

# Inclusive Transport Strategy Evaluation

# Understanding confidence to travel among disabled and non-disabled people

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# Introduction from the Department for Transport

We are delighted to publish this report, conducted by Natcen on behalf of the Department for Transport (the Department). The report is part of the Inclusive Transport Strategy (ITS) Evaluation research and evaluation series and presents valuable insights into the confidence levels of disabled people around travelling.

The findings presented here are based on responses to a survey of disabled and non-disabled people conducted as part of the Inclusive Transport Strategy evaluation. The responses have been analysed using a method called Latent Class Analysis to group people by common factors relating to their confidence in various aspects of travel. It aims to improve our understanding of barriers experienced by disabled people and what policy interventions may help to improve experiences.

The Department has used a similar analytical approach in other work, most notably on 'Transport User Personas: understanding different users and their needs' published in 2023. This work grouped the adult population of England by different needs, preferences and behaviour traits relating to travel. The Transport User Personas work is not specific to disabled people, rather it provides insight into the whole population of England and is intended to be a tool with a wide range of applications across all transport policy areas. For more information see: <u>Transport user personas</u>: understanding different users and their needs - GOV.UK (www.gov.uk)

This report, 'Understanding confidence to travel among disabled and nondisabled people' and the 'Transport User Personas' have different purposes and use different methods of analysis and cannot be compared quantitatively. However, some qualitative analysis based on the make-up of each set of groups has been conducted and identified the following similarities between groups from both pieces of work:

#### ITS Confidence Levels Group C: frequent users of public transport, very low confidence in most situations and Transport User Personas Segment 9: Young Low Income Without Cars.

Both of these groups tended to be younger and have mobility difficulties or mental health conditions that affected their travel. They were less likely to have access to a car than other groups and used public transport, particularly buses, as their main mode of travel. Both groups also showed concerns relating to COVID-19 and were more likely to avoid busy periods on public transport due to these concerns.

#### ITS Confidence Levels Group F: infrequent or non-users of public transport, only travel in very specific conditions and Transport User Personas Segment 7: Elderly & Low Income Without Cars.

Both these groups tended to be older and were likely to be retired and have a lower-than-average household income. Both groups have a high proportion of disabled people whose ability to travel was affected by their health conditions. They were also less likely to travel than the rest of the population. ITS Confidence Levels Group F was likely and rely on taxis more than other modes, while Transport User Personas Segment 7 tended to rely on friends and family driving them to destinations that were less accessible by public transport. Both groups were also more likely to live in urban areas and have safety and accessibility concerns around public transport.

#### ITS Confidence Levels Group G: Infrequent or non-users of public transport, low confidence in some situations and Transport User Personas Segment 1: Less Mobile, Car Reliant.

Both of these groups were likely to include people with health conditions and people aged 40 and over. People in both groups were likely to have access to a car and less likely use public transport, and their travel choices were likely to be affected by convenience, accessibility and health precautions. Both groups saw a reduction in journeys after the COVID-19 pandemic.

Collectively, the two studies enhance our understanding of the lives, experience, and needs of transport users and should be treated as complementary.

The 'Transport User Personas' study provides a comprehensive look at the attitudes and behaviour of transport users, how they vary amongst different groups, and the implications of this for policy development. The outputs paint a rich picture of the profile, experience and needs of each group. The transport Personas help decision-makers to consider how potential policies, programmes, and communications may impact different groups and can be tailored to meet different needs.

The analysis undertaken to produce this report has a very specific focus on understanding confidence to travel and how this varies amongst disabled and non-disabled people. This provides an extra layer of understanding about transport users. It provides deeper insight into the relationship between confidence and travel behaviour, transport choices, and experience of the transport network. The three groups which align most closely with the segments identified through the Transport User Personas study are all those with lower levels of confidence and a higher than average proportion of disabled people. The findings from this research can therefore provide additional evidence about these groups and some of the challenges they face when using the transport network and how these could be overcome.

Although there are similarities between three of the ITS confidence groups and three of the Transport User Personas segments, there is no like for like quantitative comparison. Therefore, it should not be assumed that, for example, a respondent allocated to Segment 9 Young Low Income Without Cars will display all the characteristics and behaviours as a respondent falling into Group C. Further research would be required to test this, for example by running a survey which included the questions used in the ITS Confidence Levels analysis and the 'golden questions' underpinning the Transport User Personas, which allow research participants to be allocated to one of nine segments within the population of England aged 16+. Doing so would allow identification of the segments that are most closely aligned to the low confidence groups.

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# **1.Key messages**

This report explores the factors that are most important in determining disabled people's confidence travelling. It does this by sorting the population – both disabled and non-disabled people – into seven distinct groups, each with a different 'confidence profile'. These seven groups differ in terms of the factors that affect their confidence and the kinds of journeys they take: travelling in busy periods, taking unfamiliar routes, travelling alone, or travelling without advance information about accessibility adjustments, amongst other factors. The data used comes from a random probability survey of disabled and non-disabled people, conducted in March 2023.

The aim of the report is to help the Department for Transport (DfT) to identify potential policy interventions in the transport system that have the potential to benefit disabled people. This could include **targeted** interventions, focussed on specific groups of disabled people, but could also include more **general** interventions that could benefit all or most disabled people, in addition to non-disabled people.

# 1.1 The groups

Although there were disabled people in each of the seven groups, there were three that contained high proportions of disabled people:

- A group of frequent public transport users, who nonetheless had very low confidence, with most factors strongly affecting their confidence to travel. This group were younger on average, had lower incomes, and were less likely to have access to a car. They were more likely to have a mental health condition than other groups, although the group contained a broad range of other types of conditions or impairments as well.
- A group of infrequent or non-users of public transport, who had relatively low confidence, with a range of factors affecting their confidence to travel. They did not tend to need advance information about accessibility adjustments. Instead of taking public transport, this group were more likely to be frequent car users. This group had a broad range of health conditions or impairments.
- A group of infrequent or non-users of public transport, who tended to not take any difficult journeys, including travelling at busy times, or unfamiliar routes, or having to make unexpected changes. This group was much more likely to have a mobility impairment and to use a mobility aid than other groups. They were older than other groups, on average, had lower incomes, and were less likely to have access to a car.

Of the four other groups, which did not contain high proportions of disabled people, two had high levels of confidence travelling, with very few if any factors affecting their confidence. One of these high confidence groups were frequent users of public transport, and the other used public transport rarely if at all, preferring to travel by car instead. Of the last two groups, both used public transport frequently, but one tended to avoid difficult journeys (during busy periods, or taking unfamiliar routes), whereas the other did take these journeys, but doing so affected their confidence.

### **1.2 Targeted interventions**

For the three groups described above that contained high proportions of disabled people, DfT's key priorities for each may be different. For the first group, the main priority may be to help these public transport users feel more confident on the journeys they are already taking. This may primarily involve interventions that help to relieve the anxiety that can be associated with travelling on public transport for many people, including non-disabled people, such as providing advance information that can help remove uncertainties. This group were notably more likely than others to have had a range of

negative experiences with public transport, such as overcrowding, or negative experiences with staff or other passengers. Mitigating against these would likely benefit this group disproportionately.

For the second group, the main priority may simply be to encourage greater use of public transport. This group were largely reliant on private vehicles to get around. The main factors that affected their confidence using public transport were travelling in busy periods, taking unfamiliar journeys, travelling alone, unexpected changes to journeys, and concerns around COVID-19. This suggests that a key factor in encouraging this group onto public transport will be simply improving the frequency and reliability of public transport, to make it a more appealing alternative to travelling by car.

For the third group, the main priority may be ensuring the physical accessibility of transport infrastructure, or providing alternatives to public transport. This group also stands to benefit most from increased provision of advance information about toilets and accessibility adjustments: over half of the group simply would not travel in the absence of advance information about the availability of either toilets or accessibility adjustments. However, there may be challenges involved in reaching them, given that older people, and disabled people, are disproportionately likely to be digitally excluded.

# **1.3 General interventions**

In addition to these more targeted interventions, the analysis also highlights two main cross-cutting factors, where more general interventions may be beneficial. Firstly, it is clear that women are significantly overrepresented in the least confident groups, particularly the first two listed above, whereas men are significantly overrepresented in the most confident groups. This was true for both disabled and non-disabled people. This suggests that policy interventions aimed at improving the travel experience of women, and interventions aimed at improving the experience of disabled people, may be mutually beneficial, at least for some groups of women, and some groups of disabled people.

Secondly, having advance information about the availability of toilet facilities was important for all three groups described above. For the first two groups, while they would travel in the absence of this information, this was much more likely to affect their confidence than other groups. For the last of the three groups, who were much more likely to have mobility impairments, over half would simply not travel if this information was lacking. These findings strongly suggest that providing advance information about toilet facilities, in a way that is accessible to both younger and older disabled people, has the potential to benefit a large number of disabled people.

# 2. Summary

This report presents the results of a Latent Class Analysis (LCA) of survey data collected as part of the Inclusive Transport Strategy (ITS) evaluation. The ITS, published in July 2018, is an ambitious programme of work which aims to create a transport system that offers equal access for disabled passengers by 2030. At its core, the ITS has an ambition for disabled people to have the same access to transport as everyone else, and to be able to travel confidently, easily and without extra cost.

This report uses data from a large-scale random probability survey of 3,861 disabled and non-disabled people. The survey was conducted in March 2023, and asked people about their travel behaviour over the last 12 months – a time when all COVID-19 restrictions had been lifted. Some of the survey participants also took part in a survey in August 2020, which asked them about their travel behaviour over the 12 months prior to the start of the COVID-19 pandemic, and this data is used in this report to look at how individuals' travel behaviour has changed over time. The large scale and high-quality design of the survey means that conclusions can be confidently generalised to the wider population.

# 2.1 Methodology

To understand the factors that are important in determining how confident people feel when travelling, a method called Latent Class Analysis (LCA) was used to classify people according to their responses to a series of questions. All survey participants – both disabled and non-disabled – were asked a range of questions about the factors that affected their confidence. These included:

- Travelling in busy periods
- Taking unfamiliar journeys
- Travelling alone
- Taking journeys that involved unexpected changes
- Travelling with extra baggage
- Lack of information about the availability toilet facilities
- Lack of information about the availability or state of accessibility adjustments
- Concerns about COVID-19

For each of these factors, participants were asked whether they took journeys of this type (apart from concerns about COVID-19), and if so, to what extent it affected their confidence travelling. Participants who indicated they used public transport in the last 12 months were also asked whether their confidence was affected by the following factors:

- Travelling on public transport
- Taking journeys on public transport that involves multiple modes
- Having negative interactions with other passengers
- · Having negative interactions with transport staff
- · Lack of knowledge from transport staff

Throughout this report, wherever differences between groups are reported, or where a group is described as being more or less likely to hold a view or have had an experience than the general population, these differences are statistically significant at the 95% level. If there is a difference between two groups in a survey, this does not guarantee that the same difference exists in the wider population, because a survey only collects data from a sample of the wider population. When we say that a difference between groups in a survey is statistically significant at the 95% level, this means that we can be 95% confident that the difference exists in the wider population, and if there were no difference between the groups in the wider population, and if the survey was repeated many times, with different samples from the wider population each time, in only 5% of the surveys would we observe the difference between groups that we do, in fact, observe in our actual survey.

### 2.2 The seven 'confidence profiles'

The analysis identified seven distinct groups which each had a different pattern of responses to these questions, meaning that that each group had a distinct 'confidence profile'. All of the groups contained both disabled and non-disabled people, in varying proportions. Four of the groups were frequent public transport users, and three of the groups were infrequent or non-users of public transport.

Amongst the frequent public transport users, the largest group were those who were **low in confidence in some situations**, in particular travelling at busy times, taking unfamiliar journeys, or experiencing unexpected changes. The next largest group were those who were **confident travelling in all situations**, for whom very little if anything affected their confidence. The remaining two groups of frequent public transport users were smaller. One group **tended to stick to their comfort zone**, tending to avoid difficult journeys that were busy, unfamiliar or complex. The other group did take these kinds of journeys, but had **very low confidence** in most situations, with almost all factors affecting their confidence, including whether they had advance information about accessibility adjustments.

Amongst the infrequent or non-users of public transport, the largest group were **confident travelling in all situations**, but simply chose to travel by other means. The next largest group were **low in confidence in some situations**, in particular travelling at busy times, taking unfamiliar journeys, or experiencing unexpected changes. The smallest group were those who **only travelled in very specific circumstances**, who very rarely if ever took difficult journeys that were busy, unfamiliar or complex, and who would not travel in the absence of advance information about the availability of toilets and accessibility adjustments.

The 'confidence profiles' of the seven groups are summarised in Figure 1. Throughout the report, the groups are referred to using the letters A to G.

#### Figure 1: 'Confidence profiles' of the seven groups

#### **Transport use: Frequent public transport users**

### **Group A**

Public transport users, confident travelling in all situations

#### Description

A group of frequent public transport users, who had high levels of confidence travelling, with very few if any factors affecting their confidence.

#### **Group** size

19%

### **Group B**

Public transport users, tend to stick to their comfort zone

#### Description

A group of frequent public transport users, who tended to avoid difficult journeys (during busy periods, or taking unfamiliar routes), and doing so was likely to affect their confidence.

#### Group size

10%

### **Group C**

Public transport users, very low in confidence in most situations

#### Description

A group of frequent public transport users, who nonetheless had very low confidence, with most factors strongly affecting their confidence to travel, including lacking information about availability of accessibility adjustments.

**Group size** 

13%

### **Group D**

Public transport users, low in confidence in some situations

#### Description

A group of frequent public transport users, who took difficult journeys, with most factors affecting their confidence, except for lacking information about the availability of accessibility adjustments.

Group size

Transport use: Infrequent or non-users of public transport

### **Group E**

Non-public transport users, confident travelling in all situations

#### Description

A group of infrequent or non-users of public transport, who had high levels of confidence travelling, with very few if any factors affecting their confidence.

**Group** size

### **Group F**

Non-public transport users, only travel in very specific circumstances

#### Description

A group of infrequent or non-users of public transport, who tended to not take any difficult journeys, including travelling at busy times, or unfamiliar routes, or having to make unexpected changes. Their confidence was affected by a lack of information about the availability of toilets or accessibility adjustments.

Group size

### **Group G**

Non-public transport users, low in confidence in some situations

#### Description

A group of infrequent or non-users of public transport, who had relatively low confidence, with a range of factors affecting their confidence to travel, except a lack of information about the availability of accessibility adjustments.

Group size

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# 2.3 The demographics and travel behaviours of the groups

While the groups were derived and defined in terms of their distinct 'confidence profiles', they differed substantially in their composition, including the extent and nature of disability within each group, their age and gender profiles, levels of employment and income, and where they lived. They also differed in terms of their travel behaviour and experiences, including their access to and use of private vehicles. This is summarised below.

#### 2.3.1 Frequent public transport users

#### A. Public transport users, confident travelling in all situations

Very little if anything affected the confidence of Group A when they travelled. This group was relatively large, and contained around one in five (19%) of the general population. However, while almost one in four (23%) non-disabled people were in this group, just one in ten (9%) disabled people were. The disabled people in this group were less likely to have mental health impairments than those in other groups.

Group A contained substantially more men (65%) than women (35%), and was more likely to be in employment than most other groups (66%).

Travel behaviour was similar compared with the general population, including use of private cars, but Group A were more likely to be frequent users of trains than other groups, and were more likely to have taken a flight in the last year. Their travel behaviour had changed little since before the pandemic. Whilst they were relatively likely to have had negative experiences on public transport, they did not feel that these affected their confidence to travel.

#### B. Public transport users, tend to stick to their comfort zone

Group B were relatively unlikely to take difficult journeys, such as journeys in busy periods, unfamiliar routes, journeys with unexpected changes, or that involved multiple modes. Perhaps as a result, they were unlikely to have had negative experiences on public transport. However, taking these kinds of journeys was also more likely to affect their confidence than it was for the more confident groups (A and E). Their confidence was generally not affected by the availability of advance information about accessibility adjustments. Around 10% of both disabled and non-disabled people were in this group. It was one of the oldest groups, on average, with nearly half (47%) aged 60+, and contained substantially more women (61%) than men (39%). They were slightly less likely to drive or be frequent train users, but in all other respects their mode use was similar compared with the general population

#### C. Public transport users, very low in confidence in most situations

Almost all factors strongly affected Group C's confidence when travelling. Despite this, this group were relatively frequent users of public transport, and were more likely to be frequent bus users than other groups. In part, this may be explained by the fact that Group C were amongst the least likely to have a driving license or access to a private vehicle and were therefore less likely to drive.

One in four (24%) disabled people were in this group, compared to just one in ten (9%) non-disabled people. For disabled people in this group, their health conditions and impairments tended to have a greater impact on their ability to carry out day-to-day activities than average, and they were more likely to have mental health conditions than other disabled people, although disabled people with a broad range of health conditions and impairments were also included in this group. Group C were slightly younger on average than other groups, contained substantially more women (62%) than men (38%), and were more likely to have low household incomes.

Group C were amongst the most likely (alongside Group G) to have had negative experiences when using public transport. They were also more concerned about COVID-19 than the other groups, and these concerns were more likely to have affected their travel behaviour, such as avoiding public transport, or avoiding busy periods.

#### D. Public transport users, low in confidence in some situations

Most factors affected Group D's confidence to some extent, and some factors had a strong effect: in particular, travelling at busy times, unfamiliar journeys, and unexpected changes. However, Group D's confidence was not affected by a lack of information about accessibility adjustments, unlike Group C. They were amongst the most likely (alongside Group C) to have had negative experiences when using public transport.

Group D was one of the larger groups, making up a quarter (26%) of the general population. They were slightly less likely than the wider population to be disabled, and those who were disabled had less severe and fewer conditions or impairments, were less likely to have mobility/stamina impairments or use a mobility aid, and were less likely to have a condition or impairment that was clearly visible to others. They were more frequent travellers by bus and train than most groups, were younger on average, more likely to be employed, and more likely to live in London.

#### 2.3.2 Infrequent or non-users of public transport

#### E. Non-public transport users, confident travelling in all situations

Very little if anything affected the confidence of Group E when travelling, like Group A. However, unlike Group A, Group E were amongst the least frequent users of public transport, including taxis, and were less likely to be public transport users post-pandemic, compared to pre-pandemic. Instead, they tended to drive. Amongst non-disabled people, 17% were in this group, compared to just 9% of disabled people.

There were other differences between Groups E and A. Whilst both were unlikely to be disabled, and both contained substantially more men than women, Group E was older on average, and more likely to live outside of London and in rural areas.

F. Non-public transport users, only travel in very specific circumstances

Group F tended to travel rarely, and only in very specific conditions. They tended not to travel in busy periods, to take unfamiliar journeys, to travel alone, or with extra baggage. They tended not to take journeys that involved a change of modes, or involved unexpected changes to the route. If they did not have information in advance about the availability of accessibility adjustments, over half (61%) would simply not travel, and a similar proportion (55%) would not travel without advance information about toilet facilities. They travelled less often than the general population by all modes except taxi, and their use of public transport was lower post-pandemic than it was prepandemic. They were also less likely to have a driving license and therefore less likely to drive a car.

While Group F was relatively small (6% of the general population), over half (57%) were disabled, a higher proportion than any other group. The disabled people in Group F were more likely than others to have multiple conditions and impairments, and these conditions and impairments on average had a higher impact on their ability to carry out day-to-day activities. They were more likely than disabled people in other groups to have a condition or impairment that affected their mobility or stamina, that they felt was clearly visible to others, and they were more likely to use a mobility aid such as a wheelchair or walking frame.

Consistent with this, Group F were significantly older on average than the general population, with over half (52%) aged 60+. They were unlikely to be employed, more likely to have low household incomes than other groups, and most were either retired (32%) or not working due to permanent sickness or disability (30%). There was an even gender balance within the group.

**G. Non-public transport users, low in confidence in some situations** Similar to Group D, most factors affected Group G's confidence to some extent, and some factors had a strong effect (travelling at busy times, unfamiliar journeys, and unexpected changes), but their confidence was typically not affected by a lack of advance information about the availability of accessibility adjustments. Despite these similarities, they were less likely to be regular users of buses, trains and taxis than Group D, and were more likely to have a driving license and access to a car. Group G were also less likely to use public transport post-pandemic than they were pre-pandemic.

There were several features that set Group G apart from Group D. Group G was more likely to be disabled (40%), and their health conditions and impairments had a greater impact on their ability to carry out day-to-day activities than average. Group G was heavily skewed towards women (69%), was more likely to live outside of London, and in rural areas. They were slightly older than Group D, on average, and slightly less likely to be in employment.

### 2.4 Report overview

The rest of this report explores the differences between groups in more detail. Chapter 3 provides an overview of the relative sizes of the different groups, for both disabled and non-disabled people, and then provides a summary of the demographic variation between them, in terms of their health conditions and impairments, their age and gender profiles, and levels of employment and income.

Chapter 4 then explores their travel behaviour and experiences, including which public transport modes they use, their access to and use of private vehicles, and how their mode use has changed over time. It also explores the impact of COVID-19 on their travel choices, their use of concessionary travel, their negative experiences when travelling, and the extent to which they required advance information about accessibility adjustments and toilets when travelling. Chapter 5 provides a high-level overview of the methodology, and Chapter 6 contains a detailed technical appendix.

# **3.Demographic** variation between groups

This chapter describes the key differences between the groups, in terms of their size, the extent and nature of health conditions and impairments, their travel behaviour, their age, gender, employment, income, and their location.

### **3.1 Group size**

The single largest group was group D (26%), who were public transport users with low confidence in some situations. This group was amongst the largest for both the disabled and non-disabled populations (Figure 2).

For non-disabled people, the two other large groups were A and E, the two highconfidence groups. For disabled people, the two other large groups were C and G, both of which were low-confidence groups: Group C used public transport regularly, but most factors affected their confidence; Group G were infrequent or non-users of public transport, who had low confidence in some situations.



#### Figure 2: Group sizes for the general population, disabled population, and non-disabled

# **3.2 Health conditions and impairments across groups**

The extent and nature of disability varied substantially across the groups. Given that the groups were originally derived and defined in terms of factors that affect confidence, and not in terms of disability, this provides further compelling evidence of the strong relationship between disability and people's travel experiences, behaviours and choices.

The table below shows, for each of the groups, whether the proportion who were disabled was higher or lower than the general population (Table 1). For the disabled people within each group, the table also shows whether their health conditions or impairments impacted their day-to-day activities 'a lot' (as opposed to 'a little'), whether they had multiple conditions or impairments, whether they felt their condition or impairment was visible to others, whether they used a mobility aid, whether they had a mobility or stamina impairment, and whether they had a mental health impairment. For each of these, it shows whether the proportion was higher or lower than the disabled population as a whole.

#### Table 1: Disability across groups

		Amongst disabled group members:					
Group:	Proportion disabled	Impact on activities	Multiple impairments	Visible	Mobility aid	Mobility/ stamina	Mental health
A. Public transport users, confident travelling in all situations	Low						Low
B. Public transport users, tend to stick to their comfort zone						High	Low
C. Public transport users, very low in confidence in most situations	High	High					High
D. Public transport users, low in confidence in some situations	Low	Low	Low	Low	Low	Low	
E. Non-public transport users, confident travelling in all situations	Low						Low
F. Non-public transport users, only travel in very specific circumstances	Very high	High	High	High	High	Very high	
G. Non-public transport users, low in confidence in some situations	High	High					

The two high-confidence groups (A and E) were the least likely to be disabled. All of the lower confidence groups were disproportionately likely to be disabled (C, F, and G), except for Group D. Whilst Group D lacked confidence travelling, this was not for reasons relating to disability or accessibility.

There were three groups in which disabled people were significantly overrepresented: one group of frequent public transport users (Group C) and two groups of infrequent or non-users (Groups F and G). These three groups differed in the extent and nature of their disabilities:

- The disabled people in Group C were more likely to have mental health conditions than other groups.
- Group G, who were non-users who had low confidence in some situations, but who did not require advance information about accessibility, contained a relatively representative cross-section of disabled people, albeit with slightly more severe conditions and impairments, on average.
- Group F, in contrast to Group G, were more likely to avoid difficult journeys and require advance information about accessibility. This group had a very high proportion of people with mobility or stamina impairments, people who used mobility aids, and with multiple or severe conditions or impairments.

### **3.3 Gender and age**

There were striking differences between groups in their gender profile, which were consistent for both disabled and non-disabled people (Figure 3). The two high confidence groups were disproportionately comprised of men, whereas the lower confidence groups tended to be disproportionately comprised of women. The exception is group F, whose lack of confidence is primarily related to their disabilities, which tended to affect their mobility: this group was equally comprised of men and women. These findings suggest that policy interventions aimed at improving the travelling confidence of women and interventions aimed at improving the travelling confidence of disabled people may be mutually enhancing, at least for some groups of women and some groups of disabled people.

#### Figure 3: Gender balance across groups



#### Figure 4: Age distribution across groups



- A. Public transport users, confident travelling in all situations
- E. Non-public transport users, confident travelling in all situations
- F. Non-public transport users, only travel in very specific circumstances
- D. Public transport users, low in confidence in some situations
- B. Public transport users, tend to stick to their comfort zone
- C. Public transport users, very low in confidence in most situations
- G. Non-public transport users, low in confidence in some situations
- D. Public transport users, low in confidence in some situations
- C. Public transport users, very low in confidence in most situations
- A. Public transport users, confident travelling in all situations
- G. Non-public transport users, low in confidence in some situations
- E. Non-public transport users, confident travelling in all situations
- B. Public transport users, tend to stick to their comfort zone
- F. Non-public transport users, only travel in very specific circumstances

There were also clear differences between groups in their age profile, which were also consistent for both disabled and non-disabled people (Figure 4). The groups who were public transport users tended to be composed of younger age groups, whereas the groups who did not use public transport tended to be composed of older age groups. The groups that skewed towards younger ages were low in confidence, and either tended not to be disabled (Group D) or, if disabled, to have mental health conditions (Group C). The groups that skewed towards older ages tended to be those that avoid difficult or unfamiliar journeys: Group B, who used public transport relatively regularly; and Group F, which contained the largest proportion of older people, who infrequently or never used public transport, and had low confidence primarily related to their disabilities, which tended to affect their mobility.

## **3.4 Employment and income**

There were differences between groups in their employment status, specifically with the proportions of individuals in each group being employed, retired or permanently sick or disabled (Figure 5). These differences were consistent for both disabled and non-disabled people.

The more confident groups (A and E) were amongst the most likely to be employed. However, Group D also contained a high proportion of people in employment: although this group had low confidence in some situations, they were younger on average, slightly less likely than the general population to be disabled, and more likely to live in London.

Unsurprisingly, the groups with the highest proportion of retired individuals were the oldest groups (B and F). While both groups B and F tended to avoid difficult or unfamiliar journeys, group B were frequent users of public transport and group F infrequently or never used public transport.

The groups in which individuals were most likely to be permanently sick or disabled were also the same groups in which disabled people were significantly overrepresented, as would be expected.



#### Figure 5: Economic status across groups

- D. Public transport users, low in confidence in some situations
- Public transport users, confident travelling in all situations
- E. Non-public transport users, confident travelling in all situations
- C. Public transport users, very low in confidence in most situations
- G. Non-public transport users, low in confidence in some situations
- B. Public transport users, tend to stick to their comfort zone
- F. Non-public transport users, only travel in very specific circumstances

'Other' includes people in full-time education, on a government training/employment programme, who were unemployed, looking after their home or family, or doing something else.

There were also significant differences between the groups in income levels (Figure 6). Of the three groups (C, F and G) in which disabled people were significantly overrepresented, two (C and F) had notably lower average incomes that the general population. Perhaps unsurprisingly, of these three groups, Group G was much more likely to have access to, and regularly use, a private car.



#### Figure 6: Monthly equivalised household income across groups

- C. Public transport users, very low in confidence in most situations
- F. Non-public transport users, only travel in very specific circumstances
- B. Public transport users, tend to stick to their comfort zone
- G. Non-public transport users, low in confidence in some situations
- A. Public transport users, confident travelling in all situations
- D. Public transport users, low in confidence in some situations
- E. Non-public transport users, confident travelling in all situations

# 3.5 Location

There were very different distributions of groups in London, as compared to the rest of Great Britain (Figure 7). These differences were consistent for both disabled and non-disabled people. London was overwhelmingly composed of groups that are users of public transport, making up around 90% of the London population. In contrast, there were higher proportions of non-users of public transport living in the rest of Great Britain, where almost two in five individuals used public transport infrequently or not at all. Group D, who were users of public transport, low in confidence, and disproportionately non-disabled, make up a larger proportion of the population in London compared with the rest of Great Britain.



#### Figure 7: Group sizes for those living in London and the rest of Great Britain

# **4.Use and experiences of public transport**

This chapter provides an overview of how the groups differed in their use of public transport, and their access to and use of private vehicles. It looks at how their public transport use has changed over time, before looking at the effect that concerns over COVID-19 has had on their travel behaviour. It summarises variation in the use of concessionary travel, and reasons for *not using* concessionary travel. Lastly looking at their negative experiences with public transport, and the extent to which people required advance information about accessibility adjustments and toilets.

It is worth noting that although the ITS survey contained a very broad range of questions, all of which could potentially have been explored here, we have focussed only on those for which there was interesting variation between groups.

## 4.1 Mode use

There were very large differences between groups in the overall level of public transport use, and, to a lesser extent, in which particular modes they tended to use most often (Table 2). For this reason, the seven groups have been split into those that use public transport frequently (A-D), and those that use public transport rarely or not at all (E-G).

The table below shows, for each group, whether the proportion of people who used buses, trains and taxis at least once a month was relatively high or low compared to the general population. It also shows information about driving: whether the proportion who had a driving license, had car access, and drove at least once a week, was high or low compared to the general population.

	Public trans	Public transport [			Driving			
Group:	Bus (at least once a month)	Train (at least once a month)	Taxi (at least once a month)	Has a driving license	Has car access	Drives at least once a week		
A. Public transport users, confident travelling in all situations		High						
B. Public transport users, tend to stick to their comfort zone		Low				Low		
C. Public transport users, very low in confidence in most situations	High			Low	Low	Low		
D. Public transport users, low in confidence in some situations	High	High						
E. Non-public transport users, confident travelling in all situations	Very low	Very low	Low	Very high	High	Very high		
F. Non-public transport users, only travel in very specific circumstances	Low	Very low		Low		Low		
G. Non-public transport users, low in confidence in some situations	Very low	Very low	Low	High	High	High		

#### Table 2: Mode use across groups

The following key findings stand out:

- Of all transport modes, the use of taxis is least strongly related to group membership. This suggests that the factors that make people more or less confident travelling are more relevant to other modes than taxis. Participants were also asked how confident they were using different modes, and the three groups with the highest proportions of disabled people (C, F and G) were all more confident using taxis than buses or trains, whereas there was no such difference in confidence for the other groups. This is consistent with other research conducted as part of the ITS evaluation, showing that disabled people often rely on taxis in order to avoid other modes.
- Group C, who were very low in confidence in most situations, were nonetheless more frequent bus users than most. This may be related to the fact that they were also less likely to have a driving license, access

to a car, and be driving regularly. This group contained a relatively high proportion of disabled people, who were more likely than others to have a mental health impairment. On average, this group were younger than others, and on lower incomes.

• Group F, despite being the most likely to be disabled, to have impaired mobility, and to use a mobility aid, nonetheless used buses and taxis more than the other two groups who used public transport rarely or not at all (Groups E and G). This may be related to the fact that they were less likely to have a driving license or drive regularly.

Other transport modes not included in the above table include air travel and maritime travel. Groups C and D were slightly more likely to have used air travel in the last year. These were the two highest income groups. Group F was very unlikely to have used air travel or maritime travel.

### 4.2 Changes in mode use over time

A sizeable proportion of participants also took part in a survey in August 2020, which asked them about their travel behaviour in the 12 months prior to the start of the COVID-19 pandemic (from March 2019 to March 2020). It is therefore possible to look at how the travel behaviour of each group changed over time, comparing that 12-month period with the 12 months from March 2022 to March 2023, when there were no COVID-19 restrictions in place.

The three groups that used public transport infrequently or not at all (E, F and G), were all *less likely* to have used public transport after the pandemic than they were before. Of those that had used public transport in the postpandemic period, these groups also travelled by bus less frequently than they did before. By contrast, for the four groups that used public transport frequently (A, B, C and D), there was very little, or no change compared to the pre-pandemic period.

These findings suggest that those groups that were already infrequent public transport users prior to the pandemic have become even less frequent users. In other words, over the course of the pandemic, the gap in travel behaviour between groups widened.

# 4.3 Concern about COVID-19 when travelling

Participants were asked about whether concerns around COVID-19 affected their travel since all lockdown restrictions were lifted in 2022. Specifically, they were asked whether it meant they used different modes compared to before, whether they avoided public transport, or whether they avoided public transport during busy periods.

Group C, who travelled frequently but for whom most factors affected confidence, were notably more concerned about COVID-19 than other groups. Around four in ten (43%) agreed with the statement that they had avoided public transport as a result of concerns, and over half (51%) agreed with the statement that they had avoided travelling in busy periods. Unsurprisingly, the two high confidence groups (A and E) were less likely than all other groups to say that concerns around COVID-19 affected their travel. In part, this is related to gender: both high confidence groups were disproportionately comprised of men, who were slightly less likely than women to have felt that concerns about COVID-19 affected their travel.

# 4.4 Use and awareness of concessionary travel

Group C, which contained the highest proportion of disabled people amongst the four groups of frequent public transport users, was the most likely to hold a Disabled Person's Railcard (11%), and amongst the most likely to hold a disabled person's concessionary bus pass or Freedom Pass (19%), as was Group F (21%).

Amongst those disabled people who did not hold a Disabled Person's Railcard, there was variation in the reasons they gave for this. Looking at the three groups that contained high proportions of disabled people (C, F and G), across all three, around a quarter said they did not hold a Disabled Person's Railcard because they did not know they existed. However, Group C, who used public transport relatively frequently, were more likely to say they did not believe they were eligible for one, or that they used a different railcard. Groups F and G, who used public transport infrequently or not at all, were more likely to say they simply did not travel by train often enough, or did not see the benefit of having a railcard, or that they simply did not want one.

# 4.5 Negative experiences on public transport

Participants who had travelled by bus, train or taxi were asked about whether they had had negative experiences while using those modes. These included a wide range of possible experiences, including negative experiences with: staff or passenger behaviour; availability or cancellations; accessibility; access to priority seating or wheelchair spaces; poor lighting or litter; a lack of information before travel or en route; overcrowding; and not having enough time to get on or off.

Amongst the four groups that used public transport frequently, there was notable variation in the proportion of people who had had a negative experience, of any kind, across modes (Table 3). Group B, who tended to avoid difficult journeys, such as busy or unfamiliar journeys, were the least likely to have had a negative experience. Groups C and D, who were low in confidence in all or most situations, were very likely to have had a negative experience. For Group A, although a relatively high proportion had had a negative experience, this did not affect their confidence.

#### Table 3: Negative experiences when travelling by bus, train and taxi, across groups

	Mode		
	Bus	Train	Тахі
A. Public transport users, confident travelling in all situations			Low
B. Public transport users, tend to stick to their comfort zone	Low	Low	Low
C. Public transport users, very low in confidence in most situations	High	High	
D. Public transport users, low in confidence in some situations	High	High	

Amongst the three groups that used public transport infrequently or not at all, levels of negative experiences were relatively low.

Whilst it is possible to look at the specific *types* of negative experiences that different groups had across different modes, the number of people who experienced any given type of negative experience was low. As a result, these figures are not reported here.

# 4.6 Advance information about accessibility adjustments and toilets

The availability of accessibility adjustments and toilets, and, in particular, whether information about them was available in advance, were clearly much more important for the three groups with a high proportion of disabled people (C, F and G) than other groups.

Group C, who travelled frequently, and Group F, who travelled rarely and tended to have mobility impairments, were the most likely to need accessible toilet facilities. Group C, unsurprisingly, was the most likely to have had difficulties accessing or using toilet facilities in the past, whether on trains, at train stations, or at motorway service stations.

For Group F, who travelled rarely and were much more likely than other groups to have mobility impairments, over half (61%) simply would not travel if advance information about accessibility adjustments was lacking, and similar proportion (55%) would not travel without advance information about toilet facilities.

For Groups C and G only around one in ten said they would not travel without advance information about accessibility adjustments or toilets. However, their confidence was nonetheless likely to be affected by the absence of this information, particularly for toilets: 69% of Group C said a lack of advance information about toilets would affect their confidence, and 41% of Group G said the same, much more than other groups.

# 5. Methodology

There are a range of statistical approaches, widely used in psychological, market and epidemiological research, which group people together according to their shared profiles across a number of characteristics. This is valuable where you have several questions which all address a similar topic, but which cannot be readily combined. These methods allow the data to be simplified, often revealing underlying patterns that are not clear from each separate question.

Latent class analysis (LCA) is one such approach. It is a multivariate statistical method for identifying categorical latent variables. These are variables that cannot be directly observed, usually because the latent concept is multidimensional, or because the self-classification of study participants in response to a direct question would have an unacceptable level of error. Unlike theoretically informed approaches – where a researcher imposes groupings top down on the data – this is a data-driven approach which allocates people to the categories of the latent variable based on the patterns found in the data.

The typical output is a population typology where everyone in the sample is assigned to one group. The people in each group (or latent class) will be different from those in other groups on at least one of the characteristics entered into the model. Unlike other techniques for developing typologies, such as cluster analysis, LCA is model based. This means that the allocation of study participants to the different classes can be inferred to the population from which the sample is drawn. The model also provides an estimate of the uncertainty (in the form of standard errors) around the class allocation in the population and around the class conditional probabilities (the likelihood of a person in a given class selecting a particular response option). This allows us to quantify the degree of uncertainty around these estimates, which is not possible in non-inferential methods such as cluster analysis.

In this analysis, the data entered into the model are a series of questions about how people's confidence when travelling is affected in various situations, for example, travelling alone, at a busy time, or on public transport. These experiences could be thought of as travel events that are more demanding or stressful than normal, at least for some people. Using this data, the LCA groups people into latent classes according to how their confidence is affected in these situations, differentiating between people whose confidence is rarely if ever affected, those whose confidence is affected in several situations, and people who are somewhere in between – perhaps affected only by a specific situation but confident in other areas.

In addition, because not everyone had these different travel experiences, the data entered into the model also included a response option for not having been in each situation. This is important, because it may reflect the fact that a person who finds this experience more difficult or challenging than most people would have intentionally avoided it, or simply could not make that type of journey, even if they wanted to. If the LCA identifies a group highly likely to avoid these demanding or stressful travel situations, this may indicate a different type of low confidence, rather than a set of people who do travel and have low confidence while doing so, they could be a class of people that do not go on challenging or demanding journeys.

This latent class analysis incorporates both these elements into the same model, so the resulting typology (latent variable) will reflect a combination of having lower confidence when in these different travel situations and avoiding or not engaging in them at all.

### 5.1 Questions used in the analysis

The following questions were used in the LCA:

In the last year, how much did...

- ... having to travel in busy periods affect your confidence when you travelled?
- ... your familiarity with the journey affect your confidence when you travelled?
- ... having to travel alone affect your confidence when you travelled?
- ... an unexpected change to your journey (e.g. a train cancellation or a closed road) affect your confidence when you travelled?
- ... travelling with extra baggage (e.g. shopping) affect your confidence when you travelled?
- ... lack of information about the availability of toilet facilities affect your confidence when you travelled?
- ... lack of information about the availability or state of accessibility adjustments (e.g. ramps or lifts) affect your confidence when you travelled?
- ... concerns about coronavirus affect your confidence when you travelled?
- ... having to use public transport affect your confidence when you travelled? By public transport we mean local buses, trains, underground services, light rail and trams.
- ... having to change modes (e.g. from a bus to a train) affect your confidence when you travelled on public transport?
- ... having negative interactions with other travellers affect your confidence when you travelled on public transport?
- ... having negative interactions with or experience lack of knowledge from transport operator staff affect your confidence when you travelled on public transport?\*

\* Note: the final item in the list above is a combination of two survey questions. These were too strongly correlated (>0.5) to be included in the model separately.

# 6. Technical appendix

### 6.1 Latent class analysis

Latent class analysis (LCA) is a multivariate statistical technique for identifying categorical latent variables. These are variables that cannot be directly observed, usually because the latent concept is multidimensional, or because the self-classification of study participants in response to a direct question would have an unacceptable level of error.

Study participants are grouped based on their sharing a similar profile on a set of observable characteristics which are entered into the model. Observed variables entered in the model are expected to vary depending on the value that would be assumed by the latent variable measured in the LCA. In this case the LCA was designed to develop a measure of travel confidence. Study participants were grouped based on how different types of travel experiences affect their confidence when travelling and whether a person had that experience. Unlike other techniques for developing typologies (such as cluster analysis), LCA is model based, meaning the allocation of study participants to the different classes of the latent variable accounts for probabilistic distributions. As such, there is a level of uncertainty (standard errors) around class allocation in the sample, but the results of the model can be inferred to the general population.

The selection of the model is based on statistical parameters that help assess several models and select the one which best fits the data. A typical approach to this process is to fit several models, each with a different number of classes, and compare the results – looking to select the one which both fits the data best but also is most substantively meaningful. Once the optimal solution has been identified each person can be assigned to the class to which they have greatest probability of belonging, given their pattern of responses on the observed variables.

The LCA was conducted using the poLCA package (version 1.6.0.1) in R/RStudio, on unweighted data. Additional descriptive analysis was then conducted in SPSS.

# **6.2 D**ata

Twelve variables were included in the LCA. Nine of them had three levels: "did not experience", "experienced, but did not affect my confidence" and "experienced, affected my confidence". Some questions were routed to be asked of only those who had used public transport in the last 12 months, where people had not used public transport they were coded as "did not experience". Responses where people had not experienced something are not inherently indicative of low confidence, however, previous descriptive analysis of these questions had shown that these people had lower levels of confidence when travelling. In addition, several of these experiences were indicative of a more demanding travel experience, for example, travelling by yourself, with extra baggage, or making a journey with a change of mode. While these might be relatively simple for some people, for others they may be challenging. As such these responses were considered as a secondary tier of answers potentially indicating less confident travellers - while also acknowledging they might also reflect a simple lack of need to engage in that form of travel or a preference not to.

Three questions were not coded with a "did not experience" response. The first asked "In the last year, how much did concerns about coronavirus affect your confidence when you travelled?". On the assumption that the coronavirus will have been experienced by everyone this question had no "does not apply" response. The other two asked about how a "lack of information about the availability of toilet facilities" and a "lack of information about the availability or state of accessibility adjustments (e.g. ramps or lifts)" affects confidence when travelling. In these two questions the "does not apply" option was phrased as "I did not travel if this information was lacking". In these cases we can attribute someone's not travelling to this factor, whereas in others it's not clear whether someone, for example, did not travel alone because they simply did not need to or because they would lack the confidence to do so. In that sense these responses can be considered as direct indications that these issues affect someone's confidence when travelling, and so they were combined into the "affected my confidence" response. These answers were also quite low prevalence and it is advised

to combine low frequency answer options (reported by fewer than 10% of respondents) where selecting that response may define membership of a class (Sinha et al., 2021).

# 6.3 Identifying the number of classes

In a latent class analysis the aim is to identify the optimal number of classes. Unless there are strong theoretical grounds to consider only one model it is usual to consider a range of possible models with different numbers of classes and choose the most appropriate using some specified criteria. In this analysis we tested models with between 1 and 10 classes. To decide which model to use a combination of model fit statistics, classification statistics and class interpretability were used.

**Model fit:** a general principal in fitting a statistical model is to balance the fit of the model with parsimony – if two models fit a dataset equally well then the one with fewer parameters (in this case fewer classes) is chosen. There are a number of fit statistics for LCA which attempt to measure model fit and the information criteria (BIC and AIC) are two of the most commonly used. Where the sample size is large BIC is preferred because it balances model fit against parsimony. The likelihood ratio chi-square statistic L2 is also sometimes reported, however, in cases where the data is sparse it cannot be interpreted reliably. Data sparsity refers to situations where many of the unique combinations of the indicator variables used in the model are reported by zero or very few people, which is the case in this analysis and so it has not been relied on. The BIC indicates that a model with 10 classes has the best model fit, however, the improvement in BIC after a model with 6 classes was minimal (Weller et al., 2020).

#### Table 4: Model fit criteria

Class	Log likelihood	AIC	BIC	L2
1 class	-42,377	84,796	84,927	1,743,814
2 classes	-38,928	77,941	78,210	894,301
3 classes	-36,858	73,846	74,252	2,595,021
4 classes	-35,893	71,960	72,503	922,368
ō classes	-35,437	71,091	71,772	217,421
6 classes	-35,038	70,339	71,157	250,110
classes	-34,814	69,933	70,889	185,939
8 classes	-34,648	69,646	70,739	150,779
9 classes	-34,495	69,383	70,614	147,801
10 classes	-34,367	69,173	70,541	136,795

**Classification statistics:** a model's ability to allocate respondents to different classes is also important. Using the conditional probabilities of responding to each item based on someone's class membership, Bayes theorem can be used to calculate posterior membership probabilities for each person (how likely someone is of belong to each class). There are a number of statistics that measure how effectively a LCA is able to allocate people to different classes, and these are particularly important where, as in this analysis, respondents are allocated to the class for which they have the highest likelihood of membership.

The first measure considered in this area was each model's relative entropy. This ranges from between 0 and 1, with a cut-off score of 0.8 typically considered to indicate a good enough ability to discriminate between classes (and a score of below 0.6 not acceptable). All the models estimated are above the cut-off of 0.8, with the exception of the 10 class model where the entropy is 0.8. Second is the classification error rate – this is the average probability across people analysed in the model of a person's being allocated to another class besides their most likely one, with a lower score indicating a greater confidence in allocating people to their class. There is not an agreed cut-off for this value, with recommendations values of below either 0.2 or 0.1 (Weller et al., 2020).

#### **Table 5: Classification statistics**

Class	Smallest class size (n)	Smallest Class %	Entropy	Classification Error	
1 class	3,823	1	NA	0	
2 classes	1,789	0.47	0.81	0.06	
3 classes	1,039	0.27	0.843	0.07	
4 classes	816	0.21	0.844	0.09	
5 classes	414	0.11	0.852	0.1	
6 classes	411	0.11	0.833	0.12	
7 classes	277	0.07	0.826	0.13	
8 classes	238	0.06	0.837	0.13	
9 classes	213	0.06	0.835	0.14	
10 classes	202	0.05	0.8	0.18	

**Interpretability:** in LCA a model's fit is balanced against how far a model is substantively meaningful. If adding an additional class leads to an improvement in fit, but the new class cannot be effectively explained based on its pattern of responses on the observed variables or differentiated from existing classes, then increasing the model's complexity is of limited value. Given this it was decided that while a model with 8 classes did lead to some improvement in fit, these were no longer substantively interpretable, and the 7-class model was selected as the most useful model for understanding patterns of confidence when travelling. A more parsimonious model with only six classes might also have been selected, however, the addition of the seventh class identified a substantively useful additional class and did not greatly affect either the model's entropy or classification error rate (see Nylund-Gibson & Choi, 2018, for a discussion on model selection).

# 6.4 Classifying individuals and describing classes

Once a model had been chosen, the next steps is to relate membership of each class with a respondent's answers to each of the question entered into the LCA and thus describe each class.

This can be done using the estimated conditional probabilities of responding to an item in different ways depending on a person's class membership. These show for example, that a person in Class 1 has a probability of 87% of reporting that travelling busy periods has affected their confidence while travelling in the last 12 months, a 2% chance of saying it did not affect their confidence, and an 11% chance of not having travelled in a busy period over that time. These were used to explore the interpretation of classes in the different estimated class solutions and are shown in Table 6 below.

However, once we had chosen our final model respondents were classified as belonging to the class for which they have the greatest likelihood of membership. This allows for the latent variable to be treated like any other categorical variable, which can be analysed against external variables not included in the LCA, for the weighting to be taken into account, and for the classes' descriptions to be based on descriptions of our real sample, rather than estimates of parameters which may have quite large standard errors. All results in the main body of the report are provided based on this approach. For reference, the conditional probabilities generated by the LCA model are provided in the table below.

Survey items	Class						
	A	В	С	D	E	F	G
Busy periods - Affected	9	31	87	69	11	18	78
Journey familiarity - Affected	19	29	81	73	19	17	80
Travel alone - Affected	2	17	75	43	2	14	60
Unexpected changes - Affected	22	20	87	82	18	7	71
Extra baggage - Affected	10	11	72	49	3	10	34
Toilet info Affected	10	26	77	33	11	75	55
Accessibility info Affected	3	14	47	9	3	66	27

#### Table 6: Conditional probabilities of latent classes

Coronavirus - Affected	27	52	84	56	33	64	66
Public transport use - Affected	11	32	93	49	6	28	19
Changing modes - Affected	5	9	71	47	0	2	0
Negative interactions - Affected	7	9	68	43	0	4	0
Staff interaction - Affected	6	7	54	30	0	4	0
Busy periods - Did not affect	85	36	2	30	80	5	12
Journey familiarity - Did not affect	76	28	7	25	68	8	9
Travel alone - Did not affect	95	48	9	53	85	12	24
Unexpected changes - Did not affect	73	20	1	14	56	3	6
Extra baggage - Did not affect	77	32	6	39	74	7	36
Toilet info Did not affect	90	74	23	67	89	25	45
Accessibility info Did not affect	97	86	53	91	97	34	73
Coronavirus - Did not affect	73	48	16	44	67	36	34
Public transport use - Did not affect	89	68	7	51	30	14	16
Changing modes - Did not affect	85	46	5	38	0	0	0
Negative interactions - Did not affect	69	26	7	37	0	0	0
Staff interaction - Did not affect	60	25	10	34	0	0	0
Busy periods - Did not happen	5	33	11	2	9	76	10
Journey familiarity - Did not happen	5	43	12	3	14	75	11
Travel alone - Did not happen	3	34	16	4	13	74	16
Unexpected changes - Did not happen	5	60	11	4	26	90	22
Extra baggage - Did not happen	13	57	22	12	23	84	31
Public transport use - Did not happen	0	0	0	0	64	58	65
- Changing modes - Did not happen	11	44	25	15	100	98	100
Negative interactions - Did not happen	24	66	24	20	100	96	100
Staff interaction - Did not happen	34	68	36	36	100	96	100

# **6.5 References**

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