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E-bike safety consultation paper

Policy options to address e-bike safety

October 2026

Acknowledgement of Country

The ACCC acknowledges the traditional owners and custodians of Country throughout Australia and recognises their continuing connection to the land, sea and community. We pay our respects to them and their cultures; and to their Elders past, present and future.

Contents

Introduction	2
Problem.....	2
Issues and hazards	3
Incidents of e-bike related fire, injury and death is increasing.....	3
Hazards	4
Cost of injury	9
Government regulations for e-bikes.....	10
Imports	10
State and territory road use laws	10
Supply laws	10
Policy objectives and recommended proposal.....	11
Policy objectives.....	11
Policy proposal: Introduce an ACL safety standard for e-bikes.....	11
Policy options	15
Have your say	16



Introduction

In the 2026-27 federal Budget, the Government announced funding for the Australian Competition and Consumer Commission (ACCC) to develop nationally consistent safety standards for all e-micromobility devices. The ACCC's immediate focus is on e-bikes, with broader standards to follow for other e-micromobility products, such as e-scooters and e-skateboards.

Recent state and territory parliamentary inquiries and reviews across Australia have targeted the safety hazards, regulatory gaps, and infrastructure challenges presented by e-bikes. The development of this consultation paper has been informed by jurisdictional approaches.

The ACCC has prepared this paper to inform the stakeholder consultation process. We are seeking views on options for nationally consistent safety standards to help address the safety hazards associated with e-bikes. The hazards are multi-faceted and no one intervention can address all of them; however, we consider a safety standard would be an important addition to the regulatory framework.

Problem

The ACCC is currently examining safety hazards presented by e-bikes, following a notable increased rates of incidents and injuries, including multiple fatalities across Australia.

An e-bike, also known as an electrically power assisted cycle (EPAC) or an electric bicycle, is a pedal bicycle equipped with a rechargeable battery (typically a lithium-ion battery), an electric motor, and a drivetrain that together provide physical propulsion assistance to make pedalling easier, for example, up hills and over extended distances. While e-bikes provide power-assistance to riders, they are intended to be primarily powered by peddling.

E-bikes offer a range of benefits to the Australian community, such as reducing traffic congestion, lowering vehicle emissions, and making personal transport more affordable and accessible.

E-bikes drive economic growth in local industries, such as tourism and retail. They have been a major driver in the growth of the food and small parcel delivery market, as they offer lower operating costs, bypass heavy city traffic and allow the rider to cover distances more quickly, while reducing physical exertion.¹ The Australian e-bike market has experienced strong growth in recent years. Reports suggest that the sale and import of e-bikes tripled in Australia between 2020 and 2025, and industry estimates indicate annual expected sales to reach 250,000 to 300,000 units, to the value of around \$750 million to \$1.3 billion in 2026.²

However, as the popularity of e-bikes has grown, incidents, injuries and deaths related to e-bikes have also increased.

The ACCC is considering regulatory options to help address the risks posed by e-bikes, while maintaining the benefits they provide.

Issues and hazards

Incidents of e-bike related fire, injury and death is increasing

Whilst official injury reporting specifically for e-bikes is incomplete and inconsistent across Australia, research and reporting which currently exists show a considerable increasing trend in injuries.³

Between 1 July 2016 and 30 June 2026, the ACCC received 786 e-bike product safety complaints and enquiries, with a sharp increase in the last 2 years.

Recent health and hospital reports across Australia show a sharp, concerning rise in serious e-bike injuries. St Vincent's Hospital Sydney has reported over 200 emergency trauma presentations for e-bike crashes in 2025 compared to 103 in 2024 and 45 in 2023.⁴ More than half of the patients presenting to St Vincent's Emergency Department self-reported their accidents occurred at speeds of more than 25 km/h, and with half resulting in hospital admission and 10% requiring intensive care treatment.

Data provided to the ACCC from the Victorian Injury Surveillance Unit (VISU) reported 693 emergency department presentations in Victoria resulting from e-bike accidents in 2025, compared to 150 in 2021 (a 360% increase over a 5-year period).⁵ The data provided by VISU does not capture all emergency departments in Victoria.

Of particular concern is that children face increased risk of injury from e-bike accidents, particularly when travelling at higher speeds. The Legislative Assembly of Western Australia Ride Safe report highlights that children face elevated risk of injury, typically suffering

¹ Fortune Business Insights (2026), '[Cargo e-bike Market Size, Share & Industry Analysis, By Vehicle Type \(Two Wheeler and Three Wheeler\), By Application \(Personal and Commercial\), By Sales Channel \(Online and Offline\), and Regional Forecast, 2026-2034](#)', accessed 4 August 2026.

² Yam I (2026), '[Bicycle Retailing & Repair in Australia](#)', *Ibis World*, accessed 4 August 2026.

³ Haghani M, '[Young people are increasingly being killed or injured on e-bikes. It's time for governments to act](#)', *The Conversation*, 6 November 2025, accessed 4 August 2026.

⁴ St Vincent's Hospital, '[E-bike Emergency Department presentations double in 12 months](#)', 11 February 2026, accessed 4 August 2026.

⁵ The Victorian Injury Surveillance Unit data is provided from Jan 2020 to December 2025. The data provided by VISU does not capture all hospitals with an emergency department.

multiple traumas and higher rates of fractures than adults.⁶ Additionally, it states children and adolescents do not yet have the cognitive maturity to safely ride vehicles on public infrastructure, lacking the motor skills, road awareness and decision-making abilities to handle fast moving vehicles.

A submission from the Pedestrian Council of Australia to the Queensland inquiry into E-mobility Safety notes 3 pedestrian fatalities in Australia from being hit by e-micromobility devices, and states pedestrians feel unsafe on shared paths due to fast-moving, often silent, devices such as e-bikes.⁷

There have been multiple fatalities in Australia relating to e-bikes in recent years, including at least 7 fatal e-bike accidents between February 2025 and March 2026 involving young Australians.⁸ There are at least 60 fatalities associated with the use of e-bikes recorded in the National Coronial Information System since 2002, with a number of cases indicating fatal accidents occurred when the e-bike travelled at higher speeds of up to 50 km/h.

Hazards

Available reports, including consumer and business reports to the ACCC, coronial records, and hospital data, highlight the primary e-bike related hazards as:

- **Speed:** Some e-bikes currently available on the market can travel at significantly higher speeds than traditional bicycles, increasing the likelihood and severity of injuries resulting from collisions or falls.
- **Product design and mechanical failure:** Faulty, inferior quality or damaged components can create significant safety risks. Common issues include brake failure, loose pedals, cracked frames, and damaged wheels or handlebars, which may lead to a sudden loss of control and subsequent injury.
- **Fire:** Lithium-ion batteries can ignite due to a rapid chain reaction known as thermal runaway. Thermal runaway is a process that can occur when a battery generates heat faster than it can release it, causing the battery materials to break down and temperatures to rise rapidly, often resulting in fire or explosion. Battery-related incidents have caused house fires, resulting in serious injuries such as burns, chemical exposure, and smoke inhalation, as well as property damage and, in some cases, loss of life.

In addition to the product safety hazards above, unsafe riding behaviour (such as riding without a helmet, travelling at illegal speeds, or riding under the influence of alcohol or drugs) is also a primary safety hazard. State and territory road use laws aim to address unsafe riding behaviour.

The sections below provide more detail on each of the three factors listed above, as well as issues associated with conversion kits and tampering methods and devices.

Speed

Australian state and territory road safety laws regulate the use of e-bikes in public spaces (use laws). Most Australian state and territory use laws only permit e-bikes in public spaces

⁶ Legislative Assembly Western Australia, [Report 2, Ride Safe - Inquiry into the safety, regulation and penalties associated with the use of electric powered mobility devices](#) [PDF 7 MB], 2025, accessed 6 August 2026

⁷ Pedestrian Council of Australia Submission, [Inquiry into e-mobility safety and use in Queensland](#), [PDF 5 MB], 2025, accessed 14 August 2026.

⁸ Berecki-Gisolf J and Hayman J (2024), [‘Injuries associated with e-scooters, e-bikes and other e-micromobility devices: analysis of Emergency Department presentations and deaths in Victoria, 2016 to 2023’](#), *Hazard Edition 93*, Monash University Accident Research Centre, doi.org/10.26180/27710193, accessed 4 August 2026; Haghani M, [‘Teens suffer the most from e-bike incidents – are stricter rules the answer?’](#), *The Conversation*, 19 March 2026, accessed 4 August 2026.

if they have continuous rated motor outputs of up to 250 W and provide power-assistance with pedalling up to speeds of 25 km/h. However, e-bikes with continuous rated motor outputs upwards of 1000 W that can deliver power-assisted speeds upwards of 50 km/h (high-powered e-bikes) can be sold and legally used on private property. Despite road use laws, high-powered e-bikes are increasingly being used illegally by individuals (who may be unaware that their e-bike may not comply with road use laws) on public roads, bike lanes, and shared pathways, presenting hazards to road users and pedestrians.

The Queensland Trauma Clinical Network notes that speed is a major determinant of road trauma injury severity, and correlates directly with a higher risk of death.⁹ High-powered e-bikes pose a particular risk when it comes to speed:

- They allow riders to easily reach unsafe speeds, well beyond the legal limits imposed by road use laws. The average speed of riders of high-powered e-bikes is 10 km/h higher than that of traditional cyclists (28 km/h vs 18 km/h).¹⁰
- Higher speeds mean riders and pedestrians have less time to react to avoid collisions, and the increased velocity results in more severe injuries from falls or collisions.¹¹
- Higher speeds require increased stopping distances. To avoid collisions or hazards, an e-bike rider must decelerate quickly without losing balance, making effective braking both challenging and essential for accident prevention.¹² Additionally, riding e-bikes at high speeds almost doubles the likelihood of unplanned braking manoeuvres than traditional bicycles, which increases the chance of a fall or collision.¹³

Product design, electrical, mechanical and structural failure

E-bike incidents and injuries can result from design faults and mechanical failures. The ACCC has received several reports involving e-bike design, electrical, mechanical and structural faults, many of which resulted in injury. Faulty, weak or damaged components can create safety hazards or cause riders to suddenly lose control. Common reported issues include:

- **Brake failure:** As e-bikes typically travel at higher speeds and carry greater weight than traditional bicycles (due to added components such as a motor and battery), they require more robust braking systems. Brake failures will reduce braking performance, and can increase stopping distances, cause wheel lockup, and result in loss of control, potentially leading to serious accidents.¹⁴ The additional speed and weight of e-bikes place greater stress on braking systems, generating heat that can cause standard rim brakes or lower-quality mechanical disc brakes to slowly decrease braking power, warp or fail.

⁹ Queensland Parliament Committees, [Report No. 21, 58th Parliament - Inquiry into e-mobility safety and use in Queensland](#) [PDF 5 MB], 2026, accessed 6 August 2026.

¹⁰ Twisk D, Stelling A, Van Gent P, De Groot J, Vlakveld W (2021), '[Speed characteristics of speed pedelecs, pedelecs and conventional bicycles in naturalistic urban and rural traffic conditions](#)', *Accident Analysis & Prevention*, 150, doi:10.1016/j.aap.2020.105940, accessed 4 August 2026.

¹¹ American Academy of Orthopaedic Surgeons, '[The hidden dangers of e-bikes: orthopaedic surgeons warn of rising injury risks for riders of all ages](#)', 24 May 2025, accessed 4 August 2026.

¹² Zhou Y, Gu X, Abdel-Aty M, Chen Y (2026), '[Understanding e-bike braking as a multi-stage behavioral process: insights from multi-view clustering approach and a partially constrained analysis of delivery versus non-delivery riders](#)', *Safety Science*, 203, doi.org/10.1016/j.ssci.2026.107298, accessed 4 August 2026.

¹³ Huertas-Leyva P, Dozza M, Baldanzini N (2018), '[Investigating cycling kinematics and braking maneuvers in the real world: e-bikes make cyclists move faster, brake harder, and experience new conflicts](#)', *Transportation Research Part F: Traffic Psychology and Behaviour*, 54, pp 211-222, doi.org/10.1016/j.trf.2018.02.008, accessed 4 August 2026.

¹⁴ Mutasim S, Chaturvedi S, Wencong S (2025), '[Comprehensive Study of E-Bike Braking Dynamics: Modeling, Simulation, and Experimental Validation](#)', *IEEE Access*, 13, pp 14998-15013, doi.org/10.1109/ACCESS.2025.3532296.

- **Wheel components:** Loose, damaged or broken wheel components due to manufacturing defects can create a serious safety risk. If these parts fail, the wheel may wobble, lock up or detach, causing the rider to lose control, increasing the risk of a crash.
- **Mechanical issues with the wheels:** Mechanical wheel issues, such as a bent wheel or loose axle, can affect the stability and handling of an e-bike. These issues may cause the rider to lose control, particularly at higher speeds or on uneven surfaces.
- **Cracked frames:** Cracked frames present a serious safety concern because heavy batteries, high motor power and faster speeds place additional stress on the structure of an e-bike. Small cracks can degrade quickly and may cause the frame to fail without warning. If this occurs while riding, particularly at high speed or on rough terrain, the rider may lose control and be seriously injured.
- **Motors starting unexpectedly:** Unexpected motor activation can create a severe safety risk by causing sudden acceleration or movement. This may lead to loss of control, collisions or falls.

The ACCC publishes supplier-initiated recalls on the ACCC Product Safety website. There have been 18 supplier-initiated recalls of e-bikes over the last 10 years with the 8 of these related to a mixture of structural issues with the frame, forks, seat post, and kickstand. 5 recalls related to battery issues and associated fire risks, and the remaining safety issues were mechanical, associated with braking mechanisms.

The most recent voluntary recall was published in August 2026 due to a fault in an e-bike's frame welding. The ACCC has warned consumers that the frame may crack or break during use, causing a risk of death, serious injury or property damage (including to other road users).

The US Consumer Product Safety Commission completed 145 investigations into e-bike incidents between 2017 and 2024 and found 21% involved product failure, including 2 fatalities directly related to product failure.¹⁵

Fire

Fire incidents involving e-micromobility devices, including e-bikes, have increased.

Data from Fire and Rescue NSW confirms a sharp rise in fires caused by e-micromobility devices, with 193 fires between 2022 and 2025. Nationally, it is expected the rate of fires caused by these devices will continue to rise each year should a regulatory response not be considered.¹⁶

Between 1 January and 1 September 2025, Fire and Rescue NSW responded to 75 fires where e-micromobility devices were identified as the cause of the fire. These fires account for 36 per cent of all recorded lithium-ion battery fires which have resulted in 16 injuries and one fatality in that period.¹⁷

A submission by the Queensland Fire Department to the 2026 Queensland inquiry into E-micromobility Safety and Use highlights the risk of fires from lithium-ion batteries in e-micromobility devices, noting they are the largest single cause of lithium-ion battery fires in

¹⁵ Tark J (2026), United States Consumer Product Safety Commission, '[Micromobility products-related deaths, injuries, and hazard patterns: 2017-2024](#)', accessed 4 August 2026.

¹⁶ Minister for Better Regulation and Fair Trading, '[Nation-leading safety and information standards for lithium-ion battery products now in effect](#)', NSW Government, 19 February 2025, accessed 4 August 2026.

¹⁷ NSW Government, '[E-bike FAQs](#)', accessed 20 August 2026.

Queensland.¹⁸ Fire risks from lithium-ion batteries are increased with low-quality, unbranded, or non-compatible lithium-ion batteries and chargers.¹⁹ There is also an increased risk for conversion kits (explained below) which often are sold as an incomplete package with batteries or chargers supplied separately.

The Strata Community Association, the peak body for Australia and New Zealand's strata industry, provided a submission to the ACCC's 2022 Lithium-ion Batteries Issues paper stating e-bikes, e-scooters and electric skateboards can be easily damaged during use and have been the main source of lithium-ion fires worldwide.²⁰

Further, the ACCC co-led a review of the regulatory framework for the safety of household electrical products, with the Department of Finance, which finished in July 2024. The review by the National Electrical Safety Taskforce (NEST) made a number of recommendations including for state and territory governments to make changes to their respective electrical safety legislation to enable risk-based regulation of extra-low voltage electrical products.²¹ This would include lithium-ion batteries that power e-bikes.

To address a rapid surge in fires associated with lithium-ion batteries used to power e-bikes, the NSW government has introduced regulations that declare e-bikes and their lithium-ion batteries as electrical articles. The *NSW Gas and Electricity (Consumer Safety) Act 2017* requires e-bikes and other e-micromobility devices and their associated rechargeable lithium-ion batteries supplied in NSW to meet certain internationally accepted product standards and be appropriately tested, certified and labelled before they enter the market. Additionally, NSW Fire and Rescue have published guidance for consumers on how to safely store and charge e-bikes.

A key aim of the legislative changes recommended by NEST is to achieve greater harmonisation and consistency across jurisdictions. Work is underway to implement this and other recommendations made by the NEST, and in March 2026, Electrical Safety Ministers endorsed a work program and prioritises more consistent, risk-based regulation of household electrical consumer products across jurisdictions.²²

Conversion kits

E-bike conversion kits consist of a motor, battery and other components that convert conventional pedal bicycles into e-bikes. There is increasing concern about hazards presented by e-bike conversion kits, which are often installed by consumers without technical expertise.

Hazards associated with conversion kits include the following:

Speed

Some conversion kits can enable power outputs and speed limits that exceed state and territory road use laws (high-powered conversion kits). Additionally, conventional pedal

¹⁸ Queensland Fire Department Submission, [Inquiry into e-mobility safety and use in Queensland](#), [PDF 5 MB], 2025, accessed 7 August 2026.

¹⁹ Queensland Fire Department, ['Lithium-ion battery safety. Choose safe. Charge safe. Recycle safe.'](#), 7 September 2026, accessed 29 October 2026.

²⁰ Strata Community Association (Vic) Submission, [ACCC Lithium-ion Batteries Issues paper](#), [PDF 2.0 MB], 2023, accessed 31 August 2026.

²¹ Department of Finance, ['Review of the Regulatory Framework for the Safety of Household Electrical Products'](#), 19 December 2025, accessed 28 August 2026.

²² Treasury, ['Electrical Safety Ministers commit to national reform plan'](#), 8 April 2026, accessed 28 August 2026.

bicycles may not have the braking capacity required to handle the enhanced weight and speeds of a converted e-bike.

Structure failure

High-powered conversion kits increase the risk of cracks or structural failure as conventional pedal bicycles are unlikely to be manufactured to withstand the forces of a motorised system, unlike complete system e-bikes.²³

Fire

Available data shows that converted e-bikes have an increased fire risk and are significantly more likely to experience a thermal runaway event than manufactured complete system e-bikes. For example, a 2025/26 NSW inquest into a lithium-ion battery fire received advice that often fires involving e-micromobility devices are linked to unauthorised and unlicensed 'backyard' operations.²⁴

Not all conversion kits include the necessary battery or battery charger when sold, meaning the battery and charger must be purchased separately, sometimes from different suppliers. This increases the fire risk due to the potential of incompatible components being used, as consumers may use a battery and charger that may not be compatible with their motor and wiring system.²⁵ For example, where a battery isn't supplied as part of a conversion kit, a consumer could easily pair a battery with a conversion kit that is not compatible with the power level of the motor. They could also use a battery charger bought separately, which could be incompatible with the charging voltage and electrical current limits of the battery. All such incompatibilities in voltage, current and power can contribute to battery thermal runaway. Consumers also risk not having the technical expertise to safely install conversion kits at home.

Data from the London Fire Brigade found nearly 40% of e-bike fires in London between January and June 2023 were caused by faulty or poor-quality conversion kits.²⁶ London has since banned most e-bikes from parts of its transport network.²⁷ Domestically, the NSW and Victorian governments have also banned converted e-bikes on rail networks following multiple battery related fires.

Tampering methods and devices

Tampering methods and devices include information, services, software or kits which can be used to modify an e-bike's (or conversion kit's) operating settings, such as its motor power output or maximum power-assisted speed.

E-bikes which meet the power output and speed restrictions of road use laws at the time of sale may then become non-compliant through tampering to override factory set parameters.

Tampering presents a safety hazard as e-bikes can be modified to increase power output and speeds to where they are illegal for use in public spaces, and create a hazard to the

²³ Zoomo, '[Conversion kit risks for e-bikes](#)', 20 February 2025, accessed 4 August 2026.

²⁴ Wakatama, G, '[Inquest told YouTube-inspired battery modifications caused fires](#)', ABC News, 27 August 2026, accessed 2 September 2026.

²⁵ UK Office for Product Safety & Standards (2025), '[Personal Light Electrical Vehicle \(PLEV\) Battery Safety Research](#)', accessed 2 September 2026.

²⁶ Warren J, Edwards T, '[E-bikes: 40% of fires from conversion kits – brigade says](#)', BBC, 16 August 2023, accessed 7 August 2026.

²⁷ Transport for London, '[TfL announces safety ban of non-folded e-bikes on its transport network](#)', 26 March 2025, accessed 7 August 2026.

rider and other road and pathway users. Modifications can be made by using unlock codes, third-party or aftermarket kits, or come installed with an 'off-road' toggle-switch to override restrictions.

Tampering methods and devices can be applied, installed or bought by consumers, or provided by a supplier either at the point of sale or after the purchase of an e-bike.

Cost of injury

In addition to the physical harm to riders and members of the public, to assess the case for regulation, it is important to evaluate the economic costs associated with e-bike injuries. The most immediate and apparent costs are those to the public health system through emergency department presentations and hospital admissions.

A 2024 estimate²⁸ places the average cost of an emergency department presentation as \$692 per presentation. If a patient is then admitted to hospital, this cost rises to \$1296.

According to data provided by VISU, there were 1,097 presentations and 819 admissions to emergency departments in Victoria between 2020 and 2025 (VISU data does not capture all emergency departments in Victoria). The estimated cost to the Victorian public health system for these emergency visits is at least \$1,820,548 over the 6-year period; an average annual cost of \$303,425 (noting this figure would be higher when factoring all Victorian emergency departments).

There is no national database to obtain hospital presentations for e-bikes, and limited data is available for states and territories. According to estimates, Victoria makes up approximately 25% of the Australian e-bike market. If we assume presentations figures are similar across states and territories and proportionate to market share, this would mean an estimated minimum cost to Australia's public health system of \$1,213,700 per year. This figure also assumes an average cost for an e-bike hospital presentation or admission reflects the overall average cost. To the extent that e-bike related injuries may involve significant trauma, these figures are likely to underestimate such costs.

This figure is conservative as it is only for estimated emergency department presentations and admissions. The true costs are likely to be significantly higher than the estimations provided, due to the lack of accurate injury and hospital data. It also does not include broader economic costs such as first responder or ambulance response, extended hospital admissions, private hospital treatments, ongoing medical costs, support services or productivity loss.

E-bike related injuries place a significant and continuing burden on emergency departments and the broader health care system, with high hospital admission rates and severe trauma incidents highlighting the need for effective regulatory intervention to reduce the burden.

As outlined above, the ACCC is aware of multiple fatalities associated with e-bikes, with 23 fatalities between 2021 and 2025. It is arguably not possible to place a dollar amount on the full value of a person's life. However, when considering policy proposals, guidance by the Office of Impact Analysis²⁹ estimates the value of a statistical life is \$5.87 million. Based on this, the 23 fatalities between 2021 and 2025 resulted in an estimated cost of \$135 million over 5 years, or \$27 million per year.

²⁸ Royal Australian College of General Practitioners, General Practice Health of the Nation 2024, [Chapter 3: General practice viability](#), accessed 2 September 2026

²⁹ Office of Impact Analysis, [Value of statistical life](#), accessed 2 September 2026

Together, the figures above estimate the economic cost of injuries and fatalities related to e-bikes to be at least \$28 million per year. However, the true impact is much greater, including due to the long-term costs faced by families and caregivers as well as governments following severe injuries or fatality.

Government regulations for e-bikes

Imports

The Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts regulates the importation, supply and safety of road vehicles in Australia under the *Road Vehicles Standards Act 2018* (RVSA). There are a range of import restrictions and requirements that apply to road vehicles. E-bikes which meet the European voluntary standard, EN 15194 – Cycles – Electrically power assisted cycles – EPAC Bicycles, are not road vehicles, as defined by the Road Vehicle Standards (Classes of Vehicles that are not Road Vehicles) Determination 2021 (Cth)³⁰.

This means that e-bikes which comply with EN 15194 are not classified as road vehicles and are therefore not subject to road vehicle import laws or import approval requirements.

E-bikes that do not meet EN 15194 can be imported but may be held by the Australian Border Force pending an assessment to confirm the e-bike is not a road vehicle. If deemed to not be a road vehicle, the e-bike will be able to be imported.

State and territory road use laws

To address road use hazards, Australian states and territories regulate the use of e-bikes in public spaces. These regulations are enforced by state and territory police.

Use laws differ slightly across jurisdictions but generally cover:

- **Speed and power restrictions:** Across most jurisdictions, e-bikes with continuous rated motor outputs that exceed 250 W and provide power-assistance over 25 km/h are illegal to use in public spaces (such as paths and roads). The legal motor output and power-assist speeds are aligned with requirements in the EN 15194 standard, and in Qld and WA, and soon NSW, e-bikes must also comply with EN 15194 to be ridden in public spaces.
- **Age restrictions:** Some jurisdictions prohibit the use of e-bikes by people under the age of 16 or 18, or require children be supervised by an adult.
- **Helmet requirements:** All jurisdictions require riders to wear a properly fitted and fastened helmet while riding on public roads.
- **Prohibitions:** All jurisdictions prohibit careless, reckless or dangerous riding, such as riding under the influence of alcohol or drugs or using a mobile phone while riding.

Supply laws

While state and territory use laws seek to address the safe use of e-bikes, there is no national regulation that addresses the supply of safe e-bikes.

³⁰ [Road Vehicle Standards \(Classes of Vehicles that are not Road Vehicles\) Determination 2021](#) (Cth), accessed 17 September 2026.

However, as previously noted, in NSW e-bikes are classified as declared electrical articles under the *Gas and Electricity (Consumer Safety) Act 2017 NSW*, meaning e-bikes, batteries and chargers must undergo independent testing and certification to prescribed safety standards, and comply with marking requirements prior to sale.

As noted above, the legislative changes recommended by the NEST to regulate extra-low voltage electrical products aim to harmonise similar requirements across states and territories.

Policy objectives and recommended proposal

Policy objectives

As the shift towards more affordable, accessible and sustainable transport grows, e-bikes are increasingly being used by the community as a source of everyday transport. The increasing risk of fire, injury and death is of significant concern and urgently needs to be addressed to reduce harms to Australians in this rapidly growing market.

Our policy objectives are to:

- Reduce injury and death resulting from the supply of unsafe e-bikes, conversion kits, e-bike batteries and battery chargers and tampering methods and devices, and reduce associated cost of injury.
- Maintain community benefits from e-bikes and conversion kits by ensuring those that are supplied are safe.
- Ensure competition and trade are not significantly impacted by regulatory intervention.

Policy proposal: Introduce an ACL safety standard for e-bikes

To address the risk of injury and death from a consumer good, the responsible Minister has powers under the Australian Consumer Law (ACL) to introduce an ACL safety standard. Introducing an ACL safety standard would allow Australians to be more confident that the e-bikes and associated components and devices they are purchasing meet minimum safety requirements.

Subject to and following consultation with stakeholders, should the ACCC consider that an ACL safety standard best achieves the policy objectives, it is likely that the ACCC will recommend to the Minister that a safety standard be implemented to address harm to consumers.

While the implementation of an ACL safety standard would address product safety issues, it would not eliminate injury or death from unsafe use (such as riding under the influence or riding without a helmet), or environmental factors (such as wet weather or collisions with pedestrians or objects). However, removing the supply of high-powered e-bikes and conversion kits would help to reduce the severity or prevalence of injury and death, reducing harm to consumers and pressures on the health care system.³¹

States and territories will continue to play a critical role in managing e-bike safety through the effective enforcement of existing use laws.

³¹ Challenges with regulating supply via online marketplaces also remain, but are being considered in other policy processes.

Safety requirements

An ACL safety standard would require e-bikes and conversion kits supplied in trade or commerce to meet minimum safety requirements by complying with requirements set out in existing voluntary safety standards. It may require e-bikes to comply with additional safety requirements set out in the ACL safety standard.

Voluntary safety standards are made by expert technical committees of standards making bodies to address risks and hazards posed by consumer products. ACL safety standards can reference multiple voluntary safety standards, which provides suppliers with a range of compliance options when supplying products. Voluntary safety standards can also be referenced as they exist from time-to-time (dynamic referencing), meaning updates to voluntary safety standards flow through automatically to ACL safety standards. This means ACL safety standards would keep pace with global product safety developments.

We note that state and territory electrical regulators also adopt voluntary safety standards into regulations (which make them mandatory in that jurisdiction), for example for low-voltage battery chargers.

Compliance with appropriate voluntary safety standards is likely to enhance the safety of e-bikes and minimise product design, electrical, mechanical and structural failures by requiring manufactures to meet a minimum set of design, construction and testing requirements.

The ACCC has identified existing voluntary safety standards published by reputable standards making bodies that may be suitable to reference in an ACL safety standard for e-bikes in the table below:

Note: Not all voluntary safety standards listed below will apply to all types of e-bikes.

Standard	Requirements
EN 15194 – Cycles – Electrically power assisted-cycles – EPAC Bicycles	Specifies safety and safety related performance requirements for the design, assembly, and testing of EPAC bicycles and subassemblies intended for use on public roads, and provides guidelines for instructions on the use and care of such bicycles.
EN 17404 – Cycles – Electrically power assisted-cycles – EPAC Mountain bikes	Is based on EN 15194 with modifications specific to address EPAC mountain bikes.
ISO 4210 – Safety requirements for bicycles (parts 2- 10)	Specifies safety, performance and testing requirements for the design and assembly of bicycles and Part 10 for electrical systems for EPACs.
EN 17860 – Carrier Cycles (parts 2 and 5)	Specifies terms and definitions related to safety and performance requirements for the design, assembly, and testing of carrier cycles. A carrier cycle is defined as a cycle specifically for transporting goods and/or passengers and are commonly referred to as cargo bikes or delivery (bi)cycles.

The above standards address key safety aspects associated with e-bikes by:

- providing maximum motor output and throttle and power-assistance speeds
- prescribing safety and testing requirements for batteries and electrical systems
- specifying design, safety, and testing requirements for structural and mechanical components

- restricting consumers and suppliers from modifying parameters to increase speed or power restrictions
- requiring manufacturers to provide instructions and safety information
- requiring manufacturers to provide permanent markings and product information identifying that the e-bike is compliant with the relevant standard.

While risk cannot be eliminated entirely, an ACL safety standard would provide a comprehensive safety framework and provide consumers with more confidence that a product has been designed and manufactured to minimise safety risks.

Scope

The ACCC is seeking views on the scope of a potential ACL safety standard. While we propose the scope would apply generally to electrically power-assisted bicycles, we are particularly interested in views on the following.

Second-hand e-bikes

Voluntary safety standards generally apply requirements for the manufacture and testing of new products.

Subject to stakeholder views, we consider second-hand e-bikes, supplied in trade or commerce, should meet minimum safety requirements at time of supply, such as being limited to provide a maximum motor power of 250 W continuous rated output, maximum throttle speed of 6 km/h and maximum power-assisted speed of 25 km/h, but should be exempt from meeting the additional requirement of a referenced voluntary safety standard for e-bikes. We also consider second-hand e-bikes should be supplied with compatible battery chargers which meet the requirements of a safety standard to reduce the risk of fire.

Shared hire e-bikes

E-bikes for hire under a shared service (shared hire e-bikes) are those hired from unattended stations through a wholly or partly automated electronic system. These e-bikes are used by many in the community for short trips or combined with public transport. Shared hire e-bikes are professionally managed by suppliers who typically implement routine inspection and maintenance programs to mitigate risks of product failure due to high use and accidental damage.

The risk and impact of fires from battery failures are also mitigated by suppliers conducting routine battery and vehicle condition monitoring, and because consumers aren't charging these devices personally, removing the likelihood of unsafe charging practices or fires occurring within homes or other residential settings.

In addition, shared hire e-bike suppliers may be required to supply e-bikes that comply with state and territory use laws and (where applicable) electrical safety requirements, and commonly maintain insurance arrangements to manage operational risks.

While we acknowledge these safety measures may be in place, we propose shared hire e-bikes should also be required to comply with a proposed ACL safety standard. As with second-hand e-bikes, we consider shared hire e-bikes should be limited to only provide a maximum motor power of 250 W continuous rated output, maximum throttle speed of 6 km/h and maximum power-assisted speed of 25 km/h, but be exempt from meeting the additional requirements of a referenced voluntary safety standard. We also do not consider a

requirement to supply the e-bikes with a compatible charger is necessary for shared hire, e-bikes.

We welcome submissions from operators of e-bike hire schemes on compliance programs to mitigate risks of mechanical or electrical failure associated with hire e-bikes.

General hire e-bikes

In addition to shared hire e-bikes from unattended stations, e-bikes can be hired from attended stations such as retail outlets, hotels or tourism operators (general hire e-bikes).

As with second-hand e-bikes, we consider general hire e-bikes should provide a maximum motor power of 250 W continuous rated output, maximum throttle speed of 6 km/h, and maximum power-assisted speed of 25 km/h, and be exempt from meeting the additional requirements of a referenced voluntary safety standard for e-bikes. We also consider if the hirer is responsible for charging the e-bike, general hire e-bikes should be supplied with compatible chargers which meet the requirements of a safety standard.

Subject to stakeholder feedback about the proposed requirements for speed and power for general hire e-bikes, it is proposed that the requirements would need to be met each time a general-hire e-bike is hired.

Adaptive e-bikes

Adaptive e-bikes are specifically designed to accommodate riders with disabilities, reduced mobility, or unique physical support requirements. Adaptive e-bikes have different design features from conventional two-wheeled e-bikes to maximise accessibility, safety and rider independence, such as enhanced stability, custom seating, hand operated controls or other specified designs.

Mechanical requirements under any voluntary e-bike safety standard may not be appropriate or achievable for many adaptive e-bikes. However, the ACCC considers that electrical and battery safety risks remain relevant regardless of the design, and it may be appropriate for adaptive e-bikes to comply with electrical and battery safety requirements to ensure a consistent level of protection against fire, and other battery related hazards. We consider adaptive e-bikes should be limited to providing a maximum power-assisted speed of 25 km/h.

Subject to stakeholder feedback, given the diversity of adaptive designs and their important social and mobility benefits, we propose that adaptive e-bikes be subject to electrical and battery safety requirements, but not the mechanical requirements of voluntary e-bike safety standards. In addition to limiting power-assisted speeds to a maximum of 25 km/h, we are also seeking feedback on whether adaptive e-bikes should be subject to a maximum continuous rated motor power requirement, and maximum throttle assisted speeds.

Conversion kits

Safety of conversion kits cannot be assessed against the voluntary safety standards for e-bikes noted in this paper because the scope of the voluntary safety standards referenced in the table above apply to complete, fully assembled e-bikes.

Subject to stakeholder views, we consider conversion kits should provide a maximum motor power of 250 W continuous rated output, maximum throttle speed of 6 km/h, and maximum power-assisted speed of 25 km/h. Additionally we propose conversion kits should be supplied with safety information and instructions. We are also seeking views on whether

compliance with recognised electrical and battery safety standards would provide an appropriate and practicable basis for safety.

Tampering methods and devices

Along with the anti-tampering provisions outlined in EN 15194 and other voluntary e-bike safety standards, the ACCC is considering how to address methods that override restrictions on maximum power output and speeds on e-bikes. This includes addressing suppliers providing tampering information or services to consumers, as well as other tampering methods and devices.

We welcome views on how to address tampering methods and devices that modify the power output and speeds of e-bikes.

Policy options

Subject to stakeholder views, we propose the following policy options for an ACL safety standard to:

1. Require e-bikes, other than those proposed to be excluded, to meet EN 15194 or other referenced voluntary safety standards; and have continuous rated motor power of no more than 250 W and provide power-assisted speed only up to 25 km/h (when tested in accordance with EN 15194 or other suitable referenced voluntary standard). If supported, only e-bikes which meet these requirements would be allowed to be supplied in trade and commerce in Australia.
2. Require shared hire e-bikes to:
 - a. have continuous rated motor power of no more than 250 W
 - b. provide throttle speed only up to 6 km/h
 - c. provide power-assisted speed only up to 25 km/h.
3. Require general hire e-bikes and second-hand e-bikes to:
 - a. have continuous rated motor power of no more than 250 W
 - b. provide throttle speed only up to 6 km/h
 - c. provide power-assisted speed only up to 25 km/h
 - d. be supplied with a compatible battery charger which meets the requirements of a safety standard for:
 - i. all second-hand e-bikes
 - ii. general hire e-bikes if the hirer is responsible for charging the e-bike.
4. Require conversion kits and adaptive e-bikes to be supplied with maximum continuous rated motor power and throttle speeds, and provide power-assisted speed only up to 25 km/h.
5. Require conversion kits to make information available prior to sale and supplied with the product detailing:
 - a. compatible bike wheel size
 - b. technical specifications of supplied parts
 - c. compatible batteries and chargers
 - d. safe battery charging, storage and disposal information

- e. correct method of installation and assembling of parts
 - f. recommendations for safe use and general maintenance
 - g. relevant warnings.
6. Require batteries and battery chargers supplied with conversion kits and adaptive e-bikes to meet the requirements in a voluntary standard for batteries, chargers or electrical safety.³²
 7. Require all e-bike batteries and battery chargers sold separately to meet the requirements in a voluntary standard for battery or electrical safety.
 8. Address tampering methods and devices that can override restrictions on maximum power output and speeds on e-bikes at time of supply.
 9. Specify the following requirements for e-bikes, regardless of which voluntary standard the e-bike complies with or if an e-bike is not required to comply with the requirements of any voluntary standard:³³
 - a. An audible warning device must be fitted (e.g. a bell)
 - b. The left handbrake to operate on the rear wheel and the right handbrake to operate on the front wheel
 - c. Reflectors to be installed as follows:
 - side reflectors that are white or yellow
 - a front reflector that is white
 - a rear reflector that is red.

If, following stakeholder consultation, the ACCC recommends to the Minister an ACL safety standard for e-bikes and the Minister decides to make such a standard, it is possible the Minister may require suppliers to comply with the safety standard immediately.

Have your say

We are seeking stakeholder views on the options for an ACL safety standard for e-bikes.

We are particularly interested in views from stakeholders about the scope and application of an ACL safety standard, and the suitability of voluntary safety standards it could adopt.

Have your say by completing the survey in the ACCC's Consultation Hub.

³² The proposed voluntary safety standards for batteries, chargers and electrical safety are listed in the consultation survey.

³³ These requirements mirror the requirements in the ACL safety standard for pedal bicycles.