



Department
for Transport



Protected characteristics and public transport perceptions and safety

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Executive Summary

Ipsos was commissioned by the Department of Transport (DfT) to explore the impact of socio-demographic variables in shaping views of local public transport, paying particular attention to protected characteristics. The research also investigated perceptions of personal safety when travelling by public transport. Within this research, public transport refers to bus, train, tram, ferries, underground and metro services.

An exploratory approach was used, making use of statistical modelling to analyse and understand the different ways socio-demographic and protected characteristics could be influencing attitudes towards local public transport and personal safety.

Analysis found several different sides within perceptions on local public transport. For example, respondents were more positive than negative about the ease of using public transport but were divided on the availability of different options and services at different times of the day. They were more negative than positive about the cost and value for money of journeys.

More people stated that they feel safe than unsafe when travelling on public transport, although attitudes depend on whether journeys were made after dark or not. People did not strongly differentiate between the risk of harassment and the risk of violence. However, there was considerable variation about the risk of discrimination which was of greater concern to people from ethnic minority backgrounds, LGB+ respondents and those with health conditions. Regardless of the time of day for travelling, women were more likely to feel unsafe than men.

Another important factor is the use of public transport; non-users of public transport were more critical than public transport users when considering their personal safety and when rating public transport more generally. While positivity towards transport may both influence views on safety and be result from views of personal safety, this research is neither able to unpick nor quantify this as the methodology focussed on understanding the impact of different factors on personal safety and is unable to determine whether one factor directly causes the other. Similarly, the factors listed above, and other socio-demographic and geographic characteristics are likely to overlap and intersect to shape perceptions.

Age played a key influence on views towards public transport. Older age groups were more likely to be positive about local public transport and personal safety than younger age groups. Age continued to have an important influence even after controlling for other socio-demographic variables, such as health conditions or urbanity. Variations in health conditions also created significant differences in outlook. In particular, the type of health conditions and the impact of these on everyday life also had an influence.

This research has generated a formative evidence base about two topics which are likely to require further, more detailed inquiry. For example, the survey measured respondents' recall of experiences using public transport during a 'typical' week rather than in-the-moment, and further research is required to understand the nature of impacts on behaviour and the contribution perceptions make to public transport use and non-use.

The analysis found that those with health conditions were, on balance, more negative than positive about the accessibility of public transport than those without, but a minority don't know how accessible local public transport is when asked on specific needs. Further research might look to quantify views on, and explore awareness of, service adaptations and options available to those with health conditions to access public transport.

Background and methodology

Background

Ipsos was commissioned by the Department for Transport (DfT) to conduct an exploratory programme of research into how people feel about public transport in their local area in terms of factors such as accessibility, value for money, and safety - and how this differed by protected characteristics.

An additional objective was to investigate how safe people feel on public transport from harassment, discrimination, and the threat of violence both as a subject on its own, and as an important component of overall attitudes towards public transport.

Data and insights captured in this research will help ensure future policy and decision making adequately considers the unique needs of different passengers.

Methodology

Data was collected via the Ipsos KnowledgePanel, a random probability survey panel which recruits panellists who are offline as well as online. KnowledgePanel does not use a quota approach. Instead, a sample of invited panellists is stratified (divided into groups based on specific characteristics) to correct for biases, for example the propensity for some sub-groups to be less likely to respond to the survey than others, and to ensure it is representative of the different sub-groups.

A total of 5,455 panellists aged 16+ and living in England were selected and invited to take part in the 20-minute survey. Of these, 3,097 respondents completed the survey between 2-8 March 2023, achieving a response rate of 57%. Further information about the achieved sample profile can be found in the Appendices.

The dataset generated by the survey allowed use of sophisticated analytical techniques to investigate the key demographic factors associated with personal safety and views towards transport in the local area. It did this by constructing four statistical models (detailed in the Appendices).

The statistical models enabled consideration of several variables and their impact on either how safe people feel on public transport or their views towards their local public transport. While the statistical models could not determine direct causality (i.e., what variables cause someone to feel unsafe), they provided a useful method for understanding the impact of different factors on both personal safety and views towards the local area.

Protected Characteristics

The protected characteristics¹ referenced throughout this report relate to the following characteristics which are protected from discrimination under the Equality Act 2010:

- Age
- Gender reassignment
- Being married or in a civil partnership
- Being pregnant or on maternity leave
- Disability
- Race including colour, nationality, ethnic or national origin
- Religion or belief
- Sex
- Sexual orientation

For further information on the numbers surveyed for each of these groups, please see appendix 1. The survey did not have sufficient numbers of those who had experienced gender reassignment to include this group in the statistical modelling.

Developing and measuring perceptions of local public transport and personal safety

The questionnaire covered a variety of topics on views towards different aspects of local area public transport. Many of these questions were expected to be related to each other in such a way that they measured different facets of the same underlying dimension of satisfaction with local public transport.

To support data analysis a single metric or composite measure was developed to reflect overall **views on local public transport** using a statistical technique called factor analysis. This was based in the average score from eight of the statements about public transport that survey respondents were asked to rate (see Table 1).

For further information on how the composite measure was developed please see appendix 2.

Table 1: Views towards local public transport statements

These statements were included in the composite score for perceptions of public transport.

Statements
The ease of making journeys
The cost of making journeys
The value for money of journeys
The time it takes to make journeys
The reliability of services – the service being punctual / on time
Services being frequent

¹ Details about which characteristics are protected from discrimination by law through the Equality Act 2010 at: <https://www.gov.uk/discrimination-your-rights>

Services being available at different times of day / night
Having a choice of different modes of transport available to me

There is no standard approach to measuring how **safe someone feels on public transport**. Previous research undertaken by DfT to explore what the term personal safety means when travelling on public transport advised that personal safety could be deconstructed into the threat of violence, threat of harassment and threat of discrimination. This meant that for analysis purposes either a composite score or the separate 1 to 10 scale (ranging from not at all safe to very safe) could be used. Ipsos ran a series of correlations that provided confidence in using the 1 to 10 scale (rather than a composite score) as the basis of the statistical model. This allowed for the creation of a model to look across the protected characteristics which groups of people are more likely to feel safer than others when travelling on public transport. For further information on the correlations and the process please see appendix 2.

For all other analyses that did not relate to the statistical model, points on the scale of safety were grouped to produce net scores. Table 2 explains how personal safety was grouped.

Table 2: Personal safety measures

Group	Definitions	Base size (unweighted)
Feel safe on public transport	Scored 8-10 on scale 1 to 10 where 10 was feeling very safe and 1 was not at all safe	1,350
Mixed feelings about safety on public transport	Scored 4-7 on scale 1 to 10 where 10 was feeling very safe and 1 was not at all safe	1,418
Feel unsafe on public transport	Scored 1-3 on scale 1 to 10 where 10 was feeling very safe and 1 was not at all safe	183

Interpretation of findings

Survey results are subject to some unmeasurable biases including recall bias which occurs when respondents do not remember previous events or experiences accurately or omit details, as well as associated factors like social desirability bias (e.g., when reporting non-compliant driving behaviours) where people will respond in the way they think they ought to. The survey measures perceptions whether they correspond with reality or not.

Findings from survey research might not sum to 100% due to computer rounding. This is also the reason why combinations may not match the sum of constituent percentages, e.g., the percentage 'agree' matching the percentage who 'strongly agree' and 'tend to agree'.

Report structure

The remainder of this report covers the following:

1. How do people feel about transport and how does this differ by protected characteristics?
2. How safe do people feel on public transport and when do people feel safe?
3. Appendices

A summary of the key findings is included at the beginning of each chapter. These also feature in the Executive Summary.

Perceptions of public transport

This chapter explores perceptions of public transport by protected characteristics. Public transport refers to bus, train, tram, ferries, underground and metro services.

- Older age groups were strongly associated with having positive views of public transport. Those with health conditions, those who live rurally, and those who were not users of public transport were strongly associated with having negative views of public transport, regardless of age.
- Perceptions of public transport varied according to mode use and frequency. Those who had used public transport in the last four weeks were more likely than non-public transport users to rate public transport as good. Bus users were generally the most positive although underground/metro users were significantly more positive than other mode users about the times services are available.
- Those with health conditions were, on balance, more negative than positive about the accessibility of public transport than those without conditions, potentially reflecting first-hand experience. However, a minority of the public don't know how accessible local public transport is.

How do people rate public transport in their local area?

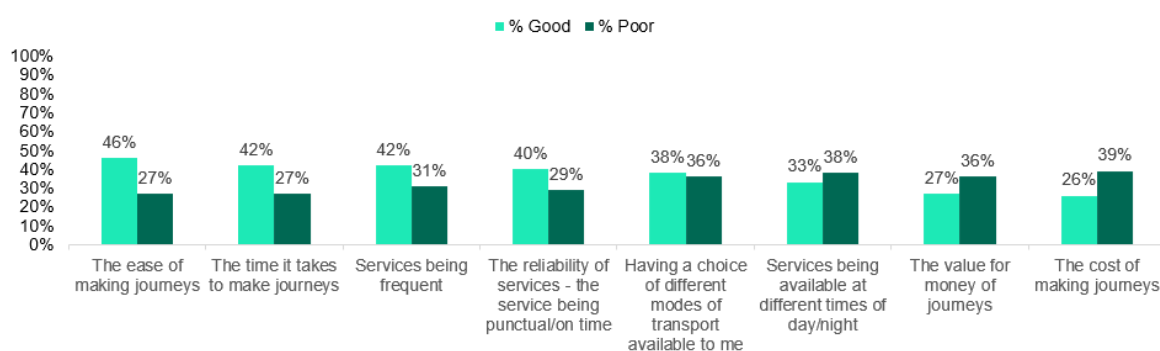
Overall, a higher proportion of people rated the public transport services in their local area as good - either very or fairly good - rather than poor, despite a high proportion of people remaining neutral. The **ease of making journeys** was rated most positively, with 46% of people identifying this as good. The **time it takes** to make journeys and services **being frequent** were said to be good by just over four in ten survey respondents (42% for both).

People were least positive about **the cost** of making journeys, with nearly four in ten rating this either very or fairly poor (39%). Related to this, more than one in three (36%) rated the **value for money** of journeys as poor.

Having a **choice of different modes** of transport had almost equal proportions of people considering local public transport services as good and poor. Having services being available at **different times** had slightly more people rating poor rather than good.

Ratings varied widely depending on geographic region, those in the South West of England were more critical of the choice of transport they received - 55% in the South West considered the choice of different modes to be poor compared to 36% of all adults. Whereas people living in London were more positive – 73% thought that choice of different modes was good and only one in ten (11%) thought it was poor.

Figure 1: Ratings of public transport



Source: Ipsos/DfT, 2 March – 8 March 2023: In general, how would you rate the public transport in your local area for each of the following? Base: Adults in England (3,097).

What matters?

A regression statistical model was used to explore the relationship between various socio-demographic factors and ratings of local public transport. To facilitate analysis, a single variable was developed using an average score from eight of the statements about public transport that survey respondents were asked to rate. This new variable served as the dependent variable – or outcome variable - for the statistical model.² It was then possible to test which factors were most strongly associated with how people rated public transport. The eight statements that were included in the dependent variable were:

- ease of making journeys
- the cost of making journeys
- the value for money of journeys
- the time it takes to make journeys
- the reliability of journeys

² An overall measure was developed using the average of the first eight statements as these reflected the local public transport experience. The results of the initial factor analysis were not clear cut. The model identified two factors and that there were two statements that could load equally into factor 1 or factor 2. The decision to use the average of the first eight statements came following discussions with DfT, given the higher frequency of don't know in the other statements.

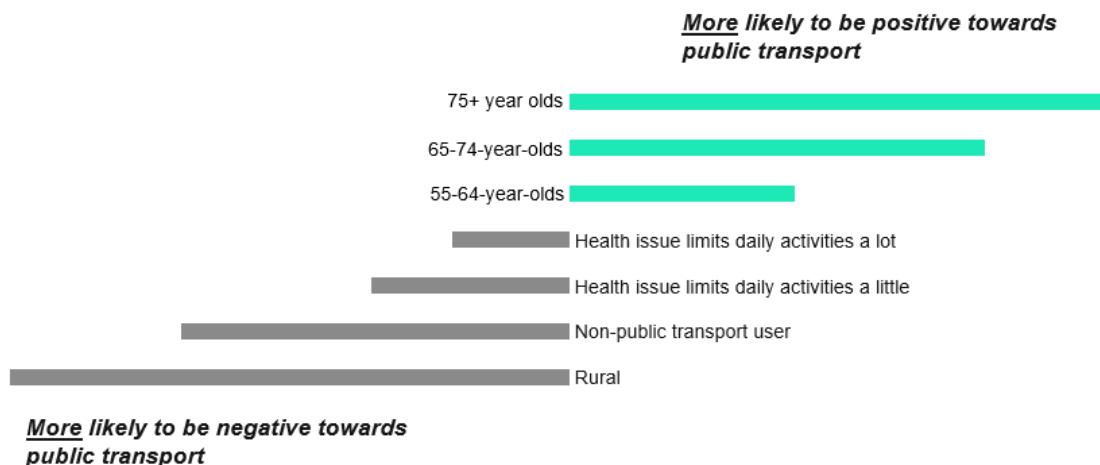
- services being frequent
- services being available at different times of day/night
- having a choice of different modes of transport

Figure 2 shows the variables found to have a strong relationship with ratings of public transport. **Disability, age and rurality had the strongest relationship with ratings of public transport.** Those who were older were more likely to be positive towards public transport. Those with a health condition that limits their daily activities a lot, those who were not regular public transport users, and those who lived rural locations were more likely to be negative towards public transport.

The model therefore found that after controlling for other differences, there were **no** significant differences in ratings of public transport among the following groups (for further information on all the variables tested please see the appendix):

- those who travel with children
- affiliated with a religion
- sexual orientation (with the exception of those who selected 'other')³
- pregnancy status
- ethnicity
- sex
- marital status

Figure 2: Statistical model - rating of public transport by socio-demographic variables



Source: Ipsos/DfT, 2 March – 8 March 2023 Base: 3,097 adults in England.

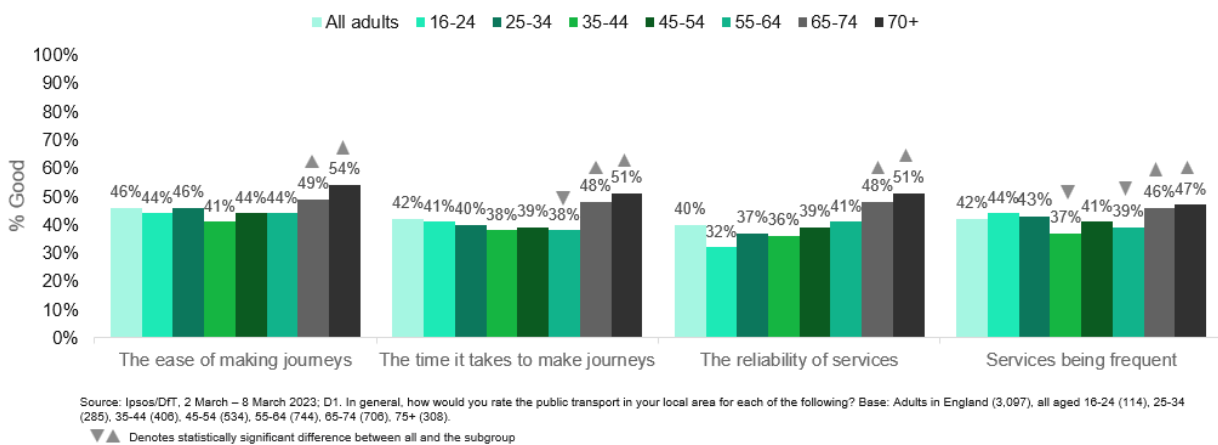
³ Those who selected other at the sexual orientation question were flagged as significant by the model. However, this option was selected by 22 people. Due to the small size of people, this is not included in the chart above.

Are there differences by age?

The survey and the statistical model indicated that **those aged 65-74 and 75+** were more positive about public transport in their local area.

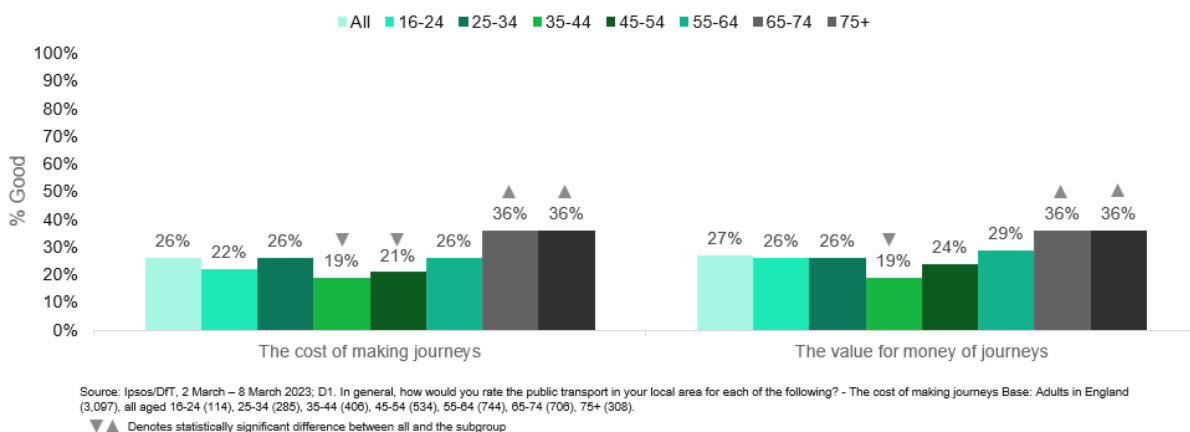
As shown in Figure 3, more than half of 75+ year olds and just less than half of 65-74-year-olds described the **ease of making journeys** as good (54% and 49% respectively compared to 46% overall). Around half of both 65-74-year-olds and 75+ year olds rated the **time it takes** to make journeys as good (48% and 51% respectively compared to 42% overall). Services being frequent was rated as good by 46% of 65-74-year-olds and 47% of 75+ year olds (compared to 42% overall).

Figure 3: Local public transport services being good by age



Older respondents were also more positive about **the cost** of making journeys - 36% rated this as good compared to 26% among people overall - and the **value for money** of journeys - 36% compared to 27%.

Figure 4: Cost of public transport and value for money being good - by age



Younger respondents were more likely to rate the **cost** of making journeys as poor, more than half (53%) of 16-24-year-olds did so, as did more than four in ten (43%) of 25-34-year-olds. This compared with 39% of the overall population and could be related to their employment status and income although this was despite more than three in five (66%) 16-24-year-olds having a railcard or pass.

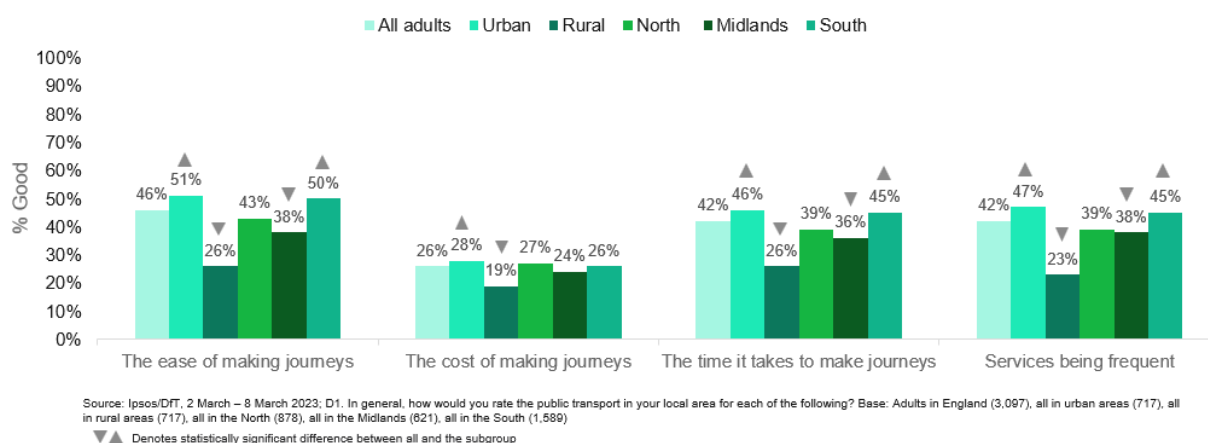
35-44-year-olds and 45-54-year-olds (45% and 42% compared to 36% overall), were significantly more likely to rate the **value for money** of journeys as poor than those aged 65-74-year-olds and 75+ year olds. This could be linked to railcard / bus pass ownership as nearly seven in ten (67%) of 65-74-year-olds and more than three in four (76%) of 75+ year olds own a pass or railcard, compared with 39% of the overall population.

The statistical model demonstrated the impact of age on ratings of public transport was an effect separate from that of health conditions or illnesses.

Are there differences according to urbanity?

Those who live in **rural locations** were more likely to be negative towards public transport. Urban respondents were more positive than their rural counterparts and the overall population in terms of several aspects of public transport, as were those who live in the Midlands. Those who live in the South were more positive than their Northern and Midlands counterparts regarding the ease of making journeys, time it takes to make journeys and services being frequent. Figure 5 shows the relationship between attitudes towards public transport with both geography and region.

Figure 5: Local public transport services % good by urbanity and region



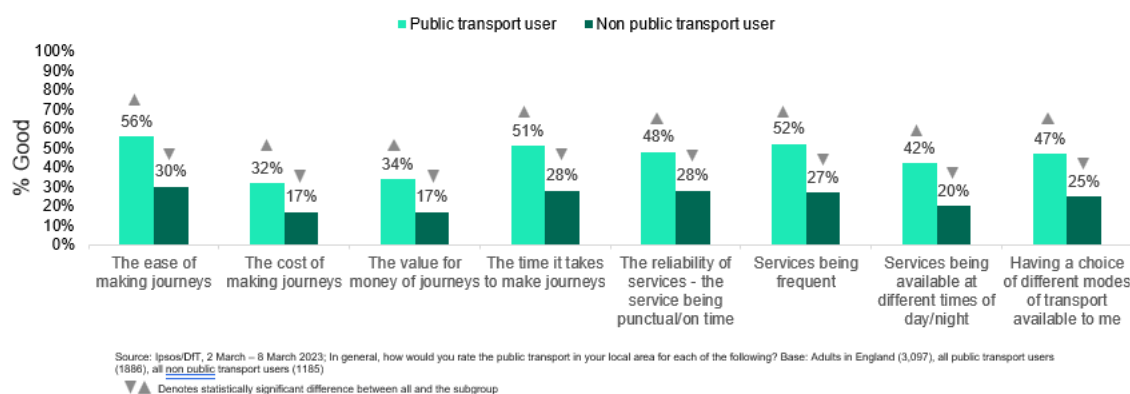
For example, more than half (51%) of urban respondents rated the **ease of making journeys** as good, compared with just over a quarter of those in rural areas (26%). Almost one in three in urban locations (28%) described the **cost** of making journeys as good compared to around one in five (19%) rural respondents and one quarter overall (26%). Nearly half of urban respondents rated the **time it takes** to make journeys and the **frequency of services** as good - 46% and 47% - compared with around a quarter of rural respondents - 26% and 23%.

Rural respondents were significantly more negative than urban dwellers and the overall population about services being available at **different times** of day/night, with six in ten (61%) describing this as poor, compared with one third (32%) of urban residents and 38% of the total population.

Are there differences according to mode/frequency?

The statistical model indicated that use of public transport was influential in shaping ratings of public transport. Those who had **used public transport** at least once in the past four weeks were significantly more likely to rate public transport as good compared to those who had not (defined as non-public transport users), as shown in Figure 6.

Figure 6: Rating of public transport % good - by public transport usage



Bus users were significantly more likely to be positive than **train users**⁴. Bus users were more positive about:

- the ease of making journeys (60% rated this as good compared to 55% of train users)
- the cost of making journeys (36% compared to 27%)
- value for money of journeys (39% versus 30%)
- the time it takes to make journeys (55% versus 49%)
- the reliability of services (51% versus 46%)
- the frequency of services (56% versus 51%)

Bus users were also more likely than underground/metro users to say that the **cost** of making journeys and their **value for money** was good - 36% rated the cost positively compared with 29% and 38% were positive about value compared with 31%. Coach and tram users' views on the cost and value for money of journeys were largely the same as bus users.

⁴ Mode use is not exclusive and so, for example, some bus users may also be train users.

In terms of the availability of services at **different times** of day/night, underground/metro users were more positive than bus users. More than half (51%) of underground/metro users rated services being available at different time of day/night as good, making them significantly more positive towards this factor than both bus and train users (45% and 44% respectively).

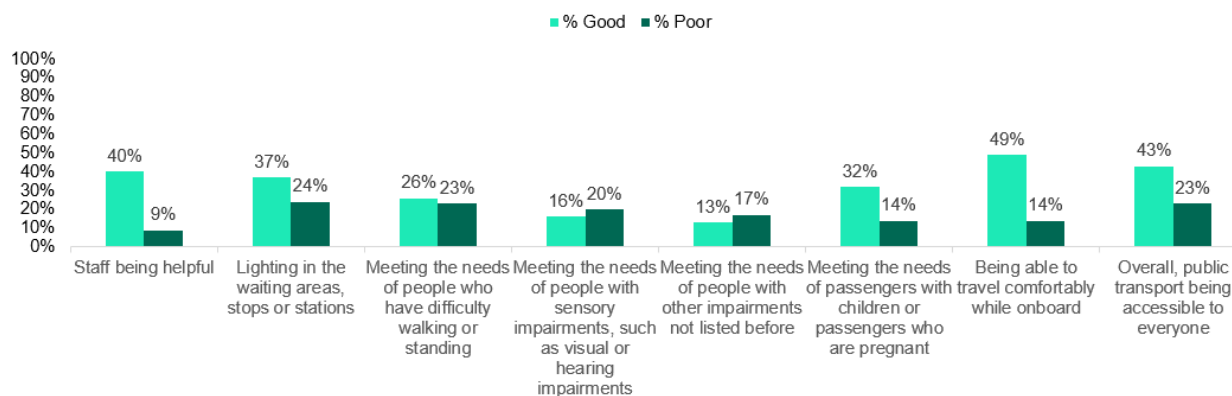
Perceptions of accessibility

Respondents were asked to consider how they would rate public transport in their local area in terms of several factors associated with accessibility. Just over four in ten (43%) rated their local public transport as **accessible to everyone** but when asked about whether it was meeting the needs of passengers in several different ways, shown in figure 7, a significant proportion answered 'don't know' or neither good nor poor:

- 26% didn't know about public transport meeting the needs of those with difficulties standing
- 37% didn't know about meeting the needs of those with sensory impairments
- 40% didn't know about accessibility of all other needs

Almost a quarter (23%) were critical about public transport meeting the needs of those who have difficulty walking or standing and the overall accessibility of public transport. Almost half rated their **ability to travel comfortably** on their local public transport as good (49%) and four in ten (40%) rated staff being helpful as good. People were less positive about lighting in the waiting areas, stops or stations, with around one in four (24%) rating this as poor.

Figure 7: Ratings of public transport



Source: Ipsos/DfT, 2 March – 8 March 2023; D2. In general, how would you rate the public transport in your local area for each of the following? Base: Adults in England (3,097).

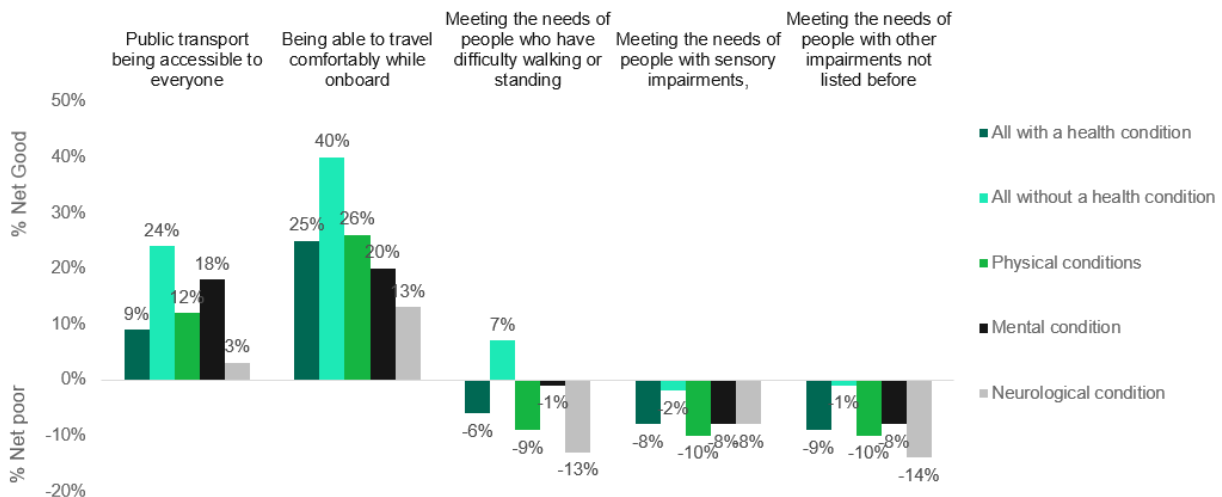
Are there differences according to health conditions?

All survey respondents were asked whether they had 'any physical or mental health conditions or illnesses lasting or expected to last for 12 months or more including conditions that always affect you and those that flare up from time to time'. These may include, for example, sensory conditions, developmental conditions or learning impairments.

Those with health conditions or illnesses were slightly **less positive** about local public transport meeting accessibility requirements compared to those without health conditions. For example,

those with health conditions were slightly more likely to rate staff and lighting poorly compared to those without a health condition. However, between 10 and 40% of people surveyed didn't know enough to give a response to some statements and there was also a wide range of variance amongst those who were positive (13-49%).

Figure 8: Views towards accessibility by condition – balance of good (Net: good – poor)



Source: Ipsos/DfT, 2 March – 8 March 2023. D2: In general, how would you rate the public transport in your local area for each of the following?

Base: Adults in England (3,097), all with a condition (1,019), all without a condition (2,001), all with a physical condition (581), all with a mental condition (240), all with a neurological condition (149).

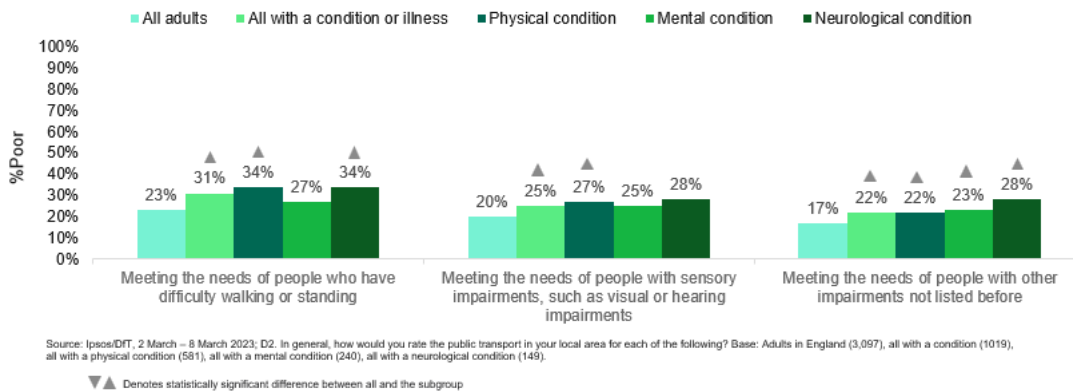
More than a third (37%) of those with a health condition or illness rated public transport being **accessible to everyone** as good. This was less positive than those with no health conditions (46% rated local transport as good).

Almost half (45%) of public transport users with a health condition rated overall accessibility to be good compared to more than half (54%) of public transport users without a health condition.

People with health conditions, regardless of whether they used public transport, were on balance more positive than negative on rating how **comfortable** local public transport was. Just over two in five (43%) of those with a health conditions thought local public transport was good on being able to travel comfortably. This is less positive than those without a health condition (9% less positive). Those with neurological conditions were the least positive (35% rated transport good on comfort, 22% rated it poor) but were still, on balance, more positive than negative.

Those with no health conditions were marginally more likely to consider **staff** as helpful than people overall (42% compared to 40%). However, most (72%) people with health conditions either rated local transport staff good or neither good nor poor.

Those with a health condition or illness were slightly more likely to rate **lighting** as poor (28% compared to 24% overall), as were those with a mental condition – a third (33%) of this group were negative.

Figure 9: Rating of 'poor' local public transport - by health condition

People with health conditions were **divided** on whether local public transport was meeting the needs of those with specific difficulty walking, those with sensory impairments or other impairments.

Those with health conditions were more likely to be critical of **meeting the needs of specific impairments**. However, those with a condition(s) were almost as likely (between 21% to 33%) to say don't know in response to local public transport meeting these needs, suggesting a recognition that individual circumstances vary widely.

On balance, people with health conditions (regardless of the type) were more likely to be critical than positive on meeting the needs of those with **difficulty walking or standing**. Three in ten (31%) of those with a health condition considered public transport to be poor in terms of meeting the needs of people who have difficulty walking or standing, as did 34% of those with physical and neurological conditions. Three in ten carers took the same view (30%). Those with a mobility aid (for example, a guide dog or wheelchair) considered public transport good at meeting the needs of those with difficulty walking (33%), however a similar proportion also considered it poor (31%). These groups were significantly more critical than those with no condition, 20% of whom considered public transport to be poor in terms of meeting the needs of people who have difficulty walking or standing.

Those with health conditions were divided on rating how well local public transport was at meeting the needs of those with **sensory impairments**. A little more than a third (33%) of those with health conditions selected don't know and a quarter (26%) selected neither good nor poor. This is similar to those who do not have any health conditions.

Those with health conditions were a little more likely to rate public transport as poor rather than good in terms of meeting the needs of all **other impairments**. Almost a quarter (22% to 28%) of those with physical, mental or neurological conditions rated public transport as poor, significantly more than the 14% of those with no health condition who did so. However, approximately a third (26% - 34%) of those with physical, mental or neurological conditions selected don't know, which, alongside almost a third selecting neither good nor poor, suggests a higher degree of uncertainty in rating how public transport meets the needs of those with other impairments.

Summary of Chapter 1

- Older people were more likely to have positive views towards their local public transport, while those with health conditions, those who live rurally, and those who were not users of public transport were more likely to have negative views of public transport.
- Mode use and frequency of travel also influenced views of public transport. Bus users were typically more positive than train users about their local public transport.
- Individuals with a health condition(s) were more negative about local public transport meeting the needs of those with physical, sensory, or other conditions. However, a substantial number did not know enough to give a rating reflecting a potential lack of awareness on how local public transport handles accessibility requirements.

Personal safety and public transport

This chapter explores how safe, if at all, people feel on public transport and which groups of people were more likely to feel unsafe. As before, the focus is people's feelings or impressions about their personal safety when travelling on public transport. The differences in perceptions according to use of public transport are considered.

- People tended to consider travelling by public transport to be safe. However, most people do not feel strongly safe nor unsafe (9% felt very safe and 2% felt not at all safe).
- Feelings of safety are not distributed equally among the population. Women, young people and those with a health condition or illness were all more likely to consider travelling by public transport to be unsafe.
- When personal safety is broken down into the risk of violence, harassment and discrimination, most people say they are not concerned. There appears to be little distinction between the risks of harassment and violence, however, some groups were relatively more concerned about the risk of discrimination; those from an ethnic minority background, those with neurological or mental health conditions.
- People were more concerned about all risks to personal safety after dark. This was especially the case for the risk of violence; all age groups were equally concerned, although women remained more concerned than men.
- The car was seen as the safest form of transport. Public transport - either the bus or train - was viewed as the most or second most safe option by just under half of adults.

How safe overall do people feel on public transport?

All respondents, regardless of whether they were public transport users (defined as all who had used a form of public transport in the last four weeks), were asked the extent to which they feel safe when travelling on public transport using a scale of 1 to 10, where 1 is not at all safe and 10 is

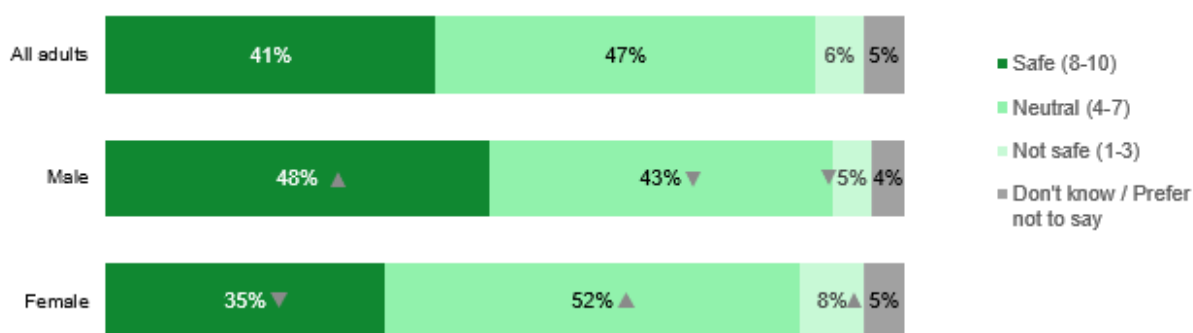
very safe. Overall, a higher proportion of people said they feel safe when travelling on public transport than feel unsafe, but most did not feel extremely safe or unsafe – rating their feelings of personal safety on public transport between 4 and 7 out of 10. Throughout, a definition of personal safety was given as “travelling without the risk of harassment, discrimination or the threat of violence”. For questions focusing on the specific concerns of harassment, discrimination or violence, the framing for respondent was “in a typical week”.

Two in five (41%) feel safe when travelling on public transport – rating their personal safety at least 8 out of 10, and respondents were more likely to feel safe than unsafe. On the 1- 10 scale, the mean answer was 6.9 demonstrating that on balance more leaned towards safe than unsafe. However, only one in ten (9%) felt very safe (gave a score of 10) with regards to their personal safety and a very small minority (2%) felt not at all safe (gave a score of 1).

Women on the whole feel less safe when travelling on public transport compared to men.

More than a third (35%) of women felt safe when travelling compared to just under half (48%) of men. This is in line with research conducted by the Office for National Statistics on overall personal safety (not on public transport specifically), which found that “the extent to which women feel unsafe is significantly greater” (ONS, 2021).⁵ It is also consistent with findings from the NTAS, which reported that “at least 76% of males and 61% of females say that they feel unsafe “never” or “hardly ever” across all phases of a public transport journey” (NTAS, 2023)⁶

Figure 10: To what extent people feel safe on public transport



Source: Ipsos/DfT, 2 March – 8 March 2023; E1. Thinking about your personal safety, to what extent, if at all, do you feel safe when travelling on public transport...?

Base: Adults in England (3,097), all men (1,459), all women (1,609)

▼ ▲ Denotes statistically significant difference between all and the subgroup

Who feels safe on public transport?

All the protected characteristics variables in the survey were added into a statistical model. The model made use of the extent of perceived safety as a dependent variable, where 0 was not at all safe and 10 was very safe.

The model outputted which groups were more or less likely to feel safe, while at the same time controlling for other socio-demographic information. For example, women were more likely to feel

⁵ <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/perceptions-of-personalsafetyandexperiencesofharassmentgreatbritain/2to27june2021>

⁶ <https://www.gov.uk/government/statistics/national-travel-attitudes-study-wave-8/national-travel-attitudes-study-wave-8#headline-figures>

unsafe compared to men, this held beyond the impact of older people being less likely to feel unsafe, so older women were still more likely to feel unsafe than older men. Consequently, the statistical model enabled intersectional differences to be explored.

The model found that, when controlling for other differences, there were **no** significant differences in terms of the impressions of safety on public transport in the following groups (for further information please see appendix 3):

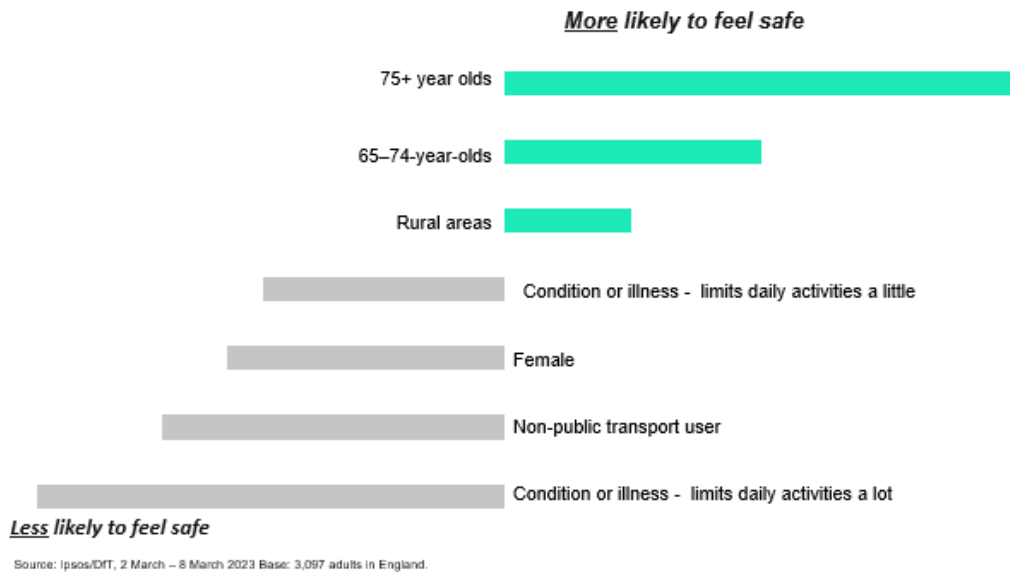
- those who travel with children
- being religious
- sexual orientation
- pregnancy status
- ethnicity
- marital status

Being a **woman** and having a **condition or illness** were both characteristics that reduced feelings of safety. However, older people were more likely to report feeling safer. People aged 65-74 were, on average, somewhat more likely to feel safe than their **younger** counterparts. People aged 75+ were, on average, had the highest perceptions of safety compared to younger counterparts. These findings are in line with research by ONS on Perceptions of Personal Safety and Experiences of Harassment,⁷ which found that women and those with disabilities were more most likely to feel unsafe.

Those who **do not use** public transport were also more likely to say they felt unsafe. However, it was not possible to determine the extent to which personal safety concerns influenced their decision about using public transport. People living in rural areas were also more likely to say they felt safe, albeit by a relatively small margin.

⁷<https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/perceptionsofpersonalsafetyandexperiencesofharassmentgreatbritain/16februaryto13march2022> .

Figure 11: Statistical model – personal safety by protected characteristics

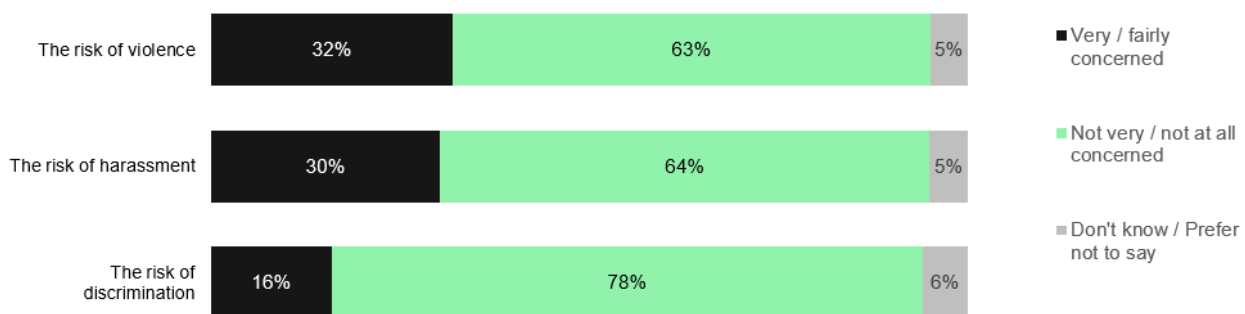


What types of threats to personal safety are people most concerned about?

Most people were not very or not at all concerned about the **risk of violence, harassment and discrimination** when travelling on public transport. However, around a third - 30% to 32% - were very or fairly concerned about the risk of violence or harassment. Patterns of concern about violence and harassment were very similar throughout the analysis, suggesting that respondents did not differentiate between the two types of risk.

Fewer people were very or fairly concerned about the risk of discrimination, although some groups were relatively more likely to be concerned (discussed further below).

Figure 12: Breakdown of how concerned people are about personal safety

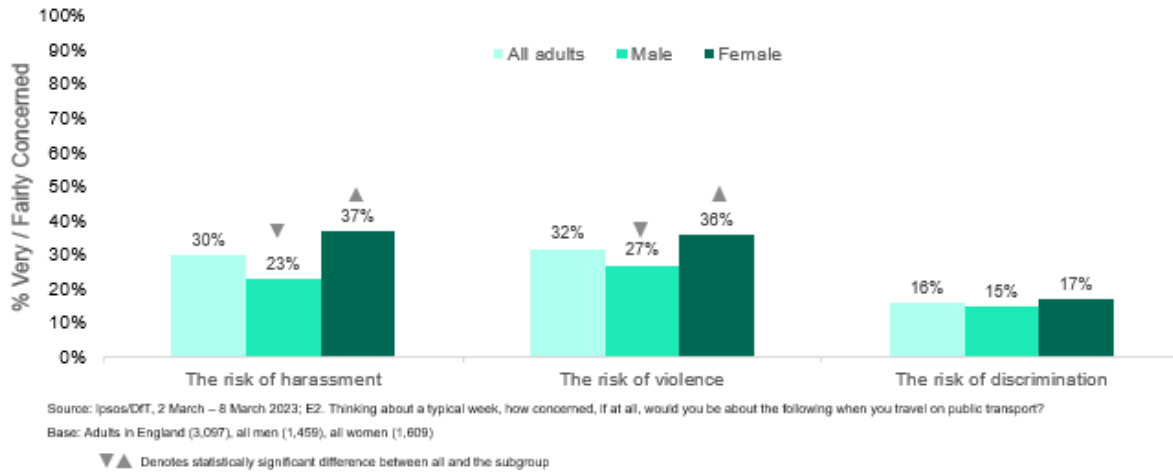


Source: Ipsos/DfT, 2 March – 8 March 2023; E2. Thinking about a typical week, how concerned, if at all, would you be about the following when you travel on public transport?
 Base: Adults in England (3,097), all men (1,459), all women (1,609)

As with overall personal safety, **women** were more likely to be concerned than men about the **risk of harassment** and the risk of **violence**. Women aged 25-34 (47% felt concerned about the risk of violence and 51% concerned about the risk of harassment) were more concerned than older women (29% over 55 were concerned about the risk of violence and 26% were concerned about

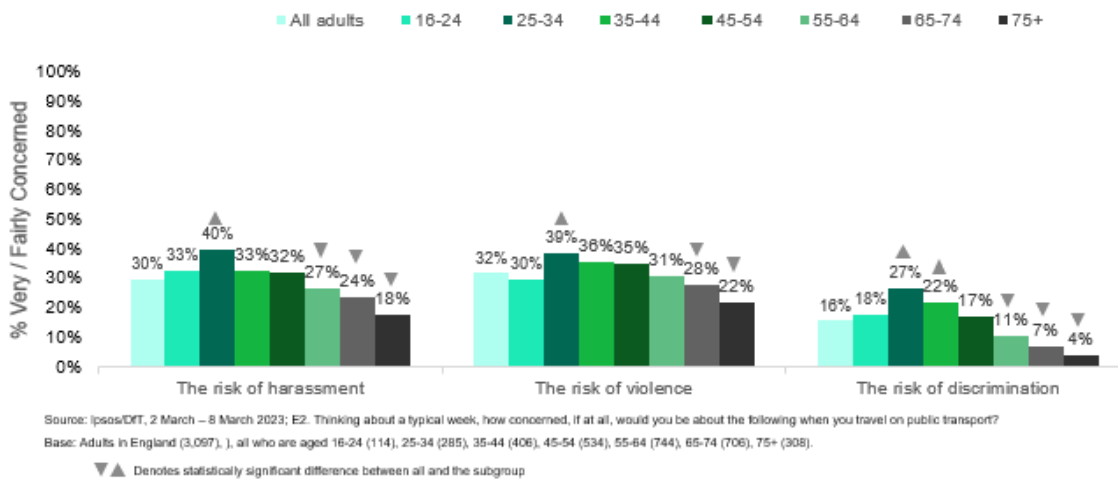
the risk of harassment). Among men, those who were youngest (16-24) and oldest (75+) were the least concerned about the risk of harassment.

Figure 13: Breakdown of personal safety by gender



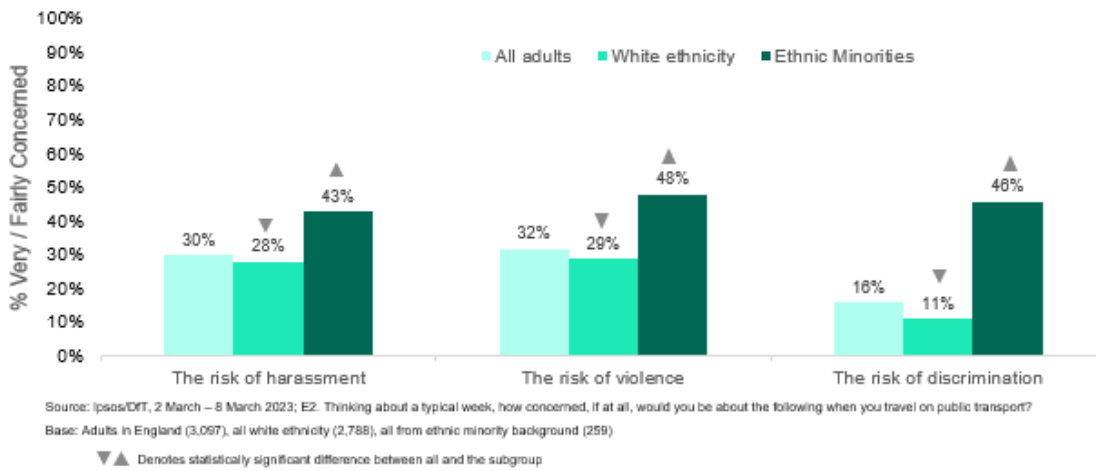
Older people were the least likely to be concerned about all the risks to personal safety. The 25-34-year-old age group stand out as the age group most likely to be concerned about each of the risks - harassment, violence, and discrimination.

Figure 14: Breakdown of personal safety by age



As shown in figure 15, those from **ethnic minority backgrounds** were the most likely to be concerned about the risk of **discrimination** on public transport. Just under half (46%) were concerned about this. They were also likely to be concerned about the risk of violence and harassment, however there are likely to be intersectional factors at play – e.g. ethnic minority respondents were younger than average and living in certain urban geographies.

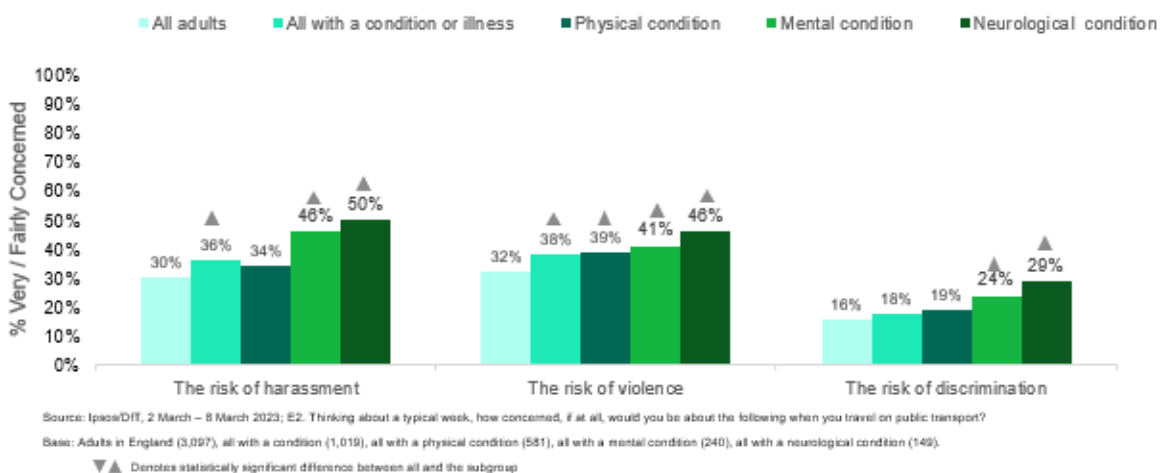
Figure 15: Breakdown of personal safety by ethnicity



LGB+ respondents who were more likely to be concerned about the risk of discrimination, just under a third (28%) of LGB+ respondents were concerned, compared to 16% of all adults. But this group had a similar level of concern about the risk of harassment and violence as all adults - around a third were concerned.

Levels of concern about personal safety among those with **health conditions or illness** varied according to the type of health condition they experienced. Those with mental health or neurological conditions were more likely to be concerned about the risk of harassment, violence or discrimination. Three in ten (29%) people with a neurological condition were concerned about the risk of discrimination - the second highest proportion behind those with an ethnic minority background.

Figure 16: Breakdown of personal safety by health conditions

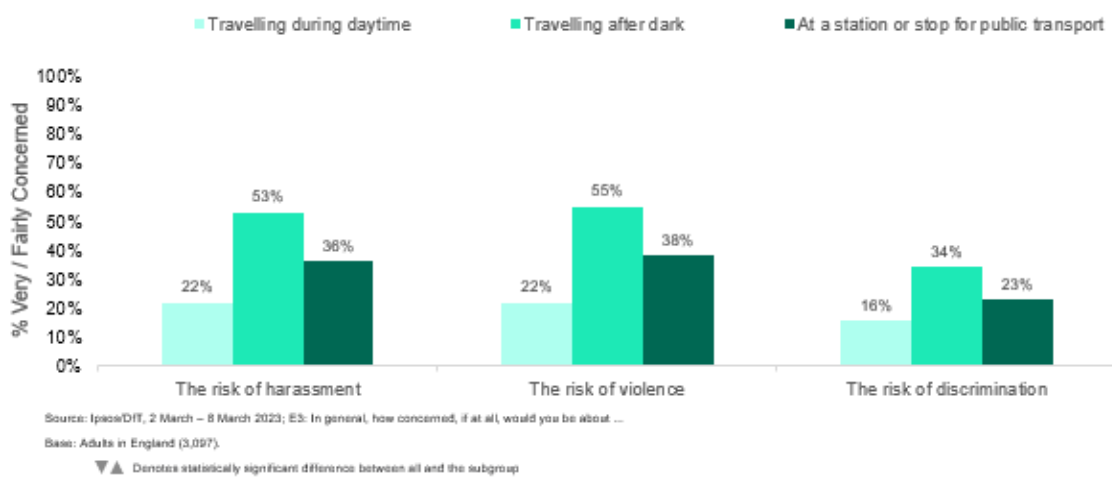


When are people most concerned about personal safety on public transport?

The concern over personal safety more than doubles if people consider travelling on public transport **after dark** as opposed to in the daytime. When travelling after dark the majority (53% to 55%) have at least some concerns of harassment and violence.

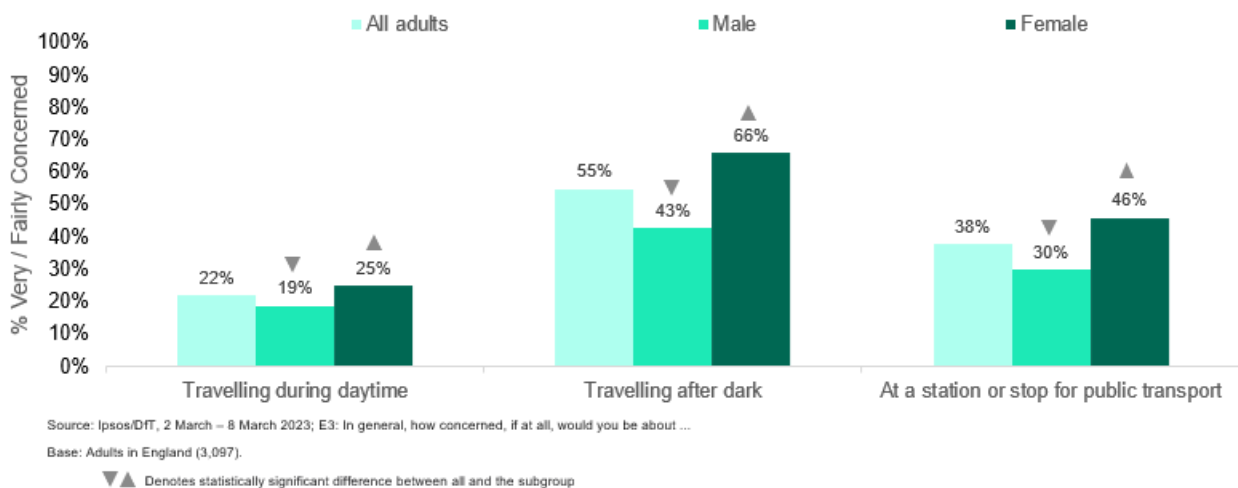
As shown in figure 17, waiting at a station or stop was viewed as less safe compared to when travelling during the daytime but more safe than after dark.

Figure 17: Breakdown of personal safety by time of day and location



Women were more concerned than men about the **risk of violence** regardless of the time of day. The majority (66%) said they were fairly or very concerned when travelling after dark. This concern was uniform across women of all ages.

Figure 18: The risk of violence by time of day and location – by gender



The concern about the **risk of violence after dark** had few differences with regards to age. This was unlike the risk of violence during the day, or the risks of harassment and discrimination regardless of when they took place where younger people were more likely to be concerned than older people.

The groups who were more likely to be concerned about the risks were across the board concerned regardless of the time of day or location. These groups included women, those with a health condition or illness, those from an ethnic minority background, and LGB+ respondents.

How does personal safety vary between modes?

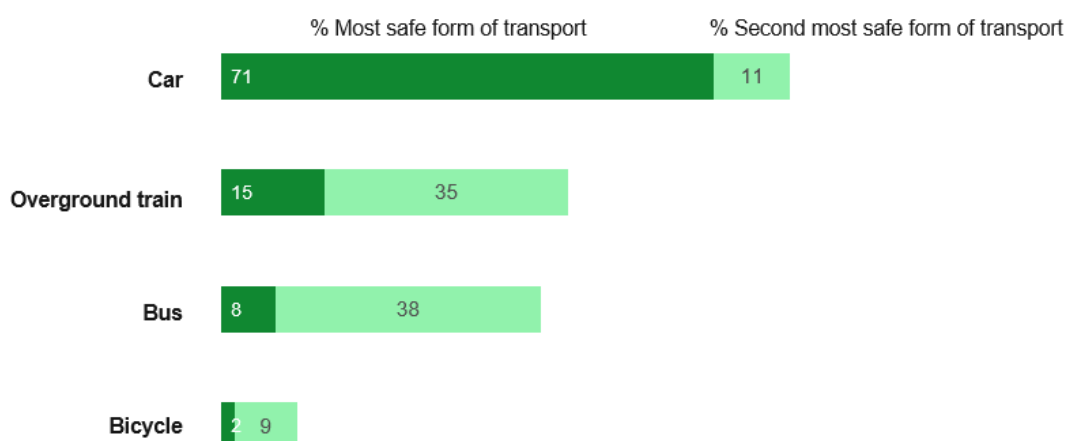
Respondents were asked to rank four modes of transport – bus, train, car and cycling – from most to least safe with regards to personal safety, described as the risk of being a victim of crime. Travelling by car was viewed as the safest mode of transport by more than three in five people (71%). This was consistently the case among all age groups and socio-demographic groups.

Public transport was viewed as safer than travelling by bicycle. Trains were viewed as marginally safer than travelling by bus. This pattern was consistent among almost all groups. The young were slightly more likely to say that travelling by train was the safest option; 22% of 16-24-year-olds and 19% of 25-34-year-olds. Older groups were more likely to think the bus was most safe; 17% of those 75+ compared to 9% of 16-24-year-olds.

There were minor differences between men and women. Women were less likely to think that a bicycle was the safest option - 1% compared to 3% of men - and were slightly more likely to think the bus was the safest option - 10% compared to 7% - possibly reflecting differences in mode use.⁸ Women were also less likely to think that train was the safest option – 12% vs 18% of men.

Public transport users were more likely to rank the bus or overground train as the most safe but even among this group, 64% reviewed the car as the safest option.

Figure 19: Ranking of different forms of transport by how safe they are



Source: Ipsos/DfT, 2 March – 8 March 2023; B46. Please rate these forms of transport in order of safety
Base: Adults in England (3,097).

⁸ The numbers who selected bicycle being most safe for men and women was small (39 unweighted overall)

Chapter 2 Summary

- This chapter has highlighted that public transport was generally deemed as safe by respondents.
- However, there was an association between protected characteristics and feelings of safety. Women, young people and those with a condition or illness were the most likely to feel that travelling by public transport is unsafe.
- After dark, concern about personal safety (the risk of harassment, discrimination and violence) increases.
- Those from an ethnic minority background, those with neurological or mental health conditions expressed more concern than all adults about the risk of discrimination.

Appendix

Appendix 1: Research sample

The survey data has been collected by the Ipsos UK KnowledgePanel, an online random probability panel which provides gold standard insights into the UK population, by providing bigger sample sizes via the most rigorous research methods.

Ipsos stratified KnowledgePanel sample to account for over-/under-representation of groups and geographies within the composition of the panel as well as different response rates, before inviting panel members to take part. Ipsos invited 5,455 panellists in England aged 16+, stratified by education. A representative sample of 3,097 adults was achieved between 2-8 March 2023.

The data was weighted by age, gender, region, Index of Multiple Deprivation quintiles, education, ethnicity and number of adults in the household in order to reflect the profile of the adult population in England.

A summary of unweighted and weighted sample profiles is shown in Table A.1 below.

Survey results are presented as percentages. Unless otherwise indicated, results from the sample survey are based on all respondents. Where figures in this report do not add up to 100%, this is the result of computer rounding or multiple responses. An asterisk (*) indicates a score less than 0.5%, but greater than zero.

All surveys are subject to a range of potential sources of error. At a 95% confidence interval, a base size of 3,097 (all adults) is subject to a range of +/- 1.1 points for a finding of 10%, and +/- 1.8 points for a finding of 50%.

Commentary focuses on statistically significant differences between sub-groups in the same category (e.g. different age groups) based on a 95% confidence interval although lack of reference to other groups and geographies does not mean there are not statistically significant differences. Data tables are available on request.

Table A.1: Groups – unweighted and weighted sample sizes

Group	Base size (unweighted)	Base size (weighted)
Men	1,459	1,477
Women	1,609	1,589
16-24	114	367
25-34	285	524
35-44	406	493
45-54	534	526
55-64	744	470

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65-74	706	388
75+	308	329
White	2,788	2,636
Ethnic minorities	259	407
Any health condition	1,019	951
Religious	1,723	1,622
Straight/heterosexual	2,765	2,647
LGB+	205	292
Currently pregnant / was pregnant last year	60	80
Urban	2,380	2,478
Rural	717	619
Public transport user	1,745	1,886
Non-public transport user	1,338	1,185
Always/sometimes travel with children	106	143
Hardly ever/never travel with children	351	446
Married/Civil Partnership	1795	1608
Not married/ in Civil Partnership	1262	1447

Appendix 2: Developing composite measures

Perceptions of public transport

The questionnaire covered a variety of topics on views towards different aspects of local area public transport. Many of these questions were expected to be related to each other in such a way that they measured different facets of the same underlying dimension of satisfaction with local public transport.

Factor analysis is a statistical technique that identifies how many underlying dimensions are being measured by the set of questions and how each question relates to each underlying dimension. However, there were some practical challenges arising from some of the items having high levels of don't know.⁹ Standard practice is to run factor analysis on the subset of respondents with valid data across all the items in the model.¹⁰ Consequently, these statements with higher levels of don't know were excluded from the factor analysis.

The results of the initial factor analysis were not clear cut. The model identified two factors and that there were two statements that could load equally into factor 1 or factor 2. After discussions with DfT, an overall measure was developed using the average of the first eight statements as these reflected the local public transport experience.

Table A.2: Views towards local public transport statements

Those highlighted in grey were included in the composite measure of views towards local public transport.

Statements	Factor analysis results
The ease of making journeys	Factor 1
The cost of making journeys	Factor 2
The value for money of journeys	Factor 2
The time it takes to make journeys	Factor 1
The reliability of services – the service being punctual / on time	Factor 1
Services being frequent	Factor 1
Services being available at different times of day / night	Factor 1
Having a choice of different modes of transport available to me	Factor 1

⁹ Some items specifically asked about circumstances which many people may not have felt able to express an opinion, e.g., meeting the needs of people with sensory impairments.

¹⁰ It is possible to run factor analysis with pairwise valid observations across cases, but this is not generally recommended.

Staff being helpful	Factor 2
Lighting in the waiting areas, stops or stations	Could load into factor 1 or factor 2
Meeting the needs of people who have difficulty walking or standing	26% said don't know. This was not included in the factor analysis as a result.
Meeting the needs of people with sensory impairments, such as visual or hearing impairments	37% said don't know. This was not included in the factor analysis as a result.
Meeting the needs of people with other impairments not listed before	40% said don't know. This was not included in the factor analysis as a result.
Meeting the needs of passengers with children or passengers who are pregnant	27% said don't know. This was not included in the factor analysis as a result.
Being able to travel comfortably while onboard	Factor 2
Overall, public transport being accessible to everyone	Could load into factor 1 or factor 2

A second factor analysis was undertaken on the first eight items listed in Table 2, above. This produced a single factor solution showing the statements measured a generic underlying dimension of satisfaction with local public transport.

A reliability analysis showed an alpha¹¹ score of 0.93, which compared to a maximum of '1' shows a very high degree of internal consistency. Further, the analysis also showed that removal of any question item did not improve the overall alpha score. 82% (n = 2524) of cases were available for the factor and reliability analysis. However, in constructing the scale, those who did not give an answer (they responded don't know) were included in the composite measure of views towards local public transport with their average calculated across the items to which they provided a valid response. This approach was used to minimise the number of cases lost to the regression analysis.

Measuring personal safety on public transport

To determine how to measure personal safety, Ipsos followed the following processes. For analysis purposes either a composite score or the separate 1 to 10 scale (ranging from not at all safe to very safe) could be used.

Ipsos ran a series of correlations to determine whether those who felt unsafe gave different answers to the components of personal safety. The results of those correlations revealed that those who felt unsafe felt unsafe across the three components (threat of violence, threat of harassment and threat of discrimination). This provided confidence to use the 1 to 10 scale as the basis of the statistical model.

¹¹ Alpha scores range from 0 to 1, where a higher score indicates greater internal consistency or reliability. A score close to 1 indicates that the items within the scale are highly correlated and consistently measuring the same construct. On the other hand, a low alpha score suggests that the items within the scale are less reliable and may not be measuring the same underlying construct.

The statistical modelling makes it possible to look across the different protected characteristics to see which groups of people are more likely to feel safer than others when travelling on public transport. To this end, all protected characteristics were included in the model as independent variables. For the purposes of statistical regression modelling the full range of the scale on personal safety was used as a dependent variable, i.e., a binary measure of safe and not safe was not used. Limitations remain as people experience threats to their safety at the individual level meaning that it is not possible to know how individuals' circumstances could mean people are quantifying feeling unsafe differently.

Appendix 3: Regression models

Ipsos produced two models, the first analysing a wide range of socio-demographic variables to understand ratings of public transport and the second understanding personal safety. In both cases, the higher the number the better the outcome, e.g., for D1 5 = very satisfied; for E1, 10 = very safe. A wide range of variables were excluded to give the fullest possible understanding of the relationship between ratings of public transport and perceptions of personal safety.

The tables below show the outputs of the two models.

Regression model (1) – Ratings of public transport and socio-demographic variables

Factors that are significant are highlighted in dark grey and show up in the significant column at 0.
Factors that are almost significant are highlighted in lighter grey.

Statistical Model	Coefficient	Standard error	t-statistic	Sig.
Health issue limits daily activities a lot	-0.22	0.09	-2.53	0.01
Health issue limits daily activities a little	-0.13	0.05	-2.39	0.01
Health issue limits daily activities not at all	-0.07	0.08	-0.88	0.38
Non-white ethnicity	0.11	0.07	1.60	0.11
Always travel with children	0.09	0.07	1.25	0.21
Sometimes travel with children	-0.03	0.10	-0.29	0.77
Hardly ever travel with children	0.00	0.11	-0.04	0.97
Never travel with children	0.21	0.21	0.99	0.32
25-34	0.12	0.12	0.99	0.32
35-44	0.09	0.12	0.74	0.46
45-54	0.13	0.12	1.06	0.29
55-64	0.25	0.12	2.06	0.04
65-74	0.46	0.13	3.65	0.00
75+	0.60	0.14	4.43	0.00
Female	0.06	0.04	1.74	0.13
Religious	0.07	0.04	1.65	0.10
Gay/lesbian	0.04	0.11	0.32	0.75
Bisexual	-0.19	0.12	-1.56	0.12
Other (Sexual orientation)	-0.53	0.21	-2.58	0.01
Not stated (Sexual orientation)	-0.01	0.18	-0.07	0.95
Currently pregnant	0.35	0.20	1.75	0.08
Non-public transport user	0.43	0.04	-10.18	0.00
Rural	0.62	0.05	-12.04	0.00
Married/Civil Partnership	-0.10	0.05	-1.89	0.06
Separated	0.18	0.12	1.54	0.12
Divorced	0.03	0.08	0.41	0.68
Widowed	-0.03	0.11	-0.26	0.80
Other/Not stated	0.25	0.22	1.13	0.26








Regression model (2) – Personal safety and socio-demographic variables

Factors that are significant are highlighted in dark grey and show up in the significant column at 0.
Factors that are almost significant are highlighted in lighter grey.

Statistical model	Coefficient	Standard error	t-statistic	Sig.
Health issue limits daily activities a lot	-1.05	0.23	-4.98	0.00
Health issue limits daily activities a little	-0.54	0.13	-4.32	0.00
Health issue limits daily activities not at all	-0.12	0.17	-0.68	0.50
Non-white ethnicity	-0.18	0.18	-1.03	0.30
Always travel with children	-0.08	0.18	-0.45	0.65
Sometimes travel with children	-0.06	0.22	-0.27	0.79
Hardly ever travel with children	0.25	0.24	1.07	0.28
Never travel with children	0.08	0.67	0.12	0.90
25-34	0.05	0.26	0.20	0.84
35-44	-0.09	0.26	-0.34	0.73
45-54	0.27	0.26	1.03	0.30
55-64	0.39	0.26	1.53	0.13
65-74	0.58	0.26	2.22	0.03
75+	1.16	0.29	4.06	0.00
Female	-0.62	0.09	-6.86	0.00
Religious	-0.02	0.09	-0.16	0.87
Gay/lesbian	0.15	0.23	0.62	0.53
Bisexual	0.10	0.21	0.49	0.62
Other	0.07	0.70	0.10	0.92
Not stated	0.29	0.26	1.15	0.25
Currently pregnant	0.82	0.47	1.74	0.08
Non-public transport user	-0.77	0.10	-8.04	0.00
Rural	0.28	0.11	2.60	0.01
Married/Civil Partnership	-0.06	0.13	-0.45	0.66
Separated	-0.07	0.46	-0.15	0.88
Divorced	0.09	0.18	0.49	0.62
Widowed	-0.30	0.26	-1.13	0.26
Other/Not stated	-0.08	0.42	-0.18	0.86

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Ipsos' standards and accreditations provide our clients with the peace of mind that they can always depend on us to deliver reliable, sustainable findings. Our focus on quality and continuous improvement means we have embedded a "right first time" approach throughout our organisation.

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	<p>Market Research Society (MRS) Company Partnership</p> <p>By being an MRS Company Partner, Ipsos endorses and supports the core MRS brand values of professionalism, research excellence and business effectiveness, and commits to comply with the MRS Code of Conduct throughout the organisation. We were the first company to sign up to the requirements and self-regulation of the MRS Code. More than 350 companies have followed our lead.</p>
	<p>ISO 9001</p> <p>This is the international general company standard with a focus on continual improvement through quality management systems. In 1994, we became one of the early adopters of the ISO 9001 business standard.</p>
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