

Written evidence submitted by Oxfordshire County Council

Inquiry call for evidence response:

This response sets out responses to the questions given in the inquiry call for evidence on e-scooters from Oxfordshire County Council. This response has been approved by the Cabinet member for Environment and Transport.

Inquiry question 1

- whether the legislation for e-scooters is up to date and appropriate?

On the evidence in this paper, we believe the answer is no. An accompanying document “E-scooter Supporting Evidence” presents the evidence in more detail in response to Question 6 and includes references that this report is based on.

Recommendation 1: The Government needs to update its legal framework to permit e-scooters.

Inquiry question 2

- to what extent e-scooters have positive benefits, for instance relating to congestion and promoting more sustainable forms of transport

The evidence, mainly from other countries, suggests that e-scooters alongside other low carbon transport modes contribute to measures to reduce carbon emissions, provide more sustainable alternatives to the car, widen transport choice, contribute to decongestion and reduce air pollution in urban areas. E-scooters could also support civilising urban streets where people rather than vehicles become central to urban movement. However, it is recognised that the UK Government is currently proposing allowing for a number of e-scooter hire trials, and OCC believe it will be important to monitor and review the impacts of these trials prior to legislating for their use more widely.

Recommendation 2: Subject to measuring and reviewing the success of the currently proposed e-scooter trials, the Government should permit wider e-scooter use as a way of supporting climate emergency, air quality, urban realm and decongestion policies

Recommendation 3: Should wider use of e-scooters be permitted, the Government should include e-scooters as a permissible funding option in the “Bike to work” schemes.

Recommendation 4: The Government should undertake a study looking at the wider health, decongestion and safety benefits and disbenefits of e-scooters, resulting from modal change impacts of e-scooters such as lower casualty rates and better health from reduced car use compared to lower activity benefits resulting from a transfer from cycling and walking.

Positive benefits:

The evidence is that e-scooters are very popular. **Congestion modelling** suggests that e-scooters could help increase non-car travel in many cities and replace around 70% of car trips between 0.5 and 2 miles. **Mode shift** evidence from US cities suggest that 34% of e-scooter trips replaced car, taxi or car hire trips. An international study found that from 6% to 40% e-scooter trips replaced car trips. One US urban area found that 60% of e-scooter riders had reduced their car use and 6% had given up a car and 16% had considered doing so. It was estimated that over 4 months in Portland, e-scooters had replaced 300,000 single occupancy vehicle miles.

E-scooter trips: Around 10% of respondents used them daily. Around 70% of daily e-scooter riders used them for commuting and 50% for accessing public transport.

Climate Emergency: E-scooters are estimated to emit around 40 g carbon dioxide equivalent passenger mile compared to 116 g for an electric car and 414 g for a petrol car. E-scooter hire schemes had higher levels – between 140 g to 200 g because of rental collection and charging, depending on how the electricity was generated.

Inclusion and popular acceptance: E-scooters were widely used in the USA. In Portland, a third of all adults tried an e-scooter out and they were especially popular among younger age groups from 18 to 54. They were also popular across all income brackets, including deprived groups, though most popular with higher income groups. At the end of the pilot in Portland, 60% of residents viewed e-scooters positively. User comments about e-scooters were typically that they were “fast, fun and convenient”.

Business opportunities: The global market in e-scooters grew from US\$14 billion in 2014 to US\$18.6 billion in 2019 and is forecast to increase to US\$37 billion in 2024.

Unresearched and uncertain benefits:

Health: E-scooters lack the physical activity health benefits of cycling and e-cycling where you need to pedal. However, standing is better exercise than sitting as in a car or bus. They may also bring benefits of balance and psychological benefits of low-cost autonomy and access. There are also public realm benefits in that e-scooters make virtually no noise and cause no air pollution. In terms of Covid 19, e-scooters have the same social distancing benefits as cycling.

Inquiry question 3

- where in the urban environment e-scooters could be used (e.g. road, pavement, cycle lanes?)
- how this could impact on other road users and pedestrians, including people who have visual impairments or use mobility aids?

The evidence shows that e-scooter riders generally want to use cycle tracks, cycle lanes or low-traffic low-speed streets where they can make good speed. Footways are generally perceived as an unpopular choice. In this way, e-scooter riders are like cyclists. Footways are only typically used where there is no other option and the road is perceived as unsafe.

E-scooter dockless hire systems were the opportunity for the explosion in e-scooter use, but they also brought problems. The best outcomes were where Councils were in control and worked with e-scooter operators to set rules and regulations and conduct research.

Recommendation 5: The Government should treat e-scooters legally as e-bikes, permitting them in mandatory cycle lanes, on cycle paths and on roads and streets, but not on footways, including a minimum age for e-scooter riding (over 14 as with e-cycles).

Recommendation 6: The Government should support local authorities in providing infrastructure for both cycles, e-cycles and e-scooters in support of Government CWIS policies and targets and to deter e-scooters from using footways from a feeling of no choice.

Recommendation 7: If e-scooters turn out to be as popular in UK towns as in Europe and USA, e-scooter training should be financially supported by Government and provided for children over 14 years old.

Recommendation 8: The Government should introduce decriminalised enforcement and penalties for e-scooter riding on footways (for clarity not including manual kick scooters)

Recommendation 9: The Government should ensure that Councils have powers to manage e-scooter dockless hire systems in their area to avoid some of the problems encountered in USA.

Recommendation 10: The Government should set rules for carriage of e-scooters with train and bus operators to encourage multi-modal travel

Recommendation 11: The Government should include e-scooters in data collection and sustainable micro-mobility targets.

What do e-scooters want in terms of infrastructure?

E-scooter rules and infrastructure opportunities varied in different towns and countries. In some places, they were permitted to use the road and not use footways and in others they were permitted to use footways and not roads.

The most interesting evidence are 2 surveys in Portland and Arlington (USA) where e-scooter riders were asked to order infrastructure by preference. E-scooter riders chose either cycle lanes or cycle tracks as their preferred infrastructure. Only around 20% chose footways (sidewalks) as their first or second option. Figure 2 lists their preferences in order and the percentage choosing that type (combined first and second choices).

Choice	Arlington	%	Portland	%
1st	Cycle track	91	Cycle lane	88
2 nd	Cycle lane	58	Cycle track	50
3rd	Trail	32	Vehicle lane	42
4 th	Footway	19	Footway	22
5 th	Vehicle lane	11		

Figure 2: e-scooter user preferences in 2 American cities – % choosing option as 1st or 2nd choice of place to e-scooter

Observations also showed that footway scootering was related to quality of the street and alternatives. The percentage riding on the footway varied compared to the alternative - 0% with an off-road path, 8% with a cycle track, 21% with a cycle lane and 39% on a busy street with no facilities.

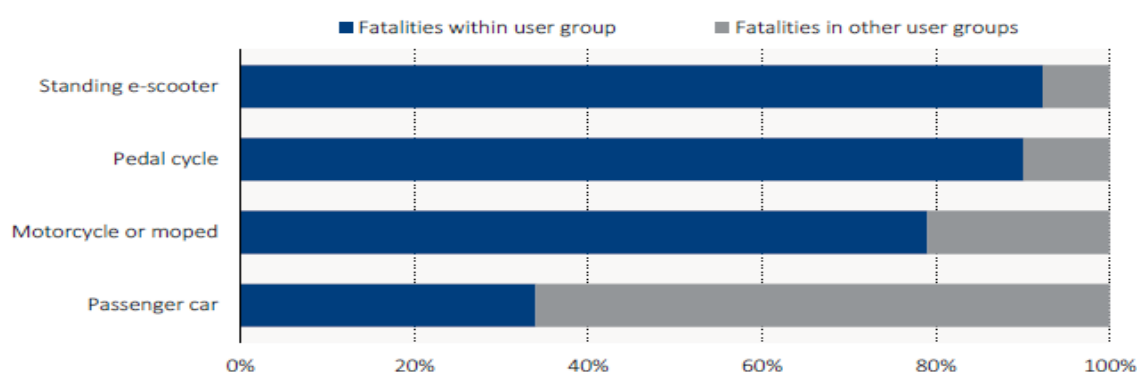
Impact on pedestrians

Inconvenience: The e-scooter hire schemes meant that users could leave their e-scooters anywhere at their destination. Even though only a small minority parked their e-scooters badly or rode on footways, badly parked e-scooters and e-scooter riding on the footway generated 14% and 27% of all e-scooter complaints respectively in Portland.

Disability: In Chicago, when pedestrians were asked if they were inconvenienced 21% of non-disabled pedestrians, but nearly 40% of all disabled and nearly 50% of ambulatory and visually disabled pedestrians were inconvenienced a lot.

Pedestrian casualties: Another key issue is their casualty impact on other road users. After the introduction of e-scooter hire schemes, most casualties happened to e-scooter riders typically in falls, but pedestrians made up from 2% to 14% of e-scooter-related injuries. Around half of these were pedestrians tripping over e-scooters left on the footway and half being hit by an e-scooter. A recent review in figure 4 below however found that e-scooters had the lowest other user fatality risk ratio (with only 2 pedestrian fatalities in 2019 worldwide) compared to other vehicles (including cycles).

Figure 4. Fatalities in collisions involving a given user group



Inquiry question 4

- whether there should be advice or compulsory requirements to use specific safety equipment when using an e-scooter?

E-scooter rider safety is a contentious question. The problem is that there is insufficient exposure evidence to assess the risk. Confounding factors are that nearly all the data is from e-scooter hires with high numbers of novice riders and from USA with its more hostile road environment for cyclists and pedestrians.

Recommendation 12: The Government should research the safety data of e-scooters to understand better the risk rate by exposure and the impact on other users in comparison with other vehicles.

Recommendation 13: The Government should apply the same regulations as with cycles and e-cycles where helmet wearing is voluntary and not mandatory, in view of the evidence that in USA mandatory helmet wearing rules were ignored and that it would deter new users of e-scooters.

E-scooter injuries

The level of e-scooter injuries is a controversial issue. The evidence is insufficient to make a definitive assessment of e-scooter rider risk.

In Portland casualty risk was calculated at 250 per million trips and 220 per million miles, compared to general US cycling injury rate of around 8.5 and UK cycling reported injury rate of 1 per million miles ridden.

This suggests a very much higher risk rate for e-scooters. However, many of the riders were complete novices – in Portland around 20% and in Chicago 17% respondents made only one trip by e-scooter. One study found that a third of e-scooter injuries happened on the first ride.

The international Forum looked at this question in terms of e-scooter fatalities worldwide. Its conclusions are that e-scooter risk range lies between 78 and 100 fatalities per billion trips, compared to a cycling risk range between 21 and 257 fatalities per billion trips, with PTWs in cities having a much higher risk range between 132 and 1,164 fatalities per trip. This suggests that e-scooter riding has a similar minimal risk of death as cycling.

Most e-scooter injuries were minor. In Chicago, only 3 (1.5%) of 192 e-scooter riders injured were admitted to hospital. Collisions with motor vehicles were the main source of higher injury severity in e-scooter crashes. At Emergency Departments, between 2% and 23% of e-scooter patients were involved in a motor vehicle crash, but with trauma patients (which are more serious), 50% were involved in a car crash (ITF 2020).

Helmet wearing

USA generally has helmet wearing laws for cyclists and e-scooters. However, helmet wearing rates were very low in all mandatory helmet areas – 3% in Chicago, 4% in California and 10% in Portland. As a result, on 1st Jan 2019, California passed a law which made helmet use optional for e-scooter riders over 18 years old.

Mandatory helmet wearing is also likely to engender complaints and hostile reactions without any impact on helmet wearing. Failure to wear a helmet was the cause of 29% of all complaints about e-scooters in Portland.

Inquiry question 5

- whether there should be safety and environmental regulation for the build of e-scooters, and what this might entail

Recommendation 14: The evidence suggests that the following should be mandated unless further research shows they are not necessary or practical:

- a maximum power assistance speed of 15 mph to match e-cycles
- adequate in-built lighting or a requirement to have lights at night
- built-in Indicators to turn right or left
- adequate braking systems (front and rear brakes?)

The best e-scooter brakes could stop an e-scooter travelling at 15 mph in around 1 second over a distance of 4.2 metres (typical range around 5 metres).

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