BUILDING BARRIERS THROUGH BIAS?

ESTABLISHING MEASURES TO TACKLE UNCONSCIOUS BIAS IN TRANSPORT PLANNING

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This paper is submitted to the Transport Planning Society as part of the 2020 Bursary Competition, under the topic: a transport system that is accessible for everyone - how do we make this happen?

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CONTENTS

GLOSSARY

Disabled people	Individuals with one or more mental (including cogitative) or physical impairment that has either a long-term or substantial negative impact on person's ability to undertaken daily activities. Based on inclusive language guidelines from the Department for Work and Pensions and the Disability Unit.
Equality Impact Assessment (EIA)	Evidence how a public body has paid 'due regard' to their equality obligations for any proposed transport policy or change that could have a negative impact(s) on those with protected characteristics.
Ethnic minority	Individuals in all ethnic groups, except the White British group. Based on inclusive language guidelines from the Cabinet Office.
Long-term	Three to five years.
Medium-term	One to three years.
Older people	Individuals aged 65 and over. Based on inclusive terminology used by Age UK.
Protected characteristics	Age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race (ethnicity); religion or belief; sex; and, sexual orientation.
Short-term	Up to one year.
Transport system	Public, private, sub-surface and surface transport modes (including street and public realm), as well as transport interchanges.
Younger people	Individuals aged 15 to 24. Based on the United Nations (UN) definition of '*youth*'.

INTRODUCTION

All aboard?

For many, transport is simply a means to efficiently move people and goods from one location to another, but for others, it is more than that - transport is a lifeline that opens up opportunities and unlocks essential services, such as education, training, employment, and healthcare.

With this in mind, transport systems should be inclusive and accessible to everyone, however, it is evident that this is not being put into practice. The European Commission's (2014) most recent study into transport satisfaction levels found that 75% of people experience accessibility issues at least once a week when using urban transport systems; this implies that barriers to accessing and using transport still exist. This is significant as barriers, such as physical infrastructure or perception of safety, can impede or completely stop individuals from accessing or using transport systems, negatively impacting on their daily lives in both the short- and long-term (Transport for London, 2017). But why do barriers exist, and what can be done to help eradicate them?

Building barriers through bias

One of the emerging explanations for why these transport barriers continue to prevail is unconscious bias. The Royal Society (2015) defines unconscious bias as the non-conscious opinions or views of a person, which are shaped by factors such as their background, culture, prior experiences and situational context, that involuntarily influence actions and decision-making.

The day-to-day decisions made by transport professionals have a profound impact on the way people travel at a local, regional and national scale; yet a lack of awareness, insight and representation in the transport sector can perpetuate unconscious biases, meaning that our transport systems are not designed with everyone in mind. Thus, barriers to transport are often unintentionally created.

> *"[Unconscious bias] is hidden and can often be in complete contrast to what we consider our beliefs and associations to be… each of us form and carry unconscious biases of some sort… the truth can be uncomfortable, but if we don't face reality these biases will shape and transform our society in a way that we had never thought possible"*
>
> Agarwal (2020)

All change…

Whilst some organisations have recently introduced steps, such as training, to help raise awareness of biases, limited sector-specific guidance has been published on how transport planners can overcome unconscious bias to create better, more inclusive transport systems.

This paper intends to address this gap in formal guidance, with a specific focus on age, disability and ethnicity. Results from a large-scale survey of transport planners, as well as the findings from semi-structured interviews with key transport and equality groups will be presented, along with case-studies of best-practice within other industries.

Insights from the survey, interviews and secondary research will enable measures that are tailored to the sector to be established and recommended. Altogether, these recommendations will act as a guide to help individuals, organisations and the sector tackle unconscious bias in transport planning; furthering the development of transport systems that are accessible to everyone, everywhere.

TOPIC CONTEXT

Unconscious bias in transport planning

Recent reporting from Arup and Sustrans (2019), C40 Cities (2019), and Criado Perez (2019) have found that unconscious bias is pervasive in transport planning.

Despite this body of evidence, formal guidelines on how transport planners can overcome unconscious bias have not yet been developed. This could be due to the lack of open-access data on the background, culture and prior experiences of transport planners working in Great Britain (Heald, 2020; Laker, 2020; University of Westminster, 2020), which the Transport Planning Society (2020) estimates to be around 8,000 people.

This data gap poses an obstacle to producing targeted guidance for the profession, with the implication being that the population's varying, complex needs are not being fully considered when transport is being designed due to transport professionals having an *"ego-centric anchoring"* (Ralph and Delbosc, 2017). This may result in barriers being created inadvertently, producing systems that are both perceived and experienced as inaccessible.

> *"[When people] who govern, design and deliver transport… do not represent the wider population, unconscious and conscious bias can mean decisions, policy and schemes are not designed around the needs of other people as they are not fully understood or considered"*
>
> Arup and Sustrans (2019)

Barriers to accessing and using transport

The barriers faced by transport users can be considered 'actual' or 'perceived'. Lu et al. (2014) define perceived barriers as an individual's estimated level of challenge regarding personal, environmental, societal, and policy-related obstacles, whereas Rodrigue (2020) defines actual barriers as obstacles that impact upon and/or prevent mobility.

The image below illustrates examples of some of the main barriers that individuals can face when attempting to access and use transport systems.

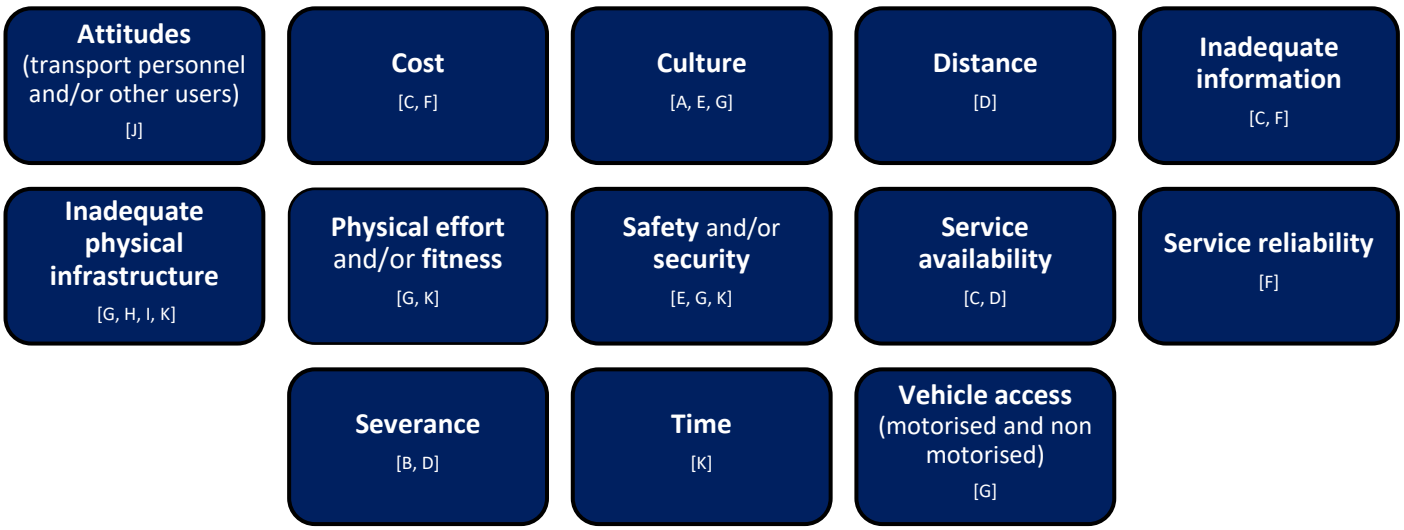


Figure sources: A) Aldred and Jungnickel (2014); B) Anciaes, Jones and Mindell (2015); C) Bourn (2013); D) Chartered Institution of Highways & Transportation (2019); E) Criado Perez (2019); F) Crisp et al. (2018); G) Félix, Moura and Clifton (2020); H) Holley-Moore and Creighton (2015); I) Living Streets (2019); J) Smith and Dixon (2018); K) Transport for London (2018).

According to Korner (1979), as cited by Van Eldijk (2019), the effects of the barriers to transport can be categorised into one of three different tiers:

- 1° - direct effects of a barrier on a transport user, such as an increase in travel time, distance or effort;
- 2° - changes in travel behaviours caused as a result of a barrier, for example, changes in mode, frequency of travel, route or destination; and
- 3° - wider societal changes as a result of subsequent changes in travel behaviour, for instance, an increase in private car use, severance or social isolation.

Barriers to transport and their broader effects have significant, differing impacts across all transport users,

but particularly those that are older or younger, Disabled people and ethnic minorities (see image below for key statistics):

Age (older people)

Based on an analysis of over 90 data sources, the Centre for Better Ageing (2019) determined that the greatest barrier to using public transport for older people is poor health, which can lead to an increase in effort when undertaking trips (1°).

Similarly, a longitudinal study on ageing and interviews with leading charities for older people, undertaken by Holley-Moore and Creighton (2015), found that fewer than 55% of older people find it easy to travel to a supermarket, a hospital or post office. This results in older people reducing their frequency of trips to key amenities (2°), which can lead to increased social isolation, with those that do not have access to a vehicle that they can use being particularly susceptible (3°)

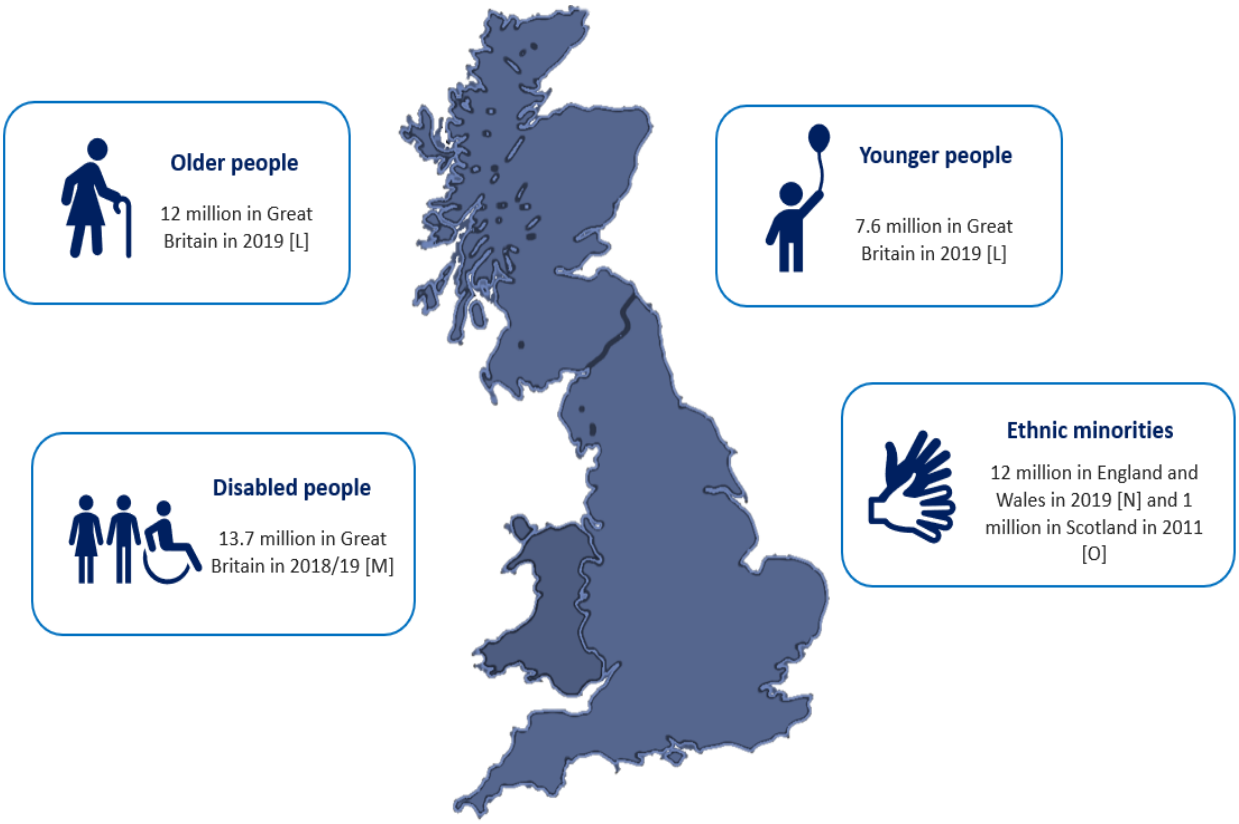


Figure sources: L) Office for National Statistics (ONS) (2020a); M) Department for Work and Pensions (2020); N) ONS (2019a); O) National Records of Scotland (NRS) (2013).

Age (younger people)

As part of a two-year inquiry and engagement project on young people, transport and health, Chatterjee et al. (2019) established that across both urban and rural settings, cost is the prime barrier to travel for younger people. Other barriers reported include a lack of information and hostile treatment by staff and other transport users. These barriers may mean that younger people face an increase in trip distance by avoiding more expensive or 'hostile' modes of transport (1°), subsequently leading to changes in frequency of travel (the inquiry also found that younger people today make fewer trips than their counterparts 20 years ago) (2°). Like older people, this can result in social isolation, and an inability to partake in education or the labour market (3°).

Disability

Having one or more impairments can impact on an individual's ability to travel independently (1°). An independent review of 62 research papers and reports conducted by Integrated Transport Planning (2015) found that barriers, such as unsuitable information and lack of appropriate physical infrastructure, prevented individuals with an impairment from travelling as much as they would like or need to (2°). This can result in individuals experiencing a loss of confidence or anxiety, as well as wider socioeconomical losses, such as withdrawal from employment, education or training (3°).

Ethnicity

Lucas et al.'s (2019) desk-based review of relevant published literature on mobility inequalities and access, spanning across 16 years (2002-2018), found fear of racism and cultural differences as the main barriers to transport for ethnic minorities. These barriers can lead to an increase in travel time and journey distance (1°) due to users choosing modes perceived to be "*safer*" (2°). Alternatively, if people choose not to travel as a result of these barriers, this can lead to an increase in social isolation, or if they do travel, an increase in private vehicle use due to avoidance of public transport, walking or cycling (3°).

Evidently, the barriers that transport professionals create through unintentionally biased transport design not only negatively impact the aforementioned transport users directly as individuals, but also have wider-reaching effects on society, the economy and the environment.

Prior attempts to address transport barriers

Under the Equality Act (2010), transport providers have an obligation to ensure that transport is accessible for all through reasonable adjustments, whilst public bodies have a responsibility to consider all individuals (particularly those with protected characteristics) in policy development, as well as the planning and delivery of transport infrastructure and services (Government Equalities Office, 2011). As a result, Equality Impact Assessments (EIAs) are often completed by transport professionals across the public, private and third sectors with the aim of removing barriers to access.

As well as this, initiatives have been established within the sector in an attempt to attenuate some of the barriers to transport. Examples of which include; Living Streets' *Streets Ahead* (addressing walking-related barriers), Love to Ride's *UniCycle* (addressing cycling-related barriers), Nexus' *Partners in Travel* (addressing public transport-related barriers), and Transport for London's *Cycling Workplaces* (addressing cycling-related barriers). While initiatives such as these are a step in the right direction, they can have their limitations. Typically, they are not multi-modal, address only a limited number of perceived barriers, are often localised and can pretermit hard-to-reach groups.

Seemingly, transport professionals tend to attempt to alleviate barriers once they are in place, rather than address the root cause(s) of barrier creation, despite the Equality Act.

RESEARCH APPROACH

To address the gap in formal guidance on how transport planners can overcome unconscious bias, the following research approach was taken to enable measures that are tailored to the sector to be established and recommended.

Primary research

A mixed-method to primary research was undertaken:

Quantitative

To overcome the data gap in transport planning, an online survey, consisting of 12 demographic questions, to understand the make-up of the transport planning workforce, and seven questions to comprehend attitudes to accessibility, transport barriers and unconscious bias, was developed. Lyberg and Weisburg (2016) note surveys as a practical method to collect data (facts and opinions) from a large number of participants, hence their use in this research.

The survey's sample population was British-based individuals working in transport planning roles. To invite large-scale participation, the survey was shared across 186 transport organisations, companies and transport teams in local authorities and national government, as well as on social media (LinkedIn and Twitter).

Microsoft Forms was used to host and analyse the survey; this platform was chosen as it had a user-friendly interface, an immersive reader, and could be translated into different languages. Respondents also did not need to have a Microsoft 365 account in order to participate.

To ensure that the survey was as accessible and inclusive as possible, Imperial College London's (2020) guidance on writing accessible surveys was followed. Individuals were also presented with four different options for completion:

1) The online survey (Microsoft Forms);
2) The survey in an alternative digital format;
3) A physical copy of the survey, returned freepost; or
4) Via telephone.

A total of 166 survey responses were collected between November 2020 and December 2020.

Qualitative

To clarify the extent of the impact of unconscious bias on transport-users, semi-structured interviews were carried out with transport and equality groups. A semi-structured approach was deemed to be the most appropriate method for gaining an understanding of the impact of bias on transport users, as participants provided subjective interpretations on the topic which according to Nathan, Newman and Lancaster (2019), cannot be gained from other research methods such as a survey.

The semi-structured interviews were conducted across November 2020 and December 2020. Representatives from eight groups, identified based on their work in transport, age, disability and/or racial equality, participated in an interview.

Following a six-phase process developed by Braun and Clarke in 2006, a reflexive thematic analysis (an examination of the data to identify common themes) was used to examine the transcripts - this allowed collective themes and ideas to be identified (Scharp and Sanders, 2019).

Secondary research

Secondary research was undertaken through a review of scholarly source materials *(example: articles in academic journals*), followed up by a review of selected non-popular source materials (*example: reports by the government or organisations*). This review was conducted in order to comprehend what barriers

transport users faced and what initiatives existed in other industries to help overcome unconscious bias. This assorted-source strategy, recommended by Adams and Lawrence (2018), was taken so that the accuracy and quality of previous research could be discerned.

Research limitations

Cluster sampling was used for the survey; whilst this method was useful to understand larger, dispersed populations, there was a higher risk of sample error. To ensure that this remained minimal, the optimum sample size (148) based on the population (8,000) was determined using Survey Monkey's (2020) sample size calculator.

Data privacy

All responses were anonymised, stored and handled securely.

Statement on COVID-19

This research was carried out virtually, to ensure compliance with the government's COVID-19 restrictions in place during late 2020. Dodds and Hess (2020) cite that conducting research in this way has its advantages; participants find it less intrusive compared to 'traditional', face-to-face methods, however, it can be more difficult to pick up on non-verbal communication cues.

RESEARCH FINDINGS

Based on the findings from the primary and secondary research, the tailored measures recommended to help tackle unconscious bias in transport planning are outlined below. It is hoped that these measures will instigate the development of transport systems that are more accessible to transport users, particularly older and younger people, Disabled people and ethnic minorities.[1]

As well as this, information on who should action the measures, incentives for adopting the measures, the approximate implementation timeframes, supporting evidence and where applicable, case studies highlighting best practice from other sectors are also detailed.

Measure One

Reconsider the delivery of unconscious bias training.

Whilst training typically helps to raise awareness of the subject, it is not enough to eradicate bias from transport planning.

Supporting evidence

An independent assessment of 18 "*rigorous"* studies by the Equality and Human Rights Commission (2018), the organisation that enforces the Equality Act, found a *"mixed picture"* with regards to unconscious bias training. The Commission found that whilst training can increase participants' awareness of their biases, behaviour change is not often achieved, and the overall impact of the training when not delivered alongside other, complimentary initiatives is limited. The same study found that participants were also more likely to continue to increase their awareness of their own biases over time the longer the duration and the more sophisticated the training was.

Action: organisational.

Incentive: there is no business case for offering training that has been found to provide little or no impact. If delivered, training should, where possible, be in-person, interactive and relevant to the decisions that transport planners make; this would provide training that is both value for money and of benefit to organisations.

Timeframe: medium-term.

[1] Percentages may not total 100 due to rounding or respondents selecting 'prefer not to say'.

Measure Two

Use your awareness of unconscious bias to take accountability and think outside your 'bubble'.

Learn to go against the default by questioning the status quo; recognise and push-back on your biases before encouraging colleagues to do the same in an open, constructive manner.

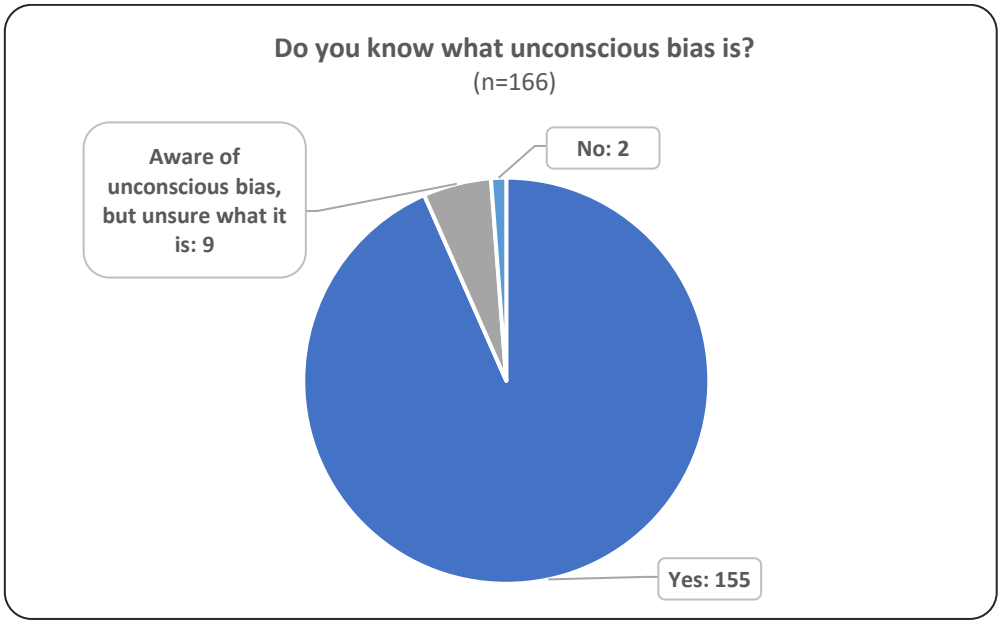
Supporting evidence

93% of respondents knew what unconscious bias was before taking part in the survey, compared to 5% who were aware of it, but were unsure what it was, and 1% who did not know (see chart below).

An awareness of unconscious bias is a positive, first-step towards enabling personal behaviour change.

"[As a non-disabled person]… I can't possibly understand the full extent of what it is like to have barriers placed in my way that prevent me from going about day-to-day life in the same way as someone without an impairment. Or, perhaps I can understand but not have the same level of motivation to change things" [2]

Taylor (2020)



Action: personal.

Incentive: broad, inclusive unbiased thinking can produce better deliverables for clients/residents.

Timeframe: short-term.

[2] Personal opinion rather than that of Transport Focus.

Measure 3

Deliver etiquette- and accessibility-focused experience sessions.

Education on the range of difference experiences faced by users, particularly those with additional needs, can better place transport planners in the shoes of the transport user, helping professionals move from unconsciously biased, ego-centric thinking to more reflective, altruistic ways of thinking.

Supporting evidence

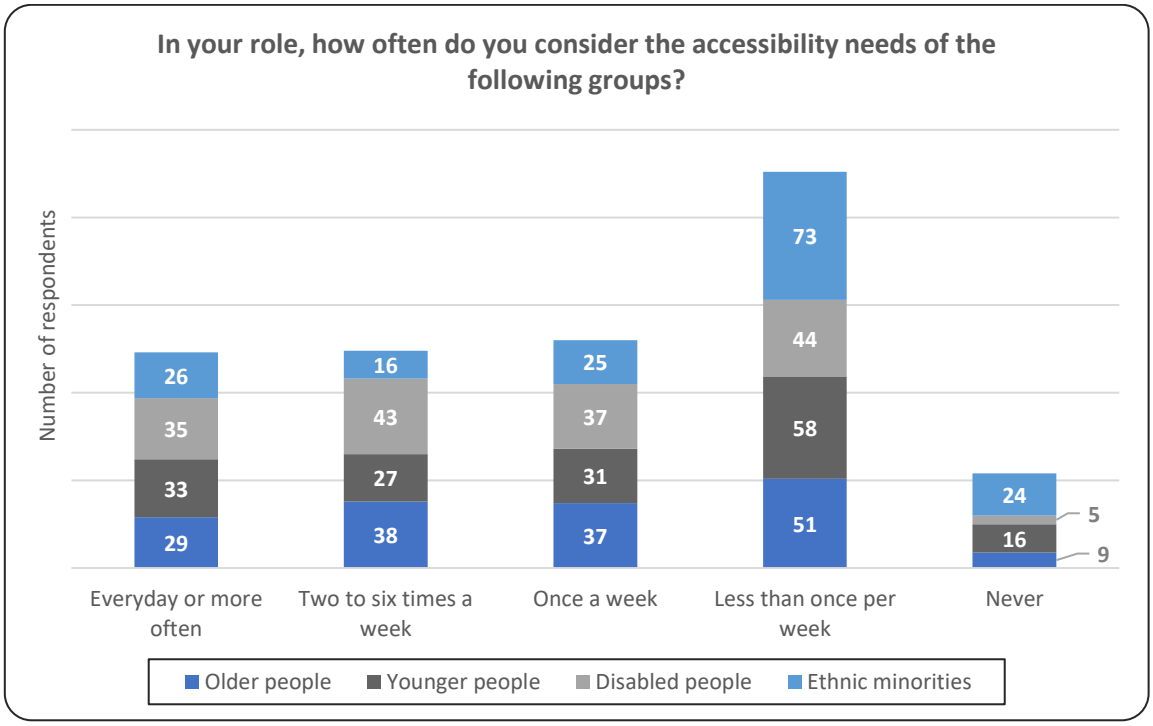
As the "*voice of transport users*", Transport Focus deals with around 900 complaints and issues per annum (Transport Focus, 2020), yet often transport planners do not directly come across or into contact with these grievances, meaning that these issues are not taken into account when planning transport systems.

This research found that the group whose accessibility needs were considered most often by respondents were Disabled people. Ethnic minorities were the group whose accessibility needs were least considered by respondents.

34% of respondents considered the focus groups *less than once per week* and 8% had *never* taken them into consideration (see chart below).

"… poor design tends to result from planners and designers making assumptions about the needs of the user, but without a good knowledge of the actual experience of (for example) cycling as a Disabled person, or a less confident cyclist, or simply as a competent cyclist, the (conscious or unconscious) assumptions can result in infrastructure that is woefully inadequate"

Russenberger (2020)



Case study

To ensure that the makers of the Ford Focus could comprehend what driving was like for older people, a specially designed bodysuit was created to give designers an 'experience' of driving with sensory and mobility impairments. The initial design of the Focus was adapted based on this session and the car went on to be one of the world's best-selling vehicles (International Longevity Centre, 2020).

Action: organisational.

Incentive: having a lived-experience of the range of issues that transport users face can give transport planners a greater, longer-lasting appreciation of the needs of those that they are delivering for, ensuring that barriers are consciously considered and, where possible eradicated at initial design stages.

Timeframe: short- to medium-term.

Measure 4

Establish and maintain links with transport users / groups.

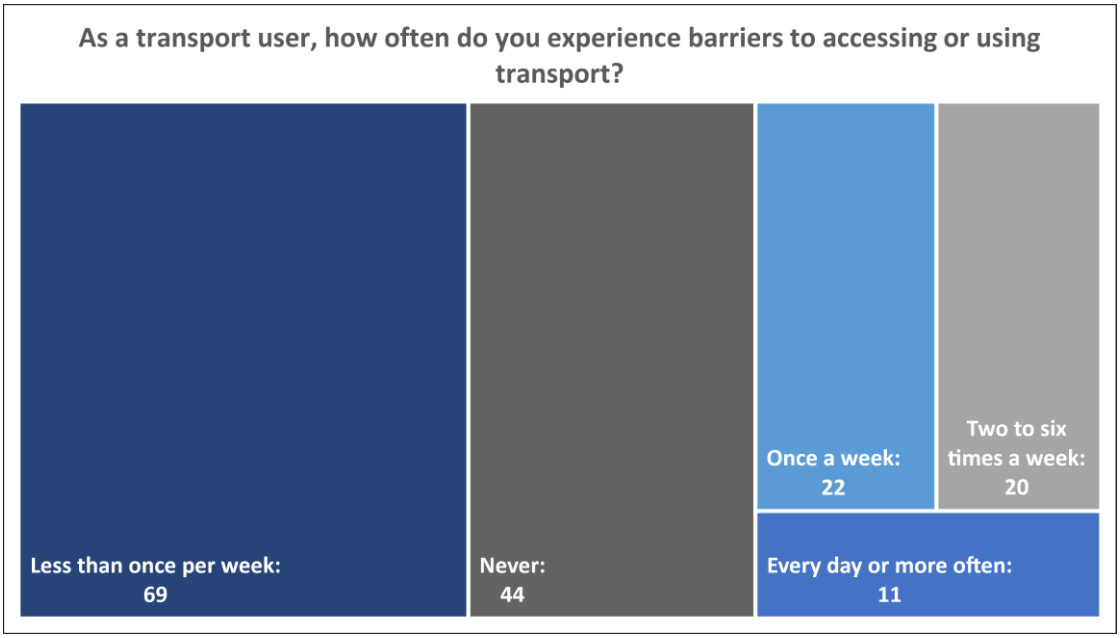
The barriers to transport that practitioners experience are often different and less complex than those that transport users face. Subsequently EIAs and schemes can, as a result of unconscious bias through lack of understanding, often be ineffectual where user groups have not been consulted early-on.

Supporting evidence

Only 32% of survey respondents experienced barriers to accessing transport *at least once a week* (see chart below). Compared to the findings from the European Commission's study (as outlined in the *Introduction* section of this paper), respondents in this research experienced accessibility issues 43% less that transport users in that study.

"… involving and having the planning process driven by people who experience some of the barriers to travel can only help make it more responsive to the needs of the end user"

Taylor (2020)



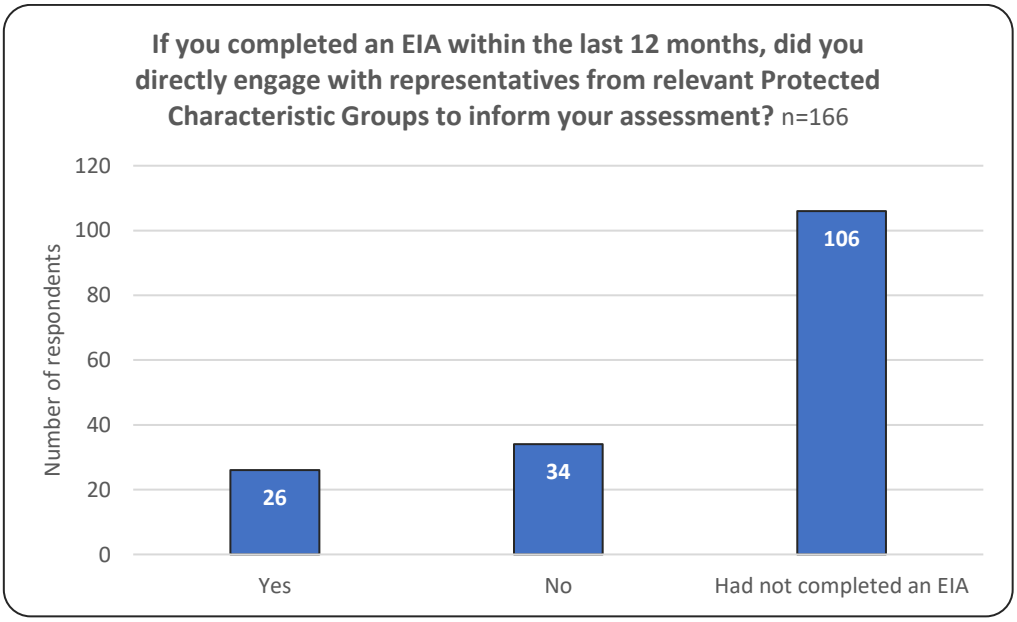
For the transport planners that did experience barriers to accessing and using transport, cost was cited as the most common barrier (see image below).

As detailed in the *Topic Context* section of this paper, with the exception of younger people, cost was not the principal barrier for older and Disabled people, nor ethnic minorities, indicating a general disparity between transport users' and planners' experiences.

Analysis found that 16% of respondents had directly engaged with at least one protected characteristic group to inform an EIA. Comparatively, 20% of those surveyed had not, and 64% had not completed an EIA in the last year (see chart below).

"The consideration of the accessibility needs of Disabled people by transport planners in developing cycling infrastructure is hugely variable… where EIAs have been conducted the consideration can still be limited (e.g. if the planners have limited knowledge of the specific needs of Disabled cyclists). However, there are too many cases where no consideration has been made, and as a result the infrastructure is inaccessible"

Russenberger (2020)



Case study

To help raise awareness of the different needs and requirements of individuals with impairments, Blackpool Transport (Lancashire) invited users to talk to drivers about their experiences of bus and tram travel in the wider-Blackpool area. The pan-Disability group provided suggestions on how the drivers and operator could improve their services for people with impairments. Since employees undertook this exercise, there has been a 78% reduction in the number of complaints received from older and Disabled people (Brookes, 2020).

Action: organisational.

Incentive: engaging with, listening to and involving transport users from project inception would decrease the likelihood of unconscious bias occurring, meaning that transport schemes are more likely to be suitable for a range of users from the outset. This would reduce the amount of abortive time spent redesigning or retrofitting schemes, helping to reduce user complaints, minimise spend and within the private sector, maximise profit.

Timeframe: short- to medium-term.

Measure 5

Update recruitment practices for transport planners.

Transport planners can be limited by their own experiences, and without a diverse workforce, the different needs and requirements of the population may not be being consciously considered. Where not done so already, more inclusive recruitment practices, such as 'blind' shortlisting, inclusive job descriptions and wider searches, should be considered.

Supporting evidence

After extrapolating the demographic responses provided by the survey sample (transport planners in Great Britain) and comparing the results with the demographic of the British workforce, this research found that transport planning is not particularly representative of the population that the sector serves (see tables below)[3]:

Note: where workforce statistics were not available for Great Britain, data by nation or UK data has been provided for reference, but this does not permit a direct comparison.

Age	**British workforce** (ONS, 2020b)	**Transport planning workforce**	**Difference**
16-24	17%	11%	**-6%**
25-34	22%	31%	**+9%**
35-44	20%	31%	**+11%**
45-54	22%	20%	**-2%**
55-64	20%	3%	**-17%**

Disability	**British workforce** (DIAL, 2017)	**Transport planning workforce**	**Difference**
Disabled	14%	5%	**-9%**
Non-disabled	86%	91%	**+5%**

Gender reassignment	**UK workforce[4]** (Stonewall, 2017)	**Transport planning workforce**	**Difference**
Gender identity different than that assigned at birth	1%	<1%	Not directly comparable
Gender identity same as assigned at birth	99%	97%	Not directly comparable

Marriage and civil partnership	**English and Welsh workforce[5]** (ONS, 2020c)	**Transport planning workforce**	**Difference**
Not married/in a civil partnership	51%	52%	Not directly comparable
Married/in a civil partnership	47%	42%	Not directly comparable

[3] Percentages may not total 100 due to rounding or respondents selecting 'prefer not to say'.

[4] Lowest breakdown of data available.

[5] Breakdown of working population by marital status unavailable for Scotland.

Pregnancy and maternity	**British workforce** (ONS, 2019b)	**Transport planning workforce**	**Difference**
Births	3%	1%	**-2%**
Parental leave	3%	2%	**-1%**

Race (ethnicity)	**English and Welsh workforce** (ONS, 2014)	**Scottish workforce** (NRS, 2011)	**Transport planning workforce**	**Difference**
African	Not recorded by the ONS	1%	N/A	Not directly comparable
Asian/Asian British	7%	Not recorded by the NRS	5%	Not directly comparable
Asian, Asian Scottish or Asian British	Not recorded by the ONS	3%	N/A	Not directly comparable
Black/African/Caribbean/Black British	3%	Not recorded by the NRS	<1%	Not directly comparable
Caribbean or Black	Not recorded by the ONS	<1%	N/A	Not directly comparable
Mixed/multiple ethnic groups	2%	<1%	1%	Not directly comparable
White	87%	96%	88%	Not directly comparable
Other ethnic groups	1%	<1%	1%	Not directly comparable

Religion or belief	**English and Welsh workforce**[6] (ONS, 2019c)	**Transport planning workforce**	**Difference**
Buddhist	<1%	<1%	Not directly comparable
Christian	47%	29%	Not directly comparable
Hindu	2%	1%	Not directly comparable
Jewish	1%	1%	Not directly comparable
Muslim	6%	2%	Not directly comparable
Sikh	1%	<1%	Not directly comparable
Any other religion	2%	1%	Not directly comparable
No religion	42%	58%	Not directly comparable

Sex	**British workforce** (ONS, 2018)	**Transport planning workforce**	**Difference**
Female	47%	40%	**-7%**
Male	53%	57%	**+4%**
Self-describes	Not recorded by the ONS	<1%	N/A

Sexual orientation	**British workforce** (ONS, 2020d)	**Transport planning workforce**	**Difference**
Bisexual	1%	4%	**+3%**
Gay or lesbian	1%	2%	**+1%**
Heterosexual	95%	86%	**-9%**
Other	1%	<1%	**-**

[6] Breakdown of working population by religion unavailable for Scotland.

Transport and equality groups believe that this lack of diversity influences the way transport systems are designed:

"100% diversity has an impact…"

Gilg (2020)

"The lack of diversity in transport planning is a fundamental flaw in designing infrastructure…"

Russenberger (2020)

Action: organisational.

Incentive: research analysing 1,007 companies across 12 countries (including UK-based transportation organisations), undertaken by Hunt et al. (2018) found that more diverse workplaces correlate to improved financial performance.

Timeframe: short-term.

Measure 6

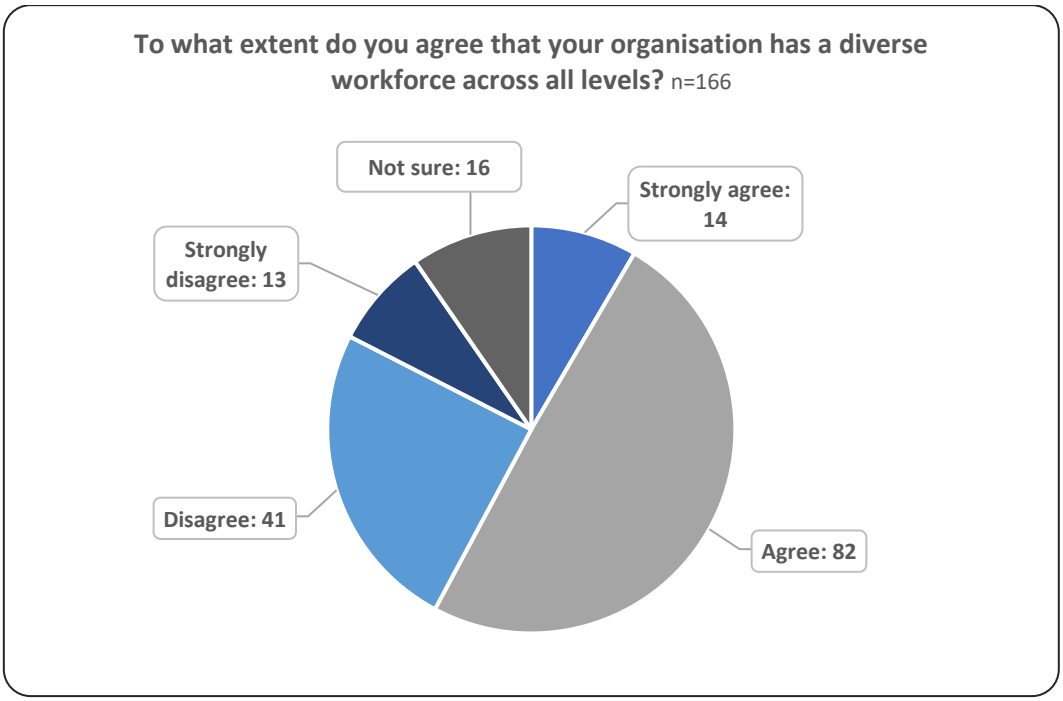
Establish an annual transport planning census.

There continues to be a lack of formal, open-access data specifically about the transport planning profession. A census would provide a snapshot of the sector, allowing for a better understanding of the workforce and therein how best to align any future unconscious bias-related policies and initiatives.

Supporting evidence

Laker (2020) reports that the transportation industry is generally not very diverse, and the results in the previous measure (5) somewhat support this view, yet 58% of respondents surveyed either *strongly agreed* or *agreed* that their organisation had a diverse workforce across all levels, compared to just 33% who either *strongly disagreed* or *disagreed* (see chart below).

Evidently there is some disparity between reporting and opinion within the sector. There is a risk that change may not widely be thought to be required internally, and as a result normal practice could continue to ensue. The implication of this is that current and future transport systems will remain inaccessible without transformation.



Case study

The organisation Women into Science and Engineering (WISE) has collated statistics on the demographic of the engineering and science workforces since 1984. Using this data, WISE published annual reports to highlight to leaders and decision-makers the need to improve diversity in science and engineering. Progress in these sectors has been made, in part, due to this monitoring (WISE, 2020).

Action: sectoral.

Incentive: having a better understanding of the sector would not only better inform diversity targets, bias and wider policies, training and events, but could make the profession be seen to be more transparent. This may encourage underrepresented groups to consider a career in transport planning if diversity was seen to be improved.

Timeframe: medium-term.

Measure 7

Establish an unconscious bias charter with a dedicated, cross-organisational task force.

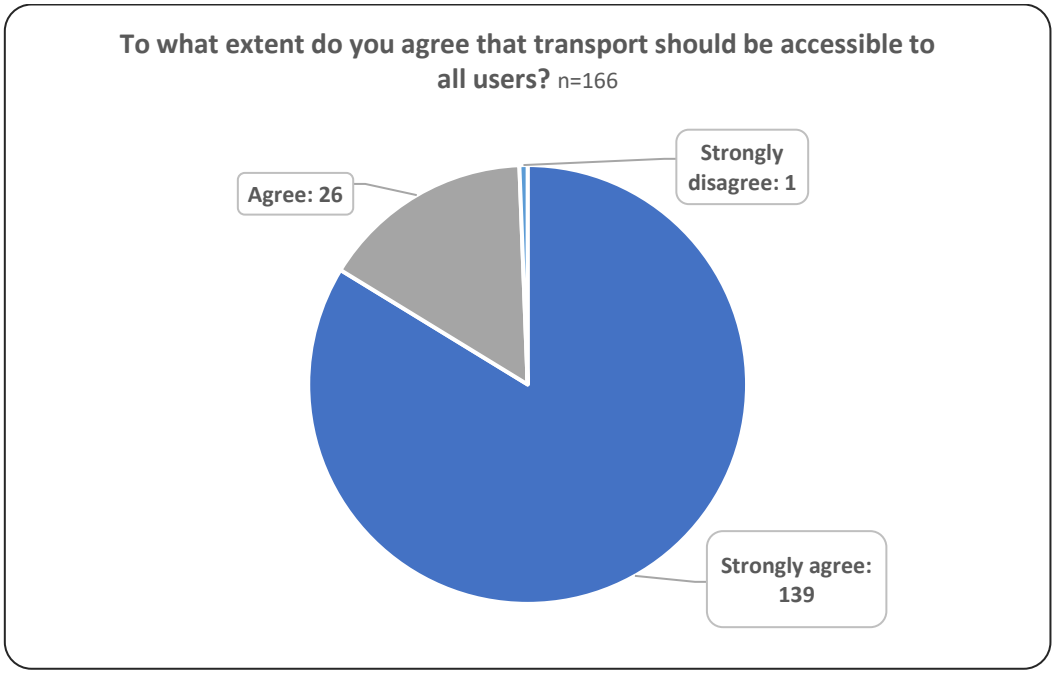
A charter would enable an ongoing approach to collectively eradicate bias in transport, and an associated task force could hold organisations accountable to their commitments, helping to make transport more accessible to everyone. Ideally, task force members should be from all areas of the transport planning sector and come from a range of cultural and professional backgrounds to bring a diversity of ideas to the table.

Supporting evidence

99% of survey respondents either *strongly agreed* or *agreed* that transport should be accessible to all users, indicating that there is a significant will across all areas of the sector to make transport inclusive for all (see chart below).

"[Transport planners] have designed an ableist world…a sexist word…a racist world…we know we've been designing an ableist world for at least 10 years, more than that, and we still haven't fixed it yet"

Gilg (2020)



Case study

Often progress towards a shared goal does not occur if there is little accountability. One prominent example of this is the UN's Sustainable Development Goals (SDGs), which the UK committed to achieving in 2015. Of particular relevance is SDG 11.2: "*provide access to safe, affordable, accessible and sustainable transport systems for all…with special attention to the needs of…children, persons with disabilities and older persons"* (UN, 2020).

The Independent Commission for Aid Impact's (2018) review of the UK's progress towards SDG 11 found that it *"lacks a systematic approach to inclusion"*, yet due to an absence of accountability, there has been no rebuke despite this lack of progress, meaning that a 'business-as-usual' approach has prevailed.

Action: sectoral.

Incentive: active participation in the charter and task force would show employees, clients / residents and transport users that organisations are serious about tackling unconscious bias, as well as planning, designing, improving and delivering more accessible transport. This measure could also contribute to an organisation's Corporate Social Responsibility efforts, as well as evidence of social value delivery when bidding for projects or funding.

Timeframe: short- to medium-term.

Summary of measures

Personal measures

- **Measure 2:** use your awareness of unconscious bias to take accountability and think outside your 'bubble'.

Organisational measures

- **Measure 1:** reconsider the delivery of unconscious bias training.
- **Measure 3:** deliver etiquette- and accessibility-focused experience sessions.
- **Measure 4:** establish and maintain links with transport users / groups.
- **Measure 5:** update recruitment practices for transport planners.

Sectoral measures

- **Measure 6:** establish an annual transport planning census.
- **Measure 7:** establish an unconscious bias charter with a dedicated, cross-organisational task force.

WHAT NEXT?

A transport system that is accessible for everyone - how do we make this happen?

…through tackling unconscious bias in transport planning.

This is a call to action for the transport planning sector.

The recommended measures developed as a result of this research can act as a framework for transport practitioners, organisations and the sector to help overcome unconscious bias. It will require time, effort, and commitment from all areas of transport planning in order to create change, but transport users, particularly those that are older, younger, Disabled or from a minority ethnic group, will reap the benefits.

To help kick-start this action and bring the findings of this research to a wider audience, a dedicated website on unconscious bias in transport planning has been developed as a result of this paper:

www.buildingbarriersthroughbias.wordpress.com

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Image: Great Britain map outline: *Great Britain by Cnbrb* - Own work, Public Domain, https://commons.wikimedia.org/w/index.php?curid=2949930

APPENDICES

Appendix One	List of relevant transport organisations, companies and transport teams in local authorities contacted
Appendix Two	Survey questions
Appendix Three	Groups contacted based on their work in transport, age, disability and racial equality
Appendix Four	Interview questions

Appendix One: organisations contacted via bespoke email and date (survey)

1. Aberdeen City Council: 29.11.20
2. Aberdeenshire Council: 29.11.20
3. AECOM: 09.12.20
4. Amey Consulting: 28.11.20
5. Angus Council: 29.11.20
6. Apex Transport Planning: 28.11.20
7. Argyll and Bute Council: 29.11.20
8. Arcadis: 05.12.20
9. Arup: 19.11.20
10. Atkins: 16.11.20
11. Aval Group: 28.11.20
12. Axis: 28.11.20
13. Birmingham City Council: 20.11.20
14. Blaenau Gwent County Borough Council: 20.11.20
15. Boston Transport Planning: 28.11.20
16. Bridgend County Borough Council: 20.11.20
17. Brighton and Hove City Council: 20.11.20
18. Bristol City Council: 12.11.20
19. BWB Consulting: 28.11.20
20. Caerphilly County Borough Council: 20.11.20
21. Calibro Consultants: 26.11.20
22. Cambridge City Council: 20.11.20
23. Cambridgeshire and Peterborough Combined Authority: 29.11.20
24. Carmarthenshire County Council: 20.11.20
25. City of Edinburgh Council: 29.11.20
26. City of London Corporation: 29.11.20
27. City of York Council: 27.11.20
28. Clackmannanshire Council: 29.11.20
29. Comhairle nan Eilean Siar (Western Isles Council): 29.11.20
30. Connected Consultants: 28.11.20
31. Conwy County Borough Council: 20.11.20
32. Cotswold Transport Planning: 28.11.20
33. Croft Transport Planning and Design: 28.11.20
34. Curtins: 26.11.20
35. Denbighshire County Council: 29.11.20
36. Department for Transport: 29.11.20
37. Derbyshire County Council: 20.11.20
38. Devon County Council: 20.11.20
39. Dorset County Council: 20.11.20
40. Dumfries and Galloway Council: 29.11.20
41. Dundee City Council: 29.11.20
42. Durham County Council: 20.11.20
43. East Ayrshire Council: 29.11.20
44. East Dunbartonshire Council: 29.11.20
45. East Lothian Council: 29.11.20
46. East Renfrewshire Council: 29.11.20
47. East Sussex County Council: 20.11.20
48. Essex County Council: 20.11.20
49. Evoke Transport: 28.11.20
50. Falkirk Council: 29.11.20
51. Flintshire County Council: 29.11.20
52. Glasgow City Council: 29.11.20
53. Greater Manchester Combined Authority: 29.11.20

54. Gwynedd County Council: 20.11.20
55. Hampshire County Council: 20.11.20
56. Helix Transportation Consultant: 28.11.20
57. Hertfordshire County Council: 20.11.20
58. Hydrock: 28.11.20
59. Integrated Transport Planning: 07.12.20
60. Inverclyde Council: 29.11.20
61. ITP Energised: 26.11.20
62. i-Transport: 28.11.20
63. Jacobs: 04.12.20
64. Kent County Council: 23.11.20
65. Key Transport Consultants: 26.11.20
66. Kronen: 28.11.20
67. Lancashire County Council: 23.11.20
68. Leeds City Council: 27.11.20
69. Lincolnshire County Council: 24.11.20
70. Liverpool City Council: 23.11.20
71. Liverpool City Region Combined Authority: 29.11.20
72. Living Streets: 29.11.20
73. London Borough of Barnet: 29.11.20
74. London Borough of Bexley: 29.11.20
75. London Borough of Brent: 29.11.20
76. London Borough of Bromley: 29.11.20
77. London Borough of Ealing: 19.11.20
78. London Borough of Hackney: 29.11.20
79. London Borough of Hammersmith & Fulham: 29.11.20
80. London Borough of Haringey: 29.11.20
81. London Borough of Harrow: 29.11.20
82. London Borough of Havering: 29.11.20
83. London Borough of Hillingdon: 29.11.20
84. London Borough of Hounslow: 19.11.20
85. London Borough of Islington: 29.11.20
86. London Borough of Lambeth: 29.11.20
87. London Borough of Lewisham: 29.11.20
88. London Borough of Merton: 29.11.20
89. London Borough of Newham: 29.11.20
90. London Borough of Redbridge: 29.11.20
91. London Borough of Richmond upon Thames: 29.11.20
92. London Borough of Southwark: 29.11.20
93. London Borough of Sutton: 29.11.20
94. London Borough of Tower Hamlets: 29.11.20
95. London Borough of Waltham Forest: 29.11.20
96. London Borough of Wandsworth: 29.11.20
97. Manchester City Council: 27.11.20
98. Matrix: 28.11.20
99. Mayer Brown: 26.11.20
100. Merthyr Tydfil County Borough Council: 20.11.20
101. Midlothian Council: 29.11.20
102. Milestone Transport Planning: 28.11.20
103. Mode Transport Planning: 28.11.20
104. Momentum Transport Consultancy: 05.12.20
105. Monmouthshire County Council: 20.11.20
106. Motion: 28.11.20
107. Mott Macdonald: 04.12.20
108. Neath Port Talbot County Borough Council: 20.11.20
109. Newcastle-upon-Tyne City Council: 27.11.20
110. Newport City Council: 27.11.20
111. Norfolk County Council: 30.11.20
112. North Ayrshire Council: 29.11.20
113. North East Combined Authority: 29.11.20
114. North of Tyne Combined Authority: 29.11.20
115. North Yorkshire County Council: 20.11.20
116. Northamptonshire County Council: 20.11.20
117. Nottingham City Council: 29.11.20
118. Nottinghamshire County Council: 27.11.20
119. Origin Transport Consultants: 28.11.20
120. Orkney Islands Council: 29.11.20
121. Oxfordshire County Council: 27.11.20
122. Parker Planning Services: 28.11.20
123. Pell Frischmann: 28.11.20
124. Perth and Kinross Council: 29.11.20
125. Peter Evans Partnership: 28.11.20
126. Peterborough City Council: 27.11.20
127. Phil Jones Associates: 26.11.20
128. Plymouth City Council: 27.11.20

129. Portsmouth City Council: 27.11.20
130. Powys County Council: 23.11.20
131. Project Centre: 28.11.20
132. Pulsar Transport Planning: 28.11.20
133. Ramboll: 04.12.20
134. Renfrewshire Council: 29.11.20
135. RGP: 28.11.20
136. RSK Group: 28.11.20
137. Rutland County Council: 23.11.20
138. Scottish Borders Council: 29.11.20
139. SCP Transport: 28.11.20
140. Sheffield City Council: 29.11.20
141. Sheffield City Region Combined Authority: 29.11.20
142. Shetland Islands Council: 29.11.20
143. Somerset County Council: 23.11.20
144. South Ayrshire Council: 29.11.20
145. South Lanarkshire Council: 29.11.20
146. Southampton City Council: 27.11.20
147. Staffordshire County Council: 23.11.20
148. Steer: 04.12.20
149. Suffolk County Council: 23.11.20
150. Sunderland City Council: 27.11.20
151. Surrey County Council: 23.11.20
152. Sustrans: 07.12.20
153. Swansea City and Borough Council: 27.11.20
154. Systra: 19.11.20
155. Tees Valley Combined Authority: 29.11.20
156. The Highland Council: 29.11.20
157. The Moray Council: 29.11.20
158. Torfaen County Borough Council: 23.11.20
159. Trafnidiaeth Cymru (Transport for Wales): 29.11.20
160. Transport for Greater Manchester: 29.11.20
161. Transport for London: 29.11.20
162. Transport for the North: 29.11.20
163. Transport for the South East: 05.12.20
164. Transport for West Midlands: 29.11.20
165. Transport Planning Associates: 26.11.20
166. Transport Planning Consultants: 28.11.20
167. Transport Scotland: 28.11.20
168. Urban Movement: 05.12.20
169. Vectio Consulting: 28.11.20
170. Vectos: 28.11.20
171. Velocity Transport Planning: 28.11.20
172. Waterman Group: 28.11.20
173. Wedderburn: 04.12.20
174. West Dunbartonshire Council: 29.11.20
175. West Lothian Council: 29.11.20
176. West Midlands Combined Authority: 29.11.20
177. West of England Combined Authority: 29.11.20
178. West Sussex County Council: 27.11.20
179. West Yorkshire Combined Authority: 29.11.20
180. Westminster City Council: 29.11.20
181. WestTrans: 19.11.20
182. Winchester City Council: 27.11.20
183. Worcester City Council: 27.11.20
184. Worcestershire County Council: 27.11.20
185. WSP: 30.11.20
186. WYG: 26.11.20

Appendix Two: survey

This survey is part of research being undertaken for the Transport Planning Society's 2020 Bursary, on the topic: 'a transport system that is accessible for everyone - how do we make this happen?'

If you work in a transport planning role based in Great Britain, this is an opportunity to provide input that will help to inform and shape recommendations to make better, more inclusive transport systems for all.

This survey should take no more than 5 minutes to complete, and all information provided will remain anonymous.

SURVEY ACCESSIBILITY: if you would like to request a physical copy of this survey to return via freepost, or to complete the survey via telephone, then please call 01454 662 981.

Thank you!

Section A

1. To what extent do you agree that transport should be accessible to all users?

Strongly agree

Agree

Disagree

Strongly disagree

Not sure

2. As a transport user, how often do you experience barriers to accessing or using transport? *Barriers can be cost, perception of safety, lack of suitable physical infrastructure, etc.*

Every day or more often

Two to six times a week

Once a week

Less than once per week

Never

3. What is the main barrier you face when accessing or using transport? *Barriers can be cost, perception of safety, lack of suitable physical infrastructure, etc.*

4. In your role, how often do you typically consider the accessibility needs of the following groups?

	Every day or more often	Two to six times a week	Once a week	Less than once per week	Never
Younger people (under 25)					
Older people (65 and over)					
Disabled people					
Ethnic minorities					

5. If you have completed an Equality Impact Assessment within the last 12 months, did you directly engage with representatives from relevant Protected Characteristic Groups to inform your assessment? *Protected Characteristic Groups under the Equality Act (2010) are: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; and, sexual orientation.*

Yes

No

I have not completed an Equality Impact Assessment within the last 12 months

6. To what extent do you agree that your organisation has a diverse workforce across all levels?

Strongly agree

Agree

Disagree

Strongly disagree

Not sure

7. Did you know what unconscious bias was before taking part in this survey?

Yes

No

I have heard of unconscious bias, but was not sure what it was

---

Section 2 - equality monitoring

8. What is your age?

25 or under

26 - 35

36 - 45

46 - 55

55 or over

Prefer not to say

9. What best describes your gender?

Male

Female

Prefer to self-describe

Prefer not to say

10. Is your gender identity the same as the gender you were assigned at birth?

Yes

No

Prefer not to say

11. What is your ethnic origin?

Ethnic origin categories are not about nationality, place of birth or citizenship. They are about the group to which you as an individual perceive you belong. The categories listed below were used by the Government in the 2011 Census - if you feel that no category represents you, then please select 'Other' and add a description in the open text box with what you feel best represents you.

White - English

White - Welsh

White - Scottish

White - Northern Irish

White - Irish

White - Gypsy or Irish Traveller

Any other White background

Asian/Asian British - Indian

Asian/Asian British - Pakistani

Asian/Asian British - Bangladeshi

Asian/Asian British - Chinese

Asian/Asian British - Any other Asian background

Black/African/Caribbean/Black British - African

Black/African/Caribbean/Black British - Caribbean

Any other Black/African/Caribbean background

Mixed/multiple ethic groups - White and Black Caribbean

Mixed/multiple ethic groups - White and Black African

Mixed/multiple ethic groups - White and Asian

Mixed/multiple ethic groups - any other mixed background

Other ethnic group - Arab

Any other ethnic group

Other

Prefer not to say

12. Other: what is your ethnic origin?

13. Do you consider yourself to have a disability?

Yes

No

Prefer not to say

14. If you responded 'Yes' to Question 13, please indicate which disability type(s):

Mobility

Sensory

Cognitive

Developmental

Other

Prefer not to say

15. How would you describe your sexual orientation?

Heterosexual/straight

Gay woman/lesbian

Gay man

Bisexual

Other

Prefer not to say

16. Do you have caring responsibilities?

Yes: a child or children (under 18)

Yes: a disabled child or children (under 18)

Yes: a disabled adult or adults (18 and over)

No

Prefer not to say

17. What is your religion or belief?

Buddhist

Christian

Hindu

Jewish

Muslim

Sikh

No religion / belief

Other religion / belief

Prefer not to say

18. Are you married or in a civil partnership?

Yes

No

Prefer not to say

19. Are you currently pregnant or have you been pregnant in the last year?

Yes

No

Prefer not to say

20. In the past year, have you taken:

Maternity leave

Paternity leave

Adoption leave

No maternity / paternity / adoption leave

Prefer not to say

Thank you for completing this survey!

Appendix Three: organisations contacted

Organisation	Description	Specific focus area	Participation / Contact
Age UK	An independent charity working in the community to support older people	Age (older people)	No
Bristol Disability Equality Forum	An organisation of, and for, Disabled people - whatever their impairment(s)	Disabled people	No
British Youth Council	The charity empowering young people in Great Britain	Age (younger people)	B McGowan *Youth Voice Manager (Regions/Nations)*
Disability Rights UK	A charity leading change, working for equal participation for all	Disabled people	S Brookes MBE *Minister for Disabled Peoples Sector Champion for Rail. Ambassador - Disability Rights UK*
DVERSTY	A social enterprise looking to create inclusive environments	All transport users	P Gilg CEng *Senior Consultant, Transport Planning*
Campaign for Better Transport	An advocacy group in the United Kingdom to make sustainable transport available to all and encourage its use	All transport users	No
Centre for Better Ageing	An independent charitable foundation that strives to improve later life.	Age (older people)	No
Centre for Transport and Society	The Centre for Transport and Society is part of the Faculty of Environment and Technology at the University of the West of England	Age (younger people)	Dr S Collins PhD *Senior Research Fellow- Transport and Young People*
Institution of Civil Engineers Fairness, Inclusion and Respect Committee	A group appointed to influence inclusive change within Civil Engineering	All transport users	P Gilg CEng *Senior Consultant, Transport Planning*
International Longevity Centre - UK	The specialist thinktank on the impact of longevity on society	Age (older people)	P Swain *Research and Projects Officer*
Race on the Agenda	A social policy research organisation that focuses on issues impacting on Black, Asian and Minority Ethnic (BAME) communities	Ethnic minorities	No
Runnymede Trust	The UK's leading independent race equality think tank	Ethnic minorities	No
Stand Against Racism and Inequality	A service user/community-oriented agency providing support and education in diversity and ethnic awareness. Specialising in race and faith-based hate crime	Age (older people and younger people), Disabled people and ethnic minorities	No
Transport Focus	The independent watchdog for transport users	All transport users	Dan Taylor *Senior Policy Advisor*
Transport for London Youth Panel	Panel that enables London's young people to have a voice on transport issues and policy	Age (younger people)	No
Wheels for Wellbeing	A charity that works with Disabled children and adults who face barriers to taking part in any physical activity	Disabled people	H Russenberger *Campaigns and Policy Officer*

Appendix Four: questions for semi-structured dialogues

1. How often do the group(s) that you work with [younger people / older people / disabled people / ethnic minorities] typically experience barriers to accessing or using transport? *e.g., every day or more often, two to six times a week, once a week, less than once per week, never.*

2. What do you consider is the main barrier(s) that [younger people / older people / disabled people / ethnic minorities] face when accessing or using transport? *Barriers can be cost, perception of safety, lack of suitable physical infrastructure, etc.*

3. Based on the barriers that [younger people / older people / disabled people / ethnic minorities], to what extent (if any) do you think transport planners consider the accessibility needs of [younger people / older people / disabled people / ethnic minorities] when developing transport systems?

4. The transport planning sector is often regarded as not being as diverse as the population it serves. To what extent (if any) do you think that this has an impact on the way transport systems are designed?

5. Research has shown that unconscious bias is prevalent in the transport planning sector. What changes do you think need to occur within the sector in order to make transport more accessible for [younger people / older people / disabled people / ethnic minorities]?

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