# Going Car Free

Possible.
Inspiring climate action

Assessing the barriers to low-carbon transport for existing car users

## Aims of the research

The Going Car Free pilot followed ten individuals as they hung up the keys to their cars for three weeks without significantly changing their everyday routines. The individuals came from a variety of backgrounds across the four cities Possible's Car Free Cities campaign operates in - Birmingham, Bristol, Leeds and London. We assessed the changes these individuals would need to make in order to live a car-free lifestyle and the barriers (both personal and structural) in their way and specifically focussed on the relative cost and time of using alternatives compared to that of their cars.

## Methodology

Ten participants were recruited in December 2021 and January 2022 through social and print media advertising, across four cities - Birmingham, Bristol, Leeds and London. The final group was chosen to ensure a range of experiences and backgrounds through sample frame criteria of age, gender, childcare and caring responsibilities, ethnicity and disability. The challenge ran from 10th January to 6th February 2022. Prior to this, the participants completed a questionnaire regarding their motivations for participation, demographics and details of their current vehicle. They also undertook pre- and post-trial surveys for The University of Bristol, and post-trial were additionally interviewed by the Centre for Climate Change and Social Transformations (CAST) and the University of Bristol. In their first week, the participants logged their routine transport use while continuing to use their cars. The subsequent three weeks (weeks two-four), the participants logged their transport use with an aim to use a more sustainable transport alternative. Each participant completed a travel diary and an end of day form for each day they used any form of transport (including walking) so they could reflect on their experiences. They were also asked to record videos and voice notes describing their experiences throughout the challenge.

# Profile of research participants

| Participant | City | Age | Gender | Ethnic identity | Disabled | Children | Caring responsibilities | Weekly working hours |
|---|---|---|---|---|---|---|---|---|
| **1** | Bristol | 39 | Female | White British | Yes | Yes (school age) | Yes | 24 |
| **2** | London | 55 | Female | Black Caribbean | Yes | Yes (grown up) | Yes | 54 |
| **3** | Birmingham | 40 | Male | White British | No | Yes (school age) | Yes | 48 |
| **4** | Birmingham | 42 | Female | White British | No | Yes (school age) | Yes | 37.5 |
| **5** | Leeds | 31 | Female | White British | No | Yes (pre-school) | Yes | 0* |
| **6** | Leeds | 43 | Female | White Other | No | Yes (school age) | Yes | 27.5 |
| **7** | London | 35 | Female | Middle Eastern | Yes | Yes (school age) | Yes | 22.5 |
| **8** | London | 28 | Female | Black Other | No | Yes (school age) | Yes | 27 |
| **9** | Bristol | 25 | Female | White British | No | No | No | 45 |
| **10** | Bristol | 35 | Male | Mixed - white and Black Caribbean | No | Yes (school age) | Yes | 72 |

* on maternity leave

# Qualitative results

## Car use

**Participants had mixed motivations to reduce their car use**
Before the challenge, the ten participants gave multiple reasons for using private cars and vans. These included habit, instant availability and not having to plan ahead for trips.

One participant related that having a baby meant using a car was more convenient as it was a space that could be used for naps and feeding. Another spoke of their car as a private space to wait just after the journey to school for drop-off or before the journey to school for pick-up. Participants generally described self-reliance, spontaneity, the ability to catch up with family members and freedom from having to think about what to wear (in comparison to cycling) as other useful aspects of car use.

> "I am always in the car, it's all I have known for years."
>
> **Participant 2.**

On the other hand participants displayed a number of reasons for disliking their cars and vans, including experiencing congestion, feeling unsafe around other drivers, and cost. An additional burden outlined was driving for other people's benefit (i.e. taking a partner to work, picking up a relative and dropping them off elsewhere).

> "I have a little bit of guilt about contributing to transport emissions."
>
> **Participant 2**

At the end of the challenge one participant was ready to give up their car, their only concern being managing the various activities and appointments of the whole family. Generally, reducing car use was seen as being the right thing

by all participants but that the transition would have to come with compromises.

**Health, wellbeing and cars**
The participants had various responses to the health and wellbeing impacts of car use, including lack of exercise, stress and that protection from bad weather makes them feel better.

One participant said the change of pace had had a calming effect on their life; being able to take a step back, not rush around as much, and spend more time outside in fresh air. Another felt the refuge of their car was important and was concerned how they would manage without it. A mother related that she sometimes ferried kids around all day, but by not using the car, 20 minutes of her day was freed up for herself, while knowing that her kids were socialising with peers and developing their independence and confidence by walking to school together.

**Cars are perceived to be cheap**
Participants were generally aware that owning vehicles is expensive (and were keen to cut this expense) but acknowledged that car costs are unclear as they are normally absorbed into regular outgoings. This led to some commenting that cars have low day-to-day costs. Using a car feels free on a day-to-day basis, especially when travelling within the city and for short distances.

> "It feels like because you pay the big costs up front like insurance and tax, and you get petrol a big lump sum at a time. It feels like the little journeys aren't costing a lot."
>
> **Participant 5**

**Cars are seen as safe, comfortable and convenient**
The car was reported to feel safe, but this came with an acknowledgement that death and serious injuries are regularly reported in the local media. Anecdotally, this perception was heightened from witnessing unsafe incidents, with one participant recounting feeling safer in their car when they saw a cyclist being hit by a bus. Feelings of safety increased after dark and when

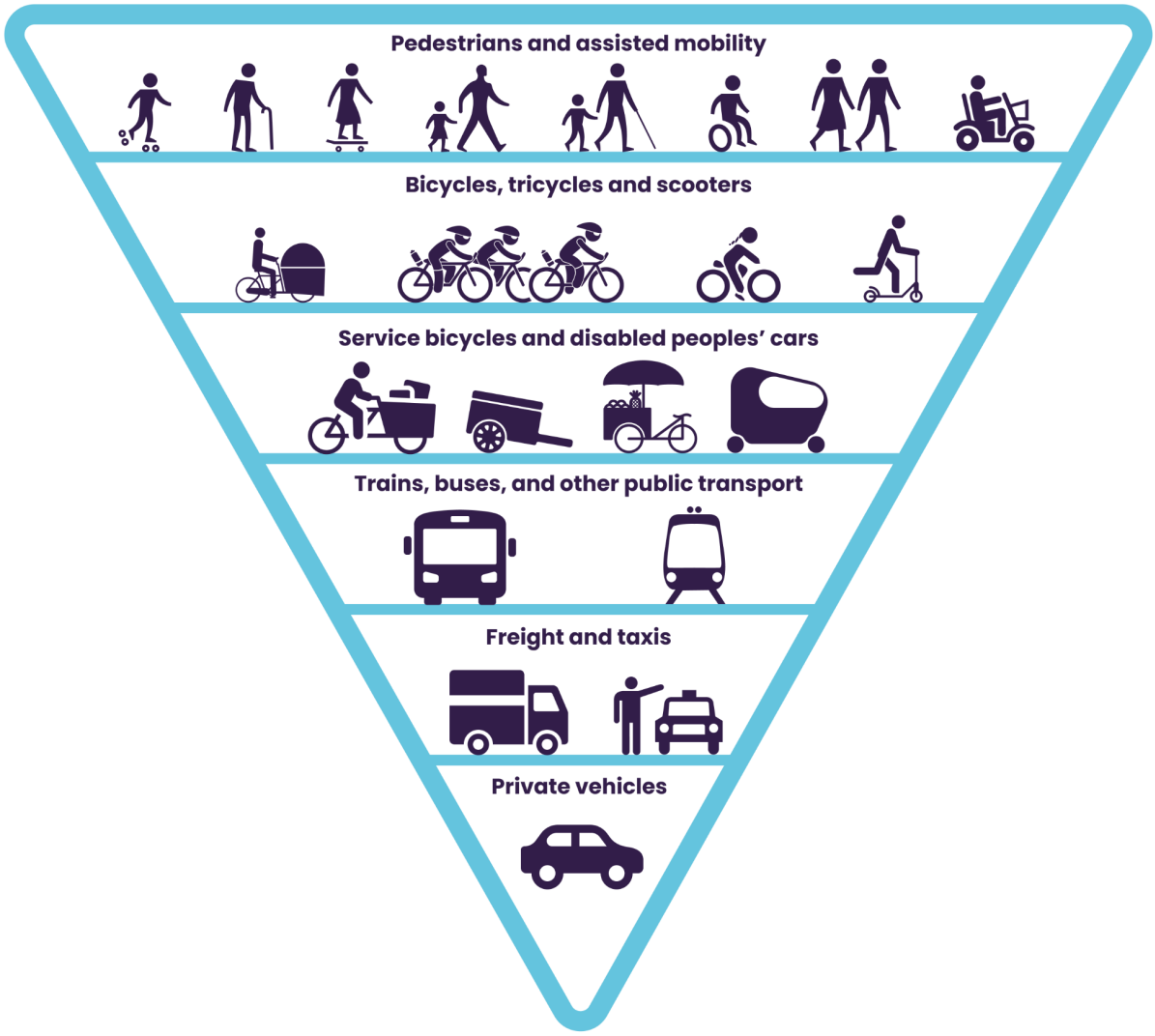
transporting children, with keeping children protected and women safe given as motivations for continued car use.

The privilege a car represents was also recognised - a convenient and accessible method of transport that can be relied upon to be used at any time if absolutely necessary - alongside the fact that some people can't afford this privilege. Although all appreciated the need to reduce car use, particular instances were referred to where the car would still be the most convenient option - where it wasn't plausible to fit in all the activities or appointments they had to make otherwise.

**Energy, time and speed of car use**

Participants understood the climate implications related to car use and this was a key motivator for many to do the challenge in the first place. One participant reported the trial had made them think about their personal carbon emissions more. In terms of both time and energy efficiency, participants believed combining several destinations within a single, longer trip (known as trip chaining) was an efficient tactic. Overall, most felt that the car saved them time and made their lives easier because they could predict journey times with more accuracy.

**The transport hierarchy and going car free**




Participants were encouraged to refer to the transport hierarchy pyramid (above) to consider and decide which mode of transport they should use for any particular journey. Discount codes and offers were given for certain transport modes, with all other transport costs being reclaimable through expenses.

## Non-car modes

### Walking is attractive

Our participants found that walking was attractive as it was free, felt good and that it was a good habit. Conversely, they had issues with the time taken to get places, air pollution concerns and the poor quality of walking infrastructure.

> "Walking is actually easier than trying to drive home. Trying to park anywhere near the school is a nightmare. Glad we can walk easily."
>
> **Participant 3**

**Cycling is enjoyable but can feel unsafe**

Our participants felt cycling was enjoyable, less affected by traffic and less stressful than public transport. On the other hand, participants often felt unsafe, particularly when there wasn't good cycle infrastructure, and that, for example, cycling to work meant not being able to give kids a lift to school.

> "Today is the first time I've thought about my safety. My bike ride this evening was in the dark, I chose wearing a hat to keep me warm over a helmet, and the bike lanes were on and off which made me feel nervous when there wasn't one. It's the least safe I've felt during any of the journeys so far."
>
> **Participant 5**

In Bristol, only one of the three participants cycled during the challenge.

In Leeds, one of the participants only heard about the city's e-bike hire scheme through the trial.

> "E-bikes are amazing. The fact I can do a journey in almost the same time as a car, without having to sit in traffic, and in bike lanes which are really separate and keep me safe, is amazing - I would love to travel like this more often."
>
> **Participant 5**

While cycling was free, one of the Birmingham participants found that the cost of public hire (Beryl) bikes can quickly add up.

**E-scooters are fun but not always available**

Some participants found e-scooters fun, convenient and flexible. However, Leeds was not part of an e-scooter hire trial, unlike the other cities. In Birmingham, there were issues of e-scooters not being available after a certain time at night, that they were bumpy to travel on on many streets, and that the cost of hire was more than public transport and could become quite expensive. In addition, e-scooter docking locations were not necessarily convenient or near where people wanted to go. All our female participants reported safety concerns with e-scooters.

> "Not much pre-planning was required and I never had to wait long for transport."
>
> **Participant 1**

**Opinions on buses are mixed, but reliability is a big issue**

Our participants found bus networks were extensive, and, at least when they worked well, that using them was calming, allowed them to do other things while travelling, and could be relatively cheap. However, buses were often unreliable, slow, inconvenient for some journeys and got stuck in traffic; particularly at peak times. They were cheaper than taxis, but could be expensive for short journeys.

> "I waited four mins for the bus (I actually had about 15 mins to wait but I went to the shop to kill some time on the way to the bus stop), but then the bus was full so I waited another three minutes. This was the first time I haven't been able to get on a bus because the two wheel spaces were taken (I had been warned by my friends but was typical it was at a time that I had to be home to meet someone. The next bus was also busy but the people in the access seats moved for me. However the next bus was limited stop so didn't stop at my stop and I had to walk 15 mins from the stop to home."
>
> **Participant 5**

"The bus time was excellent - six minutes, but the bus runs every 30 mins so I had to time it carefully, and then was late which was uncomfortable when waiting in the rain with no shelter."

**Participant 5**

**Trains were used rarely, but still caused major issues**

Trains were used very rarely by our participants. One of our participants planned a long distance day trip by train, but cancellations meant they ended up driving instead, incurring the cost of both tickets and driving.

"We had to find alternative travel (the car) to get to our destination as we had already spent a lot of money on the tickets. It was very stressful and disappointing as we were all looking forward to the time on the train."

**Participant 4**

## Other car modes

**Car clubs were convenient but expensive**

Our participants found the club cars accessible, convenient and safe, and allowed for chaining trips. Conversely, they required pre-planning to hire, could be expensive, with congestion often an issue, particularly when participants had become used to not having to drive in traffic over the course of the pilot.

"Felt weird to be stuck in traffic after not using a car for weeks. Did not like that."

**Participant 6**

> "I particularly like that I could potentially choose from a variety of cars and even hire a van if I needed to. That offers so much flexibility and many different uses."
>
> **Participant 6**

**Taxis are convenient but have drawbacks**

Taxis were seen to be direct, quick, reliable and easily able to carry a baby in a pram that has a detachable car seat. However, participants also found taxis to be expensive, prone to cancellation, or have an uncomfortable environment.

> "The taxi is a no brainer - I'm happy to walk but 75 minutes is quite extreme especially at 8:30am."
>
> **Participant 5**

Participant 2 does a weekly foodbank delivery run, collecting food from a church then delivering to several homes. She couldn't see how this might be possible without a car and used a taxi for the duration of the trial.

## Post-challenge outcomes

After the challenge, most participants were not ready to sell their car, but all reported using their car less or using alternative modes for some journeys.

Participant 2 sold their car and bought an e-bike instead. Participants 3 and 6 have decided to go from being two-car households to one-car households. Participant 4 had plans to buy another car to become a two-car household, but the trial made them reconsider.

Participant 7 is looking to buy an e-cargo bike, and participants 8 and 10 are hoping to buy new bikes to continue to cycle.

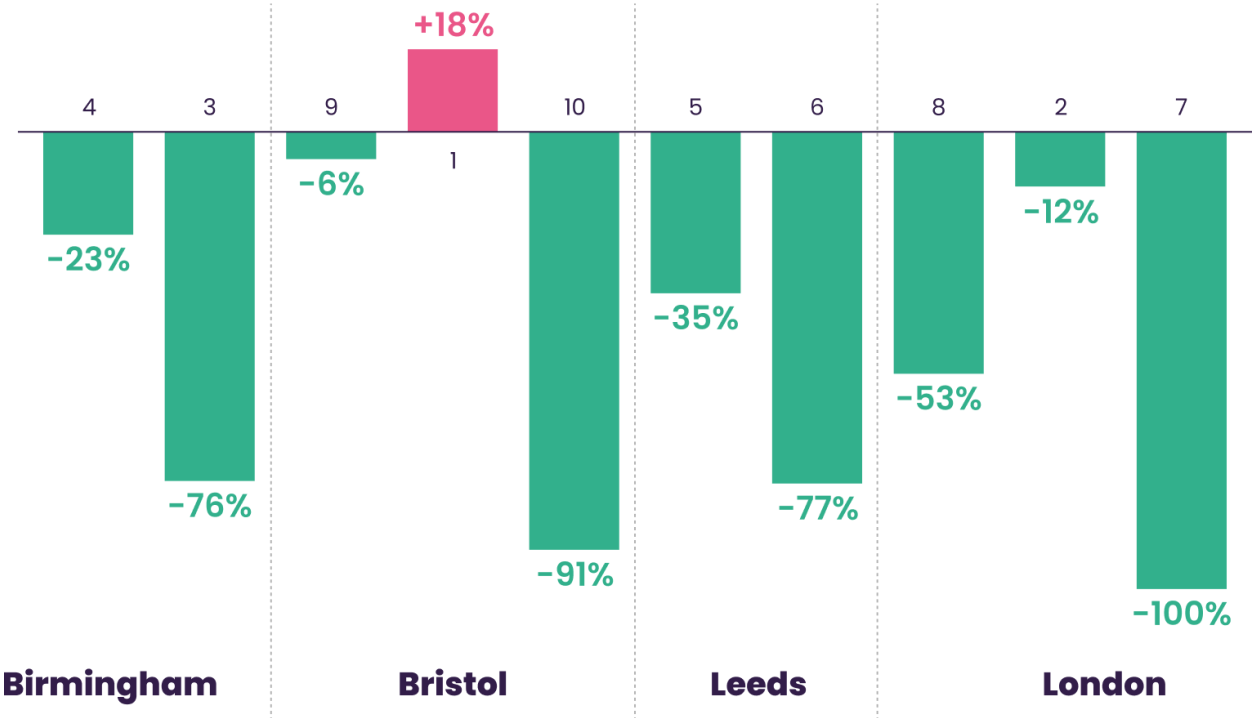
## Quantitative results

### Big carbon savings from going car free

The total $CO_2$ emissions saving for weeks two to four compared to week one was 372kg which is around the same as three return flights for one passenger from London to Berlin.

Before allowing for distance travelled, every participant except one made emissions savings between week one (car use) and weeks two to four (non-car use). This participant (Participant 2) made a number of longer train and taxi journeys in weeks two to four. Three participants managed transport carbon emission-free weeks: Participant 5 in Leeds (week three), Participant 10 in Bristol (week four) and Participant 7 in London (weeks two, three and four).

**Almost all Going Car Free participants reduced their carbon emissions per km travelled**



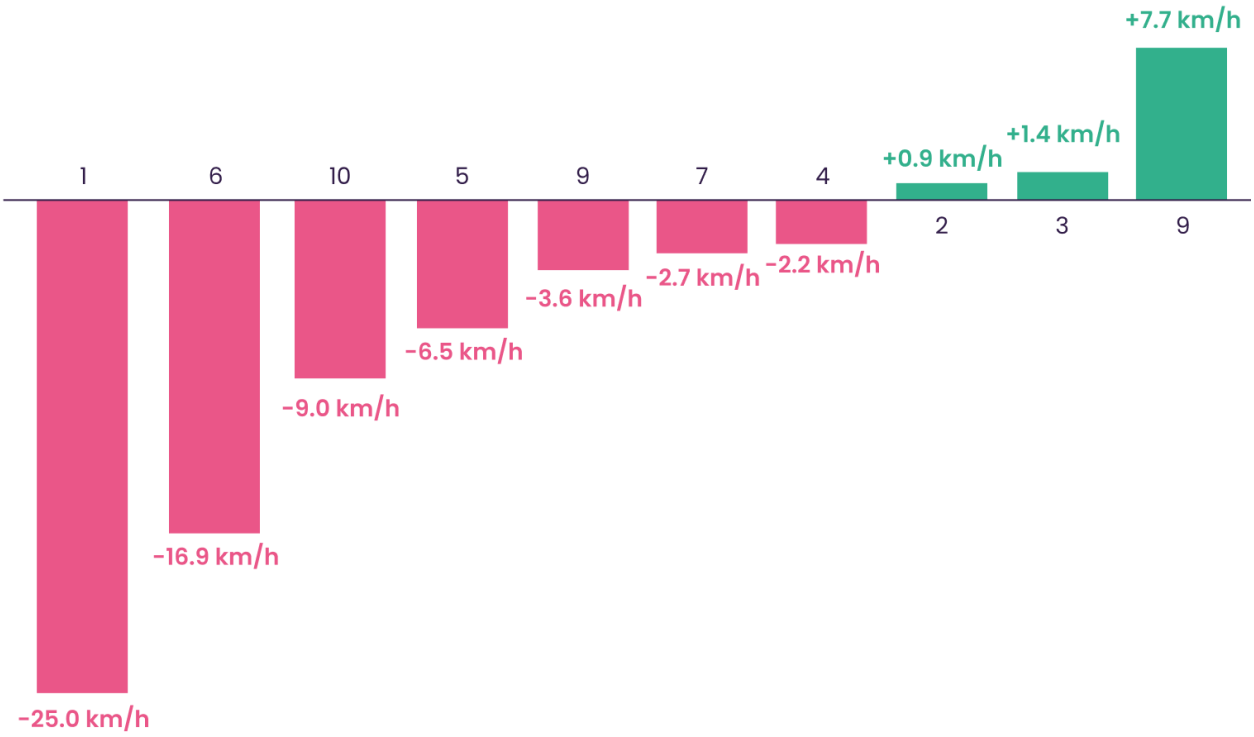
When considering distance travelled combined with carbon emissions ($gCO_2/km$), all but one improved their carbon travel efficiency. Participant 1 in Bristol was the exception, using car club cars to access places further away (however, car club cars were assumed to be "average", therefore higher emission than Participant 1's relatively modern small car).

## Distance, time and speed

Participants responded to the challenge of living car free in different ways. Some (Participants 1, 6 and 9) dramatically reduced the distance they travelled, while others saw a small increase (Participants 2 and 4). Most participants spent more time on their car free travel, but a few spent dramatically less (Participants 1, 6 and 9, were those that reduced their distance travelled).

Both factors can be taken into account by calculating how their average speed of travel changed. Most participants travelled around the same speed without their car, but Participants 2, 4 and 10 had faster average speeds and Participants 1 and 9 (both in Bristol) were significantly slower.

## Most, but not all, participants travelled more slowly



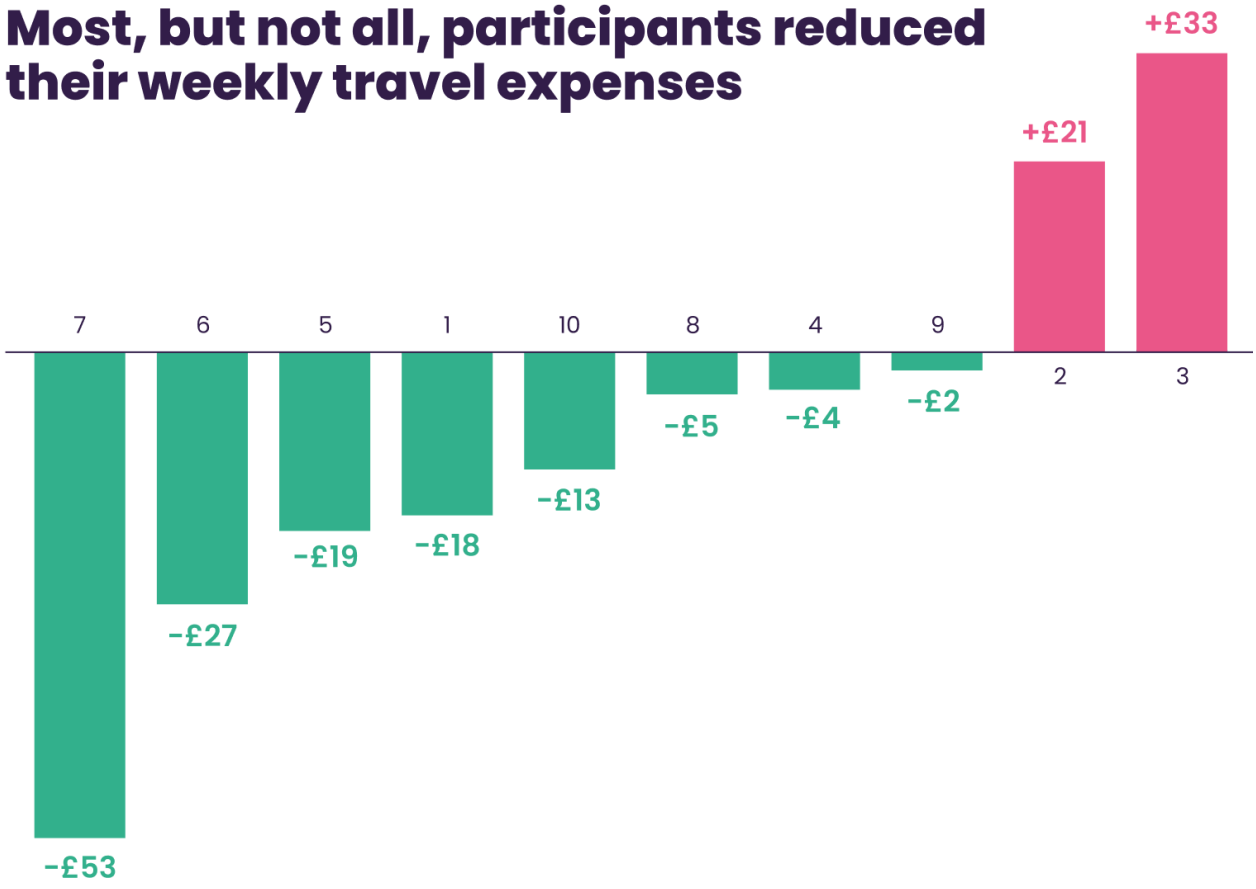

## Huge shift to cycling and public transport

Kilometres travelled by car dropped 87% (from 160 to 21km) during the car-free weeks, and all other transport modes increased. Public transport and bicycles were used the most, with weekly kilometres covered by train, tram and bus increasing by 29km for the average participant, and 26km for bicycles. Smaller increases in distance were made via e-scooters, walking, and car clubs which increased by 4.7km, 4.0km and 3.9km respectively, though it's worth noting that these tend to be used for shorter journeys anyway, and much more by some participants than others.

When looking at the mode shift by time spent, the average participant's car travel dropped from 380 minutes to just 30 minutes each week. Over the course of the study period, cycling rose from six minutes to 165 minutes, public transport from six minutes to 121 minutes, walking from 131 to 164 minutes, car clubs from 0 minutes to about 16 minutes, and e-scooters from one minute to 21 minutes.

## Financial savings for most

Almost all participants made financial savings by going car free. Only Participants 2 and 3 spent more money during their going car free weeks through using the more expensive modes of transport (Participant 3 with car club cars and e-scooters, and Participant 2 with taxis for regular delivery runs).




## Cities were not alike

The cities all had different characteristics. While London and Birmingham have extensive local rail or metro networks, trains were not used often in the trial. However, all cities except Leeds had e-scooter trials, which were used by the participants.

All of our Leeds and Bristol participants saved money compared to using the car, despite Bristol having the highest spenders for 3 of the 4 paid modes (Participant 1 for the Car Club, Participant 10 for e-scooters and Participant 9 for taxis). London participants spent the least on car travel during the trial (on average 8p a week), but one participant spent more during the trial as a result

of her delivery runs. For all car-based modes (including taxis, Car Club and lifts, those in London spent the least (£3.86 a week), and Bristol the most (£20.91 a week)

## Conclusions

- Our participants should be very proud of taking on this challenge. In total, they saved 372 kg of $CO_2$, and showed that for many people low-carbon travel isn't necessarily more expensive or prohibitively slower than driving a private car.
- Generally, reducing car use was seen as being the right thing to do by all participants, but they believed that the transition would have to come with compromises.
- One such perceived compromise is that of road safety but, with cycling in particular, this is a chicken-and-egg issue, with less motor traffic making other modes feel safer.
- Most participants saved money when not using their personal cars.
- Some of our participants are selling their cars, so this trial demonstrated that living car free is more feasible and enjoyable than they first thought.
- All participants reported using their cars less or using alternative modes for some journeys, so the trial demonstrates how a short intervention to reorganise routines can create long-term behaviour change.
- This suggests that developing self-efficacy may require an experiential component - it's not enough to be told that people can reduce car use and switch to active travel, people need to try it and find out for themselves.
- As such, Possible is launching the Going Car Free challenge, using the learnings from this trial to encourage the public to reduce their car use, or even give up their car in July 2022.

# Recommendations

**Car ownership and the public realm**

- Most of our participants saved money using alternative transport modes. Public awareness needs to be raised on how comparatively expensive car ownership is, as well as the significant societal and environmental costs involved. Governments must urgently shift to subsidising sustainable transport modes to meet our climate goals.
- Cars are currently seen as a comfortable shelter for busy people to rest. Councils should create programmes to convert car parking spaces into public space for people to enjoy. A systemic and transparent parklets programme in all UK cities that residents can apply for could inspire more rapid change.
- Many female participants raised concerns about safety in the public realm, and within this context cars are seen as a sanctuary. Well-lit pathways, safety cameras, walkable streets and open gathering spaces all contribute to making cities safer for women, as well as for everyone else.

**Walking**

- Pavement parking should be banned as it makes walking and wheeling more difficult.
- Street maintenance needs to be a high priority within council budgets, and appropriate funding needs to be allocated to ensure pavements are refurbished.

**Cycling**

- Our participants enjoyed cycling and using cargo bikes. Local authorities should provide subsidised or free access to bikes and e-bikes. Cities should show support towards a variety of cargo-bikes trials.
- More protected cycle lanes are necessary to encourage more people to cycle and use e-scooters.
- Cities should identify locations where additional cycle parking may be needed to support new cycle trips, and work with employers as needed to provide these.
- Cycle training helped our participants build their confidence on the roads. More funding should be urgently made available for cycle training.

- Better facilities are needed to encourage people to cycle to work (e.g. showers, convenient cycle parking).

**Buses**

- Buses need to be cheaper, free for children, more reliable and more frequent. Buses need to be invested in and run as a public service to ensure a comprehensive route network that serves passengers first.
- Ensure buses are fully accessible, and improve wheelchair provision on buses, ensuring there are two wheelchair spaces.
- More bus lanes are necessary to increase bus speeds and make buses more attractive.

**E-scooters**

- Most of our female participants had safety concerns and were reluctant to try e-scooters. Micromobility providers should roll out e-scooter training particularly targeted at women to help build confidence.
- There is a need for e-scooters to be much cheaper to rent, and for the legalisation of private e-scooters to make e-scooters more affordable and accessible.
- E-scooters need to be more available at the right times and locations that people need them.
- Docking stations need to be in safe and convenient on-street locations.

**Car clubs**

- There is a need for a public campaign to raise awareness of the benefits of car clubs particularly amongst car owners in cities who rarely drive.
- Car clubs need to be cheaper and more convenient to become a genuine alternative to private car ownership.
- Club cars should not be required to be returned to designated car club bays at the end of a hire; and should be able to be left in the same bays as private cars.
- Club cars should ensure they are up to date and have the latest software to compete with private cars (e.g. satnav systems with live traffic maps).