

Inquiry into e-mobility safety and use in Queensland

Submission No:	1090
Submitted by:	Gold Coast Hospital and Health Service
Publication:	Making the submission and your name public
Attachments:	See attachment
Submitter Comments:	



Inquiry into e-mobility safety and use in Queensland

Gold Coast Hospital and Health Service

May 2025

1. Purpose of this report

The purpose of this paper is to support a Queensland Parliament inquiry in e-mobility safety and use in Queensland.

'e' modes of transport are categorised as e-bikes, e-scooters and e-skateboards.

Accidents relating to 'e' modes of transport can present life altering consequences due to the potential high speed and minimal protection of users.

2. Author details

Required as per submission guidelines listed in request requirements section of this paper.

Author name	Andy Menzies
Email address	████████████████████
Mailing address	Room 076, C block, Lower Ground Floor, Gold Coast University Hospital, 1 Hospital Blvd, Southport, QLD, 4215
Daytime telephone number	████████

3. Report governance and updates

Version	Date	Update	Author
1	20 May 2025	First version for review	Andy Menzies
2	28 May 2025	Final version	Andy Menzies

Contents

1.	Purpose of this report.....	2
2.	Author details	2
3.	Report governance and updates	2
4.	Executive Summary	4
5.	Context	5
6.	Literature review	6
7.	Method framework.....	7
8.	Observations: Presentations by mode of transport	8
9.	Observations: Presentations by presenting problem	9
10.	Observations: Presentations by diagnosis description	10
11.	Observations: Presentations by admission status	11
12.	Observations: Presentations by age and gender	12
13.	Observations: Presentations by acuity	13
14.	Observations: Street culture	14
15.	Conclusion.....	15
16.	Data sources, References and consultations.....	16
17.	Request requirements	17

4. Executive Summary

Objective

Provide update on the volume and nature of emergency presentations relating to 'e' modes of transport on the Gold Coast.

This paper builds upon previous analysis produced at Gold Coast Health. The purpose of this paper is to support a Queensland Parliament inquiry in e-mobility safety and use in Queensland.

'e' based mobility devices provide a recreational and low cost means of transport.

'e' mobility devices encompass motorised scooters, bikes and skateboards.

However, such devices are capable of significant speeds, and can expose riders to injuries which can have both a debilitating effect on quality of life, plus the need for care beyond initial presentation.

This analysis addresses the following considerations.

- Review last twelve-months of emergency presentation data across Gold Coast Health.
- Patterns of injury relating to 'e' based mobility devices.
- Breakdown of presentations by gender and age brackets.
- Proportion requiring admission, with average lengths of stay as an inpatient.

Over the twelve month study period, there were 734 identified presentations related to 'e' transport across Gold Coast Health.

This follows rapid growth over the last ten years, influenced by increased affordability and popularity of the various e-bike, e-scooter or e-skateboard models available.

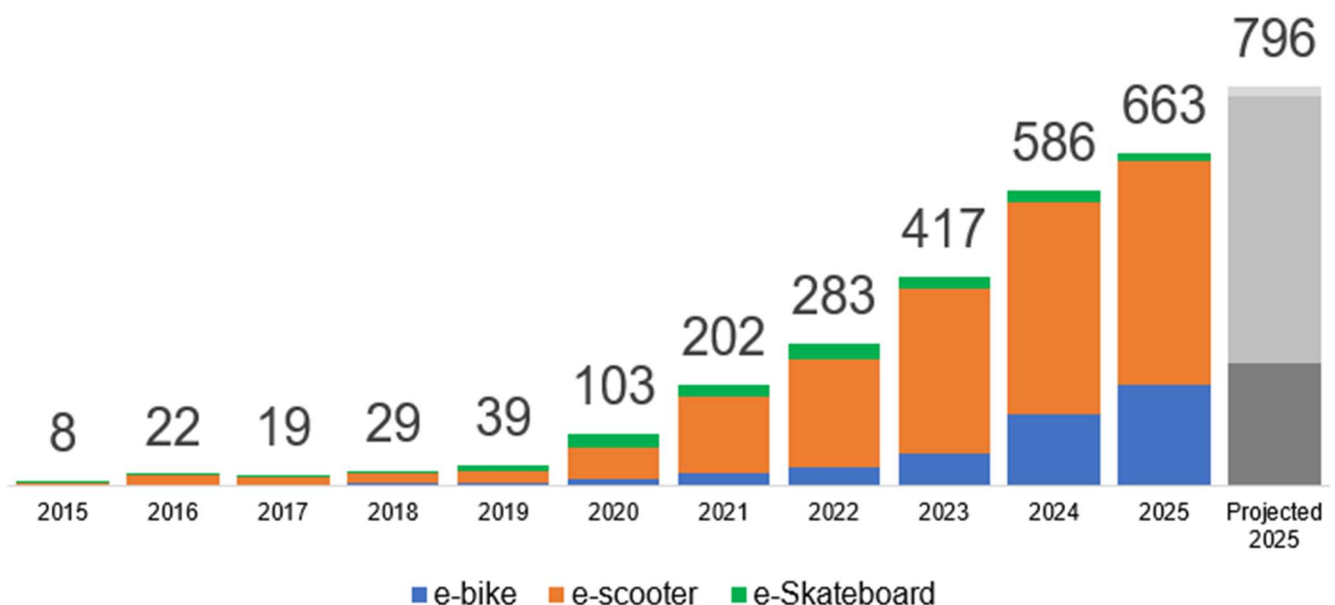
Online content however provides advice on how to remove the speed limiter on e-devices, and how to pull tricks, such as wheelies. This can contribute to accidents at high speed and on public roads.

Presentations triaged as Category 2, were the leading cohort (accounting for 43% of data analysed). Diagnosis included head injury, trauma, wrist injury and fractures to bones. Males aged 16 – 30 were the leading demographic.

5. Context

- Gold Coast Health encompasses emergency presentations at Gold Coast University and Robina Hospitals, plus Tugun Minor Injuries and Illness Centre.
- This paper explores 'e' transport emergency presentations on the Gold Coast, but notes such occurrences form part of a global theme.
- E-scooters can range in price from \$200 (Razor E90 Power Core Electric Scooter) through to \$5,999 (Kaabo Wolf King 11GT). These provide an affordable but powerful means of transport with limited protection, beyond a crash helmet, in the event of an accident.
- Queensland Government have published rules to support accident prevention and safety in the community. Notably, this includes a speed limit of 25kph on local roads. However, removing the speed limiter on e-devices (tips on how to achieve this available online) can support speeds in excess of 60 kph. The Hi Power Cycles Revolution X9 e-bike, for example, can achieve a top speed of 120 kmph.
- Illustrated in the below chart, identified presentations increased almost exponentially over latter years with increased affordability and popularity.
- April 2025 financial year to date there were 663 identified presentations related to e-mobility devices. Pro-rata projection to support comparison with previous financial years indicates ~796 presentations for the year.

Identified 'e' transport presentations: Aug 2014 – April 2025



6. Literature review

A review of publications was undertaken to frame findings in this paper within a broader context.

Key points

- The number of reported patients turning up to Queensland emergency departments after being injured in e-scooter mishaps has almost doubled within two years.
- In 2022, the state government brought in new e-scooter rules aimed at boosting rider safety, including new tiered speeding fine categories and tougher penalties.

ABC news. 15 Jul 2024

- During the last six years, men have had more accidents – making up 62 per cent – with the average age for all patients being 27.
- In Victoria, E-scooters capable of exceeding 25km/h are classified as unregistered motor vehicles and cannot be ridden anywhere other than private property.

Drive.com.au. July 2024

- The growing popularity of e-scooters has seen a surge in related injuries. They may not be more common than cycling injuries - but they may be more serious.
- Most of these incidents involve males in their late 20s or early 30s, commonly sustaining head, face and limb injuries. There is consistently low helmet use in those injured. Also, about 30% of people who go to hospital with e-scooter injuries have elevated blood alcohol levels. Crashes involving riders under the influence of alcohol are associated with more severe head and face injuries.
- There is evidence e-scooter riders tend to engage in significantly more risky behaviour than cyclists. Compared to injured bicyclists, those injured while riding e-scooters:
 - tend to be younger
 - are more frequently found to be intoxicated
 - exhibit a lower rate of helmet use
 - and are more commonly involved in accidents at night or on weekends.

University of New South Wales. February 2024

7. Method framework

Considerations / scope

The scope of this paper is a twelve-month period between May 2024 and April 2025.

This period follows rapid growth in e-device presentations over the preceding ten years. An historical view is presented for context.

The paper follows from previous analysis, a benefit of which was development of automated reporting (discussed below) to easily identify presentations related to 'e' modes of transport.

Framework planning and construct

- Emergency presentations related to 'e' modes of transport can be identified through searching for specific keywords in the 'complaint description' field that is completed for arriving presentations at emergency triage.
- These key words (such as "e-bike" or "e-scooter") roll up into a 'Transport flag' that has been built into emergency department reporting using the FirstNet data platform.
- The 'Transport flag' enables all emergency reporting data to be 'sliced and diced' by all emergency measures (number of presentations, average length of stay, age and gender, and by week, month or year etc).
- The below screen shot provides an illustration of the automated dashboard used to produce this paper.
- For the purpose of this paper, filters used in regular emergency department reporting were turned off. That is, presentations relating to the annual Schoolies event, and those presenting at Tugun Minor Injuries and Illness Centre were included.

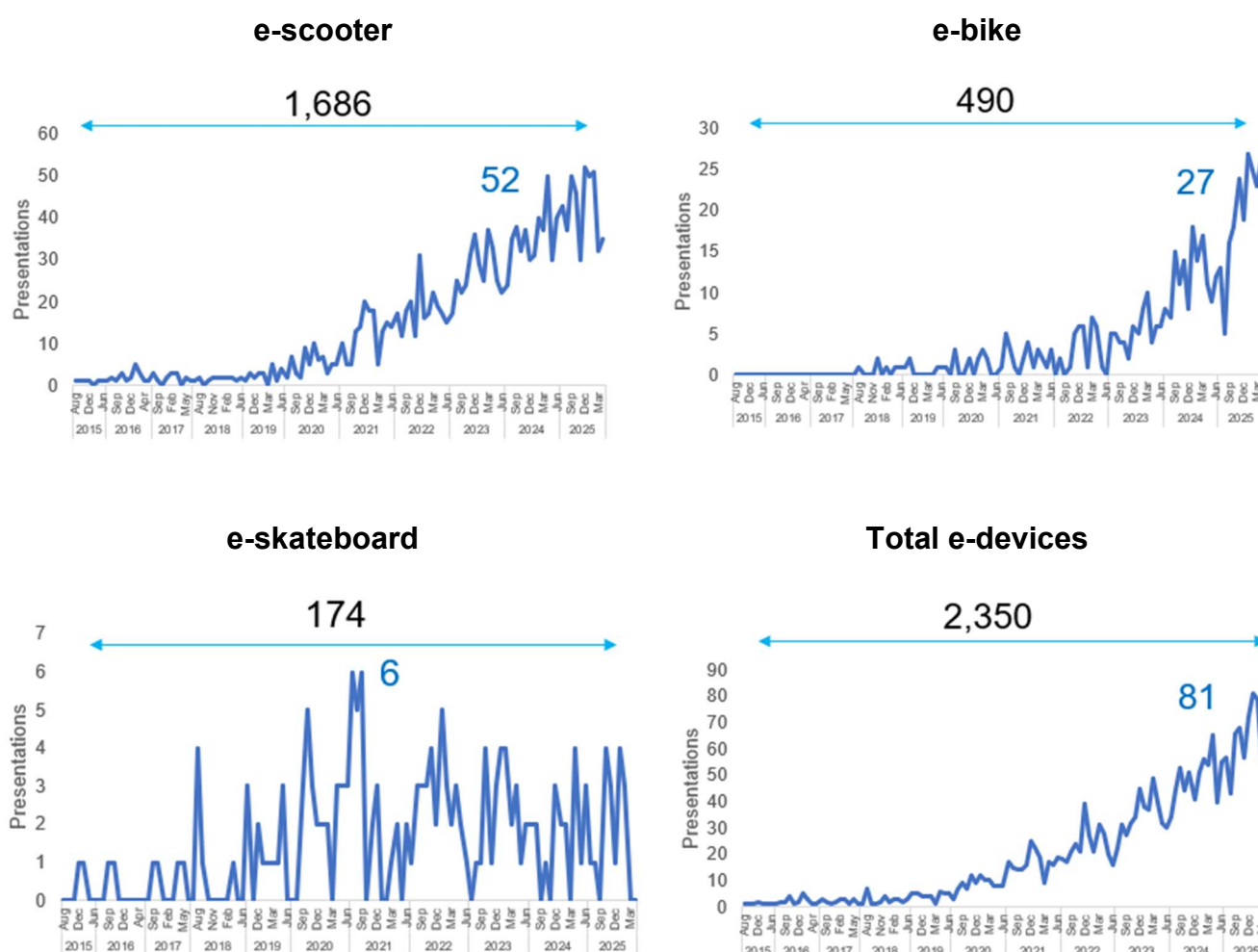
Screenshot of dedicated dashboard used to compile this analysis

Presentations related to 'e' modes of transport																									
Presentations by mode of transport												Presentations by complaint description													
Measures ▼	Transport Flag ▼	2024										Measures ▼	Transport Flag ▼	PresentingProblem	2024										
		Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sept 2024				Oct 2024	Nov 2024	Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024		
Presentations	e-modes of transport	41	51	56	54	65	40	55	57	43		Presentations	e-modes of transport	Sub Total		41	51	56	54	65	40	55			
	e-scooter	30	31	40	37	50	30	40	43	37														1	
Presentations by diagnosis description												Presentations by admission status													
Measures ▼	Transport Flag ▼	DiagnosisDescription	2024								Measures ▼	Transport Flag ▼	Admit_Status_Code	MedicalService	2024										
			Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024					Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024				
Presentations	e-modes of transport	Sub Total		41	51	56	54	65	40	55		Presentations	e-modes of transport	Sub Total	Sub Total		41	51	56	54	65				
Subtotal by diagnosis												Subtotal by admission													
Presentations by age and gender												Presentations by acuity													
Measures ▼	Transport Flag ▼	Age	2024										Measures ▼	Transport Flag ▼	ATS	2024									
			Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Dec 2023				Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024		
			F	M	F	M	F	M	F	M	F	M				F	M	F	M	F	M	F	M		
Presentations	e-modes of transport	Sub Total		12	29	16	35	17	39	13	41	21	44	12	28	11									

8. Observations: Presentations by mode of transport

- Between August 2014 and April 2025 there were 2,350 emergency presentations related to e-mobility devices.
- e-scooter related presentations were the largest cohort with 1,686 presentations. A monthly peak of 52 presentations was recorded in December 2024.
- Presentations related to e-bikes increased by 59% (73) over the period July 2024 to April 2025 compared to the corresponding period in the previous year. A monthly peak of 27 presentations was recorded in January 2025.
- E-skateboard related presentations averaged two per month financial year to date. A monthly peak of six was recorded for July 2020.
- Presentations relating to e-bikes were the fastest growing cohort over the last twelve-months. In April 2025 there were 26 e-bike presentations and 35 e-scooter presentations. E-scooter related presentation reduced over recent months.

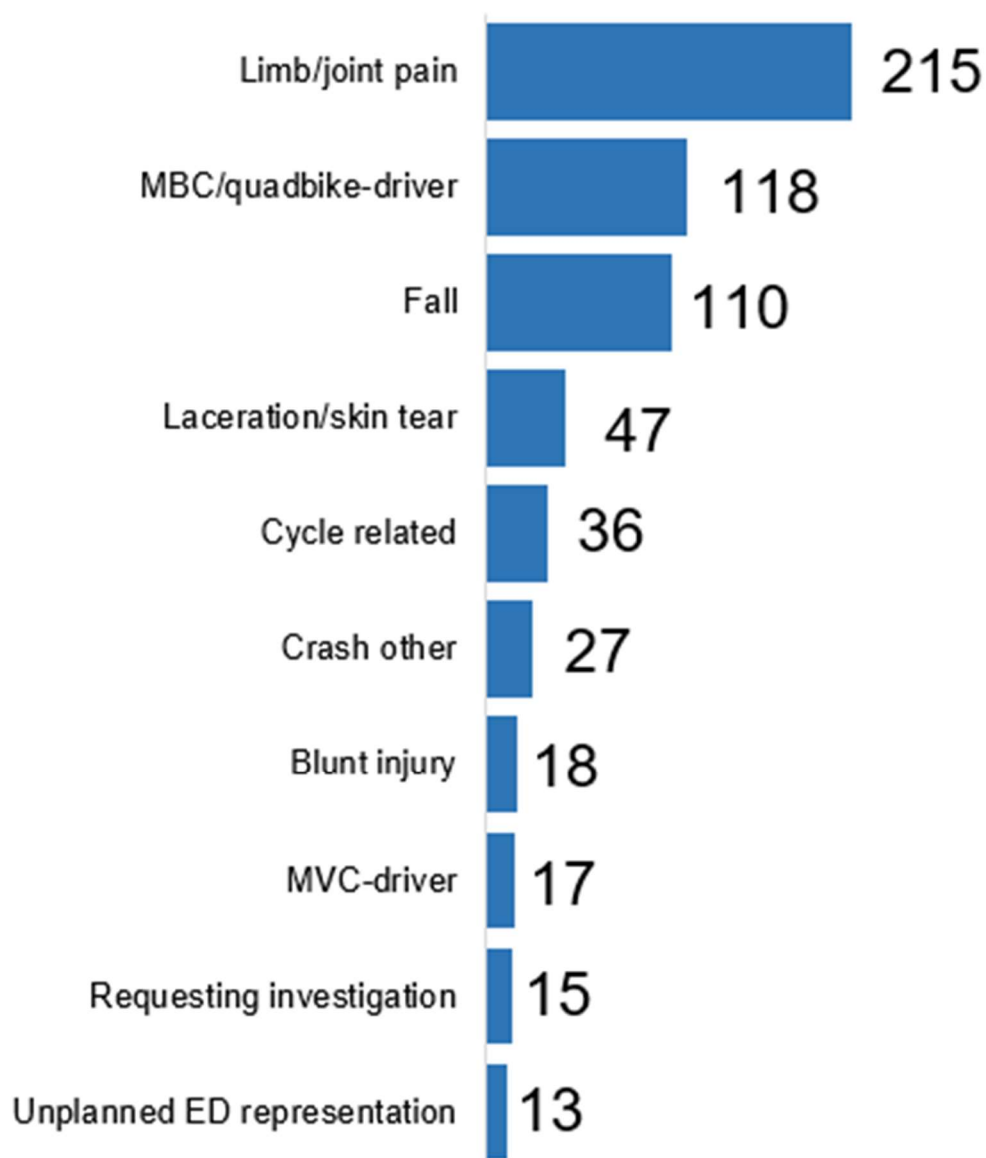
Cumulative e-device presentations Aug-2014 – Apr-2025 and monthly peaks



9. Observations: Presentations by presenting problem

- Limb joint pain was the leading presenting problem in the sample cohort over the last twelve-months.
- Limb / joint pain accounted for 215 / 29% of the 734 total for the last twelve-months.
- There were a total of 40 distinct presenting problems over the sample cohort.
- This was indicative of the range of problems attributed to accidents involving 'e' modes of transport.

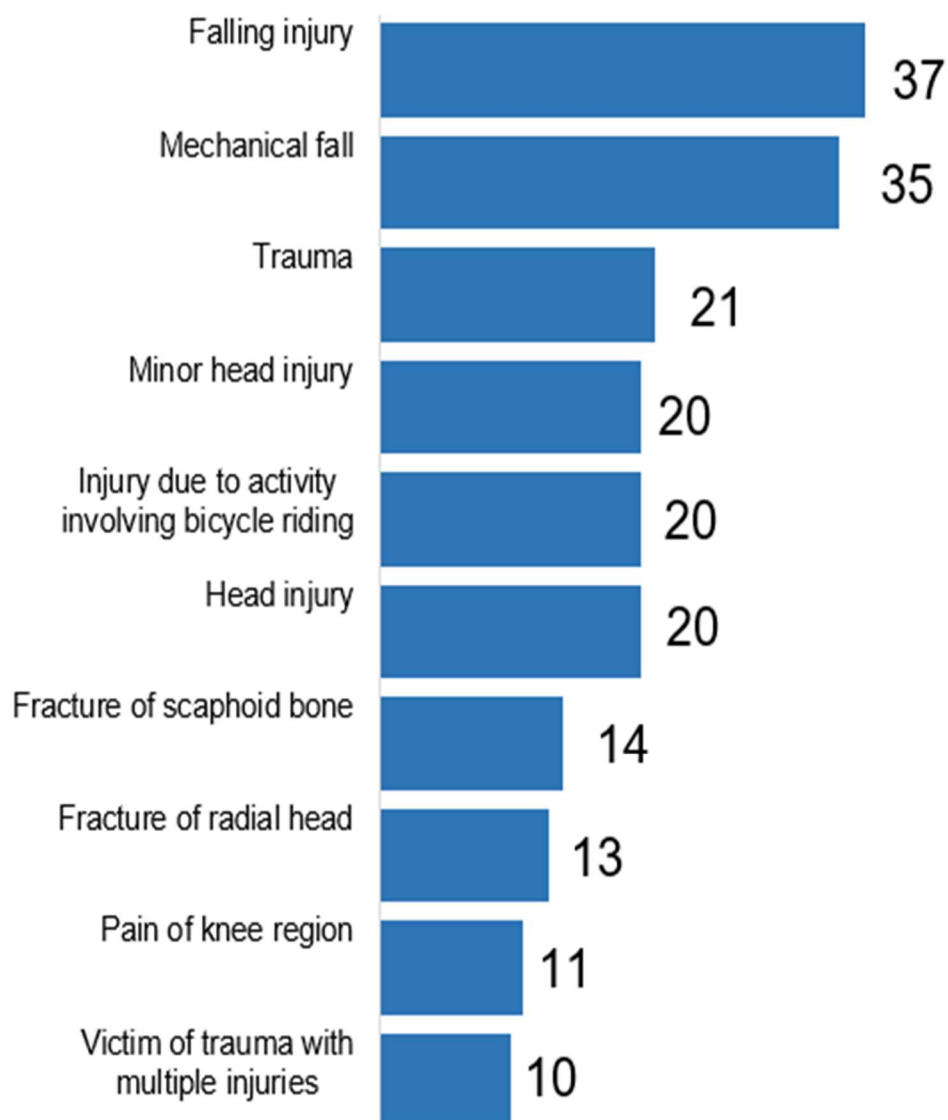
Top ten 'e' transport presentation presenting problems: May-24 – Apr-25



10. Observations: Presentations by diagnosis description

- Falling injury was the leading presenting problem in the sample cohort over the last twelve-months.
- Falling injury accounted for 37 / 5% of the 725 total.
- There were a total of 337 distinct diagnosis descriptions over the sample cohort.
- This was indicative of the range of diagnosis attributed to accidents involving 'e' modes of transport.

Top ten 'e' transport presentation diagnosis descriptions: May-24 – Apr-25



11. Observations: Presentations by admission status

- Of the 734 sample cohort, 637 (87%) of presentations received their care with an emergency setting.
- This includes 66 presentations who were admitted for emergency medical care within emergency departments.
- Illustrated below, 97 (13%) of presentations were admitted to inpatient wards for further care.
- Orthopaedics was the leading medical service for presentations admitted to inpatient wards.
- Distribution of presentations to inpatient care was indicative of the complications and resulting post-emergency care attributed to 'e' transport accidents.

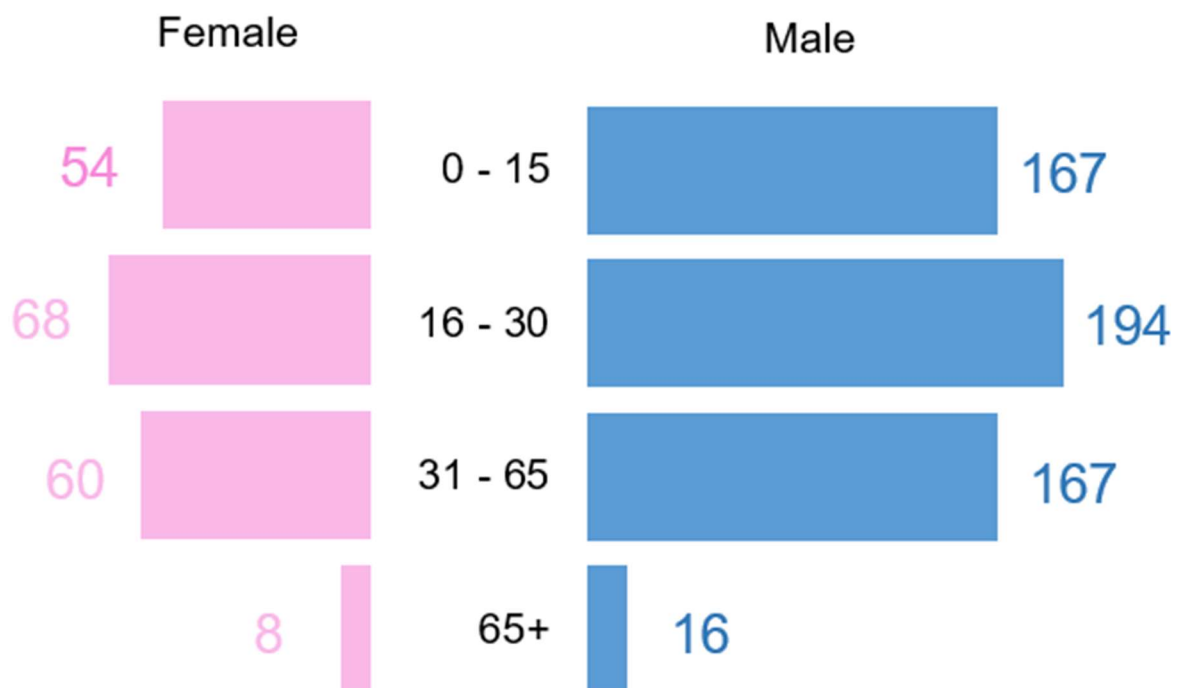
'e' transport presentations by admission status and medical service: May-24 – Apr-25

Admit_Status_Code	MedicalService	Presentations		
Not-Admit	Emergency Medicine	569	637	Discharged from emergency
	Orthopaedics	1		
	Paediatrics	1		
Admit	Emergency Medicine	66	97	Inpatient ward admissions
	Orthopaedics	40		
	Intensive Care	17		
	Neurosurgery	14		
	General Surgery	6		
	Paediatrics	6		
	General Medicine	5		
	Plastic and Reconstructive Surgery	4		
	Maxillo-facial surgery	3		
	Geriatrics	1		
	Obstetrics	1		
Total		734		

12. Observations: Presentations by age and gender

- Of the 734 sample cohort, 544 (74%) of presentations were male.
- Illustrated below, males aged 16 - 30 years old was the leading demographic, and accounted for 194 (26%) of 'e' transport related presentations.
- Over the last four months there was an increased incidence in presentations for the male 16 – 30 cohort. This equated to an average 21 presentations per month for this cohort, up 53% (average seven per month) on preceding eight months, and a fourfold increase since May 2023.
- The oldest presentation over the last twelve-months was an 89 year old male.
- The youngest presentation over the last twelve-months was a two year old female.

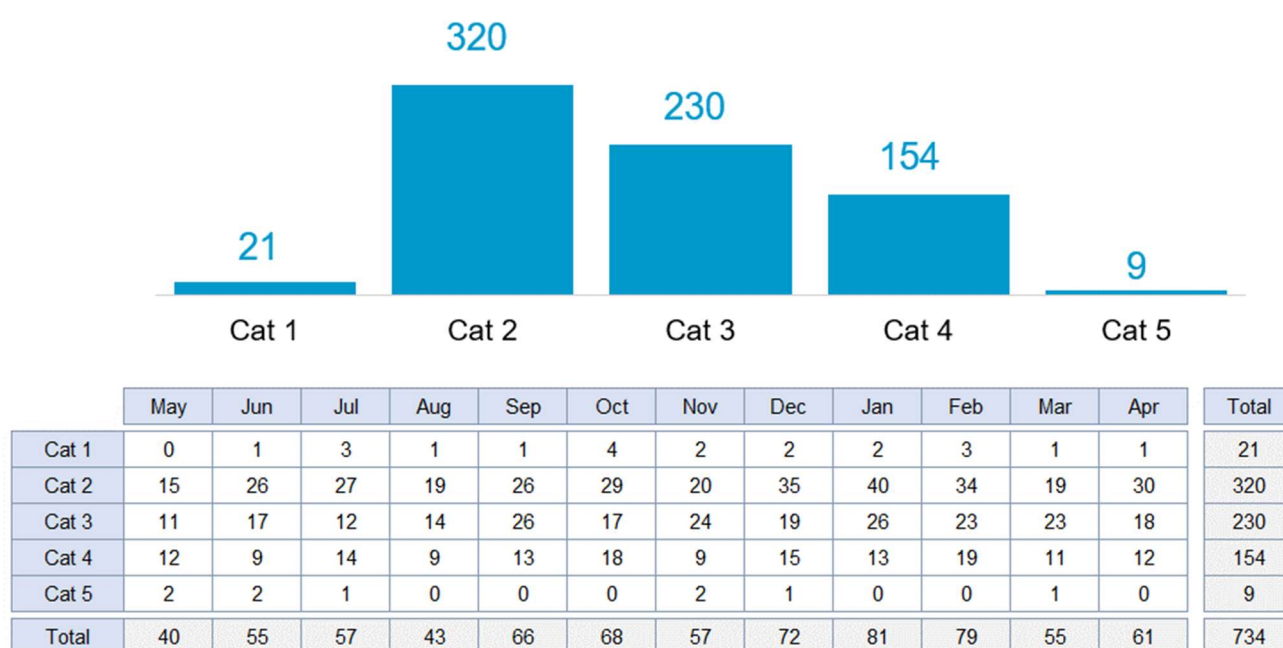
'e' transport presentations by age and gender: May-24 – Apr-25



13. Observations: Presentations by acuity

- Of the 734 sample cohort, those triaged as Category 2, requiring treatment with ten minutes of arrival, were the leading cohort (320 presentations, 44% of sample).
- Category 2 presentations displayed the largest growth rate, with latest twelve-month presentations up 34% on the preceding twelve-month period.
- Examples of diagnosis descriptions of Category 2 presentations over the last twelve-months include falling injury (18), Head injury (16), trauma (11) and fracture of clavicle (5).
- There were 21 presentations triaged as Category 1, reflecting the acute nature of presentations which could be life altering. Trauma with multiple injuries were leading diagnosis.
- Higher acuity presentations, and subsequent admissions, may employ significant resources ranging from helicopter arrivals, surgery, inpatient care, outpatient care and Allied Health support (rehabilitation, Occupational Therapy, Social Work).
- Nil deaths were identified travelling to or in emergency.

‘e’ transport presentations by triage category: May-24 – Apr-25



14. Observations: Street culture

This paper has analysed emergency (FirstNet) data to support understanding of trends and patient demographics involved in e-mobility device presentations.

Eye witness observations (report author around Upper Coomera area of Northern Gold Coast during the time of writing) highlight contributing behaviours.

These include;

- e-bike pulling wheelies on wrong side of road (into flow of traffic).
- e-bike slip streaming cars (apx. 70kph).
- Multiple people (three and two) on racing e-bikes.
- Two under age (very small) children on an e-bike on road at night with no lights.
- Riding e-scooter on road, while looking at phone and wearing headphones.
- Riding a one-wheel (uni-wheel type of e-skateboard) on main road at apx70kph.

Illustrated below, internet videos and supporting content provide advice on 'how to do a wheelie on a e-bike'.

While noting use by under aged riders on roads and the powerful but light and unprotected nature of e-devices, behavioural factors (such as the thrill of speed and independence) in dynamic environments can influence accident causality.

A review of e-bike models and speeds further observes that the distinction between e-bikes and motorbikes can be slight. E-bikes, such as the Hi power Cycle revolution X9, look like motorbikes also. E-bikes generally do not require a licence.

Example of internet content promoting tricks on e-bikes



Superhuman Bikes
How to Wheelie an eBike – Superhum...



YouTube
How to Wheelie EVERY E-Bike in 15 ...



Macfox
How to Do a Wheelie on a Ebike



YouTube
THE BEST WHEELIE EBIKE ...



EvNerds
AUTO Wheelie Any Electric Bike without ...



YouTube
FREEGO F1 PRO BEST MINI EBI...



Amazon.com
Amazon.com : MACF...



YouTube
Electric Bike 90km/h Top Speed + ...

15. Conclusion

Objective

Provide understanding of the volume and nature of emergency presentations relating to 'e' modes of transport.

- This paper built upon previous analysis produced at Gold Coast Health. The purpose of this paper was to support a Queensland Parliament inquiry in e-mobility safety and use in Queensland.
- A literature review noted that “the growing popularity of e-scooters has seen a surge in related injuries. They may not be more common than cycling injuries - but they may be more serious.”
- Eye witness observations on Queensland streets noted dangerous use of e-devices on public roads. Reference to the internet further identified supporting content on how to remove the speed limiter of e-devices (to exceed the 25 kph speed limit), and how to pull tricks such as wheelies.
- Focused analysis on a twelve month period identified 734 presentations related to 'e' transport across Gold Coast Health. However, since August 2014 there were 2,350 related presentations identified.
- A near exponential growth in presentations was noted over the last five-years. Although this analysis may be confined to the Gold Coast region of Queensland, literature reviews support common themes across other cities and nations.
- Presentations triaged as Category 2, were the leading cohort (accounting for 44% of data analysed). Diagnosis included head injury, trauma and fractures to bones.
- Accidents related to 'e' mobility devices can have both a debilitating effect on quality of life, plus the need for care beyond initial presentation.
- Of the sample cohort, 13% of presentations were admitted to inpatient wards for further care after being treated within emergency.
- Males aged 16 to 30 years old was the leading demographic.

16. Data sources, References and consultations

Data sources	
1	Dedicated dashboard to enable automated reporting Based on Emergency Firstnet data Location: DSS / Gold Coast HHS / Emergency Department reports / 'e' modes of transport presentations
2	Transport flag Built into Emergency data model to identify 'e' modes of transport based on keywords in Presenting Complaint Description field entered at triage. Transport flag is defined in full in the Emergency Data Governance Document available via the Emergency Departing reporting and analysis sharepoint page.

References	
1	ABC News Reported e-scooter injuries on the rise at Queensland emergency departments - ABC News
2	Drive.com.au E-scooter injuries nearly double, law can't keep up (drive.com.au)
3	Queensland Health E-scooter emergency presentations numbers released by Sunshine Coast Health Sunshine Coast Hospital and Health Service
4	University of New South Wales E-scooters are linked with injuries and hospital visits – but we can't say they are riskier than bikes yet (unsw.edu.au)
5	Clean Technica: Can an electric scooter be too fast Can An Electric Scooter Be Too Fast? This One Might Be - CleanTechnica
6	Rules for personal mobility devices Rules for personal mobility devices Transport and motoring Queensland Government (www.qld.gov.au)

17. Request requirements

Date of request	8 May 2025
Requested by	Shaun Robertson, Nursing Director Emergency Care Services
Other stakeholders	Gold Coast City Council, Queensland Police Service and Department of Transport and Main Roads.
Purpose of request	To provide Queensland Parliament with supporting material for the State Development, Infrastructure and Works Committee's inquiry into e-mobility safety and use in Queensland.
Request details	Provide update to previous analysis submitted to e-device safety committee (Gold Coast City Council, Transport and Main Roads, Queensland Police Service and Gold Coast Health).
Other notes	Inquiry into e-mobility safety and use in Queensland On 1 May 2025 the Legislative Assembly agreed to a motion that the State Development, Infrastructure and Works Committee inquire into and report on e-mobility safety and use in Queensland, with the following terms of reference: That the State Development, Infrastructure and Works Committee inquire into and report to the Legislative Assembly no later than 30 March 2026 on: 1. Benefits of e-mobility (including both Personal Mobility Devices (PMDs), such as e-scooters and e-skateboards, as well as e-bikes) for Queensland; 2. Safety issues associated with e-mobility use, including increasing crashes, injuries, fatalities, and community concerns; 3. Issues associated with e-mobility ownership, such as risk of fire, storage and disposal of lithium batteries used in e-mobility, and any consideration of mitigants or controls; 4. Suitability of current regulatory frameworks for PMDs and e-bikes, informed by approaches in Australia and internationally; 5. Effectiveness of current enforcement approaches and powers to address dangerous riding behaviours and the use of illegal devices;

6. Gaps between Commonwealth and Queensland laws that allow illegal devices to be imported and used;

7. Communication and education about device requirements, rules, and consequences for unsafe use; and

8. Broad stakeholder perspectives, including from community members, road user groups, disability advocates, health and trauma experts, academia, the e-mobility industry, and all levels of government.

Call for submissions

The committee invites submissions on any aspect of the inquiry terms of reference from all interested parties. Guidelines for making a submission to a parliamentary committee are available [here](#). The closing date for written submissions is 12pm (midday) on Friday 20 June 2025.

In your submission please clearly state which part/s of the inquiry terms of reference your comments relate to.

How to make submission

[Click here](#) to make a submission. You can write your submission or upload a file containing your submission using this link.

If you are unable to provide a written submission, please contact the secretariat to discuss other options.

To be considered by the committee, submissions must include:

- the author's first and last name
- if the submission is made on behalf of an organisation, the level of approval (e.g. a local branch, executive committee or national organisation), and
- at least two of the following:
 - email address
 - mailing address, and
 - daytime telephone number.

Please ensure your submission includes the above or it may not be considered by the committee.

Please note: Your name and submission may be published on the committee's inquiry webpage, which will mean it can be viewed on the internet. You can request for your name to be withheld from your published submission, or for both your name and your submission to be kept confidential (i.e. not published). Decisions about whether and how submissions are published are at the discretion of the committee.

Public briefing

The committee will receive an initial public briefing from the Department of Transport and Main Roads on Wednesday 11 June 2025 from 10am – 11am at the Parliamentary Annex, Alice Street, Brisbane. Further details will be published on the inquiry webpage. The briefing will be open to the public to observe, and also broadcast live on Parliament TV.

Public hearing

The committee is planning further public proceedings for this inquiry. If you are interested in participating in a public hearing, please indicate your availability when making a submission to the inquiry. Further details about public proceedings will be published on the inquiry webpage when available.

Visitors to parliamentary public briefings/hearings are advised that they may be filmed by broadcast media and/or be included in photos taken by Parliamentary Service staff for purposes including posts on the Parliament's website or social media sites. The Queensland Parliamentary Service is committed to protecting the images collected for this purpose in accordance with the Information Privacy Act 2009.

Further information

For more information about the inquiry process please visit the inquiry webpage or contact the committee secretariat on 07 3553 6662 or SDIWC@parliament.qld.gov.au.