Inquiry into e-mobility safety and use in Queensland

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Dedicated to a better Brisbane

17 June 2025

Mr Jim McDonald MP, Member for Lockyer
Chair, State Development, Infrastructure and Works Committee
Legislative Assembly of Queensland
Parliament House
sdiwc@parliament.qld.gov.au

Dear Mr McDonald

Inquiry into e-mobility safety and use in Queensland

Firstly, it was great to see your name in the correspondence. I do hope you have been well. You may remember our interactions when I was Chief Executive Officer at West Moreton Health.

Thank you for the opportunity to provide a submission (enclosed) to the Inquiry into e-mobility safety and use in Queensland.

As you may be aware, Brisbane City Council has over 6 years' experience in managing large-scale shared e-mobility schemes. This form of transport is now a mature part of the transport network within Brisbane.

Safety has always been a priority for us in managing shared schemes from the beginning and we have welcomed the successful collaboration with the Department of Transport and Main Roads, Queensland Police Service and other stakeholders in strategies to improve safety both for riders and the broader community.

From our experience, key success factors in the future sustainability of shared schemes include:

- a coordinated approach to education backed by enforcement that builds upon successes already achieved
- continued review of legislation to ensure simplicity and to maintain pace with technology
- improved data collection to better inform causes of incidents and, therefore, strategies to improve safety
- continued investment in infrastructure to improve safety and strengthen community acceptance of these schemes as an essential aspect of mobility in our cities.

I commend our submission to the Inquiry and provision of further participation and assistance to the Inquiry in due course.

Yours sincerely

[redacted]

Kerrie Freeman
CHIEF EXECUTIVE OFFICER

Enclosed: Council's submission on the Inquiry into e-mobility safety and use in Queensland

Submission to the State Development, Infrastructure and Works Committee Inquiry into e-mobility safety and use in Queensland

BRISBANE CITY COUNCIL

JUNE 2025

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EXECUTIVE SUMMARY

Brisbane was the first major city in Australia to adopt e-mobility following the Queensland Government's amendment of the *Transport Operations (Road Use Management—Road Rules) Regulation 2009* (the Queensland Road Rules) in December 2018.

Brisbane is now recognised as a leader in e-mobility, in procuring the first shared e-scooter scheme in Australia and developing the first comprehensive e-mobility strategy. There have been more than 18 million trips on shared e-mobility since late 2018.

Brisbane City Council (Council) considers e-mobility an important part of Brisbane's future transport plans. Our vision is for a connected city, where transport enhances liveability, supports business and investment, takes advantage of new technology and keeps riders and pedestrians safe.

Brisbane shared e-mobility key statistics

- Over 18 million trips taken since 2018
- Average of 10,000 daily trips in 2025
- Up to 7,000 devices deployed
- More than half of commute trips substituted from private vehicle
- Increase in positive perception of the City and increased tourist spend
- Only 33 hospitalisations reported to Council from over 3 million shared scheme trips in 2024-25, a rate of 0.0011% - safer than other modes

Research by Griffith University and the University of Queensland has demonstrated that the adoption of e-mobility in Queensland overall has been of positive benefit in increasing the tourism spend and positive perceptions of cities. Creating an alternative and convenient transport mode has helped ease road congestion, particularly in the inner city where e-mobility usage is concentrated.

Safety has been a priority for Council with key areas of focus on safe riding, safe parking and rider education. Council has initiated restrictions on inner city e-scooter use on Friday and Saturday nights which has received positive feedback from key stakeholders, including Queensland Police Service (QPS), regarding the reduction in observed anti-social riding behaviours.

In response to community concerns about parked devices and street clutter, Council is working in partnership with the shared scheme operators to roll out designated parking hubs within the inner city to encourage parking that maximises safety to the public. In some suburbs, parking in designated locations has been made mandatory with positive results.

Council has partnered with shared scheme operators to provide information and education to riders through its website and sponsoring e-scooter safety workshops, raising confidence in safe riding for participants.

Council has played an active role in the Personal Mobility Device (PMD) Safety Reference Group, established by the Queensland Government, which has initiated several reforms to improve the safety of e-mobility. There is also a role for the Australian Government to play in harmonisation of legislation and greater controls on the imports of illegal devices.

From Council's experience, key success factors in the future sustainability of shared schemes include:

- a coordinated approach to education backed by enforcement that builds upon successes already achieved
- close cooperation with shared-scheme providers through commercial operating agreements that reinforce community safety and incentivise technological innovation
- continued review of legislation to ensure simplicity and to maintain pace with technology
- improved data collection to better inform causes of incidents and, therefore, strategies to improve safety
- continued investment in infrastructure to improve safety and strengthen community acceptance of these schemes as an essential aspect of mobility in our cities.

1 INTRODUCTION

On 1 May 2025, the Legislative Assembly of Queensland 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, no later than 30 March 2026.

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.
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.

This document is Council's submission in response to the points above.

1.1 STRUCTURE OF THIS SUBMISSION

Council's submission provides a broad perspective of e-mobility as it relates to the Brisbane experience, given that Brisbane was the first major city in Australia to adopt this new transport mode, following the Queensland Government's amendment of the Queensland Road Rules in December 2018 (response to point 8 in the Terms of Reference). The submission then addresses specifically, points 1 to 7, with some concluding comments at the end of this submission.

Although the changes in the Queensland Road Rules have allowed for both public shared schemes to operate and for a range of PMDs to be sold and used on public land in Queensland, much of the regulation of privately owned devices is outside of Council's jurisdiction. Therefore, Council has concentrated its submission on its management of shared schemes but has still provided brief comment on broader considerations of PMDs.

2 COUNCIL'S PERSPECTIVE

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.

2.1 SUMMARY

Shared e-scooters and e-bikes are now seen as an essential part of the transport fabric of the city, with more than 10,000[1] trips per day, and a variety of use cases including utility, commuting and recreational use.

The last 6 years have seen continued growth of shared e-mobility in Brisbane, with 2 operators providing commercial services in the CBD, inner city and selected outer areas.

Council is now into its third generation of operating agreements, with more detailed specifications relating to key amenity, accessibility and safety requirements showing a growing maturity of shared e-mobility operations in our city.

2.2 STRATEGIC CONTEXT

Brisbane is recognised as a leader in e-mobility, with the first shared e-scooter scheme in Australia in 2018, and the first comprehensive e-mobility strategy.

Council considers e-mobility an important part of Brisbane's future transport plans. Our vision is for a connected city, where transport enhances liveability, supports business and investment, takes advantage of new technology and keeps riders and pedestrians safe.

There have been more than 18 million trips on shared e-mobility since late 2018. In 2023-24, more than 3.5 million trips were taken on shared e-mobility devices.

2.2.1 E-mobility in strategic plans

The use of e-mobility aligns to Council's *Transport Plan for Brisbane – Strategic Directions* (the Plan). Relevant strategic directions within the Plan include the following.

- Promote the uptake of low-emission vehicles, electric vehicles and technology to improve vehicle efficiency, emissions and noise.
- Develop transport network solutions that respond to changing work trends, education, communities and lifestyles in Brisbane.
- Monitor and adapt to disruptive technologies and facilitate innovative private investment in transport services and delivery.
- Encourage reduction in private car travel by improving the attractiveness of sustainable transport options through high-quality public and active travel infrastructure.

An initiative under the Plan is the recognition of 'e-wheeling' and the need to encourage greater use of e-bikes, e-scooters and emerging active transport options through network design and infrastructure improvements, including end-of-trip facilities and charging points.

[1] 10,193 daily average trips 2025 year to date (18 May 2025).

2.2.2 Brisbane's e-mobility strategy

Council took leadership in the development of e-mobility as a new transport mode through the launch of Brisbane's e-mobility strategy 2021-2023 (the e-mobility strategy) in June 2021.

There are 5 key principles that underpin Council's strategic direction in the adoption of e-mobility as part of the transport system.

Safety – keeping users and the public safe. The risk of incidents and crashes is minimised and the community has confidence in the safety of e-mobility devices, the users and of others.

Accessibility – enabling as many people as possible to take part in e-mobility. Coverage of sharing schemes reaches as many people as possible. E-mobility options have potential to complement the role of public transport and provide short distance transport options within communities so people can conveniently access local services, creating opportunities for local businesses.

Mobility – maximising the number of travel choices for all users of different ages and abilities. The convenience and flexibility of e-mobility devices provides a more attractive travel option than private vehicles.

Agility – being ready to respond to rapid technological change. The infancy of the industry and rapid technological change requires regulation and infrastructure provision that is adaptable to rapidly changing circumstances.

Infrastructure – delivering infrastructure which supports e-mobility. Supporting e-mobility sharing schemes with appropriate infrastructure will improve safety and public confidence in e-mobility.

The outcomes being sought from the e-mobility strategy are as follows.

- Private and public agencies are responsive and work together effectively to improve safety and ensure public confidence in e-mobility.
- E-mobility services are widely used in Brisbane, helping to connect communities with local services.
- Transport services and infrastructure help to enable e-mobility as a replacement for short car trips, especially for the first-and-last mile to public transport.
- The use of technology improves the efficiency and effectiveness of e-mobility networks and services in Brisbane.
- Our transport infrastructure helps to improve safety and public confidence and helps the e-mobility industry to grow.

Key achievements include the following.

- Implementation of the Brisbane CBD and Fortitude Valley Safe Night Precincts (described more in section 4.2).
- Supporting the Queensland Government in the legislation of speed limits on footpaths and shared paths.
- Leveraging technology to control speed limits and restrictions on where people can ride and park.
- Expanding services into suburbs and trialling first-and-last mile provision around busway stations.

- Participation of e-scooters in Mobility-as-a-Service trials undertaken by the Queensland Government and the University of Queensland (UQ).
- Implementation of the CityLink Cycleway and the provision of designated parking areas.
- Use of shared e-mobility data for planning and prioritisation of active transport upgrades and projects, such as Kangaroo Point Bridge and the CityLink Cycleway.

2.3 E-MOBILITY RIDERSHIP IN BRISBANE

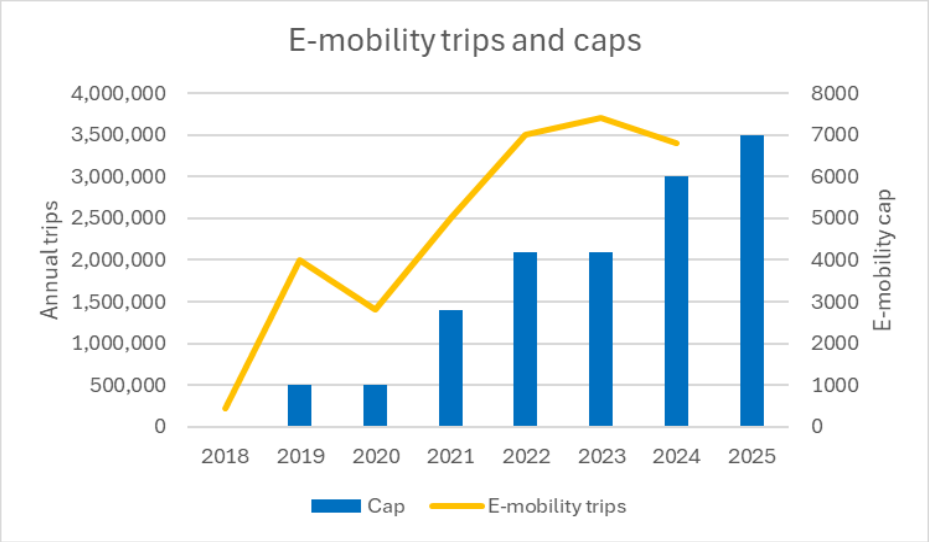
Under its powers defined by the *City of Brisbane Act 2010* (COBA), Council contracts the operation of commercial shared e-mobility schemes. From a trial consisting of one shared scheme operator with 500 e-scooters in December 2018 (quickly expanded to 750 devices and then 1,000 devices within the following 6 months), the shared schemes have grown to a combined deployment of up to 7,000 devices and a cumulative number of trips reaching more than 18 million.

Through Council's transport leadership, the coverage of shared e-scooters has spread beyond its initial concentration in the high-density urban environment of the CBD and inner suburbs, to educational centres such as UQ St Lucia, riverside suburbs including Hawthorne and Bulimba, and tourist destinations such as the bayside suburbs of Wynnum, Manly, Sandgate and Shorncliffe.

In partnership with the Queensland Government's Department of Transport and Main Roads (TMR), Council has also trialled shared e-scooters in the context of first-and-last mile transport provision at the Buranda, Greenslopes and Holland Park West busway stations.

Figure 1 shows the growth of the scheme since its launch. Ridership also proved to be resilient at the end of the COVID-19 pandemic, with this mode recovering faster than other public transport options between April 2020 and 2021.

Figure 1 – Trip making on e-mobility devices (shared schemes 2018-2024)



Note: the reduction of trips in 2024 was due to the phased reduction and exit of an operator in late 2024.

2.4 SHARED SCHEME GOVERNANCE

Council is in its third generation of operating agreements with shared scheme operators. Through these agreements, Council has considered the size and coverage of the scheme, and the experience of similar sized cities worldwide. The benefits that multiple operators would offer Council and the wider community was an environment of ongoing competition to help drive innovation, increased compliance, enhanced service and competitive pricing. Through the generations of operating agreements, the presence of 2 operators has been effective in delivering the above outcomes.

The e-mobility strategy has been used to guide the terms of the commercial operating agreements that Council has entered into with selected shared scheme operators following an open tender process, particularly in deployment, safety requirements, infrastructure provision and innovation.

Under the operating agreements, special conditions are able to be imposed that include obligations, standards, requirements and restrictions. Council regularly monitors and reviews the performance of the scheme and works closely with operators to manage and improve outcomes. Special conditions included are:

- the provision of courtesy helmets on all deployed vehicles
- safety equipment
- use of geofencing to support, slow or prohibit the permitted use in areas including identified Service Areas and Safe Night Precincts
- use of lockouts at certain times and in certain locations within Service Areas and/or a Safe Night Precinct to minimise risks associated with the conduct of the permitted use and parking hubs
- restrictions and compliance with PMD and e-bike signage
- parking and road markings.

Operators and Council work closely and adapt to emerging conditions to ensure the scheme achieves optimal safety for the Brisbane public. Further details are provided in the Appendix to this submission.

3 BENEFITS OF E-MOBILITY FOR QUEENSLAND

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.

3.1 SUMMARY

The adoption of e-mobility in Queensland overall has been of positive benefit in increasing the tourism spend and positive perceptions of cities. In creating an alternative and convenient mode, e-mobility has diverted trips away from private vehicles. This, in turn, provides a benefit in helping to ease congestion, particularly in the inner city where e-mobility is concentrated.

3.2 ECONOMIC AND ENVIRONMENTAL BENEFITS

The economic benefits of e-mobility in Queensland are well documented. Between 2020 and 2021, Griffith University's (GU's) Cities Research Institute partnered with Neuron to conduct a survey of shopping and travel patterns of tourists in Townsville[2]. The study found that the visitors who rode e-scooters the most spent more money in Townsville each day. The more avid e-scooter users (the top third by distance travelled) spent 41% more per day than those in the bottom third for use. Many of these trips (60%) would have been completed by walking if e-scooters were unavailable. They would have taken longer to complete each trip on foot, limiting the total number of destinations visited.

Research conducted by UQ[3] in Brisbane found that for visitors who used e-scooters, more than 80% indicated that e-scooters enhanced their experience while in Brisbane. The features of e-mobility that supported usage were found to be ease of control, user-friendly technology, familiarity and affordable prices. On the other hand, features that enabled e-mobility usage were being easy to locate and use cycling infrastructure and the availability of devices.

There are other economic benefits of PMDs that have not been quantified. These include the employment generated by shared scheme operators and, more widely, the employment generated from the development of a retail industry for privately owned devices.

Council's shared e-mobility partners are carbon neutral or moving towards carbon-neutral/carbon-positive operations, providing additional carbon benefits beyond that of savings from car substitution rates – approximately 438.5 tonnes of CO^2 in 2023-24[4].

3.3 E-MOBILITY AND MODE SHIFT

A stated benefit of e-mobility is that it is a sustainable mode that will divert trips from private vehicles. Although international research varies in how successfully this may be achieved, research by GU on private e-scooter users found that more than half (68.9%) of the

[2] Leung A., Kaufman B., Ling Yang E., Buke M. (2021) "Wallets on wheels: city visitors who use e-scooters more spend more" *The Conversation 22 June 2021* https://theconversation.com/wallets-on-wheels-city-visitors-who-use-e-scooters-more-spend-more-161886

[3] Buning R., Pham W., Chen M. (2023) "So, what do you think about e-scooters and e-bikes? Understanding visitor and resident experiences and perceptions with micromobility in Brisbane". *Report prepared by the University of Queensland Business School for Brisbane City Council*

[4] CO2 avoidance formula =km travelled by e-scooter/e-bike x car substitution rate of 46% (rider surveys) x 160 grams (CO2 emissions from 1km vehicle travel) / 1,000 to convert to kg.

respondents indicate they would have travelled to work by private car if the e-mobility mode had not been available[5]. Users reported e-mobility offered them greater flexibility over public transport and the advantage of avoiding perspiration in hot weather.

[5] Cities Research Institute Griffith University (2023), “The Privately owned E-Mobility User Survey (POEMUS)” Final Report, Brisbane City Council.

4 SAFETY ISSUES

2. Safety issues associated with e-mobility use, including increasing crashes, injuries, fatalities, and community concerns.

Safety has been the biggest priority for Council since the scheme was launched. The key areas of focus are:

- safe riding
- safe parking
- provision of information and education (covered in section 9 of this submission).

4.1 INCIDENT TRENDS

Council has analysed with the Jamieson Trauma Institute (JTI) and the Queensland Ambulance Service (QAS) accident data over time, and it is expected that these agencies will provide their own submissions to the Inquiry on injury trends in Queensland on privately owned and shared-scheme e-mobility. This section provides data from Council's own operators.

Council's e-mobility operators are required to report to Council on a weekly basis on reported near misses, minor incidents, hospital visits and life-threatening injuries. These categories are defined by:

- minor incidents – incidents that occurred but the rider/third party did not require treatment at a hospital for injuries
- hospital visits – incidents that required the rider/third party to visit that hospital as an out-patient or in-patient
- e-mobility incident (severe/life-threatening/fatality) – severe incidents where there is a potentially life-threatening situation or confirmed fatality.

The financial year breakdown is summarised below in Table 1. Note that this data is dependent upon the injured party to report the incident to the operator and is not comprehensive.

Table 1 – Incidents as reported by operators

Financial Years	Minor incidents	Hospital visits	Severe/life-threatening/fatalities	Deployment Cap
2021 to 2022	321	94	2	2,800-4,200
2022 to 2023	228	52	0	4,200
2023 to 2024	102	27	1	4,200-6,000
2024 to 2025 (YTD)	134	33	0	7,000

Given the increase in the numbers of devices deployed and ridership in the same period, the indications are that shared schemes are improving safety. Since the commencement of the shared schemes, safety improvements have included:

- improved suspension, handling and braking platforms, including wider handlebars and increased tyre sizes
- a move towards longer and more durable devices with lowered centre of gravity including some seated e-scooters
- improved rider activated applications (apps) with tips and tutorials on safe riding, including reaction time testing for trips commencing after 10pm in the inner city
- helmet locks to reduce helmet loss and ensure that helmets are available and reliable at the start of the ride
- trials of camera-activated pedestrian detection and avoidance systems
- implementation of speed limiting of shared e-scooters via geo-fenced controlled areas in the Brisbane CBD and Fortitude Valley.

Council continues to work closely with Lime and Neuron to support and promote safe riding and parking behaviours.

4.2 SAFE RIDING

Initial data from JTI found that most people presented to emergency departments in the hours of 6pm to 12am on a weekend or a Monday[6]. In addition, a separate study found that 46% of injured people were riding without a helmet and alcohol was involved in 27% of cases[7].

4.2.1 Safe Night Precinct

In response to the above data and with the strong support of the QPS and other stakeholders, Council introduced late night restrictions for shared e-scooters in December 2021 for an initial period of up to 6 months. The Safe Night Precinct trial was a key safety initiative by Council, designed to target areas and times where dangerous riding behaviour on shared e-scooters was most frequent.

The trial includes restrictions in the Brisbane CBD and Fortitude Valley Safe Night Precincts between midnight and 5am on Friday and Saturday nights including:

- locking shared e-scooters i.e. cannot start a new trip; and
- speed-limiting shared e-scooters in the CBD and Fortitude Valley to a maximum of 15 km/h, noting that footpaths and shared paths are up to 12 km/h unless otherwise signed.

While there has been no wide-ranging evaluation of the effectiveness on the impact of the Safe Night Precinct trial, Council has received positive feedback from key stakeholders (including QPS) regarding the reduction in anti-social riding behaviours observed during the trial. The trial of e-mobility restrictions in the Brisbane CBD and Fortitude Valley Safe Night Precincts remain active with no plans to change them.

[6] Brisbane City Council (2021) Brisbane's e-mobility Strategy 2021-2023

[7] Mitchell, G., Tsao, H., Randell, T., Marks, J., Mackay, P., 2019. Impact of electric scooters to a tertiary emergency department: 8-week review after implementation of a scooter share scheme. Emergency Medicine Australasia 31, 930–934. https://doi.org/10.1111/1742-6723.13356

4.2.2 CityLink Cycleway

The CityLink Cycleway is a separated path connecting South Brisbane via the Victoria Bridge through the CBD. It was opened on a trial basis in late February 2021 with the trial officially finishing in late March 2022. After the success of its trial, the CityLink Cycleway is now a permanent fixture. The CityLink Cycleway been successful in removing conflicts between PMD riders and pedestrians with footpath usage by shared e-scooters dropping from 87% to 14%[8]. Council is extending the separated facility into West End and East Brisbane.

4.3 SAFE PARKING

Although there are provisions for where devices are to be placed in the operating agreements as demonstrated in section 2.3, there has been an ongoing problem with parking of devices by riders. Shared scheme operators have been addressing this issue through provision of educational material through their apps. For its part, Council is addressing the issue through additional regulation in key areas and investment in infrastructure.

In addressing stakeholder concerns, Council embarked on a rollout of 'virtual' parking hubs within the inner city in which riders are incentivised to park in designated areas to receive discounts on their next ride. These hubs have delivered some improvements in parking behaviour.

These parking hubs are now being formalised through the provision of physically marked e-mobility parking hubs (EMPHs) across the city to improve rider awareness of approved parking areas and parking compliance (refer Figure 2).

Sites for physically marked EMPHs are reviewed against Council's EMPH Site Technical Specifications to ensure compliance with key safety and accessibility outcomes.

Figure 2 – Marked e-mobility parking hub (EMPH)

Council is planning to install between 300 to 400 EMPHs across the inner city over the next 12 to 18 months. Council will monitor the success of these parking hubs to inform itself as to what other regulatory measures need to be in place to address community concerns.

4.3.1 Bayside trial of mandatory parking

As part of its trial of e-mobility provision in the bayside suburbs of Wynnum, Manly, Sandgate and Shorncliffe, parking was a key challenge during the first 6 months of the trial. The

[8] Lieske S., Buning R., and Bean R. (2024) "E-scooter Movement Data Analysis: Exploring uses of active transport facilities, travel speed, helmet use and scooter types", *Report prepared by the University of Queensland for the Department of Transport and Main Roads.*

introduction of designated parking areas in June 2022 has resulted in significant improvement, with an average of 90.97% parking compliance across the bayside areas since July 2022.

Compliance has been achieved through the operators 'fining' riders for not using the dedicated parking areas with repeat offenders issued warnings and eventually suspended for repeated violations.

4.4 OTHER SAFETY INITIATIVES

Council works closely with the Queensland Government's PMD Safety Reference Group (now called the e-Mobility Safety Reference Group), which was established in late 2022, to discuss and make recommendations on any legislative or regulatory changes. It is tasked with investigating and recommending initiatives to improve the safe use and management of e-scooters in public spaces. It includes representatives from TMR, QPS, QAS, Council, shared e-scooter operators, health and trauma researchers and a range of stakeholder and advocacy groups such as Vision Australia and Queensland Walks.

Initiatives arising from the working group led to the amendment of the Queensland Road Rules on 1 November 2022, with lower speed limits (maximum of 12 km/h) for e-scooters on footpaths and shared pathways, unless signed otherwise, and additional enforcement powers for QPS.

Over time, initiatives such as these, combined with proactive safety campaigns from operators to their riders, and Council's rollout of designated e-mobility parking hubs, will help to make e-mobility use safer for everyone.

4.5 ADDRESSING COMMUNITY CONCERNS

Council continues to monitor and proactively respond to complaints and enquiries through its Contact Centre and ensures that calls and complaints are addressed by the operators within specified timeframes.

5 ISSUES ASSOCIATED WITH E-MOBILITY OWNERSHIP

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.

There are no specific provisions within Council by-laws, *Brisbane City Plan 2014* or COBA governing the storage and use of lithium batteries.

Council's operating agreements for shared e-mobility in Brisbane prioritise safety and environmental outcomes as key criteria within its procurement processes, ensuring that issues and risks associated with the use of lithium batteries within the shared e-mobility industry and e-mobility use are minimised.

Shared scheme operators manage the full lifecycle of batteries to international standards with specialised battery charging and battery storage racks. Through proprietary battery management systems, operators can manage and monitor internal and external temperatures, with fail safes to stop charging and deployment of lithium-ion battery extinguishers if required.

Additionally:

- battery transport systems use fire-suppressive bags and are spaced to mitigate thermal risks in accordance with ISO 14000 (Environmental Health and Safety)
- staff are trained to identify and act on signs of batteries in thermal distress
- batteries are waterproofed to international standards and remain safe upon immersion.

At end of life, batteries that are no longer able to power e-mobility devices, are repurposed for 'second-life' use or recycled appropriately using an accredited recycling agent.

6 SUITABILITY OF CURRENT REGULATORY FRAMEWORKS

4. Suitability of current regulatory frameworks for PMDs and e-bikes, informed by approaches in Australia and internationally.

The current regulatory framework in Queensland has evolved and been driven by the e-Mobility Safety Reference Group. Its key achievements include:

- the implementation of 12 km/h speed limits on footpaths and shared paths
- the publishing of guidelines in selecting designated e-mobility parking areas
- recommendations on device dimensions
- the development and distribution of communication materials on safe riding.

As described in section 4.4, this group consists of a wide range of stakeholders, including local governments. The strength of the e-Mobility Safety Reference Group is that in having continuity, it can monitor and respond to changes in a rapidly evolving technological environment. As Queensland is a leader in this area, Council is not aware of any similar group operating on the same basis in Australia.

A further challenge in 'learnings' from other jurisdictions is the inconsistencies in legislation and regulation across Australia, for example, riding on footpaths, use of bicycle lanes and speeds. At the local government level, different councils have either permitted or banned shared schemes.

It is noted that the Australian Government has enacted the *Australian Road Rules (Personal Mobility Devices) Amendment 2021* (the Amendment) as a 'model' legislation for states and territories. There is the question as to how regularly the Amendment is updated with the rapid evolution of regulation and technology. It is also noted that, already, there are elements in the Amendment that are not up to date with state legislation which is evolving more rapidly. There may be a stronger role for the Australian Government to resolve inconsistencies and facilitate harmonisation of road rules as they apply to PMDs in Australia.

Due to the rapid evolution of this technology, there are not many learnings that Council has found internationally, as cities are all finding the same challenges almost simultaneously.

7 EFFECTIVENESS OF CURRENT ENFORCEMENT APPROACHES

5. Effectiveness of current enforcement approaches and powers to address dangerous riding behaviours and the use of illegal devices.

Council continues to work closely with QPS in the management and safe delivery of Brisbane's e-mobility shared scheme. Examples of this include collaboration on Safe Night Precinct e-scooter lockouts in the CBD and Fortitude Valley, special event plans for major venues and targeted education and enforcement activities.

Council's Authorised Officers (CAO) provide enforcement of local laws, such as bans on riding in Council malls or other prohibited areas as described from time to time under COBA.

Targeted campaigns by CAOs, resulting in the issue of on-the-spot fines for riders caught riding in mall areas, together with signage and rider education has demonstrated effectiveness in reducing incidences of illegally riding in prohibited areas.

Excluding feedback in trial areas, approximately 70% of community feedback to Council, via general correspondence, refers to anti-social rider behaviours such as speeding, doubling, failing to give way to pedestrians, not wearing helmets or other infringements of the Queensland Road Rules[9].

Importantly, community feedback recognises the difference in riding characteristics, particularly speed-related issues, between shared e-mobility devices (which cannot exceed 25 km/h) and privately owned PMDs, which are frequently reported as exceeding 25 km/h.

It is worth noting that shared e-mobility operators assist QPS with identifying potentially offending riders when required under State law.

The balance of community feedback relates to poor parking, local amenity and accessibility issues.

This community sentiment supports continued prioritisation of enforcement of anti-social riding behaviours by QPS to improve public safety, and the rollout of designated, physically marked, e-mobility parking hubs to improve parking and local amenity.

[9] Based on 366 general correspondence items to Council between 2019 and 2025 – not including feedback on trial areas such as Bulimba/Hawthorne and bayside trials at Sandgate-Shorncliffe and Wynnum-Manly.

8 IMPORTATION AND USE OF ILLEGAL DEVICES

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

The popularity of privately owned PMDs has generated a rapidly expanding retail industry for private PMD ownership, which is importing a range of devices, many of which are non-compliant with state, territory and Australian road rules.

The Australian Government's Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts regulates the importation of road vehicles for use on public roads in Australia under the *Road Vehicle Standards Act 2018* (the Act). The Act prohibits the importation into Australia of road vehicles that do not comply with national road vehicle standards.

Subordinate to the Act is the *Road Vehicle Standards Determination 2021*, amended in 2023, which defines vehicles that are not road vehicles. PMDs are not included in this definition.

There are no national standards for PMDs as there are with road vehicles and, therefore, no ability to prohibit importation of non-compliant devices. Compliance is therefore dependent upon by state police services monitoring behaviours under state legislation. Limited resourcing is an ongoing issue.

All shared operators are required to deploy PMDs that are compliant with current Queensland laws[10], permitted to be used on Brisbane's streets, footpaths, shared pathways and bike paths. All PMDs are also deployed with bicycle helmets meeting current Australian Standards.

Council believes that it would be valuable for the Australian Government to review how importation regulations could be enforced regarding non-compliant PMDs being imported and used in Australia.

[10] Lime has a Special Circumstances Permit from TMR to operate a PMD that does not complete with the dimension requirements set out in section 15A (c) of the *Transport Operations (Road Use Management – Road Rules) Regulation 2009*. The Lime PMD exceeds the mandated length by 25 mm.

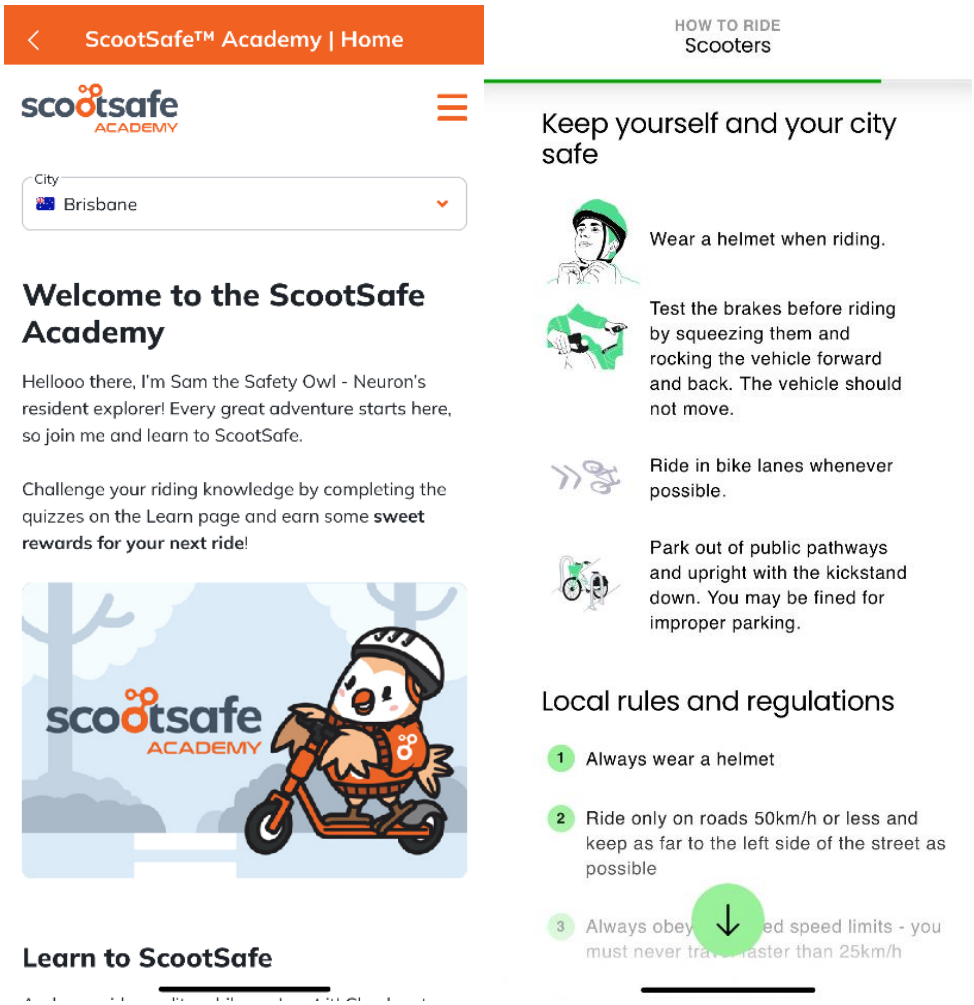
9 COMMUNICATION AND EDUCATION

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

9.1 OPERATOR INITIATIVES

Brisbane's shared e-mobility operators provide rider education and awareness of road rules and regulations using in-app programs, including push notifications and checklists for safely starting and completing rides (refer Figure 3).

Figure 3 – Sample in-app education programs



Operators monitor trips for anti-social behaviours, such as poor parking, and can investigate and review incidents reported to them for additional feedback and education of riders. In addition, suspension of rider accounts may follow a '3 strikes and you're out' system to improve rider behaviours over time.

In addition, targeted communications to riders ending their trips in a way that causes localised parking issues (for example, in relation to feedback from other residents or the public) are effectively used to improve rider behaviours and issues with local amenity and safety.

9.2 COUNCIL INITIATIVES

Following the Queensland Government Roundtable in November 2021, Council went to market for the delivery of a program of e-scooter safety workshops under its Cycling Brisbane program. Neuron was selected to deliver a pilot of 20 e-scooter workshops from April to June 2022.

The objectives of the trial were to:

- improve e-scooter rider skills and safe behaviours while riding to help increase public safety and reduce instances of injury or harm
- proactively respond to growing community concerns about e-scooter's impact on public safety
- increase knowledge of and number of active transport journeys on Brisbane's bikeway network
- promote and increase an emerging active travel mode.

Workshop content included introductory e-scooter skills, safety messaging, Queensland Road Rules (specific to electric scooters), shared path etiquette, considerate parking and locking personal scooters.

As part of the pilot evaluation, the Cycling Brisbane survey was issued to the 165 people who participated in the e-scooter program. Based on these results, the pilot was extended and e-bike workshops covering basic skills, bike features and a group-guided ride along one of Brisbane's bikeways were added. A further 20 e-scooter and 14 e-bike workshops were delivered between 2022 to 2024.

Feedback on the pilot program was overwhelmingly positive, with 96% of respondents saying they would recommend the program to a friend or family member, and a similar percentage finding they feel more confident riding an e-scooter after attending a workshop.

The program ceased in mid-2024 when the new operating agreements came into force, but Council is working to re-introduce them, particularly the e-bike workshops which attracted the highest attendance.

Council also provides safety information and tips for safe riding on its website at https://www.brisbane.qld.gov.au/transport-and-parking/public-transport/e-mobility.

10 CONCLUSION

Council has now had more than 6 years' experience in managing large-scale shared e-mobility schemes compared to other parts of Australia. This form of transport is now a mature part of the transport network within Brisbane.

From Council's experience, key success factors in the future sustainability of shared schemes include:

- a coordinated approach to education backed by enforcement that builds upon successes already achieved
- close cooperation with shared-scheme providers through commercial operating agreements that reinforce community safety and incentivise technological innovation and device safety
- continued review of legislation to ensure simplicity and to maintain pace with technology
- improved data collection to better inform causes of incidents and, therefore, strategies to improve safety
- continued investment in infrastructure to improve safety and strengthen community acceptance of these schemes as an essential aspect of mobility in our cities.

11 APPENDIX – OPERATING AGREEMENT OBLIGATIONS

GENERAL OBLIGATIONS

Obligations on the shared scheme operators include:

- controls on deployment areas including device caps
- establishing and maintaining designated parking arrangements in hotspot areas including the CBD and in and around public transport hubs, including busways, ferry terminals and train stations and on special event days
- facilitating safe, affordable first-and-last-mile transport options for customers including connecting public transport hubs and key destination precincts around the city
- participating in e-mobility trials as agreed with Council.

OPERATOR RESPONSIBILITIES

The shared scheme operators are responsible for the following.

- Safe deployment, maintenance and charging of e-mobility devices within the operating area.
- End-to-end customer management including 24/7 customer channels to resolve issues.
- Daily provision of courtesy helmets that meet Australian Standards , bells, and suitable night time and unsafe weather equipment.
- All hireable devices must be in good working order or removed until the defect is resolved.
- Having technical solutions including where rides can start and finish, speed limits, no-ride zones, e-scooter lockout or restriction arrangements for the Safe Night Precinct safety initiative.
- To comply with local road and park speed rules and any other directions issued by Council including requests to remove, relocate or remotely unlock devices for public safety or special events.
- Delivering safety-focused and other innovation/s over the life of the agreements.
- Assisting low-income earners or disadvantaged communities to access the scheme.
- Working with local businesses and tourist destinations to deliver local benefits.

PARKING REQUIREMENTS

From a parking perspective, shared devices must be parked within designated e-mobility parking areas or otherwise be parked in line with the requirements below.

In all other locations (outside of the CBD), PMDs and e-bikes are to be parked in accordance with the following requirements.

a) Devices are to be parked in a manner that does not create a hazard.

b) Devices must not be parked on the part of the road designed for the driving of vehicles, unless in approved designated e-mobility parking areas.

c) Devices are to be parked on the kerbside of the footpath.

d) Devices are to be parked in alignment with any existing street furniture.

e) Where the full verge width is paved (footpath), devices are to be parked so that a 2-metre pedestrian clearance between a parked device and the property line is maintained. Alternatively, in verges that are not fully paved, but where there is a dedicated paved pedestrian footpath, the full width of the paved path must be maintained. In all cases, devices must be parked to allow safe pedestrian access and throughfare.

f) Unless wholly parked within an approved designated parking area, or other area as may be specifically approved by Council for parking multiple devices, devices are to be parked so there are not more than 5 devices (bank of 5 devices) positioned together.

g) Unless parked within an approved designated parking area, or other area as may be specifically approved by Council for parking multiple devices, banks of 5 devices are to be separated with a clear gap of 1.5 metres for pedestrian access. Devices are to be parked at a minimum distance of 1.5 metres from:

   (i) tactile ground surface indicators

   (ii) access points and emergency exits

   (iii) footpath dining and other approved commercial activities

   (iv) taxi zones, loading zones and school zones

   (v) Australia Post mailboxes

   (vi) pedestrian crossings

   (vii) parking meters

   (viii) kerb ramps

   (ix) any other street furniture elements.

h) Devices must be parked so they do not restrict:

   (i) access to and use of fire and emergency infrastructure, inspection holes and chambers, onsite fuel fill points, paths and stairways, and

   (ii) access by employees or contractors of Council and other public utility providers for servicing and maintenance work.

i) Devices must be parked at least 3 metres from bus zones, including bus stop furniture and waiting areas.

j) Devices must be parked at least 5 metres from outdoor illuminated advertising signs, free-standing advertising signs and at bus stops with illuminated advertising signs.