


## **Inquiry into e-mobility safety and use in Queensland**

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# Response to the Inquiry into e-mobility safety and use in Queensland

## Introduction

As an individual who regularly uses electric bicycles and cargo bikes for commuting, errands, and school drop-offs, I welcome the opportunity to contribute to the inquiry into personal e-mobility in Queensland. My submission focuses on the benefits of e-mobility, particularly cycling and cargo bicycles, which have transformed how families and individuals move through our communities. I also offer brief comments on the role of electric scooters.

## 1. Benefits of E-Mobility

### Financial Benefits

E-bikes and cargo bikes represent a **significant cost-saving alternative** to private car ownership. The initial outlay for an e-bike, while not insignificant, is far lower than the cost of buying and maintaining a car. There are **no fuel costs, registration fees, or ongoing mechanical expenses** beyond basic servicing. For many households, especially those with two cars, replacing one car with an e-bike or cargo bike could result in thousands of dollars in annual savings.

E-bikes (and other forms of e-mobility) should also be seen as an essential form of low-cost and accessible transport (ABC news article) for those on low incomes, experiencing disadvantage or living with disability or impairment. While this inquiry no doubt has heard a lot about e-scooters and e-bikes, and we envision these to be the two-wheeled versions that conform to our general understanding, it's important to note that an electric tricycle can be a life-changing mobility aid for those with mobility impairments and balance issues.

For some, such as my friend Chris, medical conditions and or disability may impact their ability to hold a drivers licence, meaning they may be reliant upon taxis or ride share for transportation. A basic adult tricycle, fitted with an Original Equipment Manufacturer (OEM) motor cost Chris about the same as a year's worth of taxi and ride share expenses. Mental Health and Wellbeing Riding a bike—even with motor assistance—offers clear **mental health benefits**. Daily riding provides light exercise, fresh air, and a sense of freedom that can't be replicated in a car. For parents or commuters, it also reduces exposure to the frustration of traffic congestion, creating a calmer start and end to the day. My daily school drop-off and pickup is just as quick on a cargo bike as it is in a car, but for myself, and the kids, being in the open air is far more preferable than being strapped into a car.

For my friend Chris, the e-trike enables her to have a level of freedom to get about her local area, be more independent with shopping and visiting friends, take the dog to the local dog park and do normal, everyday things that others take for granted. Her fold-up walker can be thrown into the basket on the back of the trike and away she goes, wind in her hair (through a helmet of course!) and in control of a simple, yet incredibly empowering device that has literally changed her life. No more waiting for taxis that never come, no more trying to make the exhausting 1km walk to the shops with her walker and a bag of groceries, no more having to wait for friends or family to help her get around. Freedom on three wheels plus a motor.

### Congestion Reduction and Public Benefit

E-mobility devices, particularly bicycles and e-scooters, take up **far less space** on the road and at rest compared to cars. One cargo bike can replace the school drop-off trips of an SUV, often eliminating **two or more peak-hour vehicle movements**. If even a small percentage of commuters shift to e-bikes or e-scooters, the cumulative impact on **traffic congestion, parking pressure, and emissions** would be substantial.

As a side note, have you ever wondered why we provide ‘free’ car parking at train stations, but if you want to safely park a bicycle you often have to pay for the privilege of being able to securely store that bicycle? Consider that six to eight bicycles, ridden by six to eight people can comfortably fit in one car park that would otherwise be taken up by one car driven by one person. Not only that, but it’s often easy to access the car park by car, but slow, difficult or dangerous to do so by bicycle, scooter or even by foot. I’ll comment further on this below in relation to compliance and public safety.

### **Time Savings and Efficiency**

One of the **most overlooked benefits** of e-bikes and cargo bikes is the ability to **travel door-to-door**. I personally prefer to use my e-cargo bike for school runs as I can stop directly outside the classroom, avoiding the hassle of parking, unbuckling children, gathering bags, and walking long distances from carparks (while carrying said children and bags). This is especially helpful for families with multiple children or when carrying sports gear, groceries, or school supplies. The **efficiency of movement**—no parking delays—is unmatched in many urban settings. The only downside, which will be discussed further below, is finding suitable and safe paths to access these places - our neighbourhoods, including our schools, shopping centres and recreational facilities are built in a way that makes accessing them by car easy, and slows down anyone using a different mode of transport.

As noted earlier, my friend Chris also saves an absurd amount of time now she has her e-bike. From a journey to the store that could take 30 minutes by the time she called a taxi or rideshare, made her way outside, packed the walker into the car, travelled to the shops, unpacked the walker and shuffle to the shop door she now opens her garage door, throws the walker into the bike, pedals across the park and right up to the front door of the shopping center. The only thing that takes time is finding a suitable place to lock her bike (NOTE- this is actually a serious issue!). A 30 minute ordeal reliant on other people showing up can now be done in 15 minutes or less, with total independence.

### **Broader Accessibility and Inclusion**

Electric bikes, especially cargo bikes significantly **broaden access to active transport**, particularly for families and individuals with mobility limitations. For parents, they offer a practical and empowering alternative to the car—capable of carrying **young children, school bags, groceries, prams, or even pets**—without the stress of traffic and parking.

For people who may find traditional cycling physically demanding, such as older adults, those recovering from injury, or those with chronic conditions, the **pedal-assist feature of electric bikes makes cycling feasible and enjoyable**. This enables continued participation in community life and physical activity that might otherwise be inaccessible. Electric cargo bikes, when designed with step-through frames and stable handling, are especially suitable for those with limited strength, balance, or flexibility, making them a **genuinely inclusive transport option**.

While my submission focuses on bicycles, it’s worth noting that **e-scooters and other PMDs play an important role** in connecting people to public transport, reducing short car trips, and providing a low-impact alternative for people without access to a bicycle. When used responsibly, they are part of a broader network of sustainable mobility solutions.

PMDs, especially e-bikes such as cargo bikes can be life changing for the elderly, those with mobility issues, or disabilities. They are also a real and viable alternative to a small car for those who do not, or cannot hold a driver’s licence. Many larger cargo bikes have capacity of around 180-200kg gross vehicle mass (GVM) and come, or can be fitted with safety harnesses, easily enabling them to carry 3-4 children and an adult.

### **Conclusion**

E-mobility, particularly electric bicycles and cargo bikes, offers substantial **financial, personal, and societal benefits**. They improve mental wellbeing, reduce household transport costs, alleviate road congestion, and offer practical, time-saving alternatives to car trips—especially for families. E-scooters and other lightweight devices further extend these benefits to a wider user base. With

appropriate support, infrastructure, and regulation, Queensland stands to gain enormously from greater uptake of these modes.

## 2. Safety Issues

The following section discusses safety issues for electric bicycles and scooters. The first section focusses on current infrastructure, while the second specifically addresses e-scooters.

### Safe journeys on disjointed infrastructure

Brisbane and Southeast Queensland in general has some excellent active transport pathways and infrastructure. The Veloways, Bicentennial bikeway, North Brisbane Bikeway and those along Kedron Brook, Enoggera Creek, along with the Sunshine Coast and Gold Coast foreshores make for fantastic commuting and leisure journeys.

That is, so long as your points of departure and destination are somewhere along, or reasonably close to one of those active transport routes. For many people in Brisbane, these routes are either too far away from their departure or destination, or they result in a significant detour. My journey from Brisbane's inner northwest (12km from CBD) to my workplace in the CBD would be 24km if I took the safest route with protected bikeway the majority of the journey (Kedron Brook bikeway to North Brisbane Bikeway to Bicentennial bikeway).

However, it's only 17km if I take Brisbane City Council's on-street 'bikeway' between the Kedron Brook and Enoggera Creek bikeways via residential streets in Alderley and Newmarket. While this saves time, it also means dodging peak hour traffic around busy residential and arterial streets. I'm confident enough to do this as I can maintain a general speed in excess of 30km/h whilst on my (non-electric) gravel bike. However, there's no way I would take this route with my kids on the e-cargo bike. The speed differential between cars (50km/h) and the bike is simply too great. Further, there really isn't any cycling 'infrastructure' to speak of along this route - it's a couple of blue bicycle signs and a little bit of paint on the road every now and then.

When it comes to PMDs and safety, I can count on one hand the number of times another cyclist, scooter rider or pedestrian has posed serious risk to my personal safety whilst commuting on any of my bicycles. However, it's a daily occurrence that a vehicle driver fails to give way to me, passes me too close, overtakes me and then immediately slows to turn left or simply does not see me despite the hi-vis clothes and bright lights on all of my bikes. While there may be a perception of PMDs being 'dangerous,' this danger is primarily towards the person operating the PMD. The danger posed by other motor vehicles is far greater, yet somehow we accept this as standard. We even have state-based insurance schemes specifically because of the damage and trauma that motor vehicles cause to their occupants and the general public. Yet this is accepted as normal - it shouldn't be. Poor infrastructure planning that requires motor vehicles, bicycles, PMDs and pedestrians to share constrained spaces is the true cause of much of the conflicts between these different modes of mobility.

### Comparative Accident Data: Motor Vehicles vs. E-Scooters

In 2024, Queensland recorded its highest road toll in 15 years, with **302 fatalities** resulting from motor vehicle crashes. This marked a significant increase compared to previous years. In **January 2024 alone**, there were **550 hospitalised casualties** due to motor vehicle crashes in Queensland. This implies a rough annual estimate of **6,000–7,000 hospitalisations** related to motor vehicle accidents (Source: Queensland Government weekly road crash reports).

In contrast, incidents involving personal mobility devices (PMDs), including e-scooters and e-bikes, resulted in **eight fatalities** in Queensland during the same year. While the absolute number is lower, the relative risk per user and the rapid increase in PMD-related incidents are concerning. For instance, it is concerning that emergency department presentations due to e-scooter accidents have nearly doubled over two years, with **1,273 cases in 2023**, up from **691 in 2021**. However, this must also be viewed in context of the number of devices available in previous years and public awareness and experience in using these devices. Just as the rapid uptake of motor vehicles from the 1950s led to a significant increase in injuries and fatalities from motor vehicle accidents (of both occupants and pedestrians/cyclists), it is to be expected that regulation, compliance and public attitudes and behaviour regarding new technology will lag behind the technological advancements themselves.

## Hire E-Scooters: Public Safety and Enforcement Challenges

Public hire e-scooters have been associated with several safety and amenity concerns:

- **Improper Parking:** Hire scooters are frequently left obstructing footpaths, driveways, and pedestrian crossings, posing tripping hazards, especially for individuals with disabilities, older pedestrians, and those with prams. While local councils, including Brisbane City Council, acknowledge that e-scooters should not create hazards, enforcement of proper parking remains inadequate.
- While our hire schemes facilitate transport to the inner suburbs, it is often in these areas that cyclists and pedestrians are faced with scooters lying on their sides or blocking footpaths. While the benefit of being able to utilise a hire scooter to travel from the city to Kelvin Grove or UQ St Lucia is significant, hire companies can, and should, do more to ensure riders are responsible when parking the scooter.
- **International Practices:** Cities like **Paris, Oslo, and Singapore** have implemented **mandatory docking stations** or **designated parking zones** using geofencing technology to mitigate similar issues. Queensland cities could consider adopting such structured approaches.
- **Helmet Non-Compliance and Risky Behaviour:** Users of hire scooters are observed to have lower helmet usage rates and are more likely to engage in risky behaviours, such as tandem riding, weaving through crowds, or operating scooters under the influence of alcohol or while distracted by their mobile device. The shared nature of hire scooters contributes to inconsistent helmet availability and usage.

## Private E-Scooters: Compliance and Regulatory Concerns

Private e-scooter users generally demonstrate more consistent helmet use and adherence to road rules. However, concerns persist regarding:

- **Non-Compliance with Specifications:** Many privately owned scooters exceed legal power or speed limits, with some capable of traveling at dangerous velocities. These devices are often modified or imported outside regulatory controls, posing enforcement challenges.
- **Regulatory Gaps:** The current regulatory framework struggles to address the proliferation of non-compliant private scooters, necessitating clearer guidelines and stronger enforcement mechanisms.

This will be discussed further below in enforcement approaches.

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## Recommendations to Address Safety and Non-Compliance

### Hire E-Scooters

#### 1. Mandatory Docking and Geofenced Parking Zones

- Require e-scooter providers to implement **geofenced docking stations** or **mandatory parking zones**, similar to systems in **Paris, Oslo, and Singapore**.
- Only allow trip completion when scooters are parked in designated areas. When outside designated areas, users should continue to be charged if the scooter is not parked safely, or if it is later reported as being parked unsafely.
- Provide ample parking spaces near transport hubs, shopping areas, and schools to encourage proper use.
- Hire companies should be required to make it simple to report improper parking of a scooter. For example, scanning a QR code that enables reporting via a webpage. Council should also be informed of any reports. Previously, any time I have tried to report unsafe scooter parking I'm directed to download an app and register my details - this should not be necessary.

#### 2. Helmets and safety

- Mandate hire providers to supply **sanitised, securely attached helmets** with every scooter, and;

- Explore technology-based verification, such as **photo or video confirmation** before and during ride commencement to detect helmet usage, phone usage and multiple riders;
- Consider incentives (e.g. discounted rides) for verified helmet use and parking behaviour
- Consider mandate of full-face helmets for private e-scooters.

### 3. Speed Limiting in High-Risk Zones

- Use **dynamic speed controls** to automatically reduce scooter speed in crowded pedestrian areas;
- Define and enforce **slow zones** and **no-ride zones** via GPS;

### 4. Enforcement of Offences and Data Sharing

- Require operators to share **rider data** (including locations, timestamps, and video footage where available) with councils and police for investigating incidents.
- Apply **finest or penalties** for repeat offenders — such as those riding without helmets or engaging in reckless behaviour.
- Enable enforcement officers to issue **on-the-spot fines** or suspend users with multiple infractions.

### 5. Mandatory Education and Safety Briefings

- Introduce **in-app safety tutorials** and a short test before a rider's first use.
- Display clear signage on the scooter regarding helmet rules and speed limits.

## Private E-Scooters

### 6. Registration and Identification Scheme

- Some countries have introduced regulation for high-powered e-mobility devices capable of speeds up to 45km/h. Riders that hold a drivers licence (moped/car) can operate a registered device on a roadway so long as they also hold appropriate insurance. Examples include Germany and most Nordic countries.
- Introduce a new category of vehicle and **mandatory registration system** for private e-scooters, especially those over a certain wattage or capable of speeds above 25 km/h.

### 7. Compliance Certification for Import and Sale

- Tighten import controls to **prevent sale of non-compliant scooters** (i.e. exceeding 25 km/h).
- Require retailers to provide proof of **compliance certificates** at point of sale.

### 8. Increased Policing and Roadside Inspections

- Increase visibility of police and local enforcement officers in high-use areas to check for:
  - Excessive speed
  - Illegal modifications
  - Helmet compliance
- Enable temporary confiscation of non-compliant or dangerously used scooters.
- Target campaigns specifically at teens and young adults, as well as those using in the CBD on weekends who make up a large proportion of riders.

### 11. Integrate with Broader Transport Policy

- View e-scooters as part of the transport system, and **integrate regulation with walking, cycling, and public transport planning.**
- Encourage their use as a **“first/last mile” solution**, with strong safety guardrails.

## Conclusion

While motor vehicle accidents remain a significant concern in Queensland, the rapid increase in e-scooter-related incidents, particularly involving hire scooters, underscores the need for targeted safety measures. Addressing improper parking, enhancing helmet compliance, and regulating the specifications of private e-scooters are critical steps toward improving public safety. Learning from international practices and strengthening enforcement can help Queensland navigate the challenges posed by the growing use of personal e-mobility devices.

### 3. Current Rules and comparisons with jurisdictions

#### Queensland's Current Rules

Queensland defines two legal categories of personal mobility devices (PMDs):

- **Pedal-assisted e-bikes:**
  - Legal if motor is limited to **250W** (for pedelecs compliant with EN15194), or
  - **200W** for non-compliant models.
  - Motor must cut out at **25 km/h**.
  - Throttle use is limited to speeds below **6 km/h** unless pedalling.
- **E-scooters and other PMDs:**
  - Legal if they meet shared path rules.
  - Riders must wear helmets and follow road rules.
  - Max speed: **25 km/h**.
  - Devices must not exceed **200W power output**, though this is inconsistently enforced given the use of commercial hire scooters with higher wattages.

As with other jurisdictions, there is no requirement to hold a licence, insurance or register your bicycle/PMD in Queensland. This is common sense and should not be changed. Implementation of a licensing or registration scheme would be absurdly costly and would not change that basic issues that currently exist in relation to compliance and enforcement. Such changes are only likely to dissuade active transport and lead to more traffic on our roads.

Queensland's e-bike/EPAC rules are somewhat different from other state, Federal and international rules on bikes and scooters. This creates inconsistencies and confusion, especially when there are multiple pathways of compliance, such as for e-bikes.

For example, for people wanting to convert an existing bicycle to an e-bike with an after-market motor, they will often be faced with motor choices online ranging from 250-1000w. However, a strict interpretation of the rules would suggest that only motors with a capacity of 200w or less can legally be installed on an existing bike.

There's a good reason why this 200w limit is an outdated rule, in a [2013 conference paper D. Leavey and G. Denoury](#) claim that the origin of the 200w limit, as applied to EPACs (then PAPCs) was as follows:

*The definition of PAPC appears in the Australian Design Rules (ADRs), which are safety and performance standards that apply to all vehicles used in Australia, and which are administered by the DIT. The ADRs classify PAPCs as an 'AB-category vehicle', and define them as: A pedal cycle to which is attached one or more auxiliary propulsion motors having a combined maximum power output not exceeding 200 watts". The definition had not changed since it was first introduced in 1984, which, given the time it takes to formulate ADRs, suggests it was formed even earlier, in the late '70s.*

If this is correct, it means the 200w limit is related not to electric bicycles, but likely to their petrol-powered equivalents which were legalised in some states late last century. There was a conversion that took place that transferred this requirement across to electric motors when the EN15194 standard was adopted in Australia.

However, while also being old and originally unrelated to electric motors, it's also important to note that this 200w limit effectively excludes retrofitting of a significant number of motors to an existing bicycle. This is because the most efficient types of motors, mid-motors that are mounted on the



bicycle crank and physically drive the chain as the user pedals (as opposed to hub motors that power a wheel directly) are often not sold with a capacity of less than 250w.

Importantly, many of the most reliable, respected and safe e-bike motor conversions are mid-motors. But unless these are 'certified' as compliant with EN15194 by the manufacturer, they cannot be compliant with the EPAC /250w standard. While a person may take every precaution to ensure they have otherwise met the EPAC/EN15194 requirements such as 250w motor limit and 25km/h speed limit, it is questionable whether such a bike with a retrofitted motor would be treated as a compliant EPAC if inspected by Queensland police. If not, despite attempting to complying in every other way, this person would be penalised as if they were riding an unregistered motor cycle.

To address this discrepancy, some other states appear to have raised their power limit.

## 2. New South Wales (NSW) – An alternate approach

Until recently, NSW had one of the strictest laws in Australia, these have now changed to be some of the most inclusive (at least for e-bikes).

- **Power-Assisted Pedal Cycles**
  - Motor output: up to **200W**.
  - Assistance can come from throttle or pedal (or both).
  - Device must be primarily human-powered [nsw.gov.au/bicyclensw.org.au](http://nsw.gov.au/bicyclensw.org.au).
- **Electrically Power-Assisted Cycles (EPACs)**
  - Motor output: up to **500W continuous** (state-specific limit).
  - Motor assists **only when pedaling**, progressively reducing above 6km/h and cutting out at 25km/h [bicyclensw.org.au/cyclingimages.com.au/nsw.gov.au](http://bicyclensw.org.au/cyclingimages.com.au/nsw.gov.au).
  - Treated as bicycles — no registration or licence needed
- **Privately owned e-scooters remain illegal to ride in public.**
- Trial zones (such as in Western Sydney and parts of Wollongong) allow hire e-scooters under strict conditions.
- NSW also enforces the **200W power limit**, but lacks a specific framework for higher-speed or higher-power devices like S-Pedelecs.

This contrasts with Queensland, where private ownership and use of e-scooters on public infrastructure is allowed (subject to device specs and speed limits). The 500W cap for e-bikes reflects NSW's move toward supporting modern high-performance e-bikes for commuting and accessibility and should be seen as a gold standard.

## 3. Federal Australian Rules – Regulatory Mismatch

At the federal level:

- **Vehicle standards and import rules** are set by the **Department of Infrastructure**.
- Electric bicycles are regulated under **Australian Design Rules (ADRs)** and must meet **EN15194** if classified as pedelecs (250W with pedal assist only).
- However, **federal rules permit import of more powerful PMDs (including scooters)** for private use, even if those devices are **not legal to use in all states**.

- This creates **confusion and inconsistency**, where a device can be legally purchased or imported, but **not legally ridden** depending on the state.

#### 4. International Comparisons – Germany and EU

In the **EU and Germany**, e-mobility regulation is more stratified:

- **Pedelecs (250W, 25 km/h)** are treated as bicycles: no registration, helmet optional.
- **S-Pedelecs (up to 45 km/h)** require:
  - License (AM class),
  - Registration and insurance,
  - Motorcycle-grade helmet.
- **Docked e-scooter systems** and **geofenced zones** are standard in many cities (e.g. Berlin, Paris, Oslo).
- **Speed and power limits** are enforced through mandatory type approval and stricter compliance testing.

This contrasts with Queensland, where:

- No clear regulatory category exists for higher-speed e-bikes (e.g. S-Pedelecs).
- Enforcement of power ratings and top speeds for private scooters is inconsistent.
- Helmet rules and road access permissions are simpler but not as differentiated by device type or capability.

#### 5. Recommendations for Harmonisation and Clarity

To improve clarity, safety, and consistency across Australia, Queensland could consider:

- Aligning definitions and power/speed classifications with a national model framework, or NSW approach.
- Introducing a **new vehicle class** for high-powered personal mobility devices (e.g. 500W or 750W limit with mandatory licensing/registration).
- Requiring clear labelling on e-scooters and e-bikes regarding compliance (e.g. wattage, top speed, standard).
- Establishing a **national registry or permit system** for PMDs above a certain threshold.
- Learning from international models like Germany's S-Pedelec framework and Europe's type-approval systems.
- There is no benefit to be obtained from licensing or registering all PMD users, however, there may be a benefit for creating a higher category or class for which users can choose to register.

#### Conclusion

Queensland's current rules are relatively permissive for e-scooters, but lack consistency with federal import standards and do not offer sufficient clarity for more powerful or higher-speed personal mobility devices. With rapidly increasing uptake of e-bikes and e-scooters, clearer classification, consistent enforcement, and national alignment would benefit users, regulators, and the wider community alike.

## 4. Enforcement Challenges for E-Bikes and EPACs

### Enforcement Challenges for E-Bikes and EPACs

Enforcement of current laws governing e-bikes and e-scooters presents significant practical difficulties. These challenges arise primarily due to the hybrid nature of these devices, combining human pedal power with electric assistance.

#### Speed Enforcement Issues

- **Speed limits are difficult to monitor and enforce** because an e-bike's actual speed depends heavily on the rider's pedaling effort, terrain, and electric assist.
- Unlike motor vehicles, which have consistent engine power outputs, an e-bike may reach a given speed through a combination of motor assist and human input, complicating determinations of whether speed limits specific to motor assistance are being breached.
- For e-scooters and other PMDs this is easier to enforce, however, current regulations require the operator to be aware of what speed restrictions apply to what streets/roads etc.
- In any case, there are limited speed verification devices that can be relied upon by enforcement officers to accurately target and ascertain the speed of these types of devices.

#### Power Output Enforcement Difficulties

- Similarly, **enforcing power output limits (such as the 200W or 250W caps)** is problematic.
- Unlike speed, verifying motor power requires **physical testing of the e-bike's motor under controlled conditions**, often involving specialized equipment and expertise,. This is especially relevant to the 200w e-bike motor limit and means compliance testing is unlikely and unrealistic to expect from enforcement officials.
- On-road enforcement officers do not typically have the resources or training to conduct such tests in the field, making it impractical to assess compliance during routine checks.

#### Identification and Classification Challenges

- Many e-bikes are visually indistinguishable from conventional bicycles, especially when power assist is subtle or integrated.
- This ambiguity hinders frontline enforcement personnel's ability to identify non-compliant or illegal devices without intrusive inspection or testing.
- Currently the major indicator that a PMD is illegal is if it is clearly travelling above 25km/h and the rider is not using pedals to maintain this speed.

- The latter is what primarily applies to ‘dirt bike’ style PMDs. Importantly, this is NOT an issue with e-bikes. An e-bike will generally conform to either the 200w or 250w and 25km/h standard. These high-powered e-motorbikes are actually unregistered motor bikes and should be treated as such.
- However, there is little to be gained through imposing licensing, registration or insurance obligations on all PMD users. Illegal dirt bike riders (whether electric or petrol powered) will still not comply. The only way to enforce the regulations is through ‘boots on the ground’ enforcement.
- Licensing and registration could be considered for a new category or PMD for over 500w and limited to 40km/h such as the German S-pedelec class.\
- While new speed limits or motor capacity classes may help some people, the same compliance and enforcement issues will remain. What is enable is that an additional portion of the population can now legally use their preferred PMD without risk of fines, loss of licence or being refused insurance coverage in the event of an accident (even if they are not at fault).
- Consideration must be given to the fact that PMDs are becoming the preferred choice of transport for an increasing section of the population. The goal is to safely facilitate and encourage their use, not enforce arbitrary regulations that were designed 50 years ago.
- Consider what happens when a NSW resident crosses boundary Street in Tweed heads. If they’re riding a 500w e-bike restricted to 25/km/h there is no discernible reason why this bike should be unlawful in Queensland. The capacity of the motor has no effect on the danger the bike poses in terms of speed. This is an illegal motorbike in Queensland, but a legal e-bike in NSW. The power limit is an arbitrary and rather pointless restriction - which is why we don’t bother imposing it on other motor vehicle classes.

## **Recommendations**

- The difficulty in enforcing compliance to the 200w standard is an indication that it is arbitrary and unnecessary.
- Removing the 200w restriction and moving to a general 500w cap for e-bikes (including retrofits), potentially requiring a compliance sticker for retrofits would make enforcement action more simple, especially in the Gold Coast region.
- A higher speed limit for e-bikes (i.e. 30km/h) should be considered for bikeways and other areas where safe to do so, however 25km/h is still otherwise appropriate elsewhere.
- Make it easy to report dangerous and unsafe riding of high-powered e-bikes.
- Consider using smart camera technology to identify unlawful e-motorcycle use on key bikeways.
- Age restrictions are appropriate, fines should apply for parents.

## **Conclusion**

Overall, the current enforcement regime relies heavily on self-compliance and post-incident investigations rather than proactive, routine checks. To improve compliance and safety, considerations should be given to:

- Developing simplified compliance verification methods (e.g., mandatory power labels or tamper-proof speed limiters).
- Enhancing education and awareness campaigns targeting users and retailers.
- Exploring technological solutions, such as integrated speed governors or remote monitoring capabilities.

Without addressing these enforcement limitations, existing laws risk being ineffective and difficult to uphold consistently.

## 5. Importation laws

Importation laws are clearly not working to restrict PMDs to only those compliant to the current regulations, however this is not a reason to strengthen them.

The current regulations allow the importation of these devices for personal, off-road use. In reality, very few of the high-powered devices are actually used off-road on private property.

But perhaps that's an indication of a failure of the current PMD regulations to consider the preferences of PMD users rather than a failure of importation laws to prevent these devices from entering the country.

Whatever you do, make sure it makes sense and make sure you consider a broad range of PMD users, the types of devices they use and why they use them.

In my understanding, until recently (but perhaps it's still the case), the previous version of EN15194:2009 that applied in Australia did not technically cover certain types of bicycles, including hire scheme bicycles, cargo bicycles, recumbent bicycles, tricycles and some racing bicycles. This was because to be compliant with EN15194:2009, the bicycle frame had to be compliant with the frame standard EN14764, which applied only to city and trekking/touring bicycles.

Despite this, many of these 'non-compliant' bikes still made their way to Australia during the period EN15194:2009 applied, primarily because Europe had amended their regulation (i.e.

EN15194:2017) to accommodate these bicycles and many importers simply were unaware that Australian standards were still based upon EN15194:2009-A2011. The sticker on the bike said EN15194 compliant, and as such it was taken at face value rather than questions to which version of EN15194 it was certified.

The result? Thankfully nothing (that I'm aware of). But if correct, this had the potential to render some e-bike hire schemes illegal and uninsurable, as well as put anyone with a carbo bike, tricycle or recumbent bicycle at risk of losing their license and being uninsured in the event of an accident.

## 6. Communication and education

Many of my comments here have been alluded to above.

Multiple and sometimes conflicting regulations, standards, power limits and speed limits do not help to make it easy for people to comply. Neither do arbitrary and outdated limits.

The regulations need to be streamlined to help both PMD users and enforcement officials.

Require hire companies to have penalties for poor parking of e-scooters. Require basic training and regular refreshers for users of all hire services.

Importantly, require investment in education for both PMD users AND mother vehicle drivers.

As noted above, I've rarely been endangered by another bicycle or PMD user. When serious incidents have occurred, it has always been a motor vehicle.

Most drivers are unaware of fairly basic rules regarding giving way to pedestrians, cyclists and PMD users. One particular intersection at Osborne Road and north more St in Mitchelton was the site of numerous interaction with vehicles that failed to give way to school children, pedestrians and cyclists. Queensland road rules require drivers to give way to pedestrians, cyclists and PMD users on or entering slip roads and on or entering a road the vehicle is turning into or entering. In reality, this almost never happens and I have seen countless near-misses where the vehicle driver has subsequently verbally abused a cyclist or pedestrian who had the audacity to cross a road and expect a vehicle driver to follow the road rules.

A similar requirement exists when entering roundabouts (as the vehicle must give way to a pedestrian etc. on or entering a road the vehicle is turning into or entering), but you'll find no mention of it on the Queensland government's page on roundabouts. In fact, I'm willing to bet that a very high proportion of people reading this submission have no idea this is a road rule.

Why do these rules matter? Because when pedestrians, cyclists and PMD users cannot trust that vehicles will give way to them as per road rules, they take risks. We love to rail at cyclists and PMD users because they always seem to be doing things that seems dangerous or stupid. In reality, a cyclist rolling across a side street or crossing at roundabout isn't doing anything wrong, but the vehicle that fails to give way to them is.

However I have never seen any form of enforcement of these road rules, even in high-risk areas near schools, daycares and high-pedestrian activity zones.

The point? Educate PMD users, cyclists, pedestrians and other road users, but the most critical cohort to educate are the ones driving the big metal boxes on wheels that are responsible for killing the most road users per year. Educate parents as well, why are 12 year old kids riding these things?

Recommendation:

- Create targeted education campaigns for all PMD and road users, especially motor vehicle users
- Update regulations in clear, common language that is unambiguous
- Work with retailers and PMD/bike user groups, including those representing diverse cohorts, such as families and people with disabilities to develop communications material.

## 7. Stakeholder views

As noted above, I am a regular cyclist who owns both normal and electrically powered bikes. I own a cargo bike and use it as I would a second car.

I am firmly of the view that power capacity under the current regulation is arbitrary and does not account for bicycles other than standard models. For example, if a cargo bicycle can carry up to 200kg in freight, why should it be limited to the same power restrictions for bicycles carrying a single person? We don't limit all motor vehicles to the power capacity of a Toyota Corolla. We understand that different vehicles may require, or benefit from different power outputs. Trucks have immensely powerful motors, but this doesn't mean they can reach incredible speeds.

This is not to say there's no need for any restrictions (hell, bicycles AND cars should be restricted in terms of power and speed!). But any restrictions should make sense. Increasing the power limit for certain bicycles or PMDs would not make a detrimental difference in terms of their safety if that is accompanied by a speed restriction (e.g. 25km/h).

Increasing the motor capacity for certain bikes, such as cargo bikes with a GVM of 150kg or greater, to 500w would not make those bikes inherently faster or more dangerous. In fact, in a city as hilly as Brisbane, it might actually make them SAFER.

In my experience, cycling up steep hills is difficult. Cycling up steep hill on a cargo bike, or on a bike with a child seat is extra-difficult. While a 250w motor provides enough assistance to carry a single individual up that same hill with more ease, from experience, it is still quite difficult. Stronger, more powerful motors would mean that individuals, and families would be able to traverse Brisbane's notoriously hilly suburbs with ease.

Where a 250w motor might keep you moving up a steep hill, in my experience this is usually under 10km/h, especially with a load. Bicycles are inherently unstable the slower they travel, and more so when travelling uphill. Consider the impact of having to take your hands off the handlebars to indicate while also going up a steep hill - it's not easy, trust me.

A 500w motor will keep a bike moving at a slightly faster pace, more likely at 15km/h. Still not fast, but better and safer, especially when there's no other option but to ride on the road.

Further, for people with mobility impairments, the elderly or disabled, a more powerful motor would help them move with ease. Indeed, it is my understanding that many e-bikes such as trikes designed specifically for people on the NDIS are made with motors more powerful than the 250w limit.

The bike still won't go any faster than 25km/h, because it's still speed limited. But it is now more capable of handling hills, and getting up to speed with the heavier loads cargo bikes are designed for.

### **Q&A on this topic:**

Q - Won't increasing the power restriction to 500w just mean bikes go faster?

A - No, bikes will still be limited to 25km/h or whatever limit the regulation imposes.

Q. Won't it mean they will go faster up hills and therefore faster downhills?

A. Not really. They might go slightly faster up a hill, which may mean they go slightly faster down the hill. But remember, any bike can go fast down a hill, it's irrelevant to the regulation because the motor still cuts out at 25km/h



Q. Won't increasing the power of bicycles make them less safe?

A. Nothing about the power of a bicycle or vehicle makes it inherently unsafe. The issue of safety is related to how that vehicle is operated and the speed that vehicle is capable of travelling at. In this case, all other things being held equal, there is no difference between the safety of a 250w bicycle or a 500w bicycle. In fact, in certain situations, a more powerful motor may actually be safer, such as when riding up hills, as it allows a slightly faster speed which improves the handling of the bicycle and prevents the bike from moving side to side as the rider pushes the pedals.

Q. But surely the bikes aren't built for that much power?

A. That's not really a question, but actually, most are. Again, the only difference between a 250w motor and a 500w motor is the power they can generate to get a bike up to the speed of 25km/h. There is no difference in terms of stopping capacity or strength of other components. All other components of the bike are built to withstand significant forces, and must be capable of slowing the bike regardless of speed or motor capacity.

Q. You just want a more powerful motor so you can pop wheelies and do skids!

A. Again, not a question. But no, most e-bikes with a GVM of 150kg or greater aren't capable of popping wheelies or doing skids. Primarily this is because they are still pedal powered and have a much lower centre of gravity. They may be able to skid if they need to stop in a hurry, but so can trucks, what's your point?

Please, let reason prevail. The adoption of standards that allow higher capacity motors for electric cargo bicycles should be seen as an enabler of active transportation. This would, in practice, enable the replacement of second cars for families who live in hilly suburbs. It would also enable the development of 'last-mile' delivery and courier services who would be able to operate pedal-powered delivery services in the CBD and suburbs.

### **On matters of licensing, registration and insurance**

Many cyclists, such as myself, already pay registration for a vehicle that they choose to leave in their garage. Unfortunately this is often not recognised by the angry hoards of boomers railing at cyclists who dare to ride on a road.

Many cyclists, such as myself and my family, also have insurance that covers accident, third-party damage and public liability while cycling.

As for registration, what's the point? It would be an immensely costly scheme and be almost impossible to enforce.

Our issues of enforcement will not disappear with the implementation of an expensive and onerous registration program. People who flout laws will still flout laws. Registration and licensing does not stop illegal street racing of motor vehicles, or illegal dirt bike riding in national parks. The only thing that stops that kind of activity is specific, targeted enforcement.

However, as noted earlier, it's also important to ensure that the relevant regulations are reasonable, logical and easy to enforce. It will always be difficult to enforce a power limit on PMDs because it's difficult to measure the actual power output of a device. Enforcement officers can rely on compliance stickers etc., however this is only useful where the PMD in question actually has one. Mandating a compliance sticker would seem to be a logical alternative, but then owners of illegal PMDs will find a way to put a sticker on their device that makes it look like it complies.

Just make reasonable regulations. If people are flouting the 250w limits, there's probably a good reason why. In reality, the power output of a device doesn't really determine its safety. Just like with

motor vehicles, the safety of a PMD is determined by how it is operated. High-powered motor vehicles are far more prevalent and kill far more young drivers every year than PMDs, and I for one would be happy for every passenger car to have the power capacity of a Toyota Corolla.

The issue of speed is different depending on the type of device. By all means enforce speed for PMDs, but you will always struggle to enforce speed for bicycles and e-bikes. If it's clearly not being pedalled, it's not an e-bike and it's a e-motorbike.

I recommend exploring a category of rideable that these devices may fall into, they are clearly popular. However, reasonable age, speed and power restrictions should apply.

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