint was lost between organisations, with transport operators shifting responsibility rather than working to resolve the issue.

For those who did successfully complain, they note that the outcome often focuses on remediation for the specific incident, for example ticket compensation or a voucher, as opposed to addressing the structural accessibility barriers that exist. These responses are seen as superficial and further weakens people’s confidence in the complaints system as a mechanism for change.

When complaints processes are inaccessible or fail to result in visible improvements, people can become discouraged from raising concerns. Without effective and accessible feedback mechanisms, transport operators risk losing valuable insights into the experiences of passengers and may miss important opportunities to improve accessibility.

Section 8: Improvements and priorities for change

An accessible public transport system would transform journeys for deaf people and people with hearing loss by building confidence, supporting independence and improving the overall experience. Yet significant gaps remain, with a clear need for system-wide improvements.

Key priorities

When asked to select up to five improvements that would make public transport more accessible (from a list of 14 options, or 21 options for BSL users which included additional options relating to BSL information provision), the most commonly prioritised improvements focused on making information clear, visible and accessible throughout the journey:



Strong demand for visual information

Clear, consistent and reliable visual information is people's top priority. Nearly seven in ten (69%) want visual information displays available at all stops, stations, and on board.

Access to information is a key enabler of public transport use. Overall, 61% agree they would use public transport more often if information were consistently accessible, and for BSL users specifically this figure is 80%. In addition, 92% say they feel more confident travelling when visual information is available and reliable. Providing accessible visual information is therefore fundamental to building confidence, supporting independence, and increasing public transport use for anyone who is deaf or has hearing loss, but particularly for BSL users.

Demand also extends to real-time updates. Over half (54%) prioritise having all audio announcements, particularly disruption alerts, available in real time on visual displays or mobile devices. This would ensure deaf people and people with hearing loss have equal access to information at the same time as hearing people.

However, provision alone is not enough. Over a third (36%), highlight the importance of well-positioned signage, showing that poorly placed information can significantly limit accessibility. Visual displays must therefore be integrated throughout the journey and visible from multiple points.

Embedding clear and consistent visual information across the transport system would have a significant positive impact for deaf people and people with hearing loss.

The importance of staff support

There is a clear distinction between the need for more staff and the need for better-trained staff. While 56% prioritise staff training, only 29% prioritise increased staff availability, indicating that the quality of support is valued most.

People emphasise the importance of staff being patient, understanding, and responsive to individual needs, particularly for people with hidden disabilities such as hearing loss. There is a strong call for regular, comprehensive deaf awareness and disability training, including communication tips and basic BSL skills, as well as ensuring staff are confident using tools such as live transcription, induction loops and VRS to support effective communication with deaf passengers.

While technology is recognised as having an important role in improving accessibility, there is a clear desire for this to be balanced with human support. Well-trained staff remain a priority, providing reassurance and assistance when technology is unavailable or does not meet their

needs. Maintaining a well-trained staff presence is therefore essential to ensure those who are digitally excluded are not left behind.

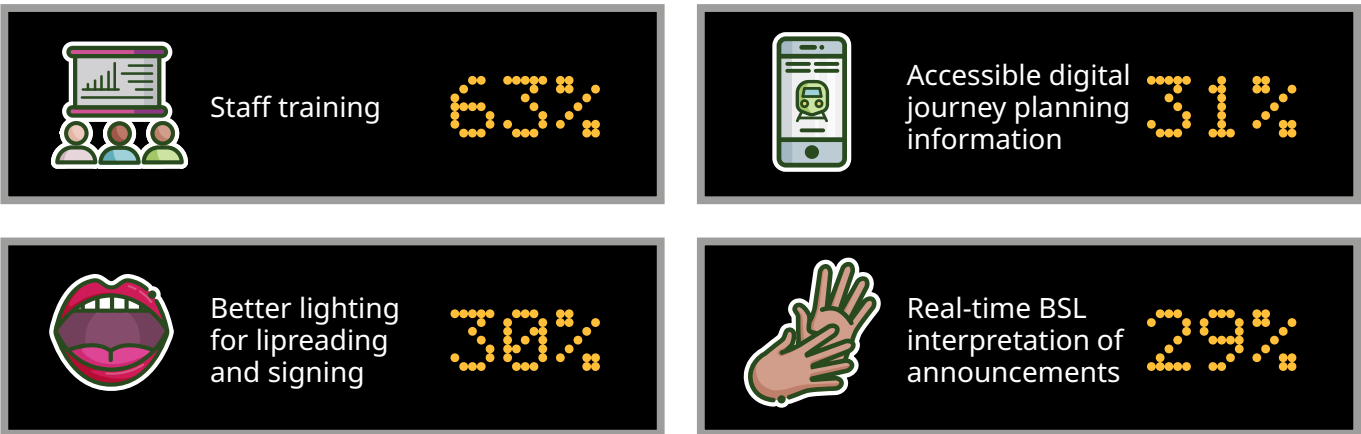
Delivery of clearer audio announcements to hearing devices

Nearly half (47%) prioritise clearer audio announcements delivered directly to hearing devices, making this the fourth most commonly selected improvement. While visual information improvements are prioritised by a larger proportion of people overall, direct delivery of announcements to hearing devices remains a significant priority. It is worth noting that this type of technology and its benefits will be unfamiliar to most and so the level of demand is likely under-reported. Our concept testing of Auracast which provides this solution clearly demonstrates how transformative it can be for users (see later in this section). Unlike fixed visual information, streamed audio can provide people with direct access to announcements wherever they are, eliminating distortion and reducing the impact of background noise, as well reducing the need to locate and continually monitor display screens in busy transport environments.



Distinct priorities for BSL users

While visual information remains important for BSL users, including a desire for visual information displays available at all stops, stations and on board (59%), and all audio announcements available in real time on visual displays (35%), there is a stronger emphasis on communication-specific and language-based support, including:



Although real-time BSL interpretation is selected by a smaller proportion of BSL users than some other improvements, it is important to note that as this is not currently possible, people may have prioritised options which feel attainable in the short-medium term. The potential of AI solutions to deliver real-time information in BSL is explored later in this section.

At all stages of the journey and across all transport modes, BSL users face additional communication barriers and, therefore, transport planning must reflect their specific needs to ensure equality of access.

“If reliable captions and/or more BSL screens were easily available for information about next stops, platform changes and other important travel information, I would feel more confident in using public transport.” - 35-44, deaf BSL user, East of England

Designing with lived experience

At the very heart of this research are real people whose lives are impacted in real ways by a lack of access when using public transport. A clear message to come from those who took part is that accessibility in the public transport system cannot be achieved without genuine empathy and understanding.

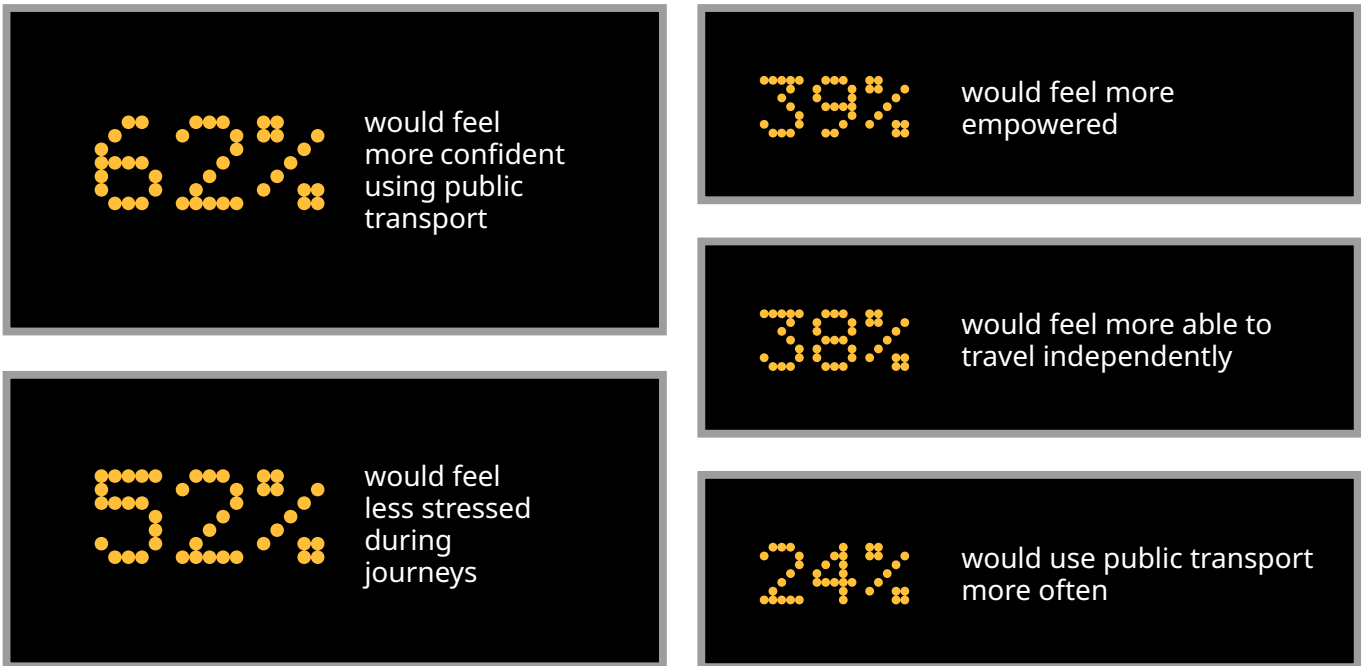
People emphasise that transport operators and staff need to appreciate what it feels like to navigate public transport without access to information, including meaningful training and immersive approaches (such as simulations),

to help staff experience and understand these barriers first-hand.

There is also a strong call for deaf people and people with hearing loss to be directly involved in shaping accessibility improvements. Regular consultation and co-design are seen as essential to ensure that solutions are based on lived experience rather than assumptions. This requires ongoing engagement between transport operators and the community, helping to make sure that improvements are prioritised effectively and that services are designed with, not just for, the people who use them.

Impact of improvements

Improving accessibility would have a clear and positive impact on the experiences of deaf people and people with hearing loss, particularly by increasing confidence and feelings of independence when using public transport. There is also the potential for behaviour change, indicating that putting these improvements in place could help to increase use of public transport:



“It would be fantastic. I wouldn’t worry about travelling on my own if those things were in place. It would mean I’d be far more independent and comfortable on a journey.” - 55-64, hearing loss, Northern Ireland

Both feelings of empowerment and independence are more pronounced among BSL users, with 48% saying they would feel more empowered and 55% saying they would be able to travel more independently if these improvements were put in place.

Overall, improving accessibility would not only enhance the practical usability of public transport but would also deliver meaningful psychological and experiential benefits; it would grow passenger confidence, reduce stress, and increase independence.

“Please make our lives easier, more comfortable and less stress inducing by making announcements both visual and audio. This will benefit everyone, not just those with hearing loss.” - 25-34, hearing loss, East of England

The role of technology in bridging the information gap

Emerging technologies present a significant opportunity to bridge gaps in how people access information and transform how deaf people and people with hearing loss experience public transport. The following case studies demonstrate two examples of technology that could be scaled to improve accessibility across the transport system, exploring the opportunities they present and the work that is still needed to make sure these solutions appropriately meet the needs of deaf people and people with hearing loss.

Case study 1: Auracast

The challenge

Public transport services still rely heavily on audio announcements, particularly to share live updates and safety information. Audio announcements are often poor quality and are frequently described as unclear, muffled, too quiet, distorted or drowned out by background noise, rendering them inaccessible.

The opportunity

Auracast is a new Bluetooth standard that enables places such as train stations, carriages and buses to broadcast audio over large areas using easy and cheap-to-install transmitters. The signal can be picked up directly by hearing devices such as earbuds, headphones or hearing aids and cochlear implants. Using Auracast for audio announcements could make information more accessible as it eliminates many of the problems that make current audio broadcast systems ineffective in such settings.

What we did

RNID organised two focus groups and real-world testing of Auracast at Bristol Temple Meads train station in March 2026 (see the Technical Appendix for more detail).

People in each group were connected to the Auracast stream and given a specific train destination and time and asked to behave like they were catching that train, following updates and announcements and navigating to the correct platform at the right time. Following the train platform activity, people shared their views and ideas in a focus group discussion.

Results

People found the audio announcements in the train station clearer and easier to understand using Auracast, and most could not understand the announcements without it. People said they would like it to be available on trains too if Auracast was reliable and easy to use, especially during delays and disruptions.

“I could not hear a word from the announcements without Auracast, but as soon as Auracast was connected and those two beeps started for the announcement, it was amazing. It was crystal clear, there was no latency on it. There were no concerns with regards to what I was hearing, and I actually felt quite relaxed on the platform.”
– 45-54, deaf

People value how Auracast could make train stations less stressful and tiring by making announcements easier to understand. People also liked that they could freely move around the platform and did not have to stand in one place to hear announcements.

Suggested improvements include making it easier to find and connect to an Auracast broadcast, as well as balancing the audio between different sources. People who had a “T+” rather than a “T” setting on their hearing device found it easier to balance audio between different sources. This improvement depends on the user interface provided by the hearing device manufacturers, rather than being a shortcoming of the Auracast broadcast itself.

Focus groups also explored how live captions or transcripts based on Auracast audio could improve people’s access and travel experience. Options discussed included live word-by-word and delayed complete transcripts. There were a mixture of views and more insight is needed on how text outputs could best support the needs of deaf people and people with hearing loss whilst travelling by train.



What to consider for Auracast in public transport settings

Auracast could improve travel for anyone who uses a hearing device, including headphones and earbuds. Those who tested the Auracast installation identified four priorities that must be addressed to ensure the technology is easy to use and helpful when using public transport.

Theme	What people need	Solutions proposed by people with hearing loss
Finding an Auracast Broadcast	To know if Auracast is available at a station or service.	Include information on websites as part of accessibility and facilities. Install signage for Auracast, like the hearing loop and Wi-Fi icons.
Balancing sounds	Distinguishing between speech in an Auracast broadcast and speech from a conversation.	Use an audio alert at the start of all announcements to help people distinguish between an announcement and a conversation.
Using with existing technologies	There were different views on how live captions or transcripts based on Auracast audio could improve people’s access and travel experience.	Co-design with people how text outputs could best support their needs.
Using with existing travel habits	Understand live updates and safety information in stations, in transit, and during changeovers.	Test and optimise Auracast coverage within spaces, ensure there are no dead spots where the signal drops out.

Case study 2: AI-enabled BSL translation

The challenge

Currently, a very limited amount of travel disruption information is available with BSL translation. This is because of the fast and changing nature of disruption information and the time it takes for a human translator to produce the translations (typically around three hours). This means BSL users are left without access to key information during unplanned disruptions.

The opportunity

AI-enabled BSL translations theoretically provide an opportunity to produce disruption information at a much faster turnaround. There are many technology firms currently developing tools which aim to offer this kind of functionality. The Rail Delivery Group (RDG) produce disruption map videos, which are around 1-2 minutes in length and explain the nature of the disruption and advise customers on what to do and their next steps to complete their journey. Currently, these videos include an English-speaking presenter and captions. The RDG have worked with Signapse to create examples of these videos which also include an AI signer.

What we did

We interviewed ten deaf BSL users between the ages of 25-64. They each took part in a one-to-one online interview. In the sessions, people watched a selection of the disruption map videos with AI-enabled BSL translations by accessing a link on their own device (see the Technical Appendix for more detail).

“We’ve got no accessibility. A lot of the time, it stops. There are no announcements. We don’t know what is going on.” - 35-44, deaf BSL user, East of England

Results

AI-enabled BSL translations were seen as most valuable for urgent, time-sensitive, and safety-critical rail disruption information. However, AI-enabled BSL translations in their current form lacked the naturalness, pacing, placement, referencing, and grammatical structure needed for easy comprehension.

People feel that accuracy is fundamental to trust. There is concern that poor-quality or premature rollout could undermine future confidence in this technology. BSL translations by a human translator remain the preferred standard and are not something that could be replaced with AI-enabled BSL translations. Some people view AI-enabled BSL translations as a potential interim or supplementary option, but others reject its use entirely in its current form.

“If it’s something that’s an emergency and there’s an announcement that just happens right there and then, if there was a video that popped up with the AI translation of that, that would be amazing. Maybe one day that would be possible. I know a human translation would be difficult to do that quickly. So, the AI BSL would be a quicker translation, and that would be an advantage.” - 35-44, deaf BSL user, Greater London

Considerations

Where AI-enabled BSL translation adds value

People are most positive about the potential of AI-enabled BSL translations to provide faster access to urgent disruption information, such as cancellations, platform changes, and on-train incidents. In these situations, some access is seen as better than none, provided the information is accurate and understandable.

Barriers to understanding and trust

The main barriers were the fast speed of the signing, jerky and unnatural movements as well as synchronisation issues between the signing, captions, and speech. People also highlighted problems with understanding the fingerspelling of long, unfamiliar place names. In addition, some grammatical issues made the signing harder to follow. These included a lack of natural pauses, unclear placement of signs in the signing space, and not clearly indicating who or what was being referred to. Together, these issues affected the clarity of the signing and reduced trust in the translation. Captions played an important supporting role. Most people preferred watching

captions and AI-enabled BSL translations together, using the captions to cross-check place names and other details that were not always clear in the signing alone.

Next steps

There is a need for technical improvements to be made to the grammar, pacing and visual clarity of the signing before this technology is considered for wider use. Better synchronisation between the captions and the signing as well as the opportunity for viewers to personalise their set up of the video were all suggested as ways to improve the viewing experience and reduce visual overwhelm.

A priority for further testing would be the use of AI-enabled BSL translations alongside captions for short, urgent disruption messages. Considerations must also be given to how and where these videos are made available. People emphasised the need for videos to exist both online, so people can access them on personal devices, but also be displayed on screens in prominent locations within stations.



Section 9: Summary of findings



This report addresses, for the first time, a major evidence gap by exploring the experiences of deaf people and people with hearing loss when using public transport in the UK. This critical research aimed to understand the extent of the barriers facing more than 18 million people in the UK who are deaf or have hearing loss across different modes of transport, and how these barriers affect their journeys and behaviour. It explored how experiences vary by context and individual needs, particularly for BSL users and those with multiple disabilities, and how well current support meets these needs. It also identifies priorities for improvement and potential solutions to address barriers and improve accessibility.

The findings of this report demonstrate that both the design of the public transport system and the

way services are delivered systematically exclude deaf people and people with hearing loss. The challenges they face on public transport are not occasional issues, but systemic barriers that shape their entire travel experience.

At its core, the issue is one of access to information, with barriers existing across all modes and stages of a journey. This includes the heavy reliance on audio announcements combined with inconsistent, unreliable or absent visual information, which prevents access to essential information that is necessary for independent travel. Without this, even everyday journeys become unpredictable, effortful, and, at times, unsafe. For those who use BSL, the impact is even greater as they not only lack access to visual information but also lack access to information in their first language.

These barriers are compounded by environmental and design factors, where noise, overcrowding and poor lighting hinder communication and can reduce the effectiveness of visual information when it is available. In the absence of accessible information, staff play a vital role as a fallback, but their presence is unreliable and the support they provide is inconsistent, with staff often lacking the awareness and understanding to confidently communicate with deaf people and people with hearing loss. Unfortunately, when disruptions occur, the evident accessibility barriers on public transport are both exposed and intensified. It is at these moments, when access to information matters most, that systems often fail them.

The impact of these barriers extends far beyond inconvenience. These repeated experiences undermine people's confidence using public transport and increase feelings of anxiety and vulnerability. As a result, people are forced to implement workarounds and adapt their travel plans to compensate for a lack of access. From over-preparing and planning journeys, relying on others to accompany them, to restricting their travel or avoiding public transport altogether, this ultimately undermines and limits their independence and choice.

Yet, technology offers significant opportunities to address this. Digital tools and technological developments, including Auracast and AI-enabled BSL translations, could be part of the solution for many, but will not benefit everyone equally. Digital tools and technological developments can complement, but not replace, staff support and the provision of clear, consistent and reliable real-time visual information across the public transport system.

This much-needed research establishes a baseline for understanding the accessibility of public transport for deaf people and people with hearing loss in the UK, providing an important foundation for future improvements and accountability. Transport operators and the government now have clear evidence of where the transport system is failing to meet the needs of deaf people and people with hearing loss. In the next section, we set out our recommendations for transport operators and call on the government to create a public transport system where equal access to information is not an enhancement, but is recognised as a basic requirement for safe, independent travel.

“Using public transport as a deaf person often feels like navigating a system that wasn’t designed with you in mind. When safety announcements, platform changes, delays and cancellations are announced via audio and isn’t backed up in real time by visual information, you are left behind.

In those moments, when everyone else knows what is happening and you don’t, you’re forced to watch other people, try to piece things together, rely on strangers or desperately check apps have been refreshed. Even simple things like knowing when your stop is can become stressful.

Interactions with staff can be difficult if they don’t face you, speak clearly, or adapt how they communicate. You’re effectively shut out of the conversation, even if it’s unintentional. It’s isolating, surrounded by information but unable to access it in the same way as everyone else. Public transport should not require deaf passengers to work harder, take more risks, or depend on others to complete a basic journey that most people take for granted. Equal access to information is not an enhancement, it is a basic requirement for safe, independent travel.” - 45-54, deaf, West Midlands

Section 10: Recommendations

Deaf people and people with hearing loss face persistent barriers when travelling, particularly because accessible, real-time information is often unavailable or unreliable, especially during disruptions. Addressing this is the single most important change that could improve confidence, independence and travel experiences.

Deaf passengers and passengers with hearing loss need:

- **Reliable, consistent access to information across transport modes**, through:
 - **Improved audio-visual passenger information systems** accessible to all passengers.
 - **Audio announcements made accessible** through technologies such as hearing loops, Auracast and, where possible, BSL translation.
- **Deaf awareness training** for all customer-facing staff, including use of accessibility technologies.

Achieving this requires coordinated action by governments, regulators, transport authorities, operators and manufacturers.

UK Government
and Department
for Transport



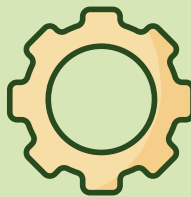
Transport
operators



Devolved and
Local Transport
Authorities



Manufacturers
and Designers



1. Policy and regulatory reform

The framework for passenger information is fragmented across transport modes, leading to inconsistent and unpredictable experiences which undermines passenger confidence. Reform should create a consistent, pan-modal approach to more accessible information, including alignment of all legal requirements for audio-visual information and an obligation to make audio information more accessible to people with hearing loss.

The Department for Transport and Government:



- Ensure the **Accessible Travel Charter** drives alignment of accessible passenger information standards beyond current legal minimums.
- Include clear objectives for improvement of audio-visual information and provision of accessible audio announcements within the **Great British Railways' Long-Term Rail Strategy**.
- Take steps to mandate **Auracast-accessible audio announcements** through the National Technical Specification Notice for Accessibility.
- **Update bus and coach guidance** to include solutions enabling accessible audio information regardless of where passengers are seated.
- **Strengthen monitoring and enforcement** of existing accessibility requirements, including ensuring that the new rail passenger watchdog is fully accessible.

Devolved and Local Transport Authorities:



- Prioritise accessible passenger information within future transport strategies and procurement.
- Commit to expanding provision of accessible audio announcements across transport modes.

The Law Commission:



- Make passenger information a central part of its review of transport accessibility legislation.
- Explore alignment of legal requirements for accessible information, including a pan-modal obligation for accessible audio announcements, and ensuring enforcement bodies have sufficient powers to address poor performance.

2. Support for innovation

There are new technologies, at different stages of maturity, which have the potential to transform accessibility for deaf people and people with hearing loss. This is particularly relevant for emerging or evolving approaches, such as:

- **Auracast** for direct delivery of high-quality audio to hearing devices.
- **AI-enabled BSL translation** for near real-time information.

To realise the benefits from these and other promising technologies, further investment is needed in testing, implementation and evaluation, with people who have lived experience involved throughout.

Governments, transport authorities, operators, manufacturers and innovation funders must:



- Fund and deliver real-world pilots of promising accessibility technologies.
- Involve deaf people and people with hearing loss throughout design, testing and evaluation.
- Share learning and best practice across the transport sector.
- Support wider adoption of proven solutions, not just successful pilots.

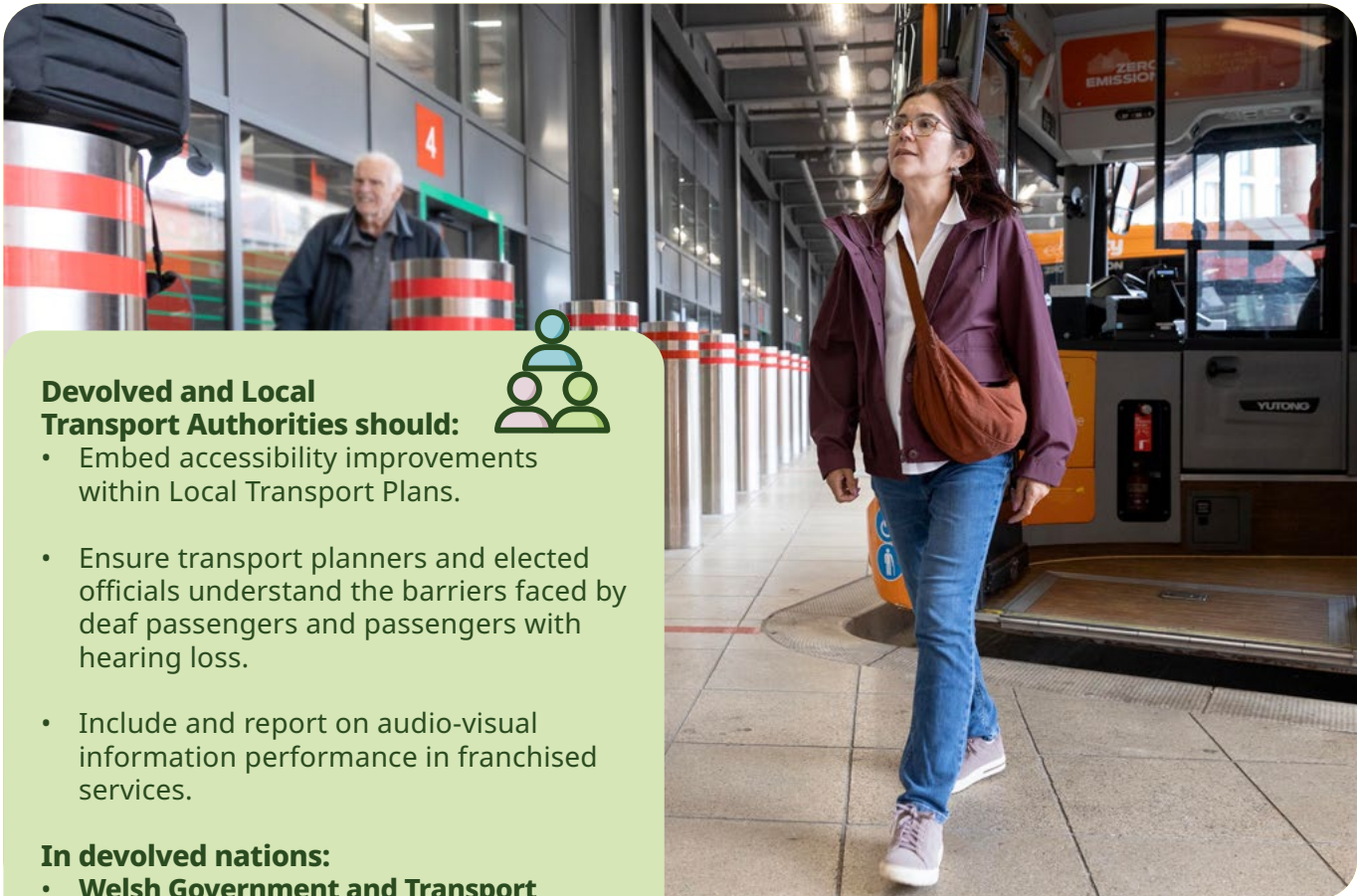
Operators and manufacturers must:



- Use opportunities such as fleet replacement programmes, station upgrades and infrastructure projects to introduce new technologies.
- Consider new accessibility solutions from the earliest stages of vehicle and rolling stock design.

3. Improved service delivery and accountability

Achieving meaningful change requires stronger delivery, oversight and accountability across the transport sector.



Devolved and Local Transport Authorities should:

- Embed accessibility improvements within Local Transport Plans.
- Ensure transport planners and elected officials understand the barriers faced by deaf passengers and passengers with hearing loss.
- Include and report on audio-visual information performance in franchised services.

In devolved nations:

- **Welsh Government and Transport for Wales** should provide an update on the implementation of the Travel for All strategy and review opportunities to improve the provision and monitoring of audio-visual information on their services.
- **Scottish Government and Transport Scotland** should include benchmarking of accessible information in the successor to the Accessible Transport Framework.
- **Northern Irish Department for Infrastructure and Translink** should ensure that implementation of the Transport Strategy 2035 is supported with investment that ensures the vision of an accessible transport system can be fully realised, including improved passenger information.

Transport operators should:

- Co-design services with deaf people and people with hearing loss.
- Increase staff availability, particularly during disruption.
- Provide universal deaf awareness training for frontline staff.
- Offer accessible customer support at unmanned stations/stops, including video relay services and reliable free Wi-Fi where needed.
- Ensure complaints processes are genuinely accessible, including for BSL users.

Acknowledgements

We would like to thank everyone who contributed to this research, with particular thanks to the Motability Foundation for generously funding this research and for its commitment to improving accessibility and inclusion for disabled people across the UK.

We are grateful to the members of our Advisory Board, whose lived experience, insight and expertise helped shape the project from its earliest stages. Their guidance ensured the research remained grounded in the real-world experiences and priorities of deaf people and people with hearing loss and helped strengthen every stage of the work.

Finally, this research would not have been possible without the deaf people and people with hearing loss who shared their experiences through interviews, focus groups, site visits, and the survey. Their willingness to talk openly about the barriers they face, the impact these barriers have on their lives, and the changes they want to see have been central to the quality, relevance and impact of this research. We hope this report reflects their experiences and contributes to meaningful improvements in public transport accessibility.



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