KANTAR

Department for Transport

Public Attitudes to the Use of E-scooters in the UK

Report

November 2020

Amy Busby, Samantha Bond, Lauren Wiginton, Lucy Williams

40314427

Contents

1. Executive summary

1..1 Introduction

The Department for Transport (DfT) published the Future of Mobility: Urban Strategy in March 2019[1], in which it committed to becoming a world leader in shaping the future of mobility. In light of this, micromobility – transport provided by very light vehicles – has been identified as an area in which regulation is currently acting as a barrier to the potential benefits of new technologies. E-scooters - plug-in electric vehicles with two, three or four wheels - are currently governed by the same regulations that apply to motor vehicles, meaning that whilst it is legal to buy or sell an e-scooter in the UK, riding them on public roads, pavements or cycle lanes is illegal. In response to the Future of Mobility: Urban Strategy, DfT is reviewing e-scooter regulation and running trials of e-scooter hire schemes to inform the decision on whether to legalise use.

This report contributes to DfT's work by providing insight into public attitudes towards e-scooter use and regulation in the UK to inform decisions around the future policy direction for this micromobility vehicle.

1..2 Methodology

Three, week-long online communities and 16 in-depth telephone interviews were held between 25th March and 3rd June 2020, with the design of the research being adapted due to the outbreak of Covid-19. A total of **63 participants** took part in the research. Telephone interviews were undertaken with e-scooter users, cyclists and people with mobility issues. Online community participants reflected key demographics of the population across England, Wales and Scotland. Due to this being a qualitative study the findings are not representative of the UK population - instead they are intended to provide a rich understanding of public attitudes to complement a quantitative study conducted alongside this one in early 2020[2].

1..3 Key findings

1..3.1 E-scooter perceptions and attitudes among non-users

- E-scooters were widely associated with **manual 'toy' scooters for children,** with this being an initial barrier to them being viewed as a credible and legitimate form of transportation for an adult.
- **Safety concerns were commonly raised** due to apprehension around e-scooters being used irresponsibly and insufficient infrastructure available to support safe use. Negative associations were more embedded in London and the south of England where participants were more likely to report first-hand experience of seeing e-scooters being ridden unsafely.
- **Cyclists were a spontaneous point of comparison to e-scooters users**, suggesting concerns about the way bikes are currently used may be informing attitudes to e-scooter use in the UK.
- Across locations some were interested in owning or hiring an e-scooter to **save time, money and energy travelling to work, to carry out their job, local shops, or for leisure**, with these vehicles widely perceived to have environmental and convenience benefits.

[1] https://www.gov.uk/government/publications/future-of-mobility-urban-strategy

[2] Perceptions of current and future e-scooter use in the UK, Department for Transport

1..3.2 Current e-scooter user views and experiences[3]

- Teledepths were conducted with eight e-scooter users, who had commonly been triggered to buy an e-scooter after trialling one through a friend, colleague or whilst abroad. This experience was said to expand their view of their benefits and practicality, and dispelled previous associations with them being for children, suggesting **first-hand experience increases acceptance of their credibility**.
- These participants used their e-scooter for a range of journeys (to travel to work, local shops, visit friends/family) and described several **positive impacts on their daily lives**; more convenient and enjoyable travel, less transportation costs, and greater mobility among those with health conditions.
- **Limited battery life** was felt to be the biggest drawback of these vehicles with some planning to upgrade and invest more money in order to use an e-scooter for longer distances, suggesting prolonged use further increases the view that e-scooters are a practical form of transport.
- Current users described developing **strategies to ensure their personal safety and the safety of other road users and pedestrians;** e.g. wearing helmets, riding in cycle lanes, and giving pedestrians right of way. That said, other road users behaving unsafely on the road, current e-scooter features, and transport infrastructure were drivers of safety concerns.

1..3.3 Considered benefits, concerns and considerations among non-users

- **Benefits:** whilst already widely associated with having environmental and convenience benefits, the advantage of joining up journeys, their portability and their potential to improve accessibility (for those on low incomes, in rural areas, and with mobility issues) were not always previously considered and sometimes increased positivity towards, and interest in using, these vehicles.
- **Concerns:** information highlighting the potential risks of e-scooters often supported original safety concerns – particularly the possibility of users riding at high speed, being reckless/inconsiderate and the potential for fatalities. This information further strengthened perceptions of e-scooters being dangerous or increased the perceived risk of individuals being irresponsible, thus heightening the importance placed on regulating these vehicles. Concerns around the suitability of current UK infrastructure also increased, particularly if hire schemes were to be introduced.
    - Current users, cyclists and those with more positive attitudes towards e-scooters, were more likely to view the safety risks presented by e-scooters as comparable to bikes and suggest regulation as a solution to deter irresponsible individuals.
- **Other considerations**: the risk of theft and vandalism and their charging time and limited range were also considerations that sometimes hindered the appeal of e-scooters. In contrast, learning about the availability of seated options increased their appeal among potential users, and usage consideration among vulnerable teledepth participants (favouring this option to a mobility scooter).

1..3.4 Preferences on future e-scooter regulation and implementation in the UK

- There was widespread agreement that **e-scooters should be legalised and regulated in the UK** to allow people to access to their benefits and reduce the perceived risk of accidents and unsafe behaviour. However, public support rested on the condition that an appropriate regulatory framework is introduced before their legal status is changed.
- After being invited during the research to design regulations and infrastructure to enable the safe use of e-scooters, **five key areas for regulation and implementation** emerged, all of which were felt to be essential prerequisites for the use of e-scooters in the UK to be acceptable:

[3] Note: at the time the research was conducted e-scooter use outside of private land in the UK was illegal

- **Rider restrictions** to limit who can legally ride an e-scooter and where and how they are used, to encourage safe behaviour and minimise misuse. Speed and age restrictions were considered most important with general consensus around a maximum speed of 20mph and a minimum age limit of 16 years old. They widely agreed e-scooters should be ridden in cycle lanes where possible and parked in dedicated areas, with users required to have training prior to use.
- **Rider protection** to maximise the rider safety through protective clothing and vehicle safety features. Many wanted helmets to be mandatory, with bright front/back lights, good/dual brakes, a horn and anti-puncture tyres seen as most important when regulating vehicle standards.
- **Suitable infrastructure** was considered crucial to facilitate people using e-scooters safely and responsibly. Participants particularly highlighted the importance of improving the availability of cycle lanes and road quality and having secure, dedicated parking/charging points.
- **Rider accountability** measures to ensure riders are accountable for their behaviour and can be identified if they use or park their e-scooter irresponsibly. Many considered vehicle number plates and mandatory insurance to be effective strategies to achieve this.
- **Rule enforcement** was considered important so that consequences are incurred if the rules are broken in order to deter future misuse (particularly as this is not currently seen to be the case).

- Whilst there was a high degree of consensus around these broad areas, **expectations around their specific implementation varied**. Current and potential users often preferred encouraged rather than mandatory rules to maintain the convenience benefits of e-scooters.
- Additionally, if hire schemes are made available across the UK, stricter rider regulations are expected, compared to private use, to ensure safe and responsible use.

1..3.5 Implications and envisaged usage

- Legalisation was expected to accelerate the normalisation, uptake and safety of these vehicles by **positioning them as a recognised and legitimate form of transport** and providing clear rules and regulations for users to follow and the police to enforce. Regulations are therefore expected to reduce safety concerns among non-users and increase the confidence of potential users.
- By the end of the dialogue process, interest in using an e-scooter remained largely unchanged, except among vulnerable people for whom appeal increased on seeing a seated or three-wheeled options. Potential users were mixed in age, gender and location, **indicating their diverse appeal**.
- If legalised, some could envisage using an e-scooter as **part of their transport repertoire**. Most prominently participants wanted to own one to maximise their convenience and cost benefits, although some were interested in hiring them for occasional use or to trial one prior to purchase.

1..3.6 Final conclusions

- The dialogue suggests that legislation, regulation and education could increase public acceptance and interest in using e-scooters. A number of key themes emerged that are important to take into account when considering the legalisation and regulation of e-scooters:
    - Their common **association with manual 'toy' scooters** hinders credibility perceptions.
    - The potential for e-scooters to **improve accessibility** among those with mobility issues, in rural areas, and on low incomes.
    - The **prevalence of safety concerns** that people wanted to be addressed through rider regulations, improvements in UK infrastructure, and e-scooter design standards.
    - The finding that **personal experience** of riding one can increase their perceived benefits and practicality and facilitate e-scooters being seen as credible form of transport for adults.

2. Research design

2..1 Policy context

The Department for Transport (DfT) published the Future of Mobility: Urban Strategy in March 2019[4], in which it committed to becoming a world leader in shaping the future of mobility and providing an innovative regulatory regime. In light of this, micromobility – transport provided by very light vehicles – has been identified as one area in which regulation is currently acting as a barrier to the potential benefits of new technologies. E-scooters - plug-in electric vehicles with two, three and occasionally four wheels - are currently governed by the same rules and regulations that apply to motor vehicles, meaning that they are required to meet the standards around road tax, insurance, licence regime, etc. and technical safety outlined in the *Road Traffic Act 1988.* At present - while it is feasible for an e-scooter to be constructed or adapted to meet these technical standards, and for users to comply with requirements around insurance, etc., in practice they do not, meaning that - whilst it is legal to buy or sell an e-scooter in the UK - riding them on public roads, pavements or cycle lanes is against the law. Anyone found using an e-scooter on a public road or pavement could be subject to a £300 fine and six points on their licence.

In response to the Future of Mobility: Urban Strategy, DfT are reviewing e-scooter regulation and running e-scooter trials across the UK. This report contributes to the Department's work by providing insight into public attitudes to the use and regulation of e-scooters in the UK.

2..2 Research objectives

The overall purpose of this research was to provide insight into public views about the use and regulation of e-scooters to inform DfT decisions around the future policy direction for this form of micromobility. The specific research objectives were to:

1. Understand existing attitudes towards e-scooters and the underlying drivers of these.
2. Identify how, where, and why people are most likely to use e-scooters, including their interaction with or replacement of other travel modes, and how they imagine accessing them (e.g. purchase vs hire).
3. Surface any concerns, including around safety and the safe use of e-scooters, including any potential age limits on use and design features associated with safety.
4. Explore responses to and preferences for options for potential environmental and regulatory changes, the drivers of views and any implementation issues or barriers associated with each. Explore how options may affect future attitudes and behaviours.
5. Delineate how views differ across different groups of non-users and users.

2..3 Methodology

2..3.1 Overview

This qualitative research comprised of two main components: online communities and in-depth telephone interviews (teledepths). A total of **63 participants** took part in the research, conducted between 25th March and 3rd June 2020; 47 participants took part in three, one-week online communities and 16 people participated in a teledepth. The online communities explored the perspectives of a broad cross-section of the

[4] https://www.gov.uk/government/publications/future-of-mobility-urban-strategy

UK population whilst teledepths aimed to understand the views of certain audiences. Eight teledepths were conducted with e-scooter users to explore their experiences of using e-scooters in the UK. Four were conducted with cyclists and four with individuals with mobility issues to understand how they may be differentially affected by e-scooter use, their specific concerns and interest in using this mode of transport[5].

It was intended that this research moved beyond initial reactions to e-scooters, to identify drivers of concerns and develop informed participant views to aid complex decision-making. To achieve this, across both methodologies, a deliberative dialogue approach was taken. This approach involved participants in a process of learning (through exposure to detailed and balanced information) and discussion (in order to critically examine a range of viewpoints) to aid them in developing informed opinions and producing potential regulatory solutions. Stimulus materials, developed by Kantar with DfT, were used throughout the research.

Please note, within this report, the term 'dialogue' is inclusive of both the online communities and telephone interviews. Where findings are based on a particular methodology or sample type, this is specified.

2..3.2 Impact of Covid-19

This research was commissioned prior to the Covid-19 outbreak. The original research design involved group workshops, which were replaced by online communities due to the suspension of face-to-face fieldwork. Interviews with those with mobility issues were conducted via telephone instead of in-home. When discussing typical travel patterns, participants were asked to think back to before the pandemic[6] to understand their views and behaviours before travel restrictions were imposed. They were also asked to consider how the pandemic might affect their future transport behaviour and views towards e-scooter use in the UK, for example, due to an increased focus on hygiene and maintaining a safe distance from others.

2..3.3 Study limitations

The following are limitations to be taken into consideration when reviewing the findings within this report. We recommend reading this report alongside our quantitative report on UK e-scooter usage and attitudes[7].

- **Telephone interview sample size**: a small number of interviews were conducted with current e-scooter users, cyclists and those with mobility issues meaning these findings are indicative. That said, the online community sample also included cyclists and people with mobility issues, with findings being generally consistent with the views of in-depth interview participants.
- **E-scooter user sample**: findings are based on eight individuals with a narrow profile due to the low incidence rate and legality of UK e-scooter users. Those interviewed were male, aged up to 60, living in urban and suburban areas, meaning findings represent this specific population of users. Despite e-scooter use being illegal, this was not a barrier to participants talking openly and some were not aware of their legal status. However, their willingness to be interviewed despite current regulations means the sample was more likely to be considerate in their e-scooter use, compared to others.
- **Impact of Covid-19**: originally the workshops included a co-creation activity where participants were required to debate and jointly design their ideal regulatory framework for UK e-scooter use. When adapted to an online community setting, the same level of collaboration and deliberation could not be maintained. Instead, participants provided individual responses, which were then commented on and discussed with others in the community. To minimise this limitation, participants were asked to discuss their views with their household or to call a friend or relative, to encourage them to further reflect on alternative perspectives to their own prior to completing the regulatory design exercise.

[5] Participants with mobility issues had conditions including: Rheumatoid arthritis, Osteoarthritis, Spinal Stenosis and Fibromyalgia.

[6] Fieldwork took place during the first lockdown when participants could still recall their previous travel behaviours

[7] Perceptions of current and future e-scooter use in the UK, Department for Transport

3. Existing perceptions and attitudes towards e-scooters among non-users

In the first wave of the dialogue, participants were asked about their awareness, associations, attitude towards, and experiences of e-scooters. They were asked to consider whether and how they could imagine using an e-scooter and how they imagine others would use them, either through a hire scheme or private ownership. This section outlines participants' spontaneous perceptions of and attitudes towards e-scooters, including their perceived benefits and concerns. These views were expressed prior to exposure to materials.

Across the sample, e-scooters were spontaneously seen as an electric version of a manual 'toy' scooter for children. This association often hindered the perception of e-scooters as a credible form of transport for adults. Whilst participants could imagine several benefits to these vehicles being used more widely in the UK, many voiced safety concerns – particularly in London and the South where participants had more first-hand experience of seeing e-scooter users speeding and riding unsafely. Safety concerns were therefore a key barrier to using an e-scooter, although some expressed interest – viewing them as a convenient, greener and enjoyable way to travel.

3..1 Initial awareness and associations with e-scooters and their users

The majority of participants were **aware of e-scooters and they were understood to be an electric version of manual scooters**. Knowledge of these vehicles was greatest in London and the South of England, as participants in these locations were more likely to have first-hand experience of seeing them being used or had trialled one through a friend or whilst on holiday. Those in the Midlands and North of England, especially women and older participants, tended to have lower awareness of these vehicles, with a few not having heard of them prior to the research. Participants in these areas were more likely to learn about e-scooters through media articles, online advertisements, friends, and/or having seen them abroad.

With manual scooters **typically viewed as a 'toy' for children and young people,** participants did not immediately see the electric version as a credible form of transport for an adult. E-scooters were also often associated with **people riding them at speed** in towns, cities and abroad, with concerns around speeding being particularly prominent in London and Southern regions where this behaviour is commonly seen. Rural participants with less first-hand experience of seeing e-scooters had less of an association with unsafe use.

> *"Only from the crazy kids that zoom around quite fast." (Teledepth, Vulnerable, Southwest)*

> *"Sounds a bit like a child's toy rather than something substantial and adult." (Online community, South, Female, 65+)*

Participants often referred to **cyclists as a spontaneous point of comparison when considering how e-scooters might be used** - most likely because this is a tangible and closely related frame of reference. This was the case across the sample, including e-scooters users, non-users and cyclists themselves. Therefore, concerns about the way bikes are currently used may be informing attitudes to e-scooter use in the UK.

> *"If this debate was around the use of bikes today I think there would be a licensing and insurance regime, it is a product of historical widespread introduction and use [which] makes imposing one almost impossible now, whereas with e-scooters there is an opportunity to build in training licensing and insurance given the impact of what could go wrong." (Online community, North, Male, 45-54)*

3..2 Initial perceptions of the benefits and concerns of e-scooters

Whilst able to identify several benefits to e-scooters being used in the UK, spontaneous perceptions among non-users often centred around safety concerns. Many therefore voiced apprehension towards **the potential for unsafe use by individuals and a lack of suitable infrastructure** to support their safe use.

> *"My main concern about other people using e-scooters is pedestrian safety. I would have fears of pedestrians being at risk with someone riding an e-scooter at 20mph checking their social media." (Online community, Midlands, Male, 45-54)*

A significant driver of concern stemmed from participants **not being able to identify a safe location for e-scooters to be ridden.** Use on pavements was imagined to risk harming pedestrians, whilst they felt riders would be vulnerable on the roads due to the limited visibility of e-scooters to cars and lorries and concerns around the stability of the vehicles. Potholes were also felt to pose a danger to riders and although cycle lanes were viewed as the safety location to ride an e-scooter, their availability was felt to be limited.

Another prominent concern was **speeding and unsafe use by e-scooter users**. This was particularly strong in the South where participants had more experience of seeing e-scooter users with no protective clothing, riding too fast, weaving between pedestrians and vehicles and in some instances, knocking pedestrians.

Many worried about **potential injury to both the rider and pedestrians**, with those around London perceiving a greater risk of fatalities. This is linked to some being aware of previous incidents or viewing these vehicles as similarly vulnerable compared to bikes which are associated with fatalities in London.

> *"The first thing that comes to my mind is the safety aspect, I see videos of cyclists being knocked off their bikes all the time, how would that translate to e-scooters?" (Online community, Midlands, Female, 25-34)*

Concerns around safety were less pertinent among cyclists and those outside of London and the South of England. Cyclists often viewed e-scooters as similar to bicycles, although they felt their ability to accelerate to a high speed with less exertion could result in the safety risk being slightly higher. Those in the North and the Midlands had fewer first-hand experiences of seeing these vehicles being ridden at speed and therefore had less safety concerns. Both groups generally did not view e-scooters themselves as inherently unsafe, instead viewing the user as being responsible for riding sensibly and the safety of themselves and others. However, they felt there will always be those who use them unsafely, similarly to cars and bikes.

> *"I would feel much the same as I often do about people using bikes. They seem to often ignore simple safety procedures such as wearing appropriate clothing, using lights, being aware of other road users and being considerate." (Online community, South, Female, 65+)*

Additionally, whilst safety was often a concern, participants could also imagine e-scooters offering several **benefits** – viewing them as an **environmentally friendly, convenient and enjoyable way to travel**. A small number of participants also spontaneously imagined these vehicles improving accessibility.

E-scooters were widely associated as having environmental benefits, with participants imagining that greater uptake could reduce reliance on cars, leading to lower emissions, road congestion, and better air quality.

In terms of convenience, they were seen as a quick and easy way to travel given their speed, minimal exertion and lower running/parking costs, compared to a car or public transport. Some also mentioned their folding capabilities – making them convenient for use on trains and joining up public transport journeys.

> *"It would be a great way for people to travel and commute… people could travel further distances without having to use a car or taxi, and would open up more employment, education or shopping opportunities for them. It would be much cheaper than buying and running a car, it would be far more environmentally friendly and take up less road space." (Online community, Midlands, Female, 35-44)*

Participants often saw e-scooters as an enjoyable way to travel, having had a fun experience themselves or seeing users having fun while riding them. This view is likely to be linked to their initial association with toys.

> *"I've seen a few being ridden around. They look like they might be useful and sometimes fun." (Online community, South, Male, 35-44)*

A few also felt **e-scooters could improve accessibility**; for those in rural locations with less access to public transport, for those with mobility issues which prevent them from walking far or using a bike, and for those on lower incomes who cannot afford a car or find public transport to be expensive. For some, the Covid-19 pandemic made this benefit more important due to safety concerns around public transportation.

> *"In the cities I live in they would be useful as public transport is less safe due to coronavirus and is quite expensive." (Online community, Midlands, Male 18-24)*

3..3 Attitudes and perceived barriers towards e-scooter usage

Safety concerns were a key barrier to interest in using an e-scooter and/or acceptance of others using them. This was especially the case in and around London, however some in rural areas also did not feel they would be safe to use due to the lack of cycle lanes and higher speed roads in their areas.

Some were less concerned about others using e-scooters but **did not feel they were relevant or practical for their personal transport needs.** For example, some were not interested in using an e-scooter as it did not seem suitable for their age (e.g. they thought they would look childish or have difficulty balancing), life stage (e.g. having children to consider or no longer working/commuting), or type of job/journey (e.g. needing to carry tools or shopping). Additionally, UK weather conditions were a deterrent to use, as rain was imagined to make the experience less enjoyable and potentially unsafe.

> *"I feel this form of transport is certainly more for younger people than for someone my age. I wouldn't feel comfortable/secure using one and cannot imagine a situation where I would need to use one. In a car, I can transport my family, dog, shopping etc." (Online community, South, Female, 65+)*

Across the sample a proportion of non-users expressed immediate interest in using an e-scooter, viewing these vehicles as a faster, cheaper, greener and enjoyable way to travel compared to other options. Whilst wanting to use them for a range of journeys, urban and suburban participants were more likely than rural ones to be interested in **using an e-scooter to save time and money commuting or carrying out their job,** for example, as a traffic warden. **In rural locations** where public transport is limited, some wanted to use one as **a more convenient way to travel to the local shops** compared to walking (which takes longer) or taking the car (which is more costly, less environmentally friendly and less convenient due to restricted parking). However, others could only imagine e-scooters being appropriate for leisure and sight-seeing.

> *"I would use one on a daily basis, definitely a regular basis, either instead of, or, as well as, walking and instead of short car journeys to the village shop etc." (Online community, North, Female, 65+)*

For commuter cyclists, **e-scooters could save time and energy** as the lower exertion required would mean they arrive at work less tired and sweaty and would not need to shower and change clothes.

> *"Can I be bothered to go get my cycling stuff, go get my bike, or do I just go get my electric scooter and boof, off…don't have to use any energy." (Teledepth, Cyclist, Yorkshire)*

Additionally, whilst teledepth participants with more severe mobility issues felt e-scooters would not be safe to use as they could not imagine being able to balance on one, a few online community participants with **minor mobility problems** imagined an e-scooter could improve their ability to travel.

> *"…an e-scooter might assist me in the walking element of my commute I have some minor mobility problems which would be eased by using a scooter." (Online community, North, Male, 45-54)*

4. Current e-scooter user views and experiences

This chapter reports on findings from eight e-scooter user interviews[8]*. All participants were male and living in urban or suburban areas, which means feedback received was not fully representative of the wider UK e-scooter population. This chapter explores their current use of e-scooters, triggers and motivators for purchasing one, benefits, user experiences, concerns and perceived limitations of the vehicles.*

E-scooter users reported using their vehicles for a range of journeys (to commute to work, go to local shops and visit friends/family) and described numerous positive impacts the vehicles had on their everyday lives by making travel easier and more convenient, improving the travel experience, and reducing transport costs. Users commonly reported being triggered to buy e-scooters through first-hand experiences of using them, exposure to online e-scooter adverts, and encouragement from friends, and had been motivated to purchase their e-scooters to save money or time traveling, avoid using public transport, and manage health conditions.

Current users described using their e-scooters responsibly and had developed strategies to ensure their individual safety and the safety of other road users and pedestrians, including: wearing helmets; riding in cycle lanes to avoid cars; and giving pedestrians right of way. Despite this, there were some concerns expressed among users about safety which came primarily from experiences of unsafe road use by other individuals, sub-optimal e-scooter features, and transport infrastructure issues. Through regularly using their e-scooters, participants had also noticed various limitations of the vehicles which reduced their overall benefits, such as limited battery life and problems with taking e-scooters on busy public transport.

4..1 E-scooter usage

Participants reported using e-scooters for a range of journeys: to commute to work; for work related trips (such as travelling to meetings and between on-site work facilities); to visit friends and family; run local errands (to shops, post offices and pharmacies); to travel to sport pitches/leisure centres; use on the school run; and for leisure in parks and whilst walking dogs. E-scooters were used as the sole mode of transport for some trips but were also folded and taken on public transport to connect journeys, and they were commonly used to travel to/from train and underground stations. E-scooters were being used to make short and middle-distance journeys, rather than longer journeys, as their range is usually between 9-12 miles per charge.

E-scooters were described as replacing a range of other transport types, including cars, the London Underground and walking. For example, participants previously driving, walking or cycling to train stations to commute to work, and those walking to local shops and pharmacies, were now using e-scooters. Participants used e-scooters in major cities, such as central London, but also in more suburban market towns. Across the sample, e-scooters were being used in parks, bike lanes, and on pavements and roads.

4..2 Triggers, motivators and purchase journey

Participants had been **triggered to purchase** their e-scooters through experiencing certain events that promoted e-scooters as beneficial vehicles that can be practically incorporated into transport repertoires.

[8] Note: at the time the research was conducted e-scooter use outside of private land in the UK was illegal

Before purchasing e-scooters, most participants had previously used an e-scooter; five participants had tried a friend's or used one abroad (in Tel Aviv and Tenerife). These experiences had triggered users to purchase an e-scooter by demonstrating their benefits to mobility and their feasibility. Using an e-scooter had, for example, allowed participants to understand that they are comfortable, easy to use and enjoyable to ride. Using an e-scooter had also dispelled views that e-scooters were a childish mode of transport. **Some felt first-hand experience was needed to grasp their full benefits and practicality, suggesting first-hand experiences of e-scooters can aid public recognition of e-scooter credibility**.

> *"One of my friends actually had one… I was really impressed by the way it worked… to be honest I spent about 10-15 minutes on it and I thought 'this could actually be very useful to me'…a couple of days later I purchased one, I've never looked back." (Teledepth, E-scooter User, Greater London)*

> *"I thought they were really good and fun [after trying an e-scooter in Tenerife… I thought they would be really slow and not last very long, but they were pretty good, and I started to research them and I came back off that holiday interested in getting one." (Teledepth, E-scooter User, South East)*

Others, who had not used an e-scooter before buying one, had seen adverts on social media or were encouraged by friends, with these events triggering their interest by highlighting their specific benefits.

After experiences that demonstrated the benefits and credibility of e-scooters, the **common reasons users purchased their e-scooter were to save money, save time traveling, avoid using public transport and to manage health conditions**. Participants described wanting to purchase an e-scooter to save money through reducing the amount they spent on public transport (such as the London Underground and bike rental). E-scooters were also purchased to save time traveling, primarily replacing journeys previously done on foot (e.g. walking to stations or to collect children from school) and slow public transport routes. Public transport was also seen as unpleasant to use and crowded, with participants wanting to buy one to avoid these unenjoyable journeys. The motivator to buy an e-scooter for one participant was to allow him to make additional journeys to the shops and park that he found difficult on foot due to a heart and lung condition.

When purchasing their e-scooters participants reported looking for **a range of features**. Price and vehicle range were prominent considerations, with good value for money being considered a balance between these two variables. Additional features that they wanted included a lightweight frame (to ensure portability), dual brakes, good suspension and lights (for rider comfort and safety). Several were considering upgrading their e-scooter, with most wanting a longer range to allow for journeys covering greater distances. **This suggests price was prioritised over range when buying their first e-scooter, with the usage benefits experienced later justifying greater vehicle investment**. Notably, two had bought their e-scooters from a large hardware store, one from a specialist e-scooter shop, and another second-hand from a friend.

4..3 Benefits and positive impacts of e-scooters

All eight users were very positive about e-scooters and enthusiastic towards the impact and role these vehicles played in their lives. They were therefore keen for e-scooters to be legalised. The beneficial impacts described by participants were that e-scooters: make travel more convenient; improve the travel experience; reduce money spent on travel' are an environmentally friendly mode of transport; and can increase accessibility to those with mobility problems (listed from most to least commonly mentioned).

The most common benefit mentioned was that e-scooters improve mobility by making travel more convenient. Participants described e-scooters as being straightforward to use. They saw "hopping" onto an e-scooter as requiring less effort compared to getting into a car or getting out a bike from its storage location, and participants described the simple way they "*can zip out and zip in*" their homes when using an e-scooter. Folding up an e-scooter and taking it into a shop, office or restaurant was also viewed as simpler to manage than locking up a bike or finding somewhere to park a car. Similarly, e-scooters were seen to simplify travel through reducing the type and number of modes of transport used to complete a single journey, and make

travel more convenient through speeding up journeys, especially those previously made on foot (such as walking to and from train and tube stations, or to the local shop).

> *"With the scooter it's so easy and accessible and you can probably take it into practically anywhere you go nowadays." (Teledepth, E-scooter User, Greater London)*

> *"[E-scooters give you] a lot more freedom to get to your destination rather than having to get on the bus and then on the tube and then another bus." (Teledepth, E-scooter User, Greater London)*

Users were also very enthusiastic about how e-scooters **improved travel experiences**. Participants explained that using an e-scooter was much more enjoyable than other kinds of transport. Congestion during rush hour was described as frustrating, with trains and tubes being overcrowded and unenjoyable - one user said he found commuting on trains tiring due to the unpleasant overcrowding of people in carriages. In comparison, participants described enjoying their e-scooter journeys. Participants further liked being outside whilst riding their scooters (rather than in a car or bus) and the scenic routes they could take; one user described enjoying using canal towpaths on his way to work.

> *"When you get off of a really packed smelly boring train, being able to scooter is quite nice." (Teledepth, E-scooter User, South East)*

> *"It also provides an element of fun to my commute – extra nice in the summer with a nice breeze." (Teledepth, E-scooter User, South East)*

As well as improving travel experiences, participants were positive about e-scooters due to their **economic benefits**. Participants stated that by using e-scooters, instead of other modes of transport, they were able to save money and most could specifically recall the amount they had saved. For example, one participant said his e-scooter allowed him to avoid traveling on public transport, saving him around £50 a month. Similarly, another said his e-scooter saved him £200 every 6 months as he no longer needed to spend money renting bikes to travel to evening classes and the gym. Users had commonly spent around £300 on a first e-scooter.

Participants were also positive about e-scooters as they were perceived to be an **environmentally friendly** mode of transport. Participants commented that electric vehicles were better for the environment than other modes of transport and commonly compared e-scooters environmental impact to cars (thought to be a less sustainable vehicle). Despite low environmental impacts being a reasonably common benefit mentioned by participants, it was not a primary driver behind participant use and purchase, but instead was a contributory factor adding to an overall positive attitude towards e-scooters. This insight may be useful when thinking about the most effective messaging to encourage use and uptake of e-scooters.

Finally, two current users valued their e-scooter for improving their mobility. One participant with a heart and lung condition that made it difficult to walk long distances, described the benefits of using his e-scooter to go to the shops and take his dogs for a walk. Another found his e-scooter particularly useful when he struggled with walking due to a repetitive knee injury.

> *"I've got a disability and that is why I use them [e-scooters] so it does solve mobility problems…I have always had dogs and I will always want to go to the park…if you have a disability, and you can't do those things by walking… (they) are the answer." (Teledepth, E-scooter User, Greater London)*

4..4 User experience and limitations

4..4.1 E-scooter safety

Current users perceived themselves to use their e-scooters responsibly and thoughtfully. They highlighted various strategies they had developed that they felt ensured their individual safety and the safety of other road users and pedestrians. Users described a range of individual actions and approaches they took when riding their e-scooter, and as a result of these strategies, they felt that they posed little danger to themselves or others. For example, participants avoided highspeed roads and motorways, and used cycle paths when

available, to reduce interaction with cars which can cause serious injury. Many users also decided not to ride their e-scooters on pavements / footpaths, or were cautious about riding slowly and giving pedestrians right of way if they did, and wore a helmet in case of accidents. Moreover, some users tried to reduce their use of e-scooters in wet weather and at night, to avoid slipping or car accidents due to poor rider visibility.

> *"I ride [my e-scooter] defensively. So I drive assuming other drivers haven't seen me or pedestrians haven't seen me so that way I tend to avoid collisions." (Teledepth, E-scooter User, South East)*

> *"So when I use canal paths, I make sure I am super respectful, pedestrians always have right of way, I make the point of stopping and letting them go." (Teledepth, E-scooter User, Greater London)*

Some still expressed safety concerns, driven by unsafe road use by drivers, their e-scooter features, and poor road infrastructure. Users were concerned about car drivers; they felt that since e-scooters are not mainstream forms of transport, drivers may not know how to use roads safely alongside them. For example, one participant has been cut up by cars and another was worried drivers may not notice an e-scooter on the road. This was considered especially a problem for rural e-scooter use, where narrow roads and corners would reduce e-scooter visibility. Participants also felt their e-scooter could have more features to improve safety; e.g. brighter lights, dual brakes and indicators (to avoid taking their hands off the handlebar). One user had added larger wheels to improve stability, grip and ride comfort. Some also mentioned that they felt that the lack of noise that e-scooters made posed as a potential problem to pedestrians (if ridden on the pavement), where on some occasions individuals may not be able to hear them approaching. Users also highlighted problems with certain roads, such as main roads or cobbled streets. Most felt safest using scooters in bike lanes but noted these are not always available to use.

4..4.2 **Limitations of e-scooters**

Participants had noticed various limitations of their e-scooters that they felt reduced their overall benefits. A common drawback was the limited range of their e-scooter and the distance they could travel before it needed recharging, with users wanting their vehicle to have greater battery capabilities to allow for longer journeys. For example, one participant wanted to be able to use his e-scooter to travel all the way to work and stated he was currently unable to do this due to battery restrictions. Some felt that taking their e-scooters onto trains could be problematic, with one user avoiding busy trains if he was unable to get a seat to store his e-scooter under as he felt his scooter would hinder other passengers by taking up room. Some recognised that using e-scooters was not an active way to travel and therefore does not offer the health benefits of other modes such as walking or cycling. Several participants described the current inability to carry large quantities on e-scooters (such as food shopping), the potential risk of them being stolen if left on a pavement and the inability to multi-task whilst in transit such as reading or surfing the internet (as you could do on a train or bus). Finally, a few e-scooter users said they had been mocked by friends for using one as they were perceived as childish.

> *“Since using e-scooter for commuting my only challenge is train journeys, especially the tube in trying to carry the scooter around. Sometimes people can get quite frustrated if there’s a lack of space and a scooter or bike is adding to that congestion.” (Teledepth, E-scooter User, South East)*

5. Considered views of non-users: benefits, concerns and considerations

After capturing their initial views, all participants were exposed to information about the benefits and risks associated with e-scooters and were asked to comment and reflect on these materials, to enable them to develop considered opinions. For example, case studies were provided of e-scooter use in Paris and Tel Aviv to inform participants of the potential risks and different regulatory approaches to consider. This section therefore reports on participants' considered views about the benefits, concerns and considerations of e-scooter usage in the UK. The stimulus materials used can be found in the Technical Appendix.

Participants generally responded positively to the potential benefits of e-scooters. Whilst already widely associated with having environmental and convenience benefits, exposure to the potential advantage of joining up journeys, their portability and their potential to improve accessibility sometime drove increased positivity towards these vehicles. Information highlighting the potential risks of e-scooters often supported original safety concerns – particularly the possibility of users riding at high speed, being reckless/ inconsiderate and the potential for fatalities. This information further strengthened perceptions of e-scooters being dangerous or increased the perceived risk of individuals being irresponsible, thus heightening the importance placed on regulating these vehicles. Concerns around the suitability of current UK infrastructure also increased, particularly if hire schemes are to be introduced. There was a strong sense that safety concerns needed to be addressed before e-scooter use could be considered acceptable in the UK.

5..1 Considered views: benefits

The information provided on the potential advantages of e-scooters often reflected drivers of interest and uptake among current users and those considering an e-scooter, with participants mostly being in agreement. That said, the benefit of joined up journeys, their portability and accessibility were not always considered in advance and sometimes resulted in increased positivity towards these vehicles.

> *"I'm now a lot more open to the use of e-scooters by others. I think they will be a cost-effective, environmentally-friendly and totally workable solution which will open up a lot of options and opportunities for their users, as well as give them more freedom of movement." (Online community, Midlands, Female, 35-44)*

The opportunity to join up journeys and shorten commuting times by taking e-scooters on public transport was generally met with wide support. This advantage if not already considered sometimes triggered increased enthusiasm among those positive towards e-scooters and interested in using one, especially in combination with their portability and perceptions of 12.2kg being light weight. However, particularly in London, some questioned how practical or feasible it would be to take an e-scooter on public transport given the high concentration of people and lack of space on trains and buses at peak times. This view was reflected by the current e-scooter user who avoided taking his e-scooter on busy trains.

> *"I think this is great because it means you would no longer have to take unnecessary transport links that don't always go in the direction you need to go. It would cut out a lot of travel time and also make it easier when transport links are unavailable." (Online community, South, Female, 18-24)*

> *"Effortlessly get from A to B." (Teledepth, Cyclist, London)*

In addition to the convenience benefits provided in the stimulus material, some felt the introduction of Covid-19 social distancing measures further heightened the convenience of using an e-scooter – with these vehicles offering a way to travel without having to use public transport. Participants were also of the view that **e-scooters could be more cost effective than using a car or public transport**, as they assumed there would be fewer running costs – this was likely to be in respect to personal ownership.

> *"In my opinion, this is a better time than ever for e-scooters as there are less cars on the road and people can't access public transport as easily. It would be perfect for those who need to do their shops but have anxiety about commuting there. There would just need to be hygiene standards in place." (Online community, South, Female, 18-24)*

As mentioned previously, many viewed e-scooters as offering environmental benefits prior to seeing the stimulus materials, with the information provided supporting this view. However, whilst seeing these vehicles as better for the environment than cars, some participants **questioned the extent of their environmental benefits**, raising questions about where and how the electricity is produced, how batteries are disposed, and whether e-scooter use will reduce car use in reality. Additionally, a few were concerned there are already too many vehicles on the roads in London and therefore suggested the promotion of walking, cycling, electric cars and carbon neutral buses to address environmental issues, instead of introducing a new type of vehicle.

> *"It's a good thing that e-scooters are environmentally friendly. It's zero pollution and helps people with breathing conditions." (Online community, South, Female, 55-64)*

> *"They do produce emissions, so long as producing electricity produces emissions. Plus manufacturing an e-scooter will involve emissions. It may be less than cars, but they are not carbon-neutral." (Online community, South, Male, 35-44)*

Information provided on the **potential for e-scooters to improve accessibility and inclusivity was met with a mixed response.** Many online community participants doubted an e-scooter would be of interest, practical and safe for vulnerable individuals, with some older participants saying they did not feel e-scooters are 'age appropriate' or stable to ride.

> *"I don't feel they would be accessible to a wide range of elderly people, there is some balance required to ride a scooter and if elderly people fell, this could lead to a visit to the hospital..." (Online community, Midlands, Female, 25-34)*

Others, in contrast, already viewed accessibility as a potential benefit or had not considered this but welcomed it as an advantage. These participants felt **those with a disability or health condition** that makes walking difficult would benefit most, particularly after seeing the option of e-scooters with seats. Supporting this view, teledepth participants and online community participants with mobility issues often commented that the slimmer and more modern aesthetic of e-scooters could give them **greater independence without holding the stigma associated with a 'mobility scooter'** – making it a much more appealing form of transport for this audience, particularly among younger people with mobility issues. This benefit is also supported by current users, with two participants purchasing their e-scooter to improve their mobility.

> *"I could do it myself, I wouldn't need someone looking after me.. I wouldn't be embarrassed to go out on it – some mobility things I would turn down if they were offered – [mobility scooters are] designed for 70-90 year-olds, not younger people with disabilities." (Teledepth, Vulnerable, South West)*

Their ability to improve accessibility in other ways was also mentioned and was a driver of usage interest for some participants - for those on **lower incomes** who have no access to a car and find public transport expensive and in **rural locations** where public transport is often limited. Notably, those in rural areas tended to imagine using them for short local journeys due to concerns about their visibility and safety using an e-scooter on narrow, bendy, high-speed rural roads.

5..2 Considered views: concerns

Information provided around e-scooter features, their potential risks and their use in other countries was generally felt to support participants' original safety concerns. Among those already negative towards e-scooters, this information typically strengthened the perception that e-scooters are dangerous. For others, it heightened the perceived risk of e-scooters being misused and highlighted a wider array of factors to consider, increasing the perceived importance of regulation to deter poor use. Overall, safety concerns were **a key barrier to participants fully engaging with the benefits** of e-scooters; demonstrating the need for these to be addressed to increase public acceptance and confidence riding these vehicles.

Pre-existing concerns were often strengthened by the Paris and Tel Aviv case studies which confirmed the risk of harm and highlighted the potential for fatalities by providing information on the number of accidents and head injuries. As a result, participants emphasised the importance of protective clothing if these vehicles were to be used in the UK, with a consensus they should not be ridden on highspeed roads or motorways.

Whilst their average speed of 15-20mph was widely accepted (being viewed as similar to a bike), participants were often drawn to information provided that e-scooters can have a potential top speed of 50 mph. Whilst they are unlikely to be ridden at this speed in reality, many expressed surprise and strong concern that this could be a possibility, increasing the perceived potential for these vehicles being misused and the likelihood of a fatality if an accident occurred when travelling at this speed. Participants wanted reassurances this top speed would not be an option (i.e. through a speed limit or a cap on speed as a vehicle feature).

When thinking about the potential harm caused by irresponsible users, **participants were particularly sensitive about the possibility of collisions with vulnerable people** (i.e. older people, people with disabilities, and young children) – especially if they were to be allowed on pavements and in parks without designated pathways. However, many did not consider the risk to be any greater than for bicycles.

> *"This is a serious concern. Not just e-scooters but vehicles on pavements. There is a school for the blind in Loughborough. I have seen how careless people are and the difficulties the inconsiderate make for blind or partially sighted. We have to remember there are a lot of lazy careless people out there who just care about themselves." (Online community, Midlands, Male, 55-64)*

The ambiguity of current legislation and lack of clarity around where and how e-scooters can be used was felt to contribute to the risk of unsafe usage, with participants **seeing little evidence of regulations being enforced**. Stimulus materials therefore heightened the perceived importance of having clear regulations in place and measures to ensure people are held accountable for unsafe behaviour.

> *"Unless there is clear rules and regulations about how scooters can be ridden and used on public highways, I don't see how they can be safe for both the riders and for other road users. I fear that this could lead to an increase in road collisions and that is frightening." (Online community, Midlands, Female 25-34)*

While unsafe use by e-scooter riders was the primary concern, participants were also **worried about the safety of the vehicles themselves,** particularly in terms of their visibility on the road. Their slim, dark profile and lack of sound was felt to make them at risk of an accident if a car or truck does not see the vehicle. Information provided about current e-scooter features helped to mitigate some concerns – especially, front/back lights for visibility, anti-puncture tyres to withstand potholes and adjustable handlebars to accommodate a range of heights and shared usage. However, many felt a horn is also required.

An ongoing driver of concern was the view that **current UK infrastructure is not adequate to support their safe use**. For example, poor roads (potholes, etc), limited and intermittent cycle lanes, and narrow country paths without separate lanes for e-scooters were seen to enhance the risk of harm to users and may result in their use on pavements, in turn increasing the risk of harm to pedestrians. Notably, if e-scooters

were to be used in cycle lanes, participants did not expect this to be a problem for cyclists due to their similar speeds. Cyclists themselves also held this view.

> *"Mass use would necessitate a big change in road systems and/or pavements/cycle lanes, especially in rural areas where roads are poor and often unlit." (Online community, Midlands, Male, 65+)*

The perceived issue of insufficient infrastructure was further heightened by information provided on e-scooter hire schemes in other countries. This raised **concerns about dockless hire schemes being a safety risk** and an unsightly nuisance when left lying on pavements. Particularly as they could become a hazard for vulnerable adults and children. Whilst some had first-hand experience of this issue in London with bicycle hire schemes or in other cities with e-scooter hire schemes, many outside London had not considered this possibility.

> *"I saw this a lot when I was in Copenhagen, a lot of scooters being left on busy pavements which made it harder to get about, as well as a risk for tripping over. Docked scooters would be preferred." (Online community, South, Male, 18-24)*

It is important to note that whilst generally in agreement with the safety issues raised, **e-scooter users, cyclists and those who started with more positive attitudes towards e-scooters appeared to differ in their overall view of the concerns**. These participants tended to view the level of risk posed by e-scooters as similar to bikes and thought safety issues mostly stemmed from a few individuals being irresponsible, rather than safety risks being intrinsic to all users or the vehicles themselves (although they did feel safety features on e-scooters can be improved). They were therefore of the view that the **benefits outweighed the concerns and were more optimistic about the potential for addressing safety concerns through regulations and raising awareness** of these vehicles to increase other road users' recognition of them as another form of transport – similarly to bikes in and around London.

> *"I think once we get more used to them being on the road and provided they're properly integrated with other types of existing transport, I think they'll very quickly just become another mode of transport." (Teledepth, E-scooter user, South East)*

> *"I don't see the difference between them [e-scooters] and a bike. If someone if driving round in London they should be extra vigilant about anyone. There is no reason why they would not spot an electric scooter and would spot a bike." (Teledepth, E-scooter User, London)*

5..3 Additional considerations

When responding to information provided, additional considerations were raised that influenced whether e-scooters were seen as a credible form of transport for themselves and/or others. A key consideration was **the risk of theft and vandalism,** with many questioning how e-scooters would be securely parked. This sometimes acted as a barrier to potential usage unless a solution were to be provided (e.g. storage lockers). Some were also worried about hire scheme e-scooters being vandalised, making them unsafe to use.

The charging time and range of these vehicles was continually raised as a limitation that reduces their practicality. Whilst suitable for short local journeys, the average range may not be sufficient for some to travel to their nearest city centre (and back), potentially preventing the possibility of using an e-scooter for commuting. Participants also envisaged the challenge of trying to find a charging point in town and felt the average charging time (3-4 hours) was too long relative to the range (9-12 miles per charge).

In contrast, on learning **seated options** are available, usage interest often increased among those already considering an e-scooter. This feature was imagined to make them more stable to ride and more comfortable for longer journeys. Moreover, among the vulnerable teledepth sample, the addition of a seat shifted e-scooters from being viewed as an unsuitable form of transport, to being a vehicle they wouldconsider.

6. Preferences for future e-scooter regulation and implementation in the UK

In the final wave of the dialogue, participants were invited to design regulations and infrastructure to enable the safe use of e-scooters in the UK if their usage was legalised. They were asked to consider where e-scooters could be used and parked, potential user and vehicle requirements, whether hire schemes would be allowed and how these would operate. They were also able to say if they believed e-scooters should remain illegal to use in the UK. This section therefore outlines participants' views on the potential legalisation and regulation of e-scooter use in the UK - following exposure to materials found in the Technical Appendix.

It should be noted that the public are not experts or policy makers, and as such, the strategies suggested should not be understood as comprehensive, rigid or formal plans. Rather, they represent and reveal the key principles of the participant's priorities and concerns in relation to e-scooter regulation.

There was general agreement across the sample that e-scooter use should be legalised in the UK, but this was based on the condition that appropriate regulations, vehicle standards and infrastructure were in place before their legal status is changed. Five key areas for mitigation emerged: rider restrictions, rider protection, suitable infrastructure, rider accountability and rule enforcement. All were felt to be essential prerequisites to legalise e-scooter use in the UK, although expectations around implementation sometimes varied. Current and potential users were more likely to support encouraged rather than mandatory rules to maintain the convenience benefits of these vehicles, suggesting regulations will need to find the right balance between minimising safety risks and maintaining the appeal and uptake of e-scooters. If hire schemes are made available across the UK then stricter rider regulations are expected compared to private use.

6..1 Views on e-scooter regulation in the UK

There was widespread agreement that the **current default legislation is not fit for purpose and that e-scooters should be legalised and regulated**, at least for private use, to allow people to access to the benefits of these vehicles and reduce the level of concern around the safety of riders and other road users. Many were surprised to learn that at present e-scooters are not legal to ride except on private land. Some questioned their illegal status given their similarity to bikes, especially electric ones, whilst others highlighted e-scooters are already being ridden without the rules being enforced. Participants were more cautious towards people having access to hired e-scooters, with hire schemes felt to present a greater safety risk.

Current legislation was perceived to contribute to safety concerns and the misuse of e-scooters in the UK, due to ambiguity and the absence of information on who, where and how they should be ridden to provide maximum safety to the rider and other road users. This was also felt to hinder the policing and enforcement of responsible use. Thus, participants generally agreed if they are to be used in the UK it is more beneficial for them to be legalised to encourage safe use and reduce the risk of accidents and injuries.

> *"Good regulation is key to minimise accidents, and (to) ensure they are ridden responsibly." (Online community, South, Female, 55-64)*

Public support for the legalisation of e-scooters was, however, on the condition that an appropriate regulatory framework is introduced before their legal status is changed. This was often driven by the view that the e-scooter accidents and littering in Paris and Tel Aviv (see Technical Appendix) could have

been prevented through regulation. Participants therefore wanted the UK to learn from these countries and introduce rules to regulate e-scooters and reduce safety risks. **That said, some suggested having a review period to assess their effectiveness when applied to a UK context.**

> *"It has given me an idea of the issues that have arisen in other countries – it's very important that we learn from these (no point re-inventing the wheel)." (Online community, Midlands, Male, 35-44)*

Findings suggest there is a need for e-scooters to have **their own regulatory vehicle category** that draws upon a mix of bicycle and moped legislation. Whilst e-scooters were often compared to bikes in terms of the user's vulnerability and the risk they present to others, many felt current bicycle regulations are too lenient even for cyclists with people highlighting the risk of accidents and cyclists not following the (recommended) rules, e.g. riding on pavements. Many therefore agreed stricter rules are required for e-scooters, particularly due to these being a new form of transport and their ability to quickly accelerate with minimal exertion, compared to a bike which is self-propelled and is often ridden from a very young age. As a result, many felt e-scooters should be most closely aligned with moped legislation, which stipulates an age limit, mandatory training and protection, and a user license and insurance. Moped regulations could not be fully applied, however, as they are not allowed in cycle lanes where e-scooters are considered safest to ride.

> *"The case studies suggest e-scooters need regulating more than bikes because they're new... I think a small test is needed. Even for bikes cycling proficiency isn't enough." (Teledepth, Cyclist, North)*

When it comes to implementing legislation, findings indicate the need to **identify the optimal balance between introducing strict regulations that minimise safety risks whilst avoiding legislation being so stringent it negates the convenience** and appeal of these vehicles. Whilst many wanted regulation to act as a barrier to entry to deter irresponsible users, some expressed concern towards them being too strict. The latter were more likely to be cyclists and e-scooter users, who whilst in support of regulation to increase safety, wanted rules to be encouraged rather than mandatory, or flexible in their policing. Some suggested too many user requirements may deter them from buying an e-scooter, with these participants emphasising their confidence riding their bike or e-scooter, their consideration towards the safety of others and their ability to assess the risks in any situation and act accordingly (even if it does mean breaking the rules).

> *"If requirements to own one don't become too onerous (I would buy one), if it's like motorcycle regulations - need insurance, taxation, number plates, safety equipment has to be worn, I would tend towards hiring one as and when." (Teledepth, E-scooter User, South)*

This suggests it will be important for regulation to consider this tension and find the right balance by reducing safety risks without regulations being too much of a barrier to uptake among responsible users.

6..2 Regulatory areas to mitigate safety concerns

During the dialogue, participants were invited to design regulations and infrastructure to enable the safe use of e-scooters. From this exercise, **five key areas for regulation emerged**, all of which were felt to be essential prerequisites for use of e-scooters in the UK to be acceptable:

- **Rider restrictions** - regulation to restrict who can legally ride an e-scooter, as well as limitations on where and how they are used to encourage safe behaviour and minimise misuse.
- **Rider protection** – regulations that maximise the safety of the rider through protective clothing and vehicle safety features.
- **Suitable infrastructure** – having the right infrastructure in place was considered a crucial component to facilitate people in using e-scooters safely and responsibly.
- **Rider accountability** – measures to ensure the rider is accountable for their behaviour and can be identified if they use or park their e-scooter irresponsibly.

- **Rule enforcement** – high importance was placed on regulations being enforced so that consequences are incurred if the rules are broken in order to deter future misuse.

Across the dialogue, there was a high degree of consensus around the need for particular regulations within each of these areas in order to mitigate safety concerns, in relation to both the e-scooter rider and other road users. However, **expectations around their specific implementation varied**, with the following section expanding on each of the five regulatory areas and drawing out attitudinal differences towards implementation. It is important to note that **e-scooter hire schemes, if made available, were also expected to be heavily regulated** with both the users and hire companies made accountable for any misuse. Participants' regulatory expectations of e-scooter hire schemes is also discussed within this section.

6..2.1 Rider Restrictions

Imposing rider restrictions emerged as **a key regulatory area as a way to address participants' core safety concern** around e-scooters potentially being misused and causing accidents. Speed restrictions were the biggest priority to mitigate fears around speeding, with participants also wanting age limits, user training and restrictions on where e-scooters can be used to minimise the risk of harm, especially to other road users but also to themselves. This section outlines the key measures participants wanted to see introduced.

Strong emphasis was placed on the importance of having **speed regulations** to reduce the likelihood of people speeding and causing harm to themselves and others. A high level of consensus was seen in relation to implementing this regulation, with the majority agreeing that a maximum speed of 20mph would be suitable to maintain vehicle efficiency benefits whilst reducing safety risks. It can be noted that some wanted the option of faster versions being available but would expect more regulatory requirements linked to these.

Age restrictions were expected to minimise the proportion of irresponsible users, with speeding and unsafe e-scooter use primarily linked to young teenagers. Participants generally wanted e-scooters to only be ridden by those 16 years old or over. This was often felt to be suitable as people can use a moped and learn to drive a car at this age. Notably, some instead suggested 14+, wanting this age group to have access to the benefits of these vehicles, although all agreed the age limit in Paris (12-years old) is too young.

Participants agreed users need to be **restricted in where e-scooters can be used** to maximise the safety of the rider and other road users. There was widespread agreement they should primarily be ridden in cycle lanes, where possible, given the similar speed of e-scooters and bicycles and their ability to protect users from fast-travelling vehicles, whilst protecting pedestrians on pavements. When cycle lanes are not available most suggested roads could be used. However, they strongly felt e-scooter users would be at risk and therefore should not be allowed to ride on motorways and fast, busy roads (over 30mph).

> *"If there were more cycle lanes in Birmingham I would want to use it there, I think it's the safest place to ride them." (Teledepth, Cyclist, Midlands)*

Most did not want e-scooters to be ridden on pavements and in parks without cycle lanes to prevent pedestrians and vulnerable people being harmed from collisions. That said, some cyclists felt a level of flexibility should be allowed, as when riding their bikes in certain situations they consider the pavement to be safer than the road. Vulnerable users were also more likely to want the option of using the pavement or having a dedicated e-scooter lane to feel confident riding them safely.

Given the prevalence of e-scooters cluttering pavements in Paris and Tel Aviv, emphasis was also placed on the need for imposing **restrictions on where riders can park their e-scooter,** with most wanting dedicated parking areas to prevent them from being a hazard and/or an eye-sore.

Training was viewed as important to reduce the risk of harm to riders and others, by ensuring riders are confident using an e-scooter and are aware of regulations. However, **people varied in the level of training they felt was required**. Current users and cyclists were less likely to feel formal training is needed, suggesting a theory test would be sufficient or cycling-proficiency-style training on purchase for those that

want it. This is likely to be driven by confidence in their ability to ride one and resistance to increasing usage barriers. Many, however, did not feel this level of training was enough due to the speed and acceleration of e-scooters, suggesting compulsory basic training (CBT) and a license should be required. Older people more cautious of new technologies, and those who would not use e-scooters, were more likely to hold this view.

> *"If it came to a proper car or motorbike style training test before I was allowed to ride it might have put me off a bit… it would seem a bit unnecessary to me." (Teledepth, E-scooter User, South)*

6..2.2 Rider Protection

Participants also wanted to see **regulations specifically aimed at enhancing the safety of e-scooter users themselves**. Training was imagined to contribute to this, although many perceived the need to increase the visibility of e-scooters and their riders to other road users to reduce the chance of cars hitting them. Protective clothing and regulating vehicle standards were often seen as strategies to achieve this.

In terms of protective clothing, most believed helmets should be **compulsory protection** to protect the rider if an accident occurs. Older people and those living outside urban areas were more likely to feel high visibility clothing should also be mandatory, although others thought this should be encouraged and less necessary if e-scooter lights were improved. Notably, cyclists and e-scooter users did not want high visibility clothing to be enforced and a few did not want helmets to be compulsory as they are not mandatory for bikes which travel at a similar speed, whilst being uncomfortable to wear and inconvenient to carry.

> *"They're closer to a moped than a bike but they're not as fast… you can encourage people to wear a helmet but don't enforce it." (Teledepth, Cyclist, South)*

Findings suggest **regulating vehicle standards** to ensure e-scooters have adequate safety features and increasing public awareness of these, could have the potential to reduce safety concerns. The following were commonly mentioned when discussing vehicle standards people wanted to see introduced:

- **Lights** – strong front and back lights and reflectors were seen as crucial to improve e-scooter visibility on roads. A few also suggested e-scooters come in a bright colours instead of being black.
- **Brakes** – everyone agreed on the importance of good/dual brakes to ensure riders can brake quickly. This was also a point for improvement among e-scooter users.
- **Horn** - participants were often concerned about e-scooters being silent and going unnoticed when travelling along the road, suggesting a horn or another solution is needed.
- **Tyres** - participants in the South were particularly concerned about the risk of accidents from potholes and so anti-puncture tyres and suitable wheel sizes were wanted in order to withstand these.
- **Indicators** - current users and cyclists felt indicators would improve rider safety, by preventing them from taking their hands off the handlebar and becoming unstable. For this reason, a mobile phone docking station on the handlebars was suggested to enable them to navigate their route whilst riding.
- **Adjustable handlebars** – this was seen as an important to ensure the vehicle can be tailored to the individual user, especially if it is to be shared within household.
- **Vehicle maintenance** - some suggested annual vehicle maintenance would be beneficial to maintain vehicle safety, whilst others felt this was unnecessary given their simple design.

6..2.3 Suitable infrastructure

Having appropriate infrastructure in place was considered **a crucial component to facilitate people in using e-scooters safely**. With cycle lanes being viewed as the safest location to ride an e-scooter, participants wanted to see **an increase in the availability of cycle lanes**, both in London and other UK cities. Improved road quality (e.g. covering potholes) was also envisaged to improve rider safety.

Having **secure, dedicated parking/storage and charging points** in place was also considered important to prevent e-scooters being abandoned, becoming a hazard on pavements or being stolen.

> ***"****There should be secure places to lock them… I can imagine lockers at stations where you keep your e-scooter and it charges inside, like iPhone lockers." (Teledepth, E-scooter User, South)*

Adding **e-scooter sign-posting** to UK infrastructure was also suggested to normalise their use and increase awareness of where they should be used, e.g., e-scooter symbols on cycle lanes, road signs, parking areas.

6..2.4 Rider accountability

Introducing accountability measures emerged as a key theme and was **a critical condition for people to accept the legislation of e-scooters in the UK**. The value placed on this regulatory area heightened after participants learned about e-scooter misuse in other countries, although people were reassured by solutions to counter these issues. On learning that Tel Aviv has introduced number plates, participants wanted this regulation in the UK to deter reckless riding. Insurance was also often welcomed, primarily to protect others through third-party cover but also to cover theft. Alongside encouraging sensible behaviour, these measures were desired to enable users to be traced and held accountable if involved in an accident.

> *"If people have to pay insurance they would ride their scooters more carefully to void their insurance policy… [it would] make it safer for everyone." (Teledepth, E-scooter User, South)*

Whilst most were in support of accountability measures, a few e-scooter users and cyclists felt they were not needed as bikes do not have these requirements and they would detract from the convenience of riding one.

6..2.5 Rule enforcement

Alongside accountability, equal importance was placed on **the policing and enforcement of the rules to reduce safety concerns**. This was driven by the Paris and Tel Aviv case studies and the current lack of enforcement in the UK. Participants therefore emphasised the expectation that people should face consequences for e-scooter misuse, such as fines or license points deducted, in order to deter others and discourage this behaviour in the future. There were concerns, however, around the feasibility of rules being enforced, with police viewed as under-resourced and are not currently seen to regulate e-scooter use.

6..3 Hire scheme regulation

If e-scooter rental schemes are introduced in the UK, participants expressed **the need for stricter rules compared to private use**, driven by concerns that these attract irresponsible users (e.g. tourists) who have not invested in the vehicle and are inexperienced riding them and navigating local roads.

Rental companies were seen as responsible for making sure users ride them safely, for example, by limiting availability to those with a moped or driving license and educating users on safe vehicle behaviours prior to hiring one. The risk of hired vehicles being vandalised and becoming unsafe to use was also a prominent worry, with the company expected to carry out **regular vehicle maintenance**.

> *"…when they sign up to the app they should have a little video such as how to control it, how to balance, where to put your weight." (Teledepth, E-scooter User, South)*

Many supported **strategies to prevent users from speeding**, e.g. through built-in speed-limiters, although a GPS tracker that automatically slows devices was imagined to risk unbalancing the rider. Emphasis was also placed on **measures to ensure the rider and company are accountable for misuse** via insurance and registration numbers. Some also suggested withholding deposits if the user speeds, damages the device, or docks incorrectly and having a point system that stops access once all are deducted.

The importance of infrastructure was also heightened, with cycle lanes being viewed as even more important for new, less confident e-scooter users, and docking/charging stations being crucial to prevent hired vehicles being abandoned and cluttering pavements, as seen in Paris and Tel Aviv.

7. Implications and envisaged usage

This section summarises views by the end of the dialogue and the potential implications of legalising and regulating e-scooters in the UK. It also provides insight into how some people envisaged using e-scooters if regulation is put in place, including the types of journeys they would take, how they want to access these vehicles and the forms of transport they would be replacing.

On concluding the dialogue, participants were broadly in support of legalising the use of e-scooters in the UK and enabling people to have access to their environmental, convenience, cost and accessibility benefits, if regulations are put in place. Most importantly, legalisation was expected to accelerate the normalisation, uptake and safety of these vehicles by positioning them as a legitimate form of transport.

Interest in using an e-scooter remained largely unchanged by the end of the dialogue, except among vulnerable people for whom appeal increased on seeing a seated or three-wheeled option. The profile of potential users was mixed in terms of age, gender and location, indicating their diverse appeal. If legalised and regulated, participants could envisage using an e-scooter for a range of journeys: commuting, employment, local shopping and leisure, with these being used instead of driving, cycling, walking or public transport. Most ideally wanted to own one to maximise their convenience and cost benefits, although some were interested in hiring them for occasional use and to trial an e-scooter prior to potential purchase.

7..1 Closing views

If regulations were to be put in place, by the end of the dialogue, **participants were generally in support of legalising the use of e-scooters in the UK**. Those who originally had more positive views towards e-scooters eventually placed more importance on regulation being needed to deter and police irresponsible individuals, whilst those with more negative attitudes commonly became more accepting of legalisation due to the belief that regulations would increase the safety of using these devices and reduce the risk of accidents.

> *"I view the usage of e-scooters to be similar to that of bicycles, so I don't see why one should be made illegal while the other isn't. That said, I would hope that there would be regulations in place that are enforced to maximise the safety of everyone." (Online community, North, Female 18-24)*

> *"I'm leaning more to their introduction now, so long as it is safe and the trial shows there is a desire for it" (Online community, North, Male, 18-24)*

If regulated and used responsibly, participants welcomed the **positive environmental impact, convenience benefits and improved travel accessibility** e-scooters could provide if they were made available in the UK.

> *"Absolutely [they should be legalised]…it is an environmentally-friendly and cost-effective alternative mode of transport… It will open up so many additional opportunities to people who can't afford a car… and give those people a lot more freedom." (Online community, Midlands, Female, 35-44)*

Moreover, the legislation of e-scooters was expected to position these vehicles as a **recognised and legitimate form of transport for adults** and reduce their association with toys and children. This was imagined to increase people's confidence in this new technology, drive uptake and accelerate their normalisation, in turn supporting DfT's decarbonisation agenda. Some believed legalisation would also reduce their stigma and lead other road users to be more aware of them on the road, thus increasing rider

safety. Additionally, the difference in e-scooter associations among those in London and the South of England compared to those in the Midlands and the North of England suggests **bringing in e-scooter regulation as early as possible** to encourage safe behaviours may help to prevent an increase in negative perceptions.

> *"I think people would respect them and they would not be used as a toy [if regulation is introduced]." (Online community, North, Female, 35-44)*

> *"Make it normal to use them. I would feel more at ease, rather than a fad they'd be a proper form of transport" (Teledepth, Cyclist, North)*

7..2 Envisaged e-scooter usage

By the end of the dialogue, the proportion of those interested in using an e-scooter in the UK remained largely unchanged, with the exception of participants within the vulnerable teledepth sample. Among this group, a shift in usage interest was seen, driven by their exposure to the availability of e-scooters with seats or three wheels. These features were felt to overcome the perceived barrier of not being able to balance on one, with **a seated e-scooter being seen as a way to be more independent and mobile**, without the stigma of a mobility scooter. Similarly, online community participants with mobility issues or mental health conditions were keen to use one for this reason, as well as it being a driver of purchase for a current user.

> *"It would be fun at my age to try something new as I suffer from muscle pain (to do with my job) it may help in getting around." (Online community, North, Male, 55-64)*

Only a few online community participants changed their level of interest in using an e-scooter by the end of the dialogue. For a couple of participants interest lessened due to the desire for regulations and improved infrastructure, whilst for others, **exposure to potential usage opportunities** increased interest.

> *"I really didn't appreciate the versatility of this product at the beginning of the session." (Online community, Midlands, Female, 45-54)*

The overall profile of people interested in using an e-scooter was mixed in terms of age, gender and location, indicating **the diverse appeal of these vehicles**. Findings therefore suggest they attract a broad range of ages, with the largest proportion being between 25 and 64 years old. The split between males and females was balanced, although females appeared more likely to want to ride an e-scooter for short local trips and leisure use, whereas males were more likely to consider using one for work. In terms of location, whilst some expressed safety concerns around riding e-scooters in rural areas, several rural participants welcomed them as a convenient way to travel to nearby shops and around their local area or an enjoyable way to experience cities for leisure. Those in urban and suburban areas were more likely to use an e-scooter for commuting.

> *"I would use one to go to the next village, to the shop, to exercise the dogs perhaps or pop round to a friend's home." (Online community, North, Female, 65+)*

If e-scooters are to be legalised and regulated, participants could envisage using them for a range of journey types, with these reflecting the way in which e-scooters are being used by current e-scooter users:

- **Commuting:** participants wanted to use an e-scooter as a way to save time and money travelling to the train station instead of walking, cycling or driving, as well as using them in the city to get to their final destination instead of public transport. Those with short commutes could imagine using them for the full journey if the e-scooter range was sufficient. This included students who could imagine using an e-scooter as a faster way to commute to university instead of walking, cycling or taking the bus.

  > *"The convenience of a fold-up scooter would be ideal… you could travel to work on [it], fold it up, carry it up to the office and plug it in." (Online community, North, Male, 45-54)*

- **For employment purposes**: some wanted to use an e-scooter to efficiently travel to meetings or carry out their (current or upcoming) job as a traffic warden, policeman and food delivery driver.

"I've been thinking about applying to be an Uber Eats driver. An e-scooter would be faster than cycling. More deliveries means more money." (Teledepth, Cyclist, Midlands)

- **Local shopping and errands**: participants envisaged using an e-scooter as a quick and convenient way to go to the shops and run local errands instead of walking or driving, although the former may depend on vehicle having a basket. A couple suggested using one to walk the dog. For longer trips, e-scooters were likely to be used instead a bus or car, to travel to the station or the full distance.

  "I would use one for short runs to the shops, local visits to family...the cost saving in fuel and running a car is beneficial and the environmental benefit." (Online community, Midlands, Female, 45-54)

- **Leisure and hobbyists**: participants were also interested in using an e-scooter for leisure purposes, to travel to see friends and family or as an enjoyable activity in itself.

  "There are long distance paths here (rural location) which would be great to explore with an e-scooter." (Online community, North, Female, 65+)

The journeys participants envisaged **riding an e-scooter involved replacing a range of other modes of transport**: car, bike, walking or public transport. Whilst this was the case across locations, findings suggest some regional differences as those in the Midlands and North were more likely to use one instead of taking the car or bus, whilst in the South, they were more likely to replace walking, cycling or public transport. Especially in London where public transport is often heavily congested, the opportunity to avoid using buses and tubes due to Covid-19 increased the appeal of riding an e-scooter.

"E-scooters are a good addition to life… they help people get places quicker and save money from public transport. Now Covid is around I think less people will take public transportation and I'm one of those people… for that reason I would get an e-scooter." (Online community, South, Male, 25-34)

That said, e-scooters were always **imagined to be an addition to participants' transport repertoire**, with widespread agreement they could not replace all journeys. For example, participants often mentioned still needing to use a car for longer distances, to carry heavy items and to transport other people. Cyclists also expressed the desire to continue using their bike alongside an e-scooter for exercise and enjoyment.

In terms of access, **most people ideally wanted to own one**, as despite the initial expenditure, private e-scooters were often viewed as the best way to experience the convenience and cost benefits of riding one. The idea of accessing e-scooters through a hire scheme was more likely to appeal to people near London, with this also being of interest to current users. Similar to bike hire schemes, participants imagined them being easily accessible and a convenient way to travel around the city without needing to consider parking.

"It would be good to know if the trains were down… at least I could hire a scooter to the nearest other tube line. It would make my commute a lot easier." (Online community, South, Female, 18-24)

Those in suburban and rural areas felt e-scooter hire stations were unlikely to be located near their home and wanted to use them for local trips, which meant they would need to own one. That said, those less inclined to use an e-scooter regularly welcomed the opportunity to visit UK cities and rent an e-scooter for leisure. A few also said they would initially prefer to **trial riding an e-scooter through a hire scheme** to assess the riding experience and benefits. If they imagined using it regularly, they may buy one for personal use to save on rental costs and to enable them to access and ride it immediately when needed.

8. Final conclusions

This section concludes with a short summary of the key themes emerging from this research on public attitudes to the use of e-scooters in the UK.

From this research it can be concluded that legislation, regulation and education could increase public acceptance and interest in using e-scooters. A number of key themes emerged that are important to take into account when considering the legalisation and regulation of this form of micro-mobility; their common association with manual 'toy' scooters, their potential to improve accessibility, the prevalence of safety concerns and the finding that first-hand experience of riding an e-scooter can enhance appreciation of their practical benefits and facilitate an increase in their acceptability as a credible form of transport for adults.

8..1 Final conclusions

By the end of the dialogue, after learning about the potential benefits of e-scooters and the experiences and regulatory approaches implemented in other countries, participants were broadly in support of legalising their use in the UK. Through the dialogue process, participants generally concluded that legislation could help to normalise and legitimise these vehicles, facilitate their safe use, deter irresponsible behaviour and enable people to have access to their benefits. Some were also interested in owning or hiring an e-scooter for personal use, wanting to add an e-scooter to their current transport repertoire.

However, support for legislation and usage interest was based on the condition that rider regulations, vehicle standards and suitable infrastructure are in place before their legal status is changed, to mitigate safety concerns and minimise the risk of injury to e-scooter riders and other road users.

This suggests that getting the right regulations in place early is key to driving acceptability and interest in this form of micromobility, and that communicating with the public more widely about the benefits of introducing legislation could increase public acceptance of e-scooters in the UK.

8..2 Key themes

The following is an overview of the key themes that emerged during this research. These are important to consider when thinking about the potential legalisation and regulation of e-scooters in the UK:

- **Toy associations:** e-scooters were commonly associated with manual 'toy' scooters that are known to be popular among children. This intrinsic association initially hindered participants from viewing the electric version as a legitimate form of transport for adults. However, over the course of the dialogue, the more participants learned about e-scooters and their potential benefits and uses, the more e-scooters were viewed as a functional and credible transport option.
- **Improved accessibility**: whilst the opportunity to improve accessibility was less top-of-mind compared to the environmental, convenience and cost benefits associated with e-scooters, some responded positively to this potential advantage – welcoming the opportunity to improve accessibility for those in rural areas, on low incomes and with mobility issues. Two current users purchased their e-scooter to improve their mobility, and for teledepth and online community participants with mobility issues, the slimmer and more modern aesthetic of an e-scooter was an appealing option, particularly among younger people – being seen as a way to increase their independence without the stigma of a 'mobility scooter'. However, usage interest among those more severe disabilities rested on the

availability of a seated option to enable them to balance and contrary to the views expressed by those with mobility issues, many online community participants doubted that e-scooters would be of interest, practical or safe for vulnerable individuals. As mentioned, e-scooters were also imagined to improve accessibility for those living in rural locations and on low incomes, with this benefit driving interest in using these vehicles among some participants.

- **Safety concerns**: from the beginning, safety concerns were prevalent among non-users, with this being a key source of ongoing apprehension during the dialogue. This was therefore the biggest barrier to participants engaging with the benefits of these vehicles; demonstrating the need for these concerns to be addressed to increase public acceptance and confidence riding these vehicles. However, safety concerns were less pertinent among those outside of London and the South who had less first-hand experience of seeing them being ridden and used irresponsibly.
    - **Age and speed restrictions:** the most prevalent safety concern was around riders potentially speeding and using e-scooters irresponsibly. This was expected to be most likely and was most commonly seen among young users. Introducing age and speed limits, in combination with rule enforcement, was therefore considered the biggest priority to reduce the perceived risk of accidents, and a prerequisite to the acceptance of e-scooter legalisation.
    - **Suitable infrastructure**: another prominent driver of concern was the view that current UK infrastructure is not designed to support the safe use of these vehicles. Most agreed that riding them on pavements would place pedestrians at risk whilst use on busy roads would place the ridder at risk. With cycle lanes being viewed as the safest place to ride e-scooters, participants wanted to see an increase in their availability across the UK. Better road quality and the covering of potholes was also seen as important to increase rider safety.
    - **Improved e-scooter design**: the poor visibility of e-scooters also contributed to safety concerns and the perceived vulnerability of e-scooter users. This was particularly linked to their dark, slimline design and lack of noise when in transit, with a horn and strong front and back lights being considered especially important design features. Based on their personal usage experience, current users also highlighted opportunities to improve e-scooter safety features by ensuring good/duals brakes and including indicators.
- **Experience facilitates acceptance**: current users had commonly been triggered to buy an e-scooter after trialling one abroad or through an acquaintance. This experience brought them to appreciate their benefits and practicality, and dispelled previous associations of e-scooters being childish. Moreover, current users were found to have less concerns around the safety of e-scooters compared to non-users and valued the benefits of their vehicle to such an the extent, some were looking to upgrade and invest more money in a new e-scooter with a longer range. These findings suggest first-hand experience of using these vehicles aids public acceptance of their credibility as a regular and functional form of transport. Supporting this, some non-users welcomed the introduction of e-scooter hire schemes to provide with opportunity to trial and assess the riding experience and usage benefits prior to potentially purchasing one.