

E-Bike Regulation in NSW

Bicycle NSW Position Statement

August 2024
Revision D

E-bikes and micromobility devices are transforming transportation. Young people and low-income workers are leading the charge. Electric micromobility can make a huge contribution to decarbonising our transport system and creating quieter, less polluted streets, less dominated by parked and moving cars.

The problem:

The uptake of micromobility has got ahead of regulation and education.

- Illegal bikes and scooters are imported and sold without oversight. Many go faster than 25 km/h and can be powered by the throttle alone.
- There is no standard certification scheme for batteries, and limited education about safe charging practices.
- Untrained riders are using bikes unsafely.
- Police are not enforcing riding rules or confiscating bikes

The principal solution:

It is vital to clarify that these problems are largely not the fault of individual riders or retailers.

Most concerns around the use of e-bikes and e-scooters are due to systemic failures. Governments have not provided adequate regulation or infrastructure for the safe and comfortable use of e-bikes and other healthy, sustainable and efficient modes. Funding, policy and actions are not aligned to leverage the amazing opportunity offered by e-mobility.

First and foremost, safe infrastructure is essential. Cities must continue to adapt to accommodate better, space efficient, low emission, sustainable transport.

Bicycle NSW will continue to focus its advocacy on:

- the reallocation of road space away from parked and moving vehicles to create more room for bikes, pedestrians and a full range of micromobility devices.
- reduced speed limits on local roads, town centres, around schools and other areas with high pedestrian activity on so more riders are comfortable to use the road
- generous separated bike paths on busier roads
- massively increased investment from all levels of government for active transport infrastructure, subsidies and behaviour change programs.

An action plan for improving regulation:

E-devices of all types, including fat-tired bikes and other currently non-compliant e-bikes, are already being used. They serve an **important transportation function**.

Bicycle NSW asks all levels of government to grasp this opportunity and make much-needed changes to the regulatory framework with great care. The aim must be to **expand the industry** and **enable more riders**, of all ages, abilities and socio-economic backgrounds, to use micromobility on the road to Net Zero.

Note that this paper focuses on private e-bikes. It does not attempt to address issues specific to the bike share industry, e-scooters or food delivery services.

Short-term actions

These seek to create a safer road environment for all, within the **existing** regulatory framework.

- Modify the existing [e-bike requirements](#) to allow a wider range of devices to be legal and used in the road related environment.
 - Increase the maximum assisted speed for 'electrically power-assisted cycles' to 30 km/h (or 32 km/h to align with US and other jurisdictions). This would make it easier for riders to share the road with vehicles, and aligns with the optimal urban speed limit of 30 km/h.
 - Education and enforcement will encourage riders to use speeds appropriate to the context.
 - Include throttle-only devices with the maximum throttle-only speed capped at 15 (or 20 km/h, to be determined by policy experts). This fulfills many use cases, such as disabled riders, seniors, longer rides, heavy cargo, and broaden the range of people who will use micromobility.
 - No restriction on maximum continued rated power as long as the assisted speed is capped. More power is needed for cargo bikes, disability scooters, hilly areas, and heavier people.
 - Trikes and mobility aids are included.
 - E-scooters with a maximum throttle-only speed capped at 15/20 km/h can be accommodated, if and when they are legalised.
 - Speed limiters can be incorporated into bike motors for voluntary use by young or inexperienced riders.
 - No licensing or registration is required.
 - No minimum age. Education campaigns will support the safe use of e-bikes by teenagers.
 - Riders with Bicycle NSW membership will be insured.
 - Remove the historic 'Power-assisted pedal cycle' with a maximum power output of 200W from the [NSW e-bike definition](#). This category has caused great confusion with the public, retailers, government and the police. It has made it easier to import, sell and use non-compliant e-bikes in NSW.
 - Any devices that are not compliant with these rules, or are illegally imported, or have not been through the certification process are then classed as motorbikes and need rego plates, rider licences and insurance.
 - **Examples of categories developed in different jurisdictions are in the Appendix.**

Note that Bicycle NSW has suggested revised speed, power and throttle levels but this is only a starting point for further research and discussions with policy experts and the industry. The NSW Government must review international best practice and evidence against desired outcomes to reach a consensus with industry, community and NSW Police on optimal figures. A compromise will be required. However, our stakeholders are clear that a slightly higher maximum speed will reduce the number of riders choosing to use unregulated or modified e-mobility devices.

- Request that NSW Fair Trading crack down on the misinformation and misleading advertising which sells non-compliant bikes as safe and legal e-bikes.
- Advocate for a strong and committed focus on education for **all road users**, including drivers, on road rules, sharing the paths and roads, battery safety, and e-bike regulations.

Bicycle NSW can support education initiatives by:

- providing member councils with advice and support on their best options for communicating with schools, students, parents and the wider community.
 - developing educational materials that can be used by schools, councils. These should be aligned across NSW but adaptable to local conditions.
 - running bike skills workshops for high school students, with a focus on e-bike use.
 - Consistent and regular messaging in our comms and through the media.
- Encourage NSW Police to enforce dismounting in pedestrian zones and work with the community to minimise dangerous riding. However, as per the behaviour change pyramid, enforcement is not the main strategy to improve rider skills and behaviour. Warnings and education are the first step. And it is essential to align enforcement to risk, with evidence-based criteria informing enforcement programs and the setting of appropriate fines for bike and micromobility riders. Policing must not disincentivise active transport. Of course, more resources must be dedicated to enforcing dangerous and high-risk driver behaviours such as speeding, red light running and unsafe passing. This should include more speed cameras, without warning signs, and additional police patrols.
 - Push for NSW Government communication to clarify liability and the risks associated with riding both legal and illegal e-devices, particularly for parents of minors who may be unaware of the legal and insurance implications.
 - Advocate for a large-scale public education campaign on **battery safety**, targeted to manufacturers, retailers, repairers, consumers, fleet businesses, emergency services, children through school programs. These should be government-backed programs to ensure consistent messaging for all users. It could be on the scale of a Slip, Slop, Slap or Life Be In It campaign due to the pervasiveness of batteries touching every Australian every day.
 - NSW Government to establish a 'sunset' program to transition illegal e-bikes into compliant categories or out of the market.

For example:

- Set a near term date where all new light electric vehicles/batteries must comply - say 1 January 2025
- Set a longer date where all non-compliant light electric vehicles must be removed, made compliant, traded in or scrapped - say 1 January 2026
- Offer a bounty for handing in non-compliant e-bikes/batteries. This could be a subsidy towards purchase of a new light electric vehicle/battery or a simple cash back.

Medium-term actions

A series of changes to policy and regulations. The rules need to be consistent across Australia to avoid loopholes. **Harmonisation must be a priority for all levels of government.** Bicycle NSW will continue to push both state and federal government to progress legislation to:

- Develop a **national** certification system for all PMDs, e-bikes, trikes, cargo bikes and related batteries. It is important to rid the market of poor quality and dangerous vehicles and batteries. Certifications must be authenticated and current.
- Require electric bikes sold in NSW to have an advisory notice from the Federal Department of Transport. Imports are subject to a \$55 safety check for compliance with federal laws. It's an existing mechanism.
- Compel bikes sold in NSW to have credentials checked by an authorized body. There has been some promising progress. In July 2024, NSW Fair Trading designated e-bikes, e-scooters, e-skateboards and self-balancing scooters (hoverboards) and the Lithium-ion batteries used to power these devices as 'declared electrical articles' under the *Gas and Electricity (Consumer Safety) Act 2017* with a staged implementation plan.
- Create an online database of approved electric bikes and batteries legal for sale/use in NSW (other countries have done this).
- Empower NSW Police to check certifications and confiscate uncertified devices, or certified devices used incorrectly.
- Undertake a comprehensive review of the road rules relating to micromobility to ensure that they maximise safety for people walking and riding.
- Legislate for universal charging plugs and transformers to minimise the risk of unsafe charging and mismatched equipment.
- Develop an ecosystem of services specializing in e-mobility devices to ensure bikes can be maintained, fixed and have a long-life. This will include recognised training programs for e-bike mechanics.
- Provide robust government support for collection and recycling schemes for bikes and batteries. A nascent industry must be ramped up to ensure that e-mobility devices and their lithium-ion batteries are embedded in the circular economy.

Long-term actions

- Enhance import standards based on a best-practice standard for e-bikes and all e-mobility devices.
- Advocate for Australia/NSW to adopt the **EU Battery Regulation 2023/1542** which defines battery standards, carbon footprint measurement, recycling standards and more. This is the gold standard. There is no need to reinvent the wheel.
- Harmonise **national** regulations for lithium-ion batteries, motor and battery power, throttle. Australia is a small market for global micromobility manufacturers so it's ridiculous to have 8 sets of rules. NSW should take a leadership position in specifying regulatory requirements.

- Develop an ecosystem of local testing labs in Australia to ensure compliance with safety standards for e-bikes and PMDs. This would simplify certification and reduce barriers to innovation.
- The ultimate aim should be global harmonisation.

Appendix: European examples of micromobility classification

Dutch framework for Light Electric Vehicles

Dutch framework for Light Electric Vehicles (LEVs)



Category 1a	Category 1b	Category 2a	Category 2b
EPAC* (carrier)bikes < 75kg	All Light Electric Vehicles other than 1a < 55 kg	Cargo bikes	Carrier bikes for passengers

Method of admission and supervision

	Category 1a	Category 1b	Category 2a	Category 2b
Method of admission	Self-certification	Approval	Approval	Approval
Surveillance method	Market	Manufacturer	Manufacturer	Manufacturer
Baseline	EU Machine Directive / EN 15194	EU 168-2013 / Designating special mopeds / EN 17128 / German norm + integrated risk assessment	EU 168-2013 / Designating special mopeds + integrated risk assessment	EU 168-2013 / Designating special mopeds + integrated risk assessment

Admission requirements

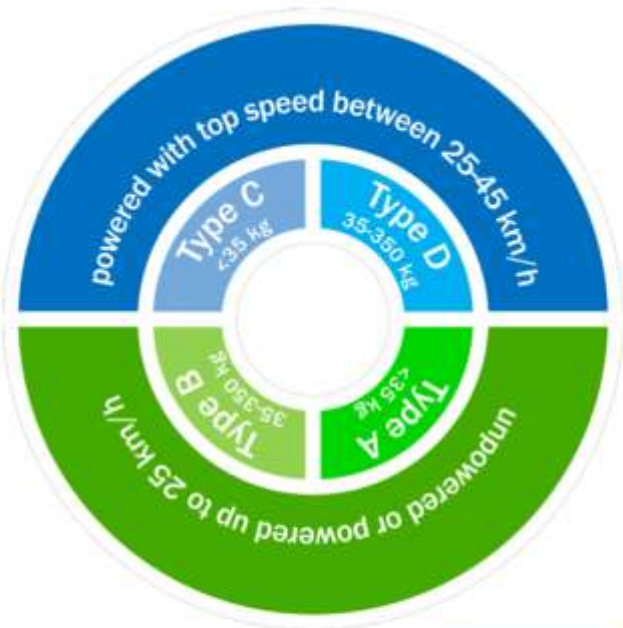
	Category 1a	Category 1b	Category 2a	Category 2b
Maximum Measurements LxWxH	2 wheels: 3 x 0,75 x 2 m > 2 wheels: 3 x 1 x 2 m	2 x 0,75 x 1,50	3 x 1 x 2 m	3 x 1 x 2 m
Maximum construction speed	> 6 km/h and < 25 km/h	> 6 km/h and < 25 km/h	> 6 km/h and < 25 km/h	> 6 km/h and < 25 km/h
Max. mass	Max. kerb weight < 75 kg, total max. mass: 250 kg	Max. kerb weight < 55 kg, total max. mass: 140 kg	Max. kerb weight 270 kg or 425 kg for more wheels, total max. mass: 565 kg	Max. kerb weight 270 kg or 425 kg for more wheels, total max. mass: 565 kg
Performance	< 250 W	< 400 W	Pedal assistance: < 250W, No pedal assistance: < 1250 W	Pedal assistance: < 250W, No pedal assistance: < 1250 W
Number of persons	1 driver, max. 3 passengers	1 driver	1 driver	1 driver, max. 8 passengers

Requirements for road usage

	Category 1a	Category 1b	Category 2a	Category 2b
License plate	No license plate	License plate	License plate	License plate
Insurance	third-party liability insurance	Motor Vehicle Liability Insurance Act	Motor Vehicle Liability Insurance Act	Motor Vehicle Liability Insurance Act
Helmet	No	No	No	No
Drivers license	No	No	AM	AM
Minimum age	No	16 yrs	18 yrs	18 yrs

Micromobility Classification Model from the OECD's International Transport Forum

What is micromobility?



This report focuses on e-scooters and e-bikes weighing less than ~35 kg, including models that can travel up to 45 km/h or beyond.



"Micromobility" describes personal vehicles that are much smaller and lighter than cars. There is no standard definition of the term. Micromobility partially intersects with or lies outside various vehicle classification or approval schemes used by public authorities or industry associations.

Micromobility plays an important role in daily mobility on its own or in conjunction with other modes. It is popular in many contexts, is suited to many trips and is more environmentally sustainable than heavier and larger vehicles.

Micromobility vehicles come in a range of established (e.g. bicycles), less established and rapidly evolving form factors (e.g. standing or seated e-scooters, electric unicycles, powered skateboards, etc.).

Some of these vehicles are approved for use on roads, others not. Some are allowed to be used in pedestrian environments in some countries and cities but not in others.

Finally, some micromobility vehicles require human exertion to move (bicycles, pedal-assist e-bicycles, kick-scooters, skateboards, etc.), and others accelerate and move only with direct traction from a motor. The former active modes confer important health benefits, unlike the latter.

There are many ways to classify micromobility according to different features or policy objectives. This report adopts the ITF's generic approach to classifying micromobility from a safety perspective – an approach which is descriptive rather than normative.

Following the Safe System approach and highlighting two key crash severity parameters – speed and mass – the ITF framework identifies four broad micromobility vehicle types:

- Type A:** powered or unpowered vehicles weighing less than 35 kg and with a maximum powered design speed of 25 km/h.
- Type B:** powered or unpowered vehicles weighing between 35 kg and 350 kg and with a maximum powered design speed of 25 km/h.
- Type C:** powered vehicles weighing less than 35 kg and with a design speed between 25 km/h and 45 km/h.
- Type D:** powered vehicles weighing between 35 kg and 350 kg and with a design speed between 25 km/h and 45 km/h.

New Irish rules

<https://www.gov.ie/en/press-release/4ea3a-new-regulations-for-e-scooters-and-e-bikes-come-into-force-next-monday/>

<https://www.gov.ie/en/campaigns/5e95b-e-bikes-e-mopeds-and-e-scooters/>

Legal category / Other name(s)	Personal Powered Transporters Low power electric or e- scooters	Pedal cycle Bicycle, trike, cargo bike, etc	Pedelec Electric or e- bike, e-cargo bike	L1e-A e (higher-power) pedelec Moped, e-moped	L1e-B speed pedelec Moped, e-moped	L1e-B throttle Moped, e-moped
Appearance? Mechanically Propelled Vehicle? Rules like a bicycle? Minimum user age? Can carry passengers?	Scooter which you stand on No Similar to bicycle 16-years-old Expressly not allowed	Bicycle, trike, cargo bike, etc No Is a bicycle None If designed to (ie extra seat)	Bicycle, trike, cargo bike, etc No Exactly the same None If designed to (ie extra seat)	Bicycle, trike, cargo bike, etc Yes Mix between bicycle and moped 16-years-old TBC	Like bicycle or light motorcycle Yes More like moped 16-years-old TBC	Like bicycle or light motorcycle Yes Moped 16-years-old TBC
Motor tax needed? Registration needed? Insurance needed? Motorcycle helmet needed? High vis needed?	Not required Not required Not required Not required Not required	Not required Not required Not required Not required Not required	Not required Not required Not required Not required Not required	Not required Required Required Required Not required	Required Required Required Required Not required	Required Required Required Required Not required
Licence, tax, insurance etc	Not required	Not required	Not required	Not required	Required	Required
Motor tax needed?	Not required	Not required	Not required	Required	Required	Required
Registration needed?	Not required	Not required	Not required	Required	Required	Required
Insurance needed?	Not required	Not required	Not required	Not required	Not required	Required
Motorcycle helmet needed?	Not required	Not required	Not required	Required	Required	Required
High vis needed?	Not required	Not required	Not required	Not required	Not required	Not required
Road use allowed						
Can use footpath	No	No	No	No	No	No
Can use cycle lanes/paths?	Yes	Yes	Yes	Yes	No	No
Can use bus lanes?	Yes	Yes	Yes	Yes	No	No
Can use local to national roads?	Yes	Yes	Yes	Yes	Yes	Yes
Non-motorway dual carriageway?	Yes	Yes	Yes	Yes	Yes	Yes
Can use motorways?	No	No	No	No	No	No

Published by IrishCycles.com, based on information provided by the Department of Transport. The above is an overview of the differences, not an exhaustive list of rules that apply. See notes on article.