

CAMCYCLE



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Future of Transport Regulatory Review: Micromobility

Department for Transport
Zone 1/33 Great Minster House
33 Horseferry Road
London SW1P 4DR

May 22, 2020

Dear Sir or Madam,

Camcycle is a volunteer-led charity with 1,450 members that works for more, better and safer cycling for all ages and abilities in the Cambridge region. We gather opinions and information from our members through discussions on our online web-forum and via e-mail, and we host monthly meetings (these days via online video-conferencing software) open to all.

Question 2.1: Do you think micromobility vehicles (such as those in Figure B) should be permitted on the road? Please explain why.

Micromobility devices should be permitted on carriageways and cycling infrastructure, provided that suitable head lights and tail lights are used at night. In addition, the law should be changed to ensure that mobility scooters are permitted on all forms of cycling infrastructure, and with the same capabilities and limitations as electrically-assisted pedal cycles.

Micromobility devices should not be permitted on footways, unless they are speed limited to 4 mph, in a similar manner to the existing rules for mobility scooters. We must be mindful that some micromobility devices may be useful as mobility aids for people with disabilities, and therefore ensure that any rules regarding their usage are compliant with the Equality Act. Reasonable accommodation should always be made in the case of slow speed use of micromobility devices as mobility aids.

Question 2.2: If you can, please provide evidence to demonstrate the potential:

a) Benefits of micromobility vehicle use.

There are some observations about overall carbon footprint in a FastCompany article by Jeremiah Johnson (2019), '*Are shared e-scooters good for the planet? Only if they replace car trips.*'¹.

¹<https://www.fastcompany.com/90385500/are-shared-e-scootersgood-for-the-planet-only-if-they-replace-car-trips>

It makes a useful point about the energy costs of managing rental fleets, which leads us to suggest that new legislation may need to treat rental and owner-user cases differently, especially dockless rental schemes. For those cases in which the micromobility vehicle replaces a single-occupant car journey, there are useful environmental and congestion benefits. A design engineer has commented that a folding e-scooter can be lighter, and use less raw material, than a folding e-bike. This suggests that the scooter could serve an environmentally-friendly 'last mile' commute purpose for some who cannot manage with a bike.

b) Risks of micromobility vehicle use.

If they displace walking, or bikes and pedelecs, they defeat 'active travel' objectives. There are already folding bikes and electrically-assisted pedal cycles (EAPCs) which work well for multimode commuting, and it would be bad if they were displaced by newly-legal devices which don't encourage active travel.

It will be difficult to check and enforce the legality of all those already in use, unless (for example) a system of retrospective type approval is introduced. We say more below about emergency braking and risk of losing control.

Question 2.3: If micromobility vehicles were permitted on roads, would you expect them to be used instead of: Private vehicles, Taxi or private hire vehicles, Public transport, Delivery vehicles, Cycling, Walking, Other (please specify)

In all categories, we would expect that micromobility vehicles would sometimes replace those journeys.

- The aforementioned article by Johnson (2019) reports that in America, surveys show that about one-third of e-scooter rides replace automobile use, while nearly half of scooter users would have walked or biked instead. About 10% would have taken public transit, and the remaining 7% or 8% would not have made the trip at all.
- The Portland Bureau of Transportation (2018) released a survey² saying that some e-scooter trips are replacing automobile trips. Thinking of their last e-scooter trip, 34% of Portlanders said they would have driven a personal car (19%) or hailed a taxi, Uber or Lyft (15%). The auto trip replacement numbers are even higher among tourists and visitors (48%). Thinking of their last e-scooter trip, 34% of visitors would have taken a taxi, Uber or Lyft, and 14% would have driven a personal vehicle had e-scooters not been available. E-scooters are bringing new Portlanders to the bike lane: 45% of survey respondents reported 'never' biking and 78% had never used BIKETOWN prior to using e-scooters. Portlanders are reducing or considering reducing their auto ownership due to e-scooters. 6% of users report getting rid of a car because of e-scooters and another 16% have considered it.
- We have been told by someone who studied at a Chinese university that many e-scooter journeys there appear to have displaced walking or cycling journeys.

²<https://www.portlandoregon.gov/transportation/article/700917>

Question 2.4:

a) In your opinion, which of the following micromobility vehicles should be permitted, if any, on roads, lower speed roads, and/or cycle lanes and cycle tracks? All types, Electric scooters, Electric skateboards, Self-balancing vehicles, Electrically assisted cycle trailer, Segway, Other (please specify)

It will be necessary to specify in terms of functionality and performance, not in terms of 'type'. In the interests of the 'active travel' objectives, it might be desirable to favour those that can be used without the assistance of the motor over those that can't (for instance by establishing a 15.5mph class for the former but a 12mph class for the latter), and we are convinced that in general the rules and permissions will need to vary according to maximum speeds. We note also that there are already, and are bound to be more, devices that don't fit well into predetermined type designations, and we think it is neither feasible nor necessary to define in law every conceivable variation. See our responses to question 2.6 where we explain why we think Type Approval is the right approach.

- For example, Stigo³ is sufficiently compact for multimodal commuting, while DC-Tri⁴ might not be allowed on many public transport vehicles.
- The Škoda Klement⁵ looks like a bicycle, but has a foot-operated accelerator pedal more like a car, and can't be propelled by pedalling.
- The Di Blasi folding vehicles⁶ and eFOLDi scooters⁷ occupy a grey area between mobility aid and micromobility devices.

There's an important distinction to be made between those micromobility devices (e.g. multi-wheel, or self-balancing) that could continue to move under power after their riders have for whatever reason lost control and those (e.g. conventional two-wheeler) that could be expected simply to fall over and stop. The detailed legislation, or the type-approval process, should specify a fail-safe requirement.

Ordinary, unassisted trailers provide very important and useful cargo-carrying capacity for pedal cycles and EAPCs. However, in general we are not in favour of motor-assisted trailers, because many (such as Ride Kick⁸) can propel the bike to which they are attached, and may be especially difficult to manage in certain manoeuvres. We base this opinion on reports from members about managing heavy trailers in downhill manoeuvres. However, we accept that there are some specialist motor-assist trailers that are suitable for commercial usage that we would not want to rule out, such as Carla Cargo⁹ (see also the report by Markus Bergmann, '*Carla Cargo heavy load bicycle trailer*'¹⁰).

b) Please explain your choices for using micromobility vehicles (or not) on roads and/or only lower speed roads, providing evidence where possible.

Lower-speed roads are public spaces open to all activities, including walking, cycling and horse-riding, and therefore also to those micromobility devices that can pass whatever type approval or construction

³<https://stigobike.com/about/>

⁴<http://www.dc-tri.com/>

⁵<https://www.skoda-auto.com/news/news-detail/klement>

⁶<https://www.di-blasi.com>

⁷<https://efoldi.co.uk>

⁸<https://ridekick.com>

⁹<https://www.carlacargo.de/en/>

¹⁰https://ec.europa.eu/transport/themes/research/challenge/projects/carla-cargo-heavy-load-bicycle-trailer_en

and use requirements are established.

c) Please explain your choices for using micromobility vehicles (or not) on cycle lanes and tracks, providing evidence where possible.

Our members who have seen or used e-scooters overseas report that, where there is good cycling infrastructure, bikes and scooters mix without problems.

d) What impact do you think the use of micromobility vehicles on cycle lanes and cycle tracks would have on micromobility vehicle users or other road users?

We have stated that those devices permitted on cycle lanes and tracks should be speed-limited to have comparable speed and braking characteristics to pedal cycles and EAPCs. We subscribe to the principles of Sustainable Safety, one of which says that vehicles of similar speed can be mixed (if the number of motor vehicles is not too high), but should be kept apart when there is a substantial speed differential. In the case where motor vehicle speeds are much higher than 20mph, or the number of motor vehicles is too high, it would be safer for all road users if the users of micromobility devices were permitted to use cycling infrastructure.

Question 2.5: Mobility scooters and pedestrian operated street cleaning vehicles are already permitted on the footway. Should any other micromobility vehicles be permitted to use the pavement or pedestrian areas? If so, which types of devices should be permitted and in what circumstances?

Micromobility devices that are speed-limited to 4mph could reasonably be argued to qualify as footway-compatible mobility aids for people with protected characteristics under the Equality Act. In fact, devices that cannot exceed 4mph may fall within existing legislation for pavement use of mobility scooters. We note that mobility scooters are allowed on carriageways at speeds up to 8mph, but are not currently allowed on cycle lanes and cycle tracks. The new micromobility legislation must resolve this anomaly by fully legalising the use of mobility scooters on cycling infrastructure and allowing them the same capabilities as EAPCs (e.g. having assistance up to 15.5mph). In so doing, it may also be desirable to establish an 8mph as well as a 12mph classification for some micromobility devices, depending on braking distance and safe handling characteristics.

We fully support the use of pedal cycles and EAPCs as mobility aids by people with disabilities and urge the DfT to fully and formally recognise in law that cycling is easier than walking for many people with protected characteristics under the Equality Act. On footways we would expect people using any form of mobility aid to try to keep within a reasonable jogging-equivalent speed because most footways are not designed to accommodate higher speeds. In wider pedestrian areas we would not commit to a specific speed limit but rather the reasonable principle that people with disabilities using cycles as a mobility aid should have full access to pedestrian areas and they should ride with due caution and regard for other users of the space.

Question 2.6:

a) What do you think the minimum standards for micromobility vehicles should be?

For those devices which cannot exceed 15.5mph, there is a reasonable correspondence with the Twist & Go subset of EAPCs but not with cadence- or torque-sensing pedelecs. The obvious corollary is that 15.5mph micromobility devices should, like Twist & Go, be subject to Type Approval. This gives scope for commonsense exclusions from the range of permitted devices, if necessary.

b) Should different standards be set for different types of micromobility vehicle? Please provide evidence.

There are already e-scooters that can exceed 15.5mph, in some cases substantially. It may be sensible to categorise faster e-scooters having maximum speed between 15.5mph (25 km/h) and 28mph (45 km/h) together with light mopeds, or as one of the variations of the EU S-Pedelec¹¹ types. At this level of speed and power, moped-like requirements for the rider and vehicle would be appropriate. Examples of higher-speed e-scooters include the Nanrobot X6¹² and the Qiewa Q1-Hummer¹³. Speed- or S-Pedelec examples include the QWIC MA11 Speed¹⁴ and the SDURO Trekking S 9.0¹⁵.

Note that countries like the Netherlands have defined an additional type of Speed Pedelec-compatible cycle track that allows the 28mph classification of e-scooters to be used on it. In the interest of Sustainable Safety and separating vehicles of dramatically different speeds from each other, it may be useful to create legislation allowing the construction of Speed Pedelec cycle tracks in the UK, for use outside of the built-up area where car speeds may exceed 40 mph. Such cycle tracks would need to be designed to be safer for all users who move more slowly than 30mph and therefore should not be mixed with fast-moving motor traffic. Furthermore, such infrastructure will help to keep bicycle-like Speed Pedelec-type vehicles off shared-use pavements, where they would be unsuitable due to their speed.

Question 2.7: Are there other vehicle design issues for micromobility that you think we should be considering? Please provide examples.

- There already exist stand-on small-wheel scooters with petrol engines. More recently, bicycles with fuel cells instead of batteries have become available, such as the Pragma Industries α lpha¹⁶. It is important to cast the legislation in terms of 'zero emissions' but not in terms such as 'battery electric'. We would prefer to see petrol-powered scooters phased out entirely, in the interest of achieving air quality and climate emergency response goals.
- The size of the wheels can make a significant difference to the ability of a device to cope with potholes, ironworks, and even dropped kerbs. Larger wheels could be a prerequisite for approval at higher maximum speeds, and there may be some value in defining further classes with appropriate requirements and permissions at (for example) 8mph and 12mph.

¹¹<https://ebiketips.road.cc/content/advice/advice/buying-and-riding-an-s-pedelec-in-the-uk-1637> or <https://www.stromerbike.com/en/moments-did-you-already-know>

¹²<https://www.nanrobot.com/collections/electric-scooter/products/electric-scooter-x6-8-350w-48v-15a>

¹³<https://qiewascooter.com/collections/scooters/products/qiewa-q1hummer-800watts-electric-scooter>

¹⁴<https://qwic.eu/e-bikes/performance/ma11-speed/>

¹⁵<https://www.haibike.com/cz/en/ebikes/spedelecs/sduro-trekking-s-90-cz827?id=4540510948>

¹⁶<https://www.pragma-industries.com/light-mobility/>

- Another issue that can make a difference to stability and controllability (and therefore to the ease of adapting to an unfamiliar hired device) is whether the rider stands on a platform that is above or below the wheel axis.
- The Electric Scooter Guide to brakes¹⁷ makes it clear that there is a wide variety of brake designs and capabilities. Type approval would be a way to ensure that brakes are appropriate to performance-class. In general the short wheelbase of a micromobility device places the rider, and the overall centre of gravity, closer to the front tyre contact patch than is the case for a bike. This increases the risk that emergency braking will lift the rear wheel off the ground and cause a loss of control. The type approval process will therefore need to include an emergency braking assessment.
- Consideration could be given to adding a rule that allows standards-compliant bike lights to be worn on the rider of a micromobility vehicle or pedal cycle, rather than only on a fixed mounting point on the vehicle. This is already common practice among cyclists, informally, and it does not seem to be a problem. It would resolve the problem that scooters lack sufficiently high fixed mounting points in many common designs.

Question 2.8: In your opinion, what should the requirements be for micromobility users, with regard to: Vehicle approval, Vehicle registration and taxation, Periodic vehicle testing, User driving licence, Insurance, Helmet use, Minimum age, Speed limits. If you believe regulating micromobility vehicles like EAPCs or like mopeds would be problematic, please explain why.

Type Approval of the newly-permitted micromobility devices is the key to enabling an adequate (albeit imperfect) degree of enforceability.

Apart from that, all micromobility vehicles that are 'Like EAPCs' or less powerful should have the similar rider requirements to EAPCs. If for some devices there are lower speed limits such as 8mph and 12mph then consideration can be given to relaxing the minimum age requirement. All devices used as mobility aids for people with protected characteristics under the Equality Act should have as few user requirements as possible. However things turn out, pedal cycles and EAPCs should continue to have as few user requirements as possible, with the intention of easing access to cycling as much as possible, for all ages and abilities.

Users of vehicles that are capable of powered travel at speeds in excess of 15.5mph and less than 28mph should be subject to similar rules as provided by existing light moped or EU S-Pedelec regulations.

All motorised vehicles (including cars) with an engine capable of powered travel in excess of 28mph should be subject to the same rules as provided by existing motor vehicle regulations, at the very least.

Yours sincerely,
On behalf of Camcycle

Matthew Danish,
Trustee

¹⁷<https://electric-scooter.guide/guides/electric-scooter-brakes/>