

# The Great EV Charging Report



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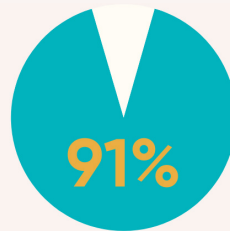


## Executive Summary

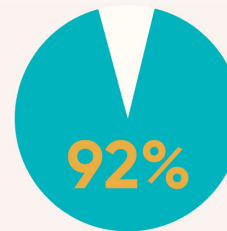
This document reports on the findings of a consumer survey on drivers' experiences with public charging in the UK, as well as their drivers views on the performance and use of their EVs.

The main findings from EVA England's research are:

**91% of EV drivers have no intention to return to a petrol or diesel car.**



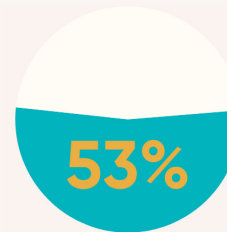
**92% of EV drivers would likely recommend an EV to friends and family.**



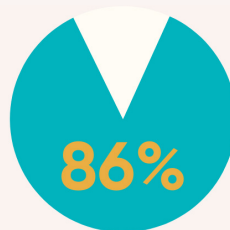
**One tenth of EV drivers are solely using the public charging network for all charging needs.**



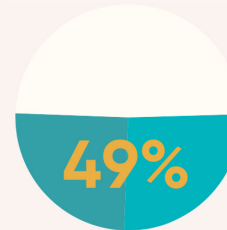
**Over half of EV drivers feel their charging experience has improved over the last 12 months.**



**86% of people have found owning an EV cheaper to run.**



**Just under half of EV drivers have been driving an EV for 2 years or less, including nearly a quarter in just the last year alone, reflecting rapid uptake levels.**



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## Key Takeaways

- EV satisfaction rates continue to be very strong and, for the vast majority of drivers, the day-to-day experience of running an EV is highly positive and suitable to most needs.
- Such positive feedback is reinforced by the continued growth in EV sales. Strong confidence levels are supported by the fact that more than 90% have no hesitation in recommending an EV to friends and family members.
- A key component of consumer confidence is found in drivers' experience of charging infrastructure and its ability to respond to and meet user expectations. Negative overall perceptions of charging infrastructure are now rare, and 86% of people have found owning an EV cheaper to run.
- The Government should embrace driver confidence and sense of improved infrastructure as a bellwether for strong future EV uptake, and as a call for action to support the growing number of drivers without home charging. Current momentum in new charging point installations must be incentivised further, with planning consultations on future amendments to the National Planning Policy Framework being a good opportunity to further reduce constraints.

## Introduction

EVA England was incorporated as a community interest company in June 2020 to offer a voice to electric vehicle (EV) drivers in England and to facilitate the faster adoption of electric vehicles.

One such way EVA England achieves its mission is by undertaking surveys of EV drivers and using survey responses to make informed recommendations to Government and to industry.

This document reports on the findings of The Great EV Charging Survey, a survey on the consumer experience of public electric vehicle chargepoints, viewed from the perspective of current EV drivers.

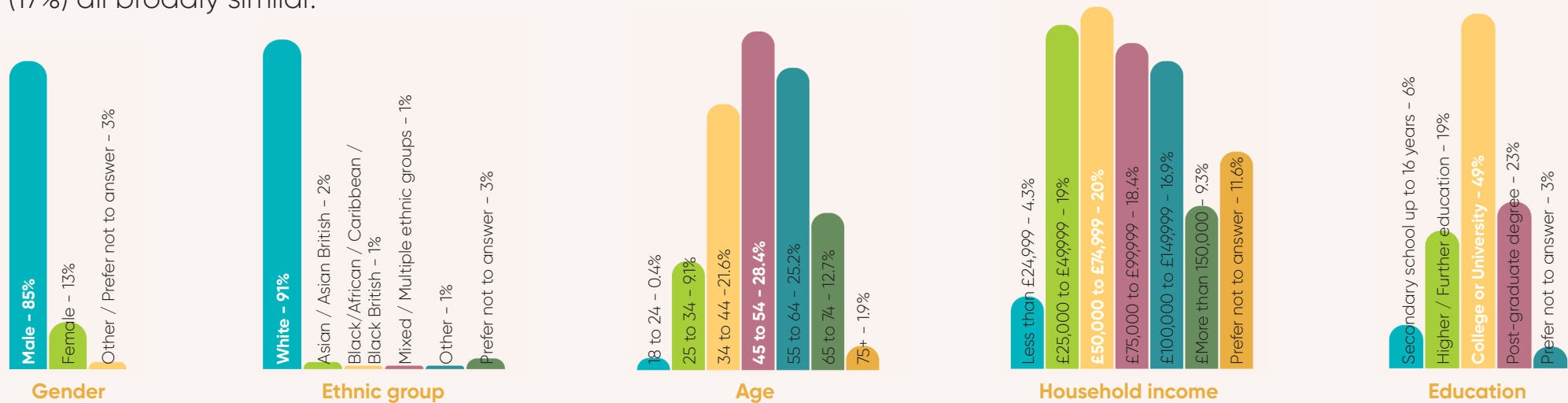
1,619 drivers completed the survey, which ran from July 2<sup>nd</sup> to August 11<sup>th</sup> 2023.

## Profile of Respondents

Of the 1619 who responded, 85% were male, with 13% female, 45-54 was the most common age range, with nearly half of responders having gone to university/college.

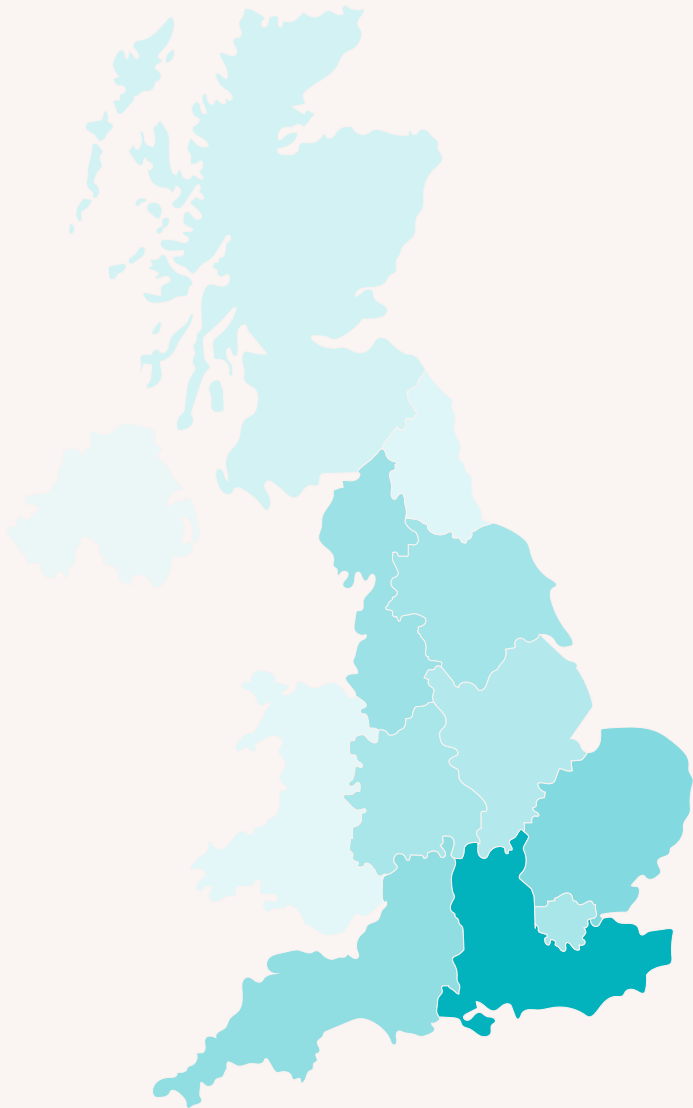
91% were white, with 2% Asian/Asian British, and 1% Black/African/Caribbean/Black British.

The most common household income was £50-75k (20%), but with £25-£50k (19%) £75-100k (18%) and £100 to £150k (17%) all broadly similar.



Of the respondents, 95% drove Battery Electric Vehicles, with extended-range and plug-in hybrids both just under 3%. This survey is not aiming to represent the population of the UK, but rather those who drive EVs. With over 1,600 respondents we feel comfortable in the validity of the findings in reflecting the views of EV drivers.

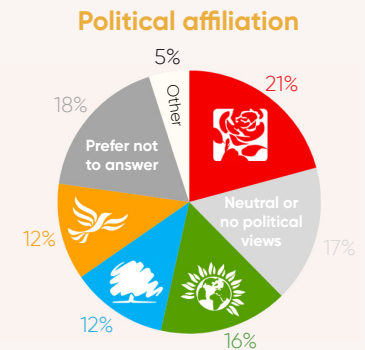
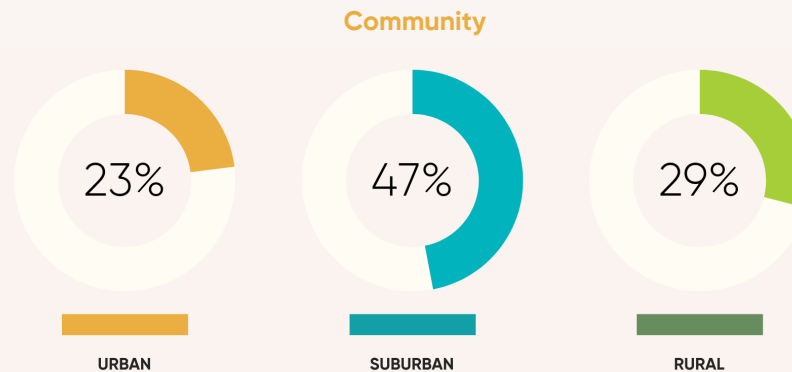




The survey was open to people in Scotland, Northern Ireland and Wales, although primarily focused to those in England.

Geographically, respondents were spread reasonably evenly across the regions, although the South-East is a stand out.

The urban (23%) / suburban (47%) / rural (29%) split is also broadly representative of the UK.



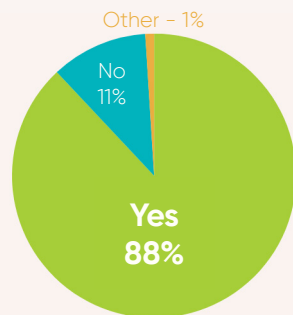
Politically, Greens and Liberal Democrats are unsurprisingly well represented among EV drivers, possibly underlined by the Guardian also being the most popular newspaper.

## The Charging Experience

Charging infrastructure and 'range' anxiety are often the most mentioned issues for people worried about buying an EV, so how do people who actually drive feel about charging?

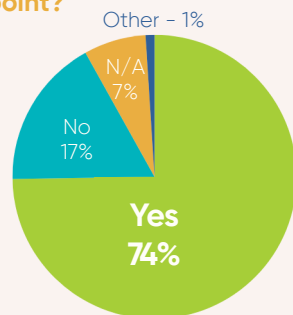
The important thing to look at is the profile of people's charging behaviours, and how they differ.

### Do you own your own driveway?



The first thing to note is how many EV drivers own their own driveway, and so have access to their own charger. Over 88% of drivers own a driveway, this is much more than the national average (estimates range between 60-75% of British homes have access to off-street parking).

### If yes, do you own your own chargepoint?

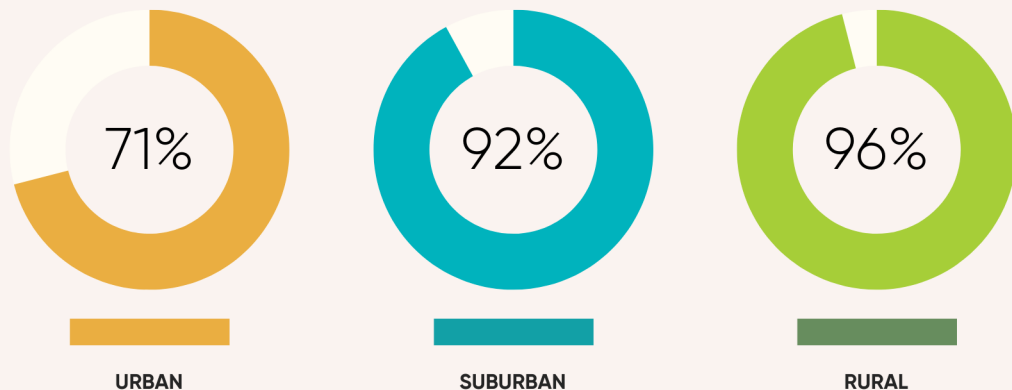


Surprisingly though, of those who do have a driveway, only 74% own their own chargepoint (although a common comment in the 7% N/A category was that they used a 3-pin plug of some form, or were waiting for an installation).

That people with driveways are over-represented is understandable. The cost of home charging is substantially cheaper than public chargepoints, and further skews the cost of owning an EV compared to a petrol/diesel internal combustion engine car (ICE).



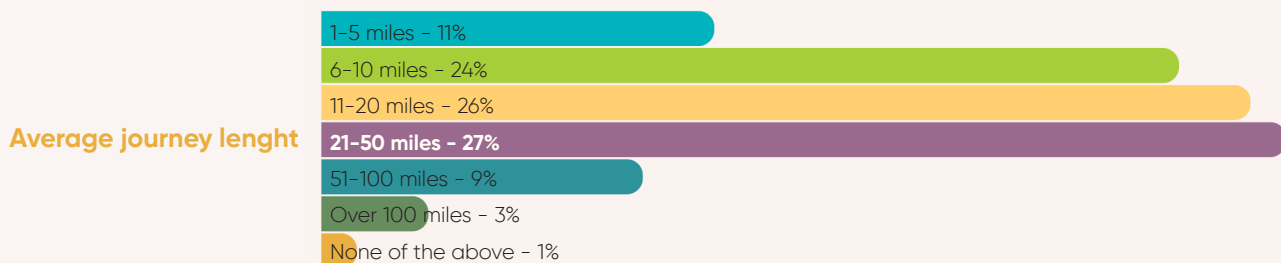
Driveway ownership by community



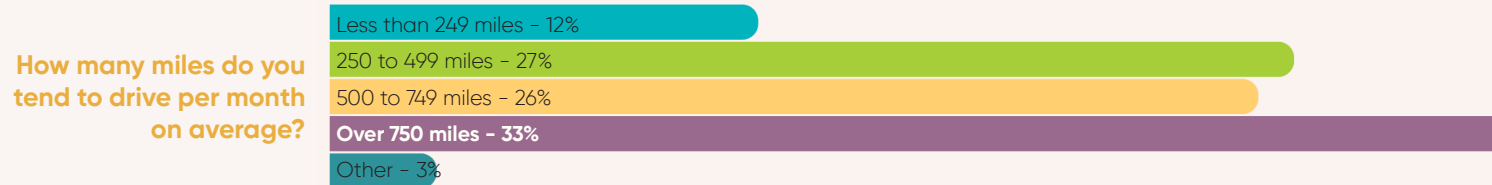
The difference is further underlined when you look at the urban/suburban/rural divide: 96% of rural EV drivers have a driveway, compared to 71% of urban EV drivers.

How many miles you drive may also be a consideration in purchasing an EV.

The three most common answers to the average journey length are 21-50 miles (27%), 11-20 miles (26%) and 6-10 miles (24%). All these journeys, even as a round trip, could easily be handled by EVs without charging. 11% of EV drivers have an average journey of 51 to over 100 miles, but with most mid-market EVs having ranges of over 200 miles, this again should not be a huge issue.

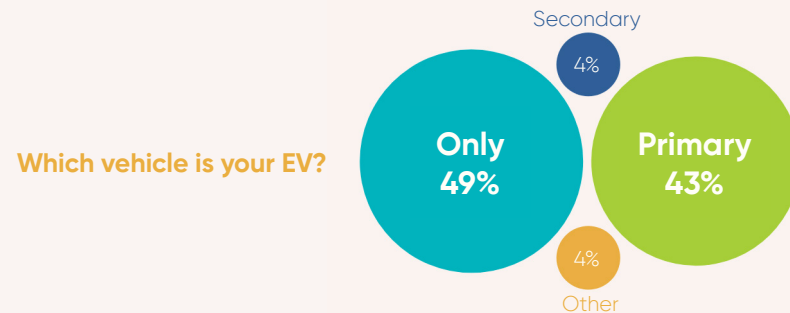


Looking at monthly driving averages, EV drivers do not seem to wildly differ from ICE cars.



The average annual mileage of cars is around 6,500- 7,000 miles p/a (542-583 miles p/m). The majority (59%) of EV drivers do over 500 miles per/month.

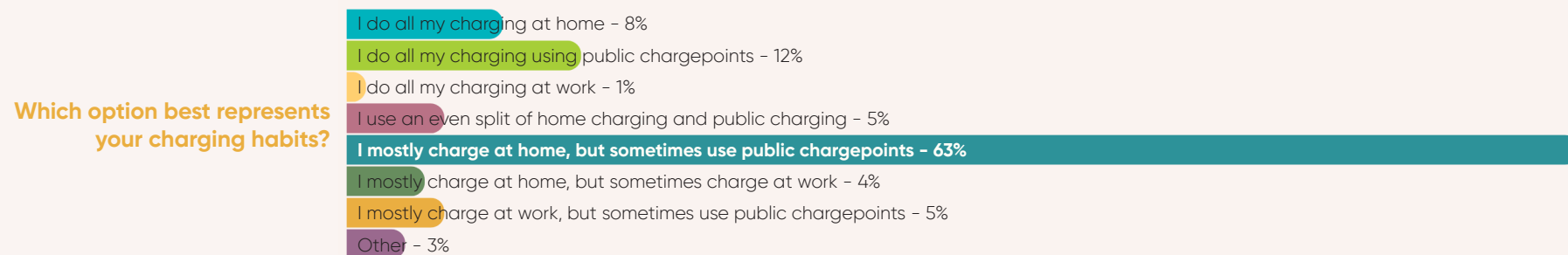
Contrary to the belief that EVs are best suited for second cars, 92% of participants use their EV as either their primary or only vehicle.



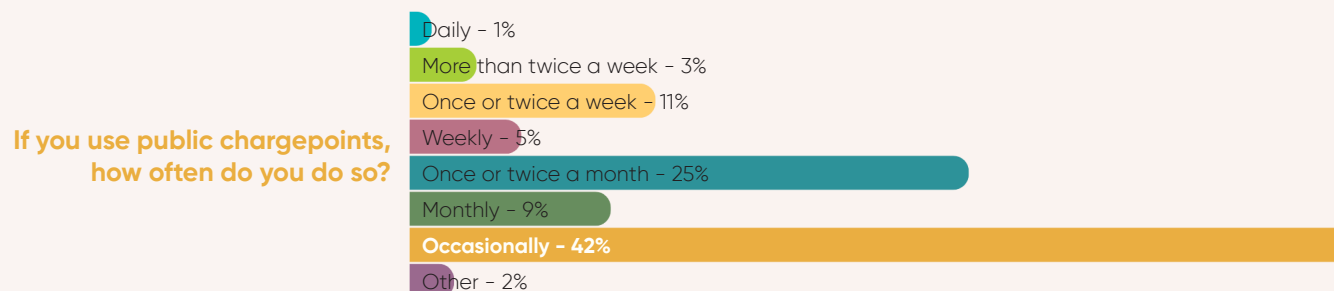
This dispels the myth that EVs are only good as runabouts and you can't rely on them as your only/main car.

While the vast majority of EV drivers have off-street parking/private charging, it is important to note that public infrastructure is still vital, with only 8% saying they do all of their charging at home.

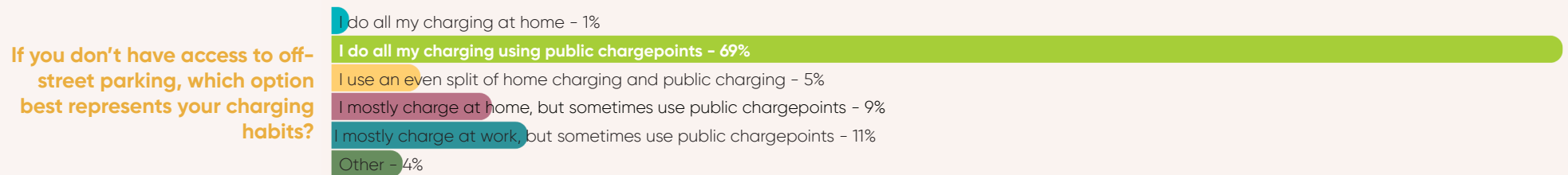
By far the most common option is charging mostly at home but sometimes using public charging (63%). It should also be pointed out that the second most common answer is 12% of drivers who do all their charging using public infrastructure. This is a figure that will undoubtedly rise in future years, further underlining the importance of public chargepoints.



Another interesting note is how often people use public chargepoints. 44% use them occasionally, with 25% using them once or twice a month.

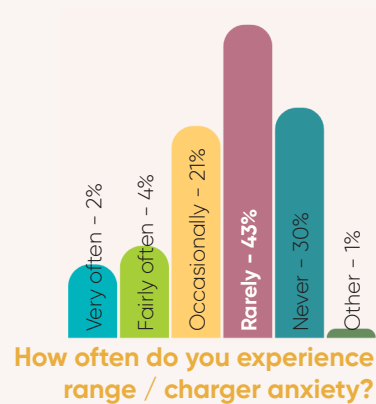


For people without access to off-street parking, this gets even more pronounced, with 69% of EV drivers reliant on public chargepoints.



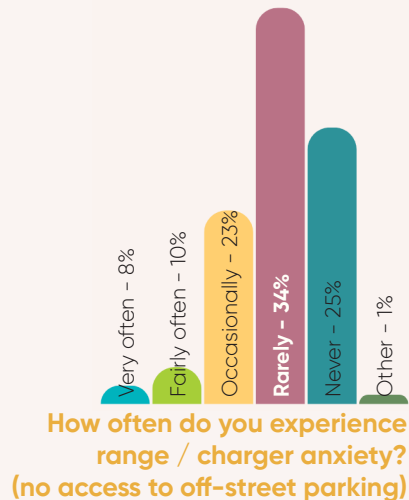
This also demonstrates the importance of workplace charging (11%), as well as the 29% that still manage to charge at home without access to off-street parking, presumably through gullies or cabling, which is something we will investigate in the next survey.

## The big question of Range / Charger Anxiety



It is encouraging that the vast majority of EV drivers either never, or rarely, have range/charger anxiety, and only 6% have either very often, or fairly often worries over chargers/range.

Yet this picture changes for those without access to a driveway, where 18% of drivers do either very or fairly often have anxiety.

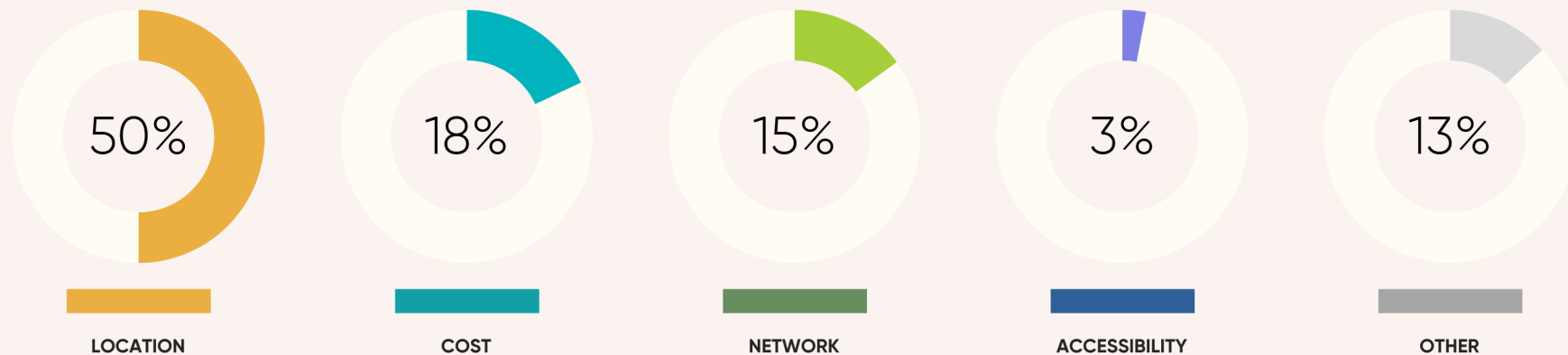


This bolsters the EVA England claim that the UK charging is adequate to good, but needs to get a lot better as EVs get further into the mainstream.

Location was the primary factor for half of drivers when choosing a chargepoint but other significant factors included Cost (18%) and Network (15%).

We would expect to see the percentage of cost/network loyalty to rise in future years as availability hopefully becomes less of a pertinent issue.

What is the primary factor in choosing a chargepoint?



It should also be noted that the majority of those who chose 'Other' commented that charger speed is a primary factor, something we will add to future surveys.

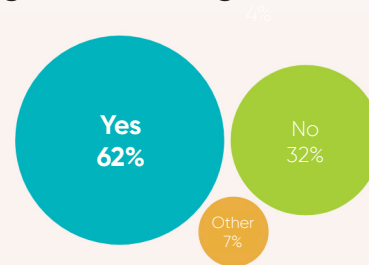


**Ease of locating public chargepoints**

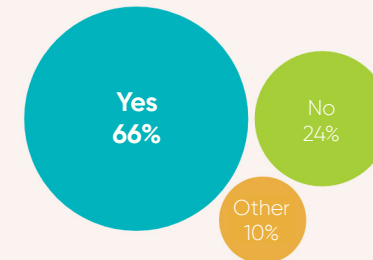
Regarding public charging, it is positive that only 8% of drivers find locating a public charger either difficult or very difficult, with 73% finding it either easy or very easy.

Yet finding a charger is only one aspect. The survey found that only a third of drivers feel there aren't typically enough chargepoints to use, and quarter say that chargepoints aren't in good working order.

**Are there typically enough chargepoints available?**



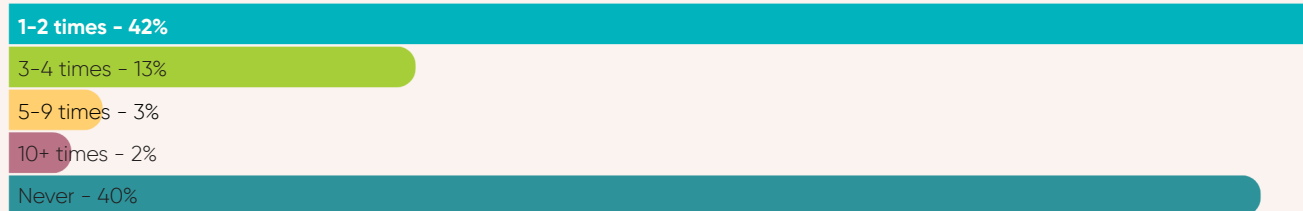
**Are they generally in good working order?**



It is a mixed picture when it comes to the most frustrating aspect of EV driving - finding a charger and there being an issue, meaning you you have to find another option.

Fortunately the vast majority of drivers have either never had this (40%), or have had to drive away only once or twice (42%) in the past three months.

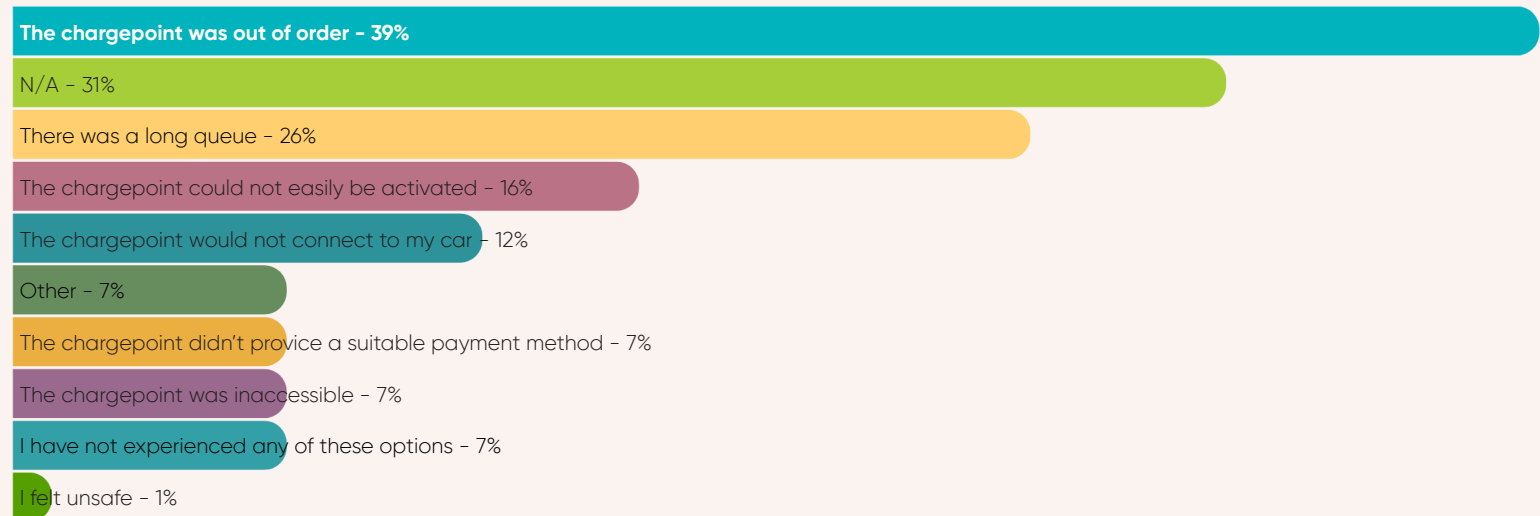
**In the past 3 months, how many times have you had to drive away and look for another option?**





Yet at the other end of the spectrum 3% of drivers have had to do this 5-9 times, with 2% saying it has happened more than 10 times in the past 3 months. The most common complaint was the chargepoint being out of order (39%) and long queues (26%).

**If you had to drive away,  
what were the reasons?**



This clearly indicates that the industry needs to get better, and while the vast majority of drivers have a positive charging experience, for those that don't it can be hugely inconvenient and frustrating.

However, it seems drivers are recognising the improvements to the charging infrastructure, with a majority of people (53%) saying their experience of charging infrastructure has got better over the past year.

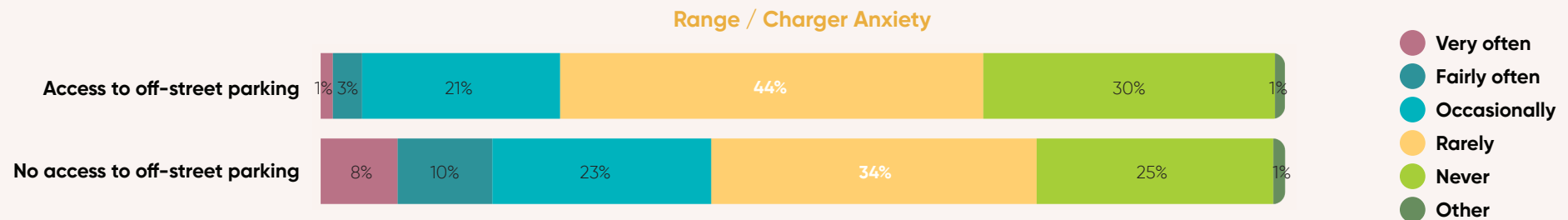
## Disparities in user profiles and confidence

### Differences in responses between drivers with and without access to off-street parking.

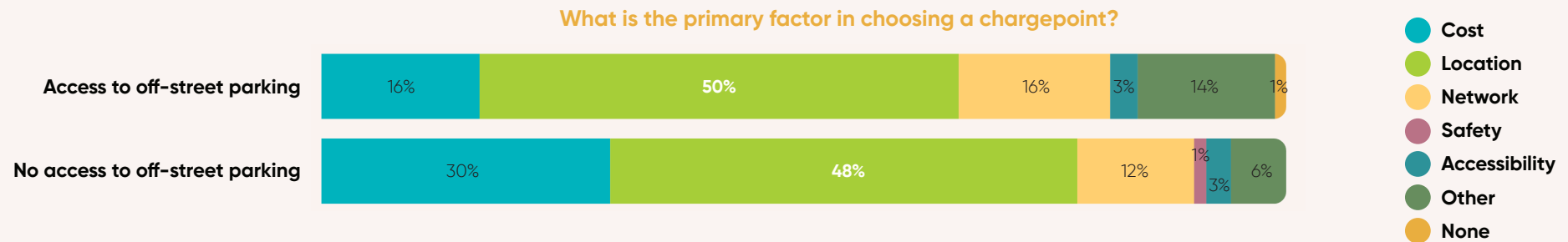
A majority (89%) of EV drivers have access to off-street parking, meaning easy access to at-home charging facilities. However, this can be expected to change as EV uptake rises and the consumer base broadens, meaning the number of drivers relying predominantly on public charging will grow.

Already, the survey shows that a considerable 12% of respondents rely solely on public charging infrastructure for their charging needs. In London alone, 42% of respondents reported doing all their charging using public chargepoints.

Despite the overall satisfaction among EV users, the survey reveals a noticeable difference in consumer confidence between the more established consumer base that has easy access to private charging means (taken as having access to off-street parking) compared to those mostly reliant on public charging (with no access to off-street parking): 18% of users without access to off-street parking fairly or very often suffer from range or charger anxiety, compared to just 4% with off-street parking.



Whilst the cost of public charging points is the primary concern for 30% of EV users without off-street parking when selecting a public charging point, compared to just 16% of EV users with off-street parking.



Both groups are overwhelmingly reluctant to return to petrol or diesel cars (88% of EV users without off-street, 91% with); but EV users without off-street parking are less certain about recommending an EV to friends and family, with 64% stating they definitely would recommend getting an EV compared to 77% amongst those with access to off-street parking.



In gauging general sentiment, additional comments in the survey from EV users mostly reliant on public charging most commonly mention the stark difference in private and public charging costs as a primary source of concern, with some examples below:

*"If you want the public to be convinced to go EV make the cost the same as charging at home and the same country-wide"*

*"I live in a flat. Unable to have charging in our private car park. I do all of my charging using public chargers. I expect that there should be a price difference to charge off street parking using users own EV charger on a dedicated EV energy tariff. However the vast difference in price between that & lamppost / 7kW charging is obscene. This needs to change or EV ownership will be a them and us situation".*

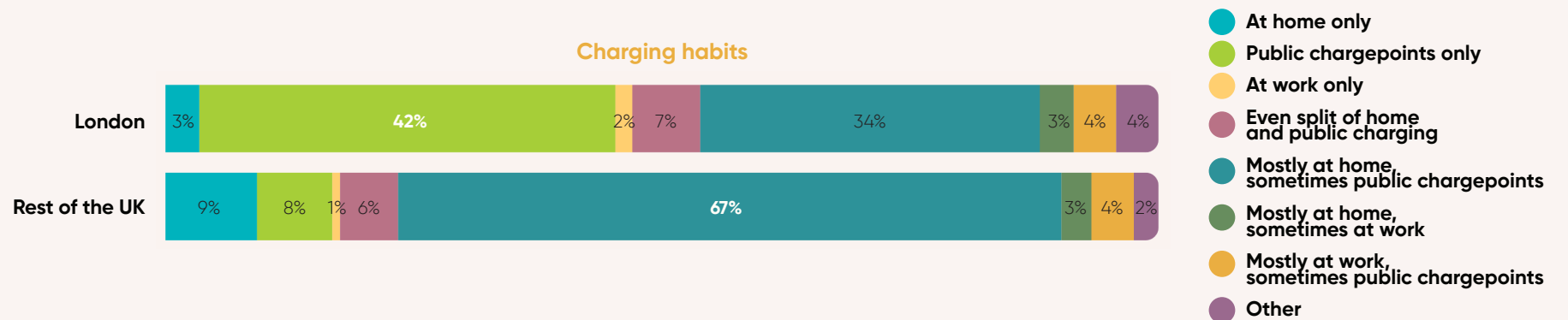
*"The price is criminal, even for the cheapest slow chargers. When I put my deposit down for my car the price was half as much as it is now."*

## Regional differences

EV drivers are typically younger in London: 20% of EV users in London are between 25-34, compared to 10% in East Midlands and the North West, and 8% in the South East and South West.

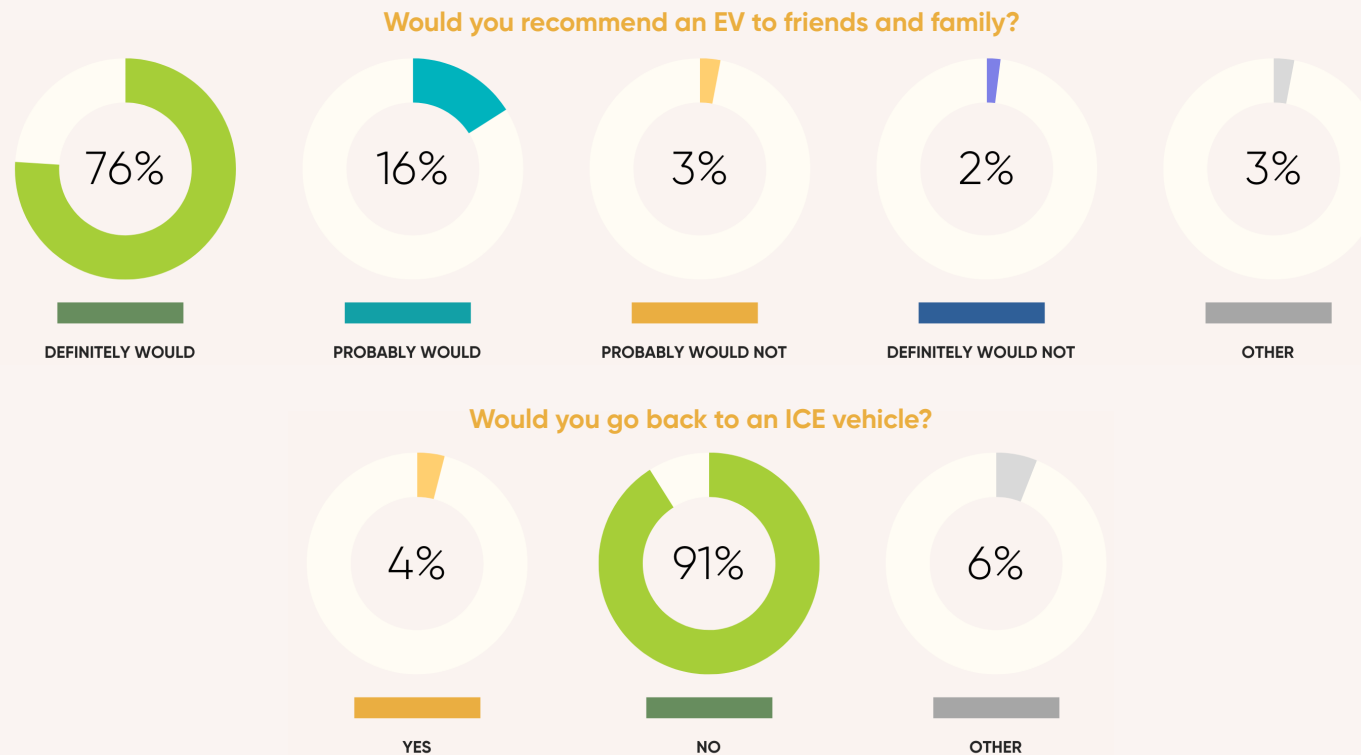
Recent uptake has also been stronger in London and the West Midlands, with around 30% of drivers in both regions having started driving an EV less than a year ago, versus 20% in most other regions.

Furthermore, charging habits differ noticeably in London compared to other regions, understandably due to rarer access to private charging facilities (with 42% solely using public charging, compared to under 10% in most other regions). Londoners use public charging more frequently: 40% of Londoners use them weekly or more, versus closer to 20% in most other regions.



## Conclusion

The clearest message coming through is the huge satisfaction felt by EV drivers, demonstrated clearly by the 92% of people that would either definitely (76%) or probably (16%) recommend an EV to family or friends.



The results are equally as stark when asked if you want to go back to ICE vehicles, with only 4% of people wanting to go back petrol/diesel vehicles.

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Yet that shouldn't gloss over people's frustrations with owning an EV, and that stems overwhelmingly from the charging infrastructure. While it is demonstrably getting better, it's clear we need more chargers, and we need better chargers.

It should be noted that across the board, the majority of people face little to no problem, but that simply won't be good enough as the market grows and more sceptical or reluctant drivers will need to make the transition.

The benefits of owning an EV are clear, and the survey found that 86% of people have found owning an EV cheaper to run. The vehicles themselves are not the issue, the improvements needed are to the public charging infrastructure.

It should be noted that many of the problems with the charging network are hopefully going to be fixed with the passing of Charge Point Regulations, which have been put into law just last month.

These regulations mandate easier payments, introduce 99% reliability targets, and bring in open data which should help provide up to date information. These will be implemented over the next two years and should go a long way in improving the charging network, coupled with 50% annual growth planned in charge point deployment.

It will be interesting to note whether this starts to have an impact in our future surveys.