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Preventable child deaths and injuries involving quad bikes and side-by-side vehicles

Insights paper

Safer pathways through childhood 2022–27



QUEENSLAND
Family & Child
Commission



Queensland
Government

Acknowledgement

The Commission acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians across the lands, seas and skies where we walk, live and work. We recognise Aboriginal and Torres Strait Islander people as two unique peoples, with their own rich and distinct cultures, strengths and knowledge. We celebrate the diversity of Aboriginal and Torres Strait Islander cultures across Queensland and pay our respects to Elders past, present and emerging.

Appreciation

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The Commission can provide detailed Queensland child death data to researchers and organisations at no cost.

About this publication

This insights paper was produced as part of the Commission's child death prevention activities. This work is informed by the Queensland Child Death Register and guided by our *Safer pathways through childhood 2022–27 framework*.

The Commission works with researchers, government agencies and non-government organisations to raise community awareness and develop prevention programs and policies by identifying risk factors, trends and emerging safety hazards.

Support

This paper may cause distress for some people. If you need help or support, please contact any of these services:

- Lifeline – 13 11 14
- Beyond Blue – 1300 224 636
- Kids Helpline – 1800 551 800 (ages 5–25)
- 13 YARN – 13 92 76 (for Aboriginal and Torres Strait Islander people)

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Accessibility

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Introduction

Queensland recorded 23 deaths of children in quad bike and side-by-side vehicle incidents between 2004 and 2025.

Quad bikes (commonly referred to as 'quad' or 'quads') and side-by-side vehicles (SSVs) are often used on farms and rural properties, where the home and workplace can overlap. In these environments, children may be exposed to quads and SSVs as part of daily life, sometimes operating them to assist with chores or farm work, or for adventure as they learn to navigate different terrains and build confidence in their driving abilities. Many children encounter these vehicles long before they are eligible to learn to drive a car.

Quads and SSVs have inherent hazards and risks, including vehicle design and environmental factors, for users of any age. In addition, children do not yet have the physical strength, cognitive development and judgement required to operate these vehicles safely, placing them at higher risk of injury than adults when using these vehicles. Fatal incidents have occurred with children operating both youth and adult-sized vehicles, as well as riding as passengers.

Adults have the responsibility to control when and how children interact with quads and SSVs. The decisions adults make – setting clear rules, modelling safe behaviours, and restricting children from vehicles that carry risks of rollover, ejection and crush – are critical to preventing future harm and death. Families, communities and government must continue to work together to properly mitigate all risks associated with these vehicles to help end preventable deaths for children.

[Injuries and deaths involving children driving or riding as passengers on quad bikes and side-by-side vehicles contributes to the total burden of preventable serious and fatal injury in Queensland.](#)

What are quad bikes and side-by-side vehicles?

Quads



A quad is a motorised off-road vehicle designed to travel on four low pressure or airless tyres, having a seat designed to be straddled by the driver and handlebars for steering control. A quad is sometimes referred to as an 'ATV' – All Terrain Vehicle.¹

Quads have a high centre of gravity and a narrow wheelbase.² They are designed with a long seat and require dynamic riding in order to reduce the risk of rollovers in variable terrain.

Single operator and one passenger quads fall into four categories – G, S, T and Y:

- **General use models (G)** are commonly marketed as a work vehicle but are also used for adventure and tourism purposes. They are designed for adults (driver to be 16 or older) and typically have front and rear cargo racks.
- **Sports models (S)** are designed for adults and are generally used for sports activities by an experienced driver.
- **Transition models (T)** are intended for recreational use by a child under 15 with adult supervision, or over 16 without adult supervision.
- **Youth models (Y)** are intended for recreational use and are usually marketed as 'fun' or 'kids' quads. They are smaller and lighter than general use quads and come in different sizes and power to suit different ages. These models are to be used under adult supervision.^{3,4}

Table 1: Category and age range for youth model quads

Youth model category	Driver age
Category Y	6–15
Category Y–6+	6–9
Category Y–10+	10–13
Category Y–12+	12–15

SSVs



A SSV is an off-road motor vehicle where the operator and passenger sit next to each other in a bucket seating arrangement. The vehicle has a minimum of four wheels, a steering wheel, seat belts and a rollover protection system, with many also having a cargo box at the rear of the vehicle. They can accommodate two to six people depending on the design.^{5,6}

SSV can also be abbreviated to 'SxS vehicle' and may be known as a 'UTV' – Utility Terrain Vehicle, or a 'ROHV' – Recreational Off Highway Vehicle.

SSVs generally have a wider wheelbase than a quad, and a lower centre of gravity, allowing for improved stability and manoeuvrability. Available information on these vehicles suggests SSVs have a lower risk profile than quads; nevertheless, riding either of these vehicles is a high-risk activity for children.⁷

Electric quads or SSVs

This paper does not explore electric quads or SSVs that are designed to be ridden by young children and are available for purchase throughout Australia. These types of vehicles are generally for use by children (3–8) and/or with a maximum weight capacity for the rider.

Past inquests and reviews

Since 2003, there have been several coronial inquests into quad and SSV-related deaths across Australia and New Zealand.^{8,9} Of particular interest is the 2015 Queensland Coronial Inquest into nine deaths involving quads. Three of these deaths involved children (9–11). Fifteen recommendations were made and relate to:

- training
- helmets, safety of children, passenger safety
- operator protective systems
- quad-related safety design features
- increased consumer awareness
- improving investigations and safety research.¹⁰

The Queensland Government supported, agreed, or agreed in part, to the 15 recommendations proposed.¹¹

In March 2016, a *Statewide Plan for Improving Quad Bike Safety in Queensland 2016–2019* was launched. This plan focused on three priority areas to reduce the rate and severity of quad-related incidents in Queensland:

1. Community education and awareness about quad safety risks.
2. Improving quad driver skills and safety.
3. Government leadership in promoting safety.¹²

In late 2016, the Australian Government established an Interdepartmental Committee (IDC) on quad safety. The IDC considers coronial inquest and research recommendations on quad safety when developing safety initiatives. The Attorney General's Department chairs the IDC, with member representatives from other government departments and agencies.¹³

In 2017, the Australian Competition and Consumer Commission (ACCC) established a taskforce to further explore the issues related to quad and SSV safety. The Office of Industrial Relations also undertook public and targeted consultation processes on proposed regulatory and policy changes.¹⁴ The Queensland Government subsequently introduced quad regulatory requirements for workplaces which are detailed further in this paper.¹⁵

In 2019, the federal government introduced a mandatory quad safety standard following a recommendation by the ACCC. The standard came

into effect in two stages (stage 1 in October 2020 and stage 2 in October 2021).¹⁶

The Queensland Government anticipate that by improving safety in workplaces this will have a positive impact on all quad and SSV use, including outside of work contexts and on private land.¹⁷

Despite regulatory developments, improved safety standards, updated training, and enhanced public awareness campaigns, injuries and deaths involving children driving or riding as passengers on quads and SSVs continue to be a significant safety concern in Queensland.

National fatality data

235 quad-related deaths of all ages occurred in Australia from 2011 to 25.

Source: Safe Work Australia, October 2025

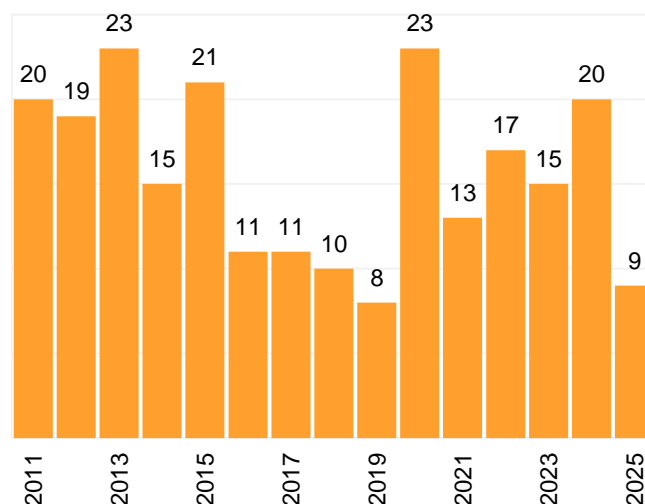
Of the 235 deaths across Australia:

- 83 per cent (or 194) involved males and 17 per cent (or 41) involved females.
- 51 per cent (or 120) were non-work related; 43 per cent (or 101) were work-related and 6 per cent (or 14) were unknown.
- 76 per cent involved rollovers and collisions (100 and 79 respectively) as the primary type of incident.
- 6 per cent (or 14) involved children under 10.
- 11 per cent (or 26) involved children and young adults 10–19.
- 25 per cent (or 59) of incidents occurred in Queensland. Queensland had the second highest number of quad-related deaths per Australian jurisdiction across the period (New South Wales ranked highest with 71 recorded quad-related deaths).¹⁸

Source: Safe Work Australia, October 2026

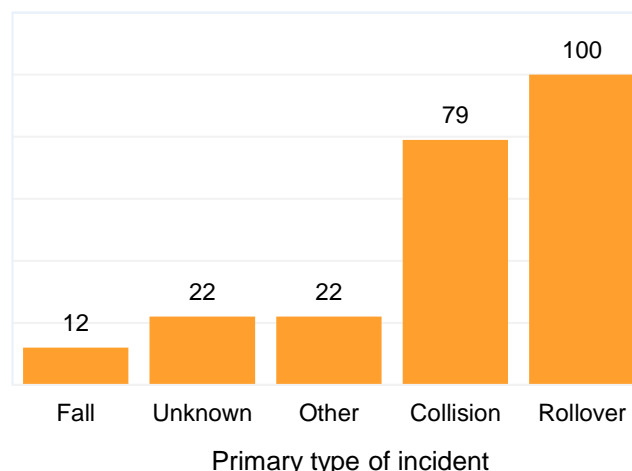
Safe Work Australia publishes up-to-date statistics on quad-related deaths in Australia through an interactive dashboard. Preliminary data is often sourced from initial media reports and is updated when Safe Work Australia receives more information from other sources, such as relevant authority and jurisdictions when investigations are complete. The dashboard does not include deaths involving SSVs.

Figure 1: Quad-related deaths, all ages, Australia, 2011–25



Source: Safe Work Australia, 2026

Figure 2: Quad-related deaths by primary type of incident, all ages, Australia, 2011–25



Source: Safe Work Australia, 2026

Research suggests that children are most often represented in recreational quad and SSV-related deaths rather than work-related incidents.¹⁹ The data indicates a correlation between quad use and school holidays, with mid-year and end-of-year periods being peak months for quad-related injuries in children.²⁰

In their study, Peachey and colleagues state that one in three cases of farm-related child deaths involves a visitor to the farm. These deaths were associated with drownings, quads, motorbikes and utilities.²¹

The *Farmsafe Trend Report* for 2025, states that for the first time in Australian farm safety reporting, SSVs had overtaken both tractors and quads as the leading cause of on-farm deaths (all ages) in a single year, in 2024 (14, 10 and 8 deaths respectively). The previous year, 4 deaths by SSVs were reported. For farm injuries, the report states that 15 per cent of injuries involved children under 15 in 2024.²²

... the rise in SSV-related fatalities is a reminder that no machine is inherently safe. Technology and design can only go so far. If safety measures aren't followed, if users aren't trained, or if risks aren't actively assessed, even the best equipment can become deadly... It's not enough to switch vehicles; we have to shift behaviours.²³

Queensland child deaths

23 children died in quad and SSV-related incidents in Queensland between 2004–25.

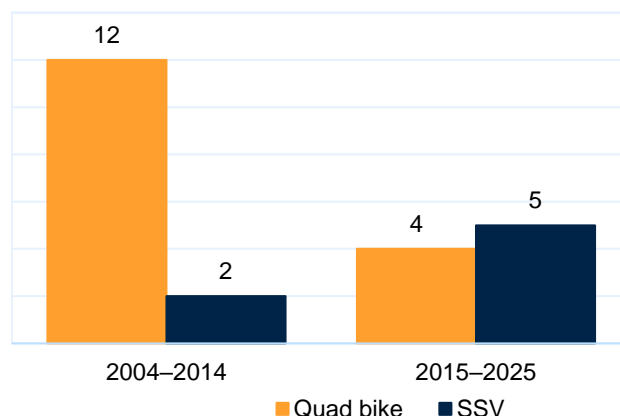
16 children died in incidents involving quads and seven died in incidents involving SSVs.

Source: Queensland Child Death Register, 2026

In the years 2004–14, leading up to the 2015 Queensland Coronial Inquest, the Queensland Child Death Register (the Register) recorded 12 quad and 2 SSV-related child deaths.

In the years 2015–25 following the Inquest, there were four quad and 5 SSV-related child deaths. This data reveals decreased numbers of quad-related child deaths and increased numbers of SSV-related child deaths, as shown in Figure 3. A data table is provided in Appendix A.

Figure 3: Child deaths in quad and SSV-related incidents, Qld, 2004–14 and 2015–25



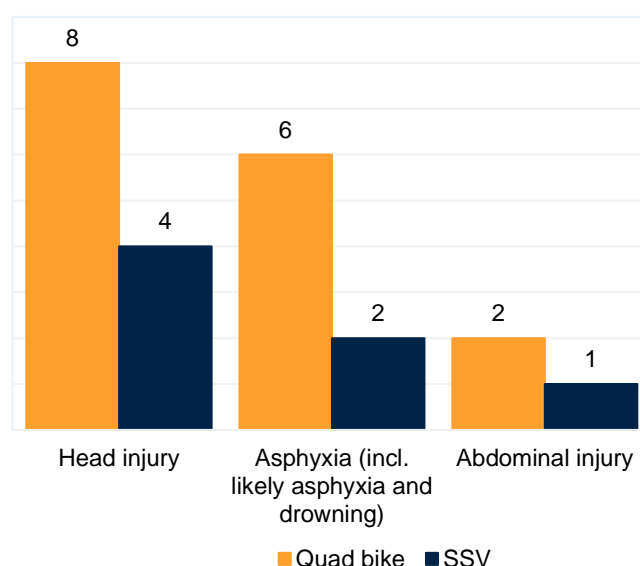
Source: Queensland Child Death Register, 2026

Head injury was the most common cause of death for children involved in a fatal quad or SSV-related incident in Queensland between 2004 and 2025. This was followed by asphyxia and then abdominal injuries, as shown in Figure 4.

These injuries were the result of:

- a rollover in 9 cases
- being thrown or falling from the vehicle in 5 cases
- a collision with a stationary object in 5 cases
- tipping of the vehicle in 4 cases.

Figure 4: Type of injury in quad and SSV-related deaths, aged 0–17, Qld, 2004–25



Source: Queensland Child Death Register, 2026

Professor Warwick Teague of the Royal Australasian College of Surgeons states that quad bikes and kids are a deadly mix. He did not believe there was a 'safe' way children could use quad bikes – even using ATVs made for kids.²⁴

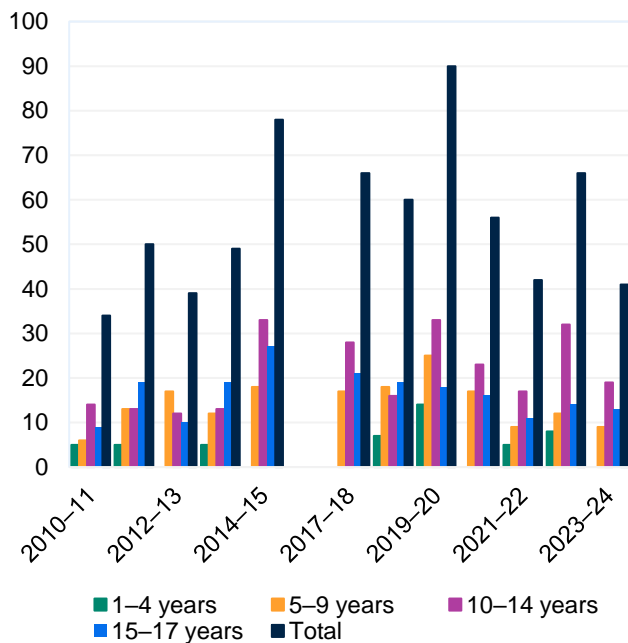
Ambulance attendance data

Queensland Ambulance Service (QAS) data for quad and SSV-related incidents are reported collectively.

In the 5 years prior to the 2015 Queensland Coronial Inquest, there were 52 ambulance attendances per year on average for incidents associated with quads and SSVs that involved children, compared with 60 attendances per year between 2017–18 and 2024–25 (seven years), following the inquest.

Ambulance attendance data for quad and SSV-related incidents involving children 0–17, between 2010–11 and 2023–24 in Queensland, is shown in Figure 5. A data table is provided in Appendix A.

Figure 5: Ambulance attendance for quad and SSV-related incidents by year, aged 0–17, Qld, 2010–11 to 2023–24

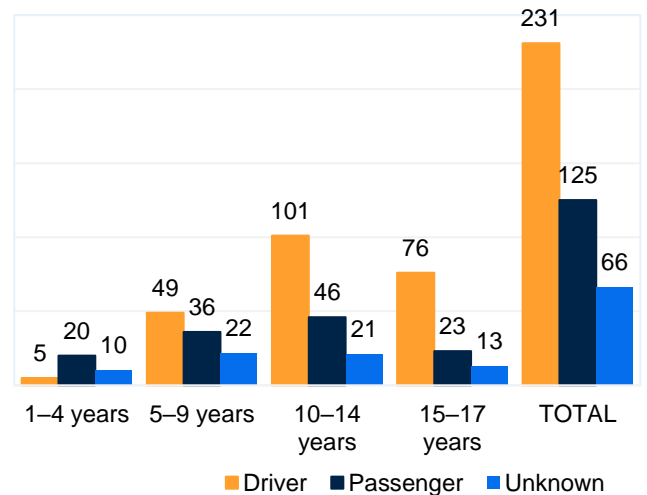


Note: Numbers not reported for values less than 5. Data for 2015–16 and 2016–17 are not available.

Source: QAS, 2025

Ambulance attendance data for quad and SSV-related incidents between 2017–18 and 2023–24 was analysed to determine if the child was the driver or passenger of the vehicle. In cases where this information was not clear, it was marked as unknown. Children 5–17 were more frequently recorded as the driver, as shown in Figure 6.

Figure 6: Type of involvement for quad and SSV-related incidents in ambulance attendance by age (0–17), Qld, 2017–18 to 2023–24



Source: QAS, 2025

Emergency department presentations

The Queensland Injury Surveillance Unit (QISU) collects injury data from more than 30 participating hospitals from 10 hospital and health service areas. The number of presentations to emergency departments (EDs) due to injuries involving quads and SSVs is identified by analysing the triage free text narrative. In 2020, QISU changed its data capture strategy to include more injury cases, and this may contribute to an increase in cases after 2020.

QISU define a 'quad bike' as a small off-road vehicle, four-wheeler or ATV. A 'child quad bike' is a quad bike stated to have been designed for a child. An 'SSV' is small off-road vehicle with individual seats arranged side-by-side and a roll cage (including a 'UTV').

Age

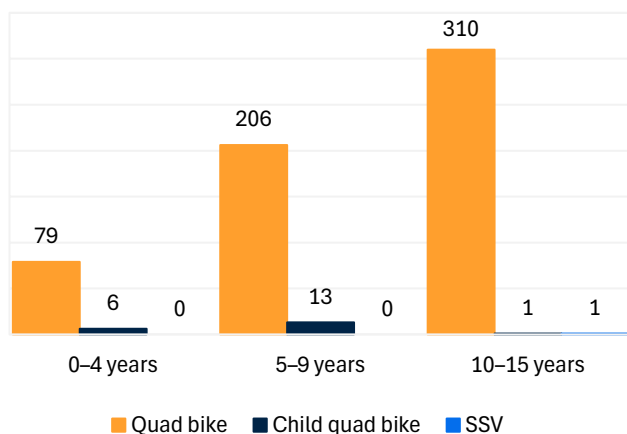
Children under 15 represented 31 per cent (or 616) of the 1,986 people who presented to ED due to a quad or SSV-related injury in Queensland from 1 January 2016 to 31 August 2024 (8 years and 8 months). Of the 616 children (0–15) presenting for quad-related injuries, 14 per cent were 0–4; 36 per cent were 5–9; and 51 per cent were 10–15.

Type of vehicle

Injuries from quad bikes accounted for almost all (96 per cent) of the 616 children (0–15) presenting to EDs, while only 3 per cent (or 20) of the injuries in children involved a quad designed for a child. This result may be influenced by triaging style and limited data available on vehicle type at time of presentation.

The analysis identified only one SSV-related injury occurring in a child (0–15). All further analysis was conducted on quad-related injuries only (615 children aged 0–15).

Figure 7: Type of vehicle for quad-related injuries in ED presentation by age (0–15), Qld, 2016 to August 2024

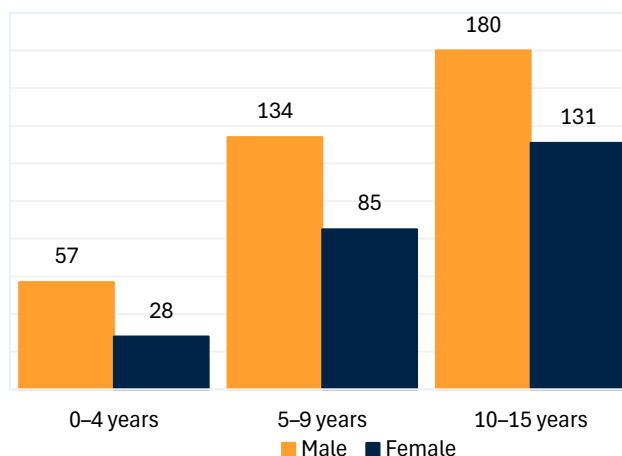


Source: QISU, 2025

Sex

Males accounted for 60 per cent of all children (0–15) who presented to EDs for quad-related injuries.

Figure 8: ED presentation for quad-related injuries by sex and age, (0–15), Qld, 2016 to August 2024



Source: QISU, 2025

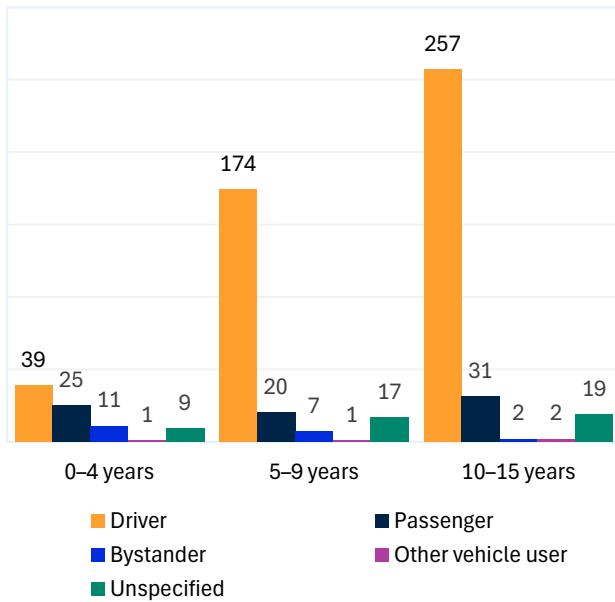
Child's involvement

Three-quarters (76 per cent or 470) of the 615 presentations to EDs for children (0–15) involved children driving a quad (not described to be a child quad). This is contrary to the minimum age recommendation of 16, made in the 2015 Queensland Coronial Inquest.

QISU data also indicates children as young as 4 were driving the quad at time of injury. Data suggests that among quad drivers under 5, just over half were 4 years old (51 per cent). Some of the children may not have been driving the vehicle; however, this is the code provided by triage staff and there is insufficient triage text to further clarify.

The majority of children (5–15) were reported to be the driver at the time of the quad-related incident.

Figure 9: Child's involvement in ED presentation for quad-related injuries by age (0–15), Qld, 2016 to August 2024

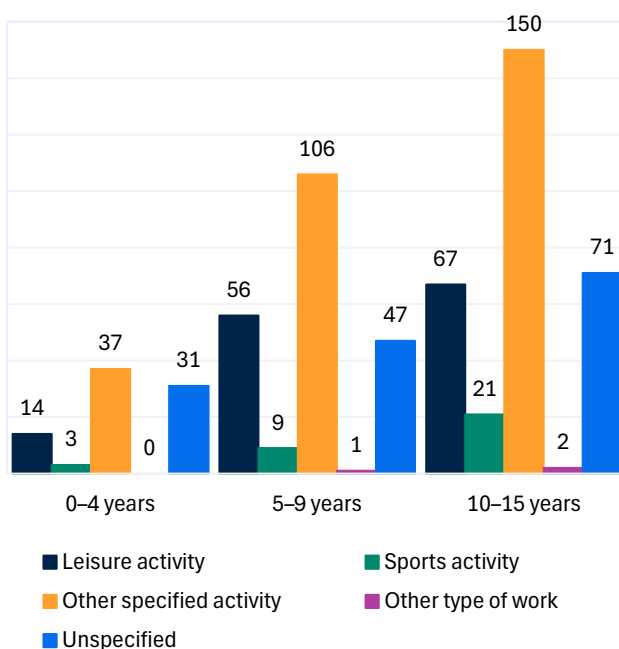


Source: QISU, 2025

Activity

Many of the quad-related incidents involved children participating in 'other specified activity'. QISU states that this category includes farm work. No incidents were recorded to include an activity that involved working for an income.

Figure 10: Activity in ED presentation for quad-related injuries by age (0–15), Qld, 2016 to August 2024



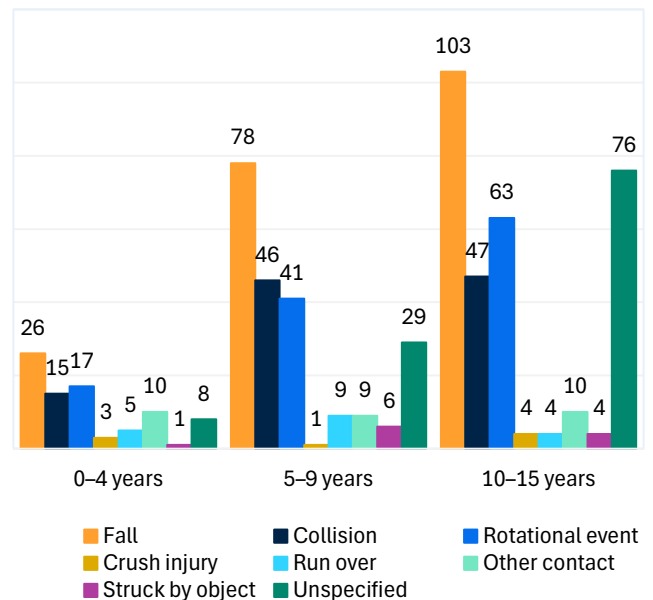
Source: QISU, 2025

How injury occurred

Across each age group, injuries involving quads occurred from:

- a fall, where the injured child has fallen from a moving or stationary quad
- a collision with a stationary or moving object
- a rotational event involving tipping of the quad through the longitudinal or transverse axis. This can result in tipping without rollover or rollover (where the quad completes at least a one quarter rotation through the longitudinal or transverse axis). A rollover may result in the child being crushed under the quad
- a crush injury, where the body is crushed under a quad, trapped between the quad and an object, or between the parts of the quad
- a runover injury, where the quad has runover any portion of the body
- other contact with a quad involving an injury sustained through non-collision or non-crush contact with a quad, for example burns and lacerations or entrapment of body parts within the quad
- being struck by an object.

Figure 11: How injury occurred in ED presentation for quad-related injuries by age (0–15), Qld, 2016 to August 2024



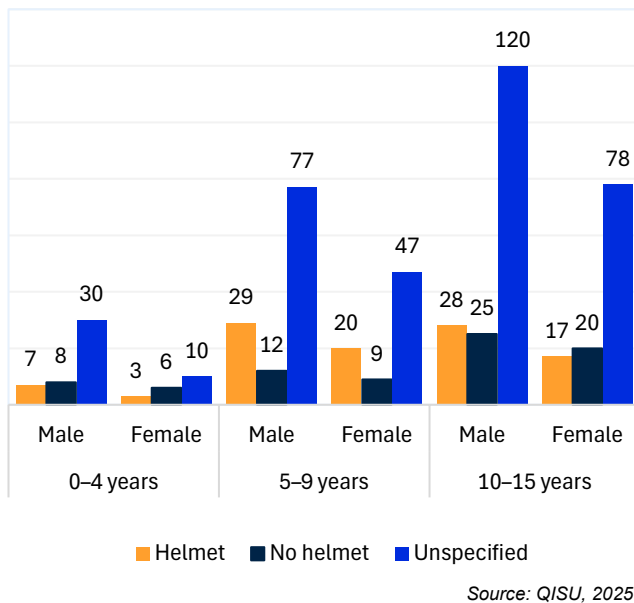
Source: QISU, 2025

Helmet use

Injury description recorded for drivers and child passengers (0–15) (n=546) was analysed to determine whether a helmet was worn.

A helmet was being worn in 19 per cent (or 104) of the 546; 15 per cent (or 80) were recorded as not wearing a helmet; and for 66 per cent (or 362) helmet use was unspecified.

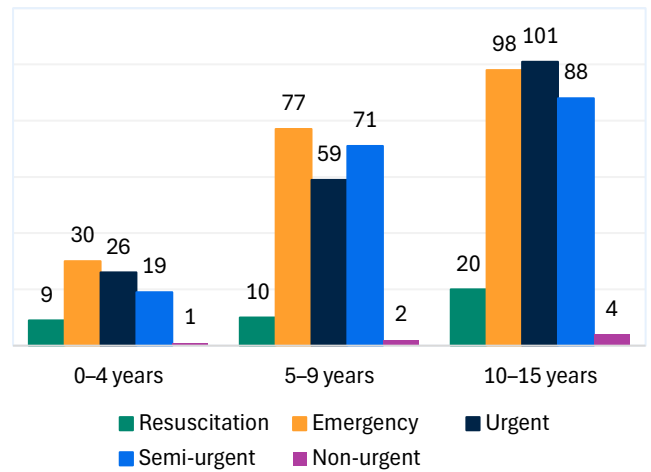
Figure 12: Helmet use in ED presentation for quad-related injuries by age (0–15), Qld, 2016 to August 2024



Severity

Some 6 per cent (or 39) of children presenting to ED were triaged as requiring immediate attention (resuscitation) due to the severity of injury. One-third were triaged as ‘emergency’ (33 per cent) and one-third as ‘urgent’ (30 per cent).

Figure 13: Triage in ED presentation for quad-related injuries by age (0–15), Qld, 2016 to August 2024



Of the 615 children presenting to EDs:

- 66 per cent (or 404) were discharged after ED service
- 28 per cent (or 171) were admitted
- 6 per cent (or 35) were transferred to another hospital
- the remaining 5 children either left after treatment commenced or did not wait.

Body region and nature of injury

Of the total number of people (1,976) who presented to participating EDs for quad-related injuries in Queensland over the time period, the most impacted body areas were the head and neck, upper limb, lower limb, trunk, and multiple body regions.

The nature of the injuries included a fracture, superficial injury, wound or laceration, sprain or strain, intracranial injury, crushing injury, injury to internal organ, multiple injuries, dislocation, burn or corrosion, injury to muscle or tendon, traumatic amputation, foreign body, injury to nerve, dental injury, and injury to blood vessel.

Inherent hazards and risks

Hazards and risks associated with quad and SSV-related injuries and deaths commonly involve or are varied by:

- the vehicle design (inherent instability of quads, risk of instability for SSVs)
- safety measures (requirements for rollover protective structures)
- vehicle use (work/recreation, complex and adaptive decision making, dynamic loading with tanks or heavy loads)
- driver characteristics (physical and cognitive ability, mental maturity)
- driver education (active driving for conditions)
- the environment where the vehicle is driven (terrain, static and moving obstacles).

Vehicle design and safety equipment

Non-compliance with recommended safety equipment for quads and SSVs was common in the child death data.

Quads and SSVs are heavy and large compared to children. In addition, quads have a high centre of gravity which can increase the risk of rollover. Quads can tip in any direction – forwards, backwards or to the side. The inherent instability of quads can be intensified by speed.²⁵

Overloading quads or SSVs with passengers or equipment and inappropriate fitting of attachments or towing apparatus can also significantly affect handling, stability, braking and the risk of rollover.²⁶

The *Consumer Goods (Quad Bikes) Safety Standard 2019*, places additional requirements on protective devices and design on quads aimed at preventing quad-related injuries and death. The final stage of the Safety Standard came into effect in October 2021.^{27,28} Requirements for all quads includes compliance with the United States Standard or European Standard and the fixture of a permanent:

- **rollover warning label** – informing the user of situations that increase the risk of rollover
- **lateral roll stability tag, or yellow 'hang tag'** – shows the minimum angle that model will begin to

tip onto two wheels. The higher the number, the more stable the quad.²⁹

Operator protection device – quads

Child death data in Queensland reveals the following dynamics:

- Of the 16 child deaths involving quads:
 - 6 incidents involved a rollover
 - 4 incidents involved tipping of the vehicle
 - 4 incidents involved the child being thrown or falling from the vehicle
 - 2 incidents involved a collision with a stationary object.
- 1 quad and 4 SSV-related incidents were recorded as having rollover protection devices fitted.

Source: Queensland Child Death Register, 2026

The risk of rollover means active riding is critical when operating a quad. Active riding balances the quad to help prevent a rollover. Drivers must assess the ground conditions and shift their body weight around the long seat to maintain a stable centre of gravity to keep all four wheels on the ground, especially when cornering, carrying loads and riding through rough or steep terrain.

Drivers must be able to move freely around the seat to allow for active riding, for example:

- When travelling up a slope the driver may lean forward to prevent the quad from flipping over backwards.
- When going down a slope, the driver may hover their weight over the back of the seat to prevent the quad from flipping over forwards.³⁰

Regulations

From 11 October 2021, all new and second-hand imported general use quads must have an operator protection device (OPD) fitted or integrated into its design. If a quad rolls over, the quad is held off the ground by the OPD, creating a 'crawl out space', and the rider can avoid injury or death as a result of being crushed or pinned by the weight of the quad.³¹

It is not mandatory for youth and sports model quads to be fitted with an OPD due to the lack of testing of

after-market OPDs that are designed for these categories.³²

General use quads are also required to meet minimum stability requirements; however, this does not apply to youth, transition or sports quads due to the lack of research on design changes for these categories.³³

Seatbelts – SSVs

Child death data for SSVs in Queensland reveals:

- For 6 of the 7 incidents, where restraints were fitted, there is no evidence to support that any of the children were wearing a restraint.
- Of these 6 incidents:
 - 2 involved a rollover
 - 3 involved a collision with a stationary object
 - 1 involved the child being thrown from the vehicle.

Source: Queensland Child Death Register, 2026

If a SSV overturns, suddenly stops, or is involved in a collision, there is the risk of significant injury or death to the driver or passenger if thrown from or crushed by the vehicle, or if objects intrude into the vehicle cage.

Regulations

Road rules require seatbelts to be worn, where vehicles such as a SSV has them installed. Wearing properly fitted seatbelts provides additional safety for the driver and passenger. Private use of a SSV is not captured under this regulation.

Helmets

Wearing a properly fitting, compliant helmet is the best protection against a head injury while travelling on a quad or SSV.

Child death data in Queensland reveals:

- Of the 16 child deaths involving quads:
 - 7 children were wearing helmets
 - 9 children were not wearing helmets with 8 of these children suffering head injuries.
- Of the 7 child deaths involving SSVs:
 - there is no evidence to suggest that any of the children were wearing helmets
 - 4 children suffered head injuries.

Source: Queensland Child Death Register, 2026

Laws and regulations

The road rules in Queensland were amended in 2017 to mandate helmet use – an approved motorbike helmet for drivers and passengers of quads on public roads or road-related areas, state forests or timber reserves, protected areas and recreation areas.^{34,35}

Motorcycle helmets approved for use in Australia include:

- **Full-face helmets** that are useful where there is a higher risk of facial injuries.
- **Open face helmets** that offer protection to the head, but little protection to the face.
- **'Shorty' style helmets** that offer head protection while still enabling good peripheral vision, hearing, and airflow around the head. These types of helmets are generally used in farm tasks such as, mustering in open country.³⁶

From 21 March 2024, the *Work Health and Safety (Quad Bikes) Amendment Regulation 2024* commenced. The regulation requires all individuals, including passengers, to wear securely fitted and fastened helmets while driving quads in the workplace. This does not extend to SSVs.³⁷

Generally, helmets should be compliant with AS/NZS1698, AS1698 and ECE 22.05/06. An NZS 8600-02 compliant helmet can be used but only if the vehicle does not exceed 30km/h.^{38,39}

Driver demographics – fatalities

Of the 23 child deaths involving quads and SSVs in Queensland:

- 61 per cent (14 children) were male.
- 39 per cent (9 children) were female.
- 83 per cent (19 children) were under 15.

Source: Queensland Child Death Register, 2026

Prior to the 2015 Queensland Coronial Inquest, information in the Register reflects that quads were associated with 12 child deaths (7 male; 5 female) and SSVs were associated with two child deaths (1 male; 1 female). Post the 2015 Queensland Coronial Inquest, quads were associated with four child deaths (1 male; 3 female) and SSVs were associated with five child deaths (all male).

Child's involvement

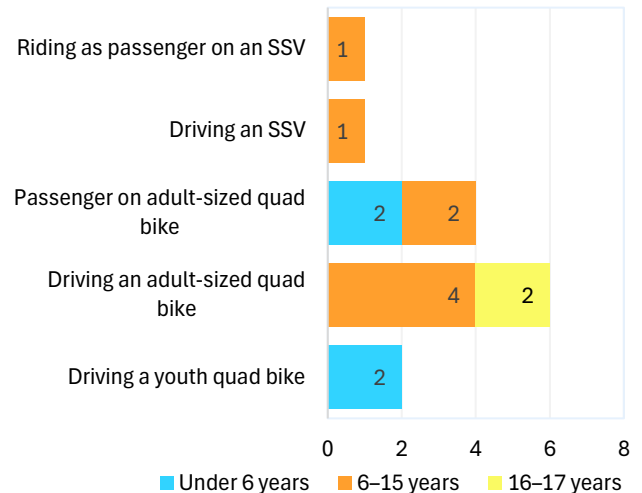
Of the 23 child deaths involving quads and SSVs in Queensland:

- 74 per cent (or 17) incidents involved the use of the vehicle contrary to the age recommendations made in the 2015 Queensland Coronial Inquest:
 - 12 children were driving or riding as passengers on a quad not appropriate for their age
 - 4 children under 16 were driving a SSV
 - 1 child under 8 was riding as a passenger on a SSV
- 48 per cent (or 11) incidents involved a lack of adult supervision, or the vehicle was driven without the adult's knowledge.

Source: Queensland Child Death Register, 2026

Prior to the 2015 Queensland Coronial Inquest

Figure 14: Quad and SSV-related deaths, by child's involvement, by age, Qld, 2004–14

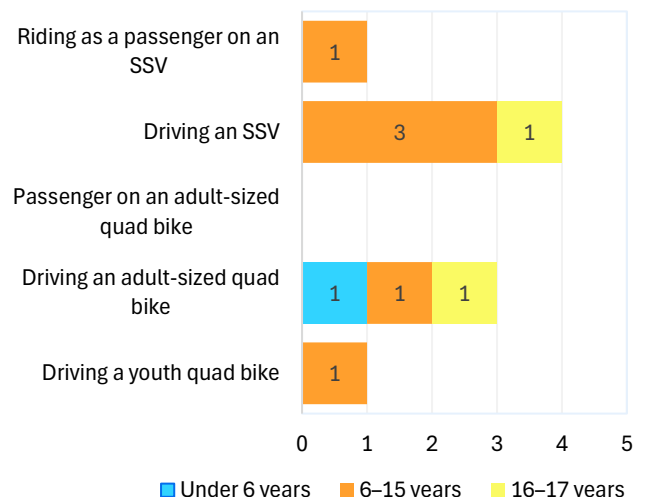


Source: Queensland Child Death Register, 2026

In the under 6s, quad-related deaths involved children aged 4. As previously mentioned, youth quad categories start from 6+ in Australia. In the 6–15 group, the quad-related deaths involved children (9–12). The SSV-related deaths involved children (6–7).

Post 2015 Queensland Coronial Inquest

Figure 15: Quad and SSV-related deaths by child's involvement, by age, Qld, 2015–25



Source: Queensland Child Death Register, 2026

Children under 16 do not have the physical abilities – for example, in size, strength, reflexes and sense of balance – to safely operate an adult-sized quad. Some research extends this view and states that children and quads of any size are a potentially fatal mix.⁴⁰

In addition, children do not have the required cognitive abilities and mental maturity to accurately judge hazards in complex environments and conditions. Children are also known to carry a psychological impulse for risk taking behaviours, such as speeding and can overestimate their abilities. Consumption of alcohol or drugs by a young rider or adult supervisor, or adult driver carrying a child passenger, can also impair competence and judgement.^{41,42}

Two quad-related incidents in the Register recorded alcohol use/possible alcohol use by the driver – the children involved were passengers on the vehicle.

Operating a quad with reduced capacity and capability can lead to fatigue, an inability to retain control of the vehicle and adverse riding behaviours.⁴³

The perception that quads are easy to operate can also lead to complacency with their use, inappropriate training and a lack of active supervision.^{44,45} This means children may not be provided opportunities to learn safe and responsible driving in a closely supervised environment.

Research suggests that one in three quad riders are self-taught and unsafe riding practices are common.⁴⁶

At least 70 per cent of premature adult deaths reflect behaviours started or reinforced during adolescence.⁴⁷

Regulations

The *Work Health and Safety (Quad Bikes) Amendment Regulation 2024*, states that:

- drivers of quads must be at least 16, or the minimum age recommended by the manufacturer. This means that children under 16 are not allowed on adult-sized quads and can only drive on an age-appropriate quad in the workplace

- quads are prohibited from carrying passengers in the workplace, unless the vehicle is explicitly designed for passenger use, and the passenger is at least 16 or meets the minimum age recommended by the quad's manufacturer.⁴⁸

In addition to this regulatory change, the *Rural Plant Code of Practice 2024* (the Code) commenced on 23 September 2024. The purpose of the Code is to help reduce the risk of injuries and deaths by providing guidance to businesses and workers on working safely with rural plant equipment such as quads and SSVs, which have their own dedicated sections.

For example, there are age specific considerations concerning SSVs included in the Code, such as no drivers under 16 and the need to assess the risk to injury for passengers – the risk is significant to children under 8 or those who cannot sit comfortably with their feet on the floor and they can reach and hold on to the grab bar.⁴⁹

As an approved code of practice, employers and workers must comply with the Code or manage the associated risks and hazards in an alternative way that provides a standard of health and safety that is equivalent to or higher than the standard required under the Code.⁵⁰

Road rules in Queensland state that children under 8 are prohibited from being carried as passengers on quads and in SSVs being used on roads, as well as a child of any age if they are unable to sit with their feet flat on the floor and hands on handholds.⁵¹

Kidsafe and the Royal Australasian College of Surgeons recommend that children under 16 should not be on any size quad bike as a driver or passenger.^{52,53}

Environmental factors

All child deaths involving quads and SSVs in Queensland occurred on private land – at private residences, on private roadways or in privately owned bushland.

Relevant environmental conditions noted in some of Queensland's child death incidents include:

- sloping upward or downward surface
- uneven surface
- loose gravel or soil on the surface.

Source: Queensland Child Death Register. 2026

The surface on which quads and SSVs are ridden and the potential interaction with obstacles can result in extremely dangerous situations. The vehicle may become unstable, increasing the risk of the rider losing control. This instability may lead to a rollover, ejection from the vehicle, and serious injury or death.

Laws and regulations

Queensland transport laws, road rules and associated regulations set out requirements for using quads and SSVs on public roads, road-related areas, state forests or timber reserves, protected areas and recreation areas. Generally, quads and SSVs are not permitted for use on public roads or other public areas and are mostly used on private land or worksites, such as farms.

Any private use of quads and SSVs outside of a workplace is not captured within work health and safety laws and regulations.

Children's use of quads and SSVs is often in private unregulated settings. They rely on adults and communities to create safe environments for them to ride.

Key safety messages

Adhering to safety information and messaging has the potential to help lower the risk of injury and death involving quads and SSVs.

Safety messages for quads and SSVs

Set clear property rules – and follow them consistently

Develop a set of rules specific to your property for both children and adults regarding the safe use of quads and SSVs.

Helmets every single time

Fatal head injuries can be prevented or less severe with correct protection. Always wear the correct approved helmet size for the shape and size of the person's head, and which is appropriate for the activity. Wearing personal protective clothing, such as gloves or hand protection, eye/face protection, sturdy boots, long sleeve shirt and long trousers can also protect against injury.

Skilled and experienced in a variety of conditions

Quads and SSVs are *not* ALL-terrain vehicles and cannot be safely driven on all types of terrain and surfaces. Avoid travelling on uneven ground, slopes and rough terrain. Always remain alert for hazards and aware of obstacles and, where possible, remain on familiar tracks. Remain mindful that hard, flat surfaces (such as tarmac and asphalt) can also cause a vehicle to become unstable.

No passengers unless the vehicle is designed for it

Carrying people dramatically destabilises both quads and SSVs.

Never overload the vehicle

When carrying a load, keep it low, secure, and balanced.

Never speed or drive under the influence of alcohol and drugs

This applies to children and adults. Adult drivers and supervisors should model safe riding behaviours and comply with regulations and safety messaging.

Access to adequate methods of communication

This can include the use of a personal locator beacon to call for help in case of an emergency, especially when riding vehicles in remote locations. Always tell someone of your expected location before leaving and what time you plan to return.

Keep keys out of reach and secured

Severe injuries and death have occurred when children accessed vehicles without adults knowing.

Read and follow manufacturer's instructions and safety warnings

Keep up to date with the latest requirements and available safety protection devices. Keep the quad or SSV well maintained and in a safe condition.

Specific to quads – additional safety messages

Children under 16 should not drive adult-sized quads. Children should only operate the category of quad specifically manufactured and designed for their age; however, even youth quads have been involved in fatal incidents in Australia.

Adult supervision is essential when children are involved.

Children should not carry a passenger, and adults should only carry a passenger over 16 or the minimum age stated by the manufacturer for quads designed for passenger use.

Permanent warning label, a yellow 'hang tag' and an owner's manual must be supplied with the quad. Follow instructions, including rollover safety information.

Use a quad that has an OPD. OPDs are required for new or second-hand imported general use quads and can be fitted to older quads.

Allow for active riding by making sure you can always move freely around the seat.

When driving a quad in a Queensland workplace

Always wear a helmet. Wearing a helmet is the best way to minimise the risk of a head injury.

'Kids on kids' bikes'. Children under 16 are not allowed on adult-sized quads and can only drive on age-appropriate quads in workplaces.

Drivers must not carry passengers, unless the vehicle is explicitly designed for passenger use, and the passenger is over 16 or meets the minimum age recommended by the quad's manufacturer.

Get training. Formal training courses are the best way to learn how to drive a quad safely.

Specific to SSVs – additional safety messages

Only children over 16 should drive SSVs. Check the manufacturer's instructions about children riding safely as a passenger in the SSV – many SSV manufacturers have specific passenger height and ability restrictions. Some manufacturers state that children must be able to sit with their feet flat on the floor and hands on handholds.

Always wear a seatbelt, where installed, when driving or riding as a passenger on a SSV. Never double up children in the one seatbelt on a SSV – one person per seatbelt only.

Never carry children on laps or in the rear cargo tray of a SSV.

Keep arms and legs inside the SSV while moving.

Keep cab nets or doors closed when the SSV is in motion.

When driving a SSV in a Queensland workplace

Wearing a seatbelt can reduce the risk of being thrown off the seat.

Only children over 16 should drive SSVs.

Get training. For example, consider training such as the nationally approved training Operate SSVs (AHCMOM216) for workers.

Riding SSVs on roads

Children under 8 are prohibited from being carried as passengers in SSVs being used on roads, as well as a child of any age if they are unable to sit with their feet flat on the floor and hands on handholds. ^{54,55,56,57,58,59,60,61,62}

Consumer awareness

Due to their cost, size, and intended use, quads and SSVs are typically purchased by parents or caregivers, not children themselves. Raising consumer awareness is essential to ensure that these purchases are made with child safety as the top priority.

Marketing of youth model quads lean heavily on themes of fun, freedom and adventure to appeal to both young riders and their parents/caregivers. Language and messaging often emphasise family bonding and outdoor fun with an emotional appeal towards adventure and experiences. Product features like speed settings are framed positively and can be linked to riding confidently. These marketing techniques can inadvertently reassure the consumer that the product is appropriate and safe.

Language used in advertising to describe **youth model quads** includes 'maximum fun'; 'delivers fun with power they can grow into'; 'adventure'; 'feel cool and confident', 'exhilarating'; 'thrill seekers'; 'adrenaline'; 'exploration'.

A scan of web-based marketing material for SSVs found information was directed mainly towards adults' use of these types of vehicles, with information on age requirements for children in driving or riding as a passenger on a SSV not often prominent.

Manufacturers and suppliers are required to make safety information and warnings immediately available to consumers. Nevertheless, age-specific warnings, hazards, risks and safety measures associated with quads and SSVs are not always immediately available when looking at individual vehicles for purchase and are often in the background or require consumers to search out information when viewing advertised product material. This is more apparent when looking at sites that sell second-hand quads and SSVs.

Parents and caregivers should remain proactive and informed about the risks associated with children driving or riding as passengers on quads or SSVs, and about the best ways to protect children from preventable incidents involving these vehicles.

In preparing this paper, finding suitable images that showed children and adults riding vehicles with

rollover protection and wearing helmets, seatbelts and protective clothing was a challenge.

Community attitudes

Individual, family and community attitudes and beliefs about the safety and use of quads and SSVs by children play a crucial role in behaviours, practices and safety measures for these vehicles.

Research suggests there is an incomplete understanding by both adults and children of the risks and hazards involved in operating a quad. Furthermore, there is a continued acceptance by adults of the risks involved for children when they are driving a quad.^{63,64}

Australia (2023)

An Australian study identified four critical beliefs that significantly predicted parental intentions to allow their child between 3 and to drive a quad:

- **behavioural belief** – the perceived advantage that allowing their child to drive a quad would enable tasks to be completed
- **normative beliefs** – the perception that one's parents (one belief) and partner (second belief) would likely approve of allowing their child to drive a quad
- **control belief** – a perceived barrier to allowing one's child to drive a quad was associated with being aware of an increasing cultural concern around the safety of quads.⁶⁵

The study concluded that by identifying the factors that influence parental beliefs, these beliefs could then be challenged or emphasised in public awareness campaigns to help bring about cultural change.

Other Australian specific research studies include research by:

- Jessie Adams (2023) 'Injury Risk and Safety Behaviours of Children on Victorian Farms' by Deakin University

https://dro.deakin.edu.au/articles/thesis/Injury_Risk_and_Safety_Behaviours_of_Children_on_Victorian_Farms/27193155?file=49686816

- National Centre for Farmer Health

https://farmerhealth.org.au/wp-content/uploads/2024/12/Measuring-a-Culture-of-Safety-on-Farms_Literature_Review_Report.pdf
<https://farmerhealth.org.au/wp-content/uploads/2023/08/20220124-Influencing-Report-v-final.pdf>

Sweden (2022)

A study of parents' risk acceptance and attitudes towards the use of quads by children and young people in Sweden found:

- parents did not see themselves as role models for children regarding use of quads
- parents seemed to misjudge their children's maturity and capabilities
- parents were aware of the risks and had a strong commitment to children's safety; however, risk acceptance was a common issue due to risk normalisation.⁶⁶

America and Canada (2022)

A study in America and Canada looked at self-reported quad use, safety behaviours and safety awareness among young adults in an agricultural setting. The study found:

- Participants who reported youth occupational quad use (under 14) were twice as likely to allow extra riders and more than four times more likely to not wear a helmet when compared to participants who reported beginning occupational quad use in adulthood.
- Less than 20 per cent of young adults working in agriculture were aware of safe design features such as wide frames, stability ratings, crush protection devices, and accessories made by the original equipment manufacturer.
- A need to educate the future agricultural workforce about the importance of choosing quads with safer design features.⁶⁷

These studies demonstrate that governments need to employ strategies that engage parents, children and communities to help create change to safety cultures and behaviours associated with quad and SSV use in these settings.

We must treat [quad bike safety] as a priority and ensure safe behaviour is entrenched in the community and that safety is in the forefront of all quad bike users' minds.⁶⁸

Public awareness campaigns

Children depend on adults to help keep them safe.

ACCC campaign

In April, October and November 2025 the ACCC conducted a consumer education and awareness campaign in relation to quad safety targeted at the parents of children who may ride quads, as well as farmers 46 and over. The campaign involved publication of social media posts on the ACCC's product safety channels in April 2025, and a paid consumer awareness campaign in October and November 2025. The key campaign messages were *'One ride can change everything'* and *'Never let children ride an adult quad bike'*.

Messaging highlights three rules:

1. helmet on.
2. rollover protection fitted.
3. never let children ride adult quad bikes.

Information on the ACCC's Product Safety Australia website states that adult-sized quads are not suitable for children, with children being at greater risk of serious injury. The Product Safety Australia website also notes that even youth quads have been involved in fatal incidents in Australia. The website messaging is that children should never be allowed to ride quads meant for adults, even as passengers.

Parents, carers and quad users are urged to watch the video *'Quad bike safety: would you risk it?'* that highlights the deadly risks of dangerous quad practices.⁶⁹

'Ride ready' campaign

As part of the 'Ride ready' campaign, short films about the importance of parents not allowing children on adult-sized quads, always wearing helmets and other skill and safety messages are available for viewing on the WorkSafe Queensland website.⁷⁰

‘Come home safe’ campaign

The Queensland WorkSafe ‘Come home safe’ campaign outlines five simple steps to be a safer quad rider.

1. **Always wear a helmet** – Strap on a helmet before you jump on a quad and come home safe to your family.
2. **Kids on kids’ bikes** – Adult quad bikes are no place for children. Only allow kids to drive kid-size quads so they come home safe to your family.
3. **Don’t double** – Avoid trouble and don’t double when riding quads and come home safe to your family.
4. **Don’t overload** – It’s dangerous to carry too many items or too much weight on the back of quads, so don’t overload and come home safe to your family.
5. **Quad bike training** – Learning how to drive quads correctly and safely is vital. Get proper quad rider training so you can come home safe to your family.

There is a link to a ‘Quad bikes and side-by-side vehicles’ web page; however, at the time of writing information on this page mainly related to quads, with SSVs mentioned in terms of being another form of farm equipment that can be used instead of a quad.⁷¹

Kidsafe resources

Kidsafe provides resources about keeping children safe on farms, including information about quads.

- www.kidsafensw.org/safety/home-community-safety/safety-on-farms/.
- www.kidsafensw.org/imagesDB/documents/201906-Kidsafe-ParentsGuidetoFarmsWeb_1.pdf
- www.kidsafensw.org/imagesDB/documents/Kidsonfarms2012_2.pdf

Education

Quad safety information and resources are provided to quad dealers, registered training organisations, agricultural colleges, schools, community groups and farmers across Queensland.

Quad safety is often promoted at agricultural field days, events, industry forums and workshops, and through social media platforms.⁷²

SSVs

There is little guidance, education or awareness on the age-appropriate and safe use of SSVs by children. Information tends to speak to safety advice for quad usage for both safety messaging as well as legislated requirements.

Where there is little publicly available information from a trusted authority, parents and caregivers may mistakenly believe that SSVs are safer for children to drive, or ride on, than quads.

Data for child deaths is showing fewer quad fatalities but an increase in incidents involving SSVs. It is important that information reaches the desired audience and that the risks are recognised.

Remember – driving a SSV is a high-risk activity for children.

When driving a SSV in a Queensland workplace

The Rural Plant Code of Practice 2024 includes information concerning SSV safe operation and guidance on risk assessment and controls to reduce the likelihood of injury and death. This includes aspects which are applicable to duty holders and all workers regardless such as, training and induction requirements. There are age specific considerations concerning SSVs included in the Code such as, when instructing, consider the emotional maturity of the trainee, for example the young worker’s (trainees) age and observed behaviour in attempts to limit inappropriate behaviour.⁷³

Areas for action

The Queensland Government has implemented important changes to improve the safety and safe use of quads and SSVs in Queensland.

Nevertheless, much of the current reform frameworks involving quad and SSVs do not apply to recreational users on private land – all risks associated with these vehicles must be properly mitigated to help end these preventable deaths for children.

Primary prevention

Reduce exposure to danger and improve safety by design.

- Address gaps where current quad and SSV regulations and standards do not apply, so all children are protected in all environments.
- Strengthen standards and requirements for youth-quad model stability and performance.
- Validate after-market devices (e.g. OPDs) and safety technologies, such as helmet aware technology, password protected safe start, and geofencing speed limiter technology that delivers location aware, automated speed management, before they are relied on as controls.
- Ensure test methods remain sufficiently sound, responsive and aligned with national needs.
- Provide clear safety warnings and age guidance at the point of sale, before families make decisions.
- Ensure all marketing and imagery model safe riding behaviour, safety protection, adult supervision and appropriate terrain.

Secondary prevention

Lower the risk of injury once a child is around a quad or SSV.

- Deliver clear, age-appropriate safety messages for children, parents and carers tailored towards real behaviours, beliefs and misconceptions, not just rules.
- Develop youth-appropriate quad rider training, focused on learning safety, training and practice driving in a variety of conditions under close active adult supervision.
- Support families and the quad and SSV riding community to understand what safe and appropriate operation looks like for children.
- Reinforce the critical role of adults to model and enforce safe riding behaviours and to prevent children from using adult-sized quads and children (under 16) from driving SSVs.

Tertiary prevention

Improve the system after injury or death.

- Report quad and SSV-related child deaths separately to clearly identify trends and risk factors.
- Improve data sharing across agencies to strengthen prevention planning.
- More regularly review whether safety reforms are helping to reduce harm to children.
- Build on existing research by exploring Queensland specific:
 - common attitudes and behaviours of children, their families and communities regarding the use of quads and SSVs
 - cultural, regional and socio-economic factors that influence risk perception and safety practices
 - children's level of exposure to potential hazards and unsafe environments.
- Use evidence and research to update standards, education and enforcement where risks remain.

It is vital that opportunities are provided to all children, families and communities to continue to build their knowledge about the safe use, safe riding habits, and safe attitudes needed to help keep children injury free around quads and SSVs.

Appendix A: Data tables

Queensland child deaths

Queensland Child Death Register data for quad and SSV-related child deaths, 0–17, Queensland, 2004–25 (Figure 3 of the report).

	Quad bike	SSV	Total
2004–25	16	7	23
Year			
2004	3	0	3
2005	1	0	1
2006	0	0	0
2007	1	0	1
2008	0	2	2
2009	1	0	1
2010	0	0	0
2011	1	0	1
2012	2	0	2
2013	1	0	1
2014	2	0	2
2015	0	0	0
2016	0	0	0
2017	0	1	1
2018	0	0	0
2019	0	0	0
2020	2	0	2
2021	1	2	3
2022	0	0	0
2023	1	0	1
2024	0	2	2
2025	0	0	0
Age group			
Under 6	5	0	5
6–15	8	6	14
16–17	3	1	4

Queensland Ambulance Services

Ambulance attendance data for quad and SSV-related incidents involving children, Queensland, 2010–11 to 2023–24 (Figure 5 of the report).

Financial year	Age category				Total
	1–4	5–9	10–14	15–17	
2010–11	5	6	14	9	34
2011–12	5	13	13	19	50
2012–13	*	17	12	10	39
2013–14	5	12	13	19	49
2014–15	*	18	33	27	78
<i>Data not available</i>					
2017–18	*	17	28	21	66
2018–19	7	18	16	19	60
2019–20	14	25	33	18	90
2020–21	*	17	23	16	56
2021–22	5	9	17	11	42
2022–23	8	12	32	14	66
2023–24	*	9	19	13	41

* Numbers not reported for values less than 5 and not included in totals.

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