Inquiry into e-mobility safety and use in Queensland

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20 JUNE 2025

Mr Jim McDonald MP
Member for Lockyer
Chair, State Development, Infrastructure and Works Committee
Queensland Parliament
Cnr Alice and George Sts
BRISBANE QLD 4000

Dear Mr. McDonald,

Please find attached a submission to the State Development, Infrastructure and Works Committee's *Inquiry into e-mobility safety and use in Queensland*.

Lime is immensely grateful for the opportunity to contribute to this crucial discussion on the future of e-mobility in Queensland. As a long-standing e-mobility partner to both Gold Coast and Brisbane City Councils, and a global leader in the industry, Lime brings extensive operational experience shaped by years of delivering shared transport solutions across local and international markets

Our vision for Queensland is clear: a safe, sustainable, and accessible e-mobility scheme that benefits all residents and visitors. Drawing from our extensive operations across Australia and globally, we have developed recommendations aimed at ensuring Queensland can offer safe, well-managed and sustainable mobility services for the long term.

Senior representatives of Lime in Australia are available to appear before the Committee during public hearings or to meet with Committee members at their convenience. Lime would also welcome Committee members to tour our operational facilities in Brisbane or the Gold Coast and observe local operations across the cities.

Kind regards,

[redacted]

William Peters
Senior Regional Director
Lime

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

Response to Terms of Reference

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;

1.1 Direct Investment and Local Economic Impact

Shared micromobility schemes contribute directly to the local economy through job creation, operational investment, and infrastructure support. From employing local teams for fleet management and customer support to partnering with local service providers for maintenance, warehousing, and logistics, these programs generate sustained economic activity. Additionally, operators often fund or co-fund infrastructure such as parking zones and safety initiatives, providing tangible, long-term value to the cities they serve.

1.2 Contribution to Local Businesses

In alignment with our commitment to fostering prosperity in Queensland, we endeavour to facilitate individuals' access to local businesses and services. We are dedicated to supporting these enterprises through direct assistance, strategic partnerships, and initiatives aimed at local employment.
E-mobility fuels an uplift in economic activity by enhancing connectivity and the convenience of accessing local businesses.

According to Lime's recent rider survey, 65% of riders make a purchase before or after a trip with a median price of $30. This is corroborated by research from Emory University Professor Dan McCarthy:

> *Using data covering 391 companies in 98 U.S. cities, the authors find that the introduction of e-scooters in a city significantly impacts restaurant spending, increasing spending by approximately 5.2% for e-scooter users, driving incremental spending of at least $11.3 million annually across all cities that first allowed e-scooters to operate over summer 2018 ... we estimate that $179.10 in restaurant sales was created per e-scooter allowed to operate.*

This represents more than $26 million in economic activity generated across Brisbane and the Gold Coast in 2025 on Lime vehicles alone.

1.3 Environmental and Modal Shift Benefits

Based on survey responses from over 3,600 Australian Lime riders collected over the past two years, the data reveals a significant shift in urban transportation behaviours, indicating a move away from high-emission travel options:

- 22% of Lime trips effectively replace journeys that would have otherwise been made by car, taxi, rideshare, or motorcycle.
- 85% of respondents report a reduction in their reliance on personal vehicles.
- 73% of riders indicate that the use of Lime enables them to utilise public transportation more effectively.
- 78% state that Lime enhances their accessibility to vital destinations.
- 84% assert that the availability of improved transportation options allows them to continue residing in urban areas.

These developments contribute to a reduction in traffic congestion and a decrease in greenhouse gas emissions. A Fraunhofer ISI study revealed that Lime's services reduced carbon emissions, by comparing the carbon emissions of Lime's vehicles and operations with the transport modes that e-vehicles replace. Lime's 2022 Life Cycle Assessment of our Gen4 modular e-scooters reported an estimated greenhouse gas impact of 19.7 g of CO_2 emissions per passenger kilometre in Paris, representing a quarter of the emissions of a bus and eight times less than a conventional motor vehicle per kilometre. The deployment of e-mobility devices is therefore crucial for Queensland as it strives to meet its commitment to net zero emissions by 2050.

An estimated quarter of Lime riders are tourists (26%), highlighting the essential role e-mobility plays in the tourism sector. The integration of e-mobility in ecotourism operations enhances accessibility and reduces dependence on carbon-intensive forms of transportation, aligning with environmental conservation and decarbonisation principles.

1.4 Public Transport Integration

E-mobility fuels public transport reliance by enhancing connectivity to public transport networks and supporting transit integration. A quarter of Lime trips in Australia connect to or from public transport, and approximately three-quarters of riders indicate that the use of Lime enables them to utilise public transportation more effectively. The uptake of public transport alleviates capacity constraints on Queensland's road networks, displaces car dependency and minimises vehicle-related emissions. The active mobility associated with public transport usage is further beneficial in counteracting rising physical inactivity in Queensland.

1.5 Safety and Infrastructure

Research indicates that dedicated infrastructure, such as bicycle lanes, designated parking zones, and areas with controlled speed limits, enhances safety for all users of roadways, not solely those utilising e-mobility options. Lime actively advocates for investments in this infrastructure and promotes safe riding practices through community education initiatives.

According to research conducted by Professor Matt Burke at Griffith University, infrastructure projects such as the CityLink Cycleway have substantially increased e-scooter utilisation while simultaneously ensuring the safety of riders and enhancing connectivity between significant urban locales.

1.6 Ridership and Community Engagement in Queensland

Lime has demonstrated significant community engagement throughout Queensland, particularly in the following regions:

- Brisbane: The number of Lime riders continues to grow steadily, driven by ongoing investments in fleet expansion and infrastructure upgrades.
- Gold Coast: Recent initiatives such as Lime's Helmet Hub, First Ride Academies, and the Currumbin Wildlife Sanctuary promotion demonstrate Lime's commitment - and the broader potential of shared e-mobility - to engaging with and giving back to the local community.

Data collected from Lime users and rider surveys indicate that:

- 84% of Australian riders are more likely to utilise Lime when both bicycles and scooters are accessible through a single application.
- 74% assert that the availability of multimodal transportation options decreases their reliance on private vehicles.

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

2.1 Lime's Safety Record

Shared micromobility schemes are controlled, regulated, and insured in order to prioritise safety and put the community first. Injury rates associated with shared micromobility schemes remain significantly lower than many other common transport and recreational activities. Nationally, hospitalisation rates for general cycling sit at 185 per 100,000 participants, while Australian Rules Football sees rates as high as 570 per 100,000. By contrast, available data from shared micromobility operators suggests far lower rates of moderate to severe injury, underscoring the relative safety of regulated, insured, and purpose-designed shared micromobility programs.

2.2 Helmets

Lime endorses Queensland's mandatory helmet laws and provides a helmet with each vehicle. Each helmet is attached using brackets that release the helmet at the commencement of a ride and enable its return upon trip completion. Our newest design integrates feedback from previous operations in Brisbane and other international markets, significantly enhancing user experience, the structural reliability of helmet brackets and verification that helmets have been returned. This technology has been successfully implemented in cities such as Melbourne, the Gold Coast, Sydney, Tel Aviv, and British Columbia.

To further promote helmet use, Lime delivers proactive safety campaigns such as the recent Safety Squad in Brisbane. The newly deployed Safety Squad patrolled popular riding routes, handing out $50 vouchers for helmet compliance and distributing free helmets to those without one. This initiative builds on Lime's existing investments in helmet education and equipment, and aligns with legal requirements, aiming to foster a stronger safety culture through positive reinforcement and support.

2.3 Controlling Rider Behaviour

Global positioning system (GPS) technology is embedded in Lime's e-mobility vehicles for the purposes of monitoring the vehicle's position and controlling rider behaviour by implementing zones such as service zones, slow zones, preferred parking zones, no-riding zones, and mandated parking zones. Lime's accurate and responsive geofencing capabilities ensure that riders comply with regulations and prescribed speed limits.

Additionally, Lime's newly implemented AI-powered parking enforcement tool provides a further mechanism to manage rider behaviour, with a specific focus on ensuring responsible parking. This world-first technology is a parking enforcement mechanism that provides real-time parking guidance to riders to prevent riders from leaving vehicles in locations that block passage on footpaths and travel lanes. This is an innovative measure that mitigates footpath obstructions and associated safety risks.

2.4 Education and Community Outreach

Lime regularly rolls out safety and education campaigns, aimed at informing riders and the broader community regarding e-mobility regulations and responsible usage. Our communication strategy encompasses in-app notifications, email campaigns, social media engagement, traditional advertising, and in-person outreach activities.

A critical component of our engagement initiatives is the First Ride Academy, a regular hands-on event held throughout Australia. These sessions are designed to instruct new users on safe riding practices, responsible parking, and confident utilisation of Lime devices. Participants receive a complimentary helmet and promotional ride credit. Each session is organised in collaboration with the local Council and various organisations to ensure accessibility and effectiveness.

2.5 Regulating Unsafe Private Devices

Unlike shared e-mobility services, many privately owned high-powered devices operate without oversight or safety standards. These vehicles often lack speed governors, are not tracked, and are frequently used without helmets, posing serious risks to both their users and the general public. Lime supports Bicycle Queensland's call for tighter regulations, including a national registry and power restrictions for private e-mobility vehicles.

	Individual	Shared
Track-record of safe operations	❌ No	✅ **Yes**
Safe vehicles	❓	✅ **Yes**
Speed control	❌ No	✅ **Yes**
Parking management	❌ No	✅ **Yes**
Regular maintenance	❓	✅ **Yes**
Rider accountability	❌ No	✅ **Yes**
Communication with cities	❌ No	✅ **Yes**
Certified batteries and safe charging	❓	✅ **Yes**
Local contact	❌ No	✅ **Yes**

2.6 Shifting to Safer, Cleaner Transport

E-mobility contributes to broader transport safety by reducing reliance on cars. In Australia, one in four Lime rides replaces a trip made by car, taxi, or motorcycle. Lime users also report significant behavioral shifts: 85% state they rely less on personal vehicles, 73% have increased their use of public transport, and 84% believe that e-mobility helps them live and work more effectively in urban areas.

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;

3.1 Charging Safety and Battery Management

Lime's foremost priority in battery charging is safety. Our safety record is supported by strict battery handling procedures and robust infrastructure.

Lime adopts an efficient battery management approach. Our Gen4 e-scooters and e-bikes use interchangeable, tamper-resistant batteries that are designed for quick and safe replacement in the field by trained staff. These swappable batteries eliminate the need to return vehicles to warehouses for charging, which enhances operational efficiency and reduces environmental impact. This design allows our logistics team to charge batteries centrally in Lime warehouses and replace depleted ones directly in the field. As a result, there are fewer and shorter trips for our support vehicles, which lowers fuel consumption, reduces congestion, and minimises greenhouse gas emissions.

3.2 Compliance with International Safety Standards

All battery-related processes, including charging, storage, maintenance, and disposal, are overseen by a dedicated Environmental Health and Safety (EHS) team. Our Australian operations are supported by expert consultants LMS Environmental Inc. and Hazmat Safety Consulting, who provide regular training and conduct annual audits. In Brisbane, our EHS program ensures emergency preparedness through detailed standard operating procedures and routine inspections.

4. Suitability of current regulatory frameworks for PMDs and ebikes, informed by approaches in Australia and internationally;

The safe and effective integration of personal mobility devices (PMDs) and e-bikes into the transport ecosystem depends heavily on consistent regulation and supportive infrastructure. A standardised national approach, coupled with well-defined state-level responsibilities, is essential to deliver the best outcomes for mobility, sustainability, safety, and amenity for the people of Queensland. All levels of government have a vital role to play in achieving this.

4.1 Role of the Commonwealth Government

At the national level, the Commonwealth Government should take responsibility for regulatory areas that benefit from consistency across jurisdictions. These include:

- Importation Rules: Establishing uniform importation rules ensures that businesses are treated equitably and can access global markets efficiently. Consistency in import standards removes barriers to entry and enables innovation in e-mobility technology to be adopted more rapidly across Australia.
- Hardware Certifications: Hardware safety standards should be based on internationally recognised consensus standards. A nationally consistent approach prevents the fragmentation of requirements between jurisdictions, which would be impractical for operators and manufacturers to navigate. Uniform certification also ensures that only rigorously tested and safe vehicles are deployed across the country.

4.2 Role of the Queensland Government

As the state-level authority, the Queensland Government plays a central role in shaping the operational environment for PMDs and e-bikes. Its responsibilities should include:

- Consistent Operational Rules: Just as motorists rely on consistent road rules across council boundaries, e-mobility users must be able to travel seamlessly throughout the state. A fragmented regulatory landscape where rules change from one local government area to another undermines confidence, compliance, and safety. The Queensland Government should set statewide operational standards that cover service areas, speed limits, safety equipment, insurance requirements, and rider education.
- Integration with Other Modes: The Queensland Government is uniquely positioned to integrate e-mobility into the broader transport network. This includes ensuring that parking, signage, and infrastructure are planned and deployed in a way that complements walking, cycling, and public transport.

- Infrastructure and Planning: State-level coordination is also needed for the development of dedicated active transport infrastructure such as bike lanes. Investment in this infrastructure supports safe use and reduces friction between e-mobility users and other road users.

4.3 Role of Local Governments

Lime is of the view that Queensland's local governments, such as the Brisbane City Council or City of the Gold Coast, are best placed to initiate and manage shared e-mobility schemes and other initiatives within the purview of local laws:

- Designated off-street parking spaces in high density areas should form a core component of this robust e-mobility infrastructure to ensure reliable vehicle access and further reduce potential network obstructions or interference with public amenities
- Investment in local active transport infrastructure, such as bike lanes and appropriate parking infrastructure
- Local law control over e-mobility use and parking in local government assets.

Queensland's current regulatory framework is highly effective, insofar as its centralised regulatory authority prescribes rules that apply consistently and with equal force throughout the State. Queensland Government imposes uniform regulations governing the use of e-mobility pursuant to the Queensland Road Rules, while Local Government Areas are vested with powers to tender for and administer shared e-mobility schemes. This arrangement prevents network fragmentation and ensures connectivity between operating areas, while Councils retain the power to invest in e-mobility infrastructure adapted to the demands and needs of its LGA.

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

As outlined in sections 2.2, 2.3 and 2.5, the benefits of local government endorsed shared e-mobility schemes is how operators may control user behaviour to comply with the road rules, including speed, location and helmet availability. These controls are not available on many privately owned devices and, as such, will need to continue to rely on police to enforce the road rules on these users.

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

Section 4, addresses Lime's view about the roles of the Commonwealth, State and local governments when regulating e-mobility in Queensland.

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

Public awareness and rider behaviour are central to the safety and long-term success of e-mobility. Communication and education must be integrated into the regulatory and operational framework at both state and local levels.

- **Statewide Consistency:** The Queensland Government should lead efforts to provide a unified set of rules for safe riding and ensure that all riders understand their responsibilities. This includes consistent rules of the road, safety equipment requirements, penalties for unsafe riding, and clear expectations around parking and speed. Riders should be able to confidently travel between council boundaries without uncertainty or changes in regulation.
- **Rider Education:** In collaboration with operators, the Queensland Government should establish and enforce minimum standards for rider education. This may include in-app safety tutorials, localised safety messaging, and campaigns around helmet use and speed awareness. These educational touchpoints should be reinforced through digital and physical signage, particularly in high-traffic or sensitive areas.
- **Council Engagement:** Local governments have a critical role in promoting safety and educating their communities. Councils are best positioned to provide insights into how e-mobility schemes are functioning in their area and to disseminate locally relevant safety messaging. The Queensland Government should empower councils to run targeted communication campaigns and provide them with the necessary tools and data to do so effectively.

Conclusion and Recommendations

Lime encourages the Committee to consider these key issues to help ensure Queensland's continued leadership in e-mobility is delivered in a safe and sustainable manner.

1. TMR should review the definition of PMDs to ensure continued innovation and new designs are accommodated within a safe framework.
2. The Queensland Government should support Bicycle Queensland's call for the Commonwealth Government to strengthen importation laws and standards for privately-used e-mobility devices.
3. The Queensland Road Rules should allow for PMDs to be ridden like regular bicycles to prioritise the ease of use for a rider, ensuring consistency across bicycles, e-bikes and e-scooters.

Thank you once again for allowing Lime the opportunity to provide a submission. Should the Committee have any further questions, we would like to answer them. As outlined above, we are also available to attend any hearings of the inquiry, as necessary and can facilitate tours of our Brisbane operations and warehouse, for Committee members. Please don't hesitate to reach out to either myself or to Ms Lauren Narlock Manager, Public Policy and Community Engagement via [redacted]

Kind regards,

William Peters

[redacted]

Senior Regional Director
Lime