

# Impact Analysis Statement

## Summary IAS

### Details

Lead department	Office of Industrial Relations (OIR)
Name of the proposal	Amendments to the <i>Work Health and Safety Regulation 2011</i> to introduce age restrictions, passenger restrictions, and mandate helmets for quad bikes used in workplaces
Submission type	Summary IAS
Title of related legislative or regulatory instrument	Work Health and Safety (Quad Bikes) Amendment Regulation 2024
Date of issue	29 February 2024

#### What is the nature, size and scope of the problem? What are the objectives of government action?

**NOTE: The use of quad bikes outside of a workplace is not captured within the scope of this proposal as it is outside the scope of the work health and safety legislative framework.**

A quad bike (sometimes referred to as an all-terrain vehicle or an ATV) is a motorised off-road vehicle designed to travel on four low pressure, or non-pneumatic tyres, having a seat designed to be straddled by the operator and handlebars for steering control. They are popular vehicles for use at workplaces due to their adaptability, ease of operation and low running costs. In a work context, they are primarily used by farmers.

However, the use of quad bikes is associated with a high number of injuries and fatalities. The most common and serious quad bike injuries are:

- head injuries;
- injuries associated with passengers carried on single seat quad bikes who are thrown from the quad bike; and
- injuries to children who are operating adult-sized quad bikes.

Safe Work Australia reports that between 2011 and September 2023, there have been at least 187 quad bike fatalities. The highest proportion of these, some 54 fatalities (nearly 30%), occurred in Queensland, and at least 22 of those Queensland fatalities were work-related. The number of serious injuries are even higher.

The number of quad bike fatalities and serious injuries can be reduced by the wearing of helmets, not doubling on quad bikes meant for a single rider, and by not allowing children to operate adult size quad bikes. This is evidenced in several publications:

- data held by the National Coronial Information Database shows that the most common primary medical cause of death for quad bike related fatalities are head injuries (33.3% of all deaths). Of those head injuries, 84% of deceased persons were not wearing a helmet. According to the study titled '*No-one else wears one: Exploring farmer attitudes towards All-Terrain Vehicle helmets using the COM-B model*' and published in the June 2022 Journal of Safety Research, it is estimated that helmets can reduce the chances of brain injury by around 64% and death by around 42%.
- safety advice from the Sydney Children's Hospital Network (SCHN) recommends that adult sized quad bikes should not be used by children under 16. The SCHN points to studies showing that children lack physical and cognitive capacity to control and operate quad bikes safely, and do not yet have the skills to judge speed, distance and make critical lifesaving decisions.



- extensive workplace health and safety guidance across Australia, such as that included within [Safe Work Australia publications](#), warns operators that doubling on a single-seat quad bike increases the risk of rollover.

Quad bikes are already supplied with manufacturer instructions which detail safe rider and passenger behaviours. They instruct users to wear a helmet, not to double up on single seat quad bikes, and have user age recommendations. This is outlined in the owner manual as well as being prominently displayed on labels fixed on the quad bikes themselves. However, these warnings are often ignored or may not be provided with the quad bike should it be purchased second hand.

The 2015 coronial '*Inquest into nine (9) deaths caused by Quad Bike accidents*,' examined nine deaths caused by quad bike accidents in Queensland between 2012 and 2014. The coroner's recommendations were wide-ranging and included mandating the wearing of helmets, no children on adult quad bikes, and restrictions on passengers for quad bikes (other than those specifically designed to carry a passenger). There were also other recommendations in relation to training and raising safety awareness.

Since the Coronial inquest, a range of initiatives have been implemented to better manage quad bike risks and reduce the rate and severity of incidents across Queensland. These include:

- in 2017, the *Transport Operations (Road Use Management – Road Rules) Regulation 2009* (Road Rules) was amended to mandate helmet use for riders and passengers and prescribe passenger minimum ages for quad bikes when used on roads or road-related areas.
- regular targeted running of the 'Ride Ready' quad bike safety campaign which focuses on training, not doubling on quad bikes, 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 phased introduction of the *Consumer Goods (Quad Bikes) Safety Standard* in 2019 and 2021, which places additional requirements (including protective devices) on quad bikes.
- the updating of the national model *Managing the risks of plant in the workplace Code of Practice* to incorporate further information in relation to the *Consumer Goods (Quad Bikes) Safety Standard*.
- quad bike safety work health and safety online guidance.

While these actions have had some success in raising awareness of the risks of quad bikes, fatalities and serious injuries continue to occur at unacceptably high rates in workplaces (particularly in an agricultural context). For example, between 2016 and 2022:

- Safe Work Australia recorded 84 quad bike fatalities nationally. Queensland had the highest proportion — 25 total (nearly 30%) — with at least nine confirmed to be work-related; and
- there were at least 37 quad bike workplace health and safety notifiable incidents in Queensland's agriculture, forestry and fishing industries, according to Work Health and Safety Queensland (WHSQ) data. Notifiable incidents include deaths and serious injuries such as from rollovers or being hit by or trapped under a quad bike. After tractors, quad bikes represent the second most common item of rural plant involved in workplace incidents. It should be noted that within the agriculture, forestry and fishing industry, these incidents historically tend to be underreported so the numbers are likely to be even higher.

The number of injuries do not appear to correlate to an increase in quad bike use. Although there is no data showing the total number of quad bikes operated in Queensland, the Queensland Department of Transport and Main Roads does collect the number of conditionally registered quad bikes. Quad bikes must be registered to be used on roads and road-related areas. This data shows that the numbers of registered quad bikes has remained steady from 2016 (approx. 2,000 registrations) to 2022 (approx. 1,900 registrations).

In May 2022, the Office of Industrial Relations (OIR) published the "[Quad bikes and side-by-side vehicles – Proposed work health and safety regulations](#)" consultation paper, which called for community and industry feedback on quad bike safety measures at workplaces, including introducing regulations for



mandatory helmets use, no children under 16 years of age on adult quad bikes and certain passenger restrictions.

OIR received 56 responses to the public consultation paper from primary producers, peak industry bodies, government agencies, health experts, child safety experts and other interested parties. The feedback largely confirmed that:

- helmets are viewed as improving safety on quad bikes;
- children should not operate adult quad bikes; and
- children and passengers should not be carried by quad bikes, unless the quad bike is specifically designed for this purpose.

In recognition of the public consultation feedback and in response to the Coronial Inquest recommendations, it is clear that Government action is needed to:

- reduce the number of fatalities and seriousness of head injuries in quad bike accidents at a workplace by ensuring helmets are worn;
- improve the safety outcomes of young workers and children who operate quad bikes in a workplace, by ensuring adult quad bikes are only used by people over 16 years and children only ride on age-appropriate quad bikes; and
- prevent passenger-related workplace injuries and deaths, by ensuring quad bikes are not used to carry passengers, unless they are specifically designed for that purpose.

It is anticipated that improving quad bike safety in workplaces will also have a positive impact on quad bike use generally, including recreationally and on private land.

#### **What options were considered?**

##### Option 1 – Status quo - Continue with reliance on adherence to manufacturer instructions and the delivery of awareness and education campaigns

Quad bike manufacturer instructions already have warnings against bad user behaviours and instructions on how to use a quad bike safely. However, many people ignore these warnings or do not receive them when the quad bike is purchased second hand.

This was confirmed by the findings of the 2015 coronial inquest which found that common thread in the examined deaths was that quad bike riders, and for children, their parents, ignored 'warned against behaviours' that were outlined in the owner manual and prominently displayed on labels fixed on the quad bikes themselves.

Various state and territory governments, including the Queensland Government, have delivered a significant amount of public awareness and education programs, however, the risks, fatalities and serious injuries continue to remain unacceptably high in workplaces, and, in particular, in agricultural operations.

As agricultural equipment tends to be retained for use for decades, it is unlikely that the number of quad bikes will reduce in the near term, meaning individuals will continue to be exposed to risk and fatalities and injuries will continue to occur.

Therefore, it is considered that maintaining the status quo will not curb poor rider behaviour or improve safety outcomes.

##### Option 2 - Increased government focus on quad bike training courses

Training in workplaces is already an existing requirement under section 39 of the *Work Health and Safety Regulation 2011* (WHS Regulation) which includes training employees who work with quad bikes.

OIR has investigated additional quad bike training options such as a requirement to undertake standardised mandatory training courses in workplaces. This was also considered by the 2015 coronial inquest, including making improvements to nationally recognised training and introducing legislative requirements to mandate training.

Since the coronial inquest findings, the national quad bike training unit was updated and a new Operate quad bikes (AHCMOM217) course came into place in December 2018. This course is not mandatory. It is an in-person training offered by various Registered Training Organisations (RTOs), aimed at providing



operators with generalised skills and knowledge to safely use quad bikes. The course covers content such as identifying hazards and risks, implementing practices to manage risks, appropriate personal protective equipment, identifying dangerous terrain.

Mandatory training would require workers either attend a course at a designated RTO site, or training on-site, if offered by RTOs. As at February 2024, there were at least 28 RTOs offering the AHCMOM217 course in Queensland. The cost ranges between \$450 to \$585 (GST exclusive) per person, with a duration ranging between half a day to one day. However, many RTOs do not offer training on site, meaning the courses would only be able to be attended at the RTO's premises. This would be difficult or impossible for many workers within the agricultural industry, many of whom are in rural and remote areas. In addition to the difficulty in accessing standardised training, feedback received by OIR in 2022 largely suggested that 'generalised' quad bike training would not be of significant benefit to workers as the contexts in which quad bikes are used (and the risks associated with these contexts) varies so widely.

It is therefore considered that a stronger focus on, or mandating of, standardised training courses would not deliver improved safety outcomes for quad bike users and passengers and is therefore not the preferred option.

### Option 3 – Introduce regulatory amendments to drive behavioural change (Preferred Option)

Given the existing non-regulatory initiatives have not meaningfully reduced the number of workplace quad bike injuries and fatalities, an option to change behaviours and achieve improvements in quad bike safety outcomes is to amend the WHS Regulation to:

- mandate that workplaces take all reasonable steps to ensure:
  - operators and passengers of quad bikes wear helmets;
  - operators of quad bikes are at least 16 years old, or the minimum age recommended by the quad bike manufacturer;
  - a quad bike is not used for carriage of passengers, unless it is designed to carry passengers, and the minimum age of passengers is at least 16 years old, or the minimum age recommended by the quad bike manufacturer.
- impose a duty on workers who are operating or being passengers of quad bikes, that, if a helmet was provided by a person with management and control at a workplace, they must wear that helmet.

It is well known that legislation can be effective in changing safety behaviour around vehicles. For example:

- the introduction of a legislative requirement to wear a seatbelt in the 1970s had a hugely significant impact on Australia's road toll. According to a study by Queensland's Centre for Accident Research and Road Safety, the seatbelt mandate changed the behaviour towards seatbelt use and reduced the road toll from over 3,382 deaths in 1968 to around 2,887 deaths per year in 1988, despite the significant increases in drivers and vehicles during those decades.
- the introduction of regulations requiring installation of age-appropriate child seats in cars (booster seats) in British Columbia was associated with a 10.8% reduction in the monthly rate of motor vehicle collision injuries in four to eight year-old children, according to a 2016 Canadian Paediatrics Child Health Journal article by J Brubacher, E. Desapriya, S Erdelyi and H Chan; and
- passenger restriction laws for novice drivers in the United States reduce the 16- and 17-year-old driver involvements in fatal crashes with teen passengers by 9%, according to a study by J Fell, M Todd and R Voas, published in the Journal of Safety Research in 2011.

Similar to the requirement for seatbelts, age-appropriate car seats, and restrictions on vehicle passengers, the requirements to wear helmets, operate age-appropriate quad bikes, and prohibiting passengers on single-seat quad bikes are of low regulatory burden, but have significant benefit in preventing loss of life and injury.

In summary, Option 3 will bring the most effective behavioural change while imposing a low regulatory burden, and is the preferred option.



## What are the impacts?

### Option 1 – Status quo - Continue with reliance on adherence with manufacturer instructions and the delivery of awareness and education campaigns

- *Economic impacts for employers*

If the status quo is maintained, the rate of quad bike work-related injuries is unlikely to reduce. This may cause sustained (or increased) losses in productivity and may also result in increases to workers' compensation insurance premiums paid by employers.

- *Social and financial impacts for workers and their families*

There are considerable social costs associated with this option for the broader agricultural industry (employers and workers, as well as their families and communities). Failure to reduce the workplace quad bike incidents will likely result in additional quad bike deaths or injuries, many of which have long lasting effects. Workers who sustain injuries in quad bike accidents often are able to work less hours than previously and/or are unable to continue working in their chosen industry. This can result in impacts such as unemployment and underemployment which has negative effects on both workers, their households and their communities.

- *Compliance Costs*

There will be no new compliance costs.

- *Broader economic and social impacts*

Continuation of the status quo will not result in any efficiencies in Government spending, such as lower public healthcare costs, as quad bike injuries will continue requiring public medical treatment. No broader productivity benefits, such as improved labour force participation and increased economic activity, will also be realised.

- *Overall effectiveness of addressing problem and objectives*

This option is not supported as it would not address the very serious risks posed by quad bikes, curb unsafe rider behaviour or improve safety outcomes.

### Option 2 - Increased focus on training programs

- *Economic impacts for employers*

There are significant costs associated with implementing a mandatory training framework.

The feedback from the 2022 consultation process identified that, while appropriate and targeted training is generally viewed as a way to improve safety on quad bikes, mandatory or prescribed training was overwhelmingly not supported due to significant complexities, shortcomings and high costs. For example:

- training has to be tailored to particular terrains and workplace risks to be of benefit which is difficult when quad bikes are used in such varied contexts. This more 'tailored' training would not be possible for a nationally recognised training course;
- training must be accessible to those in regional and remote areas;
- training may have significant cost implications for employers;
- there would be disruptions to the workforce if workers are required to go off site to undertake external training; and
- due to the seasonal and transient nature of the agricultural industry and their workers, there is a high turnover of employees which may mean that an additional external training requirement would be difficult to consistently achieve.

- *Social and financial impacts for workers and their families*

Attending a specified mandatory training course is likely to have some positive impacts on improving the safety of workers. However, given that there is already a training requirement under section 39 of the WHS Regulation, further mandatory training is not anticipated to combat the prevalent nonchalant attitudes around helmets, children on adult quad bikes, or passengers on single seat quads. Therefore,



this option is unlikely to have measurable social and financial impacts for workers and their families when compared with the status quo.

- *Compliance Costs*

A mandate on training is expected to have significant cost implications for employers. The cost of training can be upwards of \$450 per employee, with a duration ranging between half a day to one day. Many courses offered are also only able to be conducted at a designated RTO site, which would cause significant disruptions to the workplace if employees are required to go off site to undertake training.

- *Broader economic and social impacts*

The broader economic and social impacts will not materially differ from Option 1, given that Option 2 is unlikely to combat the prevalent nonchalant attitudes around quad bikes described above. Furthermore, any productivity benefits and increased economic activity in the Training and Education workforce sector are expected to be offset by productivity losses and decreased economic activity in the agricultural sector due to workforce disruptions and costs.

- *Overall effectiveness of addressing problem and objectives*

While additional targeted and appropriate training is important for those using quad bikes, this is unlikely to be feasible and of benefit for the majority of businesses and contexts for the reasons outlined above. The overwhelming feedback received through the 2022 consultation process was that mandatory or prescribed training is not supported.

### Option 3 – Introduce regulatory amendments to drive behavioural change (Preferred Option)

- *Economic impacts for employers*

Under Option 3, the rate of quad bike work-related injuries is expected to reduce. This is expected to increase business productivity, as less workers will take time off work. It may also result in decreases of workers' compensation insurance premiums for businesses who will have safer work practices after implementation.

As this option does not introduce requirements beyond those already recommended by manufacturers, it is expected it will have no additional cost impact on workplaces which already comply with those instructions. In addition, all businesses operating conditionally registered quad bikes are already subject to more stringent regulations under transport legislation.

While there is no data showing the total number of quad bikes operated in Queensland workplaces, it is anticipated that there will be a minor cost impact for workplaces who do not already comply with manufacturer instructions, such as:

- obtaining a helmet (or helmets) appropriate for a quad bike; and
- impacts to workers who are under 16 and the tasks they can perform if no child-size quad bikes are available (however, it is understood this would affect only a small cohort of workers who are under the age of 16).

- *Social and financial impacts for workers and their families*

There are significant social and financial benefits associated with this option for employers and workers, as well as their families and broader communities, particularly in the agricultural settings.

Quad bike regulations will drive positive behavioural change as employers and employees increase their focus on helmet use and on appropriate quad bikes for children and passengers. This will reduce workplace quad bike incidents, resulting in less workers suffering from quad bike accidents, and therefore more people employed. There will be financial flow-on benefits for the workers and their households, as well as positive mental health outcomes of all those involved.

Introducing these regulations is not expected to affect workers' ability to access workers compensation in the event of an injury, even if a worker is deemed to have contributed to the injury by not complying with the proposed regulations. This is because the Workers' compensation statutory scheme under the *Workers Compensation and Rehabilitation Act 2003* is a no-fault system, meaning an injured worker is entitled to statutory compensation regardless of whether it is the worker's or the employer's fault that the injury occurred.

- *Compliance Costs*



Employers who already enforce helmet use and adhere to age and passenger restrictions at work will not incur any additional compliance costs.

Employers who do not already require helmet use will have to provide employees with helmets. The cost of quad bike-appropriate helmets can vary, for example, a \$162 AGHat helmet from Hyper Ride and the \$77 MR2ATV helmet from amxsuperstores.com.au. This is a proportionately small cost when compared to the cost of quad bikes used for work purposes, which can cost in excess of \$9,000. These costs may also be avoided in instances where helmets are already available for other uses, for example, helmets may be already available for use of motorcycles, which could also be used on quad bikes.

In a small cohort of businesses who employ children, employers may have to purchase an age appropriate quad bike or an alternative vehicle, that enables the carriage of passengers/children, if these are not already available at a workplace. The costs of these can vary. As an example, in October 2023, Motorworks Australia, has several youth model category farm quad bikes (with ages from 14+, 12+, 10+, 6+ ), with a 14+ quad bike costing \$1,099 ([gmxbikebikes.com.au](http://gmxbikebikes.com.au)). The cost of Side-by-side vehicles (SSVs), which can be used on similar terrain to quad bikes and have the ability to carry passengers also vary, with a Polaris 2 Seater SSV costing about \$17,000. ([Polaris Australia: Ranger](http://Polaris Australia: Ranger)).

The below table illustrates the estimated cost of compliance with helmet use, for three types of workplaces.

	A workplace with 2 quad bikes	A workplace with 8 quad bikes	A workplace with 15 quad bikes
Average Cost per helmet (\$)¹	120	120	120
Number of helmets required over 5 years²	12	48	90
Cost of helmets (\$)³	1,440	5,760	10,800
Annual Cost to comply with helmet requirement (\$)⁴	288	1,152	2,160

Notes:

1. Average cost assumes the average cost of AgHat helmet (\$162) and MR2ATV helmet (\$77) based on January 2024 costs.
2. Assumes each quad bike will require 6 helmets over 5 years (the estimated useful life of a helmet), to allow for different sizes, wear and tear, loss and replacement of damaged helmets.
3. Cost of helmets is calculated by multiplying the average cost of a helmet by the number of helmets required.
4. Cost per year is based on a 5 year useful life of a helmet.

- *Broader economic and social impacts*

Given that Option 3 is the most effective driver behavioural change while imposing a low regulatory burden, it will bring efficiencies in Government spending such as public healthcare cost savings, as quad bike injuries rates decline. It will also bring broader productivity benefits, such as improved labour force participation and increased economic activity, as more people are in the workforce.

- *Overall effectiveness of addressing problem and objectives*

Given the existing non-regulatory approaches taken to date have not significantly reduced the number of workplace quad bike injuries and fatalities, it is considered that the most effective solution is to introduce the proposed regulations.

It is expected that this legislation will improve rider behaviour and therefore lessen the number of quad bike injuries and fatalities. Given that the regulations do not impose additional requirements beyond existing manufacturer recommendations or transport legislation and do not prescribe the type of helmets or quad bikes to use, they are expected to have minor regulatory impact, especially when weighed against the risk of injury or death in an accident.

Finally, it is anticipated that these regulations will have a broader positive impact on all quad bike use by getting users in the habit of wearing helmets and following safety instructions, including outside of work contexts and on private land.



## Who was consulted?

A public consultation process undertaken from May to August 2022 called for community feedback on quad bike safety measures at workplaces, including introducing regulations for mandatory helmet use, no kids on adult quad bikes and certain passenger restrictions.

A wide range of stakeholders contributed valuable feedback, including industry representatives, farmers, employers, safety search and rescue organisations, as well as legal, medical, and health and safety experts. OIR received 56 responses to the public consultation paper from primary producers, peak industry bodies, government agencies, health experts, child safety experts and other interested parties. The feedback largely confirmed that:

- helmets are viewed as improving safety on quad bikes;
- children should not operate adult quad bikes; and
- children and passengers should not be carried by quad bikes, unless the quad bike is specifically designed for this purpose.

In addition, during July and August 2023, OIR undertook further consultation with a number of peak Queensland agricultural industry bodies and Safe Work Australia. OIR also shared the regulatory proposal with rural health research experts.

The proposed regulatory amendments were broadly supported. One peak body raised concerns that mandatory helmet use may contribute to higher levels of heatstroke in hot climates and at low speeds. To allay these concerns, OIR thoroughly investigated helmet use in hot climates and found:

- all Australian WHS regulators already recommend the use of helmets on quad bikes regardless of heat and speed. This is consistent with manufacturers' instructions;
- rollover head injuries can still happen when operating quad bikes at low speeds and helmets should therefore be worn at all times;
- helmets do not pose any significant heat stroke risk, particularly if breathable and lightweight alternatives (which are available in the market) are used in hot climates; and
- a 2010 study by Meat and Livestock Australia Limited focusing on cattle mustering in high temperature areas of the Northern Territory found that, in very hot conditions, comparative to a felt hat, lightweight helmets do not adversely affect any of the operators' physiological, psychophysical or cognitive functions.

The Department of the Premier and Cabinet (DPC), Queensland Treasury (QT), the Department of Agriculture and Fisheries, the Department of Transport and Main Roads, the Department of Environment, Science and Innovation, the Department of Justice and Attorney-General, the Department of Tourism and Sport, the Queensland Police Service, the Local Government Association of Queensland, and the Office of Best Practice Regulation (OBPR) have been consulted.

DPC and QT did not have any concerns in relation to the proposed amendments. All other Queensland Government agencies consulted either supported, or did not oppose, the amendments. OIR also worked closely with OBPR whose feedback informed the final Summary Impact Analysis Statement.

## What is the recommended option and why?

### Recommended option: Option 3

Given the existing non-regulatory approaches taken to date have not significantly reduced the number of workplace quad bike injuries and fatalities, Option 3 is the preferred option.

The mandating of helmets and imposing other restrictions on quad bike use is applying a similar strategy to that which was successful when seatbelts in cars were mandated in the 1970s. The legislative mandate is considered as one of the key factors in reducing road toll deaths. Similarly, it is expected that quad bike legislative reform will be a key driver to change behaviour and therefore significantly reduce quad bike injuries and deaths. Given that the regulations do not impose additional requirements beyond manufacturer recommendations, and do not prescribe the type of helmets or quad bikes to use, they are expected to be of low regulatory impact, especially when weighed against the risk and costs which follow injury or death in a quad bike accident.



Finally, it is anticipated that these regulations will have a positive impact on all quad bike use by getting users in the habit of wearing helmets and following safety instructions, including outside of work contexts and on private land.

To ensure fulsome understanding of the new regulations, OIR will support the new regulations with a communications and education campaign. In addition, WHSQ has a dedicated Agriculture Unit which will support businesses in meeting the new compliance requirements.

## Impact assessment

	First full year	First 10 years
<b>Direct costs – Compliance costs</b>	Depends on a range of factors including number of quad bikes. See 'what are the impacts' for details.	Depends on a range of factors including number of quad bikes. See 'what are the impacts' for details.
<b>Direct costs – Government costs</b>	Nil. Expected to be fully absorbed within existing funding allocations.	Nil. Expected to be fully absorbed within existing funding allocations.

## Signed



Graham Fraine  
Director-General

Date: 1/3/24



Grace Grace MP  
Minister for State Development and Infrastructure  
Minister for Industrial Relations and  
Minister for Racing

Date: 7/03/2024