



Understanding and addressing the gap in transport accessibility data

The transport and
accessibility dataset

Full Report, January 2025

This report is part of a series of research conducted by the National Centre for Accessible Transport (ncat) since its launch as an Evidence Centre in early 2023. Whilst this is a standalone report, we would recommend it is considered alongside other ncat research published from late 2024. As ncat progresses further, reports and insights will also be published on our website www.ncat.uk

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‘ncat (2025). ‘Understanding and addressing the gap in transport accessibility data’. Available at www.ncat.uk

Highlights

This document outlines the gaps in transport accessibility data for disabled people.

Transport accessibility data is the data and information people rely on to plan, book, and undertake their journeys on all forms of transport. The data is often inaccurate or incomplete, making journey planning difficult for disabled people. This report identifies what data would be useful for disabled people when planning and undertaking journeys across the UK. It also provides recommendations for how this data could be integrated into journey planning solutions.

Our research involved gathering feedback from over 1,200 disabled people, reviewing 30 data sources for gaps in data provision, and performing a gap analysis to assess data reliability. We found that real-time updates, detailed terrain information, and consistency in data quality are crucial for improving the travel experience of disabled people. The report concludes with a series of actionable recommendations to standardise and improve accessibility data across the transport industry.

Recommendations include improving data visibility, enhancing data quality, and investing in technology to support these improvements. By addressing these gaps, the transport industry can create a more inclusive transport network for disabled people.

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1 Why did we do this work?

What is the problem?

Disabled people make 38% fewer journeys using transport than non-disabled people. This statistic has not changed for over a decade.¹

There are currently gaps in available accessibility data, preventing disabled people from having the necessary information they need to plan and travel on a journey. Disabled people are finding that there is lack of accurate and reliable data (such as real-time or terrain data as examples).

Disabled people don't have the necessary information they need to plan and travel on a journey, as there are gaps in data related to accessibility.

In 2023, the National Centre of Accessible Transport (ncat) surveyed 1,195 disabled people about their experiences using transport. 23% said that information on vehicles is unavailable or inaccessible and 21% said that accessibility information is limited when planning journeys.

¹ [The Transport Accessibility Report: the opportunity to improve the accessibility of transport for disabled people, Motability, 2022](#)

One disabled person from this research highlighted the issue by saying, “I need to know about disabled access, toilets, lifts, accessible parking and so on. Often the information provided is inaccurate or incomplete.”

Why did we do this work now?

Previous efforts have not addressed these gaps effectively, leaving many disabled people without the necessary journey planning information. One disabled person said, “I haven’t had the courage to travel via public transport due to the overwhelming navigation [information] that is not so readily accessible.”

What’s new that this report looks at?

This report focuses on identifying and suggesting new sources of information and data leading to potential new datasets. It aims to provide recommendations on how this data can be integrated into existing and new journey planning solutions.

What are the limitations of the work?

We reviewed apps and data sources as part of this research. However, we have not reviewed all possible sources of travel data. We conducted an initial sift to identify a shortlist of apps and data sources to review. These were chosen based on either how trustworthy or how unhelpful they were deemed by disabled people. Therefore, where it’s stated there is no existing data for some topics it might be that there is data that exists, but these sources didn’t form part of this review and so haven’t been captured.

In the survey, respondents were able to choose multiple impairments when asked about their impairment types. Over three quarters of respondents (77%) said they had more than one impairment. A large majority of respondents stated they have mobility impairments, meaning the findings may be skewed towards this impairment. To understand requirements for specific impairments, further research and statistical analysis is recommended.

What's in the scope of this work, and what's not in the scope of this work?

This work does not develop a new journey planning app, but rather focuses on establishing dataset requirements for improving the availability of transport accessibility data that could be adopted by journey planning solutions (such as apps or signage) in future. This report provides the evidence about what data about accessibility should be collected and shared with the public, to improve their experiences of travelling.

2 What did we do, how did we do it, and who did we work with?

Our research followed three main stages as follows:

1. Desktop review of existing accessibility data
2. Survey of over 1,200 disabled people

3. Comparison between disabled people's requirements and actual data available in the UK

Desktop review of existing accessibility data

We completed a desktop review of over 30 different data sources (such as apps or websites) to identify what accessibility data already exists and to what quality. The data provided by sources were reviewed based on the following criteria:

- Scale – how well the data covers different transport modes and geographical areas
- Completeness – whether the data includes all necessary details, such as the location, features (e.g. slope, width, or surface material), and operational status of ramps at stops or stations
- Accuracy – how precise and correct the data is
- Transferability – how easily the data can be used on different platforms and devices
- Compatibility – how well the data works with other data sources and systems
- Timeliness – how quickly the data is updated and available to users

Survey of over 1,200 disabled people

The desktop review produced a short list of types of data that disabled people may use. We expanded on this list by identifying types of data that may not currently exist but can be considered important to

disabled people. The types of data were categorised into two categories and four sub-categories as follows.

Category 1: Planning a journey

- General (e.g. how long the journey will take door-to-door)
- Service (e.g. the cost of the journey and available payment methods)
- Terrain (e.g. information on the location of dropped kerbs)
- Location (e.g. the location and availability of accessible parking spaces)

Category 2: Travelling on a journey

- General (e.g. real time operational status of lifts)
- Location (e.g. real time availability of accessible toilets and changing places)

Respondents were asked about what types of data they currently use, and what types of data they would like access to in an ideal world.

The survey also included questions about journey context such as how disabled people plan, book, and pay for their journeys, and asked how trustworthy or unhelpful certain apps, websites, or sources were.

The survey was open for responses between 3rd April – 3rd May 2024.

Over 1,200 disabled people responded to the survey, of which:

- 84% said they have a mobility impairment

- 34% have stamina, breathing or fatigue impairments
- 34% have dexterity impairments
- 30% have continence impairments

Comparison between disabled people's requirements and actual data available in the UK

Survey results showed which five data sources were voted most trustworthy, and which five data sources were voted least helpful. Only one source was voted both in the top five most trustworthy and top five least helpful (transport operator apps).

We conducted analysis to see if the following data sources met the needs of disabled people for different types of data:

- Google Maps
- Apple Maps
- Local authority apps
- Transport operator apps
- Walking/wheeling/cycling route maps
- Passenger Assistance app/website
- National Rail
- Trainline
- Maps at the bus stop

Each source was scored from ‘Poor’ to ‘Excellent’ for each type of data. An example is shown in **Table 1**.

Table 1 - An example of the gap analysis scoring (Google Maps)

Data type	Desktop review score	Notes
Information on the steepness of slopes in and around the stop	Good	Wheelchair accessible routes option is available, but there is no indication of steepness

The full data review can be found in the online spreadsheet document, on the ‘Matrix’ tab.

How did we determine the next steps?

We prioritised types of data based on feedback where more than 20% of respondents wanted access to. This resulted in 17 types of data being identified. We outlined the data attributes for each data type, an example of which is shown in **Table 2**.

Table 2 - An example of data attributes for a data type

Data type	Attribute(s)
Information on the steepness of slopes in and around the stop	Slope angle (e.g. degrees) and slope gradient (e.g. percentage)

We understand that disabled people may have identified specific types of data they want access to. This data might already exist but is either not well-known or untrustworthy.

Using the results from the desktop review and the survey, we assessed if these data types were available from different sources and if these sources were trustworthy.

Actions were set out to fill in any gaps in the current provision of accessibility data. The actions were categorised into three groups: increasing visibility, improving data, and collecting data. For improving or collecting data, we developed options for data collection as needed.

We then set out a proposed approach for improving access to transport accessibility data. Actions from the proposed approach are assigned to different organisations, such as facility or service operators, or ourselves as ncat. The full list of actions, in addition to the research undertaken for each data type can be found in the online spreadsheet document, on the 'Blueprint' tab.

3 What did we find?

Our research highlights the critical need for standardised and improved accessibility data across the transport industry. Disabled people face significant challenges due to inconsistent data quality and a lack of available of information.

A combined dataset that can be used by journey planning apps would provide a more inclusive and efficient transport network for disabled people.

The main findings are summarised below.

1. Digital tools are essential for journey planning and payment
2. The perfect accessibility dataset doesn't currently exist
3. Accurate and reliable real-time updates are essential for effective travel
4. Detailed landscape information (e.g. terrain, steps, slopes, surfacing and other physical features) is vital for journey planning
5. Disabled people need better access to wayfinding, audio announcements, and visual displays.
6. There is a need for personalised journey information
7. Accessibility data should be standardised across the industry.

Key finding 1: Digital tools are essential for journey planning and payment

Our survey asked how people plan, book, and pay for their journeys.

How do disabled people plan their journeys?

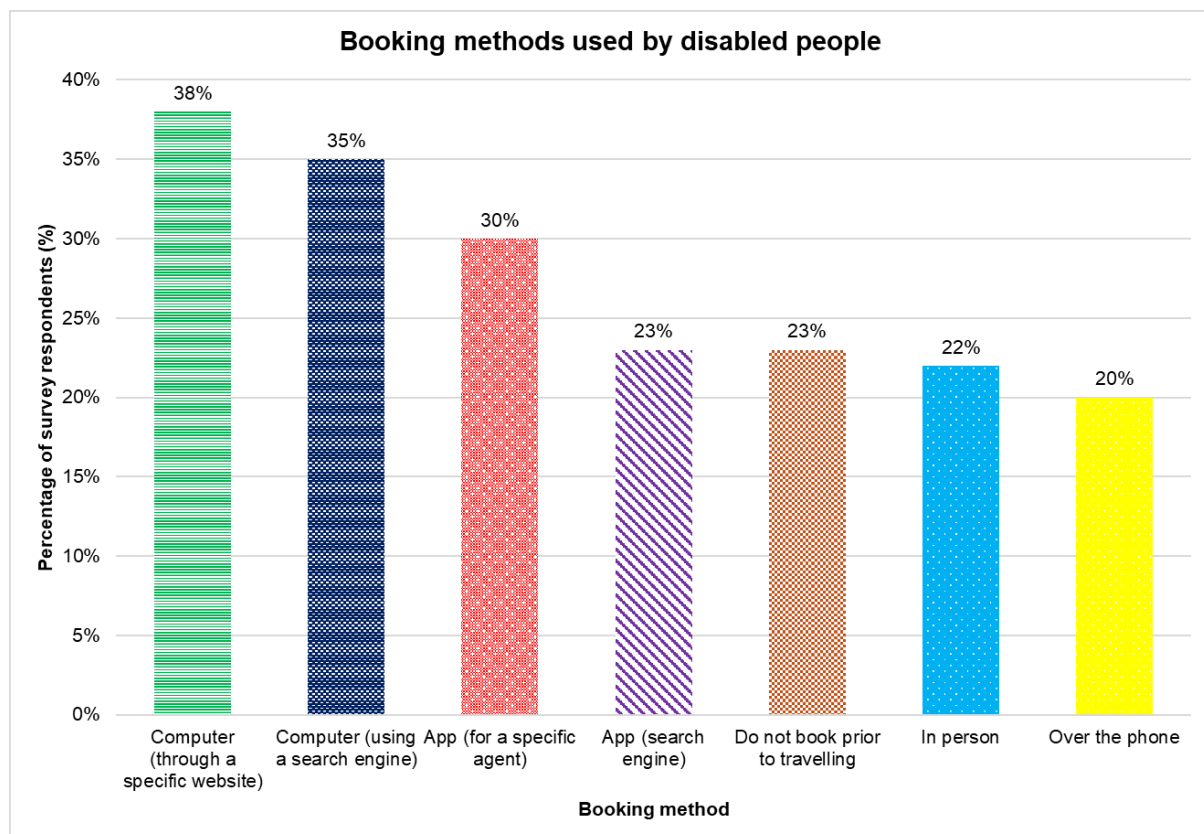
Most disabled people who were surveyed use a website (62%) or an app (57%) for planning their journeys.

30% of respondents plan their journeys through a friend, family member, carer, or personal assistant. It is important that the correct data is provided when journey planning to prevent people from spending unnecessary extra time planning due to a lack of available information. One respondent said, “Family members book online using a list of questions I provide for them and if necessary when they have booked I make enquiries about journey on the phone.”

How do disabled people book their journeys?

23 - 38% of disabled people book their journeys using digital tools. This is shown in Figure 1.

Figure 1 - A bar chart showing the booking methods used by disabled people



A small proportion of disabled people book in person (22%) or over the phone (20%). Some respondents have noted booking in person or over the phone helps remove the issue of incorrect data, as one person said:

“I usually ring direct to the hotels or cottages that have been recommended to me. I don’t use search engines as the disabled facilities I need are never shown”

How do disabled people pay for their journeys?

Over half of disabled people pay using bank cards via contactless payment. This is shown in **Table 3**.

Table 3 - Payment methods

Payment method	Percentage of disabled people (%)
Bank card via contactless payment	54%
Concessionary travel pass	46%
Bank card via chip and pin	41%
Google Pay, Apple Pay, or similar	21%
Cash	21%
Paypal or similar	17%
Contactless travel card (Oyster or similar)	10%

46% of disabled people pay using their concessionary travel pass.

Disabled people were asked what information they would include in a journey planning app. Respondents said they would include digitalisation of concessionary passes. One person suggested:

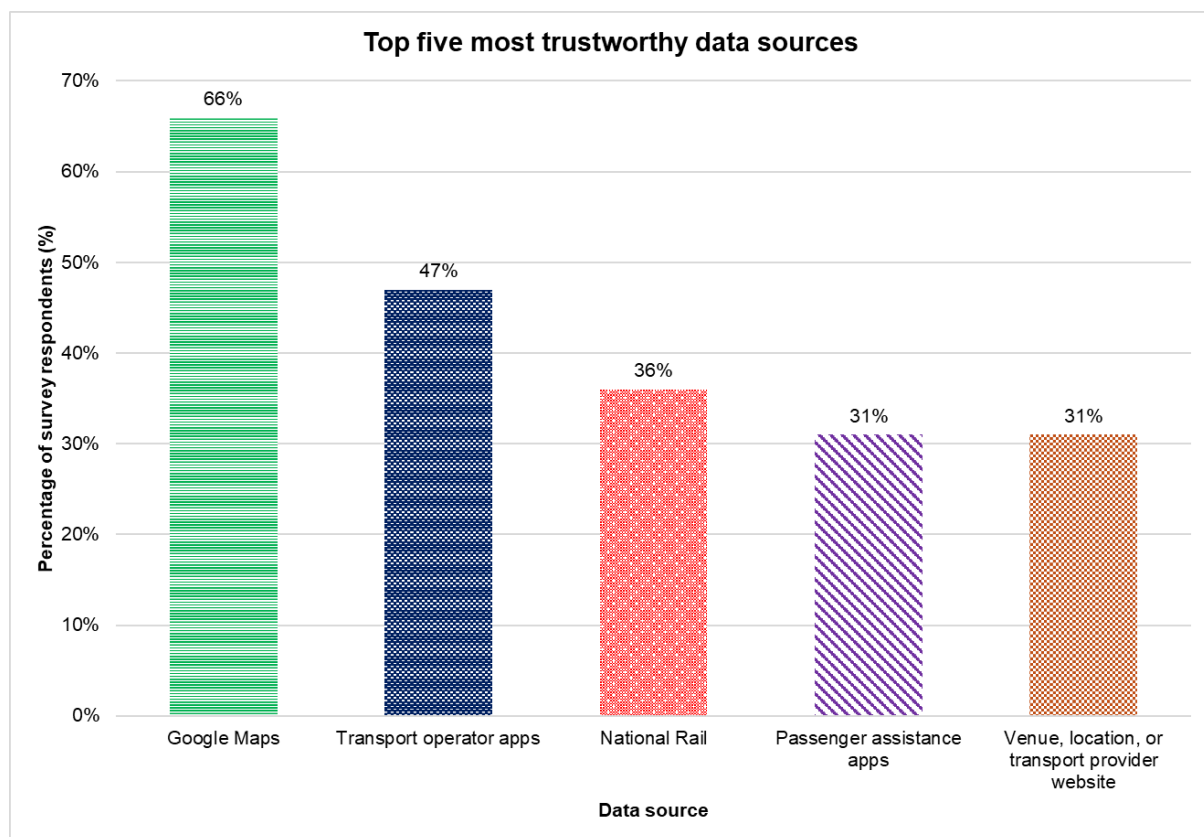
“If a user has a hidden disabilities card, they will have the option to upload it to the app to show staff if they don’t have their lanyard with them, along with railcards and concessionary bus passes”

Key finding 2: The perfect accessibility dataset doesn’t currently exist

Our survey asked disabled people about the sources they trust or find unhelpful and why.

Two thirds of disabled people, 66%, said that Google Maps was the most trustworthy source.

Figure 2 - A bar chart showing the top five most trustworthy data sources



66% of disabled people said Google Maps was the most trustworthy app. Of the respondents who voted Google Maps as the most trustworthy:

- 26% said they are familiar with Google Maps
- 19% said Google Maps provides accurate information

However, not all the data provided by Google Maps is accurate. 31% of disabled people who voted it least helpful said the data provided is inaccessible or route information is incorrect. One respondent said the reason they find Google unhelpful is because there is:

“Very often no accessibility information or incorrect information - one time a walking route directed me to go where there was no path then walk across a roundabout on a dual carriageway with no crossing point or anything safe for even an [non-disabled] pedestrian”

Our review found that the Google Maps app does offer some accessibility features. However, they often lack specific details such as the exact location of stairs, lifts, or drop kerbs. For example, wheelchair-accessible routes are provided on Google Maps, but there is no indication of steepness. One respondent noted “Google is good for navigation and road surface but bad for giving places that aren’t accessible a wheelchair symbol and not elaborating on why it’s got that symbol”.

Passenger Assistance is popular amongst disabled people, with almost a third of respondents voting them trustworthy. However, some respondents said they had not heard of these apps or ever used them.

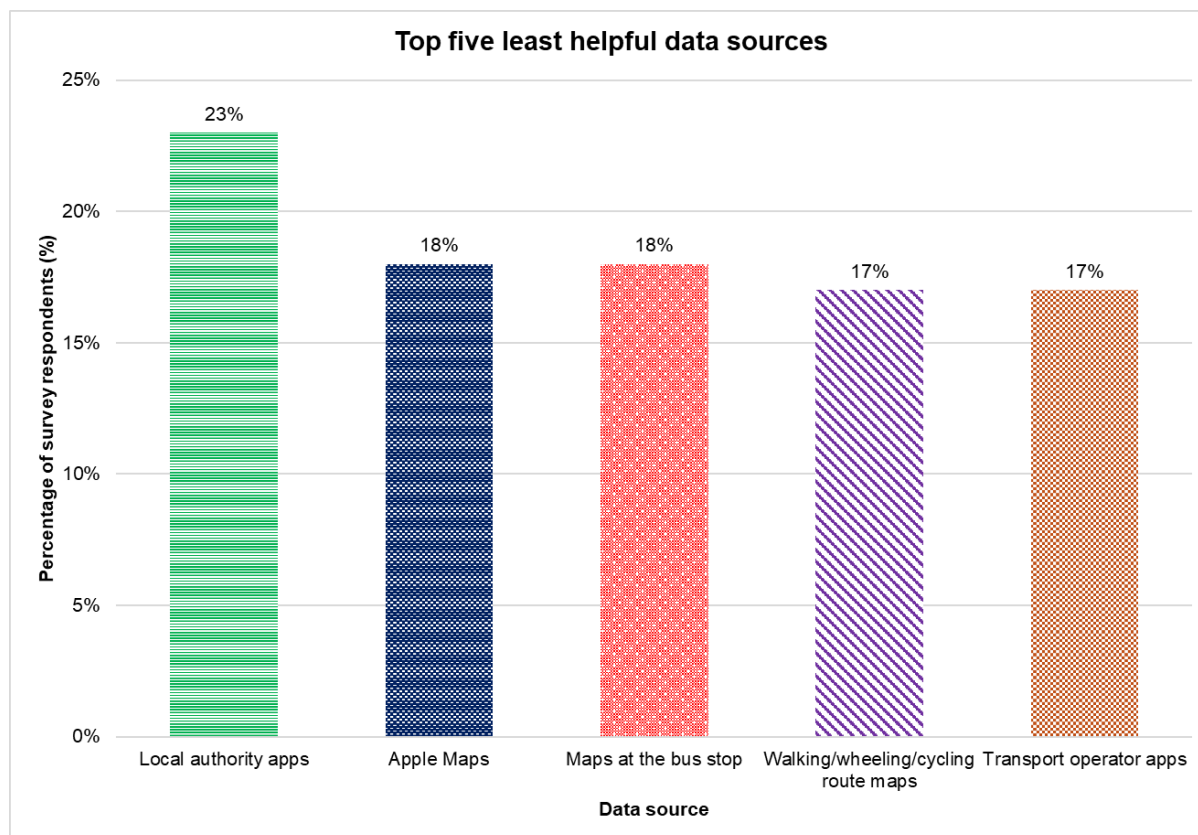
We asked disabled people what their ideal journey planning app would look like.

One person said, “It could be very similar to the Passenger Assistance app, which I find to be easy to use and enables me to provide and obtain the information I need”.

Another person agreed, by saying “I would model it on the Passenger Assistance app. It’s easy for me to use and seems to cover everything.”

The source voted least helpful by disabled people was local authority apps (23%). This is shown in

Figure 3 - A bar chart showing the top five least helpful data sources



Of the respondents that voted local authority apps the least helpful:

- 19% said these apps were inaccessible
- 17% said they had never used or heard of these apps
- 15% said the data was inaccurate or out of date

Disabled people say information provided at bus stops is difficult to use, inaccessible, and not up to date.

Out of date information at the bus stop can leave people facing delays or having to find alternative routes. For one person, they noted a recent issue:

“I was at a stop on Sunday and the real time timer was counting down the minutes but, the bus was on a planned diversion so was never
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coming as far as my stop. The boards could and should have been updated. I have to spend £14 with Uber on a journey that should have been free with my disabled persons bus pass.”

Key finding 3: Accurate and reliable real-time updates are essential for effective travel

We asked disabled people what data they would like access to. The importance of real-time data is apparent, one respondent said:

“Whether the bus has operational lowering when stopped. Most buses do have the ability to be lowered but sometimes the buses are broken and I then really struggle to get on/off. Also how many priority seats are available. My mobility issues mean I can really stand on loving [sic] trains/buses so to know I can sit near an exit is really important and helpful. Also if there is a guard on the train. Again, I feel a lot safer if the train has a guard. I know they are trying not to have staff on board but being disabled, I can sometimes fall or need help and I’ve ended up getting help from fellow travellers which isn’t ideal and is embarrassing. I once fell getting off a train and the kindness of another passenger was all I had to help me get up. They were lovely but what if there weren’t any people around?”

Between 22% - 29% of disabled people expressed they would like access to real-time data. This is shown in **Table 4**.

Table 4 - Percentage of respondents who would like access to different real-time data

Real-time data type	Percentage of disabled people would like access to (%)
Location and availability of assistance staff	29%
Information on the location and availability of priority spaces/seating	28%
Information on vehicle overcrowding	28%
Availability of accessible toilets and changing places	26%
Operational status of lifts	25%
Information on whether there is space for someone and their mobility aid	24%
Availability of ramps	22%

Disabled people are often let down by a lack of assistance staff

56% of disabled people said they travel alone. Almost a third of disabled people said they would like access to real-time updates on where and when assistance staff are available.

Participants described experiences where assistance staff have been unavailable unexpectedly. As one disabled person said:

“It would be nice to have proper confirmation that disabled assistance is available and that it will be provided before I travel (have been let down so much in the past and had to rely on other passengers to assist me or get left on a train or not boarded one).”

Some sources offer information on the real-time location and availability of assistance staff:

- Google Maps, which relies on user feedback which can be unreliable
- Passenger Assistance, which 22% of disabled people who voted as the least helpful said they hadn’t heard of

We recommend that the visibility of Passenger Assistance should be improved with potential for collaboration with other sources.

Priority spaces and seating are often pre-occupied, even when reserved

28% of disabled people said they would like access to real-time information on the location and availability of priority spaces and seating.

52% of respondents with social or behavioural impairments also said this requirement.

58% of disabled people with a carer, family member, or friend. Having a dedicated space for their companion is important to disabled people. One person suggested having “pre-bookable disabled seating with seat for companion”.

Respondents noted that priority spaces are often already occupied, despite sometimes being pre-booked:

“The space on buses and trains are occupied. Even though on trains 99% of time I book assistance and reserve space, but not all the time they are reserved on train”

Some sources provide this information:

- Google Maps, which relies on user feedback and can be inaccurate
- National Express, which respondents noted lacks accuracy and comprehensiveness of the data

Disabled people have noted a requirement for better reporting on seating availability:

“Better marked up seating for disabled people followed by train staff checking that people sitting in disabled seats are disabled as on many occasions I was expected to stand up while younger healthy people sat down in the disabled seats”

A more reliable source of accessibility data is essential for a more inclusive transport network. By creating a standardised platform for this information, transport providers could reduce discrepancies and improve the travel experience for disabled people.

Vehicle overcrowding data is inaccurate, causing anxiety and delays

28% of disabled people would like access to real-time information on vehicle crowding levels.

Overcrowding can cause access issues for those using mobility aids. One person noted that with crowding information, they can “avoid attempting to travel when there is unlikely to be room for my wheelchair”.

Currently, Google Maps provides some data based on user feedback. However, this can be unreliable. Accurate and accessible data on vehicle overcrowding is crucial to ensure the comfort and safety of disabled passengers.

Some train services (such as Thameslink) have visual displays predicting the crowding level based off weight sensors. However, from our review this data is not reported digitally and is only available on board trains. Collaboration with transport operators to access this data can help reduce the reliance on user feedback alone.

It is important that the data received is accurate, as one respondent said they would like:

“Accurate information about whether trains are crowded (just yesterday they said not to travel on a “full and standing” train, that I could see wasn’t when it was too late, meaning I ended up on a train that really was full and standing by the time I got off it.”

Several respondents noted that data on crowding in stations/at stops is also required. One person said they would like to know:

“How busy it is likely to be – for example when I needed to change trains in Glasgow last year there was a major event on – which caused me significant problems.”

Accessible toilets and changing places are often out of order

A quarter of disabled people said they would like real-time data on the location and availability of accessible toilets and changing places.

Respondents have noted that while the location of accessible toilets is usually provided, the availability status is lacking. One respondent said:

“even if one finds a place with accessible toilets, they are often out of order. Access to toilets can totally prevent me taking a journey.”

Currently, no data sources reviewed provide this information.

Implementing sensors, accessibility assessments, or staff reporting could fill this gap, ensuring that disabled people have access to necessary facilities during their journeys.

Broken lifts cause major issues for disabled people

25% of total respondents said they would like access to the operational status of lifts. One respondent said:

“I am not able to negotiate any steps and so my travel needs to be step free and it can be difficult to find this information. Broken lifts can be disastrous for me.”

Local authority apps sometimes include this information, but it is often outdated. Disabled people are often put in the situation of expecting a

lift to be working, only to find it to be broken once they arrive at their stop.

The lived experience of Jennie Berry:

“As a wheelchair user, I’m unable to use the whole tube network as only around 30% of stations have wc access. Out of that 30% a lot of the time, lift access is poorly maintained, meaning you often get to one end and you’re stuck.

Last night I got to Dalston Junction (end of the line) pretty late, with no prior warning that the lift was broken.

Staff at my departing station didn’t ask where I was going, despite seeing me go to this platform which had 3 stops left.

No whiteboards or other signage to tell me that the station I was going to I would be stuck at.

I arrived at Dalston junction and no staff around to assist. My hotel was literally right outside this station, it was late and it was also pouring down. The prospect of getting back on the train and going in the complete opposite direction to find another accessible station, and then find a working lift, and then figure out how I was going to get home from there in an unfamiliar area, just wasn’t something I had the time/energy to do.

I crawled up the stairs and staff appeared when I was 3 steps from the top. They informed me that the lift has been broken for a month &

‘didn’t you know?’. I explained I’m not from here & surprisingly I don’t keep a log of functioning lifts in London.

At the top of the 15 min climb, the lift technician decides to announce that he’s actually got the lift working. The two staff members behind me think this is hilarious and you can hear them laughing on the video about it.

I literally just wanted to get back to my hotel before a busy day of work like everyone else.

As a disabled person, this is a common occurrence and I was lucky enough to be able to do this - but lots of people aren’t. [To be honest] I’m more annoyed at how staff treated me than the actual fact I had to crawl up the stairs, as at this point I’m used to this level of inaccessibility. The way I’m treated always seems to surprise me the most.”

Real-time updates on lifts would benefit disabled travellers by providing reliable information and preventing disruptions. One respondent noted:

“It would be really helpful if live information from each individual train company could be fed into the National Rail app so that showed proper live information rather than when you went on the station information it just showed yes we have a lift. It would be great if that could be updated, whether the lift was working or not, a bit like the TfL Go app does, but for National Rail around the UK. I appreciate that different companies having to work together, and goodness forbid that different

companies might have to actually talk to each other, but that would be really helpful for me.”

Mobility aid spaces are often used by other objects

24% of all respondents require real-time information on space availability for mobility aids. One disabled person said they would like access to information on “extra space for walker, cane, folding wheelchair etc near to seat”.

Currently, no reviewed data sources offer this information.

Incorporating sensors or manual availability checks would help bridge this gap. One respondent noted that “spaces are taken by prams and pushchairs”, whilst another noted that because of this “weight is not a good indicator”. We recommend that new technology to detect the right objects is developed.

“Whether trains are actually going to take mobility scooters and if all train operators will do the same. If using a motorised wheelchair, how can we find out if we can actually get on the bus we want? As spaces are taken by prams and pushchairs.”

Availability of ramps

22% of disabled people said they would like the real-time availability of ramps.

Passengers with mobility aids face uncertainty and potential barriers during their journeys without the promised availability of ramp assistance. One respondent noted:

“In an ideal world I’d like to get on/off a train WITHOUT waiting for a person to bring a ramp. It causes anxiety as to whether I will be left on the train.”

Currently, no reviewed data sources offer this information, and ramps often require pre-booking with operators.

Ramp availability should be monitored and reported by facility and service operators. Current issues with this should be identified and resolved to prevent disabled people being abandoned at stops or onboard services.

Journey cancellation and delay processes should be clear and reliable

Over a quarter of disabled people, 29%, said they want better information on journey cancellation or delay processes.

Trainline provides users with real-time updates of journey delays or cancellations. Notifications are sent via the mobile app and email. Processes for refunds are explained in the notifications.

Disabled people generally said they are familiar with and trust Trainline. People also said the information provided is accurate and useful. However, information on alternative routes is not provided.

Respondents noted the importance for information on alternative routes when faced with delays or cancellations. One person said they would like to know:

“If a train is delayed what options do I have to get to my final destination. If rail replacement buses are in use how can they be avoided i.e. alternative train routes.”

Clear and reliable information on journey cancellations and delays is essential for disabled passengers who may need to adjust their plans.

Key finding 4: Detailed terrain information is vital for journey planning

Over 20% of disabled people said they would like access to terrain information. This is shown in **Table 5**.

Table 5 - Percentage of disabled people who would like access to different terrain data

Terrain data type	Percentage of disabled people would like access to (%)
Surfacing types (such as cobbles, paving, gravel, or tarmac)	27%
Steepness of slopes	26%
Location of dropped kerbs	26%
Number of steps	22%

Google Maps provides some terrain information by allowing users to select ‘wheelchair-accessible routes’. However, they do not provide

detail on the gradient of slopes, height of dropped kerbs, or number of steps.

Information on surfacing types is limited

27% of respondents said they would like access to information on surfacing types.

Some information on surface types is provided in walking/wheeling/cycling route maps, such as Slow Ways. However, disabled people say this data is inaccessible or incorrect. One respondent said that “all access claims should be checked by a team of disabled persons and shown to be accurate”.

Slope steepness is different for everybody

26% of respondents said they would like access to information on the steepness of slopes.

Google Maps accounts for slope steepness in their wheelchair-accessible routes. However, what may be wheelchair-accessible for one wheelchair user, might not be accessible for another. It is important to provide numerical data on slope gradients so disabled people can make informed decisions for their journey. One respondent said of their recent experience:

“I recently went to a disabled beach, boardwalk, the gradients were crazy. Only very fit and experienced manual chair users could have attempted the slopes and turns. Lack of research has made a walkway unsuitable for the people it was designed to help.”

Dropped kerbs are often too high

26% of respondents said they would like access to information on dropped kerbs. One respondent said they would like to know "The placement & the height of the edge of the lowered kerbside (so I know if my scooter wheels will be able to get up the kerbside)".

Some information on dropped kerbs is provided by Apple Maps and some local authority apps. However, respondents who didn't trust these apps said information provided by these apps is inaccurate. Apple Maps has been reported as inaccessible by respondents, with one person saying Apple Maps is "not current and made for able bodied people".

Knowing the number of steps help disabled people plan alternative routes

22% of respondents said they want access to information on the number of steps at stops or in the immediate surroundings.

Steps can be a barrier to a disabled person's journey, especially if lifts are unavailable at the stop or location. One respondent said they want to know "how many steps there are if the lifts are not working".

Information on steps is currently only incorporated into route planning for Google Maps and some local authority apps. However, there is currently no information on the number of steps in the reviewed data sources.

A lack of information on the number of steps on a route impacts also journey time estimations. Most apps use the average walking speed to calculate the time of a route.

However, for most people this is inaccurate. One respondent said they would like “a journey planner that is easy to use and lets you set minimum transfer times rather than relying on average walking speeds.”

Key finding 5: Disabled passengers need better access to wayfinding, audible announcements and visual displays

Accessible wayfinding information is crucial for disabled people

Almost a quarter of disabled people, 23%, said they would like information on the location and availability of maps and wayfinding.

Passenger Assistance provides information on the location of wayfinding in stations. However, some disabled people haven't heard of or ever used this app/website. This undermines the purpose and effectiveness of this app/website.

Wayfinding should be accessible to all. In some instances, boards and signs are placed in locations that are not easily reachable or visible to everyone. People with mobility or visual impairments find it challenging to locate and read these signs. One person said:

“Information is often given on boards, and the disabled person may not be able to walk to look at that board. There should be a website reflecting the details on the board so that they can check online at the same time.”

Integrating wayfinding information digitally can ensure everyone has the same level of access. It’s also important to provide the location of information points or physical maps.

16% of disabled people said they plan their journey using physical maps. Respondents noted the importance of knowing where to find physical maps, as one person said:

“Where to find a library of paper maps. These show where things are in relation to other places and things. Seeing a small part of the picture is much less helpful even if you can move round a bit. ‘The big picture’ very different.”

Inconsistent availability of audible announcements and visual displays impacts disabled people’s travel independence

21% of disabled people said they would like information on whether services have audible announcements or visual displays.

35% of respondents who learn differently also said this was important.

Disabled people reported having to rely on others to tell them which stop they were at. One person said:

“I *wish* our buses, tubes and trains displayed the route and the current stop like so many European operators do because you cannot rely on a driver to tell you when you have reached your destination.”

Some buses and trains have started introducing visual displays. However, this is not consistent across all service operators.

From our review, information on visual displays or audible announcements is not currently reported to any apps. This means this cannot be considered for disabled people when they plan their journeys.

Disabled people also reported that often the quality of the audible announcements is poor. One person said:

“On many occasions such station/stop announcements are inaudible. it would be great if there was an app I could listen to through headphones mirroring the information sighted passengers receive.”

Key finding 6: There is a need for personalised journey information

29% of respondents, including 42% of respondents with social or behavioural impairments, said they would like personalised information tailored to their specific needs. This includes details on accessible routes, assistance availability, and other relevant factors.

Respondents were asked “If you could design your own journey planning tool, website, or smartphone app, what information would you include?”.

One person suggested adding “filters for disabilities/needs” as “too much info is overwhelming but I need to know everything that is appropriate for my needs”.

Another person suggested being able to “build my profile with my needs so the app shows/tells me what I need to know for each journey”.

Disabled people said it’s important that personalised information is flexible and can be updated as required. One person said “I would enable users to select a flexible journey plan depending on their own energy and an on the day update”.

Personalised information is an app characteristic that should be considered in journey planning app design.

Case study - Heathrow Airport:

Heathrow airport have said they are working with AXS Passport to provide passengers with a personalised experience. AXS Passport allows passengers to input information relating to their access needs. Passengers are paired with assistance staff for their duration in the airport if required.

Personalised information enhances the journey experience for disabled people, catering to individual requirements and ensuring that unique needs are met effectively.

Key finding 7: Accessibility data should be standardised across the industry

Our research shows that the quality and availability of accessibility data varies greatly. 66% of respondents trust Google Maps, while only 23% have confidence in local authority apps. This inconsistency makes it difficult for disabled people to plan their journeys effectively.

Information is available but is often not reported anywhere:

- Some service operators have information on crowding levels displayed on board. However, this information is not available when planning a journey.
- Visual announcements are available on some bus and train services. However, this data is not available when planning journeys.

Some sources provide useful information (such as Trainline with journey cancellation and delays). However, this approach is not shared across other sources. One respondent highlighted the need for this:

“I think that an industry standard information system would be helpful for all transport providers to have, providing all possible information for people with disabilities.”

Disabled people noted the need for the integration of different transport operators into one app. One person said:

“Currently I have to use many apps to find out information, it would be nice if this information could all be found in one place. For example,

when I go and see my partner part of the journey is on the TfL network and part of the journey is on the C2C network, it would nice if information from TfL and C2C could be bought together in one place.”

4 What conclusions did we come to?

The findings from our research show there is a clear need for more reliable, accessible, and real-time data to meet their specific needs effectively.

Key insights include:

- 62% and 57% of disabled people use either websites or apps to plan their journeys, with 66% of respondents trusting Google Maps the most (even with gaps in accessibility data). Local authority apps were considered the least helpful (23% of respondents).
- 23-38% book their journeys through apps or websites.
- 54% prefer using bank cards for contactless payments.

The top five types of data people would like access to information on are:

- **Real-time location/availability of assistance staff** (29% of disabled people) – from our research, such tracking / availability systems have not yet been rolled out for transport operators.
- **Journey cancellation/delay process** (29%) – the current delay repay system is fragmented and only available for some (not all) train operators. This has also been raised as a concern by previous governments for attention.

- **Location/availability of waiting rooms/shelters (28%)** – the addition of location and types of waiting facilities should be easy to incorporate, however a method of describing these facilities and their availability will be required.
- **Real-time priority spaces/seating (28%)** – from our research, there isn't currently a solution to determine available priority spaces/seating beyond the existing seat reservation systems, so a technological solution would be required.
- **Real-time vehicle overcrowding (28%)** – such solutions exist on some rail lines (such as Thameslink and Overground services) which are on newer rolling stock fleets. In theory, this could be extended to new vehicles provided this is specified.

The data highlights the importance of integrating and standardising accessibility information across various transport services and digital platforms. This integration can significantly improve the travel experience for disabled people, ensuring they have accurate, real-time information for safe and independent travel.

Working with technology developers and transport providers to address these gaps will be a crucial step towards creating an inclusive transport network.

5 What should happen next?

We have developed a 'blueprint' that sets out a series of actions for the standardisation of data across the industry.

The blueprint outlines actions for different organisations to undertake in order to improve data quality. It recognises that some data already exists but may be of poor quality, therefore emphasising the need for quality enhancement.

It also highlights that some data is available through sources that people are unaware of, calling for increased awareness of these resources. It advocates for investment in technology to boost data quality, ensuring robust infrastructure for data collection.

The blueprint has highlighted a significant gap in data provision for several data types highlighted as important by disabled people.

To create change, organisations need to collaborate with one another. We have made recommendations for service operators and facility operators and identified actions we as ncat will undertake.

We recommend the UK and devolved governments enforce changes and invest in improvements to enhance transport accessibility data. The UK government have identified transport accessibility as a priority, with the Department for Transport's Inclusive Transport Strategy highlighting the need for government intervention to ensure equal access for disabled people by 2030. In a recent speech, the Transport Secretary also noted the importance of data for achieving equal access:

“I want to use technology to combine huge amounts of transport data across the country...so that people can enjoy seamless, integrated, and accessible journeys – tailored to their needs, wherever they live.”

Government support is crucial to achieving the recommendations set out below.

We recommend service and facility operators roll out improvements as follows:

- Integrate real-time data feeds for waiting rooms/shelters to provide up-to-date information. This will help passengers find available waiting areas.
- Install real-time monitoring systems for lifts to ensure they are operational and available. This will provide essential accessibility information for passengers.
- Increasing visibility of maps and wayfinding through accurate signposting. This ensures more people know about and use these helpful resources.
- Install text-to-speech systems for audible announcements at stops and stations. This will ensure visually impaired passengers receive real-time information.
- Determine onboard catering facilities and develop interactive maps to find facilities at stops. This will provide passengers with essential information about food and drink availability.

We have made recommendations for ncat and its future activities:

- **Raise awareness:**

- Promote best-practice data apps by providing a list of recommended apps on the ncat website. This will help users find reliable and accessible information.
- Promote the standardisation of overcrowding technology across different operators to provide reliable information on vehicle crowding. This will help passengers make better travel decisions.
- Support app developers to improve the accessibility of information on the steepness of slopes. This will help disabled people better plan their routes.
- Engage with and support app developers to integrate data from community reporting for dropped kerbs and steps.
- Support app developers to enhance the reliability of wheelchair accessible routes by integrating elevation data and user feedback on steps.
- **Provide funding:** The data from this research and the [Community for Accessible Transport](#) panel will be used to inform ncat's grant funding programme (details on the [ncat website](#)). ncat's grant funding programme is open to applications that improve transport accessibility. Based on this research, this could include projects such as:
 - Developing sensors that can detect real-time availability of space for passengers and their mobility aids, or occupancy of toilets and changing places. This will help people make informed decisions.

- Collecting and visualising surface data. This will help disabled people navigate routes more easily.
- Conducting research with facility operators and staff to understand the current issues with tracking availability of ramps, and putting changes into practice.
- Integrating real-time data from local transport authorities on accessible routes in Google Maps. This will ensure more accurate and reliable route information for disabled passengers.

6 About ncat

The National Centre for Accessible Transport (ncat) works as an Evidence Centre developing high quality evidence, best practice, and innovative solutions to inform future disability and transport strategy, policy, and practice by:

- Engaging with disabled people to better understand their experiences and co-design solutions
- Amplifying the voices of disabled people in all decision making
- Collaborating widely with all transport stakeholders
- Demonstrating good practice and impact to influence policy

ncat is delivered by a consortium of organisations that includes Coventry University, Policy Connect, The Research Institute for Disabled Consumers (RiDC), Designability, Connected Places Catapult, and WSP. It is funded for seven years from 2023 by the Motability Foundation.

For more information about ncat and its work please visit www.ncat.uk

To contact ncat, either about this report or any other query, please email info@ncat.uk



7 References

1: [The Transport Accessibility Report: the opportunity to improve the accessibility of transport for disabled people, Motability, 2022](#)

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8 Terms used in this report

Accessibility data: The data and information people rely on to plan, book, and undertake their journeys.

App developers: People or companies that create apps for mobile devices or computers, especially those that help make travel easier and more accessible.

Blueprint: A series of actions assigned to different organisations to achieve standardisation of transport accessibility data across the country.

Dropped kerbs: Kerbs that have been lowered to allow wheelchairs or mobility scooters to move easily from the pavement to the road.

Elevation data: Information about the height and slope of the land, which is important for planning routes that are accessible for everyone.

Facility operators: People or organisations in charge of managing and looking after transport facilities, such as stations, stops, and terminals.

Overcrowding technology: Technology used to measure and report how crowded transport vehicles are, helping passengers make informed travel choices.

Real-time data: Information that is collected and shown immediately, giving up-to-date details about transport conditions.

Sensors: Devices that detect and respond to changes in the environment, such as the presence of mobility aids or how full a facility is.

Surface data: Information about the type and condition of surfaces on transport routes, like pavements, roads, and paths, which is crucial for accessibility.

User feedback: Comments, reviews, or ratings given by users of a service or product, used to make improvements.

Wheelchair accessible routes: Travel routes designed to be accessible for wheelchair users, often including features like ramps, lifts, and wide pathways.

9 Appendices

Appendix 1 – Survey questions

The survey contained 40 questions and were categorised into nine topics. These are summarised in this Appendix.

Topic 1: Consent

Participants were asked if they consent to take part in the survey.

- As an example, we asked: “Do you consent to take part in this survey?”

Topic 2: Demographic information

Participants were asked about any conditions, illnesses, or impairments that affect them.

- As an example, we asked: “Do you have any condition, illness or impairment (including ageing) that affects you in any of these ways?”

Participants were given a list of different impairment types and asked to select all that are applicable.

Topic 3: Journey context

Participants were asked about their typical travel behaviours and the methods they use to plan, book, and pay for a journey.

- As an example, we asked: “When taking a typical journey, how do you normally travel?”
- As an example, we asked: “How would you normally pay for a journey?”

Topic 4: Planning your journey

Participants were asked what information they commonly use when planning a typical journey. The information was categorised into five categories (general, service, terrain, location, and other).

- As an example, we asked: “Currently, when planning a typical journey, what service-related information do you commonly use?”

Service-related information would include data such as the cost of the journey and available payment methods.

Topic 5: Planning your journey in an ideal world

Participants were asked what information they would like to have access to when planning a journey. The information followed the same categorisation as topic 3.

- As an example, we asked: “In an ideal world, when planning a typical journey, what further terrain-related information would you like to have access to?”

Terrain-related information would include data such as the location of dropped kerbs.

Topic 6: Travelling on your journey

Participants were asked what information they commonly use when travelling on a typical journey. The information was categorised into three categories (general, location, and other).

- As an example, we asked: “Currently, when travelling on a typical journey, what general information do you commonly use?”

General information would include data such as the real time operational status of lifts

Topic 7: Travelling on your journey in an ideal world

Participants were asked what information they would like to have access to when travelling on a journey. The information followed the same categorisation as topic 5.

- As an example, we asked: “In an ideal world, when travelling on a typical journey, what further location-related information would you like to have access to?”

Location-related information would include data such as the real time location and availability of assistance staff.

Topic 8: Journey planners

Participants were asked which journey planners they trust the most, which they find least helpful, and why. Journey planners were grouped into four categories as follows:

- GPS navigation software (e.g. Google Maps)

- Accessibility information and assistance sites (e.g. Passenger Assistance)
- Transport providers (e.g. National Rail)
- Physical maps (e.g. bus route maps/timetables)

Topic 9: Ideal planning tool

Participants were asked what information they would include in an ideal planning tool.

- As an example, we asked: “If you could design your own journey planning tool, website, or smartphone app, what information would you include?”