WMG
THE UNIVERSITY OF WARWICK

Introduction to E-scooters

E-scooters provide a personal transport option for those who cannot walk or cycle or those who don't have access to a car. Being powered by electric motors, they provide efficient transport without the need for large amounts of physical effort, or the emissions associated with a car. For this reason, it could appeal to a wider audience than cycling and be more inclusive. Since there is no need to provide the propulsion, heavy backpacks can be carried making the mode of transport more suitable for a wider variety of errands and activities, social or otherwise. Similarly, there isn't the concern of needing to park a personal vehicle. However, e-scooters don't seem to appeal to everyone.

Jonathan Robinson (Project Engineer)
and Dr Roger Woodman (Human Factors Research Lead)

...we make E-scooters a more viable option for people to use

Reluctance to use

In a recent survey in Arizona, US, it was found that 46% of people don't wish to use them simply because they are happy with their current travel options (Sanders, Branion-Calles and Nelson, 2020). Is this the reason for most, or is this just evidence that other options are more convenient at the current time?

To answer this, we need to look at the reasons why people may not wish to use e-scooters. There are often quoted concerns of safety where riders fear they won't be able to control the scooter and are concerned they will injure themselves or someone else (Leger et al., 2018; Sanders, Branion-Calles and Nelson, 2020). If people are concerned about their safety when using an e-scooter they are unlikely to choose an e-scooter over a car, a bicycle or walking where those concerns are not present.

There also seems to be a concern over where e-scooters can be ridden (Gössling, 2020). Currently it is illegal for e-scooters to be used on the road or in cycle lanes in Britain (except in trials) as they are classed as a motor vehicle and don't meet the standard requirements for use on the road (Department for Transport, 2020). Since they are a motor vehicle they also can't be used on pavements (Department for Transport, 2020). Hence, it is not obvious where they can be used despite the fact they can still be purchased in Britain for private use. Then we have off-road cycle routes. Can they be used here? The answer is not clear.

If the trials are successful in Britain and e-scooters are to be legally introduced, they will have to be allowed to be used on either pavements, cycle lanes/ways or roads. For obvious reasons, they would be too dangerous to pedestrians to be used on pavements which leaves cycle lanes and roads. However, cycle lanes and cycle ways can vary quite significantly in structure and layout.

Coventry City Council are introducing a new segregated cycle way to provide a route to University Hospital Coventry and Warwickshire (Davis, 2021).

Will e-scooters be permitted to be used on dedicated cycle ways but not cycle lanes that form part of the road? Or vice versa? Or permitted to be used on all cycle lanes. Will they be permitted on all types of roads? Or just roads under a certain speed limit? If this is not clear, it could provide problems to people wishing to use e-scooters.

On top of this, where they can be used will likely affect the level of usage and the people using them. A study in Madrid found that infrastructure is the largest facilitator for increased usage of e-scooters in all demographics (Leger et al., 2018). If they can only be used on the road, this may deter the less confident from using them through safety concerns. This could then make them less accessible to people who would normally get benefit from the lower physical exertion they require when compared to cycling. If they can only be used in cycle lanes this could create tension between e-scooters and cyclists through competition for space. Cyclists are traditionally the most vulnerable road users so added congestion to their dedicated space could provide more problems.

If there is ambiguity over where they can be used, this may become a barrier to those who worry about doing something wrong or getting into trouble. Hence, what could result is users of e-scooters only being individuals who are more open to performing actions without having a clear plan beforehand. The same principle applies to where they can be parked or picked up from. Those who worry about doing things properly will likely be deterred if they don't know where they can leave the e-scooter after use.

For these reasons it is very important to ensure that it is transparent how and where e-scooters can be used and parked to ensure that they provide the most benefit to people. This ensures that those who are worried about doing the wrong thing are not deterred by a lack of understanding.

If people are aware of where they can ride their e-scooter and where they can leave it after their journey, we will likely see an increased uptake and if these solutions are practical and convenient, potentially better usage from those users with a higher tendency or temptation for misuse. This would likely result in e-scooters being more integrated into our lives both for travel and pleasure.

In solving this issue, we make E-scooters a more viable option for people to use. They could be used in seaside towns to provide a refreshing way of exploring the coast. They could be used in airports to help the rush to the gates that often occurs. They can be used in shopping centres to ease the aching feet after a long day of browsing. They could be adapted and used in forest trails, opening the natural spaces to a greater variety of people. This both opens currently available activities to a wider group of people and creates new opportunities for social activities or personal travel which were not there previously. Where would you use your e-scooter?

References:

Davis, T. (2021) Second phase of Binley cycleway in Coventry revealed, Coventry Telegraph. Available at: coventrytelegraph.net/news/coventry-news/secondphasebinley-cycleway-coventry-20005400 (Accessed: 15 June 2021).

Department for Transport (2020) 'Future of Transport Regulatory Review', (October 2020), p. 61. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/886686/future-of-transport-regulatory-review-call-for-evidence.pdf.

Gössling, S. (2020) 'Integrating e-scooters in urban transportation: Problems, policies, and the prospect of system change', Transportation Research Part D: Transport and Environment. Elsevier, 79(January), p. 102230. doi: 10.1016/j.trd.2020.102230.

Leger, S. et al. (2018) 'Leading the charge on Canadian E-bike Integration'. Montreal, Canada: WSP Global Inc.

Sanders, R. L., Branion-Calles, M. and Nelson, T. A. (2020) 'To scoot or not to scoot: Findings from a recent survey about the benefits and barriers of using E-scooters for riders and non-riders', Transportation Research Part A: Policy and Practice. Elsevier, 139(July), pp. 217–227. doi: 10.1016/j.tra.2020.07.009.