

**Joint Select Committee on Road Safety**  
ANSWERS TO QUESTIONS ON NOTICE  
Inquiry into Road Safety – Public hearing 12 October 2021  
**Pedestrian Council of Australia**

**Committee Question Number:** RSQN032  
**Proof Hansard Page:** p. 41 (12 October 2021)

**Mr THISTLETHWAITE:** Harold, you mentioned the dangers associated with scooters and electric bikes. Perhaps you can take this on notice. If you could provide us with any data about just how dangerous they are—deaths or serious injuries in capital cities—that would be helpful.

**Ms VAMVAKINO:** Yes.

**Mr Scruby:** Yes. I'll also send you a copy of the ACCC finding against Lime, who were penalised. One of our committee members, a doctor-surgeon in Brisbane, is monitoring it up there. But a lot of it is underreported and unreported. This is the problem: because they're not motor vehicles the electric bikes don't come into that. It's only where you've got these companies like Lime and Uber, who own the electric scooters, that you're seeing real data now. I don't know what there is available on bikes, but I'll certainly look into it and see what's happening overseas. But let me tell you: there have been a lot of studies, and there have been a lot of nasty crashes on them and a lot of people being hit by them and not being recompensed as well.

**Answer**

A copy of the ABC report and that of the ACCC re Lime e-Scooters and their failure to report is included at Attachment 1.

**Key points:**

- The Australian Competition and Consumer Commission (ACCC) said Lime did not comply with mandatory injury reporting requirements on at least 50 occasions
- Lime has acknowledged it contravened Australian Consumer Law and is expected to publish a statement
- It has led to calls for the e-scooters to be banned from footpaths

Included at Attachment 2 is the CARRS-Q report on “e-Scooter safety” in Queensland (which is an oxymoron)

In addition, here are some recent articles re Electric Scooters and Electric Bicycles (which we should probably refer to as E-Rideables).

**More than 600 people go to Brisbane emergency departments after e-scooter crashes**

<https://www.abc.net.au/news/2021-07-22/electric-e-scooter-e-bike-injuries-brisbane-emergency-department/100313526>

**E-scooter injuries cost taxpayers nearly \$15 million in two years**

<https://www.stuff.co.nz/national/health/124376214/escooter-injuries-cost-taxpayers-nearly-15-million-in-two-years>

**Three years of e-scooters: the true cost of convenience**

<https://www.acc.co.nz/newsroom/stories/three-years-of-e-scooters-the-true-cost-of-convenience/>

And here are some additional clippings:

- <https://www.victoriawalks.org.au/news/1693>

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- <https://www.theage.com.au/national/victoria/e-scooters-cluttering-footpaths-challenging-vision-impaired-20211015-p590al.html>.
- Police have also started doing some enforcement work:
  - <https://www.riverineherald.com.au/cobram-news/2021/06/14/4437454/police-issue-e-scooter-warning>
  - <https://timesnewsgroup.com.au/surfcoasttimes/news/police-escooters-torquay/>
  - <https://www.geelongadvertiser.com.au/truecrimeaustralia/police-courts-geelong/police-plan-crackdown-on-illegal-use-of-electronic-scooters-and-skateboards/news-story/d3b7ea23602bdd591791997d3a3d1102>
  - <https://www.bordermail.com.au/story/7281774/e-scooters-and-e-boards-illegal-for-use-on-roads-paths-police/>

And while it's quite old, Liz de Rome's study Bicycle Crashes in Different Riding Environments in the Australian Capital Territory 2013 provides important data of crashed between cyclists and pedestrians on Shared Paths. The study is available at <http://dx.doi.org/10.1080/15389588.2013.781591>.

## ACCC finds e-scooter giant Lime failed to disclose safety concerns to riders

By [Jessica Rendall](#)

ABC NEWS – 18 JUNE 2020



Lime scooters knew of at least 50 incidents involving its Generation Two e-scooters where riders were injured. (ABC News: Alle McMahon)

There are growing calls for an overhaul of e-scooter laws after Australia's consumer watchdog found Lime failed to disclose safety issues it was aware of to riders.

Pedestrian Council of Australia chairman Harold Scruby is leading the push for reforms and argued governments needed to "stop pretending e-scooters are safe".

He said he wanted to see scooters banned from footpaths and mandatory insurance policies implemented for riders.

"If you are hit by one of those scooters, the medical bills will come out of your own pocket," Mr Scruby said.

"You're better off being hit by a car."

Mr Scruby said he believed riders should have licences and e-scooters should be registered vehicles.

"These scooters have the same power as a motorcycle, yet anyone can ride one with no safety training whatsoever," he said.

"There should be strict disclaimers to make consumers aware of the dangers of the vehicle they are about to operate."

The Australian Competition and Consumer Commission (ACCC) said Lime told riders its Generation Two e-scooters were safe to ride, despite knowing of at least 50 incidents where riders were injured.



In some instances, the front wheels of Lime scooters locked.(ABC News: *Dan Nancarrow*)

In some instances, the scooters would apply excessive brake force or the front wheel would lock, causing serious injuries such as broken bones, damaged teeth, cuts and abrasions.

ACCC commissioner Sarah Court said Lime failed to comply with mandatory injury reporting requirements on at least 50 occasions where riders were harmed.

"Businesses must disclose known issues so that consumers can take extra precautions if they still choose to use the products," Ms Court said.

"If a person has suffered a serious injury, illness or death associated with using their product either in or outside Australia, they must report it under the provisions of the Australian Consumer Law."

The ACCC said Lime had acknowledged it contravened the Australian Consumer Law and had admitted to breaching the reporting obligations for the serious injuries.

### **'We don't always get it right'**

Lime scooters were pulled from Australian streets in March due to the COVID-19 pandemic but the company said it would only supply the latest models of its e-scooter range that had addressed safety issues and defects if it were to return to the market.

### **Key points:**

- **The Australian Competition and Consumer Commission (ACCC) said Lime did not comply with mandatory injury reporting requirements on at least 50 occasions**
- **Lime has acknowledged it contravened Australian Consumer Law and is expected to publish a statement**
- **It has led to calls for the e-scooters to be banned from footpaths**



## **Lime e-scooters undertakes to address concerns about safety misrepresentations**

**ACCC - 17 June 2020**

<https://www.accc.gov.au/media-release/lime-e-scooters-undertakes-to-address-concerns-about-safety-misrepresentations>

The ACCC has accepted a court-enforceable undertaking from e-scooter rental company Lime Network Pty Ltd (Lime) to address the ACCC's concerns regarding misrepresentations about the safety of its Generation 2 (Gen 2) model of e-scooters and to comply with its product safety reporting obligations.

The ACCC considers Lime misrepresented to consumers that its Gen 2 e-scooters were safe to use when in fact it did not disclose to consumers a safety issue it was aware of.

In certain circumstances, Lime's Gen 2 e-scooters would apply excessive brake force, or locking, occurring on the front wheel, causing it to stop suddenly. Serious injuries suffered by consumers as a result included broken bones, damaged teeth, cuts and abrasions.

"Misrepresenting the safety of a product can have very serious consequences," ACCC Commissioner Sarah Court said.

"Businesses must disclose known issues so that consumers can take extra precautions if they still choose to use the products."

The ACCC was also concerned that Lime failed to comply with mandatory injury reporting requirements on at least 50 occasions for injuries arising from Gen 2 e-scooters in Australia and outside Australia.

"All businesses are reminded that if a person has suffered a serious injury, illness or death associated with using their product either in or outside Australia, they must report it under the provisions of the Australian Consumer Law," Ms Court said.

Lime also failed to notify the Commonwealth Minister about the firmware updates Lime applied to its Gen 2 e-scooters in February and March 2019 which specifically fixed the safety issue, as required by product safety laws.

"The ACCC considers that Lime was required to give written notice to the Commonwealth Minister within two days of applying each firmware update, because this was effectively action to recall the Gen 2-e-scooters."

“Notifying the Government of such incidents, and action taken to specifically address a product safety hazard is a vital part of our product safety regime,” Ms Court said.

Lime has acknowledged its conduct was likely to have contravened the Australian Consumer Law, and has admitted that each time it failed to report a serious injury to the Commonwealth Minister it breached its Australian Consumer Law reporting obligations.

Lime suspended its e-scooter operations in Australia in March 2020 due to the COVID-19 pandemic and the public health measures imposed by governments.

If Lime recommences its operations in Australia, it has also undertaken to supply only Gen 3 or other later models of e-scooters for hire, to address any safety issues or defects affecting its e-scooters and to implement a comprehensive compliance program.

A copy of the undertaking is available at [Lime Network Pty Ltd](#).

### **Background**

Lime is the Australian subsidiary of Neutron Holdings Inc. (Neutron), which provides dockless bicycle and e-scooter rentals to metropolitan areas and universities around the world. Users locate, unlock and pay to hire the devices via Lime’s smartphone application.

In Australia, Lime has offered its Gen 2 e-scooters for hire in the following locations:

- Brisbane, from 16 November 2018 to 23 March 2020;
- Adelaide, from 15 February 2019 to 14 April 2019; and
- Victoria’s Monash University Clayton campus, from 7 to 14 November 2018 for a trial period, with the e-scooters remaining available for use on campus until 10 December 2018.

In addition, Lime has offered its newer Generation 3 (Gen 3) model e-scooters for hire in Brisbane, from 11 February 2020 to 23 March 2020.

The Gen 3 e-scooter has a different design to the Gen 2 e-scooter, and is equipped with both an electronic brake on the rear wheel as well as a mechanical drum brake on the front wheel. Lime has advised the ACCC that Gen 3 e-scooters do not run firmware ever known to be affected by the issues experienced with Gen 2 e-scooters.

The circumstances in which Gen 2 e-scooters would experience the sudden stopping issue included when users rode downhill at top speed, or hit a pothole or other obstacle.

Lime has also agreed to publish a statement about the terms of the undertaking and the ACCC’s concerns with its conduct.

### **Release number:**

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### **ACCC Infocentre:**

Use this form to [make a general enquiry](#).

### **Media enquiries:**

Media team - 1300 138 917



# e-Scooter Safety

- e-Scooter use has increased globally in recent years due to dockless e-scooter schemes offered by private companies (e.g. Lime and Neuron).
- There are safety concerns for riders, due to the non-use of helmets, excessive riding speeds, and drink-riding, increasing injury risk.
- Pedestrians are also at risk, either by being hit by riders or tripping over parked on footpaths
- Like powered and unpowered bicycles, these devices have a lower carbon footprint than cars, and can overcome the last-mile limitation often associated with public transport.



## State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

### THE FACTS

- e-Scooters are part of a rapidly expanding family of small electric devices for personal transportation including hoverboards, powered skateboards and Segways. Various terms for this class of devices include: e-micromobility, powered micromobility, personal mobility devices (PMDs), rideables, and Personal e-Transport Systems (PeTs)<sup>1,2</sup>.
- Until now, the majority of e-scooter use has been through shared schemes and most of what we know about the use and safety of e-scooters relates to shared use. There is evidence that user behaviour may differ markedly between shared and privately owned e-scooters<sup>3</sup>.
- In 2018 in the US, there were 38.5 million trips by shared e-scooter, similar to the number of trips by docked bikeshare (36.5 million) and many more than by dockless bikeshare (9 million)<sup>4</sup>.
- In Australasia, dockless e-scooters first appeared in New Zealand in October 2018<sup>5</sup>. The most comprehensive Australian shared scheme began in Brisbane in November 2018 where more than 500,000 trips occurred in the first three months of operation<sup>6</sup>.
- In Australia and New Zealand, trip lengths for shared e-scooters average about one kilometre<sup>5</sup>.
- Share schemes for bicycles and e-scooters have the potential to decrease traffic congestion by replacing car trips<sup>7</sup>. However, in many cities e-scooter use often replaces walking, cycling or public transport and is for recreation, not commuting<sup>3,4</sup>.
- Most shared e-scooters are made by the Chinese company Xiaomi/Ninebot/Segway. They vary in motor wattage, maximum speed, range, lock-to technology, handlebar adjustment, gyroscope sensors

and accelerometer sensors<sup>8</sup>, which can influence data sharing opportunities, consumer experience and safety.

### The rules

- Often, rules relating to e-mobility device design and construction are set at the national level, user licensing and most road rules at the state level, and rules or agreements relating to the operation of shared schemes and where the devices can be used or parked are managed at the local level. The rules and conditions that the user agrees to in shared schemes comprise another level of regulation.
- e-Scooters are classified as 'non-road' vehicles under the Federal Motor Vehicle Standards Act 1989 and the Motor Vehicle Standards Regulations 1989<sup>9</sup>. As PMDs, e-scooters must have the following characteristics:
  - one or more wheels;
  - propelled by an electric motor;
  - an effective stopping system controlled by using brakes, gears or motor control;
  - when propelled only by the motor, cannot reach a speed of more than 25km/h on level ground;
  - not more than 1,250mm in length by 700mm in width by 1,350mm in height; or 700mm in length by 1,250mm in width by 1,350mm in height;
  - weigh 60kg or less when the vehicle is not carrying a person or other load; and
  - has no sharp protrusions.
- The National Transport Commission<sup>5</sup> is currently reviewing the Australian Road Rules to identify any regulatory barriers to the safe use of innovative vehicles across Australia.
- The rules for the use of PMDs in Queensland can be found [here](#). Riders must:

- Be at least 16 years of age, or 12 with adult supervision;
- Wear a securely fitted approved bicycle helmet at all times;
- Not carry passengers;
- Not use a mobile device while riding;
- Not drink and ride; and
- Use working front (white) and rear (red) lights when riding at night, or when there is low visibility.
- Most cities require that e-scooters are used on roadways, however in Brisbane and Adelaide their use is mainly on footpaths. In Queensland, they are restricted to footpaths and minor low speed roads<sup>10</sup>.

### E-SCOOTER SAFETY ISSUES

- e-Scooter use can result in injuries to both riders and pedestrians – from collisions or falling over e-scooters parked on the footpath. Concerns about e-scooters blocking footpaths have been widespread, particularly among disability groups<sup>5</sup>.
- Currently, it is difficult to identify e-scooter users in emergency or crash data (separating electric from non-powered), the product type (personal or shared), and cause of crash (product failure, product misuse or user behaviour).
- While e-scooters are largely restricted to footpaths and shared paths in Australasia, footpath riding is banned in many other jurisdictions. This makes it difficult to compare safety outcomes with other countries. However, most e-scooter rider injuries result from falls, rather than collisions with motor vehicles, even in countries where most riding is on roads<sup>11</sup>.
- Most e-scooter rider injuries result from falls, not collisions with motor vehicles, even in countries where most riding is on roads<sup>11</sup>.
- Ambulance and emergency department

data from Brisbane in early 2019<sup>5</sup> showed that most injured riders were aged 20-34 years old and the numbers of males and females were similar. A comparison with the CARRS-Q study of the number of riders in the Brisbane CBD<sup>3</sup> led the Royal Australasian College of Surgeons to conclude that e-scooter riders were twice as likely to be injured as bicycle riders.

- Among the patients for whom injury data was available, 10% had minor head injury, 3% had major head injury, 21% had upper limb fractures and 6% had lower limb fractures. Fractures were commonly reported in New Zealand<sup>12</sup> and US studies<sup>5,11,13-16</sup>.
- Inexperience appears to be a significant contributor to crash risk, particularly among riders of shared e-scooters. Use of alcohol, speeding and under-age riders have also been widely reported<sup>5,11,14-15</sup>.
- Low rates of helmet wearing – even in Australia – among riders of shared e-scooters are contributing to frequent head injuries in crashes<sup>5,14-15,16</sup>.
- The small size of the wheels on e-scooters has raised concern regarding their stability on uneven surfaces, particularly footpaths, but there is little scientific evaluation of their stability. The size of the wheels can vary considerably, with some shared e-scooters having larger wheels, and possibly better stability.
- Braking problems related to the electronic control systems have occurred on shared e-scooters in Australia<sup>17,18</sup>, New Zealand<sup>19</sup> and Switzerland<sup>20</sup>.
- There have been issues with firmware security and integrity to bypass payment processes, as well as geofencing and speed

controls for shared e-scooters<sup>17</sup>.

## WHAT CAN BE DONE TO IMPROVE E-SCOOTER SAFETY

- Operating environments need to provide sufficient separation from higher-speed motor vehicles while minimising risks to bicycle riders and pedestrians. The level of safety depends on the maximum speeds at which the e-scooters can (or are permitted to) travel and the speed of motorised vehicles and bicycles in those locations.
- A recent trend in regulating e-scooter schemes is to require electronic speed control, with lower speeds or lockouts at high-risk locations (e.g. areas of high pedestrian activity). However, there is less opportunity to affect the way in which privately-owned e-scooters are used, and the number of these scooters may increase significantly.
- Submissions to the National Transport Commission's current review have suggested that mandatory comprehensive insurance be required for e-scooters and similar devices, and other organisations have called for speedometers to be fitted to allow users to comply with speed restrictions<sup>5</sup>.
- There is potential to require technological constraints on parking locations as part of permits for e-scooter schemes, and also to include penalties for operators who do not remove illegally parked e-scooters in a timely manner. Confiscation is a possible approach for privately owned e-mobility devices if they are illegally parked. Provision of dedicated parking is a possible solution to e-scooters blocking public space and causing trip hazards<sup>8</sup>. Virtual

docks might be possible as a lower cost to physical docks, with or without charging facilities.

## CARRS-Q WORK IN THIS AREA

- International review of the safety of e-micromobility which has informed submissions and presentations to governments.
- Series of observational studies of the use and behaviour of shared and private e-scooters and bicycles in central Brisbane and how they interacted with pedestrians and motor vehicles<sup>3</sup>.

## FUTURE DIRECTIONS

- Dockless e-scooters have considerable economic advantages over dockless e-bikes and are likely to dominate the shared e-mobility market.
- e-Mobility may be incorporated into Mobility as a Service (MaaS) as shared mobility companies are spreading across vehicle types.

## Future research may focus on:

- The public health implications and extent of changes from cycling and walking to using e-scooters.
- The safety and amenity of e-scooters on shared paths and in bicycle lanes. Will bike paths or shared paths need to be widened to improve safety and reduce congestion?
- Will private use of e-scooters overtake shared use? Will currently observed differences in user behaviours between shared and private e-scooters continue?
- The skills needed for safe e-scooter use and how they can best be trained.

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STATE OF THE ROAD is CARRS-Q's series of Fact Sheets on a range of road safety and injury prevention issues. They are provided as a community service and feature information drawn from CARRS-Q's research and external sources. See the reference list for content authors.

## FOR MORE INFORMATION

Marketing & Events Coordinator, CARRS-Q  
Queensland University of Technology  
130 Victoria Park Road  
Kelvin Grove QLD 4059 Australia

Phone +61 (0)7 3138 4568  
Email [marketing.carrsq@qut.edu.au](mailto:marketing.carrsq@qut.edu.au)  
Twitter @CARRS\_Q  
Facebook [www.facebook.com/carrsq130](https://www.facebook.com/carrsq130)



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