



University of  
**Salford**  
MANCHESTER



**SHUSU**  
SUSTAINABLE HOUSING  
& URBAN STUDIES UNIT

# Bike Share in Greater Manchester

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## About the authors

This research is part of the University of Salford's **Healthy Active Cities** programme.

The **Sustainable Housing & Urban Studies Unit (SHUSU - University of Salford)** is a dedicated multidisciplinary research and consultancy unit providing a range of services relating to housing and urban management to public and private sector clients. The Unit brings together researchers drawn from a range of disciplines including social policy, housing management, urban geography, environmental management, psychology, social care and social work.

Rapid urbanisation, a global phenomenon that has sparked significant debate, will have a significant impact on our changing society. The **Smart Urban Futures Research Group (SURF - University of Salford)** seeks to understand the key questions underpinning the development of cities as equitable, prosperous and liveable spaces for all and how citizens, both individually and collectively, will shape this development.

The Institute of Citizenship, Society and Change (University of Central Lancashire) is a new transdisciplinary research initiative. Our world today faces many urgent and complex problems that can only be addressed by bringing together many different kinds of knowledge and experience. Because our growing social, environmental, economic, technological and cultural problems are all interlinked, our search for solutions must cross the boundaries between many different forms of expertise. Our Institute addresses these complex social problems through the participation of many different communities, professions, practitioners and other groups living and working on the frontlines of these great social challenges in a genuine attempt at transdisciplinary knowledge-making.

This work has been fully supported by the **British Cycling Research Team** led by Research and Insight Manager Allison Coles. The team are currently working on a number of projects to gain a better understanding of the barriers and motivations that affect the number of people cycling and the types of interventions that best support people to do so.

The British Cycling Research Team work across all forms of cycling – whether for fun, recreation or racing – through industry-leading analytics and insights. Working alongside experts from a variety of fields, the team aim to provide cutting-edge research and insights to local and national decision-makers and influencers to advance the case for cycling and support the organisation's ambition of transforming Britain into a truly great cycling nation. This research helps us to establish a better understanding of what is required to create better places for people to cycle in their everyday life.

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# Foreword

British Cycling welcomes this important new research by University of Salford into bike share schemes and the wider cycling landscape. Our mission is to work in partnership with others to transform Britain into a true cycling nation and innovative academic research is an important part of that work.

Our own insight consistently reports that easy access to bikes is vitally important if we are to make cycling the natural choice for short journeys and help make cities like Manchester greener, healthier and happier places to live and work. We believe that Greater Manchester and all British cities and towns deserve public bike share schemes as comprehensive and robust as that currently operated by Transport for London.

Public bike schemes, both docked and dockless, are a vital part of the public transport network and need investment in the same way as buses and trams. Public bike schemes dramatically raise the profile of short trip cycling journeys in a community, as demonstrated in London over the last decade, and can be an important catalyst for improving public and political support for wider investment in cycling infrastructure.

Public bikes are not a gimmick; they deserve to be taken as seriously as other modes of public transport and we believe that this research underlines how significant the return on investment can be if a scheme is well planned and of the highest quality.

We are confident that this research will highlight the need for a city like Manchester to invest in a public bike scheme that works for the community, replacing car journeys, easing the strain on trains, trams and buses, providing choice and normalising cycling.

**Nick Chamberlin**

Policy Manager  
British Cycling



# Executive Summary

Bike share schemes have been considered as one solution to problems of poor health and inactivity in our cities, whilst also being a means of increasing travel by bike and reducing reliance on the private car. This study was conducted by researchers from the University of Salford in conjunction with British Cycling. It aimed to understand the potential of bike share to increase cycling levels and explore the reasons why it has been an attractive option to some, but not others.

## Context

The research coincided with the implementation of the first dockless bike share scheme in a European city. The Chinese firm Mobike introduced the scheme to Greater Manchester in June 2017 but withdrew it in September 2018. With a recent announcement of substantial investment in walking and cycling infrastructure, cycling appears to be high on the agenda of the conurbation. The existing infrastructure provision has, however, proved to be a significant barrier to uptake, particularly for those with little cycling experience.

The introduction of Mobike's dockless scheme provided an opportunity to understand whether this type of sharing scheme can contribute to changing attitudes towards cycling. In particular, the researchers were interested in understanding attitudes, practices and behaviours and, ultimately, whether implementing a bike share scheme can increase the chances of encouraging those who do not currently cycle to start doing so.

## Methodology

The research comprised an online questionnaire and a set of qualitative telephone interviews. The survey instrument was co-created with key organisations in the city-region in a workshop held at the University of Salford. Attendees at the workshop included practitioners and experts from Transport for Greater Manchester, Salford City Council, Living Streets and Sustrans. The link was distributed through email networks, social media and

a leaflet in June and July 2018. A total of 2270 responses were received, and respondents were asked whether they consented to a further interview. Twenty-seven telephone interviews were conducted.

## Who is using bike share?

On the basis of a question relating to using bike share in the preceding 12 months, the sample was divided between 'Users' (22% of the sample) and 'Non-users' (78%). The 'Non-users' were subdivided by their answers to another question on the likelihood of trying a bike share scheme in the subsequent 12 months. This yielded three groups:

- **'Users'** are the 497 people (22% of the sample) who reported that they had used bike share in the preceding 12 months.
- **'Deciders'** are the 958 people (42% of the sample) who told us they had not used bike share but said that they could see themselves doing so.
- **'Avoiders'** are the 815 people (36% of the sample) who told us they had not used bike share and could not see themselves using it.

People who had used bike share were most likely to have used it less than once a month (72% of Users). Half of Users had only used dockless schemes, whereas 23% had only used docked bikes and 24% had used both. Males were more likely than females to have tried bike share. Respondents aged between 25 and 44 were more likely than other age groups to have used it. There was no clear relationship between bike share use and ethnicity, household income or employment status. The gender and age distributions of the Users group imply that bike share usership is in general terms similar to cycling. People who said they cycled once a month were more likely than those who cycled more or less frequently to have tried bike share.

### Why is bike share being used?

In terms of reasons to use bike share, both Users and Non-users gave prominence to spontaneity (41% of the whole sample). Using bike share with public transport was a key reason (37%). The interviews suggested that being able to find a bike quickly as part of a busy schedule is one motivation and that being able to commute some of the way by public transport in combination with bike share is another. Shared bikes were seen by some as particularly useful to allay fears of having your own bike stolen. The interviews highlighted that the decision is often complex and that more nuances such as the weather and feeling tired can influence whether bike share is chosen on any given day.

Walking was the mode most often combined with bike share. There is scope for bike share to be a 'last mile' option, and this may particularly be the case with trains. It can also be an effective bridge between two city centre public transport interchanges.

### How did the operational context affect use?

The use of bike share for trips to, from and around the city centre was affected by changes over time in the geofence, which Mobike set up after the project had been running for a few months. In particular, the interviews revealed that this affected the likelihood of some people continuing to use Mobike. The changes in the price, time allocation and geographical reach of the project inhibited users from being able to plan ahead.

### What can we learn for the future of bike share?

The findings from this research on bike share in Greater Manchester lead to the following conclusions. In order to design and operationalise a bike share system that is seen as an attractive option by residents, workers and visitors, several elements should be carefully considered. The bikes themselves were described as off-putting by some interviewees, and when combined with poorer quality cycling infrastructure, the experience could be considered negative in terms of their ongoing experience of cycling. For many the opportunity to find and pay

for bikes using a smartphone was attractive, but for some this was problematic. The flexibility to leave bikes anywhere was an important aspect of the scheme for many respondents, as was being able to find bikes in set locations around the city. This implies that elements of both docked and dockless schemes may be valuable. Additionally, lack of access to a helmet was problematic for some and was particularly pronounced for Avoiders and Deciders.

The Mobike scheme, albeit arguably unsuccessful in Greater Manchester, has provided a number of lessons that can be applied in the implementation of future bike share schemes. The changing geofence and difficulty of finding bikes due to the app sometimes being inaccurate are avoidable issues. The infrastructure and safety concerns, which are common barriers to increasing cycling levels, are, however, more difficult to address. The fact that many of the barriers to bike share are similar to barriers to cycling generally indicates that the problems of implementing bike share are tied to the wider transport system. However, if cities play to the strengths of bike share (intermodality, spontaneity, and as an option that means a person does not have to travel with their own bike), bike share can provide an incremental addition to an integrated and sustainable urban travel system.

The study raises questions for the future of bike share and cycling, such as how providers can fit schemes into the needs of individual cities and how to influence the cultures relating to transport and urban form, in which prominence is still given to private car use in decision-making. In chapter 8, we provide ten key conclusions that follow from this research.





# 1. Introduction

Active travel offers cities opportunities to address vital challenges such as health, air quality and congestion. Bike share is increasingly evident in cities across the globe, whether in the more conventional docked form found in, for example, London and Paris or the newer dockless technology facilitated through smartphone apps.

Such systems offer people a bike to use without the hassle of ownership or storage and, if they have their own bike, access to a bike to make journeys when they do not have it with them. They therefore promise to make cycling an option for a wider population and for more journeys. They offer to complete the elusive 'last mile' that can make public transport difficult and to help to make cycling a visible and attractive option for many.

This report provides new evidence of experiences and perceptions of bike share in Greater Manchester. It explores whether, to what extent and in what forms bike share can contribute to an overall increase in the number of people cycling, the number of journeys they make and the health and environmental benefits that follow.

The research, carried out in summer 2018, comprised an online survey and set of qualitative phone interviews. Mobike had been operating in the city region for one year, and we were curious to find out more about who was making use of their bikes, why they chose to use them and for what purpose. We wanted to understand how these bikes were fitting into travel patterns and whether they were becoming a regular part of how people get around.

Shortly after our fieldwork finished, Mobike removed their service from the conurbation, citing operational issues including theft and vandalism. Our research has helped us to understand more about this situation, to explore how people found the bikes to ride and to learn about the ways in which changes in the operation of

the scheme affected its use. It has also helped us to understand the relationship between bike share and cycling more generally. Whilst bike share may reduce barriers to cycling, such as storage and ownership, it adds barriers of its own, such as having to use a smartphone or spend time looking for a bike. When the bikes themselves are difficult or uncomfortable to ride they also intensify feelings of vulnerability when cycling in traffic.

We begin, in Chapter 2, with an overview of bike share in the context of urban policy, with specific reference to health and environmental sustainability. This is followed by an account of developments in cycling policy in Greater Manchester and a description of the specific case of Mobike's operation in the city region. Chapters 3–7 provide a summary of the findings of our research. We start with a description of our approach to dividing our sample into Avoiders, Deciders and Users. This segmentation of the sample, with colour coding based on traffic lights, is used throughout the report.

Chapter 3 continues with a breakdown of ways in which the use and potential use of bike share vary across demographic and social groups before looking at why our respondents were using bike share and for what purpose. Chapter 4 considers the specific case of using bike share in conjunction with other modes of transport, and Chapter 5 discusses the preferences expressed by our respondents in relation to specific aspects of a bike share service. Chapter 6 explores experiences of using bike share, including feedback on the nature of the service and design of the bikes, whilst Chapter 7 looks at factors that may be limiting how much people use bike share. Chapter 8 brings these findings together to provide a set of concluding points, questions for further research and pointers for those planning bike share schemes.

# 2. Bike Share and Healthy Cities

## 2.1 Active travel

Active travel is increasingly recognised as an important component of a healthy lifestyle<sup>1</sup> and can play a significant role in the transport sector's contributions to the economic performance of cities<sup>2</sup>. Urban transport planners are increasingly concerned with meeting the challenges of residents' and visitors' travel to work, for education and to the many other destinations involved in personal and social life. Greater Manchester is no exception. A focus on active travel therefore offers opportunities to address a range of health, environmental and social issues<sup>3</sup>.

## 2.2 Public health and transportation

It is well documented that inactivity levels are a major public health concern in the UK. A significant proportion of the UK population is inactive, with 26% of adults not achieving 30 minutes of physical activity over seven days<sup>4</sup>. This increases with age, with 15% of 16–24-year-olds not achieving this level of activity in comparison to 54% of those aged 75+. Indeed, only 21% of boys and 16% of girls meet the UK Chief Medical Officers' guideline of 60 minutes of physical activity per day<sup>5</sup>. This has led to inactivity being recognised as the main cause of obesity in the UK at an estimated cost to the economy of £15.8 billion and to the NHS of up to £1.8 billion annually<sup>6</sup>. Inactivity is also associated with type 2 diabetes, breast and colon cancer, and with shortened life expectancy<sup>7</sup>. Increasingly therefore, physical activity is an urgent concern in cities<sup>8</sup>. Additionally, it is known that physical activity can reduce the likelihood of dying from coronary heart disease<sup>9</sup> and can improve quality of life for cancer patients<sup>10</sup>.

Air pollution is a further health concern related to dependence on road transport. It is now the world's leading environmental health risk, causing 50,000 premature deaths annually in the UK<sup>11</sup>. The biggest contributor is road traffic. In addition, the transport sector is a significant contributor to climate change emissions, contributing 28% of UK emissions in 2017<sup>12</sup>.

It is in the context of these health and environmental concerns that we situate this study on bike sharing in Greater Manchester. Active travel refers to cycling and walking, both of which can be seen as positive ways to improve health. The Greater Manchester Combined Authority recognises this, stating that active travel requires three elements to work together – walking, cycling and public transport<sup>13</sup>.

## 2.3 Inactivity and active travel in Greater Manchester

Given such levels of inactivity and the potential of active travel, cities are focusing on reducing single-occupancy car use and congestion through policy measures that promote modal shift towards walking, cycling and public transport. Short trips by car are an opportunity, because many of them could be made by walking or cycling. In Greater Manchester 50% of adults qualify as inactive (under 30 minutes of physical activity in a week)<sup>14</sup>.

The report 'Made to Move' sets out an ambitious set of targets and strategies to improve the health and wellbeing of Greater Manchester's population through measures to help people travel more actively<sup>15</sup>. A recently launched plan for a dedicated network of cycling and walking routes for the conurbation, which is intended to be the largest walking and cycling network in the UK, and reflects the growing importance of cycling to the area<sup>16</sup>.

## 2.4 Bike share schemes

Bike share schemes are rapidly becoming more visible in cities across the world. Bike share refers to bicycles that are available for short term rental on an 'as needed' basis without the cost and responsibilities of ownership<sup>17</sup>. There tends to be two types of bike share scheme: docked bikes, such as those seen in, for example, London and Paris, and the more recent dockless bikes such as the Mobike scheme that arrived in Salford and Manchester in 2017. Such schemes help to provide more options to those making shorter journeys in cities and can potentially replace car and public transport journeys with cycling. Commonly referred to as 'the last mile', bike share can supplement journeys made by public transport<sup>18</sup>.

There is a wealth of academic research on barriers to cycle use which are often centred on the quality of infrastructure and personal safety<sup>19</sup>. Research on bike share itself is less established. A recent review of bike share schemes' ability to influence a population's physical activity levels showed that such schemes could help develop a pro-cycling culture in specific cities, as well as changing attitudes towards cyclists, especially if they are part of a pro-cycling strategy<sup>20</sup>. As yet, there is little evidence of whether bike share has attracted individuals who were not already cycling, whether people have used it to replace car journeys, and in what ways it is being used in conjunction with public transport. A number of recent studies of bike share have focussed on the datafication of the user rather than on the affordances and challenges of bike share schemes in relation to active travel, conversion to cycling or reductions in car use<sup>21</sup>.

Academic researchers anticipate that significant changes in mobility in the medium term will include bike share alongside other technology-driven changes such as automated vehicles and the increase of smart travel. However, the potential impact of dockless schemes remains difficult to assess and the issues relating to their take-up are particularly challenging to separate from wider barriers to cycling. Whilst bike share

may help to overcome some of the commonly recognised barriers to cycling, such as cycle ownership, storage, and carriage on public transport, it may introduce additional barriers, such as access to digital technology, whilst having little if any effect on wider deterrents such as traffic levels.

In 2016, Bike Plus<sup>22</sup> surveyed 800 bike share users in England, Wales and Scotland and compared the resulting data with those for 3000 users surveyed by Transport for London. They found that 50% of people using bike share were new to cycling, that people shifted from car use to bike share as well as making journeys in conjunction with buses and trains, and that a higher proportion of women were using bike share than were cycling using owned bikes.

Recent studies suggest that bike share has not realised its potential to improve health and wellbeing<sup>23</sup> and that further comparative research is needed<sup>24</sup>. Additionally, it has been shown that the high costs of implementing and running bike share schemes have put some cities off investing in them<sup>25</sup>. Dockless bikes go some way towards addressing this, especially when they are operated by private companies. However, this has led to many schemes being operated without public licensing<sup>26</sup>. This is



Figure 1 - Woman using bike share in Paris, one of the first docked schemes

something local authorities and transport planners need to consider if bike share schemes are to be a key part of urban transport systems. Within this evolving research context, this study seeks to situate experience of bike share within the more established literature on cycling and active travel.

Ultimately, this study asks whether, to what extent, and in what forms, bike share can contribute to an overall increase in the number of people cycling and the number of journeys they make.

## 2.5 Bike share in Greater Manchester

Manchester is the home of British Cycling, and it is perhaps fitting that Manchester is the first city outside Asia to host dockless bikes. Manchester has recently developed some new transport infrastructure including along Oxford Road and the Wilmslow Road corridor. Chris Boardman, the Greater Manchester Cycling and Walking Commissioner, has reported that residents drive for many journeys that could easily be made by cycling or walking<sup>27</sup> and has recently begun consultation on a new conurbation-wide cycling and walking network consisting of over 1000 miles of routes<sup>28</sup>. It is in this context that this chapter discusses bike share in Greater Manchester.

Dockless bike share arrived in Greater Manchester in late June 2017 when Mobike, a Chinese dockless bike share company, introduced approximately 1000 dockless bikes into Manchester and Salford<sup>29</sup>. This was Mobike's first foray outside of Asia and saw Manchester become the first city in Europe to host the company's conspicuous orange bikes on the streets (Figure 4). It has since launched schemes in other cities including London, Newcastle and Oxford. In September 2018 Mobike announced that they were withdrawing their service from the city region.

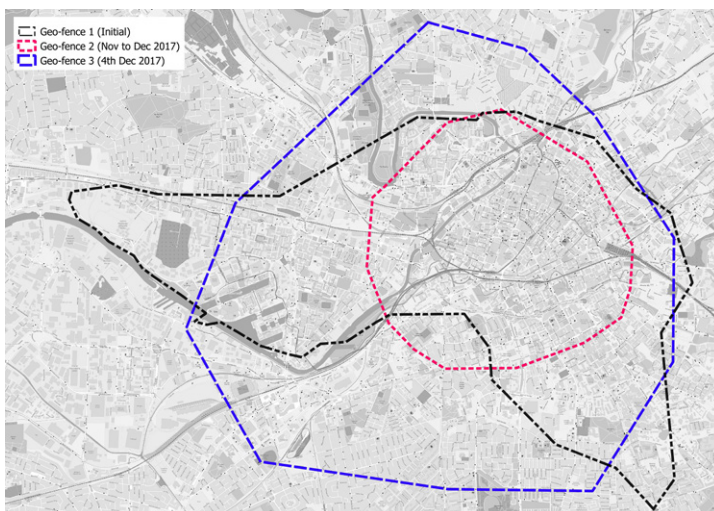
As well as opportunities to hire bikes on a longer-term basis, there are two other bike share schemes available in Greater Manchester, although these operate on a smaller scale with localised pickup and drop-off points. Bike & Go is a docked bike scheme available at participating train stations across the North West and Merseyside, and the Brompton Bike Hire scheme, which allows users to hire a Brompton bike from Manchester Piccadilly train station.

Mobike bikes have airless tyres, purported to reduce maintenance costs, and a fixed drive shaft. Mobike initially planned to run the scheme as a six month trial. When the bikes were first put on the streets of Manchester the cost was set at £0.50 per half hour, with half an hour being the maximum expected time a user would take to complete a short city-centre journey. Being dockless, the bikes could be deposited anywhere although Mobike did establish preferred bike parking areas when they first rolled out the scheme to make locating bikes easier in the city centre.

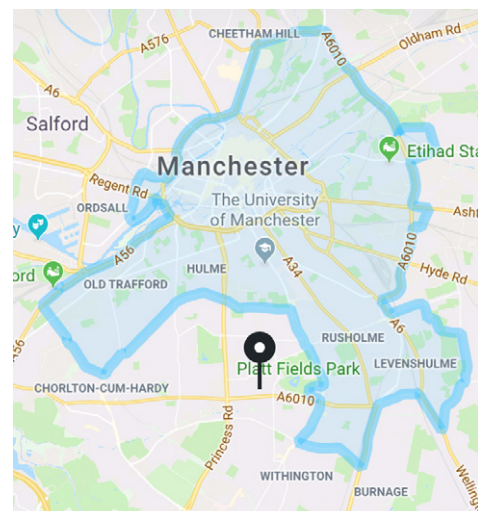
The refundable deposit was initially set at £49 and people subscribed via a smartphone App. The built-in GPS facility showed where available bikes were located. Parking tips were provided to customers to encourage considerate parking – for example, to ensure pedestrians' access was not blocked, and to leave enough room for other bicycles if parking near a bike rack.

## 2.6 Geofencing

Once established, Mobike then added around 30 more preferred parking areas before developing a geofence within which bikes could be left. The geofence was an area within which customers could pick up and leave a bike. It was permissible to ride the bike outside the geofence provided it was returned to within the geofenced area. Initially the geofence included Manchester and Salford, but by June 2018 it had been reduced to Manchester city centre .



**Figure 2 - Changes in the geofence over the period of Mobike's operation in Greater Manchester (Geofence 1 - Black, Geofence 2 - Purple, Geofence 3- Blue)**  
Source: Transport for Greater Manchester



**Figure 3 - Mobike App screenshot, 31st August 2018**

At the scheme's peak, Mobike reported that they had 2,000 bikes on the streets of Manchester and Salford<sup>50</sup>. However, the bike share scheme had been plagued by multiple complications over its period in Greater Manchester, including problems of vandalism and theft which were reported in the media a number of times<sup>51</sup><sup>52</sup>. Many thought the vandalism would abate after the launch in 2017, but it did not, and Mobike claimed they were losing 10% of their bike fleet every month in 2018 to vandalism or theft, which led them to ultimately pull out of the area<sup>53</sup>. Mobike had pulled out of Stockport earlier in the year, and just 11 days after launching there in March 2018. They cited the protection of their bikes and members of staff as the reason for this<sup>54</sup>.

To reduce the amount of theft and vandalism, Mobike changed the boundaries of the geofence several times. Figure 2 shows three geofences. The first included the city centre, the Oxford Road corridor and much of Salford between the M602 and the Manchester Ship Canal. The second, introduced in November 2017, was a zone that concentrates Mobike use in the centre of Salford and Manchester. The third, introduced in December 2017, was a 20km zone expanded to include Hulme, Old Trafford, the University of Salford and Broughton. Figure 3 is a screenshot of the Mobike app from the phone of a member of the research team on 31st August 2018 and shows a different, reduced geofence.

Additionally, Mobike changed the way the geofence operated. Initially, the operational area included all of Manchester and Salford and people could leave their bikes anywhere in that area. This led to a shortage of bikes readily available in the city centre. In an attempt to fix this, Mobike introduced the first geofence in November 2017<sup>55</sup>, recommending that users park their bikes within the defined area. At this stage users were not penalised for parking their bikes outside of the geofence. One of the first references to charging users for parking their bikes outside of the geofence came in May 2018, when Mobike launched their 'Park It Right' campaign<sup>56</sup>.

The changing geofence boundary meant that much of Salford was removed from the permissible pickup and parking area<sup>57</sup>. In November Mobike announced that Salford was outside the geofence<sup>58</sup>. This had the effect of locating two large employers in Greater Manchester, Salford University and MediaCityUK at Salford Quays, outside the permitted boundary for using a Mobike. Then, in December, they announced Salford was included again. By repeatedly changing the geofence Mobike created some confusion for potential users as it became difficult to keep track of whether their local area was in or outside of the geofenced area.



Figure 4 - Mobikes available for use in St Peter's Square Manchester

The last iteration of the geofence had a much more centralised boundary. On the one hand it meant that the availability of bikes was more concentrated and they tended to be more accessible for city centre users, but on the other it meant there was much less opportunity to use a bike for a lengthy journey as it needed to be returned within the geofence. The potential consequences of such a move were that dockless bike journeys in the city centre were more likely to be replacing walking rather than less active forms of transport.

## 2.7 Pricing

A further amendment that Mobike made at this time was to their pricing structure<sup>39</sup>. Whereas they initially charged users £0.50 for 30 minute intervals, the amended charges was £0.69 for 20 minute intervals. Additionally, when the service began users had the choice of how much credit to add to their account, with £5 being the minimum. The amended pricing structure required users to add £15 to their account on registration, which may have influenced visitors' decisions about using the scheme.

Since launching, Mobike claim users in Manchester have taken 250,000 trips and have cycled more than 180,000 miles<sup>40</sup>. However, after much uncertainty about whether they would stay in Manchester, Mobike officially announced they were pulling out of Manchester on 5th September 2018<sup>41</sup>, pointing to the challenges of theft

and vandalism they had experienced, and stating that 'As a private company, we have a duty to ensure our revenues cover our costs since unlike some operators we do not use taxpayer money to help balance our books. Unfortunately the circumstances in Manchester have not made this possible'<sup>42</sup> and claiming that 'the minority had ruined it for the majority'<sup>43</sup>. In response, Chris Boardman, Greater Manchester's Cycling and Walking Commissioner, rejected the implication that anti-social behaviour is unique to Manchester or insurmountable, saying that 'It has been encountered in other UK cities and other bike operators have found ways to deal with it'. He continued, suggesting that bike share 'requires close community and partners' engagement from the outset' and that the city 'hadn't seen the right level of engagement from Mobike'<sup>44</sup>.

## 2.8 The future

Boardman emphasised that Mobike's period in Manchester was a trial and that the city region had learned a lot from using and observing the scheme<sup>45</sup>. Nextbike, for example, another bike share scheme currently active in several UK cities, had already said they would launch their bikes in Manchester if Mobike did decide to leave the city<sup>46</sup>. The intention is that this report will provide some useful background for transport planners and bike share companies looking to build a future for bike share in Greater Manchester.



Figure 5 - Cycle counter on Manchester's Oxford Road

# 3. Using Bike Share



Bike share use has been relatively low, but comparable to cycling levels in Greater Manchester. People who have used bike share are more likely to be younger and male. Those who already owned a bike were more likely to use bike share, but those who relied on a car for their regular journeys were less likely to. Using bike share tended to be a spontaneous decision, and fun or recreation were the most common trip purposes. Bike share has been used in conjunction with other modes of transport.

## 3.1 Describing the sample

2270 individuals responded to the online survey. In order to examine the differences between those who have and those who have not used bike share, we divide the sample using the following colour-coded system (Figure 6):

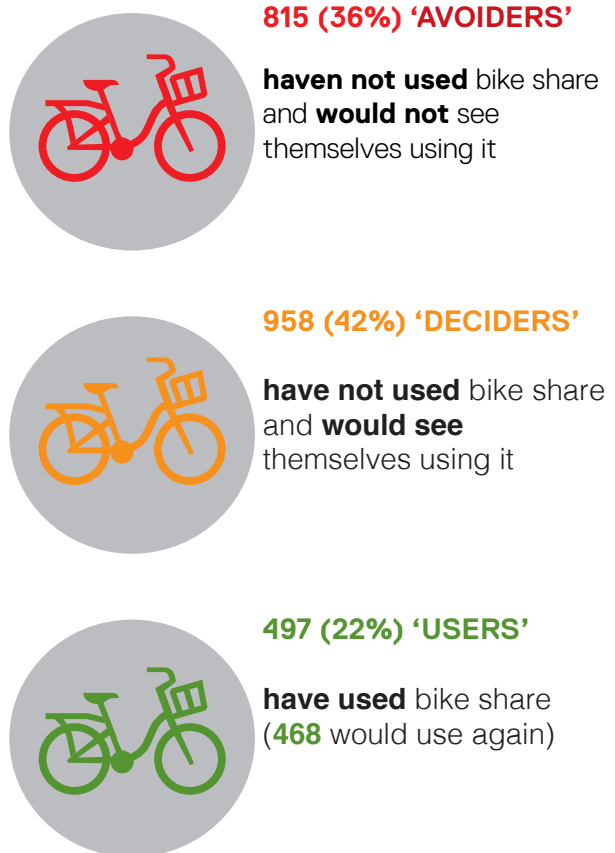
- **Avoiders** are the 815 people (36% of the sample) who told us they had not used bike share and could not see themselves using it.
- **Deciders** are the 958 people (42% of the sample) people who told us they had not used bike share but said that they could see themselves doing so<sup>1</sup>.
- **Users** are the 497 people (22% of the sample) who reported that they had used bike share in the preceding 12 months.
- Additionally, we refer to Non-users as **Avoiders** and **Deciders** together.

In addition to statistics and charts from the survey, we use quotations from the qualitative interviews that were carried out with 27 of the survey respondents. These are labelled with the numbers of the interviewees, on whom more information is provided in Appendix D.

Throughout the report we use 'pen portraits' to illustrate particular perceptions and experiences. These are intended to provide an illustration rather than be representative of the sample. Here, pseudonyms have been used to protect the confidentiality of the interviewees.

An overview of how the study was carried out is included in Appendix A.

Of 2270 respondents to the online survey:



**Figure 6 - Bike share use over preceding 12 months and intention to use over subsequent 12 months.**

<sup>1</sup> **Deciders** are defined as respondents who answered question 16 'How likely is it that you would use bike share in the next 12 months?' With an answer of 1 or more.

### 3.2 Who has been using bike share?

#### Social groups

The majority of respondents had not used bike share in the preceding 12 months, and those who had done so used it rarely. Those who had used bike share were more likely to be male and to be younger. They were more likely to own their own bike and to travel by a mixture of modes of transport rather than just relying on a car.

Figure 7 to Figure 13 show how often respondents reported that they had used bike share, from never to weekly or more often. In each of these charts, those who said 'never' are split into **Avoiders** – those who have not used and would not use bike share – and **Deciders** – those who have not used it but indicated that they would use it.

Some 78% of survey respondents had not used bike share. Most of the people who had used bike share had used it less than once a month (357 respondents, 16% of the sample, 72% of **Users**), whereas 84 (4% of the sample, 17% of **Users**) had used it once a month, and the remaining 47 (2% of the sample, 10% of **Users**) had used it once a fortnight or more (Figure 7).

The majority of those who had used bike share had used only dockless bikes (50% of **Users**) as opposed to only the docked type (23%) and 24% had used both versions. When asked which they had used most recently, 69% had used dockless and 28% docked bikes.

Awareness about the availability of bike share remained relatively low. Some 40% of the sample were aware of a bike share scheme being available where they lived (47% of respondents who lived in Greater Manchester said this), 48% of the sample were aware of a scheme being available where they worked (56% of respondents working in Greater Manchester said this), and 32% were aware of a bike share scheme being available in a town or city they visited regularly.

Males were more likely to have used bike share (Figure 8): 25% of males who responded to the survey had used bike share, whereas 18% of females had. However, Figure 8 also indicates that females are more likely to be **Deciders** than males: they see themselves using bike share in the future.

Bike share use and potential use were related to age. The age groups 25–34 (45% of the sample) and 35–44 (35%) were the most likely to say they had used bike

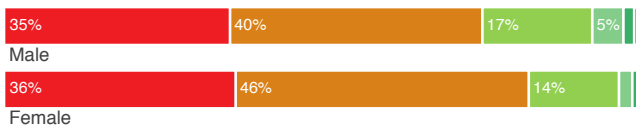
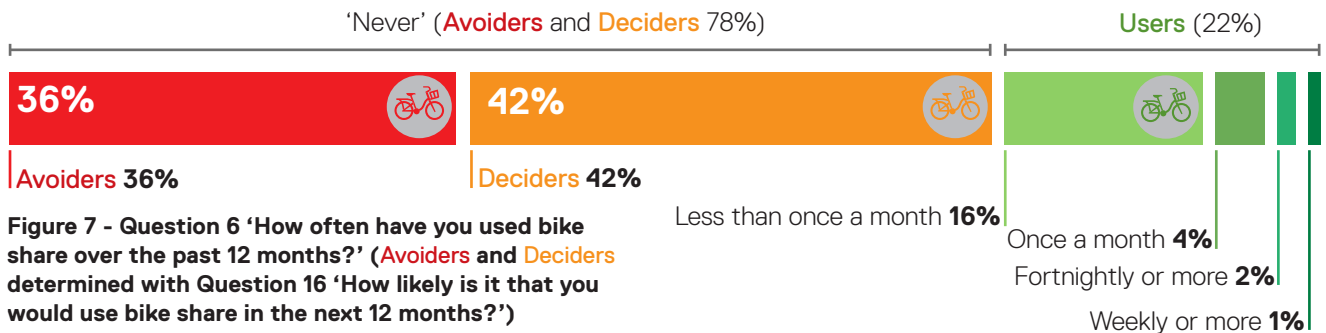


Figure 8 - Gender and bike share use (Q 6, 16 & 28)

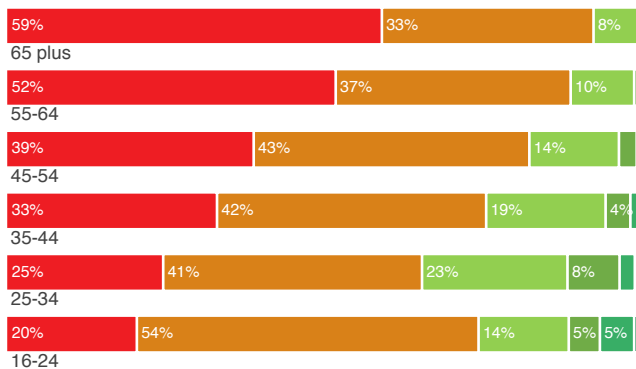


Figure 9 - Age group and bike share use (Q 6, 16 & 29)

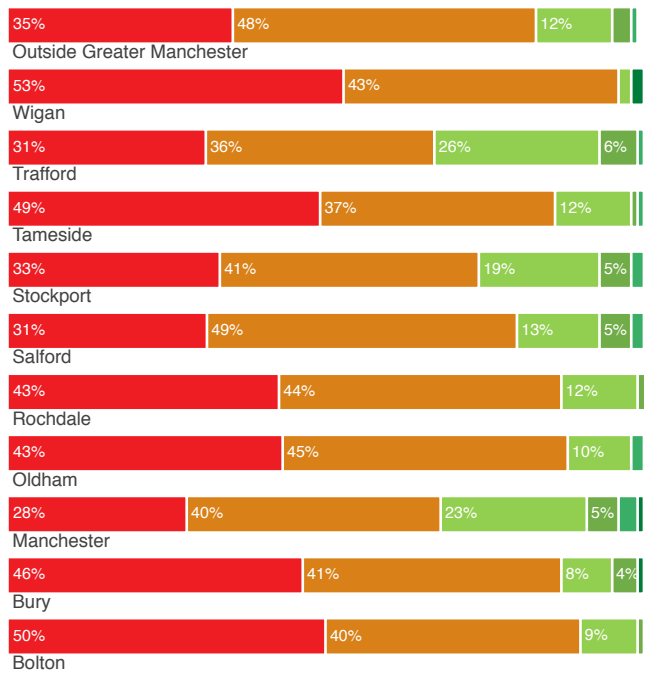


Figure 10 - Residence and bike share use (Q 6, 16 & 32)



share, whereas those between 55 and 64 (11%) and over 65 (8%) were comparatively less likely to have done so (Figure 9). The youngest age group, (16–25) were the most likely to be **Deciders**.

Our figures do not imply a clear relationship between bike share use and household income, ethnicity or employment status, although bike share users were more likely to be employed full-time: 71% of **Users** in comparison with 66% of non-users and 63% of the whole sample. Bike share use varied across Greater Manchester, with those living in Manchester, Stockport and Trafford most likely to say they had used bike share and those living in Bury and Wigan least likely. One possible reason is the former are the central areas or close to where the scheme was implemented. Note that these are the areas of residence of the respondents, not the places where they used bike share (Figure 10).

Quarterly research by British Cycling and GfK with a representative national sample has consistently shown that the majority of people (around 55% of over-16s) do not cycle and that the figures are different for men (61%) and women (47%). They have found that 12% of the population cycle at least once a week all year round whereas 9% cycle at least monthly. The use of bike share is therefore similar to overall rates of cycling: the majority do not use it at all, a minority cycle frequently, and more men cycle than women.

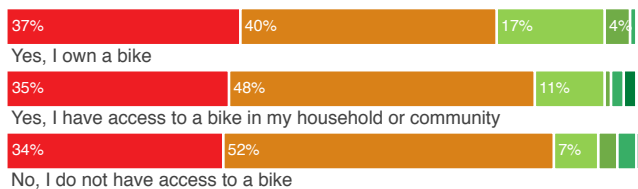


Figure 11 - Access to bike and bike share use (Q6, 16 & 38)

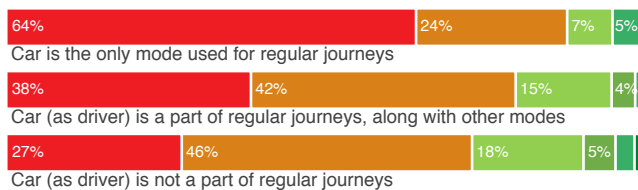


Figure 12 - Car use and bike share use (Q 6, 16 & 40)

### Transport activity

There is a suggestion that the modes of transport an individual has access to, or makes regular use of, has a bearing on bike share use. Some 23% of respondents who owned a bike had used bike share, in comparison with 17% of those who had access to a bike and 14% of those who neither owned nor had access to a bike (Figure 11). Figure 12 shows that those who had made their regular journeys by car only were more likely to have never used bike share (88% of all) in comparison with those who had used a mixture of modes including cars (80%) or did not use a car for regular journeys (74%). Those whose regular journeys were only made by car were the least likely to see themselves using bike share.

Respondents were asked how often on average they had made a journey by bike over the preceding 12 months (Figure 13). Generally, the more frequently they had cycled, the more likely they were to use bike share. However, the people who cycle monthly were the most likely to use bike share (36% of the cohort), and to use bike share once a month, which may imply that most of their cycling journeys were bike share. It may also be the case that those who cycle weekly and fortnightly already have the bike they need for those journeys.

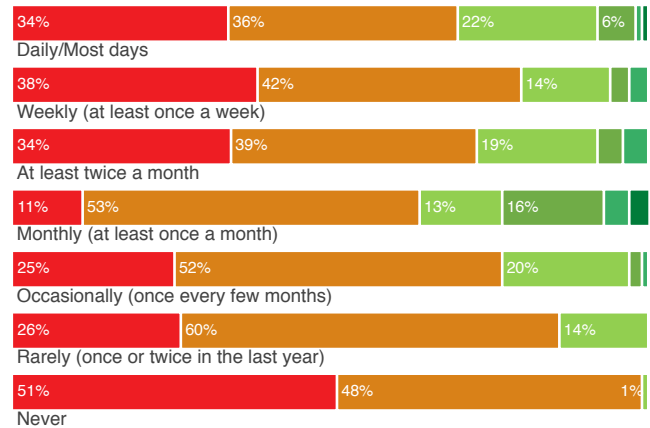
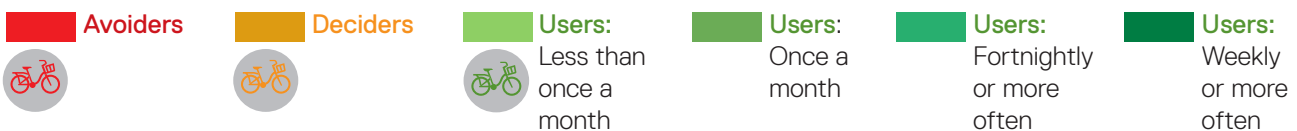


Figure 13 - Frequency of cycling and bike share use (Q 6, 16 & 42)



### 3.3 Why was bike share being used?

To explore why people choose to use bike share:

- **Users** were asked why they had used bike share and;
- **Deciders** were asked why they could see themselves using bike share;
- **Avoiders** were not asked this question.

Both groups were asked to select from the same answer set and respondents were asked to select up to three options from a closed list, therefore enabling an element of prioritisation. The questions referred to the choice to use bike share specifically, rather than the more general decision of whether to cycle.

Figure 14 shows that respondents gave a range of reasons, and a large number (41% of the sample) said that bike share was or would be a spontaneous decision. Wanting to combine bike share with public transport was also prominent (37%), as was cycling in another town or city (27%).

When viewed separately, there were differences between **Users** and **Deciders**. **Deciders** were more likely to refer to the spontaneity of the decision and express concern about their bike being stolen than **Users**. They were more likely to give as a reason the fact they do not cycle enough to buy their own bike.

These differences should be interpreted with care. In part, they indicate the difference between actual reasons ('I have used bike share because') and aspirational reasons ('I would use bike share because'). However, they also represent two groups with different characteristics, and we have seen, for example, that **Users** are more likely to be relatively young, male, and to cycle more often than the general population. Nevertheless, the differences may help us to understand how bike share might be marketed to a wider constituency.

There was also some variance between males and females. Across the whole sample, females were more likely to say they do not cycle enough to buy their own bike (9% of females to 6% of males), that they want to try cycling (9% to 5%) and that they do not have enough storage space at home (7% to 4%). Males were more likely to emphasise other reasons: particular pronounced differences relate to the spontaneity of the decision (36% of males to 25% of females) and wanting to cycle in places away from their hometown or city (25% to 14%).

Conversations with the 27 interviewees, a subset of the online survey respondents, were used to explore in more detail the issues raised in the survey and are discussed below.

#### Which of the following best describe your reasons for using bike share / why you would use bike share in the future? (Select up to 3.) Select all that apply. (Q6, 16, 7 & 22)

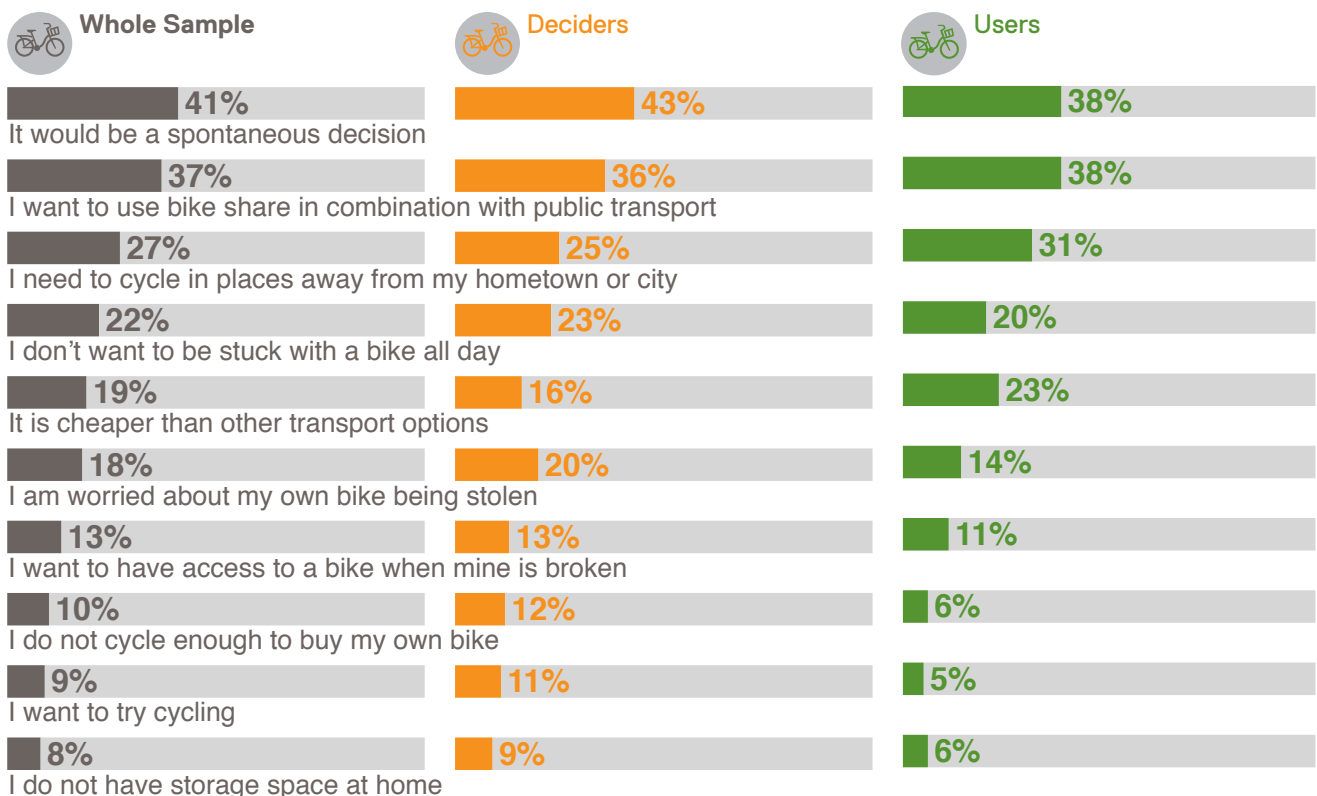


Figure 14 - Reasons for using bike share

## Spontaneity and flexibility

These accounts highlight how context-dependent the decision to use bike share is, and that it is influenced by a range of factors that can include where one is at the time, what other modes of transport one normally uses, and even what one is wearing.

If I worked in the city centre it would definitely be something that I would look into. (Interviewee 17, **Decider**)

Sometimes I'd obviously check out on my phone if there were some around, because also, I know this sounds very girly but it was sometimes determined by what I would wear that day. (Interviewee 24, **User**)

My daily, my usual mode of transport is the bus. Occasionally I'll walk. I've started using a Mobike a bit, and I'm only a very irregular user. I didn't cycle. I very occasionally now use the Mobike to cycle, or cycle half the way, and got the bus halfway, or cycled and walked, some combination of that. That's daily stuff. (Interviewee 2, **User**)

Interviewees gave examples of bike share offering them an option to fit a cycle journey into their routines and make their journeys more pleasant. On a warm morning, for example,

...it would be quite nice to spend an extra 15–20 minutes getting to work, and I actually cycle down the canal where it's all a bit cooler. (Interviewee 22, **User**)

The interviewees commonly made decisions to use bike share en route when coming across a bike by chance, rather than factoring it into their commuting schedule. The prominence of spontaneity in the decision to use bike share was illustrated by this interviewee:

If they were there, I would use them. If they weren't then really wouldn't go out of my way to go try and find one. It was more the immediate fact that quite often there were people dropping them outside my apartment building. If I had to walk five minutes to find one I just wouldn't bother. (Interviewee 24, **User**)

Usually, I'm running late and thinking, I could either run through town or just get on a bike and go. (Interviewee 1, **User**)

Dockless design makes it difficult to guarantee access to a bike at a particular time and place. It is also difficult to find a bike at the same location each time, and this would detract from the potential to make bike share part of regular journeys.

## Storage and security

The attraction of flexibility was noted by this interviewee, who, the quote implies, saw bike share as a way of facilitating multimodal travel: they could travel by bike but not have to worry about making the journey home by bike or store it at home.

I'm a bit disorganised at home and I haven't really got space to put a bike because there isn't storage. The other thing is that I don't like the faff... if you take a bike then you have to take it home with you... I don't like to be in a vehicle both legs of my journey, I prefer to walk some of the time. (Interviewee 22, **User**)

The issue of storage space and related concerns about theft are illustrated by this interviewee:

I had a bike until a few years ago, and it basically fell apart, and I never renewed it. It's partly because of storage... It's thinking, do you want to spend a lot of money putting in a bike storage unit? There's quite a lot of crime around our way in terms of bikes getting nicked. We've heard of a shed broken into and bikes stolen before. That's sort of a consideration. (Interviewee 2, **User**)

## Bike share Users



**'Louise'** uses bike share to make shopping easier. In order to avoid traffic she parks her car at the university and takes a Mobike into town.

**'Elizabeth'** mostly uses Mobike to get to work. Walking to work takes 30 minutes, and bike share cut that journey down to 15 minutes.

**'Jack'** uses bike share to get to the leisure centre, which is about a 40 minute walk away. When the distance gets a bit too far, he thinks this is when walking becomes unattractive and bike share can offer something.

**'Tom'** combines bike share with the train. He likes how he can use the bikes for a one way journey.

### The attraction of cycling

In the online survey, we focused on reasons for using bike share, since much has been written about the motivation for cycling more generally. It would be inaccurate, however, to view bike share as entirely separate from cycling and the interviews confirmed our suspicion that it is difficult to separate bike share use from an appetite for and enjoyment of cycling. For example, the interviewees generally spoke positively about cycling and saw bike share as a way of making this mode of transport more convenient and accessible. One interviewee spoke about bike share being *'one step of many steps to get that behavioural cultural shift for people using the bike more generally'* and continued, placing it in a wider social context, *'if people start to cycle instead of using the car, then I think it's a big generational, behavioural, cultural shift'* (Interviewee 27, **User**).

Another felt that cycling helped them to see more of their city: *'It's opened up my eyes to so many other things that in the car, or even going by on a bus or a train or a tram, you just don't see'* (Interviewee 16, **User**). This person saw bike share very positively, as it enabled them to access a bike when they might not otherwise have one available, giving this example of using it in London:

I thought it was absolutely amazing, absolutely amazing that I, an out-of-towner, could just stroll along and get my bike out. I just picked it up right away and I think I took it for two hours or something.' (Interviewee 16, **User**)

Similarly, an interviewee viewed bike share positively because they connected it with the enjoyment of cycling:

I quite enjoy cycling and I just thought, oh, that, it does look a bit interesting, something a bit different, and you get places quicker don't you? So mostly it was just so I could get somewhere quicker. (Interviewee 24, **User**)

Interviewees related cycling to their health. One mentioned their mental health in particular:

If I'm not going out in the week, then I'll try and get out on the weekend, on my bike. It's just good for my mental health as well. It's a stressful job that I do. It really helps with that as well. (Interviewee 8, **User**)

Another added *'It's just not physical health but also mental health. It just leaves me in a more positive frame of mind'* (Interviewee 20, **User**) and another related cycling to feeling motivated *'It makes you feel elevated. It gets your blood pumping'* (Interviewee 26, **User**).

# Deborah



### 'Deborah' cycles longer routes to enjoy going through green space

Deborah enjoys cycling, but does not like the route from her home into the city centre by road. Instead, she uses an off-road cycle path which is completely segregated. This adds three miles onto her journey, but she prefers it because the cycling is off-road and includes a lot of green space, which she considers important for people's wellbeing. She uses bike share for one way journeys into town, but since the geofence has been reduced she is no longer able to do this.

Cycling gave the potential for exercise in the fresh air:

I'm not really a gym person, and I like to be out and about, and especially when the weather is good. The other reason is that I have to do it for my health, as you get older. (Interviewee 16, **User**)

For this person it was associated with an almost childlike sense of freedom:

I think it's just one of those sports that reminds you of being a kid and how free you felt on your bike as a kid. I think it's that sense of freedom and that you could literally, if you kept cycling, you could just end up anywhere. That's why I quite enjoy it. (Interviewee 25, **User**)

### 3.4 What was bike share being used for?

Figure 15 gives the trip purposes for which respondents have used or would use bike share, with respondents asked to select up to three. It shows that fun or recreation, getting to leisure or entertainment facilities and getting to work or study were the most prominent across the sample and this also applies to the **Users** and **Deciders** when viewed separately. However, **Deciders** were more likely than **Users** to give fun, recreation or tourism as reasons for using it than **Users**. Answers for trip purposes were similar between males and females.

The interviews further illustrated the diversity of trip purposes, which included commuting to work, cycling to meet friends and cycling home in the evening. As discussed, the changes in the geofenced area and the fact that it was eventually restricted to a relatively small area meant that trips tended to be of a relatively practical, and short nature, getting from A to B. This meant that bike share was likely to be replacing journeys that might otherwise be taken on foot, or by taxi, lasting anywhere between 5 and 20 minutes and covering up to 2 miles across the city. Earlier in the period of time Mobike was operating in the conurbation, people had been commuting between Manchester and Salford, but changes in the geofence had made this difficult without incurring fines.

Whilst the restriction to the city centre may have been limiting, one person identified bike share as a way of saving time when in the city centre, again reflecting the prominence of spontaneity: *'Usually I'm running late and thinking, I could either run through town or just get on a bike and go'* (Interviewee 1, **User**).

Additionally, people who commute into the city centre on their own bike see Mobike as an opportunity to travel around the city during work hours, without needing to continually lock and unlock their own bikes during the day. This also resolves any security concerns around leaving their own bike locked up in the city centre for a significant amount of time. For those who get changed from specialist cycling clothing into work attire when arriving at work, Mobike's chainless design is advantageous, interviewees recounted, because it means the bikes can be ridden in work clothes, without any fear of oil or dirt getting on clothes.

#### For what purpose have you used bike share in the last 12 months / could you foresee yourself using bike share? Select all that apply. (Q 6, 16, 10 & 23)

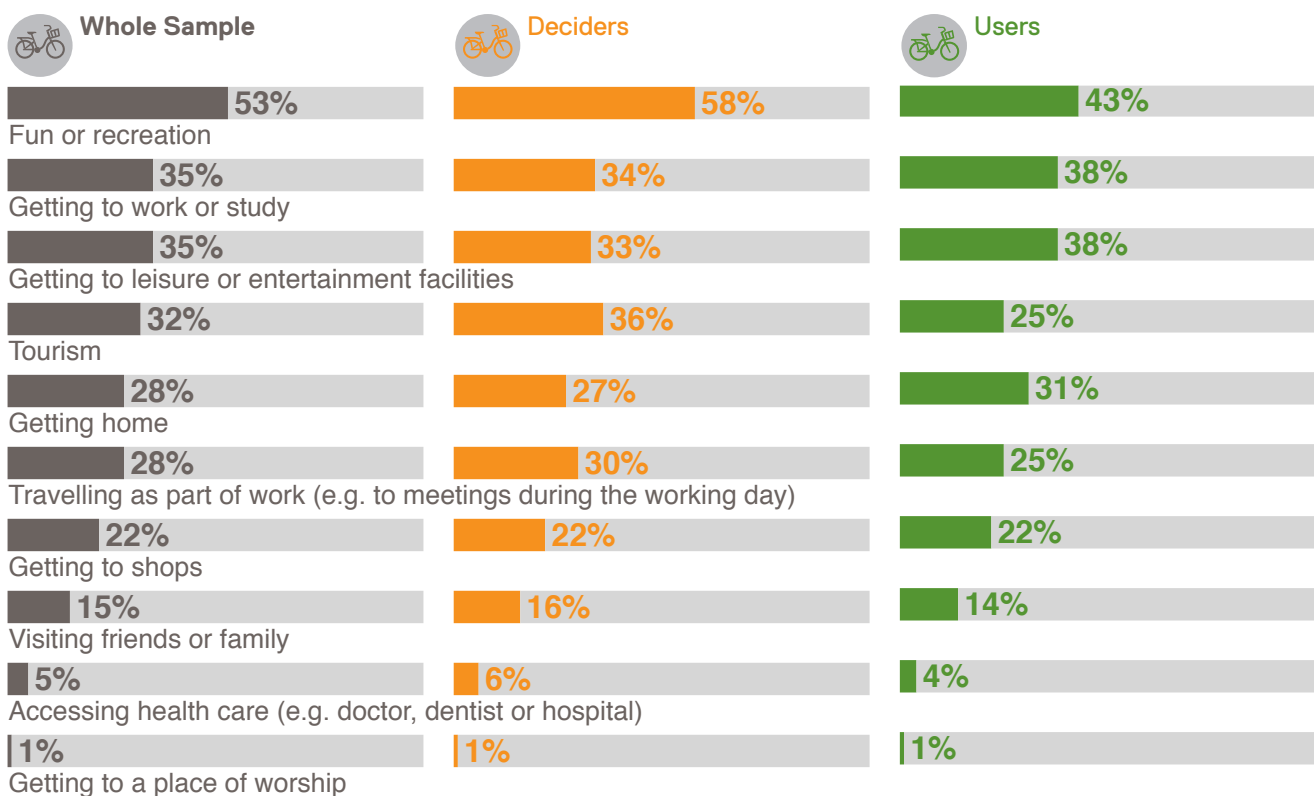


Figure 15 - Bike share trip purpose

# 4. Combining Bike Share



Bike share can be part of journeys involving other ways of getting around. Most commonly, it replaced or was combined with walking, but it was also used alongside public transport and private cars. There is some evidence of, and potential for, it being used in conjunction with public transport and driving.

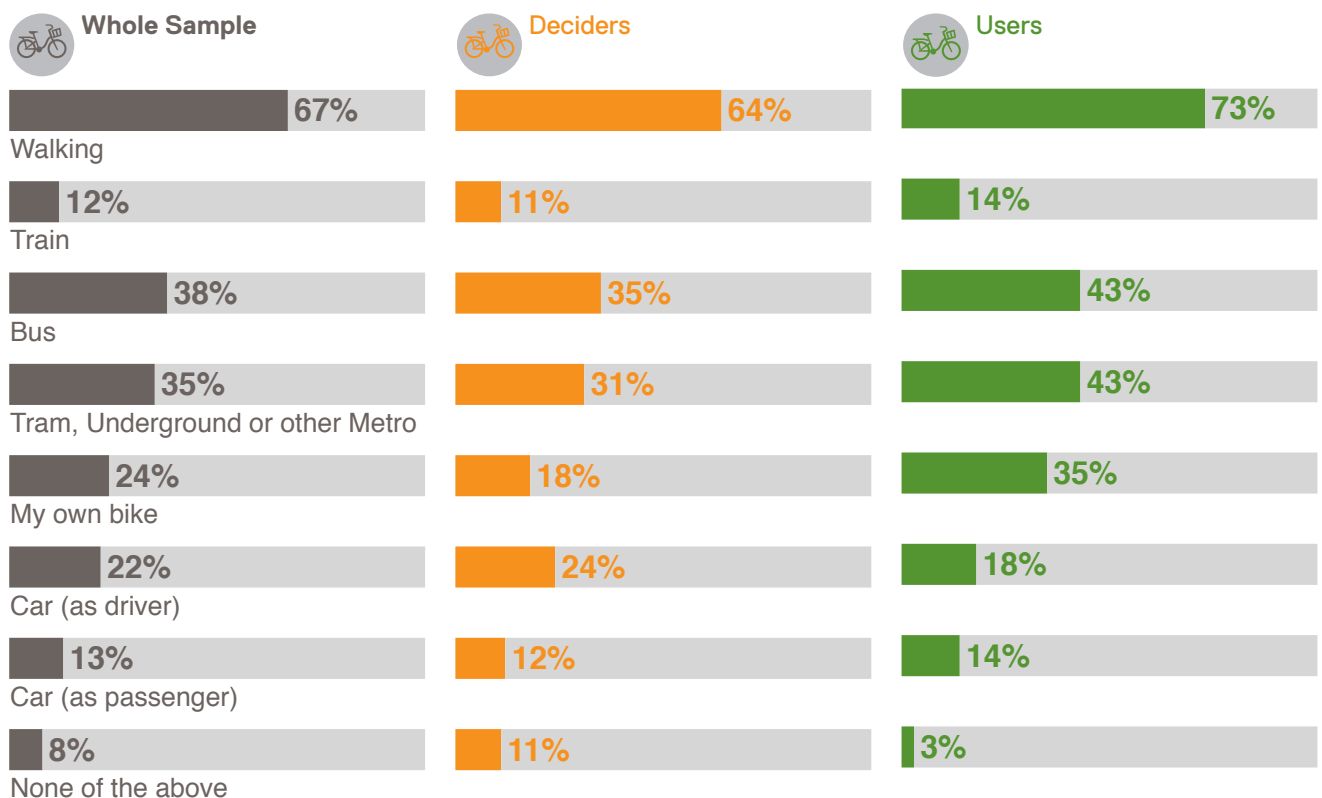
Respondents were asked about the relationship between bike share and other modes in two ways:

- which modes they had replaced with bike share: the modes they would have used for journeys they had made by bike share had they not decided to use bike share.
- which modes they had combined with bike share: the modes they had joined onto bike share to make a multi-modal journey.

Multiple or no responses were allowed, and therefore bike share could replace all or part of a multimodal journey.

The modes that had most commonly been replaced (Figure 16) were walking (73% of **Users**) and public transport (including 43% replacing bus and 43% replacing tram, underground or other metro). Train (14% of **Users**) was selected by fewer respondents. These results may be interpreted in a number of ways, and may indicate that those using bike share were already inclined to sustainable or active transport. They may indicate a readiness to use bike share for journeys that would otherwise have been made by foot and, to a lesser extent, public transport. The relatively low, but by

**When you have made journeys using bike share in the last 12 months, which of the following modes of transport would you have otherwise used / see yourself using? Select all that apply. (Q 6, 16, 11 & 24)**



**Figure 16 - Modes of transport replaced with bike share**

no means non-existent, weight attached to the use of private cars here, whether as passenger or driver, would imply lower potential for modal shift away from these journeys: it is this shift that would arguably have the greatest impact in terms of reducing congestion and air pollution and boosting physical activity.

In terms of combining bike share journeys with other modes (Figure 17), the weightings given to the modes were similar, although train had a much higher percentage (44%). This implies potential for bike share to be part of public transport journeys, potentially the 'last mile'. That 48% of **Users** have said they would combine it with train travel in comparison to 37% of **Deciders** may imply that there is more potential for this than has so far been realised. There is variance between males and females: 48% of females across the whole sample selected combining bike share and train in comparison with 40% of males. Car travel also had a relatively low profile here but there was a difference between those who have actually combined car and bike share (12% of **Users**) in comparison to those who could see themselves doing so (27% of **Deciders**), and this, again, implies potential.

### Bike share with walking and cycling

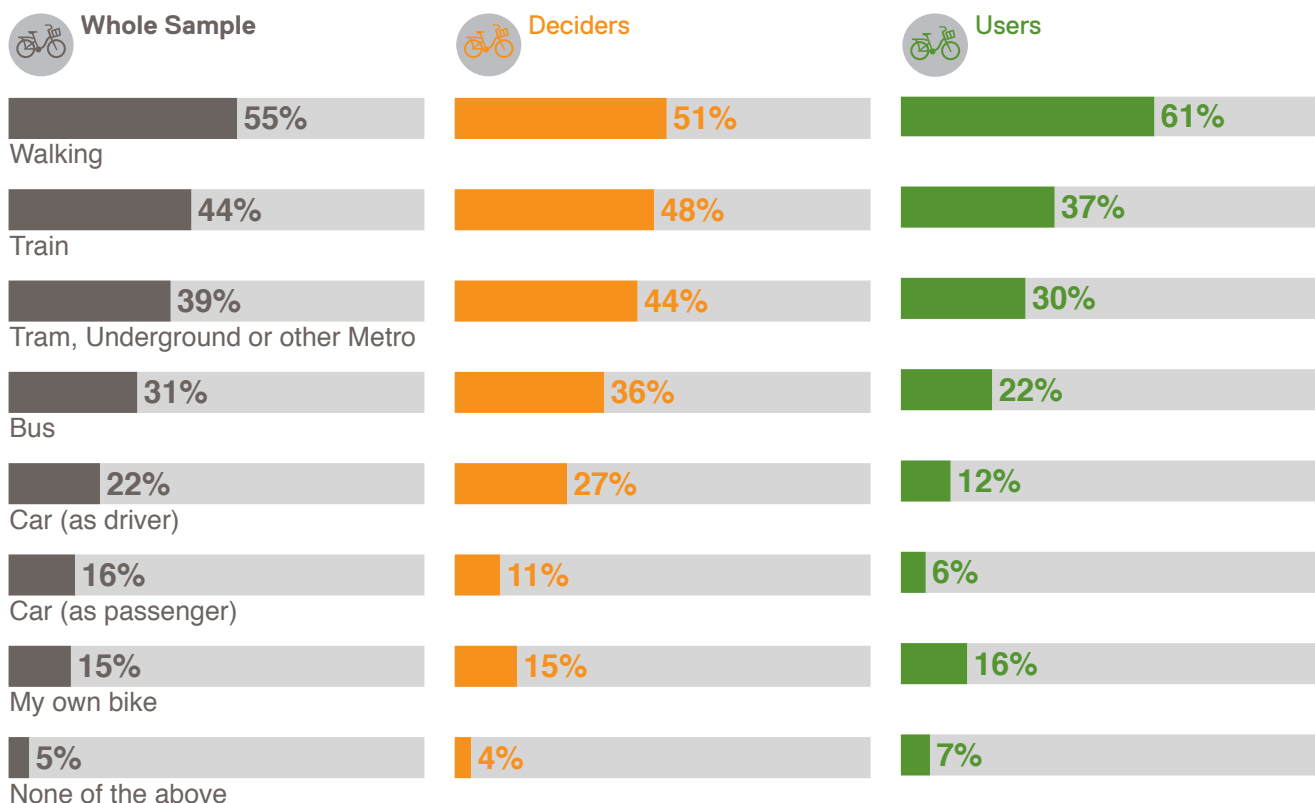
Enjoyment was a factor in decision-making around modal choice. An interviewee, who is used to cycling, saw bike share as a way of replacing walking for shorter journeys when they don't have their bike with them. Enjoyment of cycling was a factor in their decision:

I'm not a big fan of walking. So if I've got a 15-minute walk and there's a bike I can take, then I would take the bike every time. It's not a speed thing. Maybe it's not so much a speed thing as a time thing. Fifteen minutes walking is 15 minutes wasted, whereas five minutes cycling is five minutes cycling. (Interviewee 21, **User**).

Conversely, this interviewee's decision was influenced by their enjoyment of walking: *'On the whole I prefer walking to cycling, but it's a nice easy route from home to work, so I would cycle it on occasion if I had access to a bike'* (Interviewee 22, **User**).

For people who own a bike, one of the appeals of bike share is the opportunity to take short trips (1-2 miles), or one-way journeys without needing to lock their own bike on the street: *'I think I would probably prefer to take a bike share bike rather than my own bike because then I haven't got the worry of locking it up'* (Interviewee 13, **Decider**). It is therefore useful for one-way journeys, such as to the train station without having to worry about leaving one's own bike locked up:

**Which of the following modes of transport have you combined with bike share / could you see yourself combining with bike share in the last 12 months? Select all that apply. (Q 6, 16, 12 & 25)**



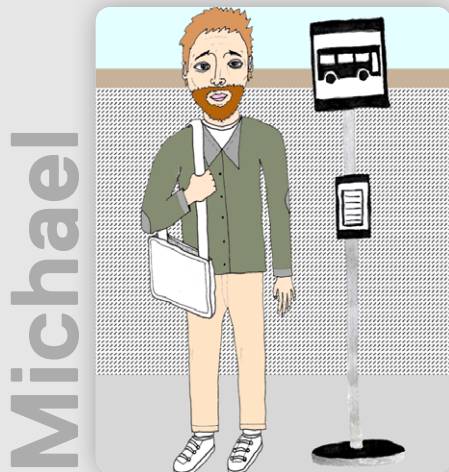
**Figure 17 - Modes of transport combined by bike share**

It's useful and it's faster than walking. Manchester city centre's fairly small, so you can ride... and get there faster than you would otherwise and you don't have to worry about locking it up on the other end. (Interviewee 6, **User**)

Those who preferred to use their own bikes, however, explained why bike share was less appealing for them. For this interviewee, bike share was not needed for their regular cycle journeys but could be useful for exceptional journeys:

I think probably the main reason is because I don't really live in an area where they're available and I think I would probably prefer to use my own bike, especially for commuting and that. Now, if I was to take a trip into Manchester then I might consider it. (Interviewee 13, **Decider**)

Another compared the cost of joining Mobike (the deposit) to the cost of having their own bike. For not much more than the deposit, they argued, they *'Could have a bike that I could have all the time.'* For this reason it *'doesn't make sense for me'* and would rather suit *'someone who needed a bike now and then – it's really for occasional use, in my opinion'* (Interviewee 23, **Avoider**).



### 'Michael' did not cycle before using Mobike

Michael works in Manchester city centre and usually takes the bus into town. When bike share first launched in Manchester the deposit was a barrier, but when they reduced the cost he decided to sign up. He occasionally uses bike share to cycle halfway to work, combining the rest of this journey with public transport (often the bus). He did not cycle before using bike share, and is now considering buying a bike but storage is a factor. He really likes being able to leave the bike outside his destination.

### Bike share with public transport

Some people had used bike share in conjunction with the public transport networks, and found bike share to be an effective way of travelling between stations to catch a connecting service during a commute. In this instance bike share is replacing journeys that would otherwise be made by walking, taxi, or potentially other modes of public transport, and in these instances take place in the city centre. Here, one interviewee talks from experience and the other imagines a potential situation in which access to bike share might be useful.

I was on a train that was supposed to go to Manchester Oxford Road, they terminated at Manchester Victoria as we pulled into Manchester Victoria. I needed to get to Manchester Oxford Road because my actual bike was locked at Manchester Oxford Road so I decided I would cycle it because it would be faster than walking. (Interviewee 6, **User**)

When I'm going down to the conference in Manchester, I'll probably travel from here into Manchester to the station but if I could jump on a bike for part of the journey until I got to the Metro station or until I got to the station, that would definitely appeal to me. (Interviewee 13, **Decider**)

Another mentioned that they had used a Mobike to travel between city centre stops:

... rather than getting the tram between city centre stops, it's [the tram] quite slow in the city centre, just jumping on one of those [bike share bikes] (Interviewee 1, **User**).

However, it was suggested that in order for this kind of mode share to be truly efficient there would need to be plenty of bikes available outside each train station or tram stop. Otherwise, the time spent looking for a bike might outweigh the time it takes to walk to the destination.

Connectivity with public transport could remove the concern about having to find space on the train for their own bike.

I've thought about using the bike and train, but I've never done that, and the car, it's just convenient... and the complexity of if - is there enough space for a bike, or not? Is there a specific area to store the bike? I've noticed on some of the trains I've used, there are sometimes, there aren't sometimes. (Interviewee 17, **Decider**)

This interviewee highlights the element of the 'unplanned' in combining bike share with other modes of transport:

Obviously, if I'm more planned, I would just take my bike because I'm coming in from my door... there aren't any Mobikes round here. If, say, for example, I were out, like I'd got to town or I was walking to town, or whatever transit, and then it was like late and I wanted to come home, and if there was a Mobike I would consider it if it was more practical. (Interviewee 26, **User**)



# 5. Deciding on Bike Share

The decision to use bike share was influenced by a number of factors. Being able to find the bikes in set places around the city (as seen in docked systems) was attractive, but so was being able to leave a bike anywhere when it is finished with (as seen in dockless systems). Having to pay with a smartphone and being unable to rent a helmet made some people less likely to use bike share. These preferences varied across gender, age and ability.

Respondents were asked whether a set of specific characteristics affected the likelihood of them using bike share. The question was designed to tease out differences between docked and dockless schemes without using these relatively technical and probably unfamiliar terms (Figure 18).

One characteristic of dockless systems is the use of smartphones. Across the whole sample, it is notable that most respondents (73%) said they were more likely to use a service that could be accessed by smartphone, with a small minority (6%) saying they would be less likely to use a service for that reason. However, a larger

minority (18%) were less likely to use a system where a smartphone was the only way to access it, with a slight majority (51%) saying this would have no effect. This may reflect a risk of social exclusion for those who do not have smart phones, mobile data allowances, or storage space for apps.

The flexibility to leave bikes anywhere was important to many respondents (80%), as was knowing that bikes would be in set places around the city (69%). This gets to the heart of the difference between docked and dockless schemes and may imply that the former are more attractive at the start of a journey and the latter at the end.

**To what extent do the following features affect how likely you are to use a particular bike share service? (Q26)**

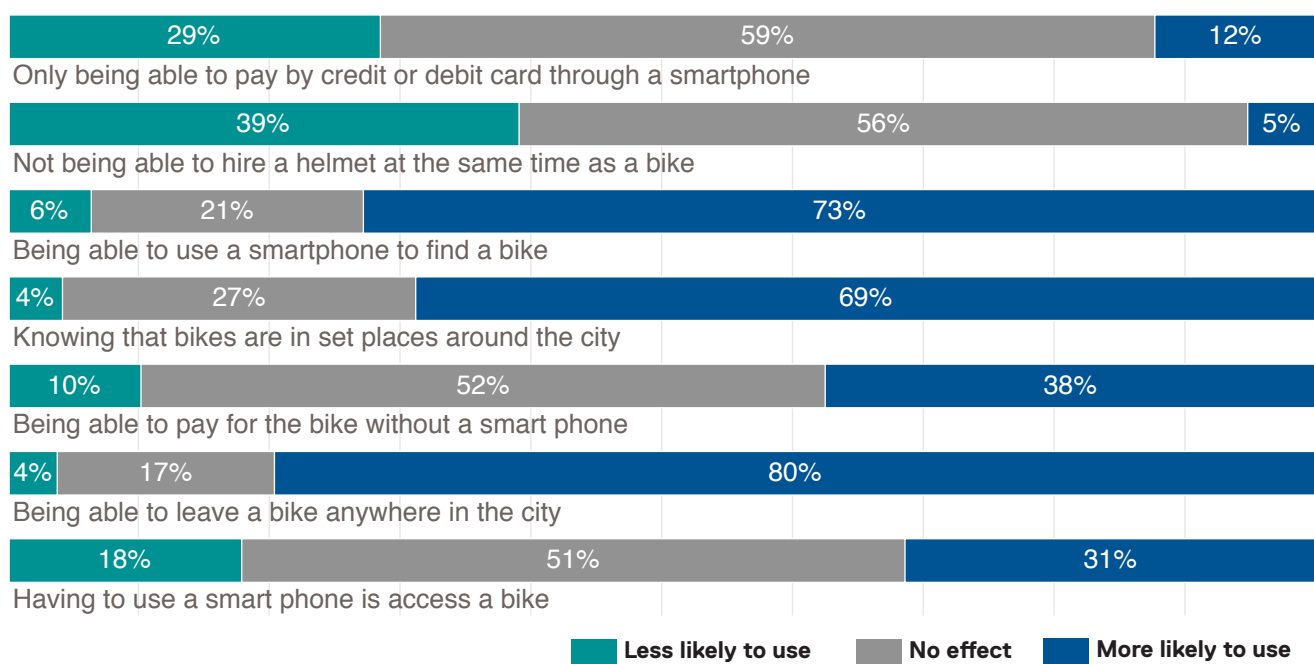


Figure 18 - Preferences relating to bike share systems

Lack of access to a helmet when hiring a bike was identified as a negative factor by 39% of participants. This was identified as an issue by each of the groups to some extent, but **Users** were most likely to say it had no effect on their decision (78% of **Users** in comparison to 53% of the whole sample). It appears that concern about helmet use is inversely related to frequency of cycling, with 56% of those who never cycled and 54% of those who rarely cycled saying lack of access to a helmet made them less likely to use bike share, in comparison to 41% of those who cycled weekly and 29% of those who cycled daily.

**Avoiders** and **Deciders** were more likely than **Users** to report that they would be less likely to use a bike share service if they would:

- have to use a smartphone to access the service (20% of **Avoiders**, 19% of **Deciders**, 10% of **Users** 'less likely'); or
- not be able to hire a helmet at the same time (44% of **Avoiders**, 43% of **Deciders**, 17% of **Users** 'less likely'); or
- only be able to pay by credit or debit card (30% of **Avoiders**, 30% of **Deciders**, 19% of **Users** 'less likely').

Conversely, **Deciders** were more likely to say that the following would make them 'more likely' to use a bike share service:

- being able to pay without a smartphone (31% of **Avoiders**, 42% of **Deciders**, 31% of **Users** 'more likely'); and
- knowing that bikes are in set places around the city (56% of **Avoiders**, 78% of **Deciders**, 56% of **Users** 'more likely').

This may indicate that reliance on smartphones and the absence of helmets are barriers to the initial decision to use bike share. Additionally, **Deciders** – the group most likely to start using bike share – placed more importance on knowing that bikes are in set places around the city.

Breaking this down by age, the data suggests that:

- older people were less likely to use bike share if they have to use a smartphone (39% 'less likely' in comparison to 18% across the whole sample);
- younger age groups were more likely to use bike share if they can (but not necessarily have to) use a smartphone to find a bike (73% 'more likely' amongst the 35–44 group, 84% amongst the 25–34 group and 83% amongst the 16–24 group, in comparison to 73% across the whole sample);
- younger age groups were more likely to find it attractive that they can leave a bike anywhere in the city, whereas older people were more likely to be ambivalent about this (87% 'more likely' in the 25–34 group and 82% in the 16–24 group, in comparison to 53% in the 65-plus group and 80% across the whole sample); and
- both the older groups and the youngest group were less likely to use bike share if they had to use a credit card (39% 'less likely' amongst over-65s, 31% in the 55–64 group and 32% in the 16–25 group, in comparison to 27% across the whole sample).

Andrew



### 'Andrew' would like to see a combination of docked and dockless

Andrew cycles to work three days a week. He uses bike share in Manchester when he is running late for a train or traveling to a meeting across town. He likes the freedom of dockless schemes, but prefers the reliability of docked schemes, which are easier to plan your commute around. He believes the ideal bike share scenario would involve a combination of docked and dockless schemes.

There are some indications that preferences may vary by gender. Females were more likely to say they were less likely to use a service if they:

- had to pay by credit or debit card (30% of females in comparison to 25% of males); or
- would not be able to hire a helmet (46% of females in comparison to 32% of males).

Females would be more likely to use bike share services if they would:

- know that the bikes are in set places (72% of females in comparison to 63% of males); and
- be able to return them to any location (82% of females in comparison to 75% of males).

Additionally, there are some suggestions that household income may affect these preferences:

- those in the lower household income groups were less likely to use bike share if they had to pay with a card through a smartphone (25% of households with incomes of up to £30k in comparison to 14% of more affluent households);
- conversely, those in lower household income groups were more likely to use a bike share service if they were able to pay without a smartphone (46% 'more likely to use' and 42% 'no effect' in households with incomes of under £30k, in comparison to 34% and 58%, respectively, in other households); and
- those with lower household incomes were more likely to find having to use a smartphone to find a bike unattractive (25% 'less likely to use' in the lower income groups in comparison with 14% in the higher groups).

The interviews largely focused on perceptions and experiences of Mobike in Greater Manchester. However, some people had also used other bike share schemes in the UK, such as Santander Cycles in London and the scheme in Cardiff. The latter two schemes are docked, whereas the Mobike system is dockless. This led to discussion around the advantages and disadvantages of the two approaches and the potential for intermodality when combined with public transport.

The interviewees generally agreed that dockless schemes are more convenient at the end of a journey, allowing you to easily leave the bike at your destination. In the context of the changing spatial coverage and density of bikes, planning journeys with Mobike in Greater Manchester became increasingly difficult and is perhaps part of the reason why many journeys appeared to be fairly spontaneous.

Docked schemes, the interviewees implied, better enable people to plan their journeys around them. Whilst the docks are fixed in one place, however, the number of bikes available is always changing, and this can therefore still cause problems at both ends of the journey.

I think the main problem that using those docked ones... is there's been a few occasions where I've arrived at the train station, trying to catch a train and all of the spots have been full. I've spent ten minutes trying to find a set of docks that's got a place to park whereas obviously, with the dockless schemes it's much more convenient at that point. (Interviewee 11, [User](#))

Conversely, dockless systems may be more difficult to find and therefore plan around:

I guess, because they were dockless, because of the numbers around the place, I feel like I wouldn't be able to rely on them, but I enjoy having the option there. (Interviewee 20, [User](#)).

Both approaches have their limitations, but their differences may actually complement each other when both systems are operating in the same town. Whereas the flexibility of dockless systems is useful at the end of a journey, the permanent infrastructure of docked systems allows them to be integrated into travel routines more reliably. If technically possible, it may be that a combination of the features of both would be beneficial: *'I think the ideal would be to have both docked and dockless options'* (Interviewee 20, [User](#)).

The appeal of the flexibility of dockless schemes is not limited to the context of combining them with public transport but also, in this case, provided a convenient way to try out cycling:

Mobike's been very useful for me in that I'm only an occasional user, but the discovery that I could quite happily leave a Mobike outside my house, and that that was deemed an appropriate place to leave it, other people will come along and pick it up, I think quite a few people in the street use it. Makes life a lot easier. (Interviewee 2, [User](#))

It was noted, however, that this flexibility means if you are attending a meeting or going shopping, you cannot be sure that a bike will be available for the return journey.



Figure 19 - Bikes parked on Manchester's Oxford Road

# 6. Experiencing Bike Share



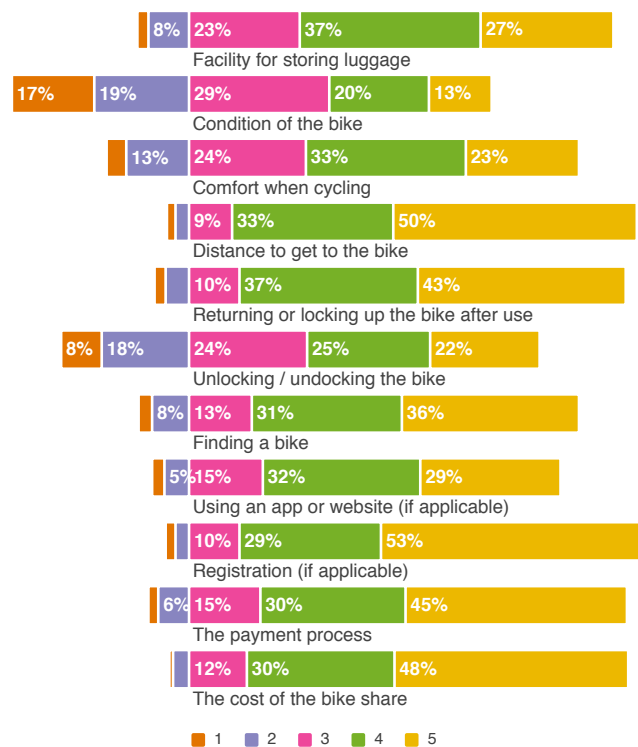
Concerns were raised about the condition of bike share bikes, comfort when riding them and the experience of unlocking them. The quality of the bikes affected experiences of cycling and contributed to feelings of vulnerability on the road. The changes in the Mobike geofence over the period of operation in Greater Manchester caused confusion and reduced the potential for longer journeys, therefore limiting the potential user base.

People who had used bike share (**Users**) were asked to rate their level of satisfaction with elements of the bikes and the service, from 1 (low satisfaction) to 5 (high) (Figure 20). This question, like others did not differentiate between individual schemes or between docked and dockless schemes. The interviews were able to explore these factors in more detail.

Relatively high satisfaction was demonstrated for accessing bikes, including the distance to a bike and, to a lesser extent, finding a bike. There was also reasonable satisfaction with the registration and payment processes and the cost. What Figure 20 shows less agreement on, however, is the condition of the bikes, comfort when cycling, and the process of unlocking bikes: some dissatisfaction was expressed in relation to these factors.

When asked if their use of bike share had affected their cycling activity generally, the majority reported that they had not change their level of activity (70% of **Users**), 20% cycled a 'little more than before' and 5% 'a lot more than before'. A small number had actually reduced their cycling activity (2%) or stopped completely (5%). Those who had said their frequency of journeys by bike, including but not limited to bike share, over the previous 12 months had been 'monthly' were the most likely to report that they cycled more as a result of using bike share. Those who cycled 'daily or most days' were the least likely to say they cycled more than before. Those who cycled 'occasionally' and 'rarely' also reported some increases in cycling activity.

**On the most recent occasion you used bike share, on a scale from 1 to 5 how satisfied were you with the following aspects? Where 1 is dissatisfied, 5 is satisfied. (Q14)**



**Figure 20 - Rating of satisfaction with bike share**

Interviewees discussed their experiences of finding and using Mobikes. The app changed over time, being in Chinese characters when it first arrived in Manchester, but was eventually available in English. People generally found the app to be functional; however, some experienced glitches. In some cases, nearby available bikes had not appeared on the map when loaded, and bikes that did appear on the map had sometimes not been there when people get to the location: *'The App says there's one right here, and there is definitely not one right here. That happens on more than one occasion'* (Interviewee 6, [User](#)). Whether this was solely a glitch in the app or a result of theft or vandalism was not clear, but it was clearly problematic.

### Registering and using an app

Whereas most interviewees agreed that an App was the best way of managing a dockless scheme, it was also suggested that an app is a barrier to using bike share in itself (for those who do not own a smartphone), and that:

...it would be so much easier if you could just tap your card... If your phone's dead, or you're not of that generation where you've got the App and stuff, that's another way to just cut people off. (Interviewee 7, [User](#))

Having to download an app, and register for the service, could also act as a barrier to using bike share for first time users. Although the app had been functional for most people, downloading it and registering for the service added time to their journey, as well as using mobile data if were are not connected to WiFi. Additionally, if their destination was only 5–10 minutes away on foot then people might not download the App as they would prefer to just walk:

I had to be in the town hall for something, but it was five-minutes' walk or something. I thought, shall I get a bike? Then I was like, ah, don't like the app. (Interviewee 8, [Decider](#))

This interviewee recounted a case of a friend thinking of using bike share but then finding that their phone was not working:

One of my friends, she was coming home late that night from somewhere, and there was no buses, so she was like, right, I'll just get a Mobike, because she'd heard of people using them, but she'd never been told that it was an app. Her phone was dead, so she was just trying to figure out for ages how to switch the Mobike on. (Interviewee 7, [User](#))

A further issue concerning registration was the limitation to one person per account. This was mentioned as a frustration relating to families about to use the scheme, because children and young people under 18 were not able to register.

Having to pay a deposit was also a consideration and, as we discuss elsewhere, this requirement fluctuated over time. This interviewee described the influence the size of the deposit and these fluctuations could have:

The deposit was a bit of a barrier, because I just kept thinking... oh, I should do that but actually am I going to commit to it enough that I want to spend £50 on a deposit? Or whatever it was. Then a friend of mine had taken up using it, and just happened to mention that the deposit had come down to a fiver, or a quid, or whatever it was. That was what changed it for me, because it suddenly made it much more accessible. (Interviewee 2, [User](#))

Whilst survey respondents expressed relatively high satisfaction with the cost of bike share, this interviewee remarked on communication issues related to price changes:

I was again a little bit disappointed that they put the prices up without putting any notification on the App so I didn't realise until after I'd borrowed one that the rental charge had gone up. I think it was 50p to 69p... but also the fact that they changed it to be an amount that didn't fit neatly within any of the top-up amounts that you could use so you'd always have credit. (Interviewee 22, [User](#))

### The bikes

Interviewees expressed some concerns about the design of Mobikes, most finding them to be heavy and relatively slow, and a specific issue was discomfort for taller people due to the limited saddle height:

I think they're quite heavy and clunky and slow, and it's just a bit tiring. (Interviewee 7, [User](#))

I think the first thing that stands out to me is that they're actually quite small. I'm 5'10, so I'm average man height and it seemed a bit small for me. (Interviewee 1, [User](#))

To some extent this concern related to perceptions as well as experience:

To me, they just look completely impractical, that's the only reason I haven't used them, but I do like the idea that you can pick them up and leave them anywhere. I think that's a good idea because they don't require a docking station, but I would never use them. (Interviewee 26, [User](#))

People found that the single gear meant it was difficult to pick up much speed, and this had often made people feel uncomfortable on the roads as they were not able to keep up with the flow of traffic. This points to the relationship between bike design, quality and a sense of safety.

...the gearing was – it was a really high gear and it's almost like, you can't pedal and keep up with traffic or even keep up to a speed that you feel safe going along. (Interviewee 1, [User](#))

This should be understood within the context of the Manchester cycling environment:

I tend to in Manchester ride on the pavement more... you're sharing a so-called cycle route with buses, a big number of buses and taxis who drive crazy anyway. So, I'm a little bit wary of cycling routes in Manchester. (Interviewee 16, [User](#))

A further aspect of the design of Mobikes about which concerns were expressed was the luggage basket. Criticism related to the large holes in its design, which made it difficult to carry small to medium sized items: a barrier to those considering using Mobikes to commute to work, or for anyone using the bikes to travel to work meetings:

I think that possibly it would be better if the luggage rack had like a more baskety mesh on it because they're quite wide-spaced and if you have a backpack or anything that's got a trailing strap you run the risk of it getting into the wheels. (Interviewee 22, [User](#))

To these concerns about the overall design and quality of the bikes can be added some experiences that tended to colour perceptions of the service and potentially limit how much people would plan their journeys around the service. People mentioned bikes showing on the app and then not being in the place shown or being there but not functional: *'I had unlocked (the bike) and then discovered that there was a pedal missing* (Interviewee 11, [User](#)).

Whilst the experience of finding, unlocking and using the bikes had generally been functional, the interviews highlight the potential for design and quality to be a barrier, both to people who already cycle looking for alternative transport, and to people interested in cycling who might be considering getting on a bike for the first time. This interviewee described how using bike share, in this case Mobike, compared to riding their own bike. In particular, they describe how the feel of the bike could increase the sense of vulnerability, adding to the sense of unease already generated by being in traffic. On Mobikes, they felt 'much more like a sort of fast pedestrian than the kind of cyclist I am on my normal bike':

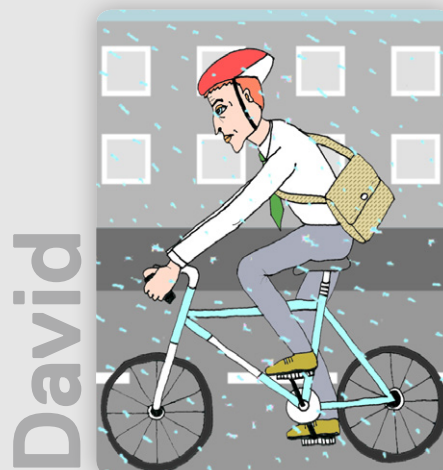
On my normal bike I have ten years of riding round London and so very acutely aware of my road position and I'd say that I'm quite a confident cyclist whereas when you translate that into Manchester it's still quite scary and difficult. Then when you translate that into being on a Mobike, where you suddenly realise quite how vulnerable you are it gives a bit of an insight into people who may be starting to cycle! Like why would you do that? (Interviewee 19, [User](#)).

In contrast, however, one interviewee did remark on the potential for other traffic to be more careful around a Mobike, attributing this to their cycling style being different on these bikes:

When I'm cycling on my commuter bike, I have my full cycle kit and a helmet, whereas usually on a Mobike, I'd be tootling around without a helmet just in my work clothes. Do cars treat you differently? Maybe a little bit. I think you're treated with slightly more caution and respect if you're on a Mobike, and I think they tend to be a bit more aggressive when I'm on my commuter. Then, I'm also riding more aggressively. I'm riding faster to keep up with the traffic to get home. (Interviewee 20, [User](#))

## Operational context

With the exception of the relatively small bike hire stations at rail interchanges, Mobike was the only bike share system in Greater Manchester at the time this study was carried out. It is impossible to understand perceptions and experiences of bike share without taking into account the way this particular scheme has played out in the conurbation. This would be true of any city and any scheme. As discussed in Chapter 2, the particular features of Mobike's period in Greater Manchester included the relatively low number of bikes distributed in the city, reported issues with theft and vandalism and the changing offer in terms of not only the deposit and pricing but also the spatial area within which the bikes could be used, referred to as the geofence. Moreover, dockless bike share was on offer in Greater Manchester for a relatively short time, arguably remaining a novelty and not allowing significant time for people to try it and build it into their routines. The interviews aid understanding of how these factors shaped experiences of the scheme and would probably have influenced future uptake if the system had remained in the city.



### 'David' bought his own bike after using Mobike

David lives in the city centre and first started using bike share to commute to his place of work in Salford. He found the single gear bikes a bit slow and clunky, but they always did the job of getting from him A to B. Unfortunately, when the geofence was reduced in size, Salford was no longer accessible by bike share, and so he purchased his own bike to continue commuting to work. He cycles in all weathers and generally finds cycling in Greater Manchester to be good.

Changing the geofence not only changed who could potentially use Mobike and how they used it; it also affected existing users. *'When they changed the parking zone,'* recounted one interviewee, *'it [now] stops just short of where I live, so it's not terribly convenient any more'* (Interviewee 11, **User**). This interviewee continued to use the bikes at times, but much less often and to a more limited extent:

If I've travelled into town by other means, so I don't have my bike with me, I'll occasionally take one of them. I'll cycle as far I can and then walk the last bit. (Interviewee 11, **User**)

Interviewees expressed confusion and frustration with the changes in the geofence. This led in some cases to them losing interest in the scheme as they no longer knew if their areas were currently in or outside of the geofence. This had implications for the journeys individuals could make:

I'm a little bit disappointed because when it first came out it was acceptable to take the bikes back to Trafford and leave them near home and then obviously they put the city centre parking zone in so I wasn't really able to do that anymore. (Interviewee 22, **User**)

These changes will potentially have affected people who had started, or could start to, use bike share to commute to major employers, such as the University of Salford and MediaCityUK that were outside the geofence. South Manchester to Salford is a popular commuting route.

Jennifer



### **'Jennifer' no longer uses Mobike due to bikes not being outside her apartment**

Jennifer lives in the city centre and used bike share more than once a week to commute to work, when the bikes were available outside her apartment. Unfortunately, this no longer happens, and she does not have the time to go out of her way to find an available bike. She enjoys cycling on flat roads, but does not have space for a bike in her apartment, and has no access to bike storage in the building. If she had instant access to bike share again she would definitely use it.

In one instance changes in the geofence prompted the interviewee to buy a bike of their own. Having become used to riding Mobikes, the changes in the geofence meant they no longer had access to them:

They just then massively condensed down the area where you can put the bikes, which took it out too far outside of Salford for me to warrant using it... I stopped using it, when they condensed the area... Then I moved and then I decided to get my own [bike]. (Interviewee 14, **User**)

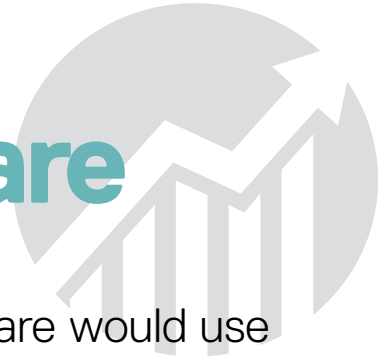
The number of bikes available in the city also fluctuated over the period of operation. In combination with the changing geofence, this also meant a change in the density of the bikes. The number of bikes on the streets is important not only for access but also in terms of wider perception and awareness of the scheme. When bikes are visible on the streets, this form of cycling can become a recognised part of the city's culture; Santander Cycles in London are an example of this. The decline in the number of available bikes led interviewees to express confusion over the status of the scheme:

There don't seem to be so many around as there were. I don't know if that's just perception, or whether that reflects any kind of reality. (Interviewee 18, **User**)

I don't know what's happened with it - whether the stock of bikes has gone down massively - but I don't tend to see many Mobikes around. (Interviewee 27, **User**)

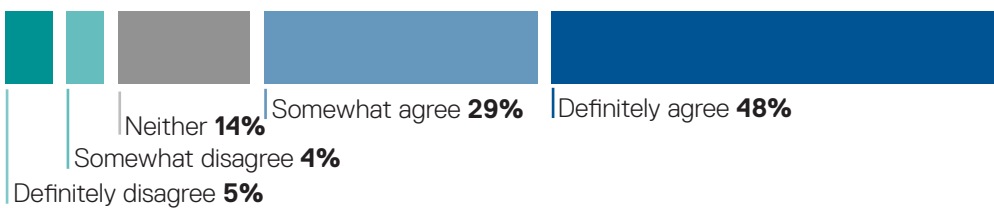
By reducing the geofence, Mobike condensed or concentrated the bike share experience into a heavily populated and very busy area of the city with heavy traffic levels. This also meant that bike share was technically only appropriate for short journeys, and was therefore likely to offer a replacement only for walking trips. The city centre context, given its high traffic levels and the relatively small extent of dedicated cycling infrastructure may have compounded some of the concerns raised by the interviewees, such as the size and weight of the bikes adding to feelings of vulnerability on roads.

# 7. Boosting Bike Share



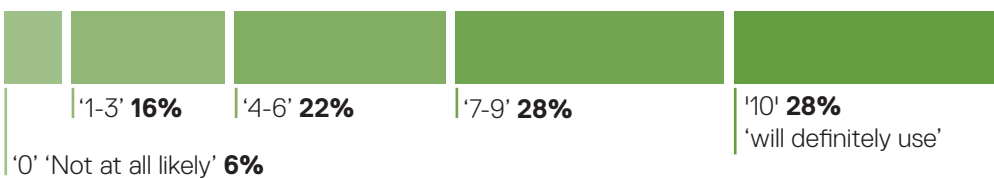
Whilst the majority of those who had used bike share would use it again, most of those who had not did not see themselves using it. Most people wanted to cycle more than they currently did. Whilst bike share has some specific issues that were experienced as barriers, including difficulty in finding a bike and not being able to hire a helmet, the most prominent barrier was the cycling environment and sense of vulnerability in traffic. Whilst this is a barrier to cycling in general, the quality of bike share bikes can make people feel less safe.

**To what extent do you agree with the following statement 'I would like to cycle more than I do.' ? (Q43)**

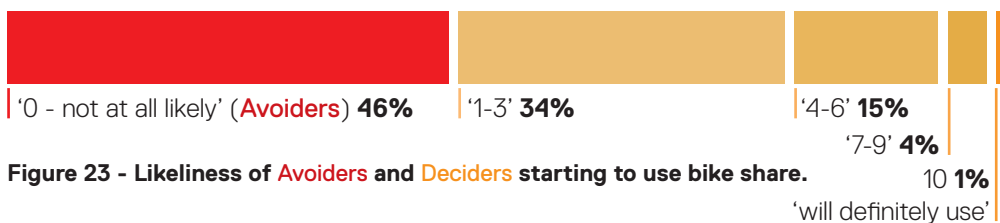


**Figure 21 - Interest in increasing rate of cycling**

**How likely is it that you would use / continue to use bike share in the next 12 months? (Answer on a scale of 0 'not at all likely' to 10 'will definitely') (Q16 and 19)**



**Figure 22 - Likelihood of Users continuing to use bike share.**



**Figure 23 - Likelihood of Avoiders and Deciders starting to use bike share.**



Those who had used bike share were asked how likely it was that they would continue to use it. Only a small proportion answered '0 – not at all likely' (6% of **Users**), and a comparatively large number (57%) answered 7 or higher on the 0 to 10 scale (Figure 22).

Conversely, as shown in Figure 23, when asked about the likelihood of them starting to use bike share, 46% of the whole sample (i.e. the **Avoiders** group) answered '0 - not at all likely', and only 5% answered 7 or higher.

This should be understood in the context of interest in cycling overall. Some 77% of the whole sample said they 'somewhat agreed' or 'definitely agreed' that they would like to cycle more than they did (Figure 21). The figure for **Avoiders** was lower at 73%, whereas for **Deciders** and **Users** it was 80%. At 53%, **Deciders** had the highest number of respondents answering 'definitely agree'.

An interviewee illustrated how bike share can serve as a 'gateway' to cycling more generally. In this case it had been a way of testing the routine of cycling to work, before deciding to buy a bike for themselves. For this interviewee, changes in cycle infrastructure, in particular the Oxford Road cycle corridor, helped to make cycling seem a viable option, and bike share was seen as a way of trying out cycling:

... but now Oxford Road has changed, I've got every motivation then to cycle to work, probably on the Fallowfield Loop and up to the bottom of Oxford Road. I don't know if, I haven't started doing this, but I may, now my ankle's better, start doing that with Mobike before I actually get around to buying a bike. (Interviewee 2, **User**)

### Factors relating to bike share

All respondents were asked to consider what factors might limit the extent to which they would use bike share in the future, whether continuing, increasing, or beginning bike share use. It was anticipated that factors affecting bike share might be different from those affecting cycling generally, so these were separated into two questions (Figure 24 and Figure 25 respectively).

Across the whole sample 'I now own a bike' (39%) and 'I don't see myself needing to use one' (38%) were most prominent, followed by uncertainty over availability at the location at which a bike might be needed (30%). Whilst 'I now own a bike' was intended to capture cases where respondents had bought a bike as a result of using bike share, the relatively large number of answers from **Avoiders** and **Deciders** implies that this was understood more generally as simply owning a bike.

The most prominent reason for **Avoiders** was 'I don't see myself needing to use one' (58% of **Avoiders**), implying that they did not see a role for a bike in their travel routines. **Avoiders** were also likely to select 'I now own a bike' (51%), and this, despite the concerns about this question noted above, implies that their lack of interest in bike share may be a result of having a bike of their own at their disposal.

### Which, if any, of the following are likely to limit the amount you use bike share? (Select up to 3.)

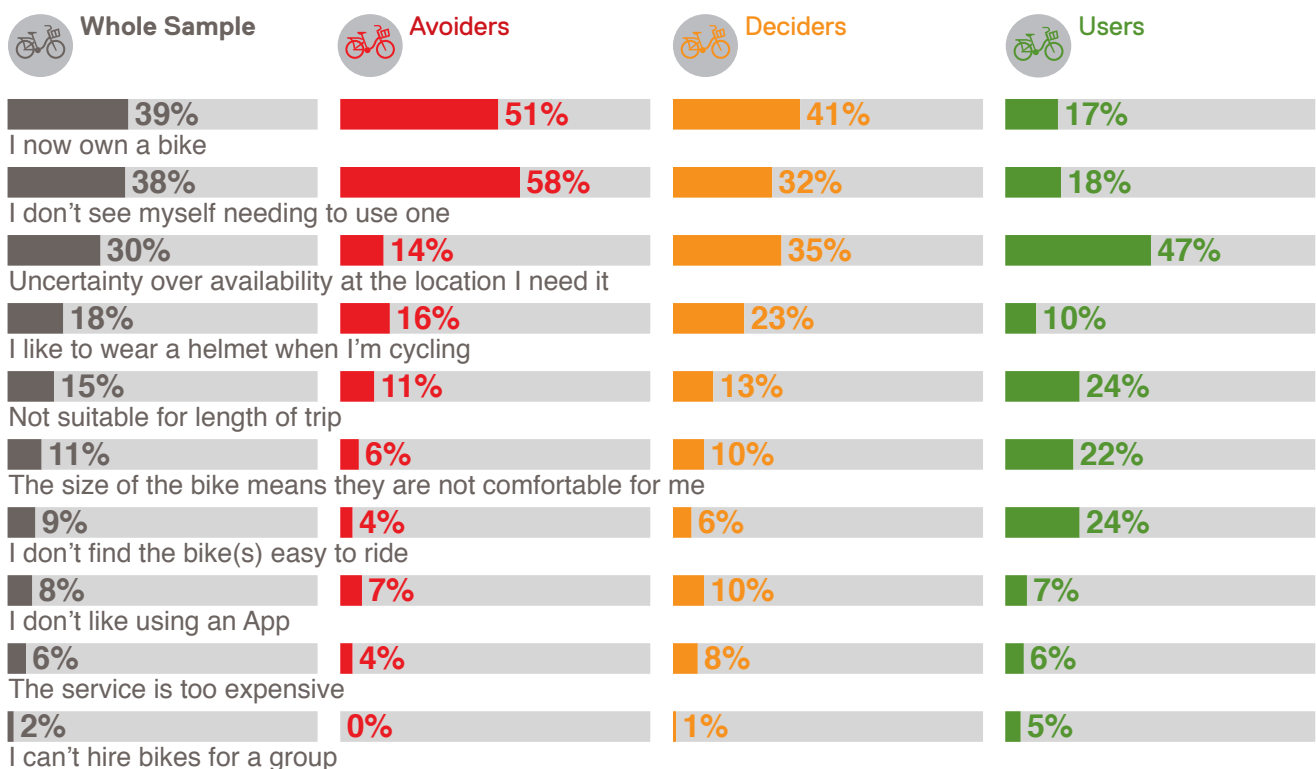


Figure 24 - Factors limiting bike share use (specific to bike share)

Matthew



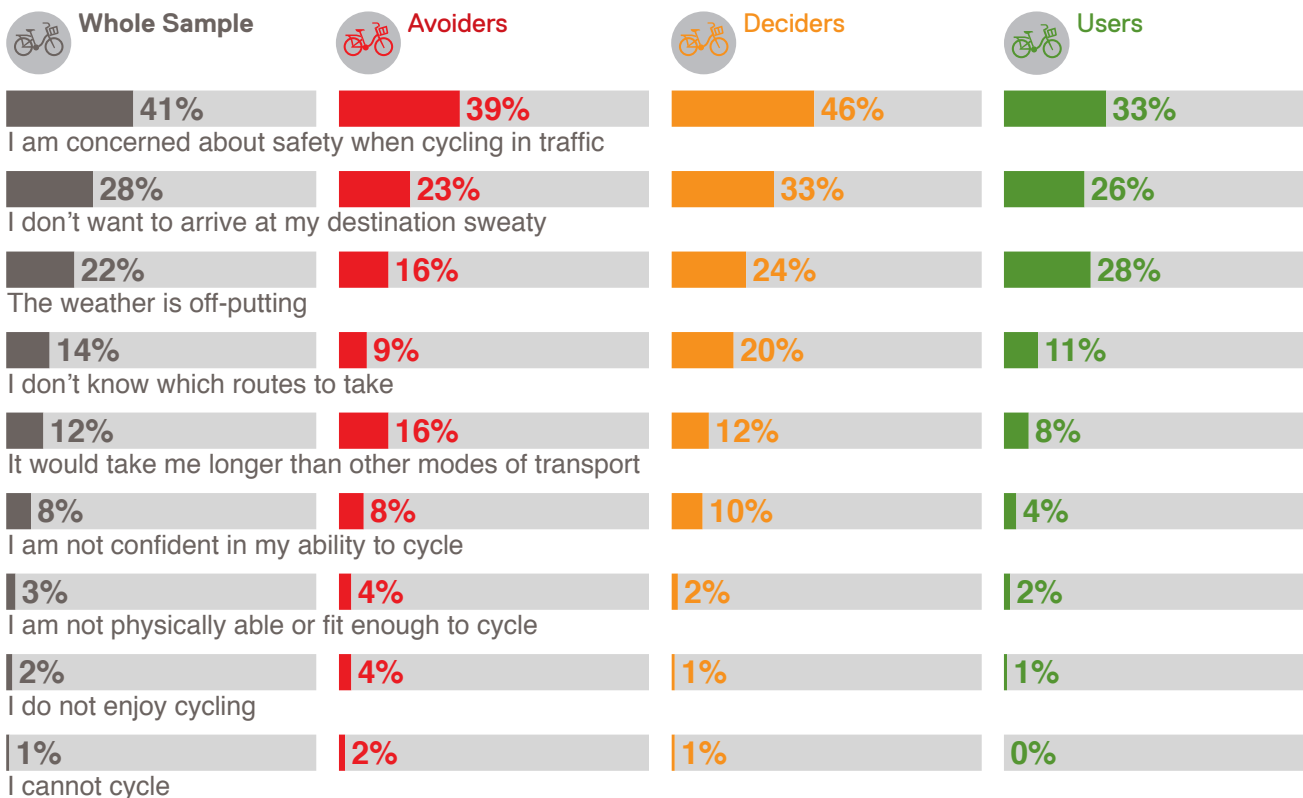
**‘Matthew’ thinks people are scared of the roads**

Matthew tends to either cycle or drive to work. He has not used bike share but cycles regularly. He thinks the main reason people won't get on a bike is because they do not feel safe riding on the road, and that a lot of drivers do not understand what it is like to cycle on the roads. He thinks if there were more segregated areas from the traffic that would help. He would like his children to cycle to school, but he would not like them to do it on the roads in their current state.

**Deciders** also mentioned owning a bike (41%) but their profile was slightly different, giving relative weight to the uncertainty of finding a bike at the location at which it was needed (35%) not seeing themselves needing to use bike share (32%) and wanting to wear a helmet while cycling (23%).

On comparing **Users**, **Avoiders**, and **Deciders** it is notable that the inability to hire a helmet with a bike was of greater concern to **Deciders**. **Users** were more likely that others to be concerned about uncertainty over availability, suitability of the bike for the length of the trip, comfort relating to the size of the bikes and the ease of riding the bikes. This implies that concern about these particular factors is likely to be a result of direct experience of the bikes.

**In addition, do any of the following limit how likely you are to use bike share? Select up to 3. (Q 6, 16, 18 and 20)**



**Figure 25 - Factors limiting bike share use (general to cycling)**

### Factors relating to cycling

Factors relating to cycling more generally provide a context for bike share use, and also highlight the importance of this context (Figure 25). Concerns about safety in traffic, the weather, and not wanting to arrive at the destination sweating were the most prominent across the sample and within each of the **Avoiders**, **Deciders** and **Users** groups. Of the whole sample, it was **Deciders** who gave the greatest weight to concern about safety in traffic, implying that wider programmes to improve cycle infrastructure could help them see bike share as an option.

The interviews highlight the importance of the cycling environment in decision-making around using bike share. One interviewee had cycled most of their life before moving to Manchester, but stopped cycling after seeing Manchester's roads.

I used to cycle everywhere when I lived in [other locations in the North West], but I have to say, since moving to Manchester I have not been cycling for a variety of reasons.... Once I moved here and saw the roads, I just thought no. (Interviewee 15, **Decider**)

Amara



### 'Amara' is a 'non-cyclist' who drives everywhere

Amara mainly travels by car because she finds it quick and convenient, and dislikes using public transport. She considers herself a 'non-cyclist', but wishes she could cycle more. She bought a new bike, but she was begged by her family to not cycle in Manchester because of the dangerous roads. If there was more segregated cycling infrastructure she would definitely consider getting on her bike.



Figure 26 - Separated cycle infrastructure along Manchester's Oxford Road

Reference was made to having high-quality, separated infrastructure, and the attraction – or indeed importance – of being physically separated from general traffic was a consistent message:

If there were dedicated cycle paths that weren't part of the road, I would definitely consider cycling and would like to cycle more, but when it's part of the road I just worry too much about the car[s]. (Interviewee 5, **Avoider**)

Positive reference was made to the recently developed separated infrastructure on Manchester's Oxford Road corridor (Figure 26 ). Similarly, a recently installed cycleway in Salford was seen positively and helped one interviewee to feel more confident about cycling with their daughter:

The armadillo protected cycleway in Salford, it runs parallel to Bury New Road, I absolutely love that. That was a godsend when I was cycling with my daughter. She felt less frightened, and we both felt safer. (Interviewee 25, **User**)

In general, however, cycle infrastructure in Greater Manchester was seen to be problematic:

They start and stop randomly. They go on and off the pavement. You've got people walking on the pavement as well. It's not clear where the cycle lane is. It's often easier just to use the road. (Interviewee 9, **User**)

Where cycle lanes exist, there can also be a problem with people driving or parking their car in them:

I cycle home usually about five o'clock and there's not just one or two cars, there's tens of cars parked in the cycle lane on a mile stretch of road.(Interviewee 13, **Decider**).

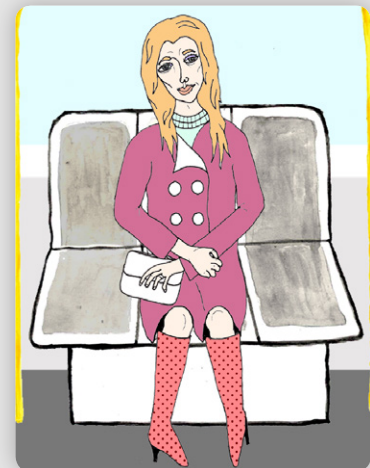
This interviewee specifically related cycle infrastructure to the potential for them to use bike share:

If they improved the cycle lanes, [I] definitely [would use Mobike]. I think my difficulty is the fact that, I just think cycling in Manchester isn't very safe... Even when they build a new road... (Interviewee 15, **Decider**)

For people who do not cycle, and are considering using bike share for the first time, this is potentially a significant barrier. This is compounded by the tendency, noted in the previous section, for the quality of bike share bikes to affect the overall sense of safety and vulnerability when riding. For those interviewees with more cycling experience, additional cycle lanes were welcomed, but they tended to already be confident cycling on roads and able to, for example, maintain high speeds and avoid parked cars. Whilst they saw cycle lanes positively, they were not a necessary condition for them to consider cycling.

Considerations about the quality of the cycling environment were not limited to concerns about traffic. The positive effect of green space was also mentioned. Some people mentioned that they would even consider a longer cycle journey if it went through green space: *'It's just well-being and access to green space and a pleasurable mode of transport, and to get sunshine'* (Interviewee 12, **User**).

Lucy



### 'Lucy' hasn't cycled since moving to Manchester

Lucy lives in Manchester and uses public transport to get around. Before moving to Manchester she used to cycle everywhere, but since moving to Manchester a few years ago she does not feel safe on the roads. She has not used bike share, and finds the idea of an App unattractive. She works freelance and most of her work is within a 5-7 mile radius of her home. She would consider using bike share for work if there were more segregated cycle lanes in the city centre, like on Oxford Road.

# 8. Conclusions and Recommendations

## 8.1 Overview

This study has investigated the use and potential use of bike share in Greater Manchester over a twelve-month period during which dockless Mobikes were available in the city region. It has explored behaviours and perceptions relating to bike share and how it can be understood in the context of how people get around.

Bike share in Greater Manchester must be understood within the general context of cycling in the area and specifically in relation to the operational context of the Mobike scheme, which was short-lived and, arguably, poorly managed. Mobike clearly experienced difficulties in aligning their offer to the area. As the first such scheme in the UK and Europe, Mobike were clear that it was a trial. Despite the apparent 'failure' of this scheme, implied by the company withdrawing the bikes within 18 months, it has provided a basis on which to draw implications for how to approach, communicate and roll out any future schemes.

## 8.2 Who is using bike share and why?

Our study suggests that the demographic distribution of those using bike share is broadly similar to that of those who cycle in Greater Manchester. A bike share **User** is more likely to be male and in a younger age group. This has implications if bike share is to bring the health benefits of cycling to a wider audience.

Most of the sample said they would like to cycle more than they did, and our interviewees gave a range of reasons for why they appreciated being able to fit cycling into their routines. In selecting their reasons for using bike share, respondents emphasised spontaneity, the potential to combine it with public transport and being able to cycle in a town or city other than the one they lived in. Less prominent, but still important, reasons included wanting the flexibility of not having to look after one bike all day and reducing the risk of their own bike being stolen. Interviewees also described positive associations with cycling, whether for enjoyment, societal change or their own mental or physical health.

Most of the survey respondents said they would like to cycle more than they did and, whilst some people said they cycled more as a result of using bike share, most continued to cycle to around the same extent as they did before they used bike share. A very small minority said they cycled less as a result of using bike share.

## 8.3 What factors limit bike share use?

It is clear from the survey and interviews that the Greater Manchester cycling context remains one of the most prominent reasons why people see bike share as unviable for them. Perceptions of danger and vulnerability in traffic are well established as barriers to the uptake of cycling as a mode of transport. These reasons are the same as the well-understood barriers to cycling generally. It is notable that it was those respondents who indicated that they could see themselves using bike share but had not yet done so (the **Deciders**) who were the most concerned about safety in traffic.

The design and quality of the bikes themselves posed a barrier to many users who used bike share more frequently. Many found the bikes to be heavy and slow, and some respondents who had used bike share indicated that the limited saddle height meant the bikes were uncomfortable to ride. Many found the single gear meant that it was difficult to cycle at the speed they would have liked to, which added to their sense of vulnerability when cycling on the road in traffic. There was also an indication that the lack of availability of helmets may have been off-putting to some potential users.

This indicates that potential new bike share schemes should carefully consider the design and maintenance of the bikes. Poorly designed or maintained bike share bikes could deter people from trying cycling again.

## 8.4 How does bike share relate to other transport modes?

There is evidence that bike share can fit into travel routines. When respondents were asked about the modes of transport that were either combined with or replaced by bike share, walking was most prominent, followed by public transport and then private car use. More people had combined or saw potential to combine bike share with a train journey than to use it to replace a train journey. This implies potential for bike share to be useful for 'first mile' and 'last mile' journeys, provided that good connectivity can be provided at public transport interchanges. The fact that walking is the most common mode for bike share to replace, however, implies that health benefits will be modest. Whilst the minority, it is those journeys that replace car travel would have the highest impact in terms of health, congestion and air quality.

## 8.5 To dock or not to dock?

The survey found advantages in both docked and dockless bike share. Docked bikes are available at fixed locations and must be returned to another fixed location. In contrast, dockless bikes are accessible via an app and can be left anywhere, although often within a bounded region. The survey found knowing that bikes would be in specific places around the city was important to the majority of respondents, but so was the flexibility to leave bikes anywhere. This suggests that docked bikes

are more attractive at the start of a journey, for example when leaving a train station or bus stop, and dockless bikes are more attractive at the end when the individual has reached their destination. This is an important consideration when planning for integration of bike share with public transport.

Another feature of dockless systems is the use of smartphones and apps. Across the whole sample, it is notable that the majority of respondents said they were more likely to use a service that could be accessed by smartphone. However, a minority were less likely to use a system where this was the only way to access it. This may suggest a risk of social exclusion for those who do not have smartphones, mobile data allowances or storage space for apps, and our analysis indicates that these preferences were related to age, gender and household income. Under-16s, who were excluded from using Mobikes and our survey, are another group who might have benefited from access. If an aim of providing bike share schemes is to enable marginalised groups to access cycling, then ensuring other means of payment are available may be important. There was some anecdotal evidence that people felt that providing free or cheap bike share for younger people might have been successful.



## 8.6 How did operational changes affect use?

Our analysis, including that of secondary material including Mobike's website and local media sources, has highlighted the significance of geofencing in the roll-out and decline of Mobike use in Greater Manchester.

Because the geofence changed several times over Mobike's period of operation, customers were unclear about where they could ride and park the bikes. This limited the types of trips for which people were able to use the bikes and the opportunities for using them at both the beginning and end of multimodal trips. It also limited the prevalence of bikes across the city region, making them both less visible and more difficult to come by when required. With longer journeys less feasible, it is unsurprising that most respondents had used bike share to replace walking trips. In some cases this meant that trips individuals had made, and got used to making, by bike share were no longer possible.

## 8.7 What further questions arise?

The above draw our attention to a set of issues and challenges relating to the successful deployment of bike share across Greater Manchester, and these are likely to apply to other metropolitan areas.

- Can aspects of docked and dockless schemes be combined to maximise the respective benefits of these systems?
- How can a bike share provider respond dynamically to the needs of a city region and learn over time what works for that area whilst retaining its customer base and enabling established journey patterns?
- What design of bikes and operational regime can make bike share an option for both males and females and all age groups, income levels and levels of cycling experience?
- How can bike share best be integrated with other modes of transport?
- What relationship should local authorities, local employers and transport providers have with bike share providers?
- How can bike share providers ensure that bikes are available at key strategic locations, such as employers and transport interchanges, whilst also giving people the flexibility to make longer journeys on the bikes?

## 8.8 What have we learned about bike share?

Bike share is attractive to many people, combining as it does the myriad benefits of cycling with a range of additional advantages relating to flexibility, ease of access and connectivity with other forms of transport. It must be understood within the context of the cycling environment, and this means that general barriers to cycling, including traffic levels and a lack of dedicated space for cycling away from or separated from traffic, will continue to influence and ultimately restrict the uptake of bike share. Within the context of higher-quality, more accessible cycling infrastructure, bike share can remove barriers such as the cost of ownership and storage space at home and makes the initial step of 'giving cycling a go' easier.

The design of the bikes and operation of the system have a substantial influence on uptake. If the design of the bikes adds to the feeling of vulnerability on the road, this will compound the effect of poor infrastructure and possibly make people less likely to cycle. It also appears that, with its reliance on smartphones and card payments, bike share may have its own barriers and that these differ across age groups, gender and income levels. Whilst the dockless system trialled in Greater Manchester has particular advantages in terms of flexibility, people value the relative certainty of having set places, characteristic of docked systems, where they can find the bikes at the beginning of their journey. If the conditions of service, whether in terms of the pricing levels or the spatial area, change over time, this can confuse and even deter potential users.

To return to our original premise that bike share has much to offer in terms of modal shift and the associated health, environmental and economic benefits, there is much to suggest that this is true, but there is also evidence that these benefits are contingent not only on the type of bike share, the quality of the bikes, the consistency of operation of the system and the spatial area covered by it but also on the environment in which cycling is taking place. This study also suggests a need to be sensitive to differences across age groups, gender, income levels and cycling experience to ensure that health benefits can be enjoyed by all.

**Our analysis of 2270 online survey responses and 27 telephone interviews suggests the following.**

- 1** Many people want to cycle more than they do, and some find bike share an attractive way to begin cycling or build cycling into their journeys.
- 2** Bike share use in Greater Manchester has been low so far; only a minority have used it or see themselves using it in the future.
- 3** Bike share has been used for a range of trip purposes, primarily for fun and recreation as well as for journeys to work, study and leisure and entertainment.
- 4** Although a diverse set of people use bike share, it is males and younger age groups who are most likely to have used, or see themselves using, bike share. This is similar to the demographic who already cycle, raising questions about the ability of bike share to reach out to other social groups.
- 5** Bike share has predominantly replaced walking trips, although there is evidence of, and potential for, using it in conjunction with public transport and car use.
- 6** Bike share use must be understood in the context of the cycling environment. If people find cycling environments in which they are close to general traffic off-putting they are unlikely to cycle, whether on their own bike or a bike share bike.
- 7** Access to bike share can remove some of the known barriers to cycling, including having to have space at home for a bike and being concerned about theft. It also gives people an accessible opportunity to try out cycling without investing in a bike.
- 8** The experience of using bike share can, however, intensify other barriers. The quality and design of bike share bikes can add to a sense of vulnerability on the road, and bike share is therefore not necessarily a good introduction to cycling.
- 9** The use and usability of bike share can vary across age, gender and cycling experience, as well as personal characteristics such as height. There is a need to consider and mitigate the implications of this for social exclusion.
- 10** Changes in the operational area and conditions such as price can confuse and deter potential users, limit the extent of potential journeys and even mean that those who have begun using bike share stop doing so. Bike share providers need to balance being able to adapt to changing circumstances with the need to provide a consistent and understandable offer to their existing and potential customer base.



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# Appendix A: Methodology

Within the evolving research context discussed in Chapter 2, this study seeks to situate experiences of bike share within the more established literature on cycling and active travel. Ultimately, it asks whether, to what extent and in what forms bike share can contribute to an overall increase in the number of people cycling and the number of journeys they make. Can bike share therefore help to create healthy and environmentally sustainable cities? This can be broken down into the following questions:

- Who is using bike share in Greater Manchester?
- How does use of bike share fit within existing transport and travel patterns?
- How do people find the experience of using bike share?
- What factors affect uptake of bike share?
- How could smart technologies change/are they changing travel behaviour?

The study comprised three elements:

- A stakeholder workshop;
- An online survey; and
- A set of telephone interviews.

## Stakeholder workshop

The stakeholder workshop, held in June 2018, drew together academics from the University of Salford and practitioners from organisations with an interest in increasing cycling and active travel in Greater Manchester. The aim was to set a research agenda for cycling, with a particular focus on bike share. Activities involved group discussions to visualise an ideal future for travel in Greater Manchester; what policies and initiatives could help to achieve this future; and what research would be needed to support these activities. The workshop helped the research team to conceptualise a broad agenda for cycling research in the medium and longer term and, in the shorter term, to discuss elements of the online survey used in this study. More detail is given in Appendix B.

## Online survey

The survey was conducted using an online platform. It was designed by the research team, including British Cycling, and piloted by volunteers from the workshop. The questions are provided in Appendix C and the distribution of the sample in Appendix D. The survey was issued on 14th June 2018 and ran until 24th July, with 2270 responses received during this period.

A volunteer sample was sought, with the criteria that respondents were 16 or over and had lived in, worked in or visited Greater Manchester during the preceding 12 months. Respondents were recruited through a

range of social media channels. Twitter, Facebook and LinkedIn were used proactively to seek out relevant groups and individuals who were likely to complete the survey and share the information with their followers or friends. Although the scope of the study did not allow a representative sample to be ensured, researchers targeted a range of different populations within Greater Manchester and were careful not to limit this exercise to people who already regularly cycled. Examples of email lists included University of Salford staff and students, local authority staff lists and British Cycling members in Greater Manchester. The researchers linked tweets, primarily through hashtags, to relevant occasions and news items relating to cycling, transport and health such as Clean Air Day, Bike to Work Day, North West Velofest, the Greater Manchester HSBC Let's Ride and various news stories, including the launch of the Beelines cycle network plan. Leaflets were given out at relevant events and left at shops and community centres.

Respondents were offered the opportunity to be entered into a prize draw to win £200, which was intended to both increase participation and diversify it by giving people not otherwise interested in cycling an incentive to take part. Whilst recognising that it is people who already cycle who are most likely to respond to a survey on cycling, it is reassuring to see that people who rarely or never cycled are also represented.

## Interviews

A set of qualitative phone interviews were carried out with the aim of building on gaps and interesting findings from the survey. Following an initial analysis of the survey results, respondents who had answered 'yes' to being involved in further research were screened according to their responses. A diverse sample was selected (see Appendix D), with the intention of reflecting a diversity of demographic groups, including different ages, genders and ethnicities, as well as different levels of cycle ownership and use and bike share use. All interviewees either lived or worked in Greater Manchester.



Figure 27 - Promotion on social media

# Appendix B: Workshop

## Introduction

On Tuesday 6th June 2018 researchers at the University of Salford hosted a workshop to discuss research opportunities on active travel in the conurbation, including the potential role of bike share schemes. The workshop was also an opportunity to gather thoughts and feedback on a draft of the online survey. Organisations represented included British Cycling, Bolton MBC, BikeRight!, Cycling UK, Living Streets, Manchester Bike Hire, Manchester City Council, Stockport MBC, Sustrans, Transport for Greater Manchester, Urban Vision and Stockport MBC.

## Workshop approach

We began with a visualisation exercise. Delegates were asked to draw how they saw the current cycling situation in Greater Manchester, as well as their future vision for cycling in the region, and were then asked to identify what research and evidence would be needed to get from the current situation to their future vision. This discussion helped to identify a range of issues around cycling, including gaps in current research and barriers to using bike share, as well as the political, cultural and behavioural changes needed to push the cycling agenda forward in Greater Manchester.

## Discussion

In the workshop a wide-ranging discussion on the issues was facilitated, drawing on points raised in the initial exercise. Here we provide a brief summary of pertinent points.

## Changing the culture

It was agreed that political will is an important factor in fostering any kind of cycling reform in Greater Manchester, but it was felt that it is still not quite active enough to gain any meaningful momentum. Reasons for this include conflicting political priorities, such as healthcare and housing, as well as the short-term nature of the political cycle. Behavioural change is possible on a personal level. However, for someone to consider starting cycling, the choice needs to be made as easy as possible. This means more (and better) infrastructure across the region. People are already aware of many advantages associated with cycling (exercise, health benefits, time savings and money savings, for example) but still find it difficult to begin cycling. Cycling needs to become normalised and accepted by everyone as an everyday mode of transport.

## Gaps in current research

Participants were interested in understanding whether bike share acts as a gateway to people cycling more often or if it serves a narrower purpose: replacement bikes for people who cycle or a short-term mode of transport for people who currently do not cycle and are not interested in owning their own bike or making longer journeys. It is also unknown whether bike share can take away modal share from cars (in addition to cycling, walking and other alternatives). The short- and long-term effects of investing in cycling infrastructure (e.g. Oxford Road), it was felt, also require more research.

It was recognised that different types of bike share (docked and dockless) have different business models and little research has been carried out on the comparative effectiveness of each model. The amount of maintenance needed to keep the bikes in good condition may also affect the success rate, and not much is known about elements such as the cost of repair, hiring labour, acquiring components and the environmental impact of bike share schemes.



Figure 28 - Drawing and discussing healthy active cities

# Appendix C:

## Survey Questions

These questions (1 to 6) were asked to all respondents.

Q1. During the last 12 months have you lived, worked, studied in or visited Greater Manchester?

- Yes
- No

Q2. Are you aged 16 or over?

- Yes
- No

Q3. I understand what participation entails, how my data will be collected, stored and used, and that my identity will be anonymised in any reports and publications arising from the research.

- Yes
- No

Q4. Bike share bikes are increasingly available in UK towns and cities. Thinking about these services, which of the following applies to you? (Select one.)

- I haven't heard of them or noticed them
- I've heard of them or seen them but not considered using them
- I've thought of using them but haven't done so yet
- I've used them, but not sure if I will do it again
- I've used them and will do it again

Q5. One or more bike share schemes are available... (Select all that apply.)

- ...where I live,
- ...in which I mainly work or study,
- ...in another town or city I visit regularly,
- ...none of the above.

Q6. How often have you used bike share over the past 12 months? (Select one.)

- Daily
- More than once a week
- Once a week
- Once a fortnight
- Once a month
- Less often
- Never

These questions (7 to 18) were asked to 'Users', all respondents who said they had used bike share - i.e. more than 'never' in Question 6.

Q7. Which of the following best describe your reasons for using bike share? (Select up to 3.)

- I do not have room to store a bike at home
- I wanted to try cycling
- I don't cycle enough to buy my own bike
- I was worried about my own bike being stolen

- I needed to cycle in places away from my hometown or city
- I wanted to use bike share as part of public transport journeys
- I wanted to have access to a bike when mine is broken
- I didn't want to be stuck with a bike all day
- It was a spontaneous decision
- It was cheaper than other transport options
- Other

Q8. Where have you used bike share? (Select all that apply.)

- The town or city in which I live
- The town or city in which I mainly work or study
- A town or city I was visiting as part of work or study
- A town or city I was visiting for leisure or tourism?
- None of the above

Q9. When you have used bike share, which of the following types have you used? (Select one.)

- Docked - This means you would have accessed and returned the bike at one or more docks around the city.
- Dockless - This means you would have accessed the bike via a smartphone and been able to return it anywhere in the city.
- Both Docked and Dockless
- Don't know which type
- None of the above

Q10. For what purpose have you used bike share in the last 12 months. (Select all that apply.)

- Getting to work or study
- Getting to a place of worship
- Getting to shops
- Travelling as part of work (e.g. to meetings during the working day)
- Getting to leisure or entertainment facilities
- Accessing health care (e.g. doctor, dentist or hospital)
- Visiting friends or family
- Tourism
- Fun or recreation
- Getting home
- None of the above
- Other

Q11. When you have made journeys using bike share in the last 12 months, which of the following modes of transport would you have otherwise used for those journeys? (Select all that apply.)

- My own bike
- Car (as driver)
- Car (as passenger)
- Bus
- Tram, Underground or other Metro
- Train
- Walking
- None of the above

Q12. Which of the following modes of transport have you combined with bike share in the last 12 months? For example, you might have used bike share at the beginning or end of a journey otherwise made by public transport. (Select all that apply)

- My own bike
- Car (as driver)
- Car (as passenger)
- Bus
- Tram, Underground or Metro
- Train
- Taxi
- Walking
- None of the above

Q13. On the most recent occasion you used bike share, which type did you use? (Select one).

- Docked - This means you would have accessed and returned the bike at one or more docks around the city.
- Dockless - This means you would have accessed the bike via a smartphone and been able to return it anywhere in the city.
- Don't know which type
- None of the above

Q14. On the most recent occasion you used bike share, on a scale from 1 to 5 how satisfied were you with the following aspects? (where 1 is dissatisfied, 5 is satisfied, and NA is not applicable)

- Finding out about the service
- The cost of the bike share
- The payment process
- Registration (if applicable)
- Using an app or website (if applicable)
- Finding a bike
- Unlocking / undocking the bike
- Returning or locking up the bike after use
- Distance to get to the bike
- Comfort when cycling
- Condition of the bike
- Facility for storing luggage

Q15. Has the amount you cycle changed as a result of using bike share? (Select one.)

- I don't cycle anymore
- I cycle less than before
- I cycle about the same as before
- I cycle a little more than before
- I cycle a lot more than before

Q16. How likely is it that you will continue to use bike share?

- 0 - not at all likely 1 2 3 4 5 6 7 8 9 10 - will definitely

Q17. Which, if any, of the following are likely to limit the amount you use bike share? (Select up to 3. You don't have to select any.)

- I don't see myself needing to use one
- I don't like using an App
- The size of the bike meant it wasn't comfortable for me
- I don't find the bike(s) easy to ride
- Bikes are not suitable for length of trip
- I can't hire bikes for a group
- Uncertainty over availability at the location I need it
- The scheme is too expensive
- I like to wear a helmet when I'm cycling
- I now own a bike
- Other

Q18. In addition, do any of the following affect how likely you are to use bike share? (Select all that apply.)

- I am concerned about safety when cycling in traffic
- The weather is off-putting
- It would take me longer than other modes of transport
- I don't want to arrive at my destination sweaty
- I don't know what routes to take
- I am not confident in my ability to cycle
- I am not physically able or fit enough to cycle
- I do not enjoy cycling
- I cannot cycle

These questions (19 to 25) were asked to **Deciders** and **Avoiders**, all respondents who said they had 'never' used bike share in Question 6.

Q19. How likely is it that you would use bike share in the next 12 months?

- 0 - not at all likely 1 2 3 4 5 6 7 8 9 10 - will definitely

Q20. Which, if any, of the following are likely to limit the amount you use bike share? (Select up to 3. You don't have to select any.)

- I don't see myself needing to use one
- I don't like using an App
- The size of the bike means they are not comfortable for me
- I don't find the bike(s) easy to ride
- Not suitable for length of trip
- I can't hire bikes for a group
- Uncertainty over availability at the location I need it
- The service is too expensive
- I like to wear a helmet when I'm cycling
- I now own a bike
- Other

Q21. In addition, do any of the following affect how likely you are to use bike share? (Select as many as apply)

- I am concerned about safety when cycling in traffic
- The weather is off-putting
- It would take me longer than other modes of transport
- I don't want to arrive at my destination sweaty
- I don't know which routes to take
- I am not confident in my ability to cycle
- I am not physically able or fit enough to cycle
- I do not enjoy cycling
- I cannot cycle

Q22. Which of the following best describe why you would use bike share in the future?

- I do not have storage space at home
- I want to try cycling
- I do not cycle enough to buy my own bike
- I am worried about my own bike being stolen
- I need to cycle in places away from my hometown or city
- I want to use bike share in combination with public transport
- I want to have access to a bike when mine is broken
- I don't want to be stuck with a bike all day
- It would be a spontaneous decision
- It is cheaper than other transport options
- Other

Q23. For which of the following reasons could you foresee yourself using bike share? (Select all that apply)

- Getting home
- Getting to work or study
- Travelling as part of work (e.g. to meetings during the working day)
- Getting to a place of worship
- Getting to shops
- Getting to leisure or entertainment facilities
- Accessing health-related services
- Visiting friends or family
- Tourism
- Fun or recreation
- Other

Q24. Which of the following journeys could you see yourself replacing with bike share over the next 12 months? (Include whole and parts of journeys)

- Journey(s) by own bike
- Journey(s) by car (as driver)
- Journey(s) by car (as passenger)
- Journey(s) by bus
- Journey(s) by tram, Underground or other Metro
- Journey(s) by train
- Journey(s) by walking
- None of the above

Q25. Which of the following modes of transport could you see yourself combining with bike share? For example, you might have used bike share at the beginning or end of a journey otherwise made by public transport. (Select all that apply)

- My own bike
- Car (as driver)
- Car (as passenger)
- Bus
- Tram, Underground or other Metro
- Train
- Taxi
- Walking
- None of the above

These questions (26 to 37) were asked to all respondents.

Q26. To what extent do the following features affect how likely you are to use a particular bike share service?

Having to use a smart phone to access a bike

- less likely to use
- no affect
- more likely to use
- don't know

Being able to leave a bike anywhere in the city

Being able to pay for the bike without a smart phone

Knowing that bikes are in set places around the city

Being able to use a smartphone to find a bike

Not being able to hire a helmet at the same time as a bike

Only being able to pay by credit or debit card through a smartphone

Q27. If there anything further you'd like to tell us about bike share, please use this box.

Q28. What gender are you?

- Male
- Female
- Other
- Prefer not to say

Q29. How old are you?

Q30. Please choose one option that best describes your ethnic group or background:

- White
- Mixed / Multiple ethnic groups
- Asian / Asian British
- Black / African / Caribbean / Black British
- Other ethnic group
- Prefer not to say

Q31. Which of the following best describes your current employment status? (Select all that apply)

- Full-time employed
- Part-time employed
- Unemployed
- Caregiver (e.g., children, elderly)
- Homemaker
- Full-time student
- Part-time student
- Self-employed
- Prefer not to say
- Other

Q32. Please provide the first half of your home postcode (e.g. M21). If non-UK resident, please give country name.

Q33. If you work in Greater Manchester, in which of the following areas do you mainly work? (select as many as apply)

- Bolton
- Bury
- Manchester
- Oldham
- Rochdale
- Salford
- Stockport
- Tameside
- Trafford
- Wigan
- I do not work in Greater Manchester

Q34. What is your best estimate of your total household income before tax?

- Up to £10,000
- £10,000 - £14,999
- £15,000 - £19,999
- £20,000 - £29,999
- £30,000 - £39,999
- £40,000 - £49,999
- £50,000 - £59,999
- £60,000 or more
- Prefer not to say

Q35. Thinking about all the activities you've done in the past 12 months, tell us in a typical week how many minutes of physical activity you do that raises your breathing rate?

- None
- Up to 30 mins (up to ½ hour)
- 30-60 mins (½ hour - 1 hour)
- 60-90 mins (1 hour – 1 ½ hours)
- 90-120 mins (1 ½ hours - 2 hours)
- 120-150 mins (2 hours – 2 ½ hours)
- 150-180 mins (2 ½ hours – 3 hours)
- 180-240 mins (3 hours – 4 hours)
- 240-300 mins (4 hours – 5 hours)
- 300-360 mins (5 hours – 6 hours)
- 360+ mins (6+ hours)

Q36. Do you have a long term illness, health problem or impairment that limits daily activities?

- Yes
- No
- Prefer not to say

Q37. Thank you for your answers so far. We would like to ask you another six short questions to help us to put bike share in the context of how you get around. Would you be happy to answer these questions?

- Yes - take me to the additional questions
- No - take me to the end of the survey

These questions (38 to 43) were asked to all respondents who answered 'Yes' to Question 37 (a total of 2008).

Q38. Do you own or have access to a bike other than through a bike share scheme?

- Yes, I own a bike
- Yes, I have access to a bike in my household or community
- No

Q39. In which of the following environments do you feel confident cycling? (Select all that apply)

- Away from roads, e.g. a park or an off-road cycle track
- Residential roads with a little traffic
- Moderately busy roads with on-road cycle lanes
- Busy roads with on-road cycle lanes
- Busy roads without cycle lanes
- None of the above

Q40. In the last 12 months, which of the following modes of transport have you used as part of your regular activities? (Select all that apply) (for example, travelling to work or to the shops)

- Car or Van (as driver)
- Car or Van (as passenger)
- Bus
- Tram, Underground or other Metro
- Train
- Taxi
- Walking
- Bike, including bike share
- None of the above

Q41. In the last 12 months, have you...

- ...cycled as transport (e.g. to work, to the shops, to entertainment),
- ...cycled for recreation or leisure,
- ...cycled for sport?
- None of the above

Q42. In the last 12 months, how often on average have you made a journey by bike?

- Daily/Most days
- Weekly (at least once a week)
- At least twice a month
- Monthly (at least once a month)
- At least 12 times in the last year, but not every month
- Occasionally (once every few months)
- Rarely (once or twice in the last year)
- Never

Q43. To what extent do you agree with the following statement 'I would like to cycle more than I do.' ?

- Definitely disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Definitely agree

These questions (44 to 47) were asked to all respondents.

Q44. To follow up this survey, we are carrying out telephone interviews of up to 30 minutes. Would you be willing to take part in an interview?

- Yes, I consent to being contacted about an interview
- No, I do not want to be contacted

Q45. Would you like to be entered into a prize draw to win £200 in shopping vouchers? The winner will be confirmed by 31st July 2018.

- Yes, I consent to being contacted about the prize draw
- No, I do not want to be contacted

Q46. The University of Salford will continue to carry out research on cycling and active travel. Do you consent to being contacted about future opportunities to take part in this research?

- Yes, I consent to be contacted by University of Salford
- No, I do not want to be contacted

Q47. If you've given permission, please provide an email address so we can contact you or a phone number (mobile preferred).



# Appendix D: The Sample

Some 2270 responses were received to the online survey. This section provides an overview of the distribution relating to demographic factors, activity levels and transport practices. Where available, comparative figures for the UK or Greater Manchester are given. Where not otherwise indicated, these figures are from the Office for National Statistics<sup>a</sup> or the GMPCC<sup>b</sup>.

## Demographics

- Some 58% of the sample were male. This compares with 49.7% of the national population<sup>a</sup>, and 49.6% in Greater Manchester<sup>b</sup>.
- The sample was younger than the UK population<sup>a</sup>. Nationally, a much higher proportion are over 65 and the age groups between 16 and 64 are more evenly distributed.
- Similarly to the UK<sup>a</sup> and Greater Manchester<sup>b</sup> population, the majority of the sample were people of White British origin (87.4%). In the UK this figure is slightly lower, at 86%<sup>a</sup>, in Greater Manchester slightly higher, at 88.4%<sup>b</sup>. This figure varies widely by borough (below 78% in Manchester, above 96% in Wigan).
- Respondents were asked to confirm that they had lived in, worked in or visited Greater Manchester during the preceding 12 months. From postcode analysis we know that 76% of the sample lived in Greater Manchester, whereas 82% worked in the area.
- The proportion of employed people in the sample (80.6%) was higher than nationally (75.5%). Some 67% of the sample were full-time employees, 13.6% part-time employees and 10.5% full-time students. Of those employed in Greater Manchester, 43% stated that they worked in the city of Manchester and 26% in Salford. The rest of the boroughs were represented by relatively small percentages of respondents.
- The sample can be considered to be relatively affluent, with 38% saying they had a household income of £50,000 or more.

## Activity and travel

- The sample members were considerably more likely to exercise than the population in the UK and Greater Manchester. Only 7.2% of the sample exercised less than 30 minutes a week, a duration which is defined as representing inactivity. In England 26% of people are considered to be inactive<sup>1</sup>. In Greater Manchester this number is higher at 32.7%<sup>2</sup>.
- The sample members were also considerably less likely to have health problems. Only 8.7% of the sample reported that they 'have a long term illness, health problem or impairment that limits daily activities'. This compares with 17.9% in England and Wales.
- The sample members were considerably more likely to be bike owners: 80% of respondents owned a bike, and a further 4.1% had access to a bike regularly. Only 16% did not have access to a bike at all - this is much higher than the figure given in the National Travel Survey<sup>3</sup> (42%).
- Respondents were asked how often they had made journeys by bike in the preceding 12 months. The majority had cycled to some extent, with 37% estimating that they had cycled daily, 23% weekly and 9% at least once a month. 16% had never cycled in the preceding 12 months. 6% had rarely cycled.
- Some 76% of respondents had cycled for recreation in the previous 12 months, 65% for transport, and 30% for sport.

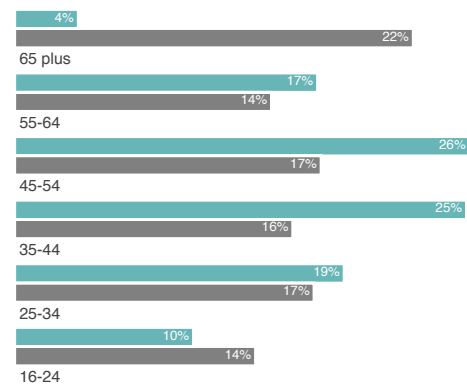


Figure 29 - Age distribution in our sample (blue) and the UK (grey) - Q29

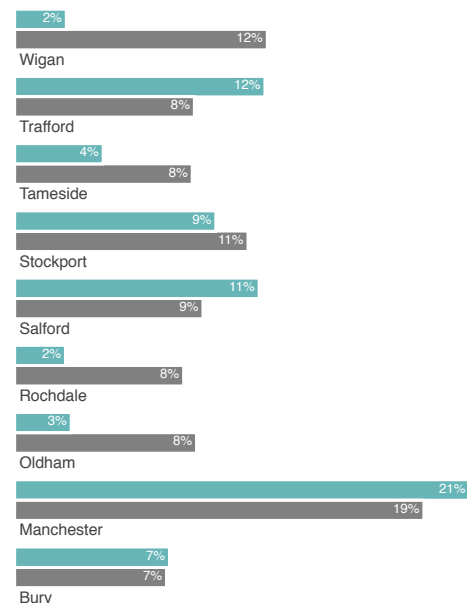


Figure 30 - Distribution across boroughs and cities in our sample (blue) and the population (grey) - Q32

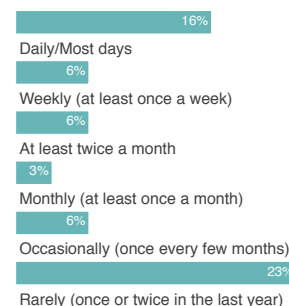


Figure 31 - Cycling frequency - Q42

1 Sport England (2017) Active Lives survey <https://www.sportengland.org/media/13217/v-mass-markets-digital-content-editorial-team-active-lives-march-2018-active-lives-adult-survey-nov-16-17-final.pdf>

2 NHS Digital. (2017). 'Statistics on Obesity, Physical Activity and Diet.' Retrieved from <https://www.gov.uk/government/statistics/statistics-on-obesity-physical-activity-and-diet-england-2017> accessed 05/05/18

3 Gov.uk (2014) NTS2014 Cycling Travel: Factsheet <https://www.gov.uk/government/collections/national-travel-survey-statistics>

The following table summarises characteristics of the 27 interviewees.

	Gender	Age	Do they cycle?	Used bike share?	Area of residence
1.	Female	41	Yes	Yes	Manchester
2.	Female	60	Yes	Yes	Salford
3.	Male	23	Yes	Yes	Manchester
4.	Male	46	Yes	No	Bolton
5.	Male	30	Yes	Yes	Manchester
6.	Male	28	Yes	Yes	Salford
7.	Female	50	No	No	Manchester
8.	Female	22	Yes	Yes	Manchester
9.	Female	25	No	Yes	Salford
10.	Male	39	Yes	Yes	Marple
11.	Female	29	Yes	No	Ashton-under-Lyne
12.	Female	36	Yes	Yes	Manchester
13.	Male	48	Yes	No	Little Hayfield (works in MCR)
14.	Male	46	Yes	No	Bury
15.	Female	47	No	No	Tameside
16.	Male	44	Yes	Yes	Manchester
17.	Male	48	Yes	Yes	Manchester
18.	Male	26	Yes	Yes	Salford
19.	Female	35	No	No	Marple
20.	Male	25	Yes	Yes	Manchester
21.	Male	33	Yes	Yes	Manchester
22.	Male	32	Yes	Yes	Manchester
23.	Male	45	Yes	Yes	Stockport
24.	Male	32	Yes	No	Manchester
25.	Female	46	Yes	Yes	Todmorden
26.	Female	41	Yes	Yes	Bury
27.	Female	38	Yes	Yes	Trafford



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