

E-Scooters: Are they a road safety issue?

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Abstract

Electric scooters (e-scooters) have suddenly arrived on roads and footpaths in many cities across the world. There has been huge media coverage and jurisdictions have scrambled to respond to the regulatory challenges they pose. Our observational study in central Brisbane found more than 90% compliance with the requirement to ride on the footpath, although helmet use was low for shared, but not private, e-scooters. These observations suggest that e-scooters are technically not a significant road safety issue according to current road crash definitions and regulations for riding in Queensland and confirm concerns about the injury risks associated with their use.

Background

Lime e-scooters received an operating permit from Brisbane City Council in November 2018 and more than 500,000 trips occurred in the first three months (Stone, 2019). Queensland road rules (<https://www.qld.gov.au/transport/safety/rules/wheeled-devices/personal-mobility-devices>) specify the maximum dimensions, riding speed (not maximum achievable speed) and weight of rideables. Riders must be over 12 (supervised if under 16), wear a bicycle helmet and riding on specific types of roads is forbidden (including speed limit greater than 50 km/h, centre line or median strip, or 1-way road with more than 1 marked lane). Giving way to pedestrians on footpaths and shared paths, and bicycles on a bike path, is also required. While helmets were initially provided with Lime scooters, newspaper reports claimed that many had no helmets attached in January and February 2019.

Australian jurisdictions generally require that a road crash occurs within a road-related area and involves a moving vehicle. In Queensland at least, e-scooters are classed as pedestrians, not vehicles. Thus, the extent to which e-scooters are technically a road safety issue likely depends on how often they are used on the road (risking collisions with motor vehicles) and how often they could collide with bicycles (on the footpath or on the road). The extent of injury in these potential crashes is likely to be greater if e-scooter riders are not wearing helmets. This study sought to collect information on these aspects of e-scooter use in central Brisbane.

Method

An observational study at six sites in central Brisbane in February 2018 counted private and shared e-scooters and bicycles and recorded user characteristics (gender, age group, helmet use), locations of riding (footpath, road), and interactions with pedestrians and motor vehicles. A comparison with observations from the same locations in 2017 assessed whether e-scooters were substituting for private and shared bicycle use.

Results

E-scooters comprised 21.9% of observations, with most (18.6%) being Lime e-scooters. Not wearing a helmet (or wearing an unfastened helmet) was more common among riders of Lime e-scooters than private e-scooters (39.1% versus 4.6%) while smaller differences were found in rates of riding on the road (6.9% and 4.6%) and carrying a passenger (2.0% and 0.0%).

In October 2019, 2960 bicycles were observed (2691 private and 269 shared), compared to 3032 (2716 private and 316 shared) in 2019.

Conclusions

The high rate of compliance with the requirement to ride e-scooters on the footpath suggests that e-scooters are technically not a significant road safety issue according to current road crash definitions and regulations for riding in Queensland. However, if other jurisdictions allowed their use on roads (in order to reduce risks to pedestrians) then this could be different. The low helmet use for shared (but not private) e-scooters confirms concerns about the injury risks associated with their use (e.g. RACS and AIPN, 2019). While seasonal and weather factors prevent a strict comparison, there does not seem to be any strong evidence that the introduction of e-scooters has led to fewer bicycle trips in central Brisbane.

References

- Royal Australasian College of Surgeons and Australian Injury Prevention Network. (2019). Joint response between RACS and the AIPN to the National Transport Commission Issues Paper: Barriers to the safe-use of innovative vehicles and mobility devices. <https://www.surgeons.org/media/college-advocacy/joint-response-to-the-national-transport-commission-issues-paper-barriers-to-the-safe-use-of-innovative-vehicles-and-mobility-devices/> (accessed Mar 2019)
- Stone, L. (2019). Lime scooters' Brisbane permit extended to middle of the year. *The Brisbane Times*; 19 Feb. <https://www.brisbanetimes.com.au/national/queensland/lime-scooters-brisbane-permit-extended-to-middle-of-the-year-201902219-p50ytz.html> (accessed Feb 2019)