Developing an evidence-based toolkit for car reduction: Appendices

Developed by CAST and Climate Outreach in collaboration with the Scottish Government

Funded by the University of Bath's Policy Support Fund

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Appendices

1. Factors shaping transport choices in Scotland

1.1 Scotland's Transport Geography

The Scottish Government's 2016 Urban-Rural classification splits Scotland up according to population and accessibility, using the following definitions:

- **Urban** areas have settlements of more than 3,000 people (large urban areas are defined as settlements of over 125,000 people)
- **Rural** areas are settlements with less than 3,000 people.
- **Accessible** areas are *within* a 30 minute drive of a settlement of over 10,000 people
- **'Remote'** areas are *over* a 30 minute drive from a settlement of 10,000 people.

This is visualised by the below map in Figure 1.

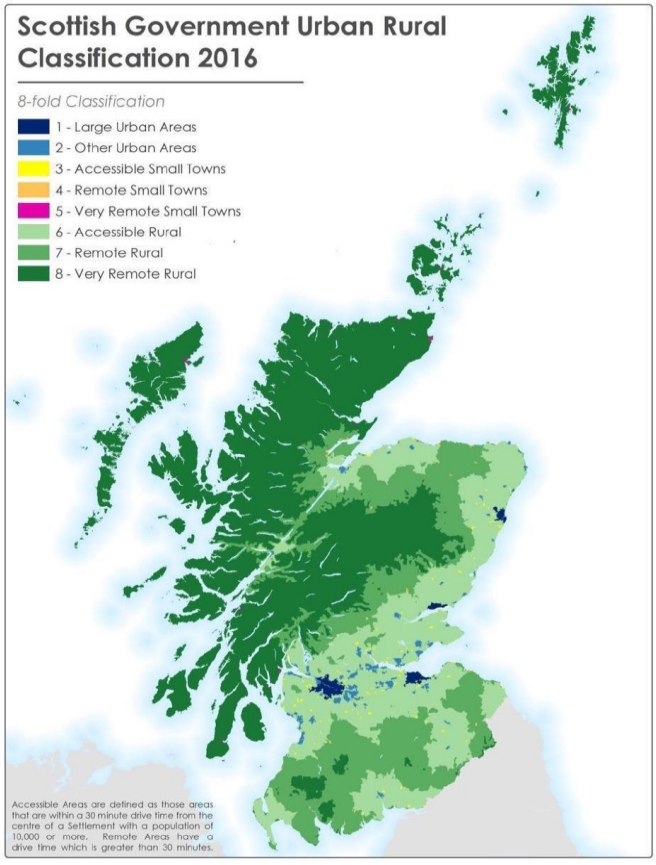

Figure 1: Scottish Government Urban Rural Classification 2016

The challenges that rural and urban people face in reducing their use of cars are very different, and this should be considered when designing interventions.

Given the density of urban areas and their high levels of air pollution related to transport emissions (Cleaner Air For Scotland, 2021), these stand to benefit most immediately from car use reductions. Air pollution has massive impacts on health and wellbeing; according to the latest IPCC Report, "*The financial value of health*

benefits from improved air quality alone is projected to be greater than the costs of meeting the goals of the Paris Agreement" (IPCC, 2022). Moreover, this is an important issue to the Scottish people: 92% of which think the government should ensure all residents can breathe clean air (Sustrans, 2019).

In these urban areas, most public transport configurations are 'radial', meaning they route in towards a centre point from the outskirts along major corridors (Davis & White, 2020) . Their timetables mostly follow the 'nine-to-five' working pattern, making it difficult to support cross city journeys and workers – predominantly women – that operate outside of that spectrum (part-time employees, precarious workers and unpaid care workers). Perceptions of safety also affect public transport usage. Additionally, barriers exist for disabled people to access public transport vehicles and interchanges between modes (Possible, 2020).

A large percentage of Scotland's population is clustered in four urban centres: Aberdeen, Dundee, Edinburgh, and Glasgow. However, much of Scotland's land mass is rural, and an estimated 17% of people live in remote, rural, and island communities (Scottish Government, 2021). Valega et.al, (2012) note that this creates a challenge to provide convenient service access across the country – which has diverse socioeconomic characteristics too – resulting in much lower overall satisfaction with public transport in rural areas. Valega et al (2012) also note that rural transport suffers from low and uncertain demand and limited coverage, which can make it difficult for both users and service providers).

Some transport providers deem rural transport to be financially unjustifiable (UK Department for Transport, 2021). Nine in ten (89%) rural residential areas have access to a car, while 77% use cars for transport, and only 2% use buses. Those living in remote rural, very remote rural and accessible rural locations are the least likely of all Scottish groups to live within three minutes' walk of a bus stop (Stradling et al., 2005; see also Thomson, 2016; Scottish Household Survey, 2019). Furthermore, perceptions of convenience are an important motivator for public transport use, and only 20% of rural residents see public transport as very convenient compared to 50% of urban dwellers (Valega et al., 2012). Public transport will be key to a net zero Scottish tourism industry – tourists will rely on public transport to visit rural areas, whose landscapes attract nearly 40% of all tourism spending – supporting an equivalent of 39,000 full-time equivalent jobs (NatureScot, 2019).

As part of the Government's 2045 Net Zero commitment, six Scottish islands have been named in an initiative to become carbon neutral by 2040, with 100% renewable energy. These include Hoy, Islay, Great Cumbrae, Raasay, Barra and Yell. Improvements in the transport landscape, including the development, extension, and improvement of railways, will be critical to Scotland meeting its commitments in this initiative.

1.2 Trends in Scottish mobility

In Scotland, car ownership hit an all-time high in 2019, with 3 million registered cars, while bus journeys fell by 10% since 2014 (Scottish Transport Statistics, 2020). Car ownership is negatively related to both public transport and walking as modes of travel for work and convenience. However, those with cars tend to walk

more for pleasure (Stradling et al., 2005). Greater distance to work is related to higher car use (Woods and Ferguson, 2014).

Car ownership is also negatively correlated with children walking to school (Waygood & Susilo, 2015). Despite research demonstrating that children who walk to school have a stronger sense of independence as well as increased academic attainment and physical activity, there was a 15% decrease in children walking to school from 1986 to 2005, down to 54% (Davis and Whyte, 2020). Perceptions of good local shops, and safe and slow traffic were also positively correlated with walking to school. So, reducing car use on the 'school run' would present many co-benefits.

The COVID-19 pandemic is likely to have impacted car usage across the country, and this could potentially be further impacted by current issues around the current crises related to cost of living and energy prices. Curl et al (2018) argue that changing life circumstances can lead to changes in car use. They assert that the likelihood of car adoption was influenced by changes: in household size, increased financial difficulties in relation to housing costs, and where householders gained work.

During the pandemic, many retail and hospitality businesses also repurposed their allocated parking spaces to make room for al-fresco dining or pedestrian/cycle space (Sustrans 2020). In addition, when discussing the role of businesses in car reduction, consideration should be given to emission reduction due to planning more efficient routers, combining shorter journeys into longer ones, and avoiding travelling during peak times. These could all result in reducing mileage. Furthermore, businesses could also benefit from training their drivers to operate more efficiently. For instance, eco-driving is a more responsible driving behaviour. Its aim is to limit CO2 emissions and reduce fuel consumption, however, it could also provide businesses with financial benefits by cutting costs associated with fleet maintenance by up to 25% (Quartix, 2021).

In 2019, local authorities were given power to introduce a workplace parking levy, with a mixed, but largely unfavourable response. The Reset Initiative (2020) argues that if people wish to work from home, in jobs where it is possible to do so, they should be permitted by their employers. Even as pandemic restrictions are lifted, the health and environmental benefits of working from home are clear and a general trend towards increased endorsement of home-working was already beginning (Davis and Whyte, 2020).

1.2.1 Age and Generation

Age also predicts car use. For example:

- According to the 'Reducing car use for a healthier, fairer and greener Scotland' report (Scottish Government , Annex, 2022), the 45-59 age group travelled the most by car, journeying over 52,000 miles a year -– amounting to a third of the total miles driven by all age groups.
- Those over 40 were less likely to take a bus but most likely to drive a car compared to younger age groups such as those aged 20 to 29, or 30 to 39 (Transport for Scotland, 2020).

- Overall, in the UK, between 1995 and 2010, 60-69 year olds increased the number of miles they drove by 26%, and those over 70 by 60% (Musselwhite, 2011).

In 2019 vehicle traffic in the UK increased by 36.1% compared to 1994 (Department for Transport, 2020). This may be related to the increased need to access healthcare facilities regularly: Rushworth et al (2018) found that over two thirds of older people travelled by car to their GP. Musselwhite and Haddad (2010) pointed out other amenities such as banks, post-office were also typically accessed by car. In addition, driving at an older age has also been associated with youthfulness, status, power, and masculinity and could be seen as a way to avoid feeling old (Musselwhite & Haddad, 2010).

1.2.2 Gender

Transport attitudes are related to gender differences. Noack (2011) argues that women, mothers in particular, are not often well accommodated for by public transport. Women are more likely to 'trip-chain' – in other words make multiple trips in one journey. In rural areas, particularly, this makes public transport unfeasible as it often does not allow many women to reach their workplaces on time due to inflexible and inconvenient timetabling. To avoid rural women becoming 'mobility deprived', transport system design and interventions should account for their lived experience and travel needs.

Furthermore, active travel methods such as cycling and walking may be less accessible to women due to safety concerns. Fear of violence while walking or cycling can be a significant additional barrier to women's public and active transport use - particularly at night (Davis and Whyte, 2020). A YouGov poll on International Women's Day 2022 showed that 66% of UK women felt unsafe walking home at night at least sometimes, with 22% of women 'always' feeling unsafe (YouGov, 2021). Forty five percent of women said they feel unsafe at least sometimes when alone on public transport, while 14% said they 'always' feel unsafe.

1.2.3 Income

Socioeconomic groups who contribute least to car use and its emissions, suffer the most from the impacts. For example – those who barely contribute to local air pollution suffer most from the health impacts, and it has long been known that poorer people are more likely to be victims of road collisions (Rye & Wretstbrand, 2019). There is conflicting evidence on how income levels affect travel behaviour. On one hand, many low-income people cannot afford to own a car: 29% of households in Scotland do not have access to a car. This is more likely amongst low income and single pensioner households (Sustrans, 2020). Low income residents are more likely to travel by bus or walk to work and have less access to bicycles. This can determine access to social, educational and employment services and facilities.

People from disadvantaged neighbourhoods are also less likely to work traditional 9-5 jobs and thus have transport needs at times beyond the 'peak travel' framework, when public transport reduces and may be

insufficient (Davis and Whyte, 2020). This forces these low income into car dependency to get to make ends meet (Curl et al., 2018). Factors such as job scarcity, affordable housing near the workplace and the provision of cheap and convenient transport to work affect individuals' decision to drive. Davis and Whyte (2020) also argue that lower income workers are less likely to see changes in work patterns towards working from home and virtual meetings during the Covid-19 pandemic. Precarious and casual gig economy jobs (e.g. food and parcel delivery, taxi driving etc) often rely on personal vehicle ownership (Hutton, 2016).

Cycling is also currently skewed towards more affluent demographic groups, and so campaigns aiming to encourage low-income people to cycle more should bear this in mind (Cycling Scotland, 2018). The same study points that lower social grades can be eager non-cyclists who have positive attitudes towards cycling but the lack of cycling infrastructure, impracticality of cycling when carrying goods and safety are the main barriers for them switching modes (Cycling Scotland, 2018). Additionally key motivating messages include getting fit, more cycling infrastructure, traffic reduction, and saving money.

In financially unstable times, households are even less likely to get rid of their cars- seeing car access as a vital and functional source of security, flexibility, convenience, and public transport as too infrequent and unreliable to depend upon (Davis & Whyte, 2020; Iseki et al., 2006). Furthermore, car ownership is seen by some as a route out of poverty, and research suggests that transport and regeneration strategies need to support accessibility to jobs and services (Curl et al., 2018). These difficulties are compounded for low-income people living in rural areas.

1.2.4 Disabled people

Disabled people face several issues in their travel, which depend on the type of disability and personal circumstances. Insufficient research has been conducted on the mobility patterns of disabled people, and their lived experience of Scottish transport systems. We advise further research into this important area of study.

A higher proportion of those with long term conditions "affecting day to day living a lot" compared with those with no long-term limiting health problems do not have access to a car. Disabled people and those with long-term health problems experience significant transport barriers and often have more limited transport mode choices. In relation to walking, wheeling and cycling, these barriers include the allocation and condition of road space, which poses safety risks (Sustrans, 2020). Sustrans also argue that, *"lowering speed limits and introducing traffic calming measures could reduce the risk of injuries for all".*

Many disabled people express anxiety about using public transport due to experiences of discrimination and abuse, both verbal and physical. A report from Scope on the UK context overall, shows that 1 in 4 disabled people had not used public transport in the past year due to stigma and negative attitudes from others (Scope, 2018). Rail replacement buses, typically employed following disruption to train services, have also faced criticism for not being accessible to, and 'humiliating', mobility impaired people (BBC, 2020). Davis and Whyte (2020) argue that disabled people are often not able to access public transport vehicles and

interchanges between nodes, which can make longer journeys more difficult. Governments should work to ensure that disabled people are: *"able to access public transport through improved accessibility; without fear of negative attitudes by staff and other passengers; and have straightforward access to a remedy when things go wrong"* (Scope, 2018). Other evidence from the US shows that failures to make public transport inclusive and safe for disabled people forces them into car dependence (Rosenbloom, 2007). The barriers are even higher when they also experiencing other forms of discrimination – for example due to their race, gender, income or social class.

Flexible Transport Services (FTS) are available for disabled people in Scotland. More than 50% of these schemes focus on mobility-impaired people. However there is significant room to be more inclusive. FTS should do more to support those with other forms of disability that prevent them from using public transport, such as mental health issues, learning disabilities and Chronic Fatigue Syndrome/ME. Velega et al (2012) reviewed the context of FTS in Scotland and found: i) that they were limited in remote areas, like the highlands; ii) these services must be booked far in advance; iii) are often isolated from other modes of transport; and iv) are targeted to older people, and out of five available schemes none were accessible to younger people. However policymakers and researchers have been focussed on ways to broaden out accessible FTS in Scotland, for example with tools like the Flexible Integrated Transport Services system (FITs) (Mounce et al, 2018). Nelson and Wright (2021, 2022) find that there has been demonstrable community interest in FTS in Scotland, with communities willing to invest finances into accessing services, some of which were quite busy before Covid-19.

This literature provided a baseline context analysis of travel trends, barriers and opportunities for reducing car kilometres in Scotland. It informed the development of Pen Portraits that were then tested and refined, and which will support the SG's internal discussions around how to market the car reduction policy to different audience segments.

2. Focus group protocol

1. Intro (5 Min)

Brief summary of session/project aims

- *"We are a group of researchers at the University of Bath studying how Scottish people travel. Today, we'd like to hear about your experiences with your travel in Scotland. We'd also like to get your feedback on some materials we've produced that explore people who have reduced their driving. There's no right or wrong answers, and don't feel pressured to answer in a certain way. We realise there are lots of challenges and reasons for the way we travel, and want to know how you experience getting around in Scotland."*

Ground Rules- Respect, Confidentiality

- *"We ask that everyone here is treated with respect, we want to hear what everyone has to say, and any inappropriate behaviour will result in removal from the group. If you have something to say but you don't want to interrupt the discussion, the moderators will be checking the chat regularly. We also ask that anything discussed within this group stays within the group. We are recording this meeting, and we will use what you say to inform future travel interventions. Everything you say will be confidential, and when we present what you say your name will not be attached to your quotes."*
- *"Does anyone have any questions about the group before we start the recording?"*
- Check everyone is able to access the platform and use the chat/raise hand functions.
- Start the recording.

2. Group Introduction (5 min)

All participants introduce themselves (name, where live, occupation)

- *"First of all, we'd like you all to get to know each other. So could you say your name, where you live, what you do, and one interesting fact about yourself."*

3. Travel behaviour (30 min)

a. Understanding how people in the group typically travel around (5mins)

- *"Now we'd like to understand a bit more about how you usually travel around. Could you tell us how you usually travel around? What is the most common journey you do, something you do nearly every day, or a few times a week…how do you do that, and why in that way?*
- *"Does anyone else do this/does anyone else do something different?"*

b. Understanding reasons for driving (5-10mins)

- *"How often do you drive, why do you drive"*
- *"What might encourage you to drive"*
- *"What might put you off driving?"*

c. Understanding the experiences of active travel and public transport use. (5-10mins)

- Active travel
    - *"Does anyone walk or wheel/cycle around? If so, when and why do you do this?"*
    - *"What prompted you to do this more, or why don't you do this more?"*
- Public Transport
    - *"Does anyone get the bus or train? If so, when and why do you do this?"*
    - *"What prompted you to do this more, or why don't you do this more?"*
- Any other experiences of car clubs, lift sharing etc

d. Four Behavioural areas (10mins – and Mural Board)

"In terms of changing our transport behaviour, we propose that there are four key branches that might help us – perhaps we could discuss one by one and see if people have any experience or comments on them?"

1. Reducing the need to travel
2. Living well locally
3. Switching Modes
4. Combining or sharing car trips

e. Pen Portraits (20-30 min)

Present one pen portrait (the one of the same demographic as the focus group). Give time for participants to read themselves, and read the portrait aloud.

Feedback:

- *"Could everyone post in the chat their first reaction to this portrait? How does it make you feel? Does this story resonate with you?"*
- [Use chat responses to gather feedback and facilitate discussion)
- *"Are there any aspects that sound unrealistic? Or anything you feel is missing from they types of experiences you've had?"*

f. Group-specific challenges (5 min)

- *"Are there any challenges that you think are especially difficult for [members of your team]?"*

g. Final comments (5 mins)

- *"Does anyone have any final thoughts on travel or these portraits that they haven't discussed yet?"*
- Thank participants, say how the incentive will be emailed to them.
- Facilitators to stick around on the call for 5-10 minutes at the end in case anyone wants to say something more. Also, facilitator emails given out in case participants want to email with responses.

3. Focus group findings - summary

3.1. Young Adult Living in an Urban Area

Positive Feedback

- Overall, the group felt the portrait was realistic and good
- Sounded realistic, habitual car use is relatable
- Using a bike and a car if not regularly leaving the city
- Going through the process of not needing a car
- Good mentioning of cycling to work
- They wouldn't consider getting the train if it wasn't for the railcard (too expensive)
- Real life, what you think will be easy might not be- takes time to readjust to a new city
- 20 minute neighbourhood aspect
- Parking in Glasgow is annoying
    - Last year, got a permit but no spaces and that was hard
- She had a similar experience to Alex in that she went to Strathclyde University and took the car to get to rugby out in the country
- Cycle to work scheme is something to look forward to – wouldn't like to reduce travel to work in a graduate role as need to learn from colleagues and meet people

Suggested Changes

- Car Use
    - Moment of change – Car broke and trialling not fixing it
    - Never choose to drive Edinburgh unless the weather Is horrendous because traffic is terrible
        - Though in other places of the discussion they mention using it for shopping
    - Maybe parents pick up from university sometimes.
    - Usually share car journeys with friends and split the petrol costs, as it's expensive (though often forget to ask for the money anyway)
    - Parking permits also very difficult to get
    - Driving gives a lot of climate/environmental guilt
    - Driving for exercise and access to nature v. prominent
        - Highlands trips are so important for mental health
        - Drive to swim in the sea (too exhausted to cycle after)

        - Can't use car club for some things like kayaking because there is no roof rack
        - However some routes can work: west coast railway line is really scenic, and the car club is good for visits to Skye
            - You see more and appreciate it more on the train

- Cycling
    - Storing your bike outside would mean it gets stolen. Edinburgh and Glasgow have this in particular
    - Cycling was amazing during lockdown
    - Often it takes the same amount of time to drive as it does to cycle, so it's down to laziness/effort

- Bus travel
    - Bus Travel used when you're out drinking, if weather is poor or you need to be more presentable than having arrived sweaty on a bike

3.2. Small Business Owner

Positive Feedback

- Resonates with lots of people
- Apps to make travel easier
- Yasmin didn't give up- inspiring
    - Despite the obstacles in life you keep pushing
- Enjoyed the story, Loved the person and description of her challenges
- Electric bikes- everyone is not aware of the innovations so great to highlight them here
- Felt it was realistic overall- fact of life and the solution to Yasmin's issue is also realistic.
- Home delivery was convincing
- People care about the environmental impact of the business, and is an increasing concern for companies

Suggested Changes

- As a business owner, personal vehicle needs are still there

- Needing to travel early in the morning, have to be realistic and trust the service you are using, which makes a car the best
- Local delivery by cargo bike is a USP for a local business
- It's a selling point and also a talking point.

3.3. Middle-Income Parents

Positive Feedback

- Very relatable for pandemic parents
- Work offering more flexibility and balance is great
- More people are taking their kids to school now
- Kids really do encourage parents to be more sustainable!
- Less air pollution, experiencing lockdown and clean air= relatable
- Hybrid working is relatable
- Reliance on vehicles has changed
- But other journeys still use the car

Suggested Changes

- Change was too radical, a lot of people got back into the habit
    - Getting younger kids to school takes a lot of time and organisation
    - Maybe they still use the one car they kept a bit more than suggested
        - Emphasise COVID change for the car reduction
    - Or maybe because they don't have a second car they use a car club
        - Also can increase active travel because you have to travel to the car club location
- Suggestion of taking kids to school in cargo bike / Trailer
    - This is easy if you are strong/city is not hilly, otherwise it's a non-starter
- People want to know there is security for the bike
    - E-bike is a huge investment, need to make sure it doesn't get stolen
    - Bike theft is a huge issue in cities
- Perhaps highlight how someone was very much not a cyclist but wanted to be, and then achieved it

3.4. An older couple living in a Rural and/or Island area

Positive Feedback

- Home deliveries are important
- People go down to Glasgow often, this is realistic. West Highlands is a Glasgow ex-pat centre
- Sharing journeys is also done typically and is realistic

Suggested Changes

- Driving does take a lot of energy too
- Single track roads in rural areas are hard to drive down
- People who have retired and got the concession card do start using buses when they never did before, it's a moment of change that saves them money
- Milkman is sometimes still a very common service – which could be emphasised in home deliveries
- Definitely a slower pace of life in the countryside
- More community, other families giving people lifts
- Realistically a lot of people commuting from rural locations would find it impossible to commute
- City link is sometimes timed to coincide with the ferries

3.5. A single parent on a low-income

Positive Feedback

- "Very moving", "very touching", "I feel emotional", "almost made me cry"
- Family comes first, she works hard for her family and this was inspiring to see
    - Felt she was suffering a bit to provide for her family, but the story resonates with some of their family experiences.
    - "The things we do for family"
    - Having twins is difficult
- Need for two jobs resonates
    - Hard Worker
- Spare time is also realistic
- Talk to a friend is realistic, makes her proud
- Love the fact that Kimberly is sharing the car with her friend. I will make sure that I change my behaviour (car sharing).
- Everything sounded real and I think the story, I want to change. It was a great lesson today – everything changes as it goes.

Suggested Changes

- Vehicle sharing makes sense but she needs to be able to trust her friend, maybe ADD something about her friend, how long they've known each other to build up her character too.

- Not really any here – People were really quite emotional about this one!

3.6. Disability Rights Advocate

Positive Feedback

- A lot of positives, but how doable is this really?
    - Lots of quite negative experiences drawn upon, not necessarily in response to the PPs, but overall services falling very short of acceptable.
- Travelling by car is convenient
    - Need for a just transition, cars as mobility aids are often vital
    - If you need to be somewhere at a specific time, you have to drive.
- (this is in the PP but also added to changes below because could be emphasised more!) Changes of transport mode / bus route is tiring and the walk at either end can be too much.
    - Very fatiguing travelling this way – prefers to conserve energy
- Pedestrian Infrastructure important

Suggested Changes

- Pedestrian Infrastructure important
    - Dropped Kerbs
    - Pavement surface is often bad
- Operating the scooter is difficult, especially in darkness and cold
    - Legal issues of e-scooters
    - Needs to be safe, legal and secure.
- You have to plan 100% of your journey before hand – even for driving
    - You have to arrive early if driving to make sure you get there on time
    - Where you park has to be close enough, and if they take away disabled parking you're screwed
- Car sharing= difficult for wheelchair users who are used to the dimensions of their vehicle, needs to accommodate a chair

- Dial a bus and handicabs helpful
    - Some taxis have a step - inaccessible
- Chronic Pain and Exhaustion are huge issues for disabled people
- (this is in the PP but also added here because it could be emphasised more!) Changes of transport mode / bus route is tiring and the walk at either end can be too much.
    - Very fatiguing travelling this way – prefers to conserve energy

4. Survey findings - summary

4.1. Sample size and demographic characteristics

We aimed to achieve a sample of 200 respondents for each target group, but some groups did not achieve this target. The following tables show the final sample size and provide a breakdown of the demographic characteristics for each sample:

Table 1. The six target groups according to age, gender, and ethnicity

Group	**Young people**	**Middle-class**	**Lower income**	**Rural/ Islander**	**Person with disability**	**Business owner**
Total participants	**201**	**200**	**143**	**166**	**177**	**131**
Age	M = 25.77 SD = 3.43	M = 38.12 SD = 5.39	M = 40.16 SD = 8.59	M = 55.15 SD = 8.17	M = 39.68 SD = 12.39	M = 41.01 SD = 12.08
Gender						
Female	140 (29.5%)	145 (25.4%)	110 (76.9%)	114(68.7%)	128 (72.3%)	74 (56.5%)
Male	59 (70%)	51 (72.1%)	33 (23.1%)	51(30.7%)	43 (24.3%)	56 (42.7%)
Non-binary/third gender	0	4 (2%)	0	0	5 (2.8%)	1 (0.8%)

Prefer not to say	1 (0.5%)	1 (0.5%)	0	1 (0.6%)	0	1 (0.6%)
Ethnicity						
White	176(87.6%)	192 (96%)	137 (95.8%)	162(97.6%)	169 (95.5%)	118 (90.80%)
Mixed/ Multiple ethnic groups	10 (5%)	2 (1%)	0	0	3 (1.7%)	3 (2.3%)
Asian/Asian British	10 (5%)	3 (1.5%)	3 (2.1%)	0	1 (0.6%)	5 (3.8%)
Black/ African/ Caribbean/ Black British	0	3 (1.5%)	3 (2.1%)	0	0	2 (1.5%)
Other ethnic group	4 (2%)	0	0	1 (0.6%)	2 (1.1%)	2 (1.5%)
Prefer not to say	1 (0.5%)	0	0	3 (1.8%)	2 (1.1%)	0

Table 2. The six target groups according to area of residence and employment status

Group	**Young people**	**Middle-class**	**Lower income**	**Rural/Islander**	**Person with disability**	**Business owner**
Total participants	**201**	**200**	**143**	**166**	**177**	**131**
Area of residence						
Countryside or small village/ hamlet	8 (4%)	28(14%)	26(18.2%)	56 (33.7%)	24 (13.6%)	23 (17.6%)
Large village or small town	30(14.9%)	62(31%)	43(30.1%)	68 (41%)	50 (28.2%)	36 (27.5%)

Suburbs of large town or city	90(44.8%)	84(42%)	38(26.6%)	32 (19.3%)	60 (33.9%)	41 (31.3%)
Centre of large town or city	73(36.3%)	25(12.5%)	35(24.5%)	6 (3.6%)	43 (24.3%)	30 (22.9%)
Remote area/ residence/ small island	0	1 (0.5%)	1(0.7%)	4 (2.4%)	0	1 (0.8%)
Employment						
Employed full-time	114(56.7%)	130(65%)	54(37.8%)	83 (50%)	79(44.6%)	83(63.4%)
Employed part-time	32(15.9%)	54(27%)	51(35.7%)	30 (18.1%)	36(20.3%)	34 (26%)
Student	44(21.9%)	3(1.5%)	3(2.1%)	3 (1.8%)	16 (9%)	4 (3.1%)
Employed on a casual or zero-hours contract	3(1.5%)	2 (1%)	2(1.4%)	5 (3%)	7 (4%)	4 (3%)
Unemployed	8 (4%)	11(5.5%)	28(19.6%)	13 (7.8%)	27(15.3%)	3 (2.3%)
Retired	0	0	5(3.5%)	32 (19.3%)	12 (6.8%)	3 (2.3%)

Table 3. The six target groups according to household income, difficulty paying bills, and access to a car

Group	**Young people**	**Middle-class**	**Lower income**	**Rural/Islander**	**Person with disability**	**Business owner**
Total participants	**201**	**200**	**143**	**166**	**177**	**131**
Household Income						

Less than £6,000	4 (2%)	0	7(4.9%)	2 (1.2%)	12 (6.8%)	4 (3.1%)
£6,000-£12,999	16 (8%)	1 (0.5%)	20(14%)	13 (7.8%)	16 (9%)	6 (4.6%)
£13,000-£18,999	16 (8%)	1 (0.5%)	20(14%)	11 (6.6%)	17 (9.6%)	12 (9.2%)
£19,000-£25,999	33(16.5%)	3 (1.5%)	30(21%)	21 (12.7%)	27(15.3%)	15(11.5%)
£26,000-£31,999	30(15%)	1 (0.5%)	39(27.3%)	25 (15.1%)	18(10.2%)	16(12.2%)
£32,000-£47,999	45(22.5%)	44 (22%)	23(16.1%)	26 (15.7%)	33(18.6%)	28(21.4%)
£48,000-£63,999	25(12.5%)	66 (33%)	4(2.8%)	26 (15.7%)	23 (13%)	18(13.7%)
£64,000-£95,999	19(9.5%)	74 (37%)	0	21 (12.7%)	15 (8.5%)	15(11.5%)
More than £96,000	4 (2%)	9 (4.5%)	0	9 (5.4%)	7 (4%)	11 (8.4%)
Prefer not to say	8 (4%)	1 (0.5%)	0	12 (7.2%)	9 (5.1%)	6 (4.6%)
Difficulty paying bills						
Very difficult	15(7.5%)	6 (6%)	23(16.1%)	6 (3.6%)	18(10.2%)	14(10.7%)
Quite difficult	61(30.5%)	62(31%)	69(48.3%)	44 (26.5%)	76(42.9%)	34 (26%)
Not very difficult	93(46.5%)	104(52%)	47(32.9%)	76 (45.8%)	62 (35%)	56(42.7%)
Not at all difficult	31 (15.5%)	28(14%)	4(2.8%)	40 (24.1%)	21(11.9%)	27(20.6%)
Access to a car						
Yes	120 (59.7%)	186 (93%)	115 (80.4%)	146 (88%)	131 (74%)	105(80.2%)
No	81 (40.3%)	14 (7%)	28 (19.6%)	20 (12%)	46 (26%)	26(19.8%)

The survey started with presenting the pen portrait that was relevant to the target audience, and eliciting feedback on it in the form of both closed and open-ended questions. Subsequently, we asked questions about the respondents' travel behaviours and their views on different car use reduction policies, to provide greater insight into drivers of and barriers to travel behaviour change.

4.2. Feedback on the Pen Portraits

We first asked the participants to rate the pen portrait according to how realistic they found it. We used a scale from 1 (Not realistic at all) to 5 (Completely realistic). Figure 1 presents the mean scores for each of the pen-portraits.

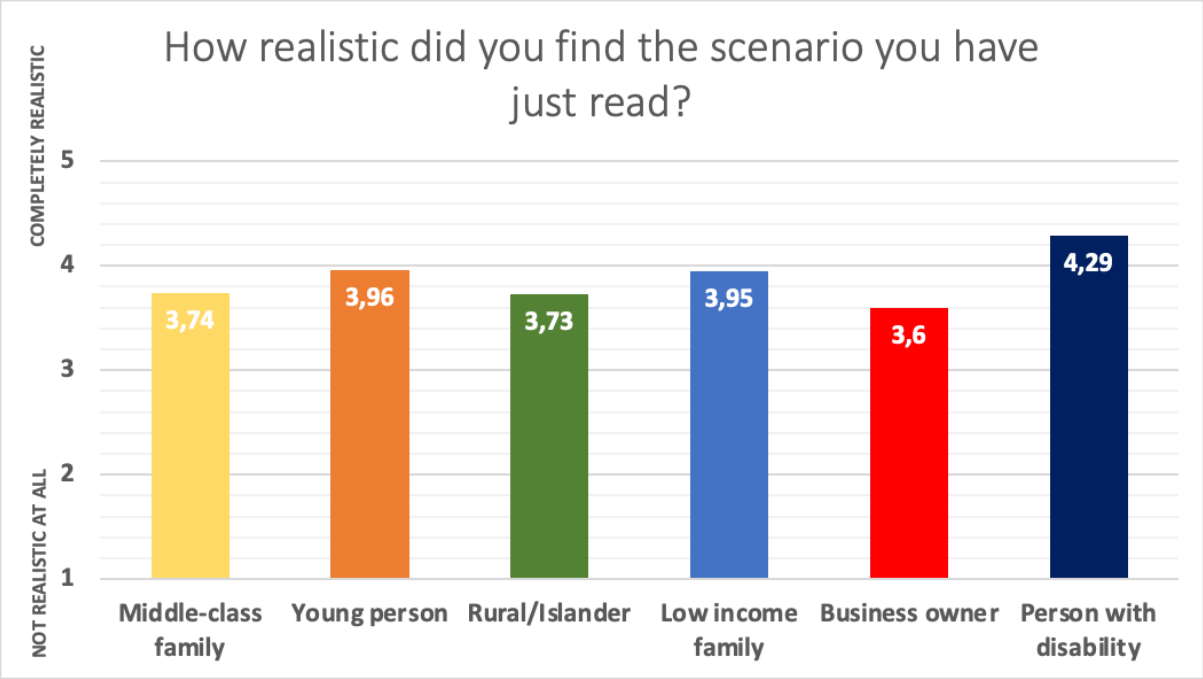

Figure 1. Mean scores for each of the six pen-portraits

Next we asked "How relevant did you find the scenario to your own life?", and the findings are below, in Figure 2.

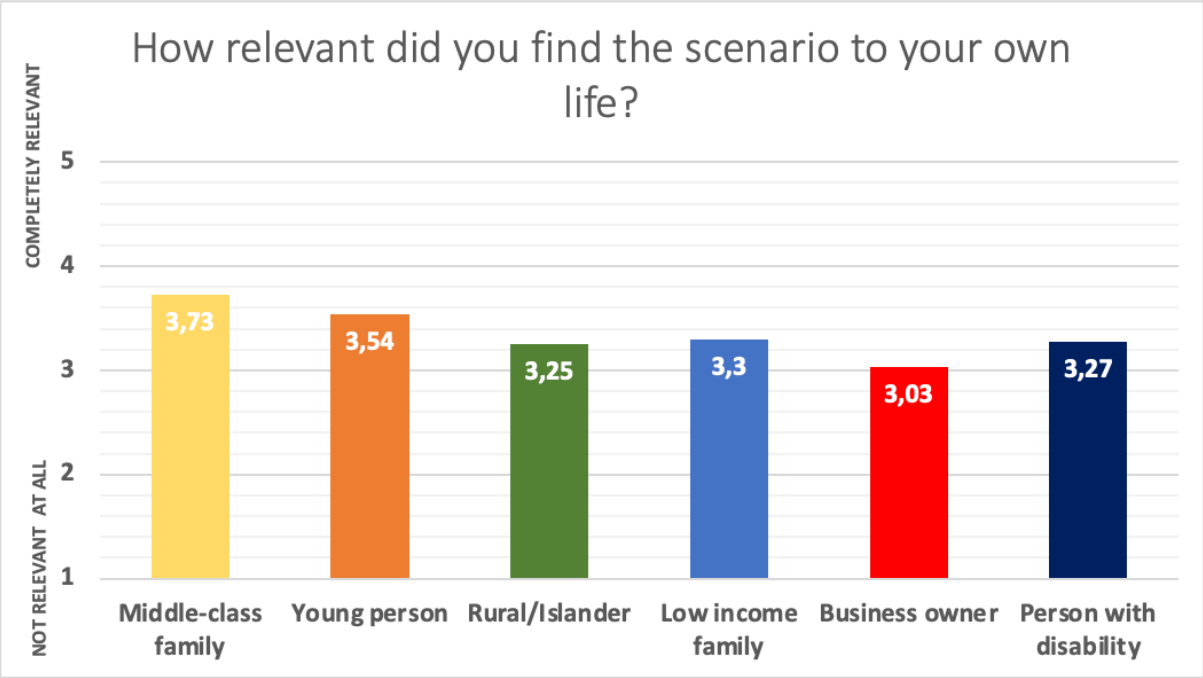

Figure 2. Mean scores for each of the six pen-portraits

The next question we asked was, "How much did you feel you could relate to the person in this scenario?". The scale was from 1 (I could not relate at all) to 5 (I could completely relate) (See Figure 3).

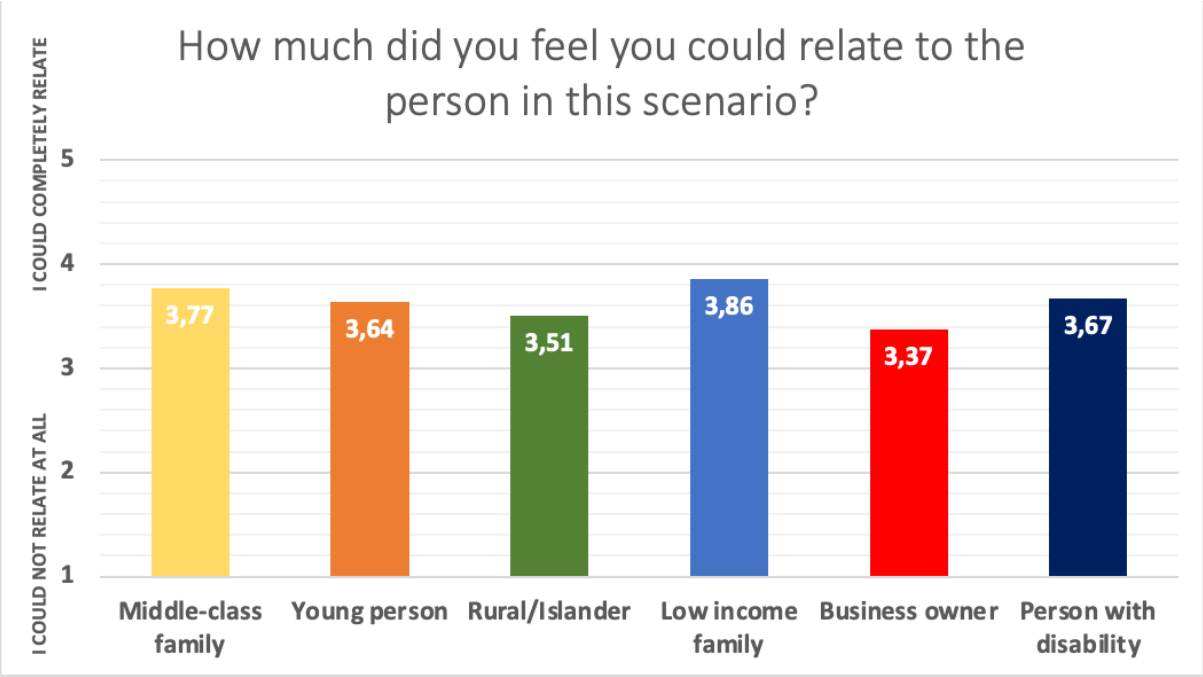

Figure 3. Mean scores for each of the six pen-portraits

Finally, we also asked the participants "How much did the scenario make you feel you could reduce your car use?" on scale from 1(Not at all) to 5(Completely) (See Figure 4).

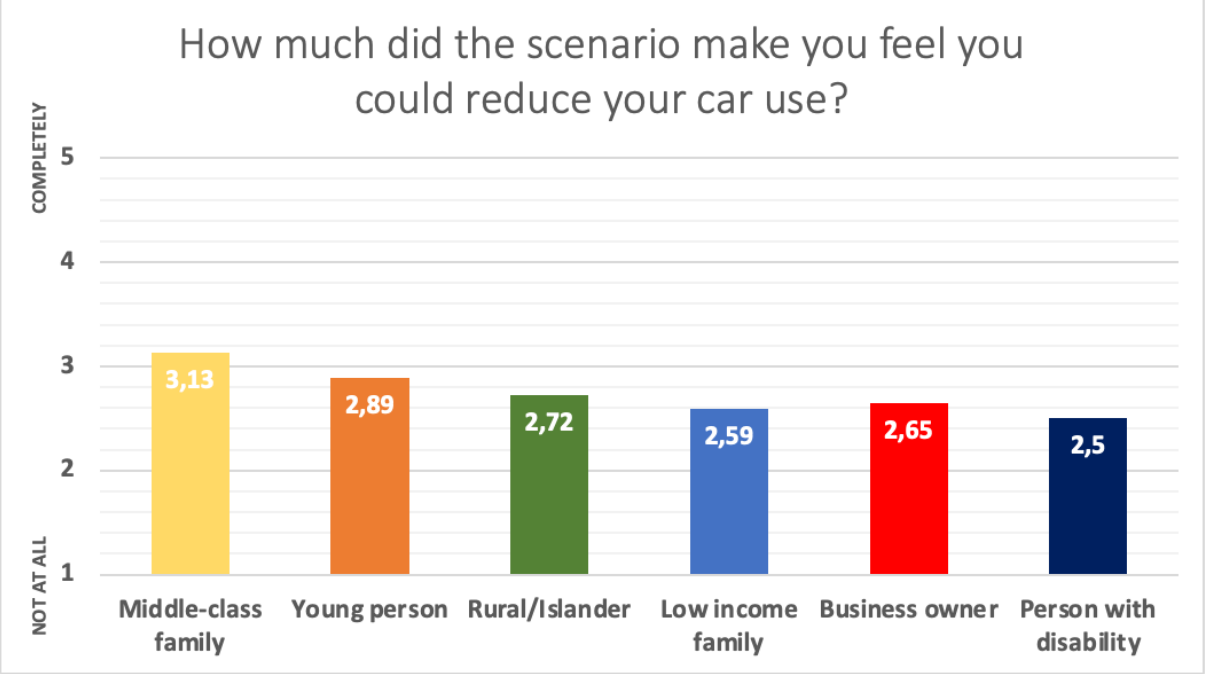

Figure 4. Mean scores for each of the six pen-portraits

The results presented above included all participants who took part in our surveys. However, after exploring the data we observed that for some of the groups there were participants who did not meet the initial screening requirement. For example, they did not live in a rural/island/remote area or their household income did not fall under the low income category. We have excluded such participants from the analysis. The results could be found in Appendix 3. The next step was to ask three open-ended questions that elicited feedback on the pen portrait from its target audience.

We summarise here findings from each group to these questions:

4.2.1. Disability:

When asked for spontaneous feedback ('What thoughts or feelings came to mind when you read this scenario?'), the word cloud suggests a strong focus on the disability and accessibility aspects of the text, but also does pick up the climate change element.

When asked which elements, if any, they could most relate to in the Pen Portrait, only 27 respondents (out of 188) felt there was nothing they could relate to. For others, the most common relatable elements were the disability/health issues described, inaccessibility of transport services, the need for contact with colleagues when working from home, and climate concerns (see Table 4). Conversely, most (112) people indicated there wasn't anything particularly unrealistic about the scenario, but of those who did highlight unrealistic aspects, most pointed to the responsiveness of Mike's employer, the football club and the council to

his needs. When asked what could be improved, 75 respondents said 'nothing', while 82 made suggestions that were very wide-ranging but most commonly included giving greater emphasis to the disabled experience (8) and providing different scenarios (6).

Table 4. Pen Portrait relatable elements for Disability group (n=188)

Were there any aspects of this scenario that you found you could particularly relate to? If so, please explain which.	N	Were there any aspects of this scenario that you found particularly unrealistic? If so, please explain which.	N
None/no	*27*	*None/no*	*112*
Disability/mobility/health issues	67	Responsiveness of football club	24
Inaccessibility of spaces/transport services	50	Ease of extra parking	15
WFH & need for contact w/ colleagues/others	36	Mike's company too accommodating	14
Climate concerns/commitment to green	25	Kerb drop & infrastructure	5
Insufficient disabled parking / stressful travel	20	General responsiveness of others	7
Invisibilisation of disabled people and self-advocacy	18	Other	12
Need for car and associated independence	12		
Role of mental health/illness	8		
Importance of accommodating employer	7		
Remote living/isolated	7		
Environmentalism as exclusive	6		
Non-disabled people using disabled parking and blocking access	4		

Invisibilisation of disabled people and self-advocacy	4		
Other	16		

4.2.2. Young people:

Spontaneous responses to the young people Pen Portrait highlight the different modes described (car, public transport, cycling, train) and contextual aspects (country, city) but also parking and benefits described (see word cloud). The most relatable elements of the scenario included the inconvenience of parking, benefits of using public and active transport, and cost of running a car (see Table 5). Conversely, unrealistic aspects included adequacy of public/active transport, and exploring remote locations without a car. Suggestions for improvement included highlighting challenges/disadvantages of switching to public transport, stating the financial implications and other benefits of the switch.

Table 5. Pen Portrait relatable elements for Young Persons group (n=201)

Were there any aspects of this scenario that you found you could particularly relate to? If so, please explain which.	N
No/none	*18*
Parking inconvenient	65
Positives or usage of public transport	56
Cost of running a car	43
Positives or usage of cycling and/or walking	38
Stress of owning a car/driving	28

Were there any aspects of this scenario that you found particularly unrealistic? If so, please explain which.	N
No/none	*91*
Public transport as adequate/convenient	32
Exploring remote locations without a car	26
Public transport as affordable	25
Cycling as idealistic	25
Likelihood of buying/owning car in circumstances	16

Necessity/convenience of driving	24
Cost of public transport	23
Not needing a car	23
Consideration of environment	22
Parking cost	20
Public transport as inadequate/inconvenient	15

No acknowledgment of benefits of driving	10
Ease of switch from car to car-less	8
Public transport as idealistic	6
Cycling as social	7
Ease of car share	5
Guilt as motivating	5

4.2.3. Low-income family:

Spontaneous thoughts and feelings about the low-income scenario focus on the work and environmental aspects, as well as the car share option described (see word cloud). Cost of driving and inadequacy of public transport were considered the most relatable aspects, while the likelihood of a successful car share (despite a number of people also finding this realistic) a workplace travel scheme were considered less realistic (see Table 6).

Table 6. Pen Portrait relatable elements for Low-income Family group (n=143)

Were there any aspects of this scenario that you found you could particularly relate to? If so, please explain which.	N
Rising cost of fuel/driving/living	43

Were there any aspects of this scenario that you found particularly unrealistic? If so, please explain which.	N
No/nothing	80

Public transport inadequate/expensive	24
Car-sharing	23
Stressful/costly commutes	21
Children/family considerations & demands	19
Not feeling safe on public transport/walking/cycling	18
No	16
Needing extra work/multiple jobs	15
Being time-poor (family/social/rest)	13
Need for car	13
Less/no car use	12
Low income/financial struggle	10
Juggling/struggling w/ work/commuting/home life	9
Single mother	9
Environmental consideration	9
Efficiency/convenience of car	9
Use of public transport/walking	9
Money savings	5
Other	7

Likelihood/success of car-share	35
Likelihood of employer/council travel scheme	23
Collective contentment/social aspect of sharing	11
No back-up solution	8
Not needing car/life improving w/out car	6
Public transport improving/cheaper	3
Idealistic	3
Night-to-day shifts	3
Little/no reference to children	3
Safety on buses	1
Car-share as time-consuming	1
Lack of transport options	1
Not including a cost comparison	1
Unrealistic independence	1

4.2.4. Rural older couple:

Spontaneous thoughts and feelings about this scenario capture aspects of the protagonists and their community, and to a lesser extent the public transport elements (see word cloud). Most relatable aspects included reducing car use and using public transport, living rurally, community feel, and online shopping; less realistic aspects included neighbourly help and car-sharing, decent public transport and not needing a car (see Table 7). Suggested improvements included having a wider range of characters, switching to an urban setting, being less idealistic, and including the financial benefits of not having a car.

Table 7. Pen Portrait relatable elements for Rural older couple (n=166)

Were there any aspects of this scenario that you found you could particularly relate to? If so, please explain which.	N	Were there any aspects of this scenario that you found particularly unrealistic? If so, please explain which.	N
Less/no driving	35	Neighbourly help/car-sharing	44
Using public transport/free passes	35	Decent public transport	40

Community feel/exploring local	33
Living rural	31
Online shopping/services	29
Nature appreciation	22
Needing/wanting a car	19
None/no	19
Driving difficulty/stress & traffic	19
Positive lockdown-induced lifestyle changes	18
Challenges of public transport	18
Health/fitness/wellbeing	15
Simple, slower lifestyle	11
Middle aged	8
Cost of travel options	8
Environmental concerns	4
Other	16

Not needing a car	17
Home delivery accessibility/affordability	13
Ease of adjustment/idealistic	9
Their physical mobility/unfeasible with disability needs	6
Fast/accessible broadband	5
Lack of reference to work/finances	4
Older peoples' tech abilities	4
Other	11

4.2.5. Small business owner:

Spontaneous thoughts about the business owner Pen Portrait include the modal (bike) and business focus, as well as contextual (e.g. location) and the weather (see word cloud). Most relatable aspects also included the business focus and use of e-bikes, as well as struggling not to use a car; while less realistic elements were felt to include the feasibility of e-bikes for deliveries and of the weather, as well as removing all car parking (see Table 8).

Table 8. Pen Portrait relatable elements for the Small Business owner (n=131)

Were there any aspects of this scenario that you found you could particularly relate to? If so, please explain which.	N
No	22
Business considerations	19
Electric bike/car use schemes	18
Struggle not to use car/needing one	15
Adapting/pandemic-induced changes	12
Success of business/customer response	9
Demand for deliveries	9
Use of cycling/walking	8
Cost of car/driving	7
Expense of environmental changes	7
Public transport problems	5
Challenges of environmental options and convenience of not	5
Reducing driving	4
Other	6

Were there any aspects of this scenario that you found particularly unrealistic? If so, please explain which.	N
Feasibility/acquisition of e-bikes for deliveries	22
Feasibility due to weather	19
Removing all car parking	15
Ease of changes/idealistic	10
Delivery time reduced	5
Bikes over vehicles	3
Restaurant selection based on green	3
Degree of business growth/sustaining business	3
Other	11

4.2.6. Middle-class family:

Thoughts and feelings about this scenario covered elements like family, car, time, environment and pandemic (see word cloud). Walking, cycling and working from home, as well as reducing car use, were seen as most relatable aspects; while affordability/ accessibility of local shops and idealism were seen as less realistic aspects (see Table 9). Suggested improvements include: Less middle-class/idyllic and more inclusive/diverse scenarios (?), emphasising money saved, and Portray access/distance to places realistically, emphasising health and fitness benefits and emphasising small, gradual changes.

Table 9. Pen Portrait relatable elements for the Middle-class family (n=200)

Were there any aspects of this scenario that you found you could particularly relate to? If so, please explain which.	N
Walking/cycling	50
Walk/cycle the school run	47
WFH/flexibility	46
Reduced car use/no car	43
Stress/rush of daily routine	28
Shopping local/greater community	25
Slower pace due to pandemic and work/life balance	23

Were there any aspects of this scenario that you found particularly unrealistic? If so, please explain which.	N
Shopping local accessible/affordable	57
Easy adaptation/idealistic	45
Close proximity of things	23
Time as plentiful	19
Driving not a necessity	17
Likely compatibility with typical lifestyle	16
Financial/social position as unrelatable/exclusive	16

Quality family time	20
One car household/giving up a car	18
Reliance/convenience of car/s	15
No/not much	13
More time outdoors	13
Concerns about traffic, pollution, safety	12
Improved wellbeing/fitness	11
Similar neighbourhood	8
Environmental concern	6
Wanting to change travel habits	5
Other	11

Non-car travel modes as sufficient/safe	11
Employer flexibility	11
Environmental issues as motivating	10
WFH accessibility	9
Weather feasibility	8
Community cohesion	8
Speed limit adherence	4
Doesn't acknowledge shift work	3
Other	14

4.3. Survey findings on travel behaviours and attitudes to travel policies

We also asked our participants questions related to their intentions to engage in various travel pro-environmental behaviours. We included nine different behaviours, e.g. "I intend to cut down my travel-related emissions in the next six months"; "I intend to reduce my car use by 2024"; "I intend to use more public transport in the next six months". The participants had to give an answer for each of these on a scale from 1 (Strongly disagree) to 5 (Strongly agree) (See Figure 5 and Figure 6).

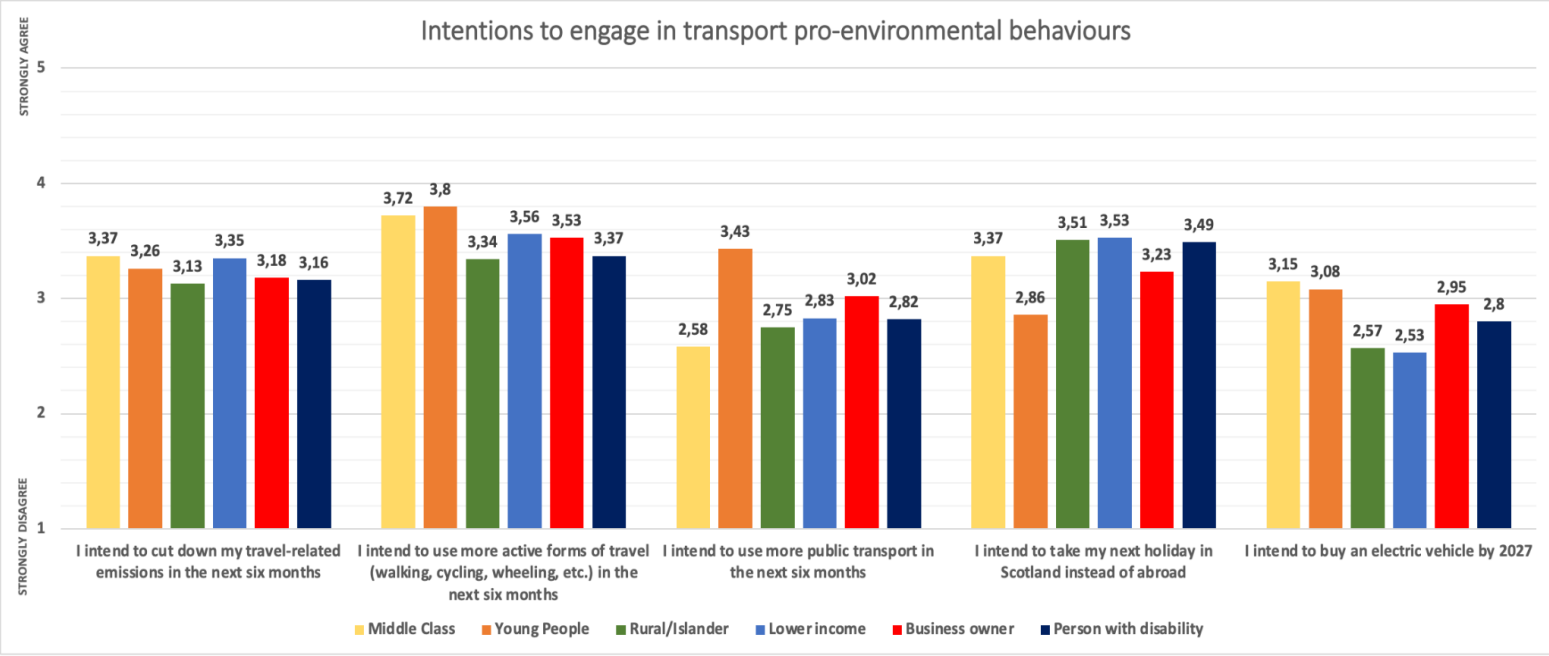

Figure 5. Participants' mean scores for the first five pro-environmental behaviours for each of the groups.

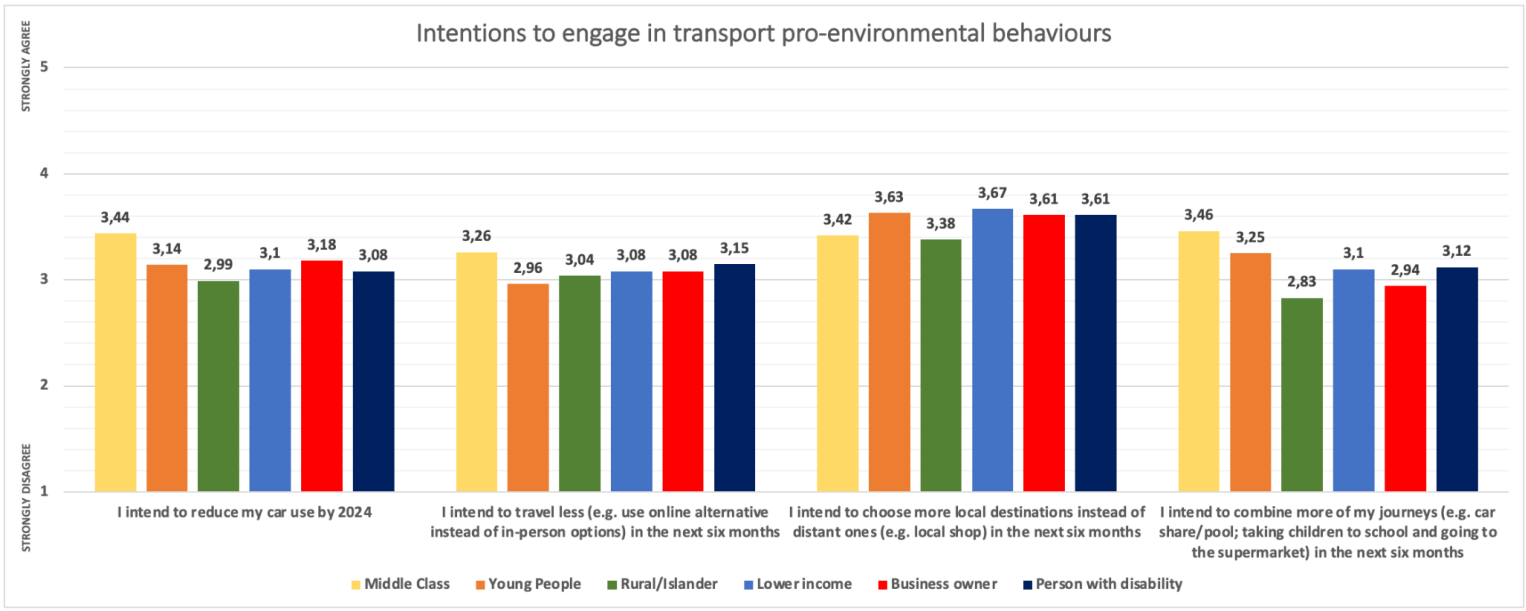

Figure 6. Participants' mean scores for the rest of the pro-environmental behaviours for each of the groups.

Looking across the behaviours (Figures 5-6), the actions which respondents were most willing to take included using more active forms of travel and choosing more local destinations. Using more public transport, combining trips, and buying an electric vehicle were least popular (although still with intention ratings around the midpoint of the scale, suggesting some degree of willingness).

Comparing the groups, the results are diverse. On the one hand, young people seemed to intend to use active travel the most in the following six months, however, they were also the ones who intended the least to take their next holiday in Scotland instead of abroad. On the

other hand, the people who read the middle-class portrait had the highest levels of intentions to cut down their travel related emissions, but the lowest scores when it came to using more public transport over the following six months. In addition, most groups did not seem willing to buy an electric vehicle by 2027, and most were not willing to use public transport.

As evident from Figure 6, the middle-class family group were the most willing to reduce their car use by 2024, while the rural/islander one were the least willing to do so. The middle-class family group also seemed to have similar intention levels for the rest of the behaviours. The rural/islander group had the lowest levels of intentions to combine their car journeys.

We further asked our participants about their support of various travel-related policies in Scotland. We included 13 policies, e.g. "Scottish Government's steps to reduce car kilometres travelled by 20% by 2030"; "Low Emission Zones to improve air quality introduced across big cities in Scotland"; "Free bikes for kids pilot"; and "Concessionary bus fares". The scale was from 1 (Completely oppose) to 5 (Completely support) (See Figure 7 and Figure 8).

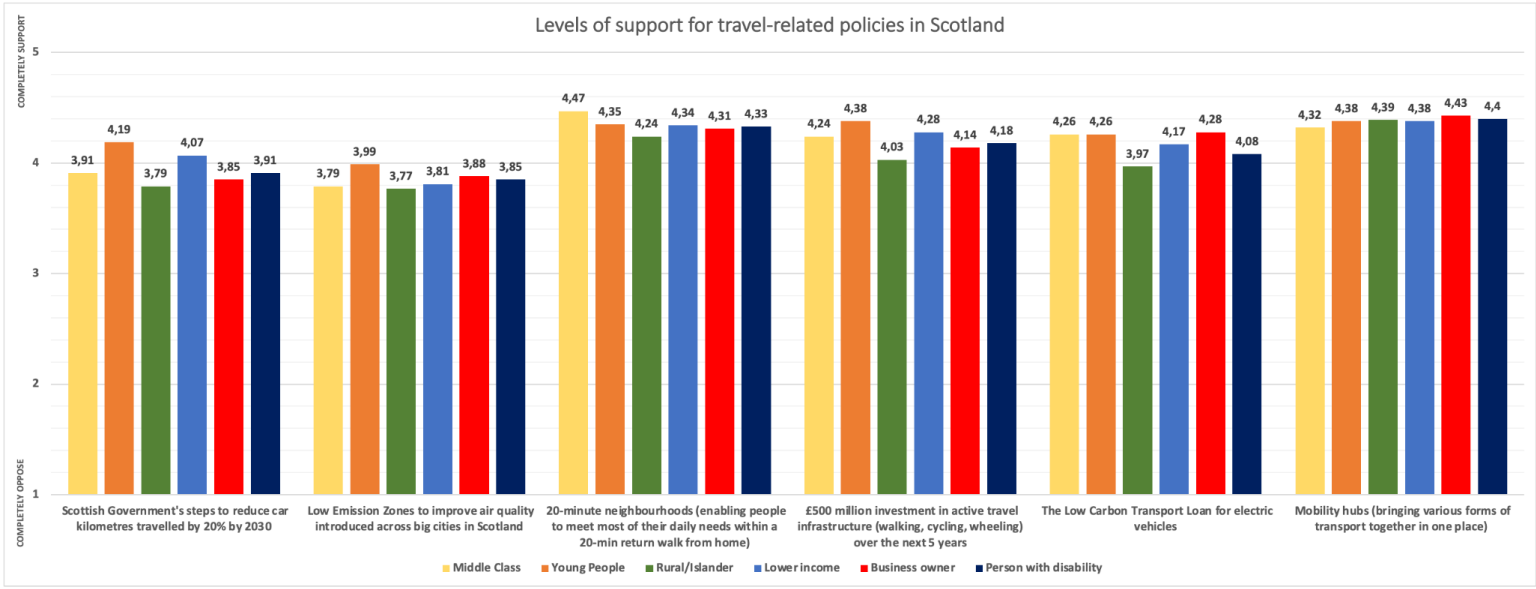

Figure 7. Participants' mean scores for the first six of the travel policies for each of the groups.

As evident from Figure 7, most of the policies had high levels of support. However, the "Low Emission Zones" and "Scottish Government's steps to reduce car kilometres travelled by 20% by 2030" overall had a little less support. Furthermore, the Rural/Islander participants seemed to show the lowest levels of support for each of the six policies.

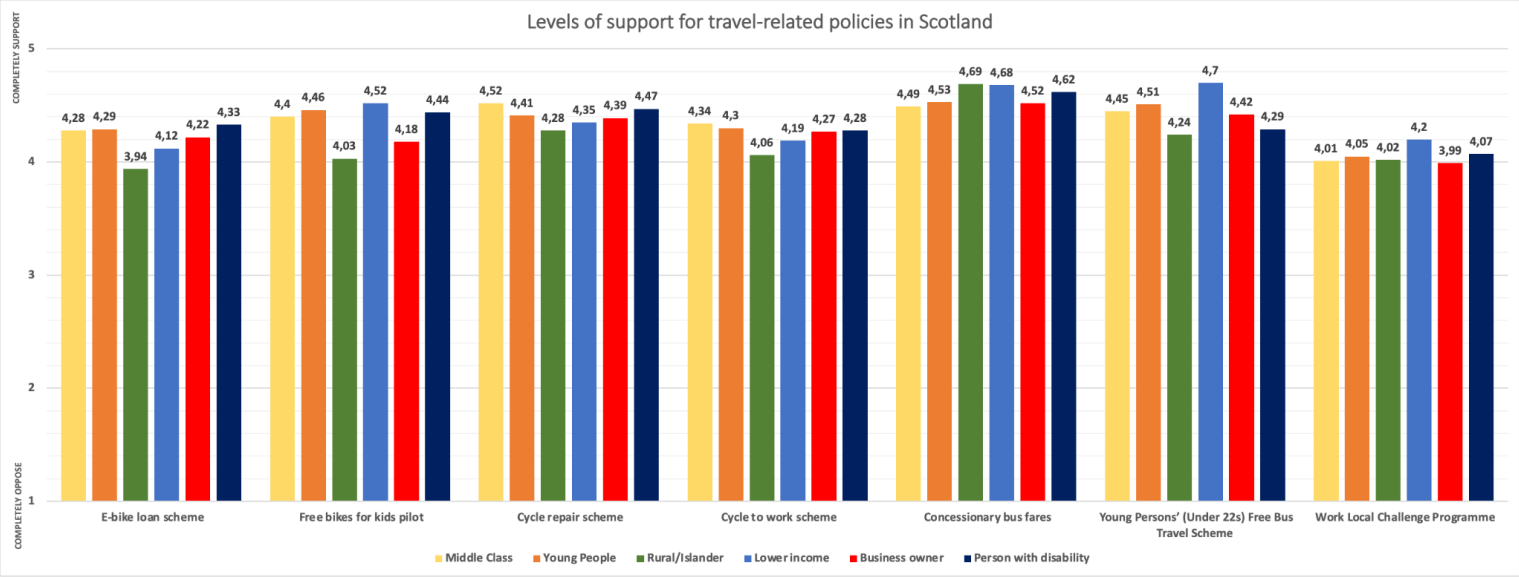

Figure 8. Participants' mean scores for the rest of the travel policies for each of the groups.

In this set of policies, we could see that the "Work Local Challenge Programme" had the lowest levels of support amongst all policies. However, the participants still showed positive levels of support. Once again the participants in the rural/islander group seemed to show support on the lower end for most of the policies (besides the "Concessionary bus fares") compared to the rest of the groups. The lower-income family showed the most support for the "Free bus pass for young people", while the people with disability had rather similar levels of support for most of the policies.

The results presented above show the mean scores only for participants who knew about each of the policies before taking part in the survey. Data on how many people did not know about each policy can be found in Appendix 4.

In addition to these analyses, we also conducted a number of linear regressions to check whether any of the demographic variables predicted the participants' positive views of the pen-portraits, intentions to engage in pro-environmental travel behaviours, and their support for policies. To do this we created aggregate variables for positive views, intentions, and policies. The predictor variables which we included in the analyses were: age; gender (male, female); living area (Centre of large town or city; suburbs of large town or city + Large village or small town; countryside or small village/hamlet + Remote area/residence/small island); employment status (Employed full-time; Employed part-time; Other); and income level (low; medium; high).

Our results showed that for the following pen-portraits the above-mentioned demographic categories were not significant predictors: Middle-class family; Rural/islander; Person with disability. This was the case for all three variables: portrait views , intentions, and support for policies.

However, for the Young person portrait we found that income was a significant predictor. People with lower income intended to engage in more pro-environmental behaviours (See Table 10).

Table 10. Regression analysis of intentions to engage in pro-environmental travel behaviours (significant factors in bold) for the young person pen-portrait

Young People			
Model	*Beta*	*t*	*Sig.*
Constant		6.167	<.001
Gender	.042	.582	.561
Employment status	-.081	-.909	.365
Living area	-.138	-1.760	.080
Income	**-.210**	**-2.588**	**.010**
Age	-.017	-.202	.840

Regarding support for policies, we found that in the young person group gender and living area were significant predictors. Females showed higher levels of support for policies. Those living in urban areas also showed higher support for policies. In addition, we found that business owners living in urban areas showed higher levels of support for policies too (see Table 11).

Table 11. Regression analysis of support for policies (significant factors in bold) for the young person and business owner pen-portraits

Young People			
Model	*Beta*	*t*	*Sig.*

Constant		3.652	<.001
Gender	**.342**	**2.739**	**.008**
Employment status	.001	.007	.994
Living area	**-.357**	**-2.640**	**.011**
Income	-.100	-.757	.453
Age	.026	.194	.847
Business Owner			
Model	*Beta*	*t*	*Sig.*
Constant		7.502	<.001
Gender	.283	1.859	.071
Living area	**-.347**	**-2.526**	**.016**
Income	-.089	-.583	.563
Age	-.189	-1.222	.229

Finally, we also found that age of the participants was a significant predictor of their views of the pen-portraits for both the Lower-income family group and the Business owner group. In both instances the younger participants had more positive views of the pen-portrait they read (see Table 12).

Table 12. Regression analysis of views of pen-portraits for the lower-income family and business owner pen-portraits

Lower-income family			
Model	*Beta*	*t*	*Sig.*
Constant		8.617	<.001

Gender	-.136	-1.610	.110
Employment status	-.101	-1.118	.265
Living area	.055	.655	.513
Age	**-.200**	**-2.479**	**.014**
Business Owner			
Model	*Beta*	*t*	*Sig.*
Constant		6.050	<.001
Gender	.078	.817	.416
Living area	-.092	-.980	.329
Income	.074	.761	.448
Age	**-.224**	**-2.449**	**.016**

The next step in our analysis was to explore the relationship between participants' willingness to reduce their car after reading the pen-portrait "How much did the scenario make you feel you could reduce your car use?" and their intentions to engage in pro-environmental travel behaviour. We conducted correlation analysis for each pen-portrait. All correlation analyses yielded significant, strong, positive results. Thus, for all six pen-portraits we found that the higher the participants' willingness to reduce car use after reading the pen-portrait, the more they intended to engage in pro-environmental travel behaviours (See Table 13).

Table 13. Correlations between willingness to reduce car use after reading the pen-portrait and intentions to engage in PEBs for the six pen-portraits

	Young person	**Middle class family**	**Lower income family**	**Rural/ Islander**	**Person with disability**	**Business owner**
Variables	Willingness to reduce car use after reading the pen-portrait					

Intentions	.566**	.586**	.514**	.635**	.586**	.586**

** $p<.001$

4.4. Comparisons between people who read the pen-portraits and people who did not

We collected additional data from people who were not shown the pen-portraits. We were curious to find out whether reading the pen-portrait would influence people's intentions to engage in pro-environmental travel behaviours. Thus, we aimed to recruit 50 additional people for each pen-portrait group who served as control participants. For the Business Owner group we were able to recruit only 36 control participants. We still made comparisons with the people who read the pen-portraits as our sample was also lower than for the other groups (N=131). However, we were able to recruit only 15 control participants for the rural/islander control group, so we did not do any comparisons with the main sample.

We then conducted independent samples t-test to test for any differences in intentions between the two samples (those who read a pen-portrait and those who did not). Our results show that for the Young Person, Middle-class family, Lower-income, Disability, and Business owner portraits there were no differences in the intention levels of people. This suggests that reading the pen portraits probably did not influence intentions to reduce car use; rather, the observed differences in intentions between the groups is more likely a function of pre-existing factors (e.g., demographics) than the pen-portraits differing in their persuasiveness.

4.5. Breakdown of results according to the different demographic variables

4.5.1. Young people

Table 14. Breakdown of results for Young People groups by demographic variables

Variable	Gender			Income		
	Female (145)	Male (51)	Non-binary/prefer not to say (5)	Low (36)	Medium (108)	High (48)
Pen-portraits specific questions						
How realistic did you find the scenario you have just read?	3.96	3.96	3.80	3.92	4.06	3.81

How relevant did you find the scenario to your own life?	3.53	3.59	3.20	3.33	3.66	3.42
How much did you feel you could relate to the person in this scenario?	3.57	3.78	4.00	3.50	3.71	3.67
How much did the scenario make you feel you could reduce your car use?	2.81	3.12	2.80	2.92	3.02	2.54
Intentions						
I intend to cut down my travel-related emissions in the next six months	3.31	3.14	3.00	3.33	3.31	3.06
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.86	3.67	3.60	4.11	3.92	3.40
I intend to use more public transport in the next six months	3.36	3.67	3.00	3.81	3.52	2.96
I intend to take my next holiday in Scotland instead of abroad	2.97	2.53	3.00	3.00	3.05	2.33
I intend to buy an electric vehicle by 2027	3.06	3.20	2.60	2.81	3.06	3.29
I intend to reduce my car use by 2024	3.22	3.00	2.40	3.17	3.25	2.88
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	2.97	2.96	2.40	2.97	2.94	2.88
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.74	3.41	2.60	3.92	3.67	3.33
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.30	3.14	3.20	3.53	3.29	2.96

Support for policies						
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	4.23	4.07	4.50	4.59	4.14	4.11
Low Emission Zones to improve air quality introduced across big cities in Scotland	4.09	3.71	4.00	4.27	4.06	3.66
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.45	4.05	4.50	4.43	4.41	4.18
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.43	4.27	4.25	4.77	4.35	4.39
The Low Carbon Transport Loan for electric vehicles	4.38	4.05	3.33	4.13	4.31	4.39
Mobility hubs (bringing various forms of transport together in one place)	4.48	4.10	5.00	4.55	4.40	4.39
E-bike loan scheme	4.35	4.18	3.50	4.47	4.35	4.11
Free bikes for kids pilot	4.50	4.33	4.50	4.64	4.55	4.24
Cycle repair scheme	4.53	4.08	4.33	4.73	4.47	4.21
Cycle to work scheme	4.32	4.22	4.40	4.55	4.43	4.00
Concessionary bus fares	4.64	4.22	4.50	4.82	4.54	4.32
Young Persons' (Under 22s) Free Bus Travel Scheme	4.61	4.17	5.00	4.71	4.58	4.28
Work Local Challenge Programme	4.25	3.50	No data	4.38	4.04	3.91

Variable	Employment status	Living area	Access to a car

	Full-time (114)	Part-time (32)	Other (55)	Large city (73)	Suburbs/Large town (120)	Small town/ Rural (8)	Yes (120)	No (81)
Pen-portraits specific questions								
How realistic did you find the scenario you have just read?	3.82	4.22	4.07	4.00	3.95	3.62	3.86	4.10
How relevant did you find the scenario to your own life?	3.50	3.78	3.47	3.66	3.48	3.25	3.51	3.58
How much did you feel you could relate to the person in this scenario?	3.62	4.03	3.44	3.59	3.68	3.50	3.66	3.60
How much did the scenario make you feel you could reduce your car use?	2.80	3.44	2.76	3.12	2.78	2.38	2.76	3.09
Intentions								
I intend to cut down my travel-related emissions in the next six months	3.17	3.81	3.13	3.44	3.14	3.38	3.21	3.33
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.68	4.03	3.91	4.00	3.70	3.50	3.58	4.14
I intend to use more public transport in the next six months	3.26	3.75	3.58	3.58	3.39	2.63	3.22	3.73
I intend to take my next holiday in Scotland instead of abroad	2.74	3.22	2.89	2.70	2.97	2.63	2.82	2.91
I intend to buy an electric vehicle by 2027	3.12	3.50	2.75	3.11	3.06	3.13	3.21	2.89
I intend to reduce my car use by 2024	3.08	3.72	2.95	3.18	3.13	3.00	3.24	3.00

I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	2.99	3.12	2.78	2.92	2.98	3.00	3.07	2.79
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.65	3.78	3.49	3.84	3.53	3.25	3.59	3.68
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.17	3.72	3.16	3.45	3.14	3.13	3.19	3.35
Support for policies								
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	4.11	4.22	4.37	4.43	4.01	4.33	4.00	4.48
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.87	4.13	4.16	4.38	3.83	3.00	3.68	4.45
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.37	4.27	4.34	4.56	4.24	4.00	4.22	4.54
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.33	4.50	4.43	4.64	4.22	4.14	4.23	4.59
The Low Carbon Transport Loan for electric vehicles	4.30	4.28	4.10	4.49	4.14	3.80	4.17	4.40
Mobility hubs (bringing various forms of transport together in one place)	4.45	4.23	4.31	4.55	4.26	4.40	4.28	4.53
E-bike loan scheme	4.21	4.42	4.37	4.55	4.13	4.40	4.15	4.49
Free bikes for kids pilot	4.31	4.69	4.63	4.69	4.34	4.00	4.37	4.58

Cycle repair scheme	4.52	4.32	4.23	4.65	4.29	4.14	4.33	4.54
Cycle to work scheme	4.17	4.53	4.44	4.51	4.21	3.87	4.19	4.46
Concessionary bus fares	4.35	4.76	4.81	4.70	4.44	4.20	4.39	4.74
Young Persons' (Under 22s) Free Bus Travel Scheme	4.32	4.77	4.75	4.70	4.43	3.86	4.45	4.59
Work Local Challenge Programme	3.97	4.36	4.11	4.27	3.83	4.67	3.98	4.18

4.5.2. Middle-class

Total participants 200

Screeners:

- Min age – 20; Max age – 50
- Have a child
- Income over £40,000

Table 15. Breakdown of results for Middle-class group by demographic variables

Variable	Gender			Income		
	Female (140)	Male (59)	Non-binary/prefer not to say (1)	Low (2)	Medium (48)	High (149)
Pen-portraits specific questions						
How realistic did you find the scenario you have just read?	3.83	3.54	N/A	N/A	3.75	3.73
How relevant did you find the scenario to your own life?	3.69	3.80	N/A	N/A	3.69	3.74

How much did you feel you could relate to the person in this scenario?	3.76	3.80	N/A	N/A	3.65	3.82
How much did the scenario make you feel you could reduce your car use?	3.12	3.17	N/A	N/A	3.10	3.17
Intentions						
I intend to cut down my travel-related emissions in the next six months	3.36	3.39	N/A	N/A	3.31	3.39
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.68	3.81	N/A	N/A	3.75	3.70
I intend to use more public transport in the next six months	2.55	2.68	N/A	N/A	2.56	2.58
I intend to take my next holiday in Scotland instead of abroad	3.45	3.20	N/A	N/A	3.50	3.30
I intend to buy an electric vehicle by 2027	3.22	2.98	N/A	N/A	2.71	3.32
I intend to reduce my car use by 2024	3.44	3.46	N/A	N/A	3.35	3.48
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.21	3.37	N/A	N/A	3.25	3.28
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.46	3.34	N/A	N/A	3.52	3.39
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.51	3.32	N/A	N/A	3.60	3.43
Support for policies						

Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.87	4.00	N/A	N/A	3.76	3.95
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.87	3.61	N/A	N/A	3.80	3.77
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.42	4.57	N/A	N/A	4.54	4.44
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.19	4.39	N/A	N/A	4.33	4.20
The Low Carbon Transport Loan for electric vehicles	4.31	4.16	N/A	N/A	4.13	4.29
Mobility hubs (bringing various forms of transport together in one place)	4.34	4.28	N/A	N/A	4.31	4.33
E-bike loan scheme	4.33	4.15	N/A	N/A	4.35	4.26
Free bikes for kids pilot	4.36	4.48	N/A	N/A	4.46	4.37
Cycle repair scheme	4.49	4.60	N/A	N/A	4.56	4.50
Cycle to work scheme	4.25	4.52	N/A	N/A	4.36	4.33
Concessionary bus fares	4.51	4.43	N/A	N/A	4.57	4.45
Young Persons' (Under 22s) Free Bus Travel Scheme	4.48	4.39	N/A	N/A	4.49	4.43
Work Local Challenge Programme	4.09	3.86	N/A	N/A	4.05	4.00

Variable	Employment status	Living area	Access to a car

	Full-time (130)	Part-time (54)	Other (16)	Large city (25)	Suburbs/ Large town (146)	Small town / Rural (29)	Yes (186)	No (14)
Pen-portraits specific questions								
How realistic did you find the scenario you have just read?	3.73	3.81	3.50	3.76	3.78	3.48	3.75	3.57
How relevant did you find the scenario to your own life?	3.82	3.57	3.50	3.60	3.81	3.45	3.72	3.93
How much did you feel you could relate to the person in this scenario?	3.83	3.72	3.44	3.44	3.84	3.69	3.80	3.43
How much did the scenario make you feel you could reduce your car use?	3.26	2.94	2.69	3.16	3.17	2.90	3.16	2.71
Intentions								
I intend to cut down my travel-related emissions in the next six months	3.44	3.20	3.38	3.32	3.43	3.10	3.37	3.43
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.78	3.61	3.62	3.80	3.77	3.41	3.69	4.14
I intend to use more public transport in the next six months	2.62	2.50	2.56	2.80	2.58	2.38	2.50	3.64
I intend to take my next holiday in Scotland instead of abroad	3.25	3.59	3.56	3.24	3.36	3.55	3.33	3.86
I intend to buy an electric vehicle by 2027	3.21	3.02	3.13	2.92	3.13	3.45	3.23	2.07
I intend to reduce my car use by 2024	3.53	3.31	3.13	3.56	3.45	3.31	3.44	3.43

I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.38	3.06	2.94	3.28	3.27	3.17	3.28	2.86
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.46	3.37	3.25	3.72	3.41	3.21	3.40	3.64
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.48	3.48	3.25	3.52	3.45	3.48	3.48	3.21
Support for policies								
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.83	4.00	4.36	4.16	3.89	3.83	3.89	4.30
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.77	3.80	3.87	4.08	3.75	3.69	3.74	4.43
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.48	4.37	4.67	4.42	4.50	4.36	4.44	4.90
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.18	4.35	4.44	4.23	4.23	4.32	4.24	4.33
The Low Carbon Transport Loan for electric vehicles	4.30	4.10	4.33	4.32	4.31	4.00	4.27	4.09
Mobility hubs (bringing various forms of transport together in one place)	4.39	4.14	4.38	4.26	4.35	4.27	4.32	4.36
E-bike loan scheme	4.27	4.29	4.30	4.35	4.22	4.46	4.26	4.56
Free bikes for kids pilot	4.47	4.21	4.33	4.56	4.42	4.17	4.38	4.71

Cycle repair scheme	4.55	4.43	4.64	4.42	4.54	4.54	4.51	4.64
Cycle to work scheme	4.30	4.40	4.38	4.52	4.26	4.55	4.32	4.57
Concessionary bus fares	4.44	4.50	4.87	4.68	4.50	4.28	4.48	4.62
Young Persons' (Under 22s) Free Bus Travel Scheme	4.49	4.31	4.63	4.64	4.42	4.46	4.42	4.86
Work Local Challenge Programme	4.02	4.13	3.71	3.89	4.06	3.85	3.99	4.33

4.5.3. Lower-income

Total participants: 143

Screeners:

- Min age – 20; Max age – 50
- Have a child
- Income over £30,000

Table 16. Breakdown of results for Lower-income group by demographic variables

Variable	Gender			Income		
	Female (110)	Male (33)	Non-binary/prefer not to say (0)	Low (47)	Medium (92)	High (4)
Pen-portraits specific questions						
How realistic did you find the scenario you have just read?	3.85	4.18	N/A	3.87	3.95	N/A
How relevant did you find the scenario to your own life?	3.19	3.55	N/A	3.21	3.28	N/A
How much did you feel you could relate to the person in this scenario?	3.77	3.91	N/A	3.77	3.82	N/A

How much did the scenario make you feel you could reduce your car use?	2.51	2.94	N/A	2.49	2.68	N/A
Intentions						
I intend to cut down my travel-related emissions in the next six months	3.24	3.73	N/A	3.15	3.46	N/A
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.54	3.64	N/A	3.36	3.68	N/A
I intend to use more public transport in the next six months	2.80	2.91	N/A	3.02	2.74	N/A
I intend to take my next holiday in Scotland instead of abroad	3.55	3.48	N/A	3.43	3.60	N/A
I intend to buy an electric vehicle by 2027	2.54	2.52	N/A	2.32	2.62	N/A
I intend to reduce my car use by 2024	3.09	3.15	N/A	3.02	3.15	N/A
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	2.96	3.45	N/A	3.21	3.00	N/A
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.62	3.85	N/A	3.64	3.71	N/A
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	2.99	3.48	N/A	3.02	3.16	N/A
Support for policies						
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.94	4.41	N/A	4.00	4.15	N/A

Low Emission Zones to improve air quality introduced across big cities in Scotland	3.73	4.03	N/A	3.85	3.83	N/A
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.33	4.36	N/A	4.12	4.44	N/A
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.21	4.48	N/A	4.33	4.26	N/A
The Low Carbon Transport Loan for electric vehicles	4.18	4.17	N/A	4.04	4.21	N/A
Mobility hubs (bringing various forms of transport together in one place)	4.26	4.73	N/A	4.40	4.38	N/A
E-bike loan scheme	3.99	4.47	N/A	4.38	4.04	N/A
Free bikes for kids pilot	4.51	4.55	N/A	4.57	4.47	N/A
Cycle repair scheme	4.33	4.43	N/A	4.43	4.32	N/A
Cycle to work scheme	4.09	4.53	N/A	4.24	4.19	N/A
Concessionary bus fares	4.68	4.70	N/A	4.74	4.63	N/A
Young Persons' (Under 22s) Free Bus Travel Scheme	4.74	4.59	N/A	4.72	4.71	N/A
Work Local Challenge Programme	4.18	4.23	N/A	4.34	4.16	N/A

Variable	Employment status			Living area			Access to a car	
	Full-time (54)	Part-time (51)	Other (38)	Large city (35)	Suburbs/Large town (85)	Small town/ Rural (27)	Yes (115)	No (28)

Pen-portraits specific questions								
How realistic did you find the scenario you have just read?	4.00	3.82	3.95	3.89	3.90	4.04	3.97	3.71
How relevant did you find the scenario to your own life?	3.43	3.41	2.87	3.31	3.16	3.56	3.41	2.71
How much did you feel you could relate to the person in this scenario?	3.93	3.76	3.68	3.66	3.84	3.89	3.91	3.36
How much did the scenario make you feel you could reduce your car use?	2.59	2.53	2.74	2.97	2.44	2.63	2.69	2.29
Intentions								
I intend to cut down my travel-related emissions in the next six months	3.48	3.25	3.29	3.77	3.17	3.33	3.36	3.32
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.46	3.71	3.50	3.97	3.46	3.33	3.43	4.07
I intend to use more public transport in the next six months	2.87	2.82	2.76	3.14	2.79	2.52	2.61	3.71
I intend to take my next holiday in Scotland instead of abroad	3.13	3.76	3.79	3.49	3.56	3.52	3.54	3.50
I intend to buy an electric vehicle by 2027	2.24	2.76	2.63	2.63	2.48	2.56	2.62	2.18
I intend to reduce my car use by 2024	3.07	3.14	3.11	3.26	2.93	3.44	3.18	2.79
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.11	2.90	3.26	3.03	3.06	3.19	3.03	3.25

I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.57	3.67	3.82	3.69	3.68	3.63	3.67	3.68
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.17	3.10	3.03	3.29	2.96	3.30	3.15	2.93
Support for policies								
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	4.04	4.03	4.14	4.19	4.05	3.95	3.93	4.59
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.76	3.86	3.80	3.97	3.77	3.70	3.62	4.60
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.33	4.38	4.31	4.33	4.43	4.10	4.28	4.57
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.22	4.25	4.38	4.53	4.15	4.27	4.19	4.60
The Low Carbon Transport Loan for electric vehicles	4.15	4.11	4.30	4.25	4.12	4.25	4.15	4.24
Mobility hubs (bringing various forms of transport together in one place)	4.36	4.38	4.41	4.46	4.34	4.39	4.28	4.76
E-bike loan scheme	4.02	4.21	4.17	4.21	4.15	3.88	4.01	4.55
Free bikes for kids pilot	4.53	4.49	4.53	4.34	4.63	4.40	4.48	4.67
Cycle repair scheme	4.15	4.45	4.55	4.50	4.28	4.37	4.26	4.68

Cycle to work scheme	4.00	4.19	4.50	4.54	4.13	3.88	4.13	4.44
Concessionary bus fares	4.68	4.55	4.86	4.66	4.65	4.80	4.62	4.93
Young Persons' (Under 22s) Free Bus Travel Scheme	4.56	4.79	4.79	4.68	4.67	4.83	4.66	4.86
Work Local Challenge Programme	4.03	4.30	4.40	4.36	4.15	4.08	4.08	4.58

4.5.4. Rural/Islander

Total participants: 143

Screeners:

- Min age – 45
- Postcodes to rural areas in Scotland

Table 17. Breakdown of results for Rural/Islander group by demographic variables

Variable	Gender			Income		
	Female (114)	Male (51)	Non-binary/prefer not to say (1)	Low (26)	Medium (72)	High (56)
Pen-portraits specific questions						
How realistic did you find the scenario you have just read?	3.73	3.80	N/A	3.69	3.82	3.75
How relevant did you find the scenario to your own life?	3.29	3.20	N/A	3.08	3.43	3.16
How much did you feel you could relate to the person in this scenario?	3.53	3.51	N/A	3.35	3.69	3.43
How much did the scenario make you feel you could reduce your car use?	2.71	2.76	N/A	2.81	2.83	2.55

Intentions						
I intend to cut down my travel-related emissions in the next six months	3.18	3.00	N/A	3.15	3.15	3.09
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.37	3.25	N/A	3.54	3.24	3.34
I intend to use more public transport in the next six months	2.75	2.76	N/A	3.12	2.89	2.50
I intend to take my next holiday in Scotland instead of abroad	3.67	3.16	N/A	3.88	3.65	3.18
I intend to buy an electric vehicle by 2027	2.66	2.41	N/A	1.88	2.42	3.04
I intend to reduce my car use by 2024	3.04	2.88	N/A	3.00	2.89	3.13
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.03	3.10	N/A	3.12	2.97	3.04
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.42	3.29	N/A	3.73	3.44	3.14
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	2.94	2.63	N/A	2.96	2.82	2.80
Support for policies						
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.86	3.71	N/A	3.43	4.09	3.58
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.79	3.78	N/A	3.79	3.78	3.77

20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.30	4.09	N/A	4.42	4.33	4.00
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.07	4.02	N/A	4.22	4.10	3.96
The Low Carbon Transport Loan for electric vehicles	3.94	4.00	N/A	3.67	3.98	4.00
Mobility hubs (bringing various forms of transport together in one place)	4.37	4.41	N/A	4.58	4.56	4.10
E-bike loan scheme	3.98	3.93	N/A	3.74	4.02	3.98
Free bikes for kids pilot	4.03	4.12	N/A	4.25	4.10	3.96
Cycle repair scheme	4.29	4.24	N/A	4.35	4.36	4.20
Cycle to work scheme	4.05	4.11	N/A	3.87	4.23	3.96
Concessionary bus fares	4.69	4.73	N/A	4.96	4.72	4.55
Young Persons' (Under 22s) Free Bus Travel Scheme	4.28	4.17	N/A	4.46	4.29	4.13
Work Local Challenge Programme	3.92	4.22	N/A	4.50	4.03	3.88

Variable	Employment status			Living area			Access to a car	
	Full-time (83)	Part-time (30)	Other (53)	Large city (6)	Suburbs/ Large town (100)	Small town/ Rural (60)	Yes (146)	No (20)
Pen-portraits specific questions								

How realistic did you find the scenario you have just read?	3.81	3.73	3.62	N/A	3.69	3.75	3.68	4.15
How relevant did you find the scenario to your own life?	3.31	3.27	3.13	N/A	3.02	3.58	3.18	3.70
How much did you feel you could relate to the person in this scenario?	3.54	3.30	3.57	N/A	3.35	3.70	3.46	3.85
How much did the scenario make you feel you could reduce your car use?	2.72	2.57	2.79	N/A	2.79	2.57	2.63	3.35
Intentions								
I intend to cut down my travel-related emissions in the next six months	3.17	3.23	3.00	N/A	3.08	3.23	3.07	3.55
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.40	3.53	3.15	N/A	3.40	3.23	3.27	3.90
I intend to use more public transport in the next six months	2.63	3.00	2.79	N/A	2.85	2.63	2.62	3.65
I intend to take my next holiday in Scotland instead of abroad	3.25	3.63	3.83	N/A	3.35	3.78	3.48	3.70
I intend to buy an electric vehicle by 2027	2.64	2.53	2.49	N/A	2.55	2.65	2.67	1.85
I intend to reduce my car use by 2024	3.07	3.07	2.83	N/A	2.90	3.22	2.99	3.05
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.07	3.03	2.98	N/A	2.94	3.25	3.01	3.25
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.31	3.57	3.38	N/A	3.42	3.33	3.34	3.65

I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	2.86	2.80	2.81	N/A	2.86	2.82	2.79	3.10
Support for policies								
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.95	3.80	3.53	N/A	3.77	3.72	3.70	4.37
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.86	3.92	3.58	N/A	3.73	3.80	3.69	4.37
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.10	4.29	4.47	N/A	4.19	4.27	4.17	4.73
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.11	4.15	3.85	N/A	4.04	3.98	3.94	4.71
The Low Carbon Transport Loan for electric vehicles	4.05	4.05	3.79	N/A	3.93	3.95	3.92	4.50
Mobility hubs (bringing various forms of transport together in one place)	4.34	4.22	4.55	N/A	4.48	4.22	4.36	4.62
E-bike loan scheme	4.08	3.65	3.86	N/A	3.93	3.91	3.90	4.19
Free bikes for kids pilot	4.28	4.00	3.61	N/A	3.96	4.12	3.93	4.73
Cycle repair scheme	4.34	4.29	4.17	N/A	4.23	4.29	4.23	4.63
Cycle to work scheme	4.22	3.89	3.89	N/A	4.04	4.04	3.98	4.61
Concessionary bus fares	4.69	4.70	4.68	N/A	4.64	4.76	4.66	4.89

Young Persons' (Under 22s) Free Bus Travel Scheme	4.41	4.45	3.86	N/A	4.12	4.41	4.15	4.84
Work Local Challenge Programme	4.07	3.67	4.08	N/A	3.92	4.13	3.97	4.57

4.5.5. Business owners

Total participants: 132

Screeners:

- Participants who currently own a business/are an entrepreneur

Table 18. Breakdown of results for Business Owners group by demographic variables

Variable	Gender			Income		
	Female (74)	Male (56)	Non-binary/prefer not to say (1)	Low (22)	Medium (59)	High (44)
Pen-portraits specific questions						
How realistic did you find the scenario you have just read?	3.88	3.23	N/A	3.45	3.83	3.39
How relevant did you find the scenario to your own life?	3.08	2.98	N/A	2.55	3.17	3.11
How much did you feel you could relate to the person in this scenario?	3.49	3.25	N/A	3.00	3.58	3.36
How much did the scenario make you feel you could reduce your car use?	2.76	2.55	N/A	2.23	2.83	2.68
Intentions						
I intend to cut down my travel-related emissions in the next six months	3.27	3.09	N/A	3.05	3.24	3.23

I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.47	3.66	N/A	3.00	3.71	3.57
I intend to use more public transport in the next six months	2.89	3.20	N/A	3.27	3.03	3.07
I intend to take my next holiday in Scotland instead of abroad	3.49	2.93	N/A	3.32	3.29	3.18
I intend to buy an electric vehicle by 2027	3.03	2.88	N/A	2.68	3.02	3.11
I intend to reduce my car use by 2024	3.36	2.98	N/A	3.00	3.17	3.41
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.18	3.00	N/A	2.68	3.29	3.09
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.84	3.30	N/A	3.36	3.76	3.59
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.19	2.64	N/A	2.50	3.17	2.91
Support for policies						
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	4.27	3.44	N/A	4.08	3.98	3.75
Low Emission Zones to improve air quality introduced across big cities in Scotland	4.10	3.63	N/A	4.29	3.91	3.77
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.52	4.09	N/A	4.64	4.40	4.18

£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.17	4.08	N/A	4.13	4.31	4.00
The Low Carbon Transport Loan for electric vehicles	4.47	4.08	N/A	4.60	4.43	4.18
Mobility hubs (bringing various forms of transport together in one place)	4.58	4.29	N/A	4.62	4.50	4.22
E-bike loan scheme	4.40	4.00	N/A	4.11	4.37	4.21
Free bikes for kids pilot	4.25	4.13	N/A	4.47	4.36	3.97
Cycle repair scheme	4.46	4.29	N/A	4.29	4.56	4.37
Cycle to work scheme	4.40	4.08	N/A	3.94	4.39	4.29
Concessionary bus fares	4.67	4.33	N/A	4.79	4.57	4.37
Young Persons' (Under 22s) Free Bus Travel Scheme	4.64	4.12	N/A	4.74	4.36	4.39
Work Local Challenge Programme	4.18	3.83	N/A	3.89	4.06	4.04

Variable	Employment status			Living area			Access to a car	
	Full-time (83)	Part-time (34)	Other (14)	Large city (30)	Suburbs/ Large town (77)	Small town / Rural (24)	Yes (105)	No (26)
Pen-portraits specific questions								
How realistic did you find the scenario you have just read?	3.53	3.82	3.43	3.30	3.70	3.63	3.67	3.31
How relevant did you find the scenario to your own life?	3.02	3.00	3.14	3.10	3.03	2.96	3.09	2.81

How much did you feel you could relate to the person in this scenario?	3.36	3.38	3.50	3.33	3.40	3.38	3.40	3.31
How much did the scenario make you feel you could reduce your car use?	2.51	2.88	3.00	2.57	2.74	2.50	2.67	2.62
Intentions								
I intend to cut down my travel-related emissions in the next six months	3.11	3.24	3.57	3.20	3.22	3.08	3.19	3.19
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.51	3.47	3.93	3.57	3.56	3.46	3.51	3.65
I intend to use more public transport in the next six months	2.96	2.97	3.57	3.47	2.97	2.67	2.83	3.85
I intend to take my next holiday in Scotland instead of abroad	3.05	3.76	3.00	2.80	3.35	3.37	3.24	3.19
I intend to buy an electric vehicle by 2027	2.93	3.06	2.79	3.00	3.04	2.58	3.03	2.62
I intend to reduce my car use by 2024	3.08	3.29	3.64	3.20	3.17	3.29	3.28	2.88
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.07	3.09	3.21	2.93	3.09	3.29	3.12	2.96
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.49	3.88	3.64	3.40	3.65	3.75	3.66	3.42
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	2.80	3.12	3.50	3.07	2.92	2.92	2.99	2.81

Support for policies								
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.92	3.81	3.45	4.17	3.81	3.43	3.73	4.24
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.81	3.87	4.36	4.00	3.70	4.36	3.83	4.13
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.33	4.42	4.08	4.42	4.39	3.94	4.24	4.65
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.21	4.23	3.36	4.48	4.05	4.00	4.09	4.26
The Low Carbon Transport Loan for electric vehicles	4.28	4.48	3.80	4.45	4.28	4.00	4.21	4.53
Mobility hubs (bringing various forms of transport together in one place)	4.38	4.63	4.36	4.65	4.38	4.28	4.38	4.61
E-bike loan scheme	4.28	4.36	3.45	4.04	4.28	4.23	4.20	4.27
Free bikes for kids pilot	4.32	4.15	3.55	3.86	4.29	4.26	4.20	4.15
Cycle repair scheme	4.50	4.44	3.69	4.50	4.30	4.50	4.39	4.38
Cycle to work scheme	4.32	4.35	3.71	4.37	4.24	4.21	4.27	4.22
Concessionary bus fares	4.51	4.62	4.31	4.50	4.52	4.55	4.50	4.60
Young Persons' (Under 22s) Free Bus Travel Scheme	4.32	4.53	4.75	4.26	4.45	4.48	4.43	4.36
Work Local Challenge Programme	4.08	3.85	3.67	4.06	4.08	3.69	4.00	3.94

4.5.6. Disabled people

Total participants: 177

Screeners:

- Participants living with a disability

Table 19. Breakdown of results for Disability group by demographic variables

Variable	Gender			Income		
	Female (128)	Male (43)	Non-binary/prefer not to say (6)	Low (45)	Medium (78)	High (45)
Pen-portraits specific questions						
How realistic did you find the scenario you have just read?	4.27	4.35	4.33	4.33	4.22	4.27
How relevant did you find the scenario to your own life?	3.24	3.21	4.33	3.31	3.40	3.00
How much did you feel you could relate to the person in this scenario?	3.63	3.72	4.17	3.64	3.71	3.60
How much did the scenario make you feel you could reduce your car use?	2.41	2.70	3.00	2.47	2.49	2.53
Intentions						
I intend to cut down my travel-related emissions in the next six months	3.19	3.12	2.83	3.02	3.13	3.31
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.33	3.44	3.83	3.40	3.32	3.42
I intend to use more public transport in the next six months	2.73	2.95	3.67	2.56	2.86	3.07

I intend to take my next holiday in Scotland instead of abroad	3.54	3.21	4.33	3.93	3.44	3.11
I intend to buy an electric vehicle by 2027	2.72	2.93	3.50	2.56	2.65	3.20
I intend to reduce my car use by 2024	3.04	3.21	3.17	3.16	2.92	3.31
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.20	2.98	3.17	3.11	3.05	3.38
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.59	3.53	4.67	3.51	3.62	3.80
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.08	3.26	3.00	3.13	3.04	3.20
Support for policies						
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.96	3.81	3.75	3.94	3.87	3.88
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.94	3.56	3.83	3.89	3.89	3.69
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.35	4.21	5.00	4.45	4.30	4.23
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.15	4.24	4.50	4.10	4.17	4.28
The Low Carbon Transport Loan for electric vehicles	4.20	3.81	4.67	3.64	4.16	4.21
Mobility hubs (bringing various forms of transport together in one place)	4.38	4.46	4.50	4.48	4.24	4.57

E-bike loan scheme	4.38	4.19	4.50	4.36	4.36	4.23
Free bikes for kids pilot	4.40	4.51	5.00	4.47	4.51	4.27
Cycle repair scheme	4.44	4.49	5.00	4.37	4.58	4.36
Cycle to work scheme	4.29	4.26	4.25	4.09	4.38	4.24
Concessionary bus fares	4.61	4.60	5.00	4.70	4.55	4.63
Young Persons' (Under 22s) Free Bus Travel Scheme	4.28	4.23	4.83	4.42	4.20	4.28
Work Local Challenge Programme	4.22	3.79	No data	4.13	4.08	4.00

Variable	Employment status			Living area			Access to a car	
	Full-time (79)	Part-time (36)	Other (62)	Large city (43)	Suburbs/ Large town (110)	Small town / Rural (24)	Yes (131)	No (46)
Pen-portraits specific questions								
How realistic did you find the scenario you have just read?	4.24	4.47	4.24	4.28	4.29	4.29	4.32	4.20
How relevant did you find the scenario to your own life?	3.06	3.22	3.56	3.05	3.37	3.21	3.26	3.30
How much did you feel you could relate to the person in this scenario?	3.58	3.58	3.82	3.42	3.70	3.96	3.67	3.65
How much did the scenario make you feel you could reduce your car use?	2.56	2.11	2.65	2.84	2.50	1.88	2.44	2.65
Intentions								

I intend to cut down my travel-related emissions in the next six months	3.28	2.81	3.21	3.19	3.19	2.96	3.20	3.04
I intend to use more active forms of travel (walking, cycling, wheeling, etc.) in the next six months	3.51	2.97	3.44	3.79	3.29	3.00	3.24	3.74
I intend to use more public transport in the next six months	3.08	2.25	2.82	3.26	2.82	2.04	2.63	3.35
I intend to take my next holiday in Scotland instead of abroad	3.28	3.39	3.81	3.40	3.51	3.54	3.48	3.50
I intend to buy an electric vehicle by 2027	2.86	2.47	2.90	2.77	2.85	2.63	3.02	2.15
I intend to reduce my car use by 2024	3.09	2.92	3.18	3.14	3.08	3.00	3.08	3.11
I intend to travel less (e.g. use online alternative instead of in-person options) in the next six months	3.22	2.89	3.21	3.12	3.15	3.21	3.21	2.96
I intend to choose more local destinations instead of distant ones (e.g. local shop) in the next six months	3.73	3.28	3.65	3.65	3.66	3.29	3.70	3.35
I intend to combine more of my journeys (e.g. car share/pool; taking children to school and going to the supermarket) in the next six months	3.16	3.00	3.13	3.16	3.14	2.96	3.10	3.17
Support for policies								
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	3.81	4.00	3.98	4.09	3.82	3.95	3.82	4.17
Low Emission Zones to improve air quality introduced across big cities in Scotland	3.78	3.63	4.05	4.10	3.77	3.76	3.72	4.21

20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	4.36	4.27	4.31	4.64	4.22	4.16	4.23	4.61
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	4.20	4.03	4.26	4.49	4.07	4.14	4.16	4.24
The Low Carbon Transport Loan for electric vehicles	4.18	3.81	4.09	4.43	4.00	3.73	4.13	3.97
Mobility hubs (bringing various forms of transport together in one place)	4.31	4.20	4.65	4.28	4.43	4.53	4.44	4.29
E-bike loan scheme	4.42	4.18	4.29	4.57	4.31	4.00	4.33	4.33
Free bikes for kids pilot	4.44	4.36	4.50	4.65	4.40	4.24	4.41	4.55
Cycle repair scheme	4.41	4.48	4.54	4.75	4.36	4.39	4.43	4.58
Cycle to work scheme	4.30	4.25	4.27	4.48	4.26	4.04	4.22	4.48
Concessionary bus fares	4.49	4.64	4.77	4.53	4.65	4.64	4.59	4.72
Young Persons' (Under 22s) Free Bus Travel Scheme	4.20	4.25	4.42	4.30	4.29	4.25	4.32	4.19
Work Local Challenge Programme	3.93	4.00	4.32	4.17	4.06	3.88	4.07	4.08

4.6. Participants who did not meet the screening criteria and were excluded from analysis

We excluded:

- 38 people from the Young person portrait who lived in non-urban areas
- 6 people from the Middle-class family portrait with lower household income
- 38 people from the Rural/islander portrait who lived in non-rural area

- 27 people from the Lower income family portrait who had higher income
- 58 people from the Disability portrait who indicated they did not have a disability
- 64 people from the Business Owner portrait who did not own their own business

4.7. Data on how many people did not know about each policy for each pen-portrait group

In this section we have presented data about how many people did not know about each of the travel-related policies.

	Young people	Middle-class	Lower income	Rural/ Islander	Person with disability	Business owner
Total participants	**201**	**200**	**143**	**166**	**177**	**131**
Policies						
Scottish Government's steps to reduce car kilometres travelled by 20% by 2030	49(24.4%)	49(24.4%)	37(25.9%)	40(24.1%)	43(24.3%)	37 (28%)
Low Emission Zones to improve air quality introduced across big cities in Scotland	9 (4.5%)	8 (4%)	14(9.8%)	12(7.2%)	13 (7.3%)	12 (9.1%)
20-minute neighbourhoods (enabling people to meet most of their daily needs within a 20-min return walk from home)	35(17.4%)	32(15.9%)	37(25.9%)	40(24.1%)	30(16.9%)	28(21.2%)
£500 million investment in active travel infrastructure (walking, cycling, wheeling) over the next 5 years	29(14.4%)	28(13.9%)	23(16.1%)	22(13.3%)	30(16.9%)	21(15.9%)

The Low Carbon Transport Loan for electric vehicles	65(32.3%)	57(28.4%)	51(35.7%)	53(31.9%)	68(38.4%)	36(27.3%)
Mobility hubs (bringing various forms of transport together in one place)	58(28.9%)	53(26.4%)	41(28.7%)	45(27.1%)	50(28.2%)	40(30.3%)
E-bike loan scheme	43 (21%)	45(22.4%)	37(25.9%)	42(25.3%)	47(26.6%)	23(17.4%)
Free bikes for kids pilot	39(19.4%)	47(23.4%)	29(20.3%)	44(26.5%)	42(23.7%)	28(21.2%)
Cycle repair scheme	46(22.9%)	50(24.9%)	30 (21%)	41(24.7%)	38(21.5%)	25(18.9%)
Cycle to work scheme	8 (4%)	4 (2%)	9 (6.3%)	16(9.6%)	6 (3.4%)	8 (6.1%)
Concessionary bus fares	24(11.9%)	8 (4%)	5 (3.5%)	9 (5.4%)	3 (1.7%)	6 (4.5%)
Young Persons' (Under 22s) Free Bus Travel Scheme	6 (3%)	3 (1.5%)	5 (3.5%)	10 (6%)	6 (3.4%)	12 (9.1%)
Work Local Challenge Programme	110(54.7%)	115(57.2%)	61(42.7%)	86(51.8%)	94(53.1%)	62 (47%)