

# West of England Combined Authority



E-scooter trial  
12-month review

## Introduction

Voi's e-scooter trial in the West of England launched on 29 October 2020. E-scooters have been incredibly popular amongst the people of the West of England, with demand in the cities surpassing many of Voi's continental markets, where e-scooters have been legal for more than two years.

Over the course of the trial, we have been proud to work with Combined Authority and Council partners, as well as stakeholders including Avon & Somerset Police, the visually-impaired community and wider disability organisations. This collaboration has been central to the successful delivery of the trial to date. During the first 12 months of the West of England Combined Authority trial, 200,000 individual riders have completed 2,700,000 rides and covered a distance of 7,000,000km on the 'Hop-on Hop-off' and Long-Term Rental schemes, placing the region as one of the most utilised fleets across Europe. This high uptake and return usage, despite lockdown measures during the infancy of the trial, proves the appetite for micromobility and modal shift in the region.

With the high levels of utilisation, the e-scooter trial has also started to prove its ability to deliver environmental benefits. To date, we estimate that more than 1,000,000 car trips have been replaced with e-scooter trips in the West of England trial areas, equating to 590 tonnes of CO2 saved and 98kg of PM2.5 (the harmful particles are a main cause of health conditions related to air quality) that were not emitted.

With the e-scooter trial in the West of England recently concluding its first year, this report looks back (assessing the period from November 2022 to October 2021) and reflects on what we have seen. The report provides a transparent account of the performance of the trial to date from Voi's perspective. It is intended to be read by anyone who wants to know more about the West of England e-scooter trial.

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# 1. Trial overview

## 1.1 Context & objectives

In May 2020, the Department for Transport announced plans to fast-track e-scooter trials across England to support socially distanced, sustainable travel during the COVID-19 pandemic. These plans allowed local authorities in the UK to introduce shared-use e-scooter schemes which would provide access to trial e-scooters for individuals with a driver's licence (full or provisional).

In October 2020, Voi Technology successfully bid to be the exclusive e-scooter operator for a 12 month trial to be run by the West of England Combined Authority, in partnership with Bristol City Council, South Gloucestershire Council and Bath and North East Somerset Council. Further to the DfT's requirement for users to have a driver's licence, Voi's service in the West of England Combined Authority requires that users be over the age of 18.

The trial period has now been extended to March 2022 and will potentially be extended further to November 2022, to allow the government to collect further data on rented e-scooter use.

## 1.2 Rental models

In the West of England, Voi operates two distinct models of e-scooter rentals; 'Hop-on Hop-off' (HOHO) and 'Long Term Rental' (LTR).

### **Hop-on Hop-off**

'Hop-On Hop-Off' refers to the method of rental whereby e-scooters are available for hire 'on-street'. Users are able to hire e-scooters from one of the parking spots within a given operating area and, after completing their ride, must leave the vehicle in another of the parking locations.

This mode of rental is often referred to as a 'sharing' model, as the e-scooters are available to be used by anyone within the area of operation.

This is the standard model for e-scooter rental in the wider market and has been implemented by Voi in the 11 countries we operate in across Europe.

Voi operates two Hop-on Hop-off schemes in the West of England: one that spans Bristol City Council and South Gloucestershire Council land and another in Bath.

Within the 'Hop-on Hop-off' scheme there are three different products offered to users:

- Pay As You Go: charged at £1 to unlock the e-scooter and then £0.14 per minute of use
- Day Pass: for £5 users can complete up to 9 rides per day with a length of 45 minutes or less
- Monthly Pass: for £35 pounds per month users can complete an unlimited number of rides with a length of 45 minutes or less

**Long-Term Rental (LTR)**

Long-Term Rental refers to a scheme that involves users renting a scooter for their individual use for a longer period, typically one month or longer.

Rather than finding a scooter to use on-street, under this model an e-scooter is delivered to the user who then keeps the scooter in their possession. This allows individuals to use a rental e-scooter in much the same way as they might use a private e-scooter (which cannot currently be legally ridden on public land).

Voi operates an LTR scheme that spans the whole of the West of England Combined Authority area. The LTR scheme offers users unlimited access to a personal rental e-scooter for £35 per month.

## 1.3 Coverage areas

Voi operates three rental schemes in the West of England, Hop-on Hop-off services in 'Bristol & South Gloucestershire' and Bath and the LTR scheme which covers the wider region.

**Bristol & South Gloucestershire HOHO service**

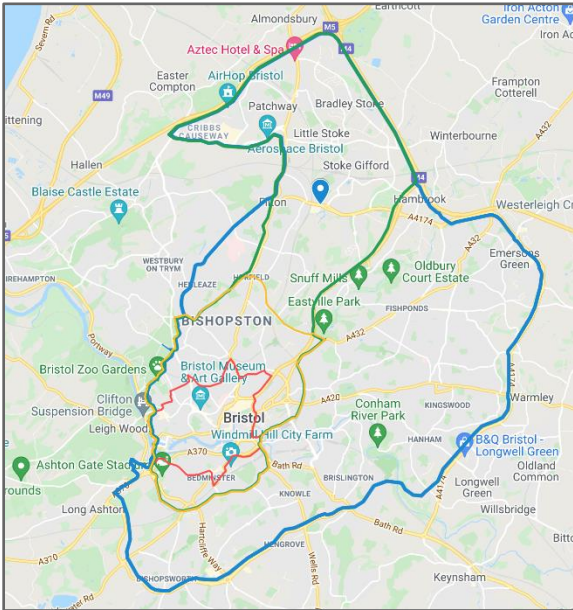
As the name suggests, this Hop-on Hop-off service consists of a single operating area that spans both Bristol City Council and South Gloucestershire Council. The decision was made to operate one rather than two operating areas to allow riders to travel uninterrupted between both councils' areas.

As part of Voi's standard approach to operating area expansion, the service initially only covered the central areas of Bristol. The launch area is shown in red in the image on the left.

In December 2020 the first expansion was completed (shown by the yellow line) which covered areas immediately to the north and east (Bishopston, Redland and Easton) and to the south (down to Parson Street station). This took the operating area size from 7km<sup>2</sup> to 20km<sup>2</sup>.

In February 2021 the second phase of expansion was completed (shown by the green line), which saw the operating area increase from 20km<sup>2</sup> to 45km<sup>2</sup>. This expansion was to the north and brought South Gloucestershire Council land within the service area.

The next phase of expansion was completed in March 2021 (shown by the blue line) which further increased the operating area to 102km<sup>2</sup> and introduced areas to the east including Brislington, Hanham, Kingswood and Downend.



### Bath HOHO service

The operating area in Bath currently covers 6km<sup>2</sup> of the city, including areas of the city centre and Lower Weston and Weston to the north-west.

The initial operating area covered just the central areas of the city, with boundaries shown in red in the image on the left.

The first phase of expansion was completed in February 2021 which increased the area from 2km<sup>2</sup> to 3km<sup>2</sup> and included areas in the south of the centre down to Oldfield Park station and in the east to Bathwick Hill (boundaries shown in orange in the image on the left).

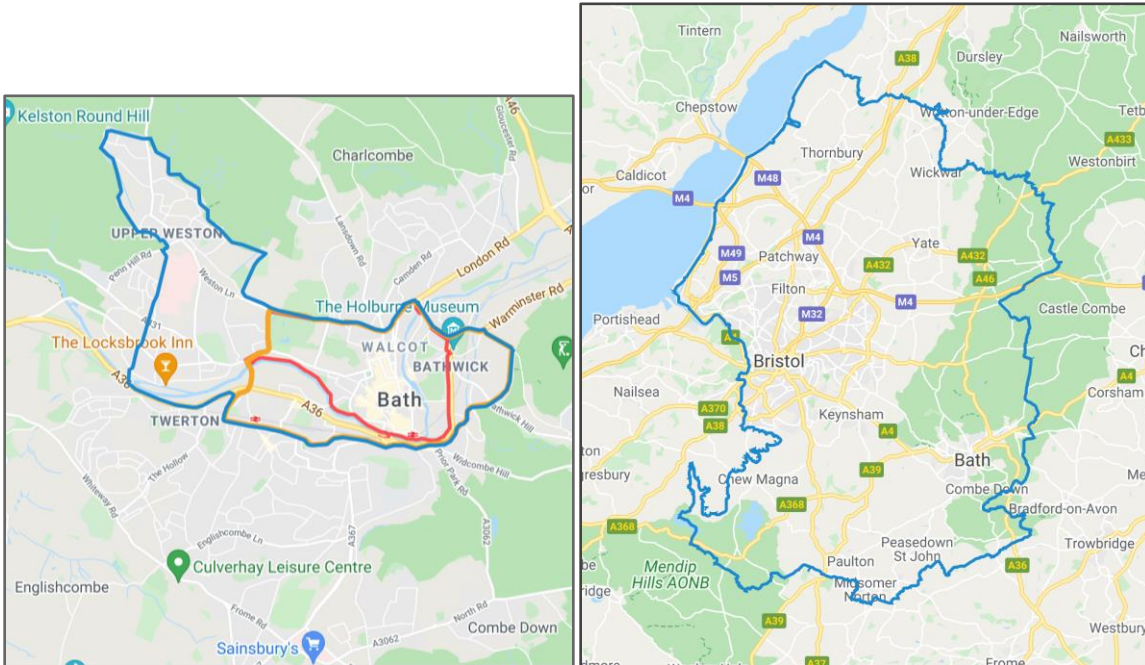
The final expansion completed to date took the operating area from 3km<sup>2</sup> to 6km<sup>2</sup> and was completed in March 2021 (shown by the blue line).

### West of England long-term rental service

The LTR service in the West of England (shown by the blue border in the image to the left) covers the entirety of the Combined Authority area. As opposed to the Hop-on Hop-off service, this provides users with near unrestricted access to the whole region.

Rather than conducting a series of expansions, the entire area was available from the date of launch (January 2021).





## 2. Performance update

### 2.1 Service usage

The popularity of the West of England's e-scooter trial scheme amongst users has been undeniable, with over 200,000 individuals completing 2,700,000 rides covering 7,000,000km in the 12 months since launch.

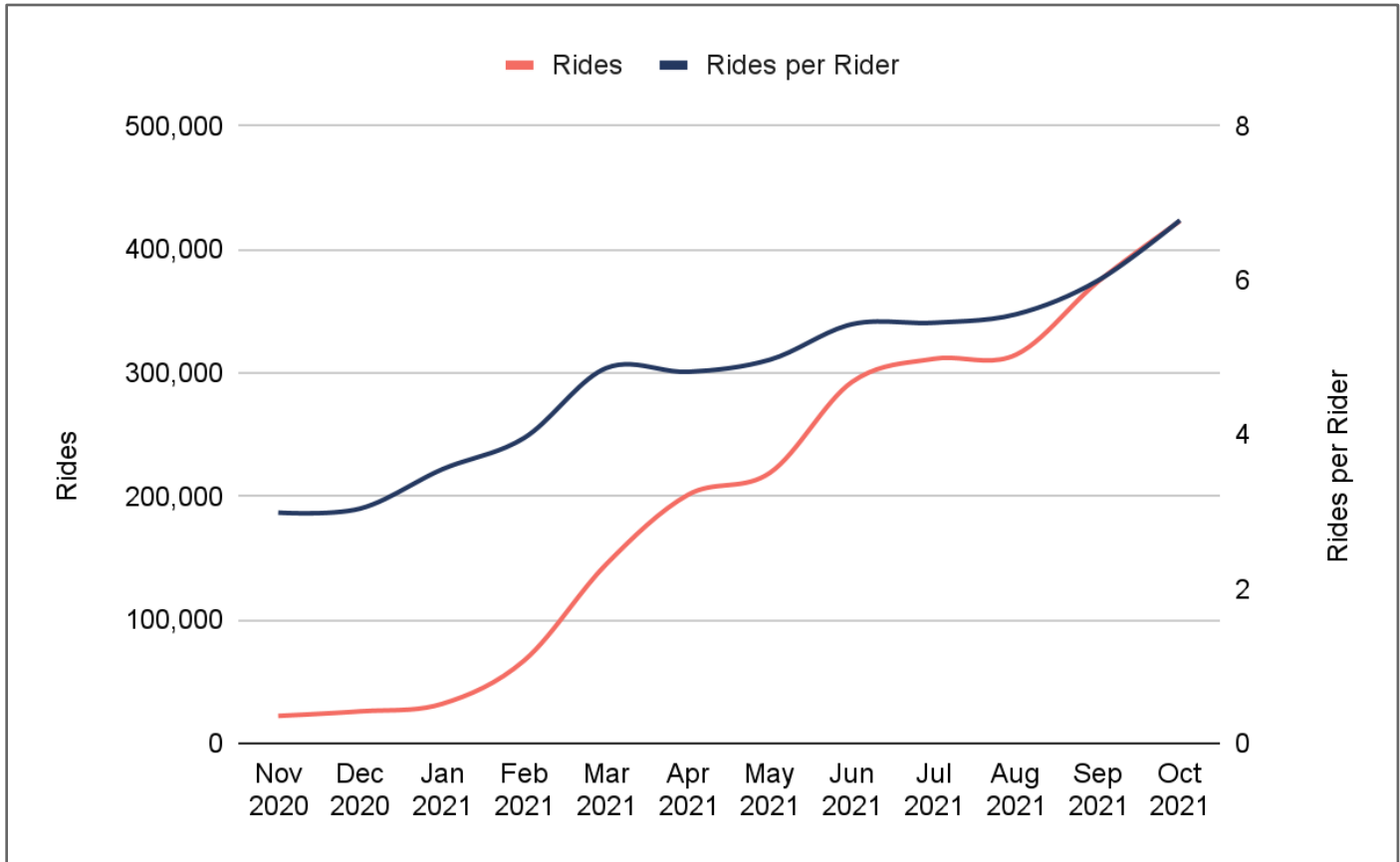
In order to paint a picture of the usage of the scheme in more detail, this section assesses a number of key performance indicators: rides; ride start heatmaps; fleet size and utilisation; distance travelled and average journey length; and riders. Each of these indicators has been reviewed separately for the three trial schemes (Bristol & South Gloucestershire Hop-on Hop-off, Bath Hop-on Hop-off and Long-Term Rental).

#### **Bristol & South Gloucestershire 'Hop-on Hop-off' usage**

Bristol & South Gloucestershire's e-scooter trial has been incredibly popular to date, with 2,400,000 rides completed between November 2020 and October 2021 covering 6,400,000km and with an average of 5 rides per e-scooter per day.

## Rides

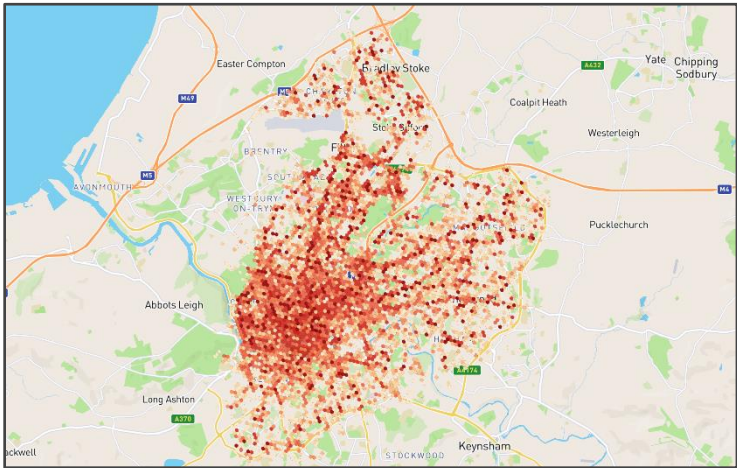
Monthly rides have increased 19X, from 22,000 in November 2020 to 423,000 in October 2021.



We have also seen a 127% increase in the number of rides completed per rider each month, from 3.0 to 6.8. This is a strong indicator of service adoption and is a sign that users are becoming more accustomed to e-scooters and are choosing to use them more frequently as part of their regular travel routines.



Ride start heatmap



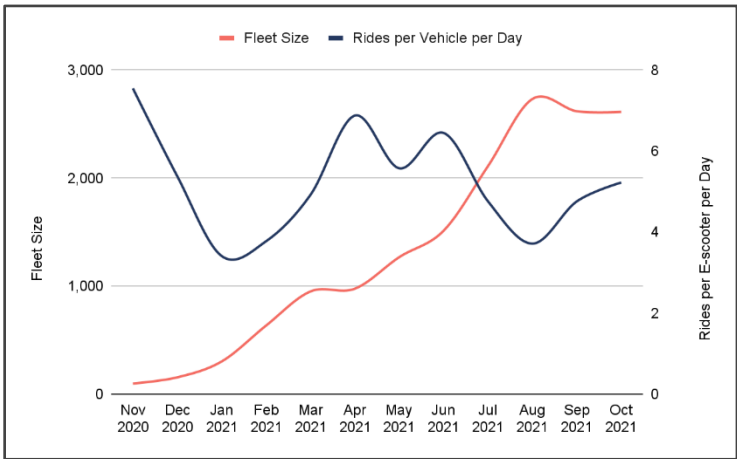
To compare relative demand in areas across Bristol & South Gloucestershire we have looked at the number of rides started in different areas.

The period assessed was April 2021 to October 2021. The reason being that all expansions were completed by that point which allows the fairest comparison between areas.

In the Bristol & South Gloucester area we have seen the greatest demand in the centre of Bristol (indicated by the darker red areas in the image on the left) with the number of rides falling towards the edges of the operating area.

Fleet size and utilisation

To service the high levels of demand seen in Bristol & South Gloucestershire we have scaled the fleet from 100 e-scooters in November 2020 to 2,650 (averaged between August 2021 and October 2021).



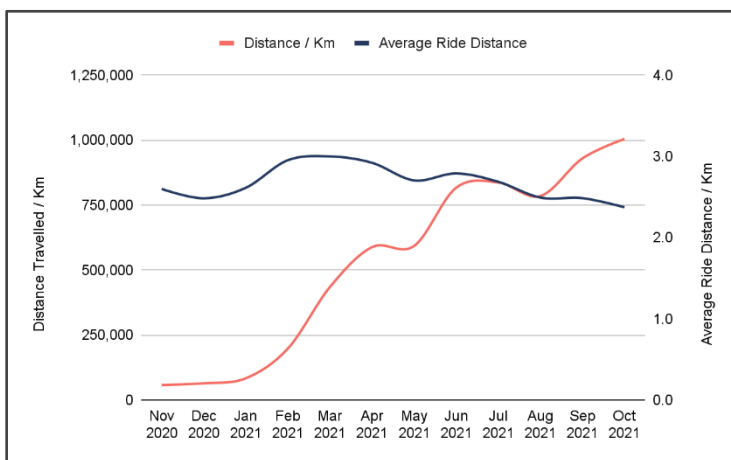
Over that period of scaling we have always retained a number of trips per e-scooter per day (the key measure for fleet utilisation) that compares favourably with other UK markets. For example, Transport for

London recently published data from the London trial that indicated utilisation of 1.2 rides per e-scooter per day between June 2021 and October 2021.

The lack of negative correlation between fleet size and fleet utilisation, combined with consistently high utilisation levels, indicates that the current fleet size is not able to satisfy all of the demand for the hop-on hop-off service in Bristol & South Gloucestershire.

### Distance travelled and average journey length

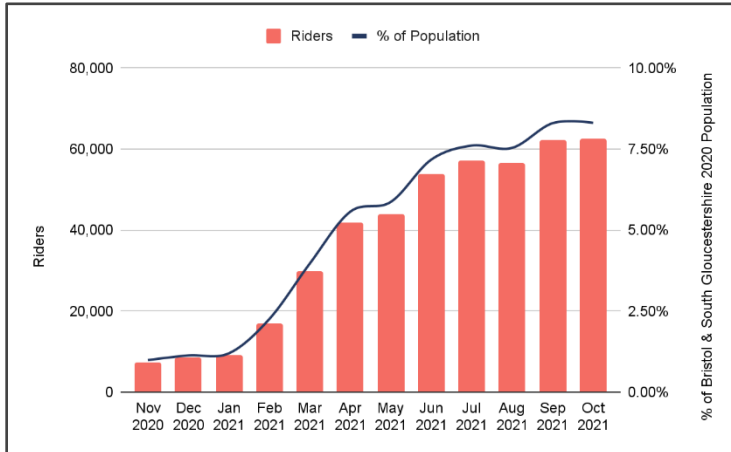
Distance travelled per month has also increased significantly since launch, from 58,000km in November 2020 to 1,000,000km in October 2021.



Average ride distance has fluctuated over the past 12 months, first increasing from 2.6km to 3km between November 2020 and March 2021, before decreasing back to 2.4km between March 2021 and October 2021. This journey length suggests that e-scooters are used for first and last mile journeys.

### Riders

We have seen the number of riders using the service each month increase from 7,000 in November 2020 to 62,000 in October 2021.

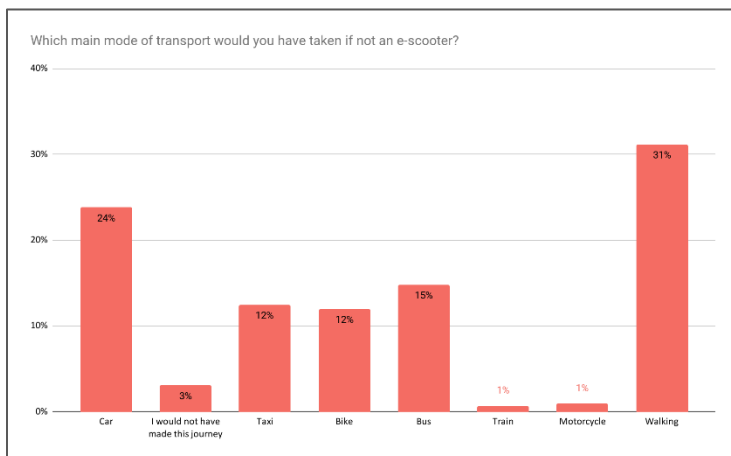


The combination of a larger user base and the increased engagement of that user base (represented as more rides per rider per month outlined in the “Rides” section) has delivered our total increase in monthly rides.

We saw the monthly growth rate in riders using the service slow between June and August, but that was to be expected as Bristol & South Gloucestershire’s students (a key demographic, see Section 2.2) headed home over the summer period.

### Modal shift

As part of the ongoing work to understand the impact of the e-scooter service, user surveys have been used to build a picture of “modal shift”, i.e. the change from use of one transport mode to another.



When asked “which main mode of transport would you have taken if not an e-scooter”, 36% of users answered that they would have used a car or taxi.

With modal shift from cars at 36%, we can estimate that 874,000 car trips have been replaced by e-scooter trips in the first 12 months of the trial.

In terms of emissions savings that level of car replacement equates to 508 tonnes of CO2 and 84kg of PM2.5 that were not emitted.

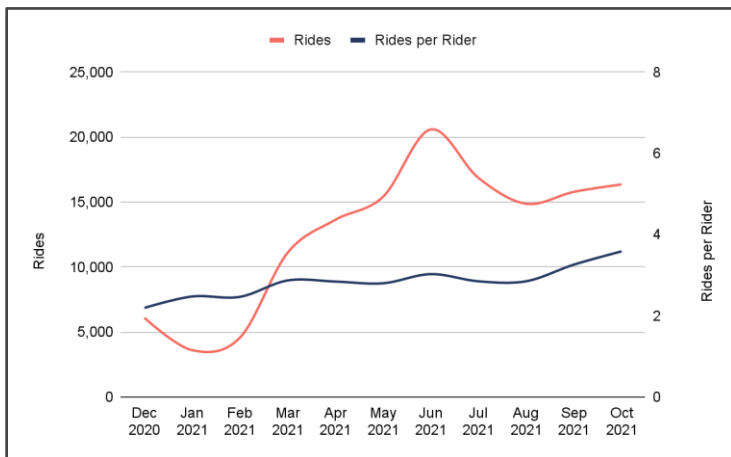
31% of survey respondents said they would have walked. We are working with the West of England Combined Authority to understand the underlying reasons for modal shift both from the car and from other sustainable modes of transport.

### Bath 'Hop-on Hop-off' usage

In Bath a total of 139,000 rides have been completed to date, covering a total of 296,000km, with an average of 3-4 rides per scooter per day. It is important to note that Bath is a considerably smaller operation than Bristol and South Gloucestershire, with just 150 e-scooters in an operating area of 6 km<sup>2</sup>.

### Rides

Monthly rides have increased 2.6X from 6,000 in November 2020 to 16,000 in October 2021.



We have also seen a 63% increase in the number of rides completed per rider each month, from 2.2 to 3.6.

Although the general trend has been one of growth, Bath has shown a different pattern of performance to Bristol & South Gloucestershire. Whilst the cities are different in terms of infrastructure, population and demographics, it is likely that the difference has been driven predominantly by the rate of scaling and expansion.

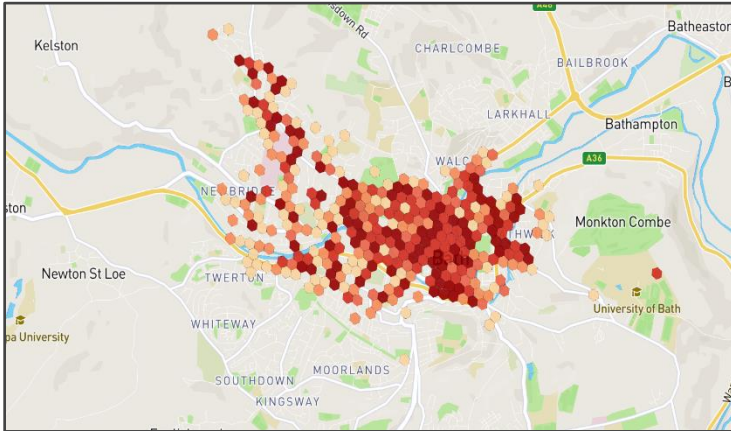
Whilst Bristol & South Gloucestershire has scaled significantly in area and fleet size, Bath has remained a small operation, meaning that the e-scooter service facilitates fewer journey types and has likely seen less adoption as part of day to day travel. The impact of this is most evident when looking at the number of rides per rider per month, sitting at just 3.6 in Bath compared to 6.8 in Bristol & South Gloucestershire.

This difference in the frequency with which riders are using the service in both operating areas could be an indication that the current Bath operation does not as effectively meet the needs of riders.

This hypothesis is supported by data from Voi's recent summer survey which included the following question: "Does the service cover all of the areas you want to ride? Yes / No". In Bristol 75% of survey respondents answered "Yes" to the question whereas, in Bath, only 55% of users answered "Yes".

### Ride start heatmap

To compare relative demand across the Bath operating area we have looked at the number of rides started in different areas.



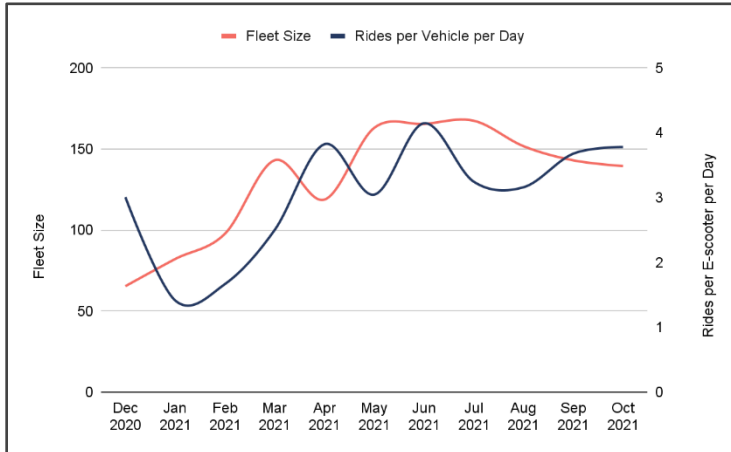
The period assessed was April 2021 to October 2021. The reason being that all expansions were completed by that point which allows the fairest comparison between areas.

In the Bath operating area we see that the greatest concentration of rides were started in the very centre of the city.

It is not possible to see the wider pattern of demand across the whole city due to the limited size of the current operating area.

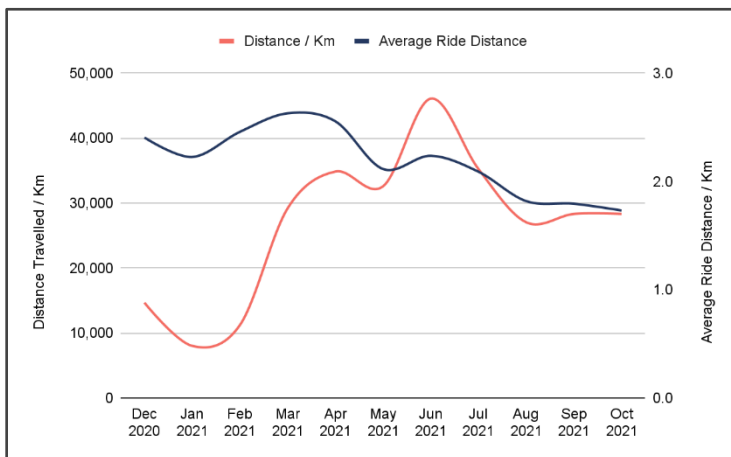
### Fleet size and utilisation

There has been modest scaling of Bath's fleet size, from 50 to 150 e-scooters between November 2020 and May 2021 which has been maintained ever since.



From November 2020 to October 2021 rides per e-scooter per day have shown strong performance, with most months being >3. This compares favourably with other UK markets, for example London, which saw 1.2 rides per e-scooter per day between June 2021 and October 2021.

### Distance travelled and average journey length



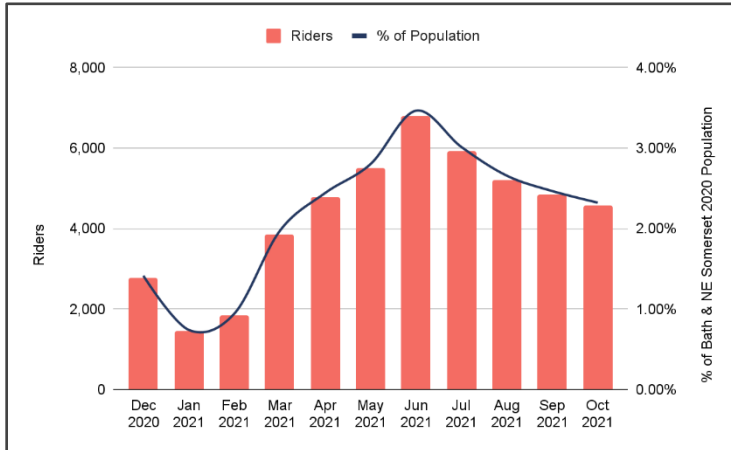
Distance travelled has shown strong positive correlation with number of rides, also increasing to a peak in June 2021 (of 46,000km) before falling in July and August and recovering in September and October.

Unlike average ride length in Bristol & South Gloucestershire, Bath has exhibited a downward trend that has taken the average ride from >3km in late 2020 and early 2021, down to 2km by October 2021 (with the lowest average being 1.8km in August and September).

### Riders

We have seen the number of riders using the service increase by 3X, from 2,400 in November 2020 to 6,800 by June 2021.



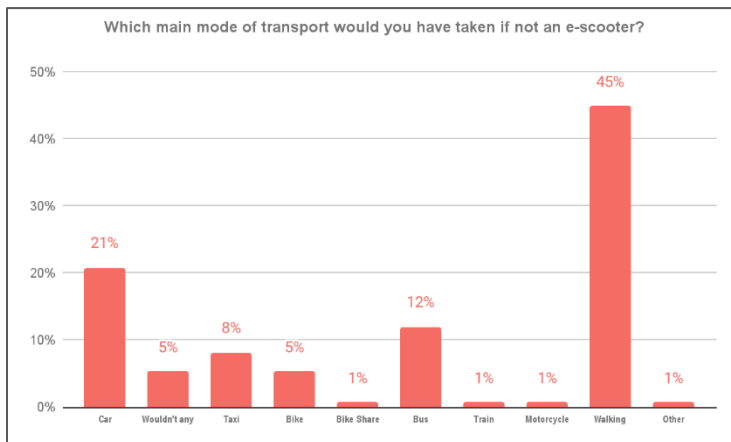


However, since June we have seen a 32% drop in ridership, with monthly riders falling from 6,800 to 4,600.

Whilst it is not possible to reach a definitive conclusion as to what caused this drop, given the large number of variables at play, it is likely that it was in part influenced by the fact that the Bath operating area is not meeting the needs of 45% of riders, as mentioned previously, which may be leading them to stopping use of the service.

### Modal shift

As part of the ongoing work to understand the impact of the e-scooter service, user surveys have been used to build a picture of “modal shift”, ie. the change from use of one transport mode to another.



When asked “which main mode of transport would you have taken if not an e-scooter”, 29% of users answered that they would have used a car or taxi.

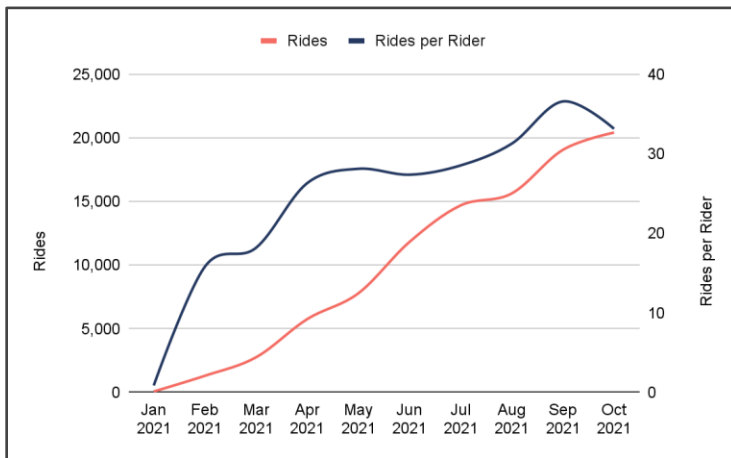
With modal shift from cars at 29%, we can estimate that 86,000 car trips have been replaced by e-scooter trips in the first 12 months of the trial.

45% of survey respondents said they would have walked. We are working with the West of England Combined Authority to understand the underlying reasons for modal shift both from the car and from other sustainable modes of transport.

### Long-Term Rental (LTR) usage

The LTR scheme in the West of England has seen consistent growth since launching in January 2021, with 99,000 rides completed to date and monthly ride numbers exceeding that of Bath's Hop-on Hop-off service between August and October 2021. However, the e-scooters are utilised less frequently, with rides per scooter per day of 1.5, compared to 3-5 for the West of England Combined Authority's hop-on Hop-off services.

### Rides



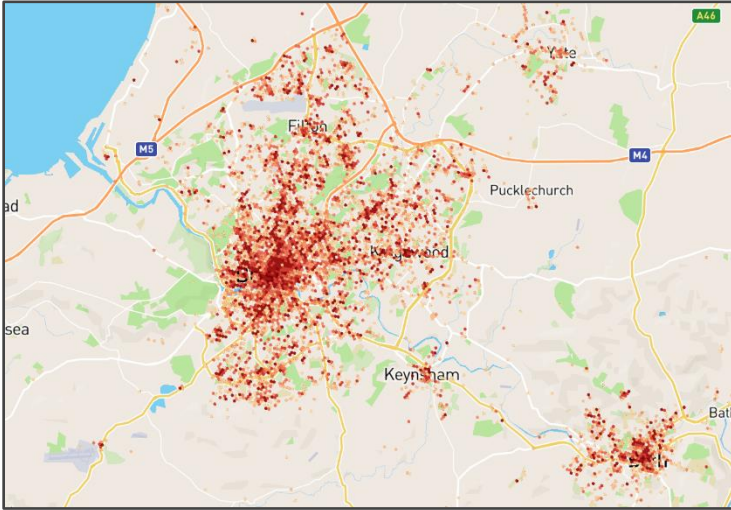
Monthly rides have increased steadily by approximately 2k per month to a peak of 20,000 in October 2021.

Rides per rider have also increased, albeit in a less linear fashion, also peaking in September 2021 at 37 rides per rider per month.

The average user of the LTR service rides more frequently than the average user of the 'Hop-on Hop-off' service (9X more frequently than the average user in Bath and 5X more than the average user in Bristol & South Gloucestershire in October 2021). However, as covered below, each individual e-scooter sees considerably less utilisation.

### Ride start heatmap

To compare relative demand across the West of England operating area, we have looked at the number of rides started in different areas.



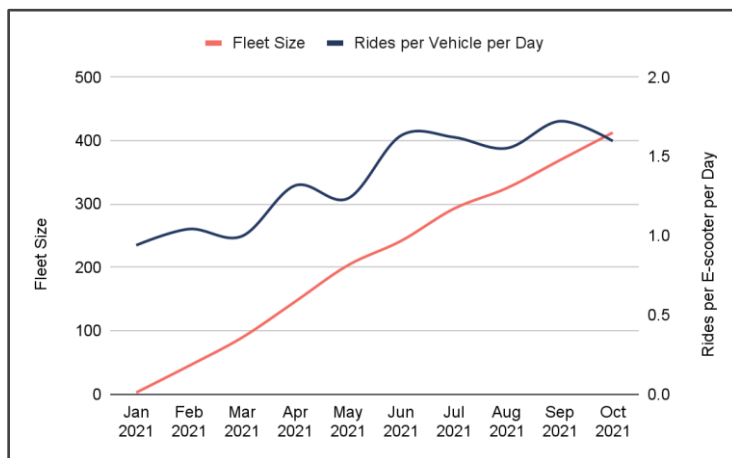
The period assessed was January 2021 to October 2021 ie. the full period since launch.

For the LTR scheme we see that the areas with the greatest frequency of usage (areas marked by darker red) are the central city areas of Bristol and Bath.

We do, however, see a significant level of usage in areas not covered by the HOHO trials, particularly areas to the west and south of the current Bristol & South Gloucestershire HOHO operating area, as well as other areas such as Keynsham and Yate.

### Fleet size and utilisation

We have seen the number of active LTR e-scooters increase linearly month on month, peaking in October at 413 e-scooters.

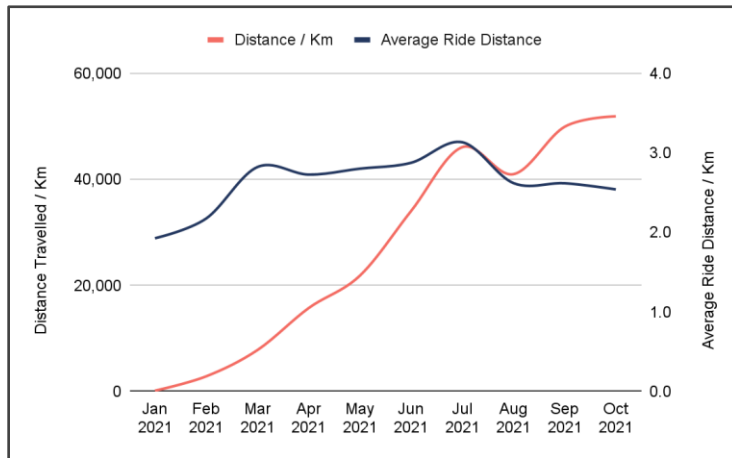


Over that period we have seen an increase in the level of utilisation of the e-scooters, with rides per scooter per day increasing from 1 to 1.5 in 2021.

It is worth noting that on a per e-scooter basis, LTR scooters are used considerably less than the Hop-on Hop-off scooters, by a factor of 2X-4X.

### Distance travelled and average journey length

As with fleet size and monthly rides, distance travelled increased in a linear fashion between January 2021 and October 2021, peaking at 52,000km.

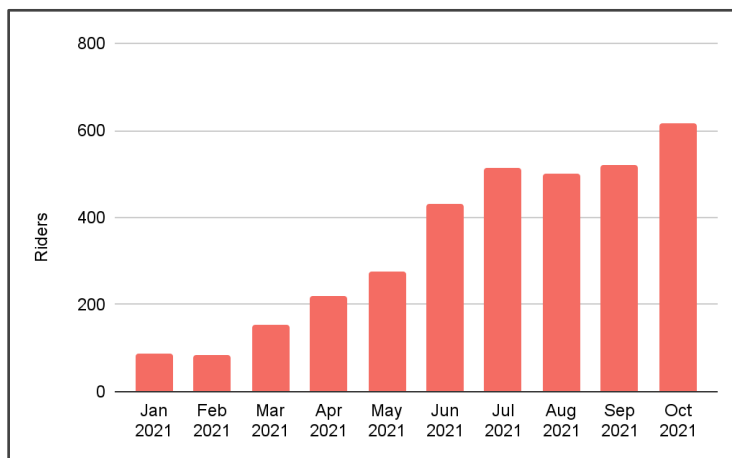


Although it has seen some fluctuation, we have seen a trend of increasing average ride distance in 2021, with average ride distances starting at 1.9km and reaching a peak of 3.1km in July, before falling to 2.5km by October.

Average ride distances for LTR have been comparable to those of the Hop-on Hop-off service.

### Riders

We have seen the number of riders using the service each month increase by 7X, from 88 to 600 by October 2021.



The number of users completing at least one ride each month has increased month on month, with the exception of July 2021 to August 2021, indicating an increasing level of rider engagement.

## 2.2 Rider demographics

It is clear that the e-scooter trial has been used by a younger demographic to date, with users aged 18 to 34 accounting for 84% and 81% of rides in Bristol & South Gloucestershire and Bath respectively. However, that is not unexpected, as younger users are often the earliest adopters of new technologies. Whilst the average user's age may increase over time, the introduction of e-scooters represents a unique opportunity to create new, green transport habits for a whole generation and, in so doing, can remove the need or desire for them to buy and use motor vehicles.

We do see a gender split in users, with 64% and 61% male users signed up in Bristol and Bath respectively. This is comparable to the figures seen for cycling in the region, indicating that some of the same factors may be influencing both bicycle and e-scooter users.

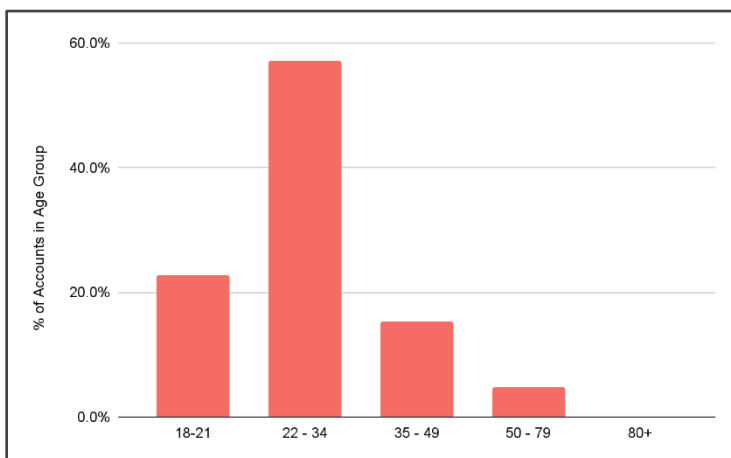
This section provides separate overviews of rider demographics for each of the two Hop-on Hop-off operating areas in the West of England Combined Authority (Bristol & South Gloucestershire and Bath).

### Bristol & South Gloucestershire Hop-on Hop-off demographics

In Bristol we see that the vast majority of users are aged 18 to 34 (82%) and the majority are male (64%). We have also seen that 18-30 year olds have taken more rides than the average user and male users ride more frequently than female users on average.

### Age of Voi account holders

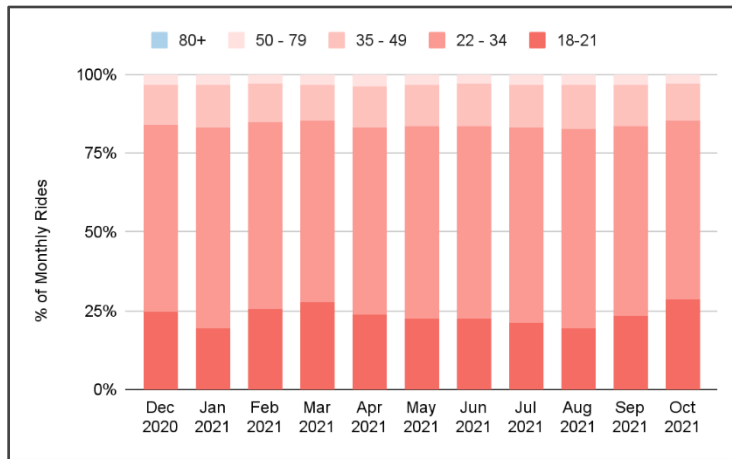
Reviewing the age of Voi account holders we can see that the 80% of account base is made up of riders under the age of 34:



- 23% of account holders are aged 18 to 21
- 57% of account holders are aged 22 to 34

### Age of monthly riders

When looking at the ages of the active monthly rider base (ie looking at the age of riders for each individual rides), we see that the age distribution is similar to distribution for account registrations, with 84% aged 18 - 34:



- 24% of rides were taken by ages 18 to 21
- 60% of rides were taken by ages 22 to 34.

Notably, we can see that riders aged between 22 and 34 account for 60% of rides, compared with only 57% of rider registrations. This indicates that users in that age group ride more frequently than the average users in Bristol & South Gloucestershire.

By contrast, users aged 35 or older account for just 16% of rides, compared with 20% of account registrations, indicating that users in that age range ride less frequently than the average user.

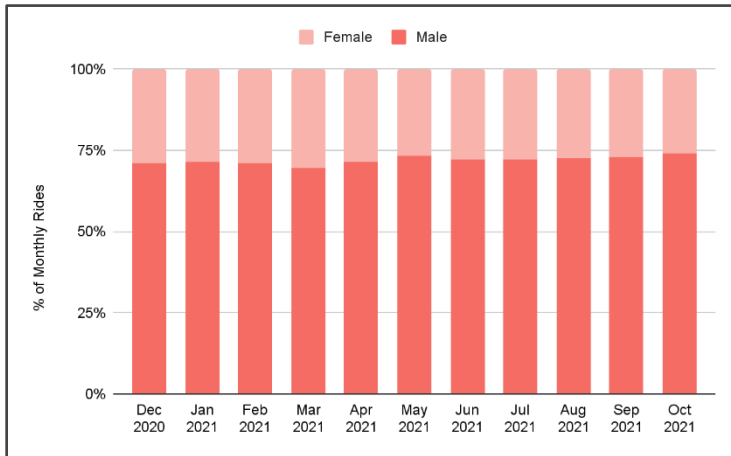
It is interesting to note that there has been fluctuation throughout the year in the proportion of rides completed each month by users aged 18 to 21. This is likely due to the population of university students in the city, as the fluctuations seem to be aligned to term times.

### Gender of Voi users

Reviewing the gender of Voi account holders we can see that there is a split of 64% male riders and 36% female riders. However, we see a different distribution when looking at the gender split of active riders month on month (ie looking at the gender of users completing rides, rather than signing up to the service).



Looking at ride data, we see that >70% of rides are completed by male users, compared with only 64% of account registrations. This indicates that male users ride more frequently than female users on average.



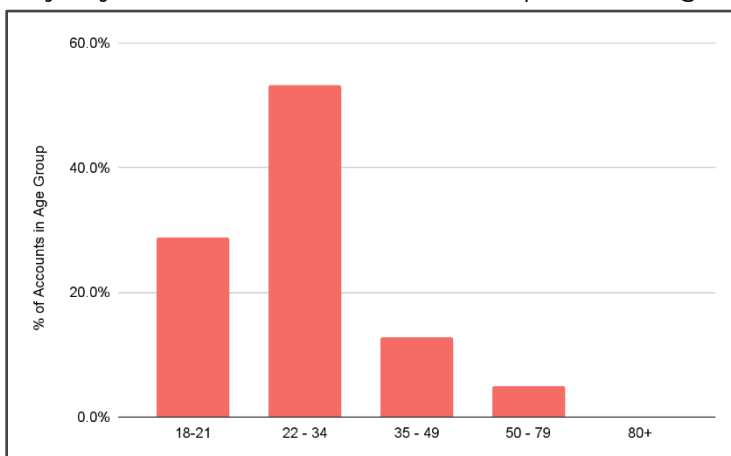
Referring to statistics from Cycling UK, it seems that e-scooter gender split is comparable with bicycles. Data for 2019 showed that 75% of bicycle trips were completed by males. The similarity in gender split indicates that some of the same factors may be influencing both modes of transport.

### Bath 'Hop-on Hop-off' demographics

In Bath we also see that the vast majority of account holders are aged 18 to 34 (82%) and the majority are male (61%). We also see that 22-25 year olds ride the most frequently and the gap between male and female riding frequency is more pronounced in Bath than Bristol & South Gloucestershire.

### Age of Voi account holders

Reviewing the age of Voi account holders we can see, as with Bristol, & South Gloucestershire, that the vast majority of the account base is made up of riders aged 34 and under.

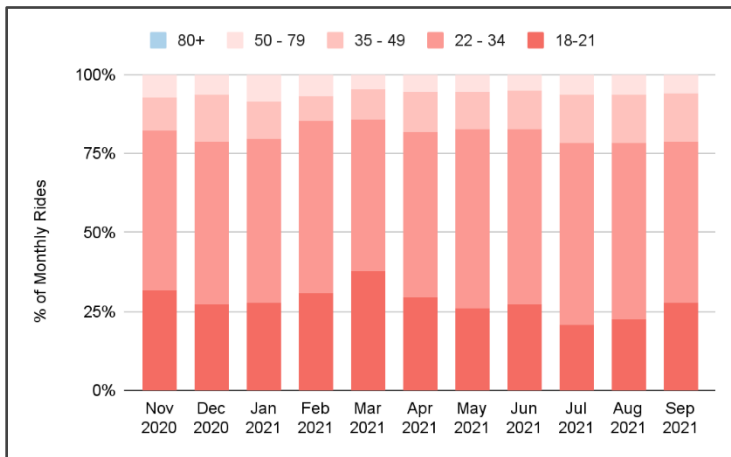


- 29% of account holders are aged 18 to 21
- 53% of account holders are aged 22 to 34
- 18% of account holders are aged 35+.

From this data we can see that the account holder base is skewed younger than Bristol & South Gloucestershire.

### Age of monthly riders

When looking at the ages of the active monthly rider base (ie looking at the age of riders for each individual ride), we see a similar pattern to Bristol & South Gloucestershire. That is, the age distribution is similar to distribution for account registrations:



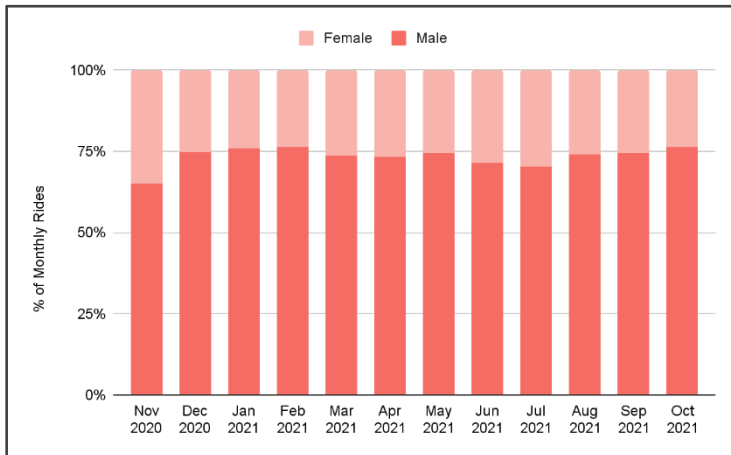
- 28% of rides were taken by ages 18 to 21
- 53% of rides were taken by ages 22 to 34
- 19% of rides were taken by ages 35+

By comparing the respective shares of monthly riders and account holders we can see that users aged 18 to 21 ride slightly less frequently than the average user and those aged 35+ ride more frequently. However, there is less variance by age group compared with Bristol & South Gloucestershire.

### Gender of Voi users

Reviewing the gender of Voi users we can see that there is a slightly higher percentage of female account holders than Bristol & South Gloucestershire, with a split of 61% male and 39% female. However, similar to the pattern reflected in the data for Bristol & South Gloucestershire, we see that male account holders ride more frequently than female account holders.

The monthly average for gender split for rides in Bath since launch is 73% male, 28% female.



This is the same as the gender split for rides seen in Bristol & South Gloucester.

As previously referred to, statistics from Cycling UK show that 75% of bicycle rides in 2019 were completed by men. The similarity in gender split between bicycles and e-scooters indicates that some of the same factors may be influencing both modes of transport.

## 2.3 User engagement

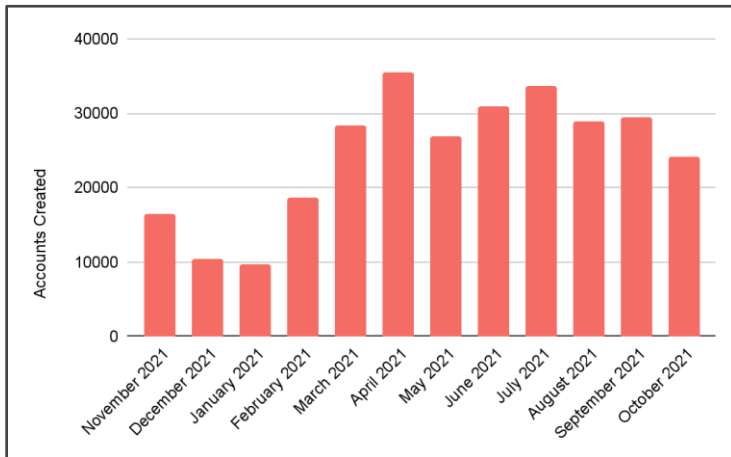
An important indicator of a newly introduced transport mode performing well is a user base growing in terms of both size and engagement. In the West of England Combined Authority we have seen different stories playing out in the two HOHO trial areas. Bristol & South Gloucestershire boasts a rapidly growing user base who are increasingly engaged in the service month on month, whereas in Bath the rate of growth in user base and engagement has been comparably stagnant. This may relate to the differences in the scale of the two operating areas, with Bristol & South Gloucestershire being larger, facilitating more users' desired journeys, potentially leading to increased user retention.

This section provides an overview of user base growth and engagement metrics for two Hop-on Hop-off operating areas in the West of England Combined Authority (Bristol & South Gloucestershire/South Gloucestershire and Bath).

### Bristol & South Gloucestershire 'Hop-on Hop-off' user engagement

There has been a high level of interest in the service from residents of Bristol & South Gloucestershire, with 30k new accounts created each month between March and September 2021. There has also been a steady increase in first to fifth ride conversion since launch, supporting the hypothesis that user engagement has increased since launch, suggested by the increasing number of rides per rider each month in the region.

A total of 293,000 accounts were created in the past 12 months.

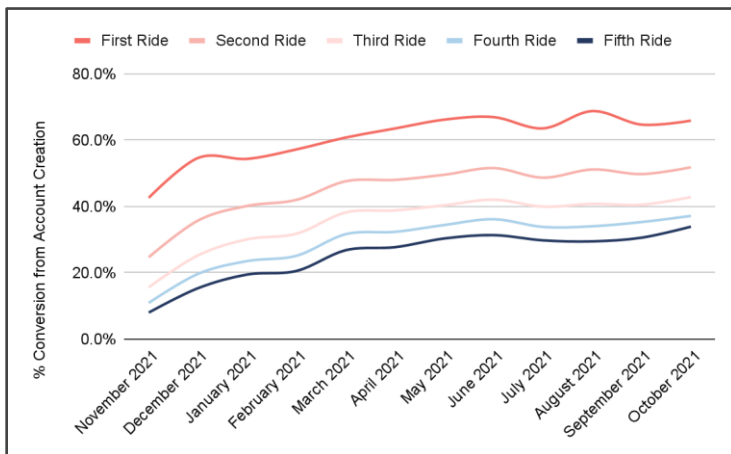


Peak months of new account creation were in April 2021 and July 2021, with 35,000 and 34,000 respectively.

The largest increases were in January 2021 to March 2021, nearly doubling month-on-month.

We did see a decrease in account creations between September and October, with accounts created falling by 18%, however, we do not expect the same rate of sign-ups to be sustained indefinitely given the potential user base is finite (for context, total sign-ups have now reached 39% of the population of Bristol & South Gloucestershire).

1st-to-5th ride conversion amongst users in Bristol & South Gloucestershire have increased steadily. This is in line with what we would expect to see from a scaling and maturing service.



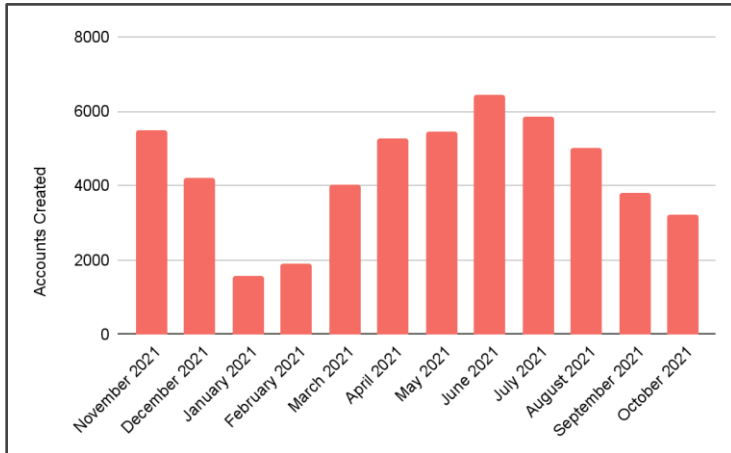
5th ride conversion increased from 8% in November 2020, to 34% in October 2021, suggesting a clear pattern of adoption and continued usage of the service from individual users.

#### Bath 'Hop-on Hop-off' user engagement

There has also been a high level of interest in the service in Bath, with nearly 5-6k account creations per month between April 2021 and July 2021. That indicates that 5% of Bath residents were creating Voi

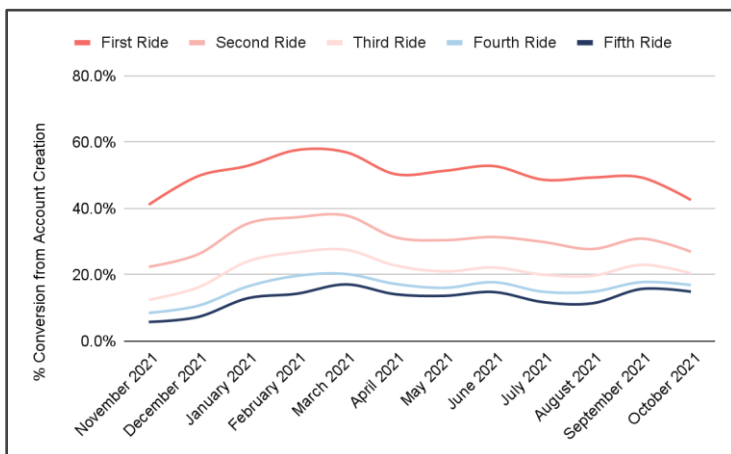
accounts during peak months in 2021, compared with 6% in Bristol & South Gloucestershire. However, following account creation there is a drop off in engagement compared with Bristol & South Gloucestershire indicating that the service does not encourage sustained usage as effectively.

A total of 52,000 accounts were created in the 12 month period from November 2020 to October 2021.



Similar to Bristol & South Gloucestershire the largest month-on-month increases were in between February 2021 to April 2021, nearly doubling month-on-month.

1st-to-5th ride conversion initially increased steadily, in-line with expectations for a new service, peaking in March 2021.



However, between March 2021 and October 2021 1st-to-5th has either held steady or decreased, indicating reducing rider engagement.

We also see that Bath's ride conversion is significantly lower than Bristol & South Gloucestershire's. This indicates that, although a comparable share of Bristol & South Gloucestershire and Bath's population have created Voi accounts, Bath users ride much less frequently. As we have alluded to in previous sections this suggests that the current service in Bath does not satisfy the requirements of Bath residents as effectively as the Bristol & South Gloucestershire service.

## 2.4 Pass usage

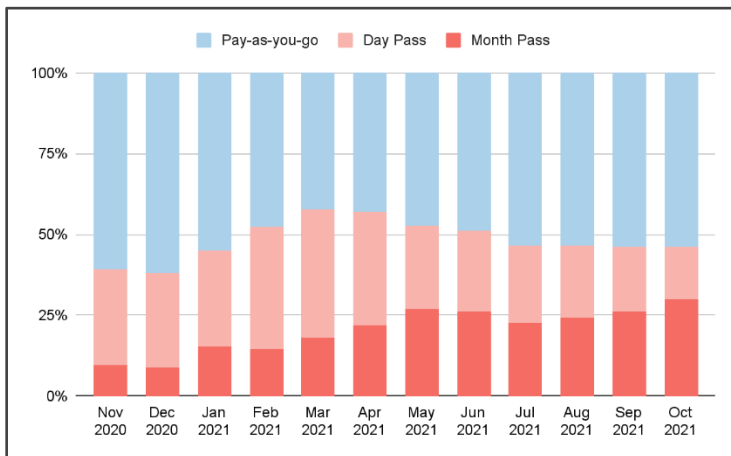
Voi offers a number of different passes that intend to provide different users with flexible options that suit their preferences. Pay As You Go offers less frequent users an easy way to access the service without committing to fixed fees, Daily Passes allow those confident they will require more than one trip an affordable way to travel and Monthly Passes provide the greatest value for regular users. We see that all of these products makeup significant proportions of total rides completed, indicating the importance of providing users with options that meet their specific needs.

As part of our further efforts to improve service accessibility, we offer a number of discount passes which have also been heavily used. The Voi4Heroes scheme has been particularly successful, providing 200,000+ rides, at a 75%-100% discount, to emergency services workers.

This section provides an overview of the level of usage of Voi's subscription products across the West of England Combined Authority. It also covers the uptake of Voi's various discount offerings (ie. Voi 4 Heroes, Voi 4 Students, Voi-4-All).

### Daily and Monthly Pass usage

#### Bristol & South Gloucestershire Day and Monthly Pass usage



We have seen that 51% of rides have been Pay As You Go, with 25% of rides on Month Passes and 24% on Daily Passes.

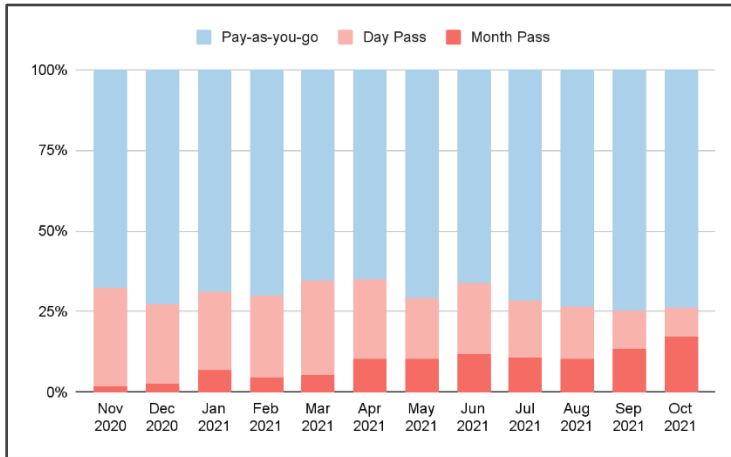
Monthly Passes increased significantly during lockdown until the end of spring, driven by a high level of uptake of our 100% discounted Voi 4 Heroes Pass.

Daily Pass usage increased from 29% in November 2020 to 40% in March 2020, before falling back down to 16% in October 2021.



## Bath Day and Month Pass Usage

In Bath we have seen that the vast majority of rides, 70% of the total, have been Pay As You Go, with 19% of rides being on Daily Passes and 11% of rides being on Monthly Passes.



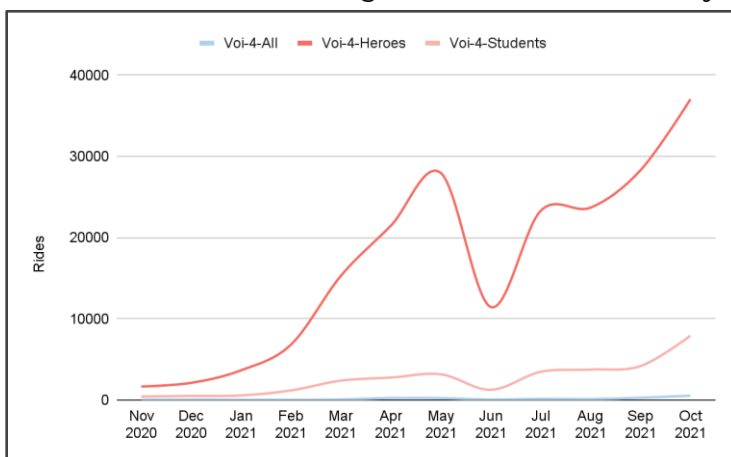
As with Bristol and South Gloucester there has been an increase in rides completed on Monthly Passes, however, in Bath they represent a smaller proportion of total rides.

This different pattern of Pass usage indicates that riders in Bath may be using e-scooters for different types of trips than riders in Bristol & South Gloucestershire.

## Discount Pass usage in West of England Combined Authority

### Rides on Discount Passes

Voi operates three discount schemes that enable more affordable access to the 'Hop-On Hop-Off' e-scooter schemes in the West of England Combined Authority.



The Voi 4 Heroes scheme offered a 100% discount during the lockdown period and has been incredibly popular, with 5,500 users completing 200,000 total rides (representing 8% of all 'Hop-On Hop-Off' rides in West of England Combined Authority). The service peaked in usage in October with 37,000 rides.

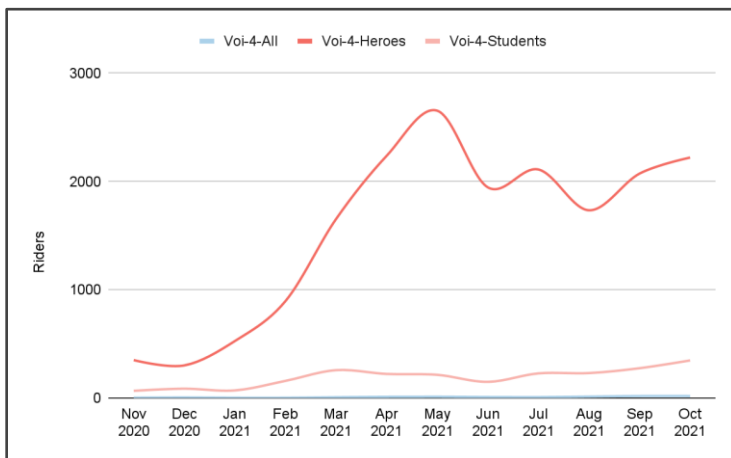
The Voi 4 Students scheme has seen less usage, with 32,000 total rides, but has also increased month-on-month, peaking at 8,000 monthly rides in October 2021.

Following the conclusion of the lockdown period, the discount available for the Voi-4-All scheme was reduced from 100% to a, still considerable, discount of 75%.

We have seen a low level of uptake of the Voi-4-All scheme, which aims to provide more affordable access to low income groups. Only 2,000 rides have been completed on the scheme to date and so to encourage more use we have broadened the criteria for eligibility. Previously an HC2 certificate was required to apply to the scheme, but is now available to those on Employment and Support Allowances, Job Seekers Allowance, Income Support and Universal Credit.

### Users of Discount Passes

We can see that the number of users riding each month mirrors the pattern of rides, with significant increases for Voi 4 Heroes, more modest increases in Voi 4 Students and a significantly lower level of uptake of the Voi-4-All Pass.



## 2.5 Public feedback

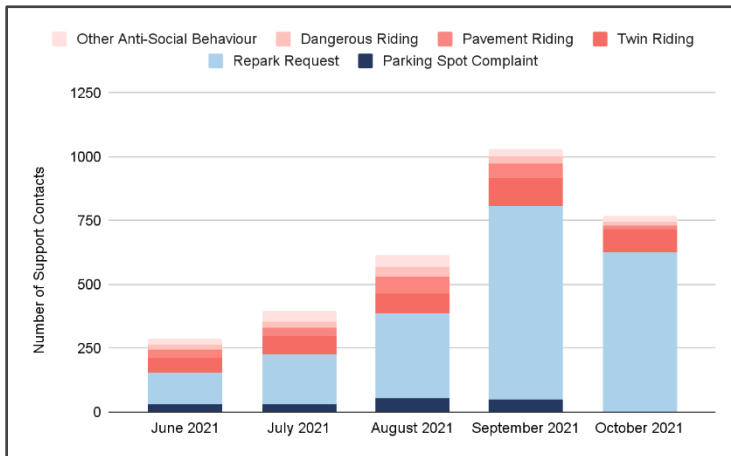
When assessing the relative success of the e-scooter trial it is important to consider public sentiment and to gauge that we can look at the complaints received by Voi from members of the public who do not use the service. As well as helping us to understand the public's concerns, it can provide useful insight into ways that we can improve the e-scooter scheme over the remainder of the trial period.

This section reviews data on complaints raised by members of the public. As referred later in the report, Voi collects community feedback through a number of mechanisms, namely through email/phone contacts to our customer support but also through the Report a Voi web page.

In June 2021, we implemented a new reporting system for public complaints and the analysis in this section covers the period of data collection since its implementation (June 2021 to October 2021).

### Bristol & South Gloucestershire public feedback

In Bristol & South Gloucestershire 3,100 cases of feedback were received through our email and Report a Voi (i.e. the reporting form on the Voi website) channels, representing one contact for every 570 rides.



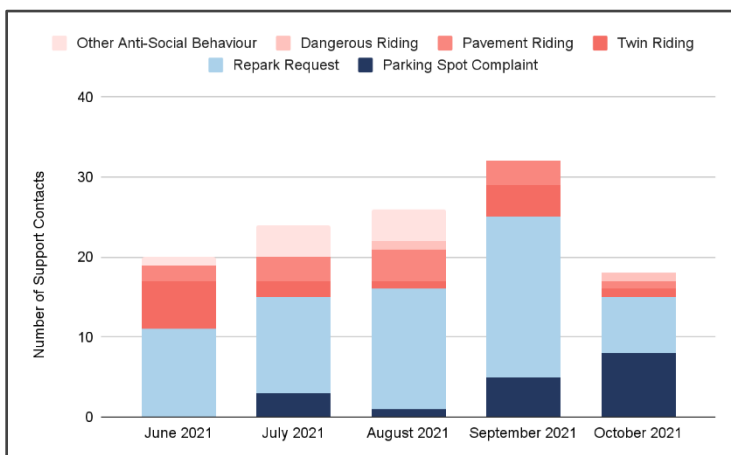
The majority of complaints (71%) related to parking, with the next most common categories being twin riding (ie. two people riding one scooter) (13%), pavement riding (7%) and dangerous riding on the road (4%).

There was an increase in complaints between June and August aligned to increased use of the service.

We also saw an increase in complaints in September, representing an increase in the rate of complaints from one in 512 to one in 411 rides. The rate of complaints then recovered in October, returning to one in 549 rides.

### Bath public feedback

In Bath between June 2021 and October 2021 a total of 120 complaints were received, representing one contact for every 704 rides.



As with Bristol & South Gloucestershire, the majority of complaints related to parking (68%), with the next most common categories being twin riding (12%), pavement riding (11%) and dangerous riding on the road (2%).

As with Bristol & South Gloucestershire, we saw a peak of complaints in September, followed by a drop in October.

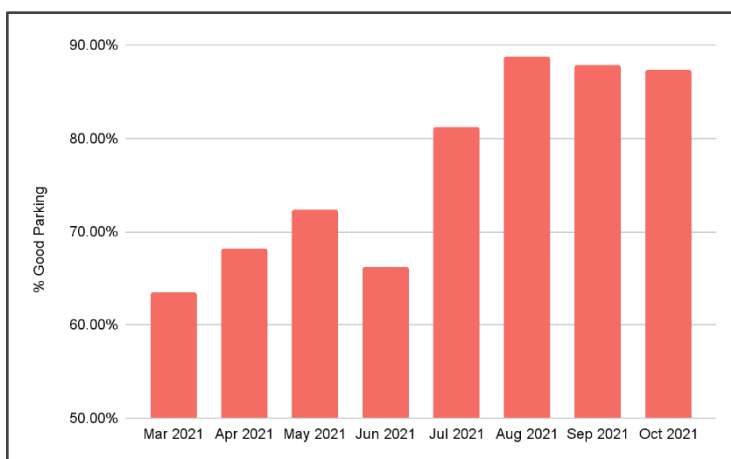
## 2.6 Parking review

Parking is one of, if not the most critical elements of delivery for an e-scooter operation, both for users and, as covered in Section 2.5, for the public and other stakeholders. It is also an area that has received considerable attention from both Voi, the Unitary authorities and West of England Combined Authority in attempts to improve the rate of compliant parking across all trial schemes. These efforts have delivered improvements to date, with 30% more rides ending with compliant parking in October 2021 as compared with March 2021.

In this section, data on 'good parking' percentage from our End Ride Photo programme is assessed as a measure of parking compliance in the West of England Combined Authority. This provides a view on the percentage of rides which have been defined as properly parked (ie parked such that they do not cause disruption for other road and pavement users and do not break any parking traffic rules), following a review of the End Ride Photo by one of our support agents.

### Bristol & South Gloucestershire parking

Over the last six months parking compliance has increased at a steady rate from roughly 65% in March to 85% by August



We believe that this result can largely be attributed to the implementation and refinement of the End Ride Photosolution, which provides educational messages, warnings and fines to users.

Whilst it is possible that incremental improvements could also be associated with other factors, for example users learning how to park better over time, we believe that the End Ride Photo was the driving force. The

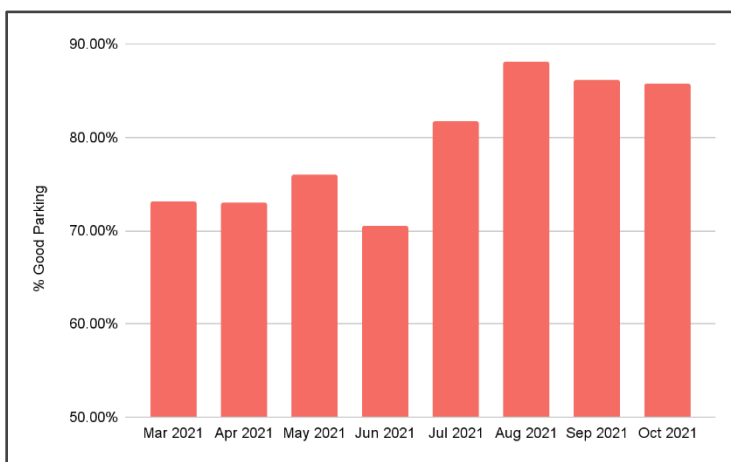
reason being that there was a significant improvement delivered over a relatively short period of time following the implementation of the solution.

We also saw this quick improvement mirrored in all UK markets following implementation.

Notably, there was a drop in parking compliance in June. Rather than representing a change in users' parking behaviour, this was the result of the implementation of more stringent criteria for 'good' parking.

### Bath parking

Bath has seen a gradual improvement of parking compliance with a result of roughly 73% in May to almost 90% in August.



Again this result reinforces the effectiveness of the End Ride Photo programme in promoting parking compliance.

As mentioned above, there was also a drop in parking compliance In June associated with the implementation of a more stringent definition for 'good' parking.

### 3. Key challenges & plans ahead

Following a review of performance it will be relevant to understand what the key challenges faced to date have been and also gain an insight into key plans ahead and initiatives being developed in the region.

With this in mind, we focus on the six topic areas below:

- Safety
- Parking coverage & infrastructure
- Anti-social behaviour/community feedback
- Local engagement
- Monitoring & evaluation
- Accessibility

#### 3.1 Safety

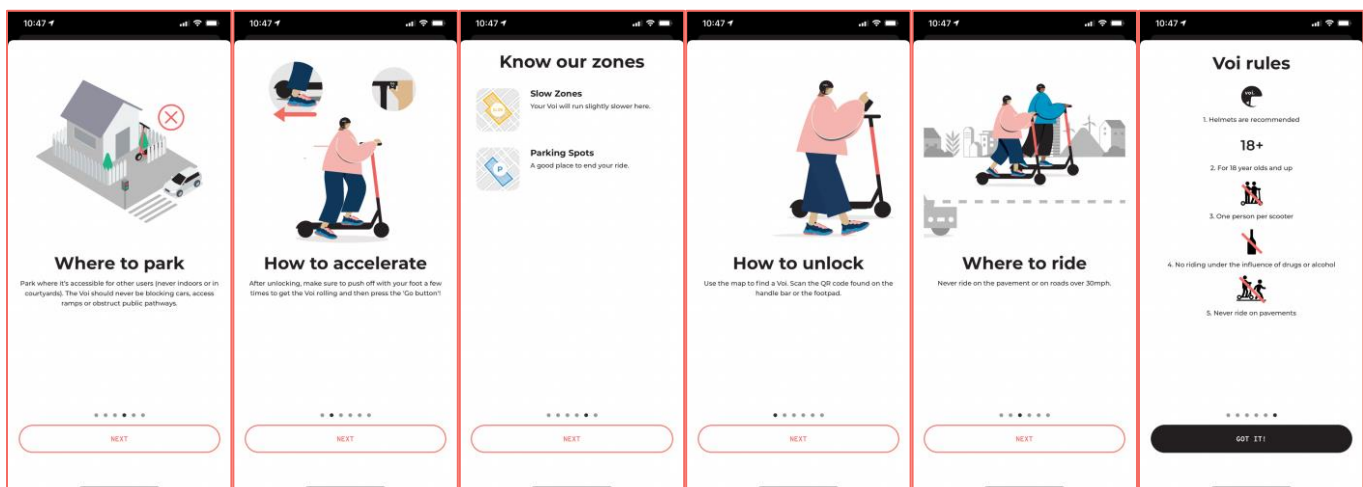
Just like many cities and governments, Voi has a Vision Zero target. That means eliminating all severe injuries and fatalities in the value chain by 2030. In order to reach this target Voi has been formulating a long-term, global strategic approach which has been documented in Voi's first annual safety report.

Safety has also been a primary focus for Voi in the operation of the e-scooter trials in the UK and a number of initiatives have been rolled out to deliver improvements in the area.

#### Training & user engagement

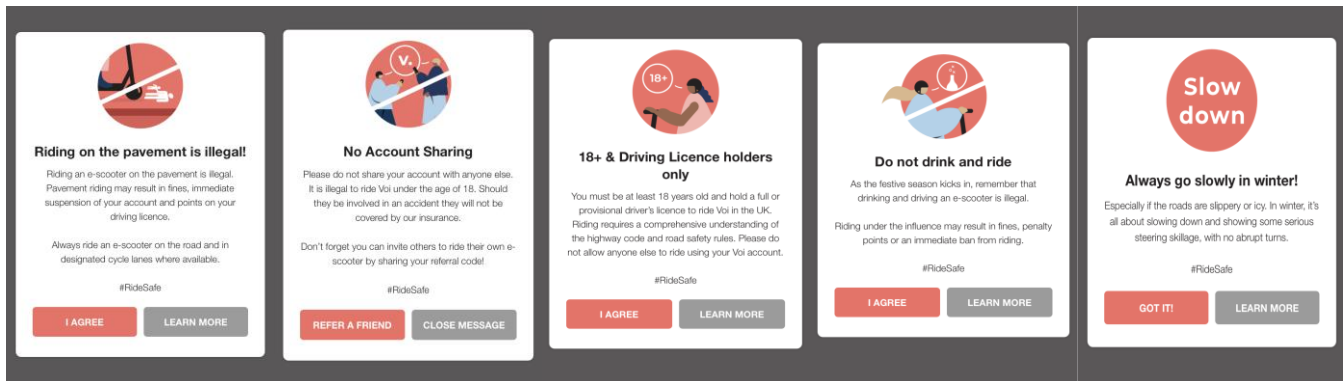
A central focus of our efforts to promote safe riding has been to continually engage with and train our users from the point of sign-up.

The image below shows our mandatory onboarding flow which runs new users through the rules and guidance for safe riding before they are able to start their first ride.





We also promote safety messages to our users through the Voi app on an ongoing basis to ensure that we are refreshing even our most experienced riders. For example, the images below show some of the messages from our 2021 winter safety campaign.



In addition to in-app messaging, we also offer training that educates users on safe riding. This training is both in-person and online:

We ran six in-person safety events that offered new and existing users an opportunity to practise riding in a controlled environment, as well as offering free ride credit and helmets.

We ran nine safety webinars that were free to join and provided guidance on how to safely use Voi e-scooters.

Our RideLikeVoila online training allows riders to earn credits that give discounts on future rides by completing training modules on e-scooter safety.

We created an online learning module with DriveTech AA, a leader in risk management and training.

## Software features

A number of features have been added to the Voi app in order to encourage safe riding behaviour:

**Beginner's mode:** The in-app feature 'Beginner's mode' is introduced, limiting speeds for the first 10 rides while new riders get acquainted with e-scooters.

**Helmet selfie:** The in-app feature 'helmet selfie' incentivises users to wear a helmet by getting discounted rides after taking a selfie.

**Reaction test:** The in-app feature 'reaction test' is introduced, requiring users to test their fitness to drive before starting a trip on weekend nights. This is live in the West of England from 16.00 hrs on Fridays and Saturdays.

## Hardware development

Another component to ensuring that our operation is as safe as possible is continually working to improve the vehicle itself. Since launching in the West of England we have made been making progress in a number of areas:

We launched with our V3X scooter, which was our first scooter developed in-house and offered improved safety features over past models including improved hydraulic suspension and larger wheels.

In Q1 2021 we introduced our newest scooter model, the V4. This introduced turn indicators and an improved Internet of Things (IoT) module for safer rides.

## Safety evaluation

Collecting meaningful safety statistics is of vital importance to the trial. There are a number of different data sources available including police collision records, hospital admissions, and user reports submitted via our own customer service channels. The West of England Combined Authority is undertaking an independent review of these different sources and looking to establish comparable data sets from other modes (in particular cycling) to understand the relative safety performance. This work is ongoing and will be reported in 2022. We are also working with the Department for Transport (DfT) on their national trial evaluation which includes safety performance analysis. The DfT's interim report is due shortly.

## 3.2 Parking coverage & infrastructure

Parking has been a key focus area for Voi when it comes to improving our service to match the city and public requirements. More specifically we have focused efforts on identifying key areas of demand as the trial progresses and put forward initiatives to ensure these are managed accordingly. This means avoiding situations where clutter may arise by having on-the-ground support for rebalancing and sufficient supply of parking areas where they are needed.

In order to ensure that we are successfully managing parking concerns as the fleet gradually expands in West of England Combined Authority, our focus has been on the initiatives below:

- Product development: mandatory parking cap
- Parking assessment: streamlining review process
- Parking infrastructure: painted/physical bays

### Product Development: Mandatory Parking Zone cap

Due to the huge demand for certain parking hubs in Bristol & South Gloucestershire and Bath, there have been occurrences of large numbers of scooters being parked in certain Mandatory Parking Zones which has, on occasion, led to issues, most commonly obstruction of footways.

In an effort to address this issue, Voi's product team developed and rolled out a feature called Parking Zone Capacity. This allows individual Parking Zones to be assigned a scooter capacity. The function of the feature is that once a Parking Zone's capacity has been reached, no further scooters should be able to be parked at the location, thus limiting the issues that an excess of scooters parked at a given location can cause.

We have seen implementation of this feature deliver a noticeable improvement in tackling excesses of scooters in problem areas, but further work is underway to understand the extent of the impact in more detail and also to further refine the Parking Zone Capacity feature.

### Parking infrastructure (painted and physical bays)

The implementation of parking infrastructure, including parking racks and floor markings, aims to drive improvements in parking behaviour. A recent study from the Norwegian Institute for Transport Economics (TØI) found that there is a direct link between implementing both physical racks and painted bays with improvements in parking behaviour, particularly if placed in areas where people regularly begin or end their trips.

Considering the potential improvement in compliant parking that infrastructure can deliver, Voi has been working with local councils to identify potential areas for painted and physical parking bays, focusing on high demand areas, and subsequently deploying the infrastructure once the locations have been approved.

To date six racks and 14 painted bays have been deployed in collaboration with South Gloucestershire Council. There are plans to deploy infrastructure more widely during the remainder of the trial period.

In addition to the above, Voi have been working with Bath, Bristol and South Gloucestershire Councils to submit proposals for on-road parking infrastructure. In Bristol specifically we have submitted 12 locations for consideration. Deployment of painted parking bays in these locations, as part of the first on-road





parking infrastructure trial in the region, will help us to understand the potential benefits of on-road parking in areas of high service demand.

### 3.3 Anti-social behaviour

Whilst a key factor in delivering a successful e-scooter service is delivering the best possible service for our riders, we must also be mindful of the impact that the service has on other road and pavement users and residents of the areas we are operating in. Managing the impact on non-users is another factor that is central to the delivery of a successful e-scooter operation.

In addition to parking, which was covered in previous sections, anti-social behaviour is another issue that we have been working to address. Since launching the trials in the West of England, we have focused on the following initiatives which all aim to deliver improvements in the area of anti-social behaviour:

**Report a Voi:** a reporting form on Voi's homepage introduced to make reporting incidents of anti-social use and poor parking easier.

**Three Strike Policy:** a policy that will result in the banning of Voi users from the service as a result of repeated, or flagrant misuse

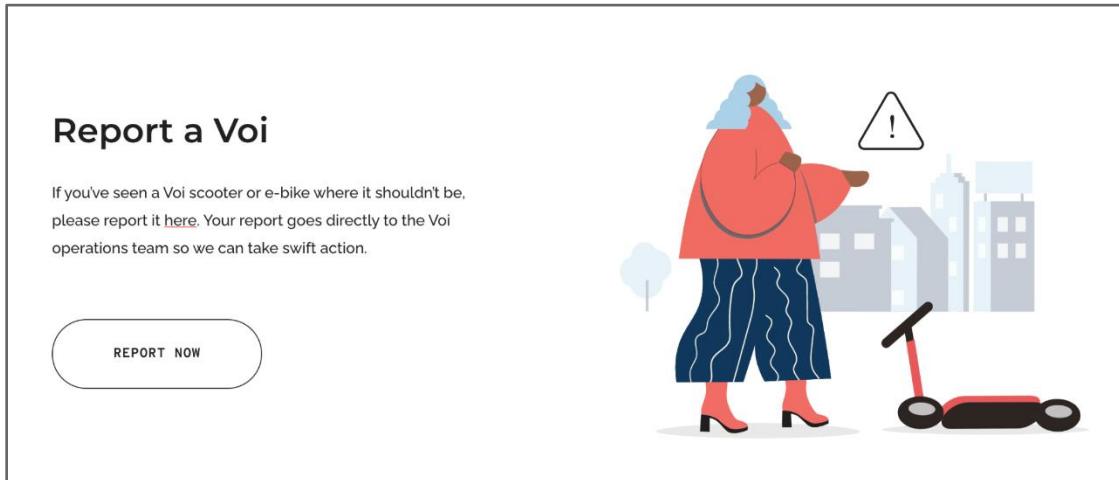
#### **Report a Voi**

The report a scooter page (<https://www.voiscooters.com/report/uk/>) allows any member of the public (user or non-user) to report any instance of anti-social behaviour or misparked scooters they have verified in the city. Members of the public are also able to upload supporting documentation photos and videos to support any complaint raised to ensure these are successfully verified.

To drive visibility and uptake of our Report A Voi initiative amongst users and the wider community, we have marketed the scheme through multiple channels. Users have been sent an in-app notification and

information has been added to our support, contact pages and our FAQs. We have launched the below pay per click (PPC) campaign on Google Ads, which includes a link to the Report a Voi webpage. Additionally, scooters in the West of England Combined Authority region are fitted with a Report a Voi sticker which raises awareness around the platform.

### Three Strike Policy



In addition to the above, we operate with a Three Strike Policy across the UK. That means that if a verified report of anti-social is submitted against a user they will receive a strike on their account and if they receive three strikes they will be permanently banned. These can be administered following an incident report from the local council or police report or a verified community report from 'Report a Voi'.

In West of England Combined Authority, we have taken this further and have implemented a "hard" strike policy starting 31 March. That means that after a user's first strike they receive a seven day suspension and, after a second strike, they receive a 30 day suspension.

## 3.4 Local engagement

Serving the city and region means creating a service that adds value to the wider community, for both users and non-users. With this in mind, we have made it a priority to engage with local equalities and accessibility groups to ensure we are gathering crucial feedback on how our service is impacting their members, and how we can take steps to ensure we minimise any potential disbenefits brought by the e-scooter scheme and that we are adding value as a whole.

At Voi we engage on a monthly basis with our local equalities group which includes members and representatives from institutions such as the Sight Loss Council, Royal National Institute of Blind People and Open Inclusion, among others. This engagement serves to give an update to local disabilities groups but also to make sure we incorporate their feedback on a regular basis. As a result of our engagement with equalities groups we've managed to progress with key initiatives including: RNIB plates for parking racks to increase visibility for visually-impaired members of the community; changed the font and colour of Report a Voi stickers found on scooters to facilitate reporting of issues; conducted on the ground



simulwalks for our team to get a first-hand understanding of how mobility is impacted with visual impairment and how we can feed these insights back into our parking considerations.



(Bristol simulwalk with Thomas Pocklington Trust, WECA and Bristol City Council)



(RNIB and Voi co-created parking racks)

In addition to this, we also want to ensure that we are proactively engaging locally elected officials to ensure there is alignment between our operations and local transport objectives. It is crucial that councillors who represent the local community are sufficiently briefed on current developments and have an opportunity to input into the development of the trial in their local areas and, as the selected operator, we welcome such engagements.

### 3.5 Monitoring & evaluation (data sharing project)

As a trial it is crucial that we are focused on gathering data and insights from our operations that will inform future transport regulation and legislation, namely with regards to Personal Light Electric Vehicles (PLEV). With this in mind, Voi regularly feeds data back to the Department for Transport, West of England Combined Authority and local councils for review. This data is focused on core ridership metrics such as number of rides, km ridden as well as any available incident/parking/complaints data on a weekly basis.

As a next step, we are focusing on partnering with local academic institutions to gain a deeper understanding of ride patterns and user profiles and how this ties back to local transport and sustainability planning. More specifically, this project will seek to add new instrumentations to scooters which will allow us to potentially capture data on inner city pollution levels as well as understand exactly how users are leveraging the service through a combination of cutting-edge analytical methods. Ultimately this will enable us to gather and analyse data in a more insightful manner alongside academic and industry experts in an effort to provide detailed considerations around the future of micromobility in the region.

**voi.**