

Illegal and risky riding of electric scooters in Brisbane

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There are worrying reports of escalating numbers of emergency department presentations by riders and pedestrians with injuries caused by electric scooters (e-scooters).^{1–3} In Brisbane, injuries involving shared e-scooters were monitored for about 2 months in early 2019; of the 109 patients for whom data were available, 12 had minor head injuries, three major head injuries, 23 upper limb fractures, and seven lower limb fractures. Not wearing helmets, travelling at more than 30 km/h, and alcohol consumption were identified as significant factors in e-scooter accidents.³

Dockless e-scooter sharing schemes emerged in the United States in 2017, and by January 2019 at least 11 e-scooter companies were operating in more than 100 cities and 26 states across the US.⁴ One of the largest companies, Lime, received a permit to operate in the Brisbane City Council area from November 2018 until mid-2019. The permit allows riding on roads only to cross them or to avoid obstructions on footpaths. Queensland road rules for rideables (including e-scooters) regulate their maximum dimensions, speed (maximum 25 km/h), and weight.⁵ Riders must be

at least 12 years old (and supervised by an adult if under 16) and wear a bicycle helmet, and riding on higher speed and wider roads is forbidden. More than 500 000 e-scooter trips were undertaken during the first three months of the trial.⁶

Between Monday 18 and Thursday 21 February 2019, we observed 785 e-scooters (including 698 commercial shared e-scooters, 90%), as well as 2960 bicycles (269 shared, 9%) at six locations in central Brisbane during the periods 7–11 am and 4–6 pm. Most riders (618, 89%) were adults and 528 (76%) were boys or men; the proportion of riders under 18 years of age was greater than for share bicycles (11% v 2%). Almost half the shared e-scooters (312, 45%) were ridden illegally (rider not wearing a helmet, riding on the road, or doubling a passenger), as were ten private e-scooters (9%); correct helmet use was less common than for share bicycle riders (81%). Not wearing a properly fastened helmet (no helmet or helmet not properly fastened) was the most frequent risky behaviour, and was again more common among shared than private e-scooter riders (275 shared e-scooter riders [39%], four private e-scooter riders [5%]) (Box).

Characteristics of scooter and bicycle riders during peak morning and evening traffic periods at six sites in Brisbane, 18–21 February 2019

Characteristic	E-Scooters		Bicycles	
	Shared	Private	Shared	Private
Total number	698	87	269	2691
Sex				
Males	528 (75.6%)	66 (76%)	192 (71.4%)	2254 (83.8%)
Females	170 (24.4%)	21 (24%)	77 (29%)	437 (16.2%)
Age group				
Child (under 13 years)	7 (1%)	1 (1%)	0	1 (< 0.1%)
Adolescent (13–17 years)	68 (9.8%)	2 (2%)	4 (2%)	21 (0.8%)
Adult	618 (89.2%)	83 (96%)	263 (98.5%)	2658 (99.2%)
Where ridden				
Footpath	648 (93.1%)	83 (95%)	147 (54.6%)	696 (25.8%)
Road	48 (6.9%)	4 (5%)	122 (45.4%)	1997 (74.2%)
Time				
7–9 am	127 (11.0%)	24 (2.1%)	61 (5.3%)	941 (81.6%)
9–11 am	200 (38.0%)	7 (1%)	60 (11.4%)	260 (49.3%)
2–4 pm	276 (39.7%)	12 (1.7%)	52 (7.5%)	353 (51.0%)
4–6 pm	102 (7.4%)	44 (3.2%)	96 (6.9%)	1152 (82.5%)
Helmet use				
Helmet correctly worn	428 (60.9%)	83 (95%)	218 (81.0%)	2642 (98.4%)
No helmet	252 (35.8%)	4 (5%)	46 (17%)	35 (1.3%)
Worn, but not fastened	23 (3.3%)	0	5 (2%)	9 (0.3%)
Passenger “doubling”	14 (2.0%)	0	0	0

It is unclear whether the current rules for e-scooters are appropriate for reducing the safety risks for riders and pedestrians. For pedestrian safety, 10 km/h advisory speed signs are sometimes installed on bicycle paths shared with pedestrians, and this could also be a safe maximum footpath speed for e-scooters. Whereas the Queensland rules restrict e-scooters to footpaths (except in specific circumstances), footpath riding is banned in Portland (Oregon)² and in California.⁴ The Queensland 25 km/h speed limit would be more appropriate were e-scooters ridden on roads rather than on footpaths; however, riders in Portland do not comply with the requirement to ride on the road if they think it unsafe.²

While helmets were provided with most Lime e-scooters when the scheme commenced, it was reported in the press that many had no helmets in January and February 2019.⁷ The low helmet-wearing rate among shared e-scooter riders indicates the need to ensure that helmets remain available and that police enforce helmet rules. Further, whether bicycle helmet standards are adequate for e-scooters should be examined.

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