

## Written evidence from Zain Hussain, and Stiofan Folan-Hasici

### Introduction

We welcome the Department of Transport's inquiry into the impact of e-scooters, as part of the UK's commitment to investing in sustainable, eco-friendly forms of transport, and utilise the single-passenger transport design aspect of e-scooters as a means of reducing overcrowding in response to COVID-19.

The authors of this document, Stiofan Folan-Hasici and Zain Hussain, have closely followed the rapid development of the scooter-sharing industry across Europe, they both own micro-vehicles (e-skateboards), and have participated in one of the very first, and largest trial of e-scooters in the UK by Bird, at Queen Elizabeth Olympic Park Stratford, as well as extensively used e-scooters as a form of transport in countries across Europe.

Zain Hussain, has closely followed the scooter-sharing industry, having discussed his thoughts on the impact of e-scooters in the UK through his podcast<sup>1</sup>, and an article on medium.com<sup>2</sup> following the government's announcement of fast-tracking the trial of e-scooters. Through this document, the authors seek to provide recommendations to the committee on the implementation of the e-scooter rental schemes across the UK to fulfill the aims of the Department of Transport by introducing a greener form of transport, and preventing overcrowding.

This document will detail evidence and recommendations relevant to the call for written evidence published by the parliamentary inquiry committee for e-scooters.

This document defines 'e-scooters' as the light-weight, motorised scooters powered by lithium batteries, largely manufactured by electronics companies Xiaomi, and Ninebot. Also referred to as 'micro-vehicles'.

In 2017, the 'scooter-sharing' industry was established, enabling short-term rentals of e-scooters. This document makes recommendations through analysing the impact of the scooter-sharing industry, which has been prominent across the United States, and capital cities across Europe.

This document provides the recommendations under the assumption that the UK Government would seek to implement the e-scooter rental schemes through providing permission to private e-scooter rental companies, such as Bird and Lime, across cities and towns in the UK.

---

<sup>1</sup> Glasshäus (2020) 'Astroturfing & E-Scooters', <https://open.spotify.com/episode/279ojP9ydUJ8wgGzjWXoUy?si=x4QZGxZqQiKYm1yu5brjtq>

<sup>2</sup> Hussain, Z. (2020). 'The Great British E-Scooter Revolution', <https://medium.com/@zain.hussain/the-great-british-e-scooter-revolution-7632acf2a671>

## Affordability

In a time where many are facing financial hardship, it is crucial to consider the affordability of e-scooters to low-income residents. This section explores the relatively high rental costs for e-scooter users, and makes recommendations to the committee on initiatives to increase access to e-scooter use for low income residents.

It is assumed that the government action to fast-track e-scooter trials<sup>3</sup>, is not only encouraging a novel, sustainable mode of transport, but also as a response to the COVID-19 outbreak crisis, which has necessitated the widespread adoption of single passenger transport. In light of this, affordability of e-scooter rental schemes is an important factor for the government to consider to fulfil the aims of the Department for Transport's £2 billion support package.

The business model upon which the leading e-scooter rental companies such as Bird and Lime operate involves an 'unlocking fee' of approximately £1 and a per minute rate of around £0.15-25.

A study on the demographics of users of e-scooters in the City of Santa Monica found that primary adoptees of e-scooter were predominantly male (67%) and aged 25-34 (64%), with higher-than-average income distribution.<sup>4</sup>

E-scooters are primarily used as a 'first/last mile journey' form of transport, and would not substitute for tube journeys for the general public, but would likely have an impact on reducing the amount of bus users. The bus-fare in London is £1.50, and the cost of renting an e-scooter for 10 minutes (under the current rates of the leading rental companies) would be £2.50-£3. This would discourage commuters from switching from shorter bus journeys to e-scooters. For many, renting e-scooters for the current market rate is likely not affordable as a means of daily transport, especially if the cost of commuting is not lower than the average bus journey.

**E-scooter rental company Bird introduced an initiative known as 'Bird Access', which offers five 30-minutes per day to low income residents for \$5 a month (if they are enrolled in or eligible for a government assistance program).<sup>5</sup>**

The government may seek to make the following implementations to increase affordability or incentivising use of e-scooters as a means of daily transport:

- An alternative or extension of the 'Cycle2Work' scheme<sup>6</sup>, using e-scooters.

---

<sup>3</sup> Gov.uk, '£2 billion package to create new era for cycling and walking.' <https://www.gov.uk/government/news/2-billion-package-to-create-new-era-for-cycling-and-walking>

<sup>4</sup> International Transport Forum, "Safe Micromobility" pp. 13, [https://www.itf-oecd.org/sites/default/files/docs/safe-micromobility\\_1.pdf](https://www.itf-oecd.org/sites/default/files/docs/safe-micromobility_1.pdf)

<sup>5</sup> Bird.co, "Low Income Program", <https://help.bird.co/hc/en-us/articles/360030673152-Low-Income-Program>

<sup>6</sup> Gov.uk, "Cycle to work scheme implementation guidance for employers.", <https://www.gov.uk/government/publications/cycle-to-work-scheme-implementation-guidance>

- The Department of Transport to enter negotiations with scooter-sharing companies interested in operating in the UK to lower e-scooter rental rates.
- Government subsidy to e-scooter rental companies to lower the rates of e-scooter rental for the general public.
- The Department of Transport works with e-scooter rental company Bird to introduce the 'Low-Income Program' in the UK, for recipients of universal credit, or other relevant government assistance.

## Environmental Impact and Sustainability

In a world where greenhouse gas emissions and global warming are at an all-time high, there is no doubt that the environmental impact of e-scooter adoption must be scrutinised. This section will assess the main environmental concerns surrounding e-scooters and attempt to prove that given the successful societal integration of the vehicles in the UK, the fallout will be environmentally favourable.

A study by the Department of Civil, Construction, and Environmental Engineering of North Carolina State University titled 'Are e-scooters polluters? The environmental impacts of shared dockless electric scooters'<sup>7</sup> discovered the greatest polluter in terms of CO<sub>2</sub> emissions were the materials and manufacturing process (making up 50% of the overall emissions), shortly followed by daily collection for charging (at 43%).

Despite its relatively large impact, the manufacturing process is not a continuous source of pollution, in that an e-scooter is produced, then will last for a certain amount of time before the demand for another arises. Targeting this refractory period is key in reducing the overall emissions of e-scooters. The aforementioned study by NCSU found that along with streamlining the transport process with fuel-efficient vehicles and adopting a stricter charging policy, an e-scooter lifespan of two years could reduce overall emissions to 141g of CO<sub>2</sub> per passenger mile, as opposed to a staggering 202g, (the average motor vehicle emits over 400g of Co<sub>2</sub> per mile).<sup>8</sup> Undoubtedly, there will have to be strict guidelines on proper e-scooter use both at a consumer level and organisational level if we are to achieve our desired environmental outcome.

Beyond atmospheric and environmental pollution lies the issue of visual pollution and the 'eye-sore' factor of an influx of e-scooters to our roads, especially when they are dismantled and stowed after use. Although there will be a large element of public trust, there are measures that can be taken in order to ensure minimal disruption. Our first suggestion is that of designated parking areas, which much like e-bikes, will mean customers are obligated to stow their scooters out of the way. Additionally, the current e-scooter trial in the Queen Elizabeth Olympic Park by Bird<sup>9</sup> allows users to report a poorly placed or damaged scooter

---

<sup>7</sup> Department of Civil, Construction, and Environmental Engineering, North Carolina State University, USA "Are e-scooters polluters? The environmental impacts of shared dockless electric scooters" <https://iopscience.iop.org/article/10.1088/1748-9326/ab2da8/pdf>

<sup>8</sup> United States Environmental Protection Agency "Greenhouse Gas Emissions from a Typical Passenger Vehicle" <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>

<sup>9</sup> International Quarter London, "Test Bird Scooters for Yourself in Stratford"

directly through the app, a system we hope to be adopted by the relevant authorities in the UK. The issue of space is further explored below in our 'Congestion' section.

Our first suggestion is that of designated parking areas, which much like e-bikes, will mean customers are obligated to stow their scooters out of the way. Additionally, the current e-scooter trial in the Queen Elizabeth Olympic Park by Bird allows users to report a poorly placed or damaged scooter directly through the app, a system we hope to be adopted by the relevant authorities in the UK. The issue of space is further explored below in our 'Congestion' section.

Overall, it is clear that the adoption of e-scooters and eventually other forms of micro mobility will be a welcome addition to the transportation ecosphere, with its positive environmental impacts heightened by considerate conduct and a collective 'eco-vigilance'.

## Overcrowding & Congestion

The e-scooter is a mode of **single-passenger transport**, and thus should be compared to bicycles when analysing the impact e-scooters would have on congestion (particularly in urban environments).

Standard e-scooter dimensions are approximately 1080mm \* 430mm \* 1140mm, and a weight of 12.5 kg. Based on this, e-scooters are approximately a third of the size of a standard bicycle – the size of e-scooters alone has an unquestionably significant impact on reducing congestion and crowding in cities. This means that three times as many dockless e-scooters could be stored in place of a single row of public cycle hire schemes such as 'Santander Cycles'.

## Public Safety

Beyond the issues of affordability and environmental impact lies one of paramount importance: safety; not only of e-scooter users themselves, but pedestrians and motorists too. In this section we will attempt to address the main safety concerns associated with the use of e-scooters and offer reassurance and insight into why the advantages of adopting this scheme far outweigh the risks involved.

The Committee should study the report published by the International Transport Forum<sup>10</sup>, which examines the safety aspects associated with e-scooters. The report outlines guidance for city planners and manufacturers to counteract the risks posed with the widespread use of e-scooters.

The report also examined a study which concluded the following:

- E-scooter riders do not face significantly higher risk of road traffic death or injury than cyclists.

---

<https://www.internationalquarter.london/stories/test-bird-scooters-for-yourself-in-stratford/>

<sup>10</sup> International Transport Forum, "Safe Micromobility" pp. 13, [https://www.itf-oecd.org/sites/default/files/docs/safe-micromobility\\_1.pdf](https://www.itf-oecd.org/sites/default/files/docs/safe-micromobility_1.pdf)

- Motor vehicles are involved in 80% of fatal crashes with e-scooters and bicycles.
- Traffic will be safer if e-scooter and bicycle trips replace travel by car or motorcycle.
- The fast-paced evolution of micro-vehicles challenges governments to put in place safety regulations that are future-proof

It is also important to note that the study had been carried prior to the COVID-19 outbreak, and the government implemented measures to reduce crowding over the world. Current, and likely future measures have significantly reduced traffic, which has a direct effect on lowering the risk of road traffic death for cyclists and e-scooter riders.

The government's increased support package for cycling and walking involves 'pop-up bike lanes with protected space for cycling, wider pavements, safer junctions, and cycle and bus-only corridors.' This would ideally be utilised for e-scooters too, for the purpose of increased pedestrian safety.

It is highly recommended that cycle lanes be renamed to 'e-scooter and cycle lanes', to encourage the general public to use these lanes for e-scooter riding. Designated lanes such as this creates a sense of safety for pedestrians, road drivers, as well as cyclists, and would do so for e-scooter riders themselves.

Personal protective equipment such as helmets are highly encouraged to be used when riding e-scooters. The rental apps by leading e-scooter companies (depending on the country where it is operating), will either note that helmets are required, or highly encouraged.

It is recommended that the government's legislation surrounding e-scooters should follow the same guidance regarding personal protective equipment, as it currently does for bicycles. There is no law that compels cyclists in the UK to wear equipment such as a helmet, however the Highway Code highly encourages cyclists to wear helmets.

Countries such as France and Sweden have made it compulsory to wear a helmet when riding e-scooters; however the majority of countries have encouraged helmets, but not made it mandatory. As the report by the International Transport Forum has found, 'e-scooter riders do not face significantly higher risk of road traffic death or injury than cyclists.' In light of this, government guidelines surrounding the requirements of personal protective equipment (such as helmets) when riding e-scooters, should be parallel with guidance surrounding the requirements of protective equipment when cycling.

## **COVID-19 Response**

In light of the ongoing COVID-19 Pandemic, it is crucial to consider the impacts and precautions we must take upon the adoption of this scheme to ensure the health of the general public and e-scooter users alike. This section will explore the options available to the government to combat further spreading of the disease, and offer insight into how the adoption of e-scooters as a form of socially-distanced transport will aid our fight against this Coronavirus.

Leading e-scooter rental company Lime has taken steps to 'enhance cleaning methods' of scooters, and 'increased the frequency of cleaning and disinfecting' the e-scooters. It is

recommended that The Department of Transport's regulation surrounding e-scooters should strictly require the following from e-scooter rental companies before providing permission to operate.

- The company's warehouses, offices, mechanics and operators should have social distancing practice, with regular use of hand sanitiser.
- The company should have a sufficient number of employees frequently disinfecting, and sanitising e-scooters.
- The company's rental app should have a page or section encouraging the rider's to, where possible, use gloves as a precaution, wash hands before and after riding, and use hand sanitiser.

An indirect effect of implementing rental schemes would be the creation of jobs, and another form of extra income in areas where e-scooters operate. The company Bird employs 'bird-watchers' who monitor e-scooter usage. Birdwatchers have previously been employed in Queen Elizabeth Olympic Park, Stratford, London, where the company Bird has trialed e-scooters.

The other form of income is a 'gig-economy' job; the electric scooters aren't usually recharged by in-house full-time employees. The business model upon which Lime and Bird operate involves users of the app signing up to become 'chargers', in which they collect one or more scooters, and charge them at home using the power supplies and adapters. The e-scooter rental company then pays them a certain amount per scooter (the amount varies based upon the battery level of the scooter).

This is especially beneficial during the COVID-19 crisis, enabling people across the UK to generate some extra income through the implementation of e-scooter rental schemes.

The government may also seek to consider utilising the constant location data collection e-scooter rentals have in place, to cooperate with the NHSX contact tracing app as an effective tool to combat the spread of COVID-19.

Additionally, e-scooters are especially useful in tackling the spread, as an e-scooter is a single-passenger mode of transport - as discussed in the 'Overcrowding & Congestion' section of the document.

## Security

Damage and theft of e-scooters will be commonplace; the Department of Transport should be aware that in cities such as California, the public have expressed their displeasure of e-scooters through vandalism.<sup>11</sup> Local authorities should be made aware of this, and enforce measures locally to monitor and prevent vandalism and theft of e-scooters to reduce the risk of environmental damage.

---

<sup>11</sup> The Guardian, "*Stolen, Burned, Tossed In The Lake: E-Scooters Face Vandals' Wrath*", <https://www.theguardian.com/us-news/2018/dec/28/scooters-california-oakland-los-angeles-bird-lime>

## Private Ownership

The alternative to rental of e-scooters is private ownership, as e-scooters are readily available to purchase directly from manufacturers such as Xiaomi and Ninebot. The benefits of e-scooter ownership is relative; a regular e-scooter user will save costs by not renting, and would be able to enrol into a possible Cycle2Work scheme alternative for e-scooter owners.

The public safety benefits of e-scooter ownership are that, in the current climate of the coronavirus outbreak, there is substantially less risk of the spread of the virus, as it would be for shared scooter rental services.

Encouraging private purchase ownership of e-scooters would also reduce visual pollution, as e-scooters would be kept in homes rather than stored in a dockless manner on public pavements, and parks.

Individual owners of e-scooters bear the risk of damage and theft, as they similarly would with privately owned bicycles.

## Case Studies

The authors of these documents have extensively used e-scooters as a form of transport outside the UK.

Zain has experience of using e-scooters as a mode of transport on roads, cycle lanes, parks from eight different rental companies, across a dozen European countries, and has observed the public's adoption of e-scooters from cities to towns across the continent.

The cities of Copenhagen, Vienna, Madrid and Stockholm where e-scooter rental companies operate have enjoyed large success due to the cities having wide roads and pavements (in the case of Vienna and Madrid), and well-developed cycle lanes (in the case of Stockholm and Copenhagen). Cities such as Paris, where in the outer rims there is much acclivity, e-scooter adoption is low.

Cycle hire in London has been an undeniable success, as much funding has been put towards creating an infrastructure ideal for navigating around the city on a cycle, making it equally suitable for e-scooters to be quickly adopted by the public. To evaluate how successful e-scooter adoption would be across other cities and towns in the UK, the Department of Transport should look into the same factors that would encourage increased cycling adoption.

The e-scooter has been trialled for a year by e-scooter rental company 'Bird' in Queen Elizabeth Olympic Park, Stratford, London (initially launched in late 2018) with a cost of £1 to unlock, and £0.25 per minute to ride.<sup>12</sup> E-scooter usage was limited to just within the park, so there was no trial data collected as to its usability on the road as a means of transport, e.g. substituting short bus journeys. E-scooters were well adopted by visitors of the park of all

---

<sup>12</sup> Internationalquarter.london. 2020. '*Bird Scooter Stratford Olympic Park | Bird Scooter London.*' <https://www.internationalquarter.london/stories/test-bird-scooters-for-yourself-in-stratford/>

ages, and 'bird-watchers' (employees of rental company Bird) at the park ensured safety of the scooters, riders, and assisted in any other guidance.

In densely populated cities such as Munich, Germany, e-scooters were mostly used on cycle lanes, while in a less populated city such as Poznan, Poland, e-scooters were more likely to be ridden on roads - this is due to a less-developed cycle lane infrastructure, alongside significantly less traffic on the roads.

E-scooters have also been an attractive form of transport for tourists across Europe - as it enables tourists to easily rent a form of personal, transport vehicle that is dockless, which makes it ideal for touring, where a person may want to stop for a short period of time at a given place without needing to worry about locking (as they would have to do with a bike), or waiting for a bus, or another taxi. Implementing e-scooters would be a key benefit to the UK's tourism sector (when it restarts), simultaneously indicating the country's commitment to embracing eco-friendly technology.

Climate is an important factor to consider for e-scooter implementation; London is notorious for its rainfall, and the Department of Transport should seek to consider that rental companies that are given permission to operate, must be providing e-scooter models that meet a minimum water resistant rating of IP67 to be suitable for sustaining the longevity of the individual e-scooters, and safe to use in the UK's climate.

## Summary

This document has explored the provisional impact of implementing e-scooters in the UK. In addition their environmental benefits, these light-weight, portable, and accessible micro vehicles would reduce congestion and overcrowding, and with the correct regulatory measures in place, can be a highly effective response to tackling the COVID-19 outbreak, by enabling widespread use of a single-passenger transport vehicle to maintain social distancing amongst commuters.

This document has also made recommendations on how the government may seek to incentivise e-scooter use amongst commuters by introducing new, or extending current guidelines of the largely successful 'Cycle2Work' scheme to include e-scooters as an eligible form of transport alongside bicycles.

The authors of this document have also brought forward their personal experience of the UK e-scooter trial Queen Elizabeth Olympic Park e-scooter, and case studies of other countries where e-scooters have largely been adopted as a regular form of transport, and explored the necessary safety regulations required for micro vehicles in the UK.

Specific to the UK's aim for the use of e-scooters to be an attractive eco-friendly alternative to cars and buses for short journeys, the document has highlighted a key concern regarding the affordability of e-scooter rental, and the options the government may need to consider to ultimately reduce e-scooter rental cost - a vital element of implementing and harnessing the impact of a shared e-scooter rental system in the UK.

This innovative, eco-friendly, light-weight, and single passenger form of transport has potential to be a key contributor in accelerating the country's significant efforts to tackle the spread of the pandemic, and to reach net zero by 2050.

*May 2020*