



Quad bikes and side-by-side vehicles safety

Proposed work health and safety regulations

Discussion paper – May 2022



Workplace Health and Safety Queensland
worksafe.qld.gov.au



Purpose and scope

The Office of Industrial Relations (OIR) is investigating the introduction of work health and safety (WHS) regulations to improve the safety of workers and others when operating quad bikes and side-by-side vehicles (SSV) at a workplace.

The private use of quad bikes and SSVs outside of a workplace is not captured within the scope of this proposal.

This paper seeks feedback on the proposed scope of the regulations and the practical impacts for individuals, businesses, and the broader community. Feedback will inform the development of proposed regulations for quad bike and SSV safety under the Work Health and Safety Regulation 2011 (WHS Regulation).

OIR invites comments to be provided by email to whspolicy@oir.qld.gov.au by **Friday 17 June 2022**.

Background

Quad bikes and SSVs are popular vehicles due to their adaptability, ease of operation and low running costs and are often used by farmers, producers, local and state governments, search and rescue teams, and adventure tourism. However, their use is associated with a high number of injuries and fatalities and rider behaviour continues to be a concern.

Research indicates many operators have a strong perception of their riding ability, underestimate the inherent risks of operating quad bikes and SSVs, and do not believe that they are susceptible to incidents. The high rate of quad bike and SSV-related injuries and fatalities for children also highlights child safety as a key issue requiring attention.

Between 2017 and 2021, there have been 64 quad bike fatalities nationally, with at least 22 of them confirmed to be work-related. Queensland had the highest number of fatalities per jurisdiction over the same period—20 total, with at least seven confirmed to be work-related. To provide some comparative context for how high these figures for quad bikes are, there were around 41 fatalities nationally from being trapped by all moving machinery over the five years between 2016–20.

Injuries from quad bike incidents tend to be serious with research showing that around one in five quad bike incidents results in a head injury, and many of the injured are not wearing a helmet or being provided with adequate training.

Coronial inquest

A Coronial inquest in 2015 examined nine deaths caused by quad bike accidents in Queensland between 2012 and 2014 and focused on quad bike and SSV safety (the Coronial inquest). Of particular concern at the time was the continuous unsafe behaviour around child and passenger safety, the lack of evidence of formal training often associated with accidents, and the lax attitude of vehicle operators about helmets.

The Coronial inquest made fifteen recommendations to improve quad bike and SSV safety (see **Attachment 1**), including the following recommendations regarding legislative mandates and prohibitions:

- mandating helmet use by all quad bike and SSV operators once an Australian Standard for quad bike specific helmets is developed and implemented
- prohibiting the carriage of passengers on quad bikes other than those specifically designed to carry a passenger
- prohibiting children:
 - under the age of 16 from operating adult-sized quad bikes and SSVs
 - between the ages of 6 and 16 from operating a youth-sized quad bike or SSV that is not specified as appropriate in manufacturer instructions

- under the age of seven from being carried as passengers on adult-sized SSVs, as well as any child that is unable to sit with their back against the seat, feet flat on the floor, and hands on handholds
- under the age of 16 from being carried as passengers on adult-sized quad bikes.
- mandating training for quad bike and SSV operators through certification or licensing, once an improved and standardised nationally accredited training package is developed.

Non-legislative recommendations included safety measures, such as safety public awareness campaigns, developing an Australian helmet safety standard, and subsidising training.

Efforts to address quad bike and SSV safety in Queensland

Since the Coronial inquest, several initiatives, safety awareness campaigns and changes have been implemented in Queensland to influence rider behaviour and improve safety including:

- The *Transport Operations (Road Use Management – Road Rules) Regulation 2009* (Road Rules) was amended in 2017 to mandate helmet use for riders and passengers and prescribe passenger minimum age for these types of vehicles on public roads, which aligned these safety requirements with the existing rules for similar vehicles such as motor bikes.
- Regular targeted running of the ‘*Ride Ready*’ quad bike safety campaign which focused on training, wearing helmets, not allowing children on adult-sized quad bikes and other important skill and safety messages.
- Thousands of mail outs with quad bike safety information and resources provided to quad bike dealers, registered training organisations, agricultural colleges, schools, community groups and farmers across Queensland.
- Promotion of quad bike safety at agricultural field days, events, industry forums and workshops, and through social media platforms.
- The introduction of the *Consumer Goods (Quad Bikes) Safety Standard 2019* (Quad bike Safety Standard), which places additional requirements on protective devices and design on quad bikes. The final stage of the Safety standard came into effect in October 2021.
- Participation in updating the national model *Managing the risks of plant in the workplace* Code of Practice to incorporate further information in relation to the new Quad bike Safety Standard.

The Coronial inquest recommendations for mandatory regulation was similarly recommended by Coroners in New South Wales and Tasmania. As national agreement on regulations has not been reached, the development of Queensland-specific WHS regulations for quad bikes and SSVs is being pursued in its place.

Current regulatory environment in Queensland

The relevant legislation that currently applies to quad bike and SSV use in Queensland workplaces includes:

Road rules and registration

The *Transport Operations (Road Use Management) Act 1995* allows conditional registration for some road access for quad bikes and SSVs. Additionally, when used on public roads, the *Transport Operations (Road Use Management – Road Rules) Regulation 2009* and *Transport Operations (Road Use Management—Driver Licensing) Regulation 2021* set out requirements such as licensing minimum age, mandated passenger minimum age, helmet use, and a requirement to wear seatbelts in SSVs (if seatbelts are installed). These regulations do not apply when using quad bikes and SSVs where there are no public roads.

Australian Consumer law and Fair Trading

The Australian consumer product safety framework is underpinned by the Australian Consumer Law. Product safety regulation in Queensland is a shared responsibility between Australian Competition and Consumer Commission (ACCC) and the Queensland Office of Fair Trading (OFT). The ACCC's role is to identify and address the risk of serious injury and death from safety hazards in consumer products. This includes mandatory safety standards overseen by the ACCC for consumer goods, including new quad bikes, which impose certain requirements to prevent or reduce a risk of injury. The OFT works in collaboration with the ACCC to ensure that consumer products are safe for supply.

Work health and safety

Section 19 of the *Work Health and Safety Act 2011* (WHS Act) requires a person conducting a business or undertaking (PCBU) to ensure, so far as is reasonably practicable, the health and safety of workers and other persons while at work. This includes the provision and maintenance of safe plant, and the provision of information, training, instruction and supervision.

Sections 44–47 of the WHS Regulation require PCBUs to provide personal protective equipment (PPE) to workers where PPE is selected as a control measure to minimise risk to health and safety (section 44). Workers and other people have a duty to use/wear the PPE (sections 46–47). While helmets can be captured within these requirements, helmet use is not specifically mandated.

Under section 203 of the WHS Regulation, a person with management or control (PMC) of plant at a workplace is required to manage risks to health and safety. This includes managing the risk of powered mobile plant overturning, things falling on the operator, the operators being ejected from the plant, and the plant colliding with any person or thing (section 214). It also includes the implementation of specific control measures under section 215 of the WHS regulation in relation to operator protective devices.

The *Rural Plant Code of Practice 2004* also provides guidance on quad bikes, such as purchase considerations, risk assessment and control measure selection.

While these general WHS laws extend to quad bike and SSV rider and passenger protection in workplaces, they do not explicitly mandate helmet use and training, nor prohibit children using adult-size quad bikes and being carried as passengers in workplaces.

Proposed WHS Regulations for quad bikes and SSVs

In lieu of a national approach to strengthening WHS regulations for quad bike and SSVs safety in workplaces, OIR is proposing to introduce regulations in the WHS Regulation to implement the recommendations of the Coronial inquest and to align with Queensland road rule requirements.

It is proposed that regulations are implemented in a two-phase approach, as listed below. The first phase will primarily focus on relatively straightforward safety improvements like helmet, minimum age and safety requirements for the operation of quad bikes and SSVs in the workplace. The second phase will focus on the introduction of training requirements for the safe and competent operation of quad bikes in the workplace, which requires broader assessment of issues such as training requirements in different work contexts.

Phase 1 regulatory changes

Quad bikes in workplaces:

- any person operating or being a passenger on a quad bike must wear a helmet compliant with relevant safety standards
- any person operating a quad bike must be at least 16 years of age, or the minimum age recommended by manufacturers
- a quad bike is not used to carry a passenger, unless it is designed to carry a passenger, and the passenger is at least 16 years of age, or the minimum age recommended by the manufacturer.

SSVs in workplaces:

- any person operating or being a passenger in an SSV must wear a helmet compliant with relevant safety standards
- any person operating an SSV must be at least 16 years of age, or the minimum age recommended by manufacturers
- an SSV is not used to carry a passenger unless the passenger is at least 8 years of age, the passenger's feet can be placed flat on the floor while seated, and the passenger can hold the vehicle's handrail while seated (if the vehicle has handrails installed)
- any person operating or being a passenger of an SSV wears a seatbelt, if seat belts are fitted.

Phase 2 regulatory changes for consideration

- For both quad bikes and SSVs, a worker and other relevant persons operating a vehicle must be appropriately trained to ensure it is operated safely and competently.

Issues for consideration

To inform development of the proposed regulations, OIR is seeking public views on the scope and application of the regulations. This includes views on safety benefits, cost impacts, and application of the regulations to the broader use of quad bikes in workplaces (including use outside of the rural sector).

Helmets

The Coronial inquest noted that head injuries are a cause of a third of quad bike deaths, and in more than 80 per cent of these cases, the victims were not wearing a helmet. In SSVs, it is widely recognized by manufacturers and many WHS regulators that helmets can prevent head injuries.

The Coronial inquest recommended mandating helmet for quad bikes and SSV use in Queensland, once a specific Australian Standard for quad bike helmets is introduced. Since the inquest, the recognition of the United Nations Economic Commission for Europe *Standard No. 22.05 Motorcycle Helmet Safety Standard (UNECE 22.05)* by all Australian road safety jurisdictions has negated the need for an Australian Standard.

All WHS regulators recommend wearing a helmet when operating quad bikes and SSVs at a workplace, with most regulators endorsing the UNECE 22.05 and *AS/NZS 1698–2006 Protective helmets for vehicle users (AS/NZ1698)* Standards (which as are also prescribed in Queensland's Road Rules). OIR is proposing to mandate the use helmets on quad bikes and SSVs that are compliant with UNECE 22.05 and AS/NZS 1698–2006.

Research conducted in February 2022 indicated the cost of purchasing a compliant helmet can range from \$130 to \$200. Examples include, the Thor Hallman McCoy open face helmet (UNECE 22.05 compliant, \$129), Nitro X582 Tribute (UNECE 22.05 compliant, \$139) and

M2R Custom FG Open Face Helmet (AS/NZS1698 compliant, \$180). There were numerous retailers supplying compliant helmets such as BikeBiz, Cyclecraft, Noosa Scooter Style, MotorCycles, Nitro Rider, MX Store, and Scooter Central.

OIR is seeking public views on the proposal to mandate helmet use on quad bike and SSVs compliant with UNECE 22.05 and AS/NZS 1698–2006. Views on other standards, such as the *NZS 8600:2002 – All-terrain vehicle helmets* are also invited, noting that WorkSafe Victoria and SafeWork NSW accept NZS 8600:2002 helmets in speeds under 30 km/h. When considering the viability of this standard, consideration should be given to controls which limit the speed of vehicles to ensure safe work practices.

Questions:

1. Do you support the proposal to mandate the use of helmets compliant with UNECE 22.05 and AS/NZS 1698–2006 standards? Are there any other standards that should be considered?
2. In your experience, do businesses already use compliant helmets and to what extent?
3. Do you anticipate any barriers to complying?
4. Any other comments relevant to this proposal?

Operators and passenger safety— age and design restrictions for vehicles

As found in the Coronial inquest, it is widely accepted that it is not appropriate for children under 16 to operate adult size quad bikes and SSVs, and that carriage of passengers on quad bikes designed for single operators is unsafe.

Findings in the Coronial inquest state that over 17 per cent of all quad bike deaths were children under the age of 16 years, either as operators or passengers. The majority of deaths were caused by either operating an adult size quad bike, or a quad bike that was too big for their age category. In terms of quad bike passenger accidents, many occurred where quad bikes clearly designed for single operator were carrying passengers.

All quad bikes and SSVs have age and passenger categories developed by manufacturers, who are required to comply with Australian Consumer and Safety laws. Quad bikes are usually categorized by manufacturers as 6+, 10+, 12+, 14+ or 16+. The vast majority of quad bikes in Australia are designed for single operators with labels and manuals warning against passengers on bikes designed for one operator. SSVs also have adult and youth size categories.

To improve the safety of operators and passengers of quad bikes and SSVs, it is proposed to introduce the following requirements:

- **Operators:**
 - Minimum age of operators of quad bikes and SSVs to 16, or the minimum age recommended by manufacturers.
- **Passengers:**
 - A *quad bike* is not used to carry a passenger, unless it is designed to carry a passenger, and the passenger is at least 16 years.
 - An *SSV* is not used to carry a passenger unless the passenger is at least eight years of age, the passenger is wearing a seatbelt and a compliant helmet, the passenger's feet can be placed flat on the floor of the SSV (while seated), and the passenger can (while seated) hold the vehicle's handrail (if any).

Given that Section 4 of the *Child Employment Regulation 2016* generally prohibits the employment of children below 13, OIR anticipates that the proposed regulations would only affect a small cohort of workers between 13 and 16 years.

OIR is seeking public views on how the introduction of these operator and passenger restrictions would affect their workplaces.

Questions:

5. Are there any unintended impacts anticipated from the proposed age and design restrictions (setting a minimum age for quad bike operators/passengers; and, for SSVs, a minimum operator age, minimum passenger age/height requirements, and seat belt requirements)?
6. Do you anticipate any barriers to compliance with the proposed regulations?
7. Are there any other comments relevant to this proposal?

SSV seat belts

There is increasing evidence that SSV seat belts can reduce the likelihood or severities of crush injuries. This was evident in two Queensland fatalities in 2021, where operators suffered fatal crush injuries when the SSVs rolled over and they were not wearing seatbelts and were ejected from their seats.

Wearing properly fitted seatbelts reduces the risk of ejection from the operator or passenger seat of an SSV. It also provides additional safety where sudden stops, rollovers and collisions with fixed objects occur (such as trees).

Longstanding Road Rules already require that seatbelts are worn, where vehicles such as SSVs have them installed. To further encourage safe behaviour when using SSVs, OIR is proposing to adopt this rule in WHS regulation and mandate the use of seat belts in SSVs, where a vehicle has seat belts installed.

Questions:

8. Do you anticipate any barriers to compliance with the proposed regulations?
9. Are there any other comments relevant to this proposal?

Training

The findings of the Coronial inquest highlighted the need for improved nationally recognised training courses and recommended introducing legislation for training once these improvements have been implemented. The mandating of training is being actively considered but not progressed at this stage, as it is a more complex regulation and requires further research.

Since the Coronial inquest findings were handed down, the national quad bike and SSV training courses were updated and the new courses - *Operate quad bikes (AHCMOM217)* and *Operate side by side utility vehicles (AHCMOM216)* came into place in December 2018. All WHS regulators recommend some form of quad bike and SSV training, and many actively encourage completing *AHCMOM217* and *AHCMOM216* courses.

These courses are aimed at providing workers with the skills and knowledge to safely operate quad bikes and SSVs. They cover safety content such as identifying hazards and risks, implementing safe working practices to manage risks, appropriate personal protective equipment, identifying dangerous terrain, and effective riding techniques. More information on the course competencies is available at:

- training.gov.au/Training/Details/AHCMOM217
- training.gov.au/Training/Details/AHCMOM216.

Across Queensland there are at least 25 registered training organisations (RTOs) offering these courses at a cost of around \$585 plus GST per person, with a duration ranging between half-a-day to one day. The courses are conducted across Queensland with some RTOs, such as the Australian 4WD Driver Education offering training on site.

OIR is seeking views on requiring (rather than merely encouraging) training for quad bikes and SSVs users in workplaces. This includes views on whether *AHCMOM217* and *AHCMOM216* cover the appropriate competencies, skills and knowledge required to safely operate these vehicles.

Targeting training requirements to different users

OIR is also investigating whether the training requirements should be targeted to different types of workplaces. For example, the *AHCMOM217* and *AHCMOM216* courses may be appropriate for workers who undertake complex quad bike/SSV operations. Farm workers are an obvious category of worker to whom these training requirements may be beneficial.

Other forms of work, such as the tourism-related jobs involving quad bikes and SSVs, or workers undertaking simple riding tasks, may also require training, but to a less advanced degree. Providing targeted training courses that cover minimum competency requirements may be sufficient for these types of users.

Questions:

10. Do you use formal quad bike and SSV training? If so, what was the training, and what was your experience with it?
11. What are your views on the *AHCMOM217* and *AHCMOM216* courses? What types of workers would benefit from these courses?
12. Are there other types of training suitable for workers or persons who use these vehicles in the workplace?
13. Do you anticipate any barriers to compliance with mandated training? If so, what are they? How could these barriers be overcome?
14. Are there any other comments relevant to this proposal?

Attachment 1: 2015 Coronial Inquest into nine deaths caused by quad bike accidents - List of recommendations

Recommendation 1

It is recommended that Safe Work Australia, the Federal Chamber of Automotive Industries, and the Australian Quad Distributors Association work with AgriFood Skills Australia to develop an improved and standardised quad bike and side by side vehicle nationally accredited training package.

It is suggested that the starting point would be to adopt the 'off the shelf' Speciality Vehicle Institute of America's training packages already in existence, with additional components that focus on particular work environments in Australia.

Recommendation 2

It is recommended that once an improved nationally accredited quad bike training package is developed, the Queensland Government:

- a) introduce legislation to mandate the completion of the nationally accredited training by all quad bike riders and side by side vehicle drivers, through a certification or licensing scheme. The scheme should investigate whether it is appropriate to provide some more limited standard of training for casual users, for example, in quad bike tourism operations operating in a controlled environment.
- b) subsidise the training, including subsidising Registered Training Organisations, to provide the training to remote areas in Queensland to decrease participation barriers; and
- c) launch an ongoing public awareness campaign about the importance of quad bike and side by side vehicle training in reducing serious injury and deaths.

It is suggested that the Speciality Vehicle Institute of America's model legislation be considered as a starting point for the legislative regime.

Recommendation 3

It is recommended that Safe Work Australia, the Federal Chamber of Automotive Industries and the Australian Quad Distributors Association initiate the process of introducing an Australian Standard for quad bike specific helmets to meet the needs of the agricultural community.

It is suggested that the New Zealand standard entitled 'All-Terrain Vehicle Helmets' (NZS 8600:2002) be considered for adoption after further investigation is completed as to its appropriateness. The standard should provide that competitive recreational riders and road users must still wear helmets that comply with the Australian Standard for motorcycle helmets (AS 1698), or other similar international Standards.

Recommendation 4

It is recommended that the Queensland Government direct the Queensland Department of Transport of Main Roads to amend their 'Guideline' relating to conditional registration for quad bike and side by side vehicle operation on roads and road related areas, to include mandatory helmet use. For road usage, helmets should comply with the Australian Standard for motorcycle helmets (AS 1698) or other similar international standards.

Once an Australian Standard for quad bike specific helmets is implemented, it is recommended that the Queensland Government:

- a) introduce legislation to mandate the wearing of helmets (which comply with the Australian standard) by all quad bike and side by side vehicle operators in Queensland;
- b) launch an ongoing public awareness campaign about the importance of wearing helmets on quad bikes and side by side vehicles in preventing death and serious injury.

It is suggested that the Specialty Vehicle Institute of America's model helmet legislation be considered as a starting point for the legislative regime.

Recommendation 5

Noting that children between 6–16 are permitted to operate 'youth sized' quad bikes and side by side vehicles, according to the manufacturer's age recommendation for a particular vehicle, it is recommended that the Queensland Government introduce legislation to:

- a) prohibit children under the age of 16 from operating adult sized quad bikes and side by side vehicles;
- b) prohibit children between the ages of 6 and 16 from operating a youth sized quad bike or side by side vehicle, that is not specified to be appropriate according to the manufacturer's age recommendation for that particular vehicle;
- c) prohibit children under the age of 7 from being carried as passengers on adult-sized side by side vehicles, as well as any child of whatever age if they are unable to sit with their back against the seat, feet flat on the floor and floor rests, and hands on handholds; and
- d) prohibit children under the age of 16 from being carried as passengers on adult-sized sit-astride quad bikes.

It is suggested that the Specialty Vehicle Institute of America's age-based model legislation be considered as a starting point for the legislative regime.

It is recommended that the Queensland Government support the introduction of the legislation with an ongoing public awareness campaign about the dangers of parents and guardians allowing children to ride adult sized vehicles and 'youth sized' vehicles that are inappropriate for the age of the relevant child.

Recommendation 6

It is recommended that the Queensland Government:

- a) introduce legislation to prohibit carriage of passengers on quad bikes other than those specifically designed to carry an operator and a passenger; and
- b) launch an ongoing public awareness campaign about the importance of only carrying passengers on quad bikes and side by side vehicles that are designed to carry a passenger (to reduce the chance of loss of control and roll over) and to highlight the importance of carrying age-appropriate passengers in accordance with the manufacturer's recommendations on vehicles that are designed to do so.

It is suggested that the Specialty Vehicle Institute of America's age-based model legislation be considered as a starting point for the legislative regime.

Recommendation 7

It is recommended that Safe Work Australia manage or oversee the development of an Australian Standard, or the like, for crush protection devices fitted on sit-astride quad bikes in Australian workplaces.

Recommendation 8

It is recommended that Safe Work Australia and the manufacturers of the Quadbar and Lifeguard:

- a) fund an independent survey study of all persons who currently use the Quadbar and Lifeguard crush protection devices to obtain 'real world' feedback regarding their effectiveness. (The study could also potentially be expanded to consider the estimated 10 per cent of the New Zealand quad bike population who are believed to be utilising crush protection devices)
- b) develop guidance for workplaces to assist them in conducting a more informed risk assessment as to whether a crush protection device is appropriate for their situation.

Recommendation 9

It is recommended that the manufacturers of the Quadbar and Lifeguard crush protection devices provide their customers with written guidance about what to do in the event of a roll over where their crush protection device is fitted.

Recommendation 10

It is recommended that the Federal Chamber of Automotive Industries and the Australian Quad Distributors Association initiate the process of developing an Australian Standard through Standards Australia, in consultation with relevant stakeholders, for the design, manufacture, import and supply of quad bikes and side by side vehicles to Australia.

It is suggested that the Australian Standard should be based on the US Standard.

Recommendation 11

It is recommended that Safe Work Australia consider whether a different safety standard is required for workplace and on-road quad bikes. If so, it is recommended that Safe Work Australia initiate the process of either an Australian Standard, or a Vehicle Standards Bulletin, in consultation with the industry and other relevant stakeholders.

Recommendation 12

It is recommended that Safe Work Australia, and each of the state and territory work health and safety authorities contribute to the development of a quad bike and side by side vehicle star rating program, given that the program is focused predominantly on reducing serious injuries and deaths in the workplace.

The University of New South Wales Transport and Road Safety Research team's proposed quad bike and side by side star rating program should be considered as a good start for consideration of the program so long as it is ensured that it is evidence based (in consultation with the industry).

Recommendation 13

It is recommended that the Australasian New Car Assessment Program further develop and administer the star rating system once it has been established.

Recommendation 14

It is recommended that the Queensland Police Service:

- a) introduce a standardised investigation template for all quad bike and side by side vehicle related fatalities, to supplement existing reporting to the Coroner. This should be developed through consultation with the Federal Chamber of Automotive Industries, the University of New South Wales Transport and Road Safety Research team and the Office of State Coroner;

- b) improve investigator training to cover specific issues arising in quad bike and side by side vehicle fatalities. This should be achieved by adding a module to the existing training regime in consultation with the FCAI and the UNSW TARS team;
- c) consult with all other State and Territory Police Services in an effort to encourage them to implement the same initiatives, so that a national approach is taken.

Recommendation 15

It is recommended that all State and Territory Police Services consider implementing the Queensland Police Service standardised investigation template and improved investigation training for quad bike and side by side vehicle fatalities, once completed.



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