Invisible Barriers: How public attitudes affect inclusive travel

Full report, June 2025

*ncat

National
Centre for
Accessible
Transport

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](#).

ncat encourage you to freely use the data available in this report for your research, analyses, and publications. When using this data, please reference it as follows to acknowledge ncat as the source:

"ncat (2025). 'Invisible Barriers: How public attitudes affect inclusive travel'. Available at www.ncat.uk"

Highlights

This document explores different types of interventions that could be used to improve the behaviours of non-disabled people towards disabled people when travelling.

The ncat research 'Understanding and Identifying Barriers to Transport'([1]) worked with disabled people to understand their lived experiences. Through this research disabled people told us, that the attitudes and behaviours of other people are a challenge when travelling. These behaviours have a significant negative impact on disabled people's wellbeing and independence. As such, we conducted this research, to understand what could be done to change the bad behaviours of non-disabled people and/or encourage good behaviours.

([1]) Research can be found: [Understanding and Identifying Barriers to Transport - National Centre for Accessible Transport](#)

During the project, we reviewed literature and looked at case studies that tried to improve behaviours towards disabled people in a transport setting. We also engaged with both disabled people and non-disabled people to get their views on different interventions that could be done.

Our key conclusions from the research are:

- Education, especially of children, is very important and should be a higher priority. Disabled people should be involved in developing the curriculum.
- Luggage being placed in priority spaces was a key barrier. By solving the luggage problem, disabled people would be able to have more space on public transport.
- Public awareness campaigns using videos on social media or on public transport could help the understanding of the public.
- Fines to enforce Blue Badge restrictions is the key way to improve the parking experience for disabled people.

Contents

1 Why did we do this work?

Background

Disabled people make 38% fewer journeys using transport than non-disabled people. This figure has not changed for over ten years (Motability Foundation, 2022). In 2023, the National Centre for Accessible Transport (ncat) was set up to help reduce this transport accessibility gap. ncat works with disabled people and people in the transport industry to understand how transport could be improved.

There are a wide variety of barriers that can affect disabled people's access to employment, education, healthcare, and social participation. These barriers create significant implications for disabled people's well-being and broader economic inclusion. One of these barriers is the attitudes and behaviours of other people, which will be the focus of this study.

What are disabled people saying?

Disabled people experience negative attitudes and behaviours

Several studies have highlighted how the negative attitudes and behaviours of others impact disabled people's daily lives. For example, SCOPE's "End the Awkward" Campaign (2022) found that 3 out of 4 disabled people (72%) have experienced negative attitudes or behaviour in the last 5 years, with 87% of them stating that it has impacted their daily lives. The same study also found that disabled people and their families experience a range of different attitudes and behaviours, such as:

- making assumptions or judging their capability (33%)
- accusations of faking their impairment or not being disabled (25%)
- staring or giving looks (19%)

The attitudes experienced by disabled people impacts their openness to travel and their travel experience

Studies have also shown that negative attitudes and behaviours towards disabled people are especially prevalent while travelling and have an impact on disabled people's willingness to travel. For example, 59% of disabled people who participated in the ncat Transport Barriers Survey (2023) stated that they experience negative attitudes or behaviours when they are travelling. For people with mental health conditions, this number rose to 86%, showing that people with non-visible impairments are more likely to be impacted.

A study by Transport for All (2023) surveyed disabled people and found that on buses, 35% of respondents experienced discriminatory behaviour from other passengers, ranging from laughing, tutting, and

rude remarks, all the way to harassment and hate crime. On trains, this number was slightly less, but still 25% of respondents experienced negative attitudes or anti-social behaviour from other passengers.

SCOPE's 'End the Awkward' Campaign (2022) also found that 23% of disabled people avoid using public transport altogether after experiencing negative attitudes or behaviour while travelling.

What do we know about the views of the general public?

When asked, there is an overwhelming willingness to do the right thing.

When non-disabled people were asked about their attitudes and behaviours, they stated that they would do the right thing. For example, in the Department for Transport National Travel Attitudes Study (DfT, 2020) 91% of respondents stated that they would give up their seat for someone they think has an illness, impairment, or condition that makes it more difficult to use public transport. This figure drops slightly to 89% when asked if respondents would also give their seat up for somebody who wears an assistance card or badge, indicating they have a non-visible impairment, which shows that most respondents are also willing to support citizens with non-visible impairments.

Why do the stated views and the observable actions of the general public not marry up with the experiences of disabled people?

People are not confident in identifying people who have an impairment or condition.

In the National Travel Attitudes Study (DfT, 2020), only 19% of respondents reported being very confident or confident that they can tell

whether someone has an impairment or condition that makes it more difficult to use public transport.

Biases around self-reporting attitudes and unconscious bias

The National Institute of Health (Derbyshire et al., 2023) found that people implicitly hold an unconscious bias against disabled people, with 74% of people showing either a slight, moderate or strong bias against disabled people. This suggests that while individuals may genuinely believe and report that they would act supportively toward disabled people, their unconscious attitudes may influence their actual behaviour in ways they are not aware of.

A gap between intention and action

While many people said they would do the right thing, research shows there is occasionally a behavioural barrier between how people say they will behave and how they actually behave (Conner & Norman, 2022). Further to this, the "bystander effect" (Hortensius & de Gelder) may also be an issue – this is where people ignore something going on because they believe someone else will deal with it (such as giving up a seat).

Focus of this research

For many disabled people, the behaviours of non-disabled people create poor travel experiences or even act as a barrier to travelling. While most non-disabled people do the right behaviours, the actions of the minority who do not have a large impact on disabled people.

There are several potential reasons why someone may show poor behaviours towards disabled people. Some examples are lack of understanding or knowledge on correct behaviours, not noticing someone is disabled and needs support, or even lack of kindness. While

some of these reasons may be very difficult to change, there are several that could be changed with the right interventions that encourage positive behaviours. This research therefore aims to understand what actions can be taken to change the negative attitudes and behaviours from non-disabled people towards disabled people when travelling.

The project focuses on answering the following question and sub-questions:

What are the most effective ways to change negative behaviours and attitudes of non-disabled people towards disabled people when travelling?

1. What interventions have been tested to change behaviours and attitudes of non-disabled people towards disabled people while travelling? How successful have these existing interventions been?
2. What are the views of disabled people on the negative behaviours of non-disabled people? What recommendations do they have on how negative attitudes could be improved?
3. What interventions (already trialled or new) could be developed that support positive behaviours from non-disabled people?
4. How successful to non-disabled people think these interventions could be in improving the behaviours of non-disabled people?
5. Based on the outcome of this research, what interventions would we recommend trialling further?

Scope of the research

This research focuses on understanding and addressing the negative behaviours and attitudes of non-disabled people towards disabled people during travel. The primary aim is to identify interventions that can

change those behaviours and attitudes. The issues that are excluded from the scope include:

- **Non-Travel Related Interactions:** The study does not cover negative behaviours and attitudes in contexts outside of travel, such as in workplaces, educational institutions, or social settings.
- **Broader Disability Issues:** Issues related to accessibility, infrastructure, and broader societal barriers faced by disabled people were not the primary focus of this research.
- **Feedback Outside Research Objectives:** Feedback from disabled participants that highlights barriers outside the focus of this study, while valuable, was not directly applicable to the research objectives.
- **Interactions with Transport Staff:** The study does not cover negative behaviours and attitudes of transport staff as the focus is on the public, not specific groups.

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

To ensure a comprehensive and inclusive study, we adopted a phased approach, allowing for multiple opportunities for input from disabled people and ensuring robust outputs through iterative testing and refinement. The study was broken down into 5 research tasks:

1. Conduct desktop review of existing literature and interventions
2. Run focus groups with disabled people
3. Develop list of interventions to focus on and test with disabled people

4. Run survey with non-disabled people about the selected interventions
5. Bring together summary of findings.

Task 1: Conduct desktop review of existing literature and interventions

We conducted a two-fold review to identify research on:

- Studies examining the views of non-disabled people towards disabled people while travelling, and
- Real life interventions to overcome the ableism[2] of non-disabled people and studies examining the effectiveness of those interventions.

To identify relevant studies and interventions, a rapid literature review was conducted using a combination of academic databases (e.g. Google Scholar) and grey literature sources, including government websites, transport operators' websites, campaign archives and newspaper articles. The search strategy using Google employed a combination of terms such as "non-disabled people attitudes towards disabled people AND travel", "factors influencing seat yielding behaviour", "disabled parking AND intervention", and "priority seating AND intervention". The first part of the review adopted a global perspective, while the review of real-life interventions prioritised those from the UK, with additional search of European examples to provide comparative insights.

---

[2] Ableism is discrimination or unfair treatment of people based on their physical, mental, or emotional disabilities.

For the first part of the review, we looked at studies examining the views of non-disabled people towards disabled people while travelling. We categorised the available literature into two types:

- General public attitudes: Factors influencing attitudes of non-disabled individuals towards disabled people
- Public attitudes in a specific setting: Factors influencing attitudes and behaviours in specific settings related to travel.

During the first part of the review, we identified two academic studies in the general context, and seven records on a specific setting (two academic studies and five grey literature records), mainly around seat yielding behaviour. This setting was identified as the most analysed in the context of travel. For other settings we only identified the annual Baywatch campaign aiming to raise the problem of disabled parking abuse by asking disabled motorists of their experiences.

During the second part of the desktop review, we looked at several existing interventions in different settings that target the general public's ableism towards disabled people. Most of the trials are London focussed, showing the imbalance within the country. From the European review, only one example was identified.

Task 2: Run focus groups with disabled people about selected interventions

The Research Institute for Disabled Consumers (RiDC) ran three focus groups, with disabled people to understand the challenges they face related to the attitudes and behaviours of others. Each focus group included 3 - 6 participants. A total of 14 participants took part. Participants were identified through a screener questionnaire sent to disabled members of the Community of Accessible Transport Panel, who

had told RiDC, in their previous survey on transport barriers, that they had experienced negative attitudes when travelling.

As members of the CAT panel, all participants had signed up to be contacted to take part in further research activities. In addition, prior to the focus groups, all 14 participants signed consent forms that outlined their involvement in the research, and how their data would be stored and protected. Participants were informed about who would be viewing the recordings of their focus group, and how any quotes or clips would be used in internal and external publications. Participants were paid £75 for their involvement.

The focus groups were categorised loosely by participants' impairment types and access needs:

1. People with mobility impairments
2. People with cognitive impairments
3. People with sensory impairments.

Although most participants had multiple impairments or access needs, discussions primarily focused on one of the three broad impairment categories. This allowed each group to really delve into the specific experiences related to each impairment group.

The focus groups discussed the types of attitudes disabled people experience whilst using all modes of transport, including walking, wheeling and cycling. Participants also talked about the impact of negative attitudes and their recommendations for how negative attitudes could be improved.

Task 3: Develop list of interventions and test with disabled people

Using the outputs of Tasks 1 and 2, we identified four key settings (e.g. on public transport looking for a seat) where negative behaviours and attitudes towards disabled people were likely to occur while traveling. We did this to help focus the study. We held workshops between WSP and RiDC to identify pain points experienced by disabled people in each setting, the barriers to correct behaviour by non-disabled people, and the expected correct behaviour for all identified pain points.

Using the outputs from the workshops and literature review, we developed a long list of interventions aimed at removing the attitudinal barriers. These potential interventions were categorised based on the four settings identified during the workshops, although some interventions are applicable across all settings.

In the next step of Task 3, RiDC organised and ran an 'Experts by Experience'[3] session with disabled people from the Community of Accessible Transport (CAT) panel to help design the survey and identify what interventions should be prioritised.

The session, held in July 2024, was divided into three parts. In the first part, participants discussed whether the key settings identified by the research were correct and explored contributing factors to public attitudes (e.g., awareness). In the second part, participants provided

---

[3] An Expert by Experience is a person with personal knowledge of the topics being discussed. They use that knowledge to give advice and feedback on work being done. At ncat, we work with Experts by Experience to make sure we are asking the right questions in the right way, in order to make the biggest impact for disabled people.

their opinions and feedback on the identified interventions. Lastly, participants shared their views on the research design and what success would look like for this project.

The session was held online using Zoom and lasted 90 minutes. Two moderators facilitated the session, and participants were paid £75 for their time. Participants were selected based on the following criteria:

- Impairment types and access needs
  - Those relating to mobility impairments
  - Those relating to cognitive impairments
  - Those relating to sensory impairments
  - Those with visible impairments and access needs
  - Those with non-visible impairments and access needs
- Age
- Gender
- Ethnicity
- Region of the UK

The session was video recorded. Summary notes were then written to identify and describe the points raised by the participants.

Task 4: Run a survey with non-disabled people

The survey with non-disabled people consisted of three stages: survey development, conducting the survey, and analysing the survey results.

Survey Development

Informed by earlier stages of the project, a survey was developed about public attitudes in travel settings and views on proposed interventions. The survey aimed to:

- Capture the views of non-disabled people about the potential impact of each proposed intervention. This can lead to valuable design considerations should the intervention be implemented in the future.
- Help us understand the difference of views towards the interventions depending on the characteristics of the respondent. This can give us an improved understanding of who to target with each intervention.
- Provide evidence of how the interventions are perceived against each other. This can help decide which interventions to prioritise.

As the survey is about a potentially sensitive topic, we decided to create a draft survey and test this with a smaller number of respondents before carrying out the full survey. This approach allowed us to trial each question and make sure that they are understood and that the responses can be analysed to answer our research questions.

In the first draft of the survey, the questions were a mix of multiple-choice and open-text responses. The survey consisted of several sections:

- **Travel patterns, disability awareness and interaction**: to assess travel patterns and whether a respondent knows disabled people.
- **Attitude to Disability Scale:** to assess personal attitudes toward disability and disabled people (Power and Green, 2010).
- **Attitudes and behaviours in key settings** (e.g. seating on public transport): to assess people's attitudes and behaviours in the identified settings.
- **Impact of potential interventions**: to assess what people think of proposed interventions.

- **Socio-demographic questions** (e.g., gender, age): to categorise the respondents.

The first draft of the survey was tested within a small sample (149 people), using Microsoft Forms. After basic analysis of the survey results, we found the following:

When asked about general thoughts on the survey topic, we received a high number of positive responses stating the importance of the topic and that completing the survey increased the respondents' understanding of the challenges. The test survey showed that a scale format allows for comparison across different interventions, providing quantitative results, while free text format can provide qualitative insights.

However, based on the feedback received, it was clear that there were areas needing improvement. Respondents highlighted gaps in the messaging on how to interact with service animals and carers, as well as the importance of sharing street space. Consequently, the survey was updated with additional interventions to address these points, such as:

- Messaging on carers and their role
- Messaging on how to interact with service animals
- Messaging on sharing street space
- Methods to ensure disabled parking bays are kept free, for example, notices on ticket machines
- Messaging on how non-disabled people could interact with disabled people when travelling
- Messaging on non-visible disabilities and the challenges when travelling.

Conduct survey with non-disabled people

We run the survey through Microsoft Forms. As we wanted to only focus on non-disabled people, a screener question was added to the start of the survey. Participants were recruited through Prolific, a platform known for its diverse and high-quality participant pool. 1,464 people finished the survey. The sample was representative in terms of gender, but not for other characteristics. Details of the sample in terms of gender, age and education are in Tables 1 to 3 below. These are compared to the UK averages based on the Census 2021 for England and Wales (ONS, 2023), the Census 2021 for Northern Ireland (NISRA, 2022), and the Census 2022 for Scotland (NRS, 2023).

Table 1: Survey participants by gender compared to UK average

Gender	Number of Participants	Percentage of Participants	UK Average[4]
Male	709	48.4%	48.3%
Female	755	51.6%	51.7%

Table 2: Survey participants by age compared to UK average

Age	Number of Participants	Percentage of Participants	UK Average
18-24	267	18.1%	10.5%
25-34	533	36.2%	16.9%

---

[4] Since all survey participants are aged 18 or over, the UK average used for comparison also reflects individuals aged 18 and over.

35-44	355	24.1%	16.3%
45-54	167	11.3%	16.7%
50-64	106	7.2%	16.0%
65+	45	3.1%	23.5%

Table 3: Survey participants by education compared to UK average

Education([5])	Number of Participants	Percentage of Participants	UK Average([6])
ISCED 0–2 (Low education)	60	4%	31%
ISCED 3–4 (Medium education)	387	26%	35%
ISCED 5–8 (High education)	1023	70%	34%

Analysis of survey results

([5]) Education levels are classified using the International Standard Classification of Education (ISCED) to ensure comparability with UK and international data. To see all levels of education in ISCED 2011, visit: International Standard Classification of Education (ISCED) - Statistics Explained - Eurostat

([6]) UK average figures are based on individuals aged 16 and over, as Census data is not available specifically for those aged 18 and over in every country.

The survey produced both qualitative and qualitative (open text) responses. The quantitative data was analysed using both descriptive statistics and robust statistical models. Details on the types of analysis used are presented in Appendix A: Details of statistical methods used to analyse survey results with non-disabled people.

The open text responses were analysed using thematic analysis to capture thoughts or ideas that were mentioned by several people. The results of the two types of responses were brought together during our analysis, providing us with rich insights.

Task 5: Bring together summary of findings

Once all the first four stages of the project were conducted, the results were brought together to highlight insights and recommend next steps. These are presented below.

3   What did we find?

This section provides a summary of the findings across the phases of the project.

Research limitations

While conducting this research, several limitations were identified which include:

- **Not capturing all literature:** Our literature review was not systematic, only a rapid evidence review. As such, it is possible that literature was missed.
- **Participant engagement and sample size:** The study was limited in the number of participants we could engage with, both disabled and non-disabled. This constraint affected the breadth of perspectives and experiences captured, and the sample size of the survey with non-disabled people (1,464) may impact the robustness of the findings - particularly in establishing strong linkages between demographics and responses.
- **Survey sample biases:** As we used an online participant panel provider there may be sample biases as these are people who regularly fill in surveys, thus is not a representative sample of the population.
- **Feedback scope:** Some feedback from disabled people highlighted barriers that were outside the focus of this study. While valuable, this feedback was not directly applicable to our research objectives.
- **Intervention management**: The study faced challenges in managing the number of behaviour change interventions that could

be tested. This limitation may have restricted the diversity of approaches and solutions explored. We focussed on those that had higher levels of support from disabled people and/or were more realistic to implement.

- **Comparison across interventions:** Ensuring a consistent comparison across different interventions was difficult. Variations in implementation and context may have influenced the outcomes, making direct comparisons less reliable.

Task 1: What did we find from desktop review of existing literature and interventions?

We conducted a two-fold review to identify existing research on views of non-disabled people and real-time interventions.

Existing studies examining the views of non-disabled people towards disabled people while travelling

This section is based on a rapid evidence review of nine records, including four academic studies and five grey literature sources exploring public attitudes toward disabled people in travel contexts globally and within the UK. Grey literature included campaign evaluations, survey reports and media articles. The search strategy used Google and Google Scholar with terms such as "non-disabled people attitudes towards disabled people AND travel" and "factors influencing seat yielding behaviour." Inclusion was based on relevance to non-disabled individuals' perceptions in travel contexts, with priority given to studies offering empirical data or practical insights.

The review indicates that public attitudes toward disabled individuals are shaped by several interrelated factors. A study from China (Wang et al.,

2021) found that greater knowledge about disabilities tends to foster more positive attitudes among non-disabled individuals. The study also found that the frequency and quality of contact with disabled people play a crucial role - those with more meaningful interactions are generally more empathetic and supportive.

Attitudes also vary depending on the type of disability, suggesting that public perceptions are not uniform and may be influenced by visibility, perceived severity, or social stigma associated with specific conditions. A study from Poland focusing on students (Szumski, Smogorzewska and Grygiel, 2020) found that individuals with a stronger moral identity (those who view moral values such as fairness, empathy, and care as central to their sense of self) are more likely to exhibit empathetic and inclusive attitudes. Furthermore, inclusive educational environments appear to positively influence students' perceptions, highlighting the role of institutional culture in shaping social attitudes.

Looking at specific settings, the literature primarily explored seat-yielding behaviour on public transport. Two studies from China (Baig et al., 2022a; Baig et al., 2022b) identified several factors which influence whether individuals give up their seats to more vulnerable passengers, including personal health, crowding, and the type of vulnerable passenger—with people generally more responsive to those with visible disabilities or pregnancy than to elderly individuals or children. Other influential factors include the anticipated standing time, frequency of public transport use, and individual levels of empathy.

As part of the grey literature review, survey data from TfL in 2019 supports these findings. It shows that while 87% of respondents are willing to offer their seat, 23% feel awkward doing so, and 29% believe seat offering is only necessary in priority areas (TfL, 2019). These

results suggest a general willingness to help, tempered by social discomfort and uncertainty about norms.

News articles (BBC, 2018; The Irish Times, 2024) and qualitative studies (Smolkin, 2017) add further nuance, identifying psychological and social barriers to seat-yielding. These include fear of misjudging a situation, not wanting to appear patronising, and diffusion of responsibility—the belief that someone else will act. Some individuals also employ avoidance strategies, such as pretending to be busy or inattentive, to justify not giving up their seat.

Beyond public transport, the Baywatch 2022 survey by Disabled Motoring UK highlights ongoing challenges in disabled parking access. Most respondents (disabled motorists) reported difficulty finding suitable parking and frequent abuse of disabled bays. Many also expressed dissatisfaction with enforcement, with 78% believing local authorities are not doing enough and 67% never having had their Blue Badge inspected (Disabled Motoring UK, 2022).

Real-life interventions to overcome the ableism of non-disabled people and studies examining the effectiveness of those interventions

This section is based on a rapid evidence review of eight records and six real-life interventions (Five UK-based interventions and one EU-wide intervention) designed to reduce ableist behaviours among non-disabled people in the travel context. The review prioritised UK-based interventions, with additional searches for European examples to provide comparative insights. Sources were identified through targeted searches of grey literature using terms such as "priority seating AND intervention", "giving up a seat AND intervention" and "disabled parking AND

intervention". Inclusion of interventions was based on their relevance to the travel context, their focus on the behaviour of non-disabled people, and the availability of effectiveness data.

The findings from this research are summarised in Table 4. The interventions are grouped according to the setting where they have been implemented. The table brings together the results of short-term monitoring of the schemes' impact where it was identified. We found no evidence of long-term evaluation of schemes' impacts.

Table 4: Real-life interventions and their impact

Setting	Intervention type	Example	Impact/Details
Seating on public transport	Badge system	'Please offer me a seat' badge (TfL, 2018b)	In 2018, 31,000 badges were issued. A survey of badge users found that: • 84% of users have an invisible condition • 78% of users find it easier to get a seat with the badge or card • 75% of users are offered a seat with the badge or card • 95% of users are likely to recommend the scheme to a friend
Seating on public transport	Awareness campaign	TfL Priority Seating Week (TfL, 2018a; TfL, 2019; TfL, 2023).	Raising awareness of priority seats across the public transport network and among non-disabled users through special audio announcements at tube stations, 'Priority seat' signs and social media videos.

Setting	Intervention type	Example	Impact/Details
			No evidence of impact found in the literature.
Seating on public transport	Priority seating design	TfL's new moquette priority seating design (TfL, 2023)	TfL's preliminary research results: • 3 in 5 non-users of priority seating on refurbished buses said they can recognise the benefits and importance of the new moquette for others who require them.
Disabled Parking	Tackling Blue Badge Abuse	East Sussex County Council has implemented a Local Resolution Order (LRO) for first-time offenders committing minor offences related to Blue Badge misuse (Transportxtra, 2022).	• The LRO system educates offenders about the proper use of Blue Badges. To participate, the offender pays a £100 administration fee and attends an awareness course. • Roughly 100-150 LROs are carried out annually, resulting in increased awareness and reduced re-offending
International Travel	Standardising proof of disability	EU-wide Disability and Parking Cards (EU Commission, 2021)	Standardisation of disability cards across the EU (UK not included) is likely to have a greater impact on non-disabled people's awareness than national cards. This is because the cards will be the same everywhere, so they will have a wider reach. Additionally, there is potential for EU-wide awareness campaigns.

Setting	Intervention type	Example	Impact/Details
Wayfinding at public transport stations	British Sign Language (BSL) Travel Announcements at railway stations	Customer information screens are placed on both the main boards and sub boards (touchscreens) at Edinburgh Waverley and Glasgow Central station (Network Rail, 2024)	Displaying BSL travel announcements on touchscreens and particularly on main departure screens (Scotland) can bring attention of other travellers and raise their awareness of deaf passengers needs while travelling.

No evidence of impact was found in the literature. |

Task 2: What did we find from the focus group with disabled people?

RiDC ran three focus groups with disabled people to understand the challenges they face related to the attitudes and behaviours of others. Due to the breadth of insights gained from this session, there is a separate full report on these insights. Information on this can be found on the ncat website. The key findings are:

1. **The general public are perceived to lack awareness and understanding of disability.**

   There is a notable difference in the way disabled people are treated depending on whether their disability is visible (including the use assistance aids).

2. **Politics and news stories play a significant role in shaping negative attitudes towards disabled people.**

   Stories and items around disabled people can occasionally paint disabled people in a bad light.

3. **The accessibility barriers and negative attitudes that disabled people face when using transport have significant implications on their mental health and confidence.**

   One of the examples of an accessibility barrier is street clutter. This includes parking on a pavement, or signs and advertisements on streets. These barriers reflect an uncooperative behaviour from non-disabled people who don't understand or know the consequences of these barriers.

4. **Participants felt that many existing accessibility issues resulted from disabled people not being included in the design of transport and services.**

   One of such issues is a conflict between buggy users and disabled people for a disabled parking space, or a wheelchair space on public transport.

Task 3: What did we find during the development of interventions and testing with disabled people?

Two workshops were held to get a better understanding of the negative behaviours and attitudes taking place in four key settings that were identified based on Task 1 and Task 2 outputs. The identified settings were:

- Seating on public transport
- Space on public transport (including wheelchair space)
- Street Space
- Disabled parking.

Although participants in the Task 2 focus groups mentioned that frontline staff were sometimes unsupportive, such as refusing to deploy a ramp, this study focuses specifically on travel settings where members of the public interact with disabled people. Staff-related issues were noted but are outside the scope of this research.

The detailed outputs of the two workshops are presented in Appendix B: Interventions workshop with project staff. The table in the appendix summarises:

- The pain points felt by disabled people such as; access to a seat, conflict with passengers over space, lack of space either on public transport or streets and stigma.
- The barriers to correct behaviour by non-disabled people such as; lack of confidence in how to ask what a disabled person needs, lack of space in many settings, lack of awareness of others both disables and non-disabled, and misconceptions.
- The expected correct behaviour such as; being willing to give space such as a seat, being aware of surroundings and mindful of others and understand and respect disabled people's needs avoiding confrontation.

After the workshops, a long list of potential interventions that could change negative behaviours and attitudes of non-disabled people towards disabled people when travelling was developed. These are presented in Appendix C: Long list of interventions. Interventions were grouped, using the key pain points identified in the focus groups, by the setting (e.g. street space) and categories such as public awareness campaigns, education and community engagement, improved signage and messaging, inclusive design, enforcement and regulation, and behavioural encouragement.

The interventions were tested with disabled people through an Experts by Experience session aimed to gather insights and perspectives on how to improve public attitudes towards disabled people in various settings. The findings from the session included:

- Participants were satisfied and in agreement with the four identified settings, but also suggested to consider Transport hubs/stations, and the different areas in these stations.
- People agreed that awareness and understanding are critical factors that shape public attitudes towards disabled people but also said that empathy and patience play an important role.
- Participants were in favour of public awareness and education campaigns.
- Participants had mixed reactions to the sunflower lanyard, when asking about the scheme effectiveness – believing that it was not taken as seriously as it should be.
- Participants were in favour of the idea of having an automated message on public transport reminding passengers to be mindful of disabled people.
- Participants felt that education in schools would be a good start to help improving public attitudes towards disabled people.

Further details of the Insights from the Experts by Experience Session can be found in Appendix D: Insights from Experts by Experience session.

Task 4: What did we find from the survey with non-disabled people?

Finding 1: People's characteristics and experiences with disabled people significantly impact their views on whether interventions will make an impact.

The analysis showed that men and older people consistently are less likely to think that interventions will have a high impact on people's behaviour than women and younger people. For example, men on average are 25% less likely to think that an intervention will have a high impact. This may mean that men, in general, are less optimistic than women in the impact that interventions can have. However, it could also mean that they think the interventions would have less impact on them or people like them.

We also found that those that care for adults or children are more likely to think interventions will have a large impact than those who are not carers. Interestingly, the region that the respondent came from only came out significant in very few cases, meaning that this does not impact people's views a lot.

The analysis showed that people who know a disabled person, especially someone with a non-visible access need, are more likely to think that interventions will have a large impact on people's behaviour. The difference this makes in some cases is extremely high. For example, those who know someone who has non-visual disability on average are 123% more likely than those who do not know someone with a non-visual disability to think that any communication campaign will make large impact. This is also true for those who know people with

visible impairments compared to those who do not know people with visible impairments, but the likelihood is lower at 75%.

We also found that people's experiences impact their views. For example, those who stated that they have seen a member of public confront someone over parking in a disabled bay are more likely to think that interventions will have a large impact on people's behaviour. The same is true for those who have seen someone else intervene and ask someone to move to make space for a disabled person. It is possible that these people spent some time after these incidents thinking about what they witnessed, learned from the event and, in the process, became more aware.

Travel behaviour, specific how much people use certain modes, also came out significant in a lot of cases. This means, that peoples travel habits influence how much impact they think the interventions could have. For example, those that use a bicycle or scooter are more likely to think that interventions will have a large impact than those that do not use these modes. A similar trend can be seen with public transport users.

Finding 2: People agree that education could have a positive impact in teaching children and young adults how to support disabled people while travelling

Disabled people told us that they would want increased education and awareness raising through humanising disabled people. Participants in our focus groups particularly stressed the role of education and the importance of having young people be aware of disability as a way of combating prejudice and ableism.

During our survey we asked non-disabled people their views on the potential impact of education on how to support disabled people aimed at different age groups. We found, that in general, people think that education could be very impactful. In general, people think education campaigns aimed at younger children would be more impactful than older children/young adults.

When looking into more detail through open text responses, many participants reiterated that it is better to deliver education to younger children, as they are more attentive, absorb information more easily, and can learn the correct behaviours from an early age – young people can also be agents of social change, especially those of their direct family, and their modelling of behaviours can have a large impact on behaviours[7]. Some participants said the following:

- "I think teaching them the earlier the better, people's behaviours tend to be harder to influence at older ages."
- "Children learn more readily when they are younger, and it is better to impart this message as soon as possible."
- "I think younger children tend to take more onboard - most teenagers are wrapped up in themselves to care."

However, some participants argued that younger children may not fully understand the message behind inclusive education, saying:

- "People 16+ generally already have a good understanding of inclusivity and children under 12 may struggle to understand the concept. High school children would most benefit."

---

[7] Children as agents of social and community change: Enhancing youth empowerment through participation in a school-based social activism project

- "I think that the age of 13-16 is the best age to learn such things because children are already old enough to understand certain things but not yet mature enough to have some behaviours already hardwired."

During the survey, we tested people's understanding around some existing accessibility related interventions. It showed, that while some are better understood, this is not true for all. Education could play an important role in ensuring all key interventions and tools are well understood. For example, a third (34%) of respondents stated that they do not know what the sunflower lanyard means. When we asked respondents who claimed to know what the sunflower lanyard is to explain its meaning, many correctly answered that it indicates the wearer has a non-visible impairment. Participants often mentioned autism as an example of a non-visible impairment. For example, participants said that:

- "People who wear a sunflower lanyard have a disability, and i think they wear these to show they are disabled as not all disabilities are visible"
- "It means someone who has a disability that may be non-visible - such as autism and they may require additional support"
- "it is a way of saying that the wearer has hidden disability"

Figure 1: Visual of sunflower lanyard

© Amazon
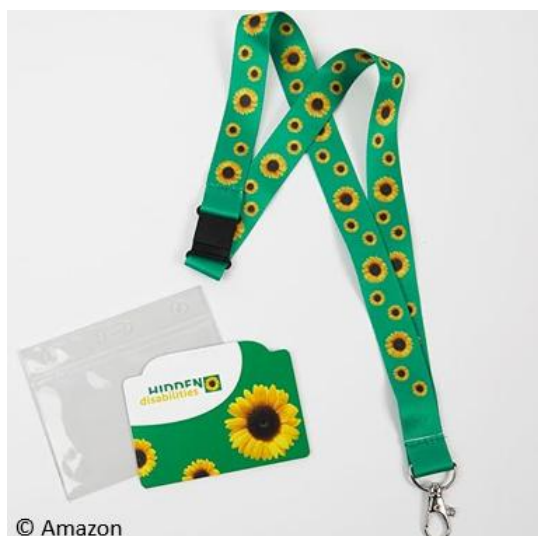
It is important that disabled people are involved in creating the educational plans and materials. They should also feature non-visible impairments and access needs in addition to visible ones. A variety of situations should be explored with students, including navigating the street space, public transport priority areas, blue badges and sunflower lanyards, carers, guide dogs and other mobility aids.

Finding 3: More luggage space by your seat could help free up priority spaces on public transport

During earlier project stages, we found a key barrier to disabled people is luggage taking up priority spaces (e.g. wheelchair space or priority seat). This often causes conflict between disabled people and non-disabled people.

In response to the question, "In your opinion, why would someone not move their luggage to give up space in a priority area (e.g. the wheelchair space) for a disabled person with visible impairments and access needs on public transport?", 58% of respondents said it was because there is nowhere else to store the luggage.

To change behaviours in this setting, we focussed on whether any physical changes to vehicles would encourage non-disabled people to store their luggage elsewhere. This would allow the wheelchair spaces to kept free for those that need it.

We explored different options for additional luggage storage, and asked people where they think people would be most comfortable leaving their luggage instead of in the wheelchair space. There was a clear frontrunner, with people preferring to have extra luggage space by their seats. 83% of people thought that having extra luggage space by their seats would be very or extremely impactful (4 and 5 on a 5-point scale). Having luggage racks in individual carriages and locked luggage spaces were less preferred, while staff only accessible spaces made people very uncomfortable.

The importance of having additional storage near each seat was also supported by responses to the question, "If the bus/train had a luggage rack and you were seated in **A,** would you be comfortable leaving your baggage at **B**?" 75% said they would not feel comfortable to leave their baggage at B, which indicate that most of people wouldn't like to leave their bag if it is not around or they can't see it.

Figure 2: Visual used in survey about luggage storage

The situation is similar in terms of buggies in wheelchair spaces. In response to the question "In your opinion, why would someone not fold their buggy down to give up space in a priority area (e.g. the wheelchair space) for a disabled person with visible impairments and access needs on public transport?", 70% of respondents said it was because there was no space to store their buggy. 58% of respondents also said that there were no seats available for them and their child. Unfortunately, we did not ask specific questions focussed on where parents would be comfortable storing buggies. We recommend further research be conducted specifically with this group of people as the requirements of storing buggies will likely be very different than general luggage.

Finding 4: Videos on social media are viewed as the most impactful form of messaging about the role of service animals and carers and sharing street space

Disabled people told us that they have faced conflicts around their service animals, carers and the use of street space. When looking at how to address non-disabled people's behaviours around these, different types of communications and media campaigns were a clear option for all three.

We asked non-disabled people their views on seven different media approaches, and which ones they think would make the biggest impact on people's behaviours. We found a consistent ordering of impact, irrespective of the topic at question:

- Most impactful: videos on social media
- Second most impactful: videos on screens located on public transport
- Third most impactful: images on social media

Print media, static images on screens, posters, and videos on television were all viewed as less impactful.

Looking closer at people's responses, we found that both age and gender have significantly impacted people's responses. Men are consistently less likely to think that any media type would make an impact. Older people are also more sceptical that there would be an impact of any type of messaging. For example, those above 65 are, on average, are 68% less likely than those who are 25-34 to think videos on social media will make an impact on behaviours.

The potential impact of social media was also echoed during the open text responses, especially the role they have in targeting children and young people:

- "Social media is one of the most impactful ways to spread messaging these days."
- "Same again, social media is the key. Get to the people young enough, and it becomes part of who they grow to be... hopefully."

The open text responses also highlighted the scepticism against the effectiveness of certain media types, especially print media.

- "Most people don't want TV or print media anymore so I don't think it would get out to the right target audience. I think having media in the location of the priority seating/space would be the most impactful."
- "I think these would all be impactful because I think the presence of an animal in the images will naturally draw people in more, especially those with pets. However, I say the print media option would have less impact just because it is far less consumed nowadays."

Finding 5: Fines are viewed as more impactful than messaging when it comes to keeping disabled parking bays free

Disabled people told us that they experience conflicts with non-disabled people around the use of disabled parking bays. The two most common experience are:

- being challenged even though they have a Blue Badge, and
- non-disabled people parking in the Blue Badge bays leaving no space for those that need it.

Exploring potential interventions regarding the first one, it seems there is a knowledge barrier that should be tackled as the details of what exactly a Blue Badge allows is not clear to everyone. 96% of non-disabled people we asked stated that they know what a Blue Badge in a car is. When we asked them to describe what they think the Blue Badge means, people managed to describe the basic principle. Some examples are: "there is someone with disabilities in the car" and "disabled person (visible or invisible) needs the badge so they are closer to their car destination"

We also tested whether people fully understand what the Blue Badge covers. We found that almost everyone (97%) knows that Blue Badge holders can park in designated disabled parking spaces. However, fewer respondents were aware that Blue Badge holders can park for free in some pay-and-display car parks (60%), and only 43% knew they can park on single or double yellow lines for up to three hours, except where there is a ban on loading or unloading. This shows that there is need for education on what a Blue Badge means.

We also asked whether respondents thought that there are any valid reasons for a non-disabled person to park in a disabled bay. 48% said

there are no valid reasons, while 39% believed that an emergency could justify it, and 32% felt that having an injury or access need was a valid reason.

Looking at the second main challenge that disabled people face, around non-disabled people parking in disabled spaces, we explored different approaches to shifting the behaviours of the public. There was a clear frontrunner, with people thinking that fining people will have the most impact by far. This is in line with behaviour change research, that suggests that 'sticks' tend to be more successful than 'carrots' in changing behaviours.

The other interventions we examined were around different options to messaging. Notices on ticket machines with information about leaving disabled parking bays free was viewed as having higher impact than short term campaigns on posters, videos or social media. Those who stated that they do not know what a Blue Badge is were 61% more likely to think the information on ticket machines would have impact.

We asked people about their additional views on the topic. Many respondents reinforced the findings from the multiple-choice question, saying fines could be effective, as financial consequences should encourage people to pay more attention. Some of them said:

- "Most of the people who park in disabled bays already know they shouldn't, the only way to stop them is by enforcing the fines"
- "The biggest deterrent is always going to be fines. People will avoid illegally parking in disabled parking bays when they have the threat of a fine."

However, several people also mentioned that, in the first instance, people need to be aware that the fine applies. Therefore, it's important to include clear information about where the fine is enforced.

Finding 6: Sounds when the ramp extends are viewed as the more impactful than generic audio messages about access needs

This is a useful finding as it shows that people are more likely to pay attention to an audio message when it is accompanied by a physical/visible change around them – such as the ramp extending.

Boarding and alighting can be a location of conflict on public transport modes. As such, we explored different audio messaging options to see whether they could be successful in reminding people to be mindful of disabled people's access needs.

Out of the four audio messaging options, 'sounds every time the ramp extends' came out significantly higher than the rest of the messaging types. Announcements at stations, announcements at bus stops and messages at every stop/station were viewed as less impactful.

Even though they were not seen as the most impactful, we still asked respondents to make suggestions about what the audio messages could say at various locations. There are several themes that emerged from the suggestions:

- Many responses emphasise the importance of being kind, considerate, and aware of others' needs. Example suggestions included: ""Please be considerate of your fellow passengers" and "Be mindful of passengers who may require seating."
- The idea that helping others is a shared social responsibility is a recurring message. Example suggestions included: "We are all

responsible for each other" and "Please be courteous to all fellow passengers."

- Many responses use direct, polite commands to prompt action. Example suggestions included: ""Please offer your seat to those that need it" and "Please allow space for passengers who may require additional assistance."

- While the ramp announcement was perceived as most useful, it should be noted that it only addresses the challenge of accessing a vehicle via a ramp. Many responses highlight that not all disabilities are visible, or require the ramp, and call for greater awareness and sensitivity. Example suggestions included: "Not every disability is visible" and "Please be aware that some passengers' disability may not be obvious." Therefore, there is a need for other, more varied and novel audio messaging.

These suggestions could also be used for other messaging types.

Finding 7: Divisive views on non-disabled people wearing an 'ask me for my seat' badge

Disabled people told us that a key conflict area with non-disabled people is around priority seats on public transport. There are times when all priority seats are occupied by people who do not look up or offer their seats.

We asked non-disabled people why they think people do not give up priority seats for a person with visible access needs. The top answer was "they did not notice the person needed a seat", with 55% of respondents choosing this. This is a typical example of when a disabled person needs to ask for the seat to be given up. This puts the burden back onto the disabled person to have to ask people to give up their

seats, which can cause anxiety as they do not know how the person in the seat will react. An option to give disabled people more confidence in a positive experience is for the non-disabled person to wear a badge that indicated they are happy to give up the seat if asked.

We asked non-disabled people whether they would be willing to wear a badge indicating they are happy to give up their seat for someone who needed it. Only 29% of people said yes, 26% said maybe and 38% said no.

When asked to explain their answer, those who regularly use public transport were very clearly divided on their views:

- Many respondents expressed that they are naturally inclined to give up their seat and don't feel a badge is necessary. "I would give up my seat anyway." And "You don't need a badge to do the right thing."

- A significant number of people express discomfort with the idea of wearing a badge, citing embarrassment, privacy, or unnecessary labelling. "I don't want to wear a badge." And "It feels like virtue signalling."

- Others supported the idea of wearing a badge if it makes it easier for people with disabilities to ask for a seat. "If it helps someone feel more comfortable asking, I'd wear it" and "It could reduce awkwardness".

Another highly ranked answer from non-disabled people to the question around why they think people do not give up priority seats for a person with visible access needs was that "did not know they were in a priority seat" (42% of respondents).

We explored where visual messages on public transport could be placed to make the most impact. Using the visual in Figure 3, that showed the inside of a bus with different options for the placing of visual messages, we asked people to pick their top choice for the location of messaging. We found that:

- 39% of people said that visuals should be on the seats themselves
- 26% of people said it should be on the floor between the seats
- 19% said that it should be on the side window.

Only few people said it should be on the back window, above the windows or in other locations.

Figure 3: Visual used in survey around location of messaging

Finding 8: There is no singular place for disabled people to report bad, or good, attitudes and behaviours

While not specifically related to the attitudes of non-disabled people, one finding showed that disabled people sometimes were unsure of who to report bad behaviour or poor service to. This finding highlights how difficult it can be for people to have a voice.

4   What conclusions did we come to?

59% of disabled people who participated in the ncat Transport Barriers Survey (2023) stated that they experience negative attitudes or

behaviours when they are travelling. This can be anything from not being given a priority space on a bus, to being called rude names on the street. A lot of these behaviours are from the non-disabled fellow people.

This can cause significant impact to disabled people's travel experiences, willingness to travel, and overall wellbeing. During this study, we explored different approaches that can be used to change the poor behaviours of non-disabled people. We came to conclusions based on findings from literature reviews and talking to both disabled and non-disabled people about their opinions and experiences.

Our key conclusions are:

Conclusion 1: Education is a very important tool that should be higher priority

Disabled people told us that education and awareness raising through humanising disabled people is a key aspect of improving public attitudes. They stressed the importance of having young people be aware of disability as a way of combating prejudice and ableism. It may also help them from asking awkward questions or feeling embarrassed to learn. Educating young people can also enable them to pass on the learnings to older people (such as parents).

Academic research also pointed to the importance of education and awareness raising. For example, a study found that found that greater knowledge about disabilities tends to foster more positive attitudes among non-disabled individuals (Wang et al. 2021).

Non-disabled people also agreed, with 'teaching children how to support disabled people' at all three tested age groups (4-12, 13-16 and 16-24) coming out among the highest rated interventions. For example, 30% of respondents stated that education for 4-12-year-olds would be extremely

impactful (5 out of 5 rating) and 32% saying (4 out of 5 rating) it would be very impactful.

Conclusion 2: Improving luggage storage options could help to decrease conflict around space on public transport

Disabled people told us that they have challenges with people storing luggage in priority places (e.g. priority seats and wheelchair spaces) and other spaces that impacts their ability to move around. This causes conflict when they need to ask people to move their belongings to make space.

Non-disabled people told us that they think more luggage space by your seat could make the most impact. This was rated highest out of all the interventions we tested, not just among those interventions focusing on luggage space. 36% of respondents stated that this would be extremely impactful (5 out of 5 rating) and 47% saying (4 out of 5 rating) it would be very impactful. More luggage racks in individual carriages was also rated very high among all the interventions, showing that non-disabled people think that there are different solutions to the luggage problem that could have high impact.

Conclusion 3: Public awareness campaigns should focus on videos on social media and on public transport

Disabled people and non-disabled people agreed that public awareness campaigns are an important way to raise awareness and educate people on what to do. Disabled people highlighted, that consistency and repetition are key to getting people to build empathy and a better understanding of disabled people and their needs. They also

emphasised the importance of including all impairments, including non-visible.

When testing different types of public awareness campaigns, non-disabled people told us that videos will likely have more impact than static images. They think videos on social media will likely make the biggest impact, especially among younger people. Video screens located on public transport came second, with people highlighting that seeing these in the context of the problem can be helpful.

Conclusion 4: Give fines to enforce Blue Badge parking restrictions

Disabled people told us that parking in Blue Badge bays is a source of conflict with non-disabled people. For example, there are instances when they are interrogated for using a Blue Badge when parking, as their validity was put into question.

This problem is echoed by the Baywatch 2022 survey by Disabled Motoring UK, in which most disabled motorists reported difficulty finding suitable parking and frequent abuse of disabled bays. Many also expressed dissatisfactions with enforcement, with 78% believing local authorities are not doing enough and 67% never having had their Blue Badge inspected (Disabled Motoring UK, 2022).

Non-disabled people told us that they think issuing fines is the most impactful intervention to ensure that disabled bays are respected. Fines were viewed as more impactful than messaging

Conclusion 5: Create better understanding and singular design behind badges and lanyards

Disabled people told us that having a non-visible impairment creates an extra layer of challenge for disabled people as they need to justify their

impairment to people. This especially comes up around high conflict areas such as priority seats and Blue Badge parking.

There are several different tools to help indicate that someone is disabled. These include the Blue Badge in cars, the sunflower lanyard for non-visible impairments, and the 'Please offer me a seat' badge used by Transport for London. Some of these tools, such as the Blue Badge, have a better understanding among non-disabled people, while others less so.

There is evidence that these tools can help disabled people. For example, the 'Please offer me a seat' badge campaign run by TfL has been largely successful in making it easier for disabled people to access priority seats (TfL, 2018b).

Disabled people pointed out, that a singularly designed lanyard and badge would avoid confusion and create clearer understanding among non-disabled people. It would also allow more weight to be behind the singular design, as disabled people worry that people might perceive the sunflower lanyard users as faking an impairment due to the perception that people were using them to avoid mask-wearing during the pandemic.

Conclusion 6: Create bold emotive signage on seats or on the floor, and audio messages to help remind people about space on public transport

Disabled and non-disabled people agreed that signage and audio messages could help with creating space for disabled people on public transport.

Non-disabled people said that signs reminding about priority seating should be placed directly on seats or on the floor. Disabled people

added that this signage should be bold and emotive and easy to see. Since 42% of non-disabled people think that people do not give up priority seats for disabled people because they do not know they are sitting in priority seats, having these images bright, bold and hard to miss is important.

Non-disabled people think audio and visual messages should emphasise being kind, considerate and aware, and should include commands to prompt clear action. They should also highlight that not all disabilities are visible.

Conclusion 7: Try combining interventions for most impact

The most effective behaviour change interventions have information campaigns as well as positive reinforcement for good behaviour and/or disincentives for bad behaviour. What this means, is that there will likely be bigger success if different types of interventions are delivered at the same time.

An example of this is how East Sussex County Council approached Blue Badge abuse. Here, a Local Resolution Order (LRO) is in place for first-time offenders committing minor offences related to Blue Badge misuse. The LRO system educates offenders about the proper use of Blue Badges. To participate, the offender pays a £100 administration fee and attends an awareness course. Roughly 100-150 LROs are carried out annually, resulting in increased awareness and reduced re-offending. This shows that combining interventions (in this case a fine and education) could make higher impact.

5   What should happen next?

This study helped understand potential approaches to changing bad behaviours from non-disabled people. We have suggested some interventions that are more supported by disabled people and will likely have larger impacts on non-disabled people's behaviours.

We have made recommendations for people in the transport sector:

- **Bus and rail manufacturers should explore how to increase luggage space.** Increasing luggage space on public transport can hugely help free up space for disabled people. Solutions should be explored to retrofit existing rolling stock with more luggage. Also, findings should feed into the design of new vehicles. It is important that disabled people are involved in these designs, to ensure they are made accessible.

- **Private parking companies and local authorities should enforce Blue Badge violations with fines.** In the UK, councils and private parking companies can issue Penalty Charge Notices (PCN). Enforcement of PCNs for Blue Badge violations should be increased, potentially increasing the fine amount to highlight its significance.

- **Prioritise robust Monitoring and Evaluation of the impact of interventions**. We found that there is very little evidence on the impact of different interventions. This makes it very difficult to confidently recommend which interventions to prioritise. When interventions are implemented, it is very important that more insights are collected on their impact and the views of people.

We have made recommendations for people in the public sector:

- **Consider education in schools as part of the national curriculum and involve disabled people in planning.** In the UK, education is a devolved matter, meaning that each of the four nations sets its on curriculum. The education departments in all four nations should work together with disabled people to identify how best to educate children on these topics.

- **Support public messaging campaigns.** As many campaigns need to focus on topics that are not related to a single transport mode (e.g. about the role of carers), running messaging campaigns tends to fall on third sector organisations who will likely have limited resources. Public sector has a huge role to play in this space and should take ownership of these messaging campaigns.

- **Use the shift towards devolution and bus reform as opportunities for change.** Various areas in the UK are going through large changes in the way that public transport is run. This especially impacts buses, where many areas in England and Wales are currently bringing all services in specific areas under a single umbrella with bus franchising. This brings a great opportunity to trial interventions as the local authority in each area will have much greater control over how things are run.

- **Support areas trialling interventions.** The only way change will happen is if more solutions are trialled in real life settings as this is most robust way to know if something is working. Trials that have public sector funding and support will more likely succeed and gather robust evidence on impact.

- **Create an ombudsman and legal protections for making complaints.** Disabled people told us that making complaints is very inaccessible and difficult. The complaints process should be reviewed and made simpler.
- **Consider guidance on penalties and repercussions for not helping disabled people.** Disabled people called for repercussions for not helping. However, this is a complex topic that should be further explored, with national level guidance issued.

We have made recommendations for people conducting research:

- **Study more interventions and other settings.** We recognise that there may be several other interventions that this study may not have explored. We encourage researchers to conduct studies into these interventions, and the potential impact that they could have.
- **Actively include disabled people in research from the beginning.** Enable disabled people to lead research and create supportive environments in research organisations. Consider the diversity of disabled people throughout all research activities, ensuring that they are actively involved in all stages.
- **Ensure fair and ethical research practices.** It is important to involve disabled people throughout research, but this must be done in an inclusive and accessible way. If disabled people support research activities, they should be appropriately compensated for their efforts. The activities they take part in should meet their access needs and they should be informed about the outcomes of the activities and the impact of their involvement.

- **Ensure research outputs are shared with decision makers and industry.** There is lots of fantastic research out there already that people who can make change don't know about. ncat can help share findings, so contact ncat - we can help.
- **Ensure research outputs are accessible to disabled people.** Reports should not only be provided in PDF formats, as these are often inaccessible. Publish research in Word format, Easy Read and British Sign Language and have these all easily available without the need for special requests.

6 How will ncat use these findings to achieve change for disabled people's transport?

We have made recommendations for ncat and its future activities:

- **Raise awareness.** We will share the findings of this study on the ncat website and will present the outputs and conferences and industry events. We will also engage with the public sector and transport industry to make recommendations for interventions to take forward.
- **Share the data from this study.** We will share the data from this research with researchers and students who would like to do further analysis on the collected data. Data can be provided as open access, were required data will be anonymised.

- **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.

7   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 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

8 References

Baig, F., Zhang, D., Chen, J. and Lee, J. (2022a). The Impacts of Incentives on Seat Yielding Behavior on the Bus. *Transportation Research Record: Journal of the Transportation Research Board*, p.036119812211133. doi: https://doi.org/10.1177/03611981221113311

Baig, F., Zhang, D., Lee, J. and Xu, H. (2022b). Shaping inclusiveness of a transportation system: Factors affecting seat-yielding behavior of university students in public transportation. *Transportation Research Part A: Policy and Practice*, [online] 155, pp.79–94. doi: https://doi.org/10.1016/j.tra.2021.11.004

BBC (2018). Why don't people give up their seats on public transport? [online] 7 Sep. Available at: https://www.bbc.co.uk/news/uk-45432583

Conner M, Norman P. Understanding the intention-behavior gap: The role of intention strength. Front Psychol. 2022 Aug 4;13:923464. doi: https://doi.org/10.3389/fpsyg.2022.923464 PMID: 35992469; PMCID: PMC9386038.

Department for Transport (DfT) (2020). *National Travel Attitudes Study: Wave 3*. [online] Available at:

https://assets.publishing.service.gov.uk/media/5f2417c2e90e071a597ba469/national-travel-attitudes-study-wave-3.pdf

Derbyshire, D.W., Spencer, A.E., Grosskopf, B. and Blackmore, T. (2023). The importance of disability representation to address implicit bias in the workplace. *Frontiers in Rehabilitation Sciences*, [online] 4. doi: https://doi.org/10.3389/fresc.2023.1048432

Disabled Motoring UK (2022). *Baywatch 2022 Results*. [online] Available at: https://www.disabledmotoring.org/baywatch/baywatch-2022

European Commission (2021). *European Disability Card and European Parking Card for persons with disabilities*. [online] Available at: https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/disability/union-equality-strategy-rights-persons-disabilities-2021-2030/european-disability-card-and-european-parking-card-persons-disabilities_en.

Hortensius R, de Gelder B. From Empathy to Apathy: The Bystander Effect Revisited. Curr Dir Psychol Sci. 2018 Aug;27(4):249-256. doi: https://doi.org/10.1177/0963721417749653 Epub 2018 Aug 1. PMID: 30166777; PMCID: PMC6099971.

Motability (2022). *The Transport Accessibility Gap I The opportunity to improve the accessibility of transport for disabled people.* [online] Available at:
https://www.motabilityfoundation.org.uk/media/iwaidhxk/motability_transport-accessibility-gap-report_march-2022_final.pdf

National Records of Census (NRS) (2023). *Census 2022*. [online] Available at: https://www.scotlandscensus.gov.uk

ncat (2023). *Understanding and Identifying Barriers to Transport - National Centre for Accessible Transport*. [online] National Centre for Accessible Transport. Available at: https://www.ncat.uk/projects/understanding-and-identifying-barriers-to-transport

Network Rail (2024). *Scotland's two busiest railway stations are first in UK to install British Sign Language screens*. [online] Available at: https://www.networkrailmediacentre.co.uk/news/scotlands-two-busiest-railway-stations-are-first-in-uk-to-install-british-sign-language-screens.

Northern Ireland Statistics and Research Agency (NISRA) (2022). Available at: https://www.nisra.gov.uk/statistics/census/census-2021

Office for National Statistics (ONS) (2022). *Census 2021*. [online] Available at: https://www.ons.gov.uk/census

Power, M.J. and Green, A.M. (2010). The Attitudes to Disability Scale (ADS): development and psychometric properties. *Journal of Intellectual Disability Research*, 54(9), pp.860–874. doi: https://doi.org/10.1111/j.1365-2788.2010.01317.x.

Scope (2022). *Attitudes and disability: The experiences of disabled people in 2022*. Available at: https://www.scope.org.uk/campaigns/research-policy/attitudes-towards-disabled-people

Scope (2025). Disability facts and figures. [online] Available at: https://www.scope.org.uk/media/disability-facts-figures

Smolkin, A.A. (2017). ANALYSIS OF THE SITUATION (NOT) TO GIVE UP ONE'S SEAT TO AN ELDERLY PERSON ON PUBLIC

TRANSPORTATION. *Innovation in Aging*, 1(suppl_1), pp.132–132. doi: https://doi.org/10.1093/geroni/igx004.535

Szumski, G., Smogorzewska, J. and Grygiel, P. (2020). Attitudes of students toward people with disabilities, moral identity and inclusive education—A two-level analysis. *Research in Developmental Disabilities*, 102, pp.1–12. Doi: https://doi.org/10.1016/j.ridd.2020.103685

The Irish Times (2024). *Why does no one give up their seat on public transport any more?* [online] Available at: https://www.irishtimes.com/opinion/2024/04/28/why-does-no-one-give-up-their-seat-on-public-transport-any-more

Transport for All (2023). *Are we there yet?* [online] Available at: https://www.transportforall.org.uk/news/are-we-there-yet-barriers-to-transport-for-disabled-people-in-2023

Transport for London (2018a). *'Priority Seating Week' launch marks first anniversary of the 'Please Offer Me A Seat' badge*. [online] Available at: https://tfl.gov.uk/info-for/media/press-releases/2018/april/-priority-seating-week-launch-marks-first-anniversary-of-the-please-offer-me-a-seat-badge

Transport for London (2018b). *TfL backs customer's campaign to ask passengers to Look Up and offer their seat*. [online] Available at: https://tfl.gov.uk/info-for/media/press-releases/2018/july/tflbacks-customer-s-campaign-to-ask-passengers-to-look-up-and-offer-their-seat

Transport for London (2023). *New Priority Seating to be installed on TfL buses, improving journeys for customers who need a seat while using public transport*. [online] Available at: https://tfl.gov.uk/info-

for/media/press-releases/2023/april/new-priority-seating-to-be-installed-on-tfl-buses-improving-journeys-for-customers-who-need-a-seat-while-using-public-transport

Transport for London (2024). *Equity in Motion*. [online] Available at: https://content.tfl.gov.uk/equity-in-motion-full.pdf

Transport for London. (2019). *TfL urges Londoners to offer up their seats as research shows it still makes one in four people 'feel awkward'*. [online] Available at: https://tfl.gov.uk/info-for/media/press-releases/2019/april/tfl-urges-londoners-to-offer-up-their-seats-as-research-shows-it-still-makes-one-in-four-people-feel-awkwa

Transport for London. (2025). *Please offer me a seat*. [online] Available at: https://tfl.gov.uk/transport-accessibility/please-offer-me-a-seat

TransportXtra (2022). *Blue Badges: Education enhances awareness*. [online] Available at: https://www.transportxtra.com/publications/local-transport-today/news/71990/blue-badges-education-enhances-awareness

Wang, Z., Xu, X., Han, Q., Chen, Y., Jiang, J. and Ni, G.-X. (2021). Factors Associated with Public Attitudes Towards Persons with disabilities: a Systematic Review. *BMC Public Health*, [online] 21(1). doi: https://doi.org/10.1186/s12889-021-11139-3

World Health Organisation (WHO). (2011). *WHOQOL-DISABILITIES MODULE* [online] Available at: https://www.ufrgs.br/qualidep/images/DISQOL/WHOQOL-DIS_Manual.pdf

9   Terms used in this report

Attitude to Disability Scale: A 16-item questionnaire designed to measure attitudes towards people with physical and intellectual disabilities. It assesses both personal attitudes and general attitudes towards disability. The ADS was developed by Power and Green using methodology from the World Health Organization Quality of Life Group.

Attitudes: They refer to how people feel, think and react toward something, such as an object, person or idea. These thoughts and perceptions are shaped by past experiences, social norms, beliefs and emotions. Attitudes are not fixed and can evolve positively and negatively as we experience new events, become more knowledgeable or interact with new people. Attitudes often guide how people behave. They can automatically influence decisions and actions without much conscious thought.

Barriers: Physical, social and structural problems that make it difficult or impossible for disabled people to participate in society.

Behaviours: Any observable action or response to an organism. Behaviours are the actions or reactions that people make in response to different situations. They can be voluntary, deliberate (a conscious decision to engage in a specific way), or automatic (habits). Behaviours are shaped by a number of factors, including attitudes, habits, social norms, social influences, environmental cues, skills, and physical or cognitive ability.

Blue Badge: A parking permit for people with disabilities or health conditions that affect their mobility.

Interventions: An intentional action to change a situation, with the aim of improving it or preventing it from getting worse.

Local Resolution Order: Resolves a minor offence or anti-social behaviour incident through informal agreement between the parties involved, as opposed to progression through the traditional criminal justice process.

Penalty charge notices: Fines issued for parking or traffic violations, such as parking on a double yellow line or driving in a bus lane.

Settings: In the context of this study, those are specific travel-related scenarios or environments where negative attitudes and behaviours towards disabled people are likely to occur e.g. seating on public transport.

Social Model of Disability: Developed by disabled people, this model says that disability is a result of barriers in society instead of an individual's impairment or difference.

Sunflower lanyard: A discreet sign that the wearer has a hidden disability and may need additional support.

11 Appendices

Appendix A: Details of statistical methods used to analyse survey results with non-disabled people

This appendix presents an overview of the statistical methods used to analyse the data. This overview is presented in the table below.

Overview of methods

Method name	Description
Proportional odds logistic regression	Using a **proportional odds logistic regression** statistical model we can investigate how predictive these descriptive variables are to the final impact outcome. We can use this due to the data being in ordinal categories and the model assumes that the relationship between each predictor and the odds of being in higher versus lower outcome categories is consistent across all thresholds — an assumption known as the proportional odds assumption. This analysis compares all the values within a descriptive group against a **reference group.** The reference group has been chosen as the one with the most data, to provide a stable and meaningful baseline for comparison.
P value test	To judge if a descriptive element we can use the p-value, the **p-value** answers this question: "If the predictor had **no real effect** on the outcome, how likely would it be to see a result **this strong or stronger** just by random chance?" • If the p-value is **small** (usually less than 0.05), it means your result is **unlikely to be**

	due to chance, so you can say the predictor **probably does have an effect**. • If the p-value is **large**, it means your result **could easily happen by chance**, so you **can't be sure** the predictor matters.
Odds ratio	Another way of looking at the model outputs is using the odds ratio. An odds ratio tells you how a **one-unit increase in your predictor** affects the **odds of being in a higher category** of the outcome (vs. all lower categories combined). This can be interpreted as below: • OR > 1 - Group is **more likely** to be in higher categories • OR < 1 - Group is **less likely** to be in higher categories (i.e., they score **lower**)
Wilcox test – p value	We can use a Wilcox test to test how similar the impact questions are. Some notes on the Wilcox test: • **Non-parametric -** Test doesn't rely on assumptions about the data's distribution. • **Paired or Related Groups -** The Wilcoxon test is designed for situations where you have data from two related groups, such as before and after treatment measurements on the same subjects.

	- **Ranked Differences -** The test focuses on the differences between paired observations, which are then ranked.
	- **Significance -**The test determines if the differences in the ranks are significant, suggesting a difference between the medians of the two groups.
	In essence, the Wilcoxon test determine if there's a significant difference in the medians of two related groups, particularly when the data is not normally distributed.
	When the p-value ≥ 0.05 between two questions in a paired Wilcoxon test, it means, **No strong evidence** that the distributions of responses differ between those two questions. In other words, the responses are **statistically similar** (at the chosen significance level, usually 0.05).

Appendix B: Interventions workshop with project staff

This appendix presents WSP and RiDC two workshops summary which took place as part of Task 3. **Error! Reference source not found.** p rovides a summary of the:

- Pain points felt by disabled people
- The barriers to correct behaviour by non-disabled people
- The expected correct behaviour.

Table 5: WSP and RiDC workshops summary

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
Seating on public transport	People who have a non-visible disability and/or look young are not taken seriously	• Not knowing if someone is disabled • People are too worried to ask	Respectfully ask if assistance is needed and be aware that disabilities are not always visible
Seating on public transport	Passengers expecting disabled people to climb over them to get out or to stand up immediately after pressing the bell, rather than waiting until the bus has stopped.	People put themselves first	Allow disabled passengers to exit first and wait until the bus has stopped before expecting them to stand
Seating on public transport	Passengers sitting too close, standing over you, or engaging in disruptive behaviours like eating smelly food or playing music loudly.	People put themselves first	Maintain personal space and avoid disruptive behaviours to ensure a comfortable environment for everyone

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
Seating on public transport	Disabled person giving up a seat to another disabled person	Lack of space on public transport	Be willing to offer your non-priority seat if needed
Seating on public transport	The problem of priority; who has greater priority?	People do not know who has priority	Be willing to offer your non-priority seat if needed
Seating on public transport	A disabled person might not be able to reach the seat	People are too worried to ask	Respectfully ask if assistance is needed and/or offer your non-priority seat if it is more convenient for the disabled person
Wheelchair spaces on public transport	People do not want to inconvenience others or are afraid to ask for what they need	Lack of understanding of what is expected	Be proactive and ask the person if they may need space
Wheelchair spaces on public transport	Pushchair users refuse to give up a space and/or are aggressive towards wheelchair users	Too difficult to move/fold up a pushchair	• Domino effect: Pushchair users to make space for wheelchair users when other passengers also make a shift to accommodate the

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
			pushchair user needs (give a seat) • Drivers to intervene when there is a conflict over a wheelchair space
Wheelchair spaces on public transport	Conflicts with other passengers over a space	People feel entitled to 'their' space and might get stressed to move	Be ready to move away and act before you are told to do so
Wheelchair spaces on public transport	Bus drivers only allowing one wheelchair user on a bus, not stopping for them, or allowing them on	Buses are often crowded and there is only one wheelchair space per bus	Bus drivers to stop and let wheelchair users on the bus if there's space and to be mindful of giving everyone time to get ready before going
Wheelchair spaces on public transport	Overcrowded trains and people sitting on folding seats on the train that are designed for wheelchair users.	People do not understand / are not empathetic towards disabled people	Be aware that wheelchair users have priority in using the designated wheelchair space
Wheelchair spaces on public transport	Wheelchair users having to ask people in wheelchair	People staring at wheelchair user	Passengers, including pushchair users and

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
	spaces to give them up	which makes the person feel bad	people with luggage to act before they are asked to
Wheelchair spaces on public transport	Young wheelchair users might be shy to ask for what they need	Public unaware of what children's wheelchairs look like	Recognise a children's wheelchair and move if required to make space
Street Space	People staring	People lack knowledge on different types of disabilities	Be aware that disabilities are not always visible
Street Space	Stigma and stereotypes	People lack disability awareness and as a result they do not know how to help/interact	Offer help to people by asking and do not touch a person without their consent (be ready to hear no)
Street Space	People do not try to interact	• People are focused only on themselves • It is difficult to recognise non-visible disabilities,	Be aware and mindful of your surroundings

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
		often realising it only when it's too late to offer assistance.	
Street Space	External factors, including too loud and crowded spaces	Changes in what is thought to be acceptable – not looking up from their phones, not using headphones	Pay attention to your surroundings and try to minimise noise e.g. don't shout and listen to the music on your headphones
Street Space	External factors, including too loud and crowded spaces	Misconceptions	Give wide space to someone with a cane (or other impairment) and be able to recognise different types of canes / impairments
Street Space	Lack of space	Environmental barriers that push people into conflict, having to compete for space	Do not block/clutter pavements
Street Space	People try to touch guide/support animals without consent	Misconceptions about support animals	Do not interact and make space for guide/support animals

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
Street Space	People who are constantly in a hurry, are not aware of their surroundings and do not notice people with disabilities, including the blind and visually impaired.	People do not consider space outside of their own zone	Give wide space to someone with a cane or impairment and be able to recognise different types of canes / impairments
Disabled parking	Non-disabled individuals parking in designated disabled spots.	• No other parking spaces available • Belief that stopping for a short time is acceptable.	Only park in disabled spots if you have the appropriate permit
Disabled parking	Experiencing abuse when addressing unauthorised parking	Not recognising the importance of disabled parking spaces.	Understand and respect the needs of disabled individuals, avoiding confrontations
Disabled parking	Conflict between parents and disabled people over disabled parking space	Using disabled spots due to lack of other parking spaces and alternatives to	Understand and respect the needs of disabled individuals, avoiding confrontations

Setting	What are the pain points felt by disabled people?	What are the barriers to correct behaviour by non-disabled people?	What is the correct behaviour?
		disabled spaces e.g. parent parking	

Appendix C: Long list of interventions

This appendix outlines a long list of interventions that could be developed to remove attitudinal barriers to transport. These were developed during the second WSP and RiDC workshop and were also derived from the literature review (Task 1). The interventions are grouped depending on the setting while the first grouping includes interventions that apply to all settings.

Interventions applicable to all settings:

Public awareness campaigns:

- Information about social model of disability - education campaign

- New campaign about sunflower (or other) lanyard that encourages correct use and knowledge about the scheme

- Awareness campaigns by high profile individuals/ influencers

Reporting and escalation

- Create clear escalation routes to report to

Seating on Public Transport:

Public awareness campaigns:

- Public awareness campaigns on vehicles and at stations (i.e. like the harassment campaign throughout London tubes)

Education and community engagement

- Education in schools and community groups - make it cool to do the right thing

Improved signage and messaging:

- More 'emotive' signage on public transport other than just 'priority seating'

- Bolder coloured seats for the priority seating

- Signs to give up a seat on the floor so people looking at phones can think about it

- Notices on the back of every seat

- Bigger clearer signs indicating priority seats and what they mean, in multiple languages

- Notices directly opposite the priority seats so people can see while sitting

- A sign/notice on a wall, which a disabled person can just point to, to make clear they need a seat

- An automated message from the driver encouraging moving when a disabled person gets on (recognition by lanyard?)

Inclusive seating initiatives

- A 'Do you want my seat?' or 'Ask for my seat' badge for non-disabled people to shift a burden on non-disabled people

- Make every seat a priority seat

Wheelchair spaces on public transport

Improved signage and visual aids

- Shading on the ground where the wheelchair goes, and the path wheelchair users need to get on

- Cross hatching on the floor

- Diagrammatic image of where the wheelchair will go

- "Prepare to fold your pushchair" sign

Space allocation and design

- Create space for families and buggies separate from wheelchair space

- Have more/multiple wheelchair spaces

- Separate areas for luggage etc

- Luggage lockers on trains

- Bike locks for bags to bars

Street Space

Public awareness campaigns:

- National awareness campaigns

- Campaign to share the space better

- Street posters on billboards

Improved signage and visual aids

- Having some kind of signage at pedestrian lights where you click the button

- Posters on the floor on pavements, asking people to look up at their surroundings

- Signs telling drivers not to stop in the middle of pedestrian crossings

Language and terminology:

- "Pedestrian" signs reworded to be "people"

- Change the word pedestrian to 'walking and wheeling'

Reporting and regulation:

- Reporting / Ombudsman - watchdog type body where it is possible to report areas that are particularly bad

- Legislation on mobility scooters

Behavioural encouragement

- Encourage people walking on the left

- Normalise stopping and then waiting for a disabled person to indicate where they want to go

Disabled Parking

Identification and symbols

- Change the blue badge scheme to something more relevant

- Change wheelchair to disability flag? Or multi-sensory symbols

Enforcement and education

- Clash with parent parking

- Implement a Local Resolution Order (LRO) and offer an awareness course for first-time offenders committing minor offences related to Blue Badge misuse

- More inspections, higher fines, and putting the picture on the front of the badge

- Utilise technology and involve cameras and scanners in enforcement

Parking allocation:

- Segregate disabled parking so that wheelchair users have their own bays

- Reconsider disabled bay placement e.g. not to always be right in front of cash points

Appendix D: Insights from Experts by Experience session

This Appendix gives additional detail to the findings from the Experts by Experience session held by RiDC with disabled people. The aim of this session was to help define the intervention areas ncat should prioritise in their survey.

To begin, participants were asked whether they thought ncat should start by focusing on public behaviour around sharing and providing space for disabled passengers. These issues had previously been identified as key pain points where non-disabled passengers displayed negative attitudes towards disabled passengers (ncat, 2025). Our participants agreed, suggesting that the following areas be targeted specifically:

- Seating on public transport
- Wheelchair spaces on public transport
- Street space
- Accessible parking spaces and Blue Badge parking.

Participants in the session reported that public interactions at transport hubs and train and bus stations (such as platforms, entrances and exits, concourse and bus stops) would also be important for ncat to focus on.

What interventions do disabled people think will work?

Six potential interventions were then presented to the Expert by Experience participants. Each intervention was discussed in turn, and participants were asked to share their views on the potential effectiveness of these interventions in changing the attitudes of non-disabled people, along with suggestions on how these interventions could be implemented.

The following section outlines the insights gained.

Intervention 1: Public awareness and educational campaigns

"Do you think public awareness and educational campaigns are an effective intervention to changing public attitudes towards disabled people? These can include using posters throughout stations, public awareness videos or messages."

- Consistency and repetition are key to getting people to build empathy and a better understanding of disabled people and their needs. Education campaigns with constant reminders, such as multiple advertisements within the station or on-board a train, could combat ignorance.
- Disabled people should be involved in the creation of these campaigns.
- "Non-visible impairments" should be featured in education and campaigns alongside people with visible impairment and access needs.
- Education and campaigns should also show the effects of the public's current attitudes towards disabled people whilst travelling, such as the emotional toll of their behaviour on disabled travellers, instead of just making suggestions as to what non-disabled people should do.
- Campaigns should educate people on where to put their luggage on public transport to ensure it doesn't take up space for disabled people, including clearer signage on-board trains.

Intervention 2: The non-visible impairment sunflower lanyard scheme

"Do you think the sunflower lanyard is an effective scheme? Do you have any thoughts on campaigns focusing on the sunflower lanyard?"

- **A singularly designed lanyard would avoid confusion when currently there are many types** of badges, cards, or lanyards that the wider public doesn't completely understand.

- **The sunflower lanyard received mixed opinions, with some saying it isn't given the same weight as an assistance aid or legal documents such as a Blue Badge.** There is concern that people might perceive lanyard users as faking an impairment due to the perception that people were using them to avoid mask-wearing during the pandemic.

- **Mixed opinions about whether a person should have to prove evidence of impairment to use a lanyard**. Some said it might make the public trust the schemes more, whilst others argued that disabled people shouldn't have to "prove" anything, and assistance shouldn't be over-policed.

Intervention 3: Bolder and more emotive signage

"Do you think bolder and more emotive signage are an effective intervention? What are your thoughts on having an automated message reminding people to be mindful of others' access needs?"

- **Support an automated message on public transport** reminding passengers to be mindful of disabled people.
- **Signage should be regularly updated** so the public notices any changes and is constantly reminded about best practices.
- **Messages should be given in an audio and visual form so people will be forced to either see or hear these messages.**

Having a variety of messages across stations and on-board will increase awareness. However, repetitive messages might also cause annoyance. This balance should be carefully managed to avoid unintended consequences.

- **Memorable audio messages should be used, similar to 'Mind the gap'.** This could become part of the traveller's routine and remind them of disabled people and their needs.

- **Signage should be diverse, both in imagery and writing** and include a variety of experiences. For example, older people and people with non-visible impairments and access needs.

- **A message reminding people of the penalties for using priority spaces for luggage was encouraged.**

Intervention 4: 'Do you want my seat?' or 'Ask for my seat' badges

"Another idea is having a 'Do you want my seat?' or 'Ask for my seat' badge for non-disabled people. What are your thoughts on this?"

- **There was scepticism towards asking non-disabled people to wear badges.** This was because these badges put the onus on the disabled person to have to ask for the seat, whereas it should be the people sitting who offer the seat.

- **Participants felt that passengers wouldn't wear these badges,** and those who do wear them are the ones who would already be willing to give up their seats in the first place.

- **For people with visual impairments, badges on non-disabled passengers wouldn't work.**

- **The badges might teach non-disabled people to be more responsible and aware of disabled people,** although it was not seen as a perfect solution.

- **Some felt that instead, the onus should be put on transport staff to ask people to give disabled people a seat or guide them to one.**

- **Any intervention is better than no intervention.** Although participants acknowledged some of the shortcomings of badges, they felt that they could still be helpful for some people and as part of a broader suite of interventions. There was a sentiment that any intervention is better than no intervention, and if this idea could help some passengers when asking for a seat, then it should be considered.

Intervention 5: Targeting younger people in intervention strategies

"What are your thoughts on targeting younger people in intervention strategies? Do you think young people are an important demographic that can help improve public attitudes?"

- Education in schools would be good for getting young people more knowledgeable about disabled people and their needs. It might prevent them from asking awkward questions or feeling embarrassed to learn.

- They could then pass this on to other young people (as well as other people in their lives, such as parents), who can be more receptive to change and open-minded and start their own campaigns.

Intervention 6: Improving the complaint processes

"Do you think complaint processes are an effective intervention strategy? Would you be likely to report a negative experience you face with other passengers or drivers to a complaints body or organisation?"

- **There should be an ombudsman and legal protections for making complaints to transport operators.** Making complaints can be very inaccessible, and being asked lots of questions before any help is provided introduces new barriers. This requires a lot of time and energy and can prevent people from making complaints altogether.

- **Bad publicity can help put pressure on train operators to take complaints more seriously and change their practices.**

- **There should be a better outline of the penalties and repercussions** for not helping disabled people.