

Part III: Non-intentional injury-related death

Chapters 6–9

This section provides details of child deaths from injury as a result of unintended events such as transport incidents, drowning, fire and ‘other’ non-intentional injury related deaths.

Chapter 6

Transport

“Of all the systems with which people deal every day, road traffic systems are the most complex and the most dangerous” (World Health Organisation 2004:1)

Key issues

- Between 1 July 2005 and 30 June 2006, 41 children and young people died in transport incidents in Queensland. Transport fatalities were the leading external cause of death, accounting for 44.1% of all child deaths from external causes.
- Transport incidents were the most common cause of death for adolescents aged 15–17 years (21 deaths), and were also the leading cause of death in 10–14 year olds (5 deaths, equal with suicide).
- The greatest risk for fatal teen motor vehicle collisions was 10pm–12am on a Saturday night. This period accounted for almost a quarter of all teen motor vehicle fatalities.
- Licensing laws for young drivers are set to change from July 2007.

Transport fatalities in Queensland

In 2005, road accidents in Queensland accounted for 328 deaths, a rate of 8.27 per 100,000 population. This is the fourth-highest rate in Australia (behind the Northern Territory, Tasmania and South Australia), and compares with a national average of 8.05 per 100,000 (Australian Transport Safety Bureau 2006b:15). Despite an overall decreasing trend since the mid-1970s, road deaths in Queensland appear to be increasing in recent times (Australian Transport Safety Bureau 2006b:15). In the 12 months between June 2005 and May 2006 there were 342 road deaths in Queensland, an increase of 12.1% on the previous 12-month period (Australian Transport Safety Bureau 2006a:2).

Children and young people constitute a substantial proportion of road deaths in Queensland. A report by Queensland Transport (Road Traffic Crashes in Queensland, 2003) reported that children aged

from birth to 16 years of age accounted for 10% of fatalities in 2003 (Queensland Transport 2005b:17). Young people aged 17–20 years of age accounted for 14.8% of road deaths, despite representing only 5.6% of the Queensland population (Australian Bureau of Statistics 2005; Queensland Transport 2005b:18).¹¹²

The role of young people in transport incidents varies widely. They may be drivers or passengers in motor vehicles, pedestrians or cyclists. The types of vehicles involved also vary from cars and trucks to motorcycles, bicycles, water craft and trains.

The Queensland Government and various non-government organisations and research bodies are actively researching causes, trends, patterns and the role of young people associated with transport incidents to reduce death and injury. Queensland Transport have recently undertaken consultation in relation to young driver licensing in Queensland. This initiative is discussed in more detail later in this chapter.

¹¹² The Commission only records information for children up to 17 years of age. This information is presented to illustrate the high level of involvement of young people in transport incidents.

Transport-related fatalities: trends and patterns, 2005–06

Forty-one children and young people died as a result of transport incidents in Queensland during the reporting period, a decrease of 10.9 percent (5 deaths) on the 2004–05 12-month period (see Chapter 3 of this report). Child deaths as a result of transport incidents in Queensland occurred at a rate of 4.2 per 100,000 children and young people aged 0–17 years in Queensland.

Of the 41 deaths:

- 26 were the result of motor vehicle crashes
- 11 involved pedestrians (including 3 pedestrians struck by a train)
- 1 was caused by a motorcycle crash
- 2 involved bicycles, and
- 1 involved a water craft.

The proportions of the various types of transport incidents resulting in child deaths in the reporting period are somewhat different from those observed in 2004–05. Motor vehicle and pedestrian fatalities accounted for a greater proportion of transport deaths than in the previous 12-month period, while motorcycle and ‘other’ types of incidents accounted for considerably less.

Age and gender breakdowns are given in Table 6.1.

Table 6.1: Transport incident deaths by age group and gender

Age group	Female <i>n</i>	Male <i>n</i>	Total <i>n</i>	Rate per 100,000
Under 1 year	1	3	4	7.7
1–4 years	2	4	6	3.0
5–9 years	2	3	5	1.9
10–14 years	1	4	5	1.8
15–17 years	5	16	21	12.6
Total	11	30	41	4.2
Rate per 100,000	2.3	6.0	4.2	

Data source: Queensland Child Death Register (2005–06)

Note: 1. Rates are calculated per 100,000 children and young people aged 0–17 years.

Gender

During the reporting period, the number of male fatalities was 2.7 times greater than that for females, with males accounting for 30 deaths (73.2%) and females 11 (26.8%). Males outnumbered females across all age groups and for all types of transport incidents.

The rate of males who died in transport fatalities was also 2.6 times greater, with 6.0 deaths per 100,000 males aged 0–17 years, compared with 2.3 deaths per 100,000 females.

This finding is consistent with that of the 2004–05 12-month period discussed in Chapter 3, where it was noted that male children were almost twice as likely to die in a transport incident as female children (6.3 deaths per 100,000 males, compared with 3.2 per 100,000 females).

Australian and international research has shown males to have higher rates of deaths from injury in general (Al-Yaman, Bryant & Sargeant 2002:241; United Nations Children’s Fund 2001:18). It is suggested that this may be a result of greater risk-taking behaviour displayed by boys, coupled with more permissive caregiver attitudes towards boys (Morrongiello 2005:543; Norton & Lam 1999:7; United Nations Children’s Fund 2001:18). In the older age groups, males tend to display more risk-taking behaviour behind the wheel than females (for example, speeding, drink driving and driving without a seatbelt) (Smart et al. 2005:30–31). This male propensity for risk taking has been linked to boys’ conceptions of masculinity and vulnerability to peer influence (Dawes 2001:5; Williams 2003:14).

Age

Under 1 year

During the reporting period, children under the age of 1 year accounted for 4 of the 41 child transport deaths (9.8%).

The Commission observed that infants under 1 have been the least likely to die in transport incidents

in the past 14 years (Child Death Annual Report, 2004–05). Although recording the lowest number of deaths, this age group has the second-highest rate of deaths in the current reporting period, at 7.7 per 100,000 children under 1 year.

All 4 of the children in this age group were passengers in motor vehicles being driven by their parents. Parental actions are largely the determinants of these incidents, given young children's dependence on their parents.

1–4 years

Queensland road crash statistics show that children aged from birth to 4 years of age constituted 26.7% of road fatalities of children under 16 years (Queensland Transport 2005b:17). In 2005–06, 6 children aged from 1 to 4 years died in transport incidents in Queensland (14.6% of child transport deaths). This equates to a rate of 3.0 deaths per 100,000 toddlers 1–4 years of age.

Five of the 6 toddlers were killed as pedestrians, with 2 of these being low-speed run-overs. These deaths are discussed further in the pedestrian section of this chapter. One child was a passenger in a motor vehicle.

Over the past 14 years, toddlers aged 1–4 have consistently been the second most likely age group to die in transport incidents. This age group had the second-highest number of transport deaths in this reporting period and had the third-highest rate of death.

5–9 years

Five children aged 5–9 years died in transport incidents in the reporting period (12.2% of child transport deaths); 3 of these were pedestrians, while 1 was the driver of a motor vehicle. One death involved water transport.

Research has found that many 5–9 year olds who die in transport incidents are pedestrians. Children of this age are prone to darting out into the street and misjudging gaps in traffic (Cross & Hall 2005:318).

Increasing mobility, combined with their small physical stature and underdeveloped cognitive and perceptual abilities, contributes to the high rate of pedestrian fatalities in this age group (Cross & Hall 2005:318; Henderson 2000:9; World Health Organisation 2004:45). Two of the pedestrian deaths in this age group happened when the children were struck by a train in the same incident. The other pedestrian in this age group was the rider of a child's motorised scooter.

Children aged 5–9 died in transport incidents at a rate of 1.9 per 100,000 children aged 5–9 years. This was the second-lowest rate across all age groups. This is consistent with data over the last 14 years, in which 5–9 year olds had the second-lowest rate of transport-related deaths.

10–14 years

Five young people aged 10–14 years died in transport incidents between 1 July 2005 and 30 June 2006 (12.2% of all child transport deaths). Inconsistent with findings from the past 14 years, where the Commission found 10–14 year olds to have the third-highest rate of death due to transport incidents, this age group recorded the lowest rate of death in this reporting period, at a rate of 1.8 per 100,000 children aged 10–14.

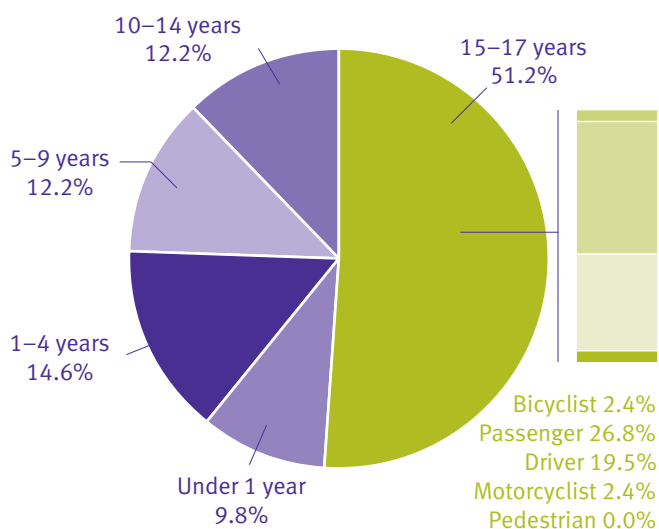
Of the 5 children in this age group who died in the reporting period, 3 were pedestrians, 1 was a passenger of a motor vehicle, and 1 was a cyclist. One of the pedestrians was involved in the rail incident mentioned above. The children were believed to have been playing on the train tracks at the time of the incident.

15–17 years

The greatest proportion of young people involved in fatal transport incidents in the reporting period were in the 15–17 year age group. Twenty-one 15–17 year olds were killed in transport incidents during this 12-month period (51.2%), a rate of 12.6 per 100,000 15–17 year olds. This age group has historically had the highest rate of transport incidents, a trend which continued in this reporting period.

Figure 6.1 shows fatalities among children aged 15–17 years by type of road user.

Figure 6.1: Nature of transport fatalities in the 15–17 year age group



Young people aged 15–17 years were more likely to be passengers in transport incidents (11 deaths, 52.4% of 15–17 year old transport deaths). Eight of the young people were drivers. One young person was a motorcycle rider, while 1 was a pedal cyclist. The cyclist was a 16 year old who was believed to have been intoxicated at the time of the incident. The young person was struck by a car after falling from the bicycle.

The greater number of 15–17 year olds killed in transport incidents reflects the increasing independence of young people of this age. Many are beginning to drive and are travelling in vehicles with licensed peers. The risks associated with young people and driving are discussed later in this chapter.

Aboriginal and Torres Strait Islander status

Six children who died in transport incidents were Indigenous (all Aboriginal). All of these children were male. Indigenous children died as a result of transport incidents at a rate of 9.25 per 100,000 Indigenous children aged 0–17 years, compared with 3.85 per 100,000 non-Indigenous children.

Two of these children were passengers in motor vehicles. One was a pedestrian killed in a low-speed run-over incident. Three children were involved in

the same incident, where they were struck by a train while playing on the tracks.

Geographical distribution (ARIA+)

To facilitate an understanding of the areas in which transport fatalities more frequently occur, the geographical distribution of transport incidents has been calculated on incident location (as provided in the Police Report of Death to a Coroner), rather than usual place of residence.

The majority of fatal transport incidents involving children and young people (25 deaths, 61.0%) occurred in regional areas of Queensland. Eight deaths occurred in metropolitan areas (19.5%), and 7 in remote areas (17.1%).¹¹³

The rate of transport fatalities in remote areas was more than double the overall rate, with 11.5 deaths per 100,000 children and young people aged birth to 17 years in remote areas, compared with 4.2 per 100,000 children and young people in all areas.

The rate of transport fatalities in regional areas was also above the overall rate, with 6.6 deaths per 100,000 children and young people, while children in metropolitan areas died in transport incidents at a rate of 1.5 deaths per 100,000 children and young people.

It is well recognised, both nationally and internationally, that road fatalities occur with greater frequency in rural areas. The Parliamentary Travelsafe Committee reported that over half of Australia’s road fatalities occur on rural roads, and that the risk of dying in a rural crash is approximately 3.6 times higher than the risk of dying in an urban crash (Parliamentary Travelsafe Committee 2001:6). In 2003 in Queensland, 44% of fatal crashes occurred outside urban areas (Queensland Transport 2005b:36). Several factors appear more likely to be involved in rural crashes, including speeding, alcohol use and fatigue (Parliamentary Travelsafe Committee 2001:6).

Queensland’s current strategic direction (*Safe4Life: Queensland Road Safety Strategy 2004–2011*) aims to target road safety in rural Queensland (Queensland Government 2003:4). The Queensland Road Safety Action Plan for 2004–05 prescribes action in the areas of licensing in rural and remote

113 Three children were not able to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.

areas, as well as improved access to emergency services in the event of a crash. Further research is to be conducted on rural road safety in Queensland (Queensland Government 2004:23).

Socio-economic status (SEIFA)

Of the 41 children who died, 23 lived in low or very low socio-economic areas (56.1%), including 15 in the lowest socio-economic areas in Queensland. Six children were from high or very high socio-economic areas (14.6%), while 9 lived in a moderate area (22.0%).¹¹⁴

The most disadvantaged children have been noted to be more likely to die in transport-related incidents. Australian research has found children in lower socio-economic brackets¹¹⁵ to be more likely to die as drivers and passengers, and as pedestrians, while the risk for motorcycle and bicycle incidents is relatively similar across different socio-economic areas (Stokes, Ashby & Clapperton 2001:9). International research has also found similar trends (Reimers & LaFlamme 2005:1491).

The highest rate of transport deaths was for children living in low socio-economic areas (5.7 per 100,000 children and young people living in low socio-economic areas). Children living in lower socio-economic areas are over-represented in transport deaths. Moderate socio-economic areas recorded the next highest rate (4.4 per 100,000 children and young people living in moderate socio-economic areas). Children from high socio-economic areas died in transport incidents at a rate of 1.6 per 100,000 children and young people living in high socio-economic areas.

Child protection population

Eight of the 41 children who died in transport incidents were known to the Department of Child Safety (DChS)(19.5%). The Department's involvement with these children will be considered by the Child Death Case Review Committee (CDCRC).¹¹⁶

114 Three children were not able to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.

115 Based on the Index of Relative Socio-Economic Disadvantage (a statistic of the SEIFA index).

116 Since 1 August 2004, the DChS has been required to conduct a review of its involvement with a child if the child was known to the Department within the 3 years before death. The CDCRC is an independent committee responsible for considering the Department's review. The committee is multi-disciplinary and is chaired by the Commissioner.

117 QISU data are based on emergency department presentations to a number of selected hospitals. This information is therefore not a complete overview of childhood injury in Queensland, but provides a good indication of injury trends.

118 Full-year data were only available for the 2004–05 period.

Coronial findings

Coronial findings were available at the time of reporting for 13 of the 41 transport deaths. For the remaining 28 cases, autopsy notices were available, giving an official cause of death.

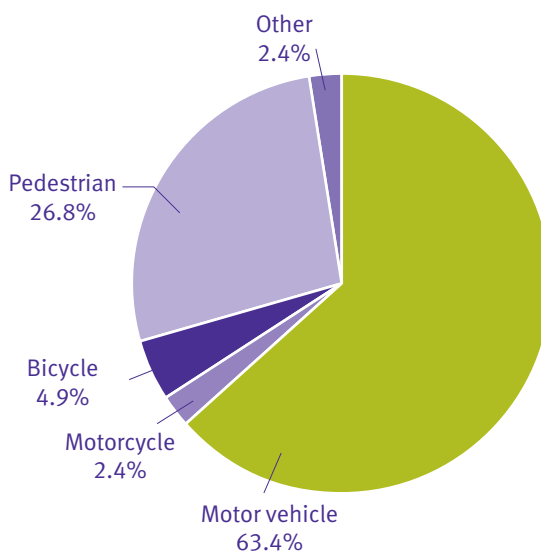
Transport-related injuries

In addition to the fatalities discussed above, a large number of children were injured in transport incidents in Queensland. The Queensland Injury Surveillance Unit (QISU) recorded 1865 transport-related injuries to children in the 2004–05 financial year.^{117 118} The greatest number of injuries occurred in the 10–14 year age group (782 injuries), followed by the 5–9 year age group (531 injuries). This stands in contrast to the findings discussed above. Almost 17% of injuries from transport incidents required admission to hospital.

Nature of transport incident

Figure 6.2 shows the proportion of deaths by type of transport fatality.

Figure 6.2: Nature of transport fatality



As illustrated in Figure 6.2, the greatest number of transport fatalities occurred in motor vehicles (26 deaths), followed by pedestrian deaths (11 deaths). Two children died in incidents involving pedal cycles and 1 in an incident involving a motorcycle. One child died in a water transport incident.

The majority of transport deaths in the 12-month period between July 2004 and June 2005 also involved motor vehicles and pedestrians (58% and 22% respectively).

Motor vehicle

Overall, 26 children and young people died in motor vehicle crashes.¹¹⁹ The 26 children and young people were killed in 20 separate incidents. Four young people died in the same collision, and 2 were killed in another. In one of these cases the driver was a person under the age of 18. The gender and age of young people who died in motor vehicle crashes, as well as their role, are given in Table 6.2.

Table 6.2: Motor vehicle crash fatalities for drivers and passengers by age group, gender and rate

Motor vehicle crashes				
Age group	Female <i>n</i>	Male <i>n</i>	Total <i>n</i>	Rate per 100,000
Passengers				
Under 1	1	3	4	7.7
1–4 years	0	1	1	*
10–14 years	1	0	1	*
15–17 years	3	8	11	6.6
Subtotal	5	12	17	1.7
Drivers				
5–9 years	1	0	1	*
15–17 years	2	6	8	4.8
Subtotal	3	6	9	0.9
Total	8	18	26	2.7

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates for each age group are calculated per 100,000 children in that age group.

2. Rates for subtotals and totals are calculated per 100,000 children and young people aged 0–17.

Gender

Males were more likely to die in motor vehicle crashes (18 deaths, 69.2%) than females (8 deaths, 30.8%). Six of the 9 drivers were male (compared with 3 female drivers), and 12 of the 17 passengers were male (compared with 5 female passengers).

This gender bias is predominantly visible in the 15–17 year age group. There were 6 male drivers in this age group, compared with 2 female drivers. Likewise, 8 passengers in this age group were male, compared with 3 females.

Age

The majority of children involved in motor vehicle fatalities were in the 15–17 year age group (8 drivers, 11 passengers). This age group typically has the greatest involvement in motor vehicle crashes, because of their newly acquired roles as drivers and peer passengers. The risks associated with driving for young adults are further discussed later in this section.

Geographic distribution (ARIA+)

All of the 26 car crash fatalities occurred in regional and remote areas. The majority (20) occurred in regional areas and 6 in remote areas. Remote areas, however, had the highest rate of child motor vehicle fatalities, with 9.9 per 100,000 children aged 0–17 years living in remote areas. Regional areas had a rate of 5.3 per 100,000.

Single-vehicle crashes are far more likely in rural than in urban areas. In Queensland in 2000, fatal single-vehicle crashes occurred at a rate of 11.56 per 100,000 population in rural areas, compared with 1.81 per 100,000 in urban areas (Parliamentary Travelsafe Committee 2001:11). Single-vehicle crashes generally involve vehicles hitting objects or overturning. Risk factors associated with fatal single-vehicle crashes include alcohol, speed and travelling unrestrained (Queensland Transport 2005b:33).

In the reporting period, 19 of the 26 car crash fatalities were single-vehicle crashes, with all of these occurring in regional and remote areas (4 of the 19 children died in the same incident).

119 In 2 of these cases, the vehicle subsequently caught fire, leading to the death of the occupants.

The majority (15 deaths, 78.9%) of these crashes involved young people in the 15–17 year age group; 7 of these were drivers and 8 were passengers.

Two deaths as a result of a single-vehicle crash in rural areas were of children under 1 year, while one death was recorded for the 1–4 year and 5–9 year age groups. Three children were involved as passengers and 1 as a driver.

Of 16 separate single-vehicle crashes, 13 involved the vehicle leaving the road and hitting an object (such as trees, power-poles, guardrails, fences and culverts). Two of these occurred on private property and off-road tracks. Three of the vehicles overturned. Eight were reported as definitely involving or likely to have involved speed, and 2 were reported as involving alcohol or drug use.

Socio-economic status (SEIFA)

Of the 26 children who died in car crashes, 18 lived in low or very low socio-economic areas (69.2%), including 11 in the lowest socio-economic areas of Queensland. Only 1 infant was from a high or very high socio-economic area, while 5 lived in a moderate area (19.2%).¹²⁰

Children in low or very low socio-economic areas also died at a higher rate than children in moderate areas (4.5 deaths per 100,000 children 0–17 years living in low areas, compared with 2.4 per 100,000 children 0–17 years in moderate areas).¹²¹

Child fatalities in motor vehicles

In order to discuss risk factors pertinent to different age groups, for the purposes of this section ‘child fatalities’ refers to children under the age of 15. ‘Teen fatalities’ are discussed in detail in the section that follows this one.

Seven children under the age of 15 were involved in motor vehicle crashes in the reporting period. Four of these were under 1 year of age, and 1 death was recorded for each of the 1–4, 5–9 and 10–14 year age groups.

Role of child

All children were involved as passengers, with the exception of one child in the 5–9 year age group, who was driving a vehicle on a rural property. No children were travelling with young (teenage) drivers at the time of death.¹²²

Time, place and type of incident

The hours between 3pm and 6pm (after school) carried the greatest risk for children (4 out of 7 deaths occurred within these times), while crashes did not appear to be significantly more likely on any particular day.¹²³ Six deaths occurred on highways¹²⁴ and 1 on private property. Four were single-vehicle and 3 were multiple-vehicle collisions. All fatalities occurred in areas with a speed limit of 100km/h (with the exception of the child travelling on private property). This is a different pattern of events from that of teen road fatalities (see below).

Speeding, drinking alcohol and other risk-taking behaviours

Only 2 of the vehicles were deemed by police to have possibly been speeding, in contrast with findings in teen motor vehicle deaths. Alcohol was considered a factor in 1 of the crashes. Alcohol and drugs were also considered a factor in only a minority of teen deaths.

Seatbelts

Two children were not wearing seatbelts at the time of the incident.

Geographic distribution (ARIA+)

Of the children who died in motor vehicle crashes, 5 of the incidents occurred in regional areas and 2 in remote areas.

Socio-economic status (SEIFA)

Children from lower socio-economic areas were more likely to be involved in fatal road crashes than those from higher areas; 4 children from low or very low socio-economic areas died in this reporting period, while 1 lived in a moderate area.¹²⁵

120 Two children were not able to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.

121 Rates were unable to be calculated for children living in high to very high socio-economic areas because of low numbers of child deaths in these areas.

122 One child died while a passenger of a 19 year old driver. The driver was, however, the mother of the child, and therefore does not fit the classification of a ‘peer’ as defined by Queensland Transport (see the ‘Teen fatalities’ section below).

123 Two children died on Wednesday and Saturday, and 1 child each on Tuesday, Friday and Sunday.

124 Speed limit greater than or equal to 100km/h.

125 Two children were unable to be classified as their usual place of residence was outside Queensland. See Appendix 4.1 for further details.

Teen fatalities in motor vehicles

'Teen fatalities' in this section refers to young people in the 15–17 year age group. Nineteen 15–17 year olds were involved in motor vehicle fatalities in Queensland in the reporting period; 14 were male and 5 were female.

Young drivers have been the focus of much research concerning their involvement in motor vehicle crashes. Statistics have shown young drivers to be disproportionately involved in road crashes.¹²⁶ Between 1998 and 2002 in Queensland, 85 17 year old drivers were involved in fatal crashes (Parliamentary Travelsafe Committee 2003b:9), with 17–20 year old drivers comprising 15.6% of all drivers killed in road crashes in 2003 (Queensland Transport 2005b:A2-4). Queensland Transport statistics state that, in 2005, young people aged 17–24 made up 32% of Queensland's road toll, despite constituting only 13% of drivers (Queensland Transport 2006).

Young drivers face an increased risk for a number of reasons. In the first instance, driving is a complex task that requires a number of different skills working in combination, including motor and psychomotor skills necessary for coordination and handling of the vehicle. The perceptual capabilities necessary for hazard perception and judgement of speed and distance are reportedly not as highly developed in young drivers as in older drivers (Ferguson 2003:73; Parliamentary Travelsafe Committee 2003b:5).

Social pressures may also affect a young driver's risk of being involved in a road crash. The presence of passengers, particularly passengers of similar age, has been associated with an increased crash risk in teenage drivers arising from driver distraction or peer pressure to undertake risky behaviour (Simons-Morton, Lerner & Singer 2005:973; Williams 2003:14; Williamson 1999:7; Williamson 2003:6).

Young drivers' immaturity is associated with impulsive, high-risk driving behaviour, such as speeding, inattention and driving under the

influence of alcohol (Parliamentary Travelsafe Committee 2003b:6; Williamson 1999:14). Younger drivers have been observed to accept narrower gaps when pulling into traffic, follow at shorter distances and drive faster than general traffic (Ferguson 2003:72; Simons-Morton, Lerner & Singer 2005:980).

Late-night driving has been identified as a significant risk factor for young driver crashes. Williams (2003:15) proposed reasons for this:

Late-night driving increases crash risk among young drivers for a variety of reasons: the driving task is more difficult in darkness; many newly licensed drivers will have had less driving practice at night than during the day; fatigue – thought to be a problem for teenagers at all times of the day – may be more of a factor at night; and recreational driving that is considered to be high risk, sometimes involving alcohol use, is more likely to take place at night.

The risk of involvement in a fatal crash is about 3 times higher for young drivers at night than during the day. However, although the risk at night is higher, a greater number of fatal crashes occur during the day, as fewer teenagers are driving during high-risk night-time hours (Williams 2003:9-10).

Role of teen

In the reporting period, 11 young people aged 15–17 years were involved in fatal car crashes as passengers, and 8 as drivers. Males were more likely to be both drivers and passengers, with 6 of the 8 drivers and 8 of the 11 passengers being male.

Peer passengers

As mentioned previously, the presence of peer passengers has been noted to increase the risk of road crashes for young drivers. 'Peer' passengers are described as someone under the age of 21¹²⁷ and not a family member (Queensland Transport 2005a:12).

126 The earliest age at which a young person can obtain a provisional (unsupervised) licence is 17. Most sources of road crash statistics discuss young drivers as being between 17 and 19 years of age.

127 The age limit for peer passengers in some literature is 25 years of age.

In the reporting period, only 1 of the 8 driver deaths in this age group occurred where peer passengers were present; 5 of the driver deaths occurred when driving alone.

Three of the deaths of young people occurred while passengers of peer drivers.¹²⁸ Four young people were killed while the passenger of an adult driver. The age of the driver in 3 cases is unknown.

Time, place and type of incident

Teens were at greatest risk of involvement in a fatal motor vehicle collision between 10pm and midnight on a Saturday (4 deaths, 21.1%). However, the greatest number of fatal road crashes involving teens occurred between the hours of 9am and 3pm on any given day (7 deaths, 36.8%).

For young people in the 15–17 year age group, 2 deaths occurred on residential streets,¹²⁹ 5 on major roads¹³⁰ and 11 on highways.¹³¹ One death occurred while travelling off-road. The majority of crashes were single-vehicle incidents. Fifteen of the 19 teen motor vehicle fatalities involved only 1 vehicle (78.9%). All of the single-vehicle crashes occurred in rural areas, 7 of these on highways.

Speeding, drinking alcohol and other risk-taking behaviours

A number of factors are likely to increase the risk of a crash, or to worsen the severity of the injuries for car occupants in the event of a crash. In 6 of the incidents, police identified exceeding the speed limit as a definite factor, with a further 4 cases likely to have been speeding. Drug and alcohol involvement was suspected in 1 of the cases, and considered possible in another.

Only 1 of these incidents involved overt and extreme risk-taking. Four young people between the ages of 15 and 17 were killed while racing another car.

Seatbelts

Three of the 8 drivers were not wearing seatbelts at the time of the collision. One of the 11 passengers who died was also not wearing a seatbelt. In 7 cases it is not known if the vehicle occupant was wearing a seatbelt.

Geographic distribution (ARIA+)

Fatal crashes involving young people 15–17 years of age occurred at a higher rate in remote areas (4 deaths, 46.9 per 100,000 young people aged 15–17 years in remote areas). Regional areas had a lower rate of fatal transport incidents involving children in this age group, despite having a higher number of deaths (15 deaths, 23.0 per 100,000). No deaths occurred in metropolitan areas.

Socio-economic status (SEIFA)

Young people from lower socio-economic areas were more likely to be involved in a fatal road crash than those from higher areas. Those in the lowest socio-economic areas died at a rate of 20.8 per 100,000 young people aged 15–17 years living in low socio-economic areas (14 deaths), compared with 11.6 per 100,000 in moderate areas (4 deaths). One child lived in a high to very high socio-economic area.¹³²

Motor vehicle-related injuries

According to the QISU, 392 children and young people were injured in motor vehicle incidents in Queensland in 2004–05. The greatest number of these were in the 5–9 year age group (104 deaths). Of the total children injured, 10.2% were drivers and 89.8% were passengers. Injuries resulting from motor vehicle crashes were more common on Saturday and Sunday and were more frequent between the hours of 4pm and 7pm. Injuries were serious enough to warrant admission to hospital in 17.6% of cases.

128 In one additional case, the young person was being driven by a 17 year old cousin. As this person was being driven by a family member, this is not classified as a 'peer' driver under the Queensland Transport definition.

129 Speed limit less than or equal to 60km/h.

130 Speed limit between 70 and 90km/h.

131 Speed limit greater than or equal to 100km/h.

132 Rates are unable to be calculated for numbers less than 4.

Pedestrians

In the reporting period, 11 children and young people died as pedestrians, compared with 10 child pedestrian deaths in the 2004–05 12-month period. Children died as pedestrians at a rate of 1.1 per 100,000 children and young people aged 0–17 years.

Table 6.3 shows the number of pedestrian fatalities by gender, age category and rate.

Table 6.3 Pedestrian deaths by age and gender

Passengers				
Age group	Female <i>n</i>	Male <i>n</i>	Total <i>n</i>	Rate per 100,000
1–4 years	2	3	5	2.5
5–9 years	0	3	3	*
10–14 years	0	3	3	*
Total	2	9	11	1.1

Data source: Queensland Child Death Register (2005–06)

* Rates are unable to be calculated for numbers less than 4.

Notes: 1. Rates for each age group are calculated per 100,000 children in that age group.

2. Total rate is calculated per 100,000 children and young people 0–17 years.

Gender

Nine male pedestrians died (81.8%), compared with 2 females (18.2%). Research has found males to be more likely to be injured or killed as pedestrians (Schrieber & Vegega 2002:3; Scott et al. 2004:1). Suggested reasons for this include an increased exposure to traffic, as well as different expectations about males compared with females – for example, that boys don't need to be as careful as girls, and/or that boys are supervised less closely (Schrieber & Vegega 2002:3, 4).

Age

The majority of pedestrian fatalities (5 deaths, 45.5%) involved children aged 1–4 years, followed by 5–9 year olds and 10–14 years (3 deaths each, 27.3%). According to research, children in different age groups are at different risk of pedestrian injury. Infants under 1 year of age are either carried or pushed in a pram and so their risk of injury as pedestrians is largely determined by their parents' actions.

Young toddlers (aged 1–2 years) are more likely to be injured in non-traffic situations, as in the case of low-speed run-overs in driveways. Their small size makes them difficult for drivers to see. Children between the ages of 3 and 9 are more often struck entering the roadway mid-block, as their traffic knowledge and perceptual skills are not yet developed enough to enable them to accurately judge traffic situations. The greater independence and mobility of older children and teenagers expose them to a greater number of risky traffic situations (Cross & Hall 2005:318; Schrieber & Vegega 2002:3).

Place and circumstances of incident

Low-speed run-overs

'Low-speed run-over' is a term used to describe incidents where a pedestrian is injured or killed by a slow-moving vehicle in a traffic or non-traffic area. Most of these incidents involve younger children (between the ages of 1 and 4 years) and occur in the driveway of their own home. Drivers tend to be members of their family, with vehicles reversing at the time of impact (Hockey, Miles & Barker 2003:1; Neeman et al. 2002).

Two of the pedestrian deaths involved low-speed run-overs of children under the age of 4 (aged 2 years and 1 year).

One low-speed run-over occurred in a driveway while a vehicle was reversing into the property. The driver of the vehicle was a family member. The second low-speed run-over occurred in traffic when a vehicle pulled out to move around a stationary vehicle at the side of the road. This is a significant decrease from the previous reporting period, when 7 children died in low-speed run-overs in the 12-month period.¹³³ Low-speed run-overs also result in a large number of injuries to young children. The QISU reports that, between 1998 and 2001, 68 children under the age of 5 presented to emergency departments with injuries as a result of low-speed run-overs, constituting two-thirds of pedestrian injuries in this age group. Injuries ranged from superficial injuries through to fractures and intracranial and internal injuries (Hockey, Miles & Barker 2003:2).

133 Eight low-speed run-overs occurred in the 18-month period covered by the Child Death Annual Report 2004–05.

Low-speed run-overs have received significant media attention over the last 12 months. The involvement of a child of a high-profile sportsman in a low-speed run-over highlighted the prevalence of this type of incident and the importance of close supervision of young children around vehicles. In 2003 the QISU reported low-speed run-overs as the third leading cause of injury deaths among 1–4 year olds (Hockey, Miles & Barker 2003:2). In 2004–05 the Commission found low-speed run-overs to be the second leading cause of transport injury death. Significant research has been conducted into the prevention of such incidents. For example, the rearward visibility of vehicles (particularly four-wheel-drives) and relevant improvement mechanisms have been examined (Paine & Henderson 2001; NRMA Insurance 2006). Queensland’s Smart Housing initiative outlines design principles for houses that separate children’s play areas from the driveway (Department of Housing 2004:7).

In light of the significant number of children who died in low-speed run-over incidents in 2004–05, the Commission made a recommendation that the Parliamentary Travelsafe Committee investigate low-speed run-overs in Queensland and report on means of reducing the number of injuries and fatalities from this cause. The Parliamentary Travelsafe Committee are still to consider this issue. Chapter 12 of this report provides further details regarding the progression of this recommendation.

Other pedestrian fatalities

Of the remaining 9 pedestrian fatalities, 4 involved road crossings. Two of these were in the 1–4 year age group, and 2 were aged between 10 and 14. Children in the younger age group had pulled away from adult supervisors and run into the street. Deaths of children in the older age group involved a deliberate attempt to cross the road.

In one incident 3 children were playing on railway lines in the early evening when they were struck by an approaching train. Two of these children were in the 5–9 year age group, and 1 was aged between 10 and 14 years.

One child in the 5–9 year age group died when struck by a vehicle while riding a child’s motorised scooter on a suburban street. The final incident involved a child who was struck by an out-of-control car while playing in a front yard. The driver of the vehicle was reported to have been intoxicated at the time, with a blood alcohol content above the legal limit.

Pedestrian injuries

Ninety children were injured as pedestrians in 2004–05. The 5–9 year and 10–14 year age groups recorded the greatest number of injuries (35 and 25 injuries respectively). Child pedestrians were most likely to be injured between the hours of 4pm and 6pm, and 30% required admission to hospital.

Motorcycles

One young person in the 15–17 year age group died while riding a motorcycle. This is a decrease from the 2004–05 12-month period, in which 4 young people died in motorcycle collisions.

In this instance, the young person was riding an unregistered 600cc motorcycle on-road without a helmet. According to Queensland law, a person of this age would be limited to riding a 250cc motorcycle.¹³⁴ Police reports indicate that at the time of the incident this person was definitely exceeding the speed limit while trying to overtake.

In 2003 in Queensland, 2 children under 17 years died in motorcycle crashes. The overall rate of fatal motorcycle crashes for all road users was four times that of cars. Speed and disobeying road rules were frequently observed in motorcycle crashes (Queensland Transport 2005b:17–18, 28).

Motorcycle injuries

In 2004–05, 329 children and young people were injured while riding motorcycles. QISU has recorded that 97.0% of these injuries were of the driver of a motorcycle and 3% were passengers. Ten to 14 year olds had the highest number of injuries (160), followed by 15–17 year olds with 101 injuries.

¹³⁴ Queensland licensing laws specify that the minimum age for obtaining a learner licence is 16.5 years, during which time the individual must be supervised by a licensed rider and may only ride motorcycles of up to 250cc engine capacity. This engine capacity restriction holds even after a provisional licence is obtained (except where further tests are undertaken). Riders may progress directly to an open bike licence, and be able to ride bikes of any size, if they have held an open car licence for 3 years, and undertake a competency-based assessment (Q-RIDE).

Motorcycle crashes were most likely to happen on weekends and occur between the hours of 3pm and 6pm, although numbers were high during most of the daylight hours. Twenty-three percent required admission to hospital.

Bicycles

Two children and young people died in bicycle-related fatalities, equal to the number of cyclists killed in the 2004–05 12-month period.

Gender

Both of the children who died in bicycle incidents were male.

Age

One child was in the 10–14 year age group, while the other was aged between 15 and 17 years.

Circumstances

One child was riding his bicycle in wet weather and had ridden into the path of an oncoming car.

In the second incident the young person had fallen from his bicycle onto the road, where he was struck by an oncoming car. Police reports indicate that the young person may have been intoxicated at the time of the incident. The child was not wearing a helmet.

Bicycle injuries

The QISU recorded 1055 emergency department presentations for injuries caused by bicycles in 2004–05. Of these, 506 were of children 10–14 years of age, followed by 5–9 year olds with 338. Like most other types of transport-related injuries, bicycle incidents were more common on weekends, with the after-school hours of 3pm to 6pm carrying the most risk. Fourteen percent of cases were admitted to hospital.

Other

One child died in an incident involving a water craft. The girl, aged between 5 and 9 years, fell from a small boat in a harbour and drowned. She was being supervised by a family member at the time. This incident also resulted in the death of the child's parent, who drowned while attempting to rescue her.

Lifejacket use

It was reported that the child was not wearing a lifejacket at the time of the incident. At that time, lifejackets for children were recommended but not compulsory. Regulatory changes have since made it compulsory for all Queensland children under 12 years of age to wear lifejackets in dinghies and other small boats (Odgers 2006). Penalties for non-compliance include a Marine Infringement Notice and a minimum fine of \$150 (Lucas 2006) for the owner/driver of the boat.

This topic is further discussed in Chapter 7 of this report.

Prevention and intervention

Young drivers

The over-representation of young drivers in road crash statistics has been the focus of government concern for some time. The concept of graduated driver licensing for young and novice drivers has been established as an effective means of reducing young driver fatalities (Queensland Transport 2005b:5; Shope & Molnar 2003:67). Graduated Driver Licensing (GDL) schemes are designed to allow young drivers to gain driving experience in low-risk situations. By placing restrictions on the circumstances in which they may drive, GDL limits drivers' exposure to high-risk situations until experience and/or competency is demonstrated (Ferguson 2003:71; Lin & Fearn 2003:51; Stevenson 2005:102).

Essential GDL features include a three-stage licensing system whereby:

- a learner's permit allows driving only when supervised by a fully licensed person; learner's permits must be held for a specified period of time and certain conditions must be met before allowing progression to a provisional licence
- a provisional licence allows driving while unsupervised, but under certain restrictions, and
- an unrestricted licence is obtained after a specified amount of driving on a provisional licence (Hedlund, Shults & Compton 2003:107; Parliamentary Travelsafe Committee 2003a:15; Stevenson 2005:102).

GDL schemes have been implemented in some form in every Australian state and territory, as well as internationally (Stevenson 2005:102; Parliamentary Travelsafe Committee 2003a:15).

In Queensland, the current system requires a young person to demonstrate their theoretical knowledge before gaining a learner licence (minimum age 16.5 years). This licence must be held for a minimum of 6 months, and driving must only be under the supervision of a fully licensed driver. A practical driving assessment is then conducted, resulting in the granting of a provisional licence which must be held for 3 years (this is reduced for older drivers). Drivers with a provisional licence must have a blood alcohol concentration of zero and are limited to 4 demerit points. An unrestricted licence is granted after this time.

In 2003 the Parliamentary Travelsafe Committee conducted an inquiry into young driver licensing in Queensland, making a number of recommendations:

- the introduction of a two-stage provisional licencing system similar to that in place in New South Wales
- a late-night driving restriction to apply between the hours of midnight and 4am, for the first year of driving
- peer passenger restrictions for drivers who lose their provisional licence; these drivers would be restricted to one peer passenger for the first 12 months of returning to driving, or the remainder of the provisional licence period, whichever is longer, and

- the introduction of a hazard perception test, to be successfully completed before graduating to an unrestricted licence (Parliamentary Travelsafe Committee 2003a:vii–x).

A 2005 discussion paper by Queensland Transport (*Queensland Youth: On the road and in control*) outlined proposed changes to the current system, in keeping with the recommendations of the Parliamentary Travelsafe Committee (Queensland Transport 2005a). The Commission provided feedback on this discussion paper. It is the Commission's view that young driver safety is paramount, and interventions should take into account young people's views and not unduly infringe their mobility. The Commission provided support for Queensland Transport's efforts to reduce young driver crashes, where these initiatives posed no adverse consequences for any groups of young people (such as Aboriginal and Torres Strait Islanders or those in rural and remote communities).

This consultation process has resulted in the introduction of amendments to young driver licensing laws in Queensland. From July 2007, additional requirements for learner drivers under the age of 25 apply:

- learner licences may be obtained from the age of 16, and must be held for a minimum of 12 months, and
- learners must gain 100 hours of supervised on-road driving.

The provisional stage has been split into two phases. P1 phase is a minimum of 12 months, during which a licence holder may drive unsupervised under the following conditions:

- red P plates must be displayed
- only 1 passenger under the age of 21 may be carried between the hours of 11pm and 5am
- mobile phones may not be used in any way by the driver, or on loudspeaker by their passengers, and
- vehicles driven must not be V8 or turbocharged, nor may they be modified.

The P2 licence phase (minimum 2-year duration) also restricts the type of car a provisionally licensed driver may drive, and green P plates must be displayed.

Restrictions on late-night driving will be introduced as a penalty for provisional drivers breaching certain licence requirements.

From December 2007, learner drivers will be issued with a multimedia education kit and support packages will be available for those young people who are unable to access a supervisor for their required on-road driving hours. By mid-2008, hazard perception tests will be required to be undertaken in order to progress from the P1 to the P2 phase.

Young driver safety was also among the topics for discussion at the 2006 Road Safety Summit in February. Experts in the field provided advice based on research, while community members were also encouraged to participate and share their views on road safety.

Driver distraction

Driver distraction as a factor in motor vehicle crashes is increasingly being recognised as a field requiring the attention of researchers and governments. It has been suggested that up to 38% of all traffic incidents can be attributed to distraction (Regan, cited in Road Safety Committee 2005:9). Driver distraction may contribute in one of four ways:

- *visual distraction* – when the driver's eyes are taken off the road ahead and diverted to other objects inside or outside the vehicle
- *auditory distraction* – attention is diverted from the road to listening to sounds such as the radio or passenger conversation
- *attentional/cognitive distraction* – when the thoughts of the driver absorb attention to the point where driving performance is impaired, and
- *physical distraction* – removing one or both hands from the wheel to manipulate another object; this may also involve *structural interference*, where the driver is unable to coordinate two activities at once (for example, keeping control of the steering wheel while trying to tune the radio) (Regan, cited in Road Safety Committee 2005:2; Young, Regan & Hammer 2003:2).

Dr Michael Regan of Monash University has reported that young drivers are particularly vulnerable to distraction. He has stated that young drivers are more likely to willingly engage in distracting activities, compared with older drivers, who are more likely to regulate their behaviour while driving (Regan, cited in Road Safety Committee 2005:9–10). An additional component of this phenomenon may be related to the level of skill possessed by young drivers. More experienced drivers are more likely to be highly skilled and have more of the driving task operating automatically. This leads to these drivers having a greater amount of spare attentional capacity to cope with distractions (Williamson 1999).

The emergence of sophisticated information, communication and entertainment systems for use in vehicles has raised awareness of the problem of driver distraction. While studies have shown the detrimental effect of mobile phone use while driving, Monash University and others have advised that relatively little research has been done in Australia on the effect of other such devices on driver performance (Monash University 2005; Regan, cited in Road Safety Committee 2005; Young, Regan & Hammer 2003). Of particular concern to the Commission is the use of in-car DVD systems, which, research has suggested, may be as distracting to drivers as the use of mobile phones (Monash University 2005).

Currently in Queensland, it is illegal to operate a DVD player in a moving vehicle if the screen is visible to the driver or is likely to distract another driver (s. 299, Transport Operations (Road Use Management – Road Rules) Regulation 1999). Most cars with factory-installed DVD players mounted in the dash (in view of the driver) automatically switch off when the vehicle is in motion. However, systems that can be installed after vehicle purchase generally do not contain such safety features (Silkstone & Milovanovic 2004; Tsang 2005). Australian Design Rule 42/04 states that units must not be installed where the screen can be viewed from the normal driving position, but there is no legal requirement for compliance with this standard (Commonwealth of Australia, 2003; Regan, cited in Road Safety Committee 2005:13).

The danger of driver distraction is not limited to the visual component of an in-car DVD system. Even with rear-seat systems where the driver cannot view the screen, attention may be diverted from the task of driving by listening to dialogue, which in itself may be just as distracting as listening to a radio or talking on a mobile phone (Australasian College of Road Safety 2004:27). The NRMA has suggested that sudden loud noises from the soundtrack (or reactions from those watching it) can startle the driver, leading to dangerous driving (NRMA n.d.).

Dangers to children and young people lie in the modification of vehicles by young drivers to include the latest technology such as DVD players, as well as in children viewing from rear-seat players, with the possibility of their parents' attention being diverted from the road, leading to potentially fatal crashes.

This is an issue the Commission intends to investigate further in the 2006–07 reporting period. In discussions with Queensland Police Service, the Commission has already recommended the addition of sections to the Police Report of Death to a Coroner to identify where driver distraction as a result of in-car devices may have been a contributing factor in fatal crashes.