

Seat belts



- Failure to wear a seat belt is one of the leading causes of road crash death for crash-involved vehicle occupants.
- Unrestrained drivers and passengers are 8 times more likely to be killed in a road crash¹.
- Wearing a properly adjusted seat belt reduces the risk of fatal or serious injury by up to 50%².

State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

THE FACTS

- The widespread use of seat belts following legislation and enforcement in the 1970s is regarded as a key factor in reducing the road toll from over 3,382 deaths in 1968 to around 2,887 deaths per year in 1988, in spite of increases in drivers and vehicles³.
- In 2015, 177 vehicle occupants who were not wearing a seat belt were killed in Australia, representing approximately 15% of all road crash fatalities⁴.
- In Queensland in 2016:
 - Unrestrained vehicle occupants accounted for 32 road fatalities or 25.6% of all vehicle occupant fatalities – an increase over 60% compared to both the previous year and in line with the 5 year average⁵.
 - 182 hospitalised casualties (4.7% of all hospitalised casualties) were known to have been unrestrained – no change from the previous year and 11% more than the previous 5 year average⁵.

Who is most at risk

- Young adults (18-24 years) are less likely to wear seat belts than older adults⁷.
- Men are less likely to wear seat belts than women and roughly twice as likely as women to be killed in road crashes for failing to wear a seat belt⁷.
- Rear seat passengers are less likely to wear a seat belt than front seat passengers, thus increasing the likelihood of injury to themselves and others in the vehicle⁶.
- Rural drivers.
- Indigenous car occupants are less likely to wear seat belts than non-Indigenous car occupants⁸.

Studies show that drivers & front seat passengers are at a much greater risk of fatality in a car crash if the rear passengers are not wearing seat belts⁶.

Why seat belts are effective

The five main functions of a seat belt are to:

1. Cause the occupant to decelerate at the same rate as the vehicle in a crash
2. Spread the force of the impact over the stronger parts of the occupant's body (pelvis and chest area)
3. Prevent the occupant colliding with the interior parts of the vehicle and other vehicle occupants
4. Reduce the risk of being thrown from the vehicle
5. In modern cars, seat belts are designed to work together with the airbags. In a crash, the seat belt slows the speed of the occupant so they impact safely with the airbag.

Queensland legislation¹¹

- Everyone who travels in a passenger vehicle in Queensland is required to wear a restraint (see <https://www.legislation.qld.gov.au/view/html/inforce/current/s1-2009-0194#sec.264>) unless he or she has an official exemption (e.g. on medical grounds with appropriate medical certificate, some driving professions and in a few specific situations (see <https://www.legislation.qld.gov.au/view/html/inforce/current/s1-2009-0194#sec.267>) -

- The driver of a vehicle is responsible for the proper restraint of all passengers under the age of 16 (see <https://www.legislation.qld.gov.au/view/html/inforce/current/s1-2009-0194#sec.266>).
- A bus driver is not responsible for ensuring passengers on the bus are wearing seat belts.
- Taxi drivers are now required to wear a seat belt at all times when operating the vehicle, and passengers in a taxi must also wear a seat belt at all times.
- Children aged under 7 years must use a child restraint suitable for their age (see <https://www.qld.gov.au/transport/safety/rules/children>).
- Different types of restraints are available to suit children of different ages and sizes and these provide better protection to a child than seat belts used alone (as these are designed to fit an adult-sized body). A summary of the National Guidelines for Safe Restraint of Children Travelling in Motor Vehicles is available here.
- It is safer for children to be seated in the rear seat of a vehicle with a properly adjusted restraint. The law requires children under 4 years to be seated in the rear seat, and children 4-7 years may only be seated in the front if the rear seat is already filled with other younger children. Kidsafe Queensland provides a child restraint installation and checking service to ensure children are in the correct restraint for their age and size.

Children of different sizes & ages need different types of restraints.

Penalties for failing to wear a seat belt

Queensland penalties for failing to wear a seat belt (for motorists and passengers) are in effect.

- Drivers face fines of 3 demerit points plus \$391 for failure to wear a seatbelt when driving a vehicle fitted with seatbelts AND/OR failing to ensure a passenger under 16 years wears a seat belt or a properly fitted and adjusted restraint.
- Passenger of at least 16 years failing to wear a seat belt in a vehicle fitted with seat belts (fine for the passenger) = 3 demerit points + \$378 fine.
- If you have a repeat offence within 12 months, the fine and demerit points are doubled.
- For further information visit <https://www.qld.gov.au/transport/safety/fines/demerit/poins#seatbelt>.

When purchasing a car, consider its safety features - look for an ANCAP safety rating of 4 or 5 stars & ensure seat belts are in good operating condition.

CARRS-Q'S WORK IN THIS AREA

- Evaluation of the 2010 child passenger restraint legislation in Queensland was



conducted in four locations in Queensland and found that nearly all children 0-7 years were restrained (95%), although approximately 24% of children were inappropriately restrained¹⁰.

- Evaluation of the effectiveness of the announcement and enforcement of the new child restraint legislation in regional areas found an overall positive effect with fewer children observed seated in front seats and an increase in the use of dedicated child restraints¹¹.
- Child seating positions in passenger vehicles examined where drivers sit children under 12 years in cars and other passenger vehicles. Analysis of data from Victorian crash records found that 20% of children were travelling in the front seat.

For children under 4 years travelling in the front seat, the relative risk of death was twice as great as when travelling in the rear, and that of serious injury was 60% greater. The relative risk of death whilst travelling in the front seat was almost four times greater for children aged under one year¹².

- Indigenous road safety literature review and licensing project found that failure to wear a seat belt is one of the leading factors contributing to Indigenous road fatalities.

REFERENCES

1. Department of Transport and Main Roads (2015). Figures are based on the crashes validated in the Queensland Road Crash Information System from 1 January 2007-31 December 2011. Report reference number: rqC19729.
2. Elvik, R. & Vaa, T. (Eds). (2004). *The handbook of road safety measures*. Elsevier.
3. Department of Transport and Regional Services, Australian Transport Safety Bureau. (2013). *Road crash data and rates Australian States and Territories 1925 to 2002*, pp. 1-2
4. Bureau of infrastructure, Transport and Regional Economics. (2017). *Road trauma Australia 2016 statistical summary*.
5. Department of Transport and Main Roads. (2017). *Queensland road crash weekly report, Report No: 1070*. Data extracted: 10/07/18, pages 3 & 7. <https://www.tmr.qld.gov.au/Safety/Transport-and-road-statistics/Road-safety-statistics.aspx>.
6. Bose, D., Arregui-Dalmases, C., Sanchez-Molina, D., Velazquez-Ameijide, J. & Crandall, J. (2013). Increased risk of driver fatality due to unrestrained rear-seat passengers in severe frontal crashes. *Accident Analysis & Prevention*, 53, 100-104.
7. Strine, T.W., Beck, L., Bolen, J., et al. (2012). Potential moderating role of seat belt law on the relationship between seat belt use and adverse health behavior. *American Journal of Health Behavior*, 36(1), pp 44-55.
8. Australian Transport Safety Bureau. (2004). *Profile of Road Safety among Indigenous Australians*. Indigenous Road Safety Forum and Working group. Alice Springs, Australian Government ATSB.
9. Queensland Parliament. (2013). *Transport Operations (Road Use Management Road Rules) Regulation 2009*.
10. Lennon, A. (2012). A cross sectional observational study of child restraint use in Queensland following changes in legislation. *Journal of the Australasian College of Road Safety*, 23(2), pp. 45-53.
11. Johns, M., Lennon, A. & Haworth, N. (2012). Child car restraints: mandating type and seating row according to age with positive effect in regional city in Queensland, Australia. *Transportation Research Record: Journal of the Transportation Research Board*, 2281, pp. 51-58.
12. Lennon, A., Siskind, V. & Haworth, N. (2008) Rear seat safer: seating position, restraint use and injuries in children in traffic crashes in Victoria, Australia. *Accident Analysis & Prevention*, 40(2), pp. 829-834.

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