2002

Road Traffic Crashes in Queensland

A report on the road toll

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INTRODUCTION

This report presents an overview of reported road traffic crashes in Queensland for the year ended 31 December 2002 in the context of the previous five years, based on data contained in the Queensland Road Crash Information System maintained by Queensland Transport's Land Transport and Safety Division.

Chapter 1 analyses 2002 crash outcomes in terms of past trends, other states of Australia, and the increase in population and vehicles, and outlines the key road safety initiatives and future directions of the Queensland Road Safety Action Plan. Chapter 2 provides information on serious casualties in terms of their gender, age and the type of road user. Chapter 3 looks at the various units involved in crashes. Chapter 4 looks at crash outcomes in terms of what happened, the nature of crashes, single and multi-vehicle type crashes, the time of day and day of the week crashes occurred. Chapter 5 explores the factors that contributed to crashes and their severity, including alcohol, speed, fatigue and seat belt usage.

Background

Queensland Transport has been the official source for road traffic crash statistics since 1991. Additional data supplied by the Queensland Government Chemical Laboratory are used for the analysis of alcohol involvement in road crashes, in particular those involving a fatality. Validation and enhancement of the raw data which originates from the Queensland Police Service Traffic Incident Report System (TIRS) are completed by the Road Crash Database Group in the Queensland Treasury Office of Economic and Statistical Research.

Implementation of the Australian Road Rules in Queensland in December 1999 has affected the figures in this report. In particular, the definition of a 'property damage only' crash was altered to include crashes where the damage was greater than $2500 to property other than vehicles or at least one vehicle was towed away.

Amendments in 2000 to the Motor *Accident Insurance Act (MAIA)* 1994 have also affected the figures in this report. The amendments changed the requirement for notification of crashes. Prior to October 2000, a motor accident insurance claimant in a road crash involving an injury was not required, under the MAIA 1994, to report the crash to police. The 2000 amendment required reporting in line with the *Transport Operations (Road Use Management – Road Rules) Regulation 1999*.

There was a significant increase in the number of reported crashes in the categories of minor injury, medical treatment and hospitalised in 2001 as a result of the MAIA amendments. This meant that there was a series break between 2000 and 2001 for these crash categories. Comparisons of numbers of crashes and injured people between 2002 or 2001 and previous years may not be reliable.

Dates of crashes and casualties in this report are actual crash dates. Because of this and the fact that some non-fatal crashes may take 12 months or longer for validation, crash data for prior years will contain a percentage of changed data as late reports continue to be entered.

Figures presented in this report are based on the crashes validated in the Queensland Road Crash Information System at 15 August 2003.

Main features of road traffic crashes in Queensland 2002

- The Queensland road toll for 2002 was 322 fatalities. This is 2 (0.6 per cent) fewer than in 2001 (n=324) and 3 (0.9 per cent) more than the average for the previous five years (n=319).
- The Australian road toll for 2002 was 1,714, a decrease of 2 per cent (n=42) on 2001. Queensland's fatality rate, of 8.7 per 100,000 population, or 1.3 per 10,000 registered vehicles, is equal to the national average.
- Road users aged between 17 and 24 years accounted for 30 per cent of the road toll, however they represented 11 per cent of Queensland's population. In 2002, the road fatality rate for 17 – 20 year-olds was three times the fatality rate for the entire population. The road fatality rate for 21 – 24 year olds was two-and-a-half times the fatality rate for the entire population.
- There were 53 motorcycle rider and pillion fatalities in 2002, an increase of 83 per cent on 2001 (n=29) and 56 per cent above the average for the previous five years (n=34).
- In 2002, there were 37 pedestrian fatalities. The pedestrian was considered most at fault in 72 per cent (n=26) of the 36 fatal crashes involving a pedestrian.
- Of the 22,081 reported crashes in Queensland in 2002, 62 per cent (n=13,621) were multi-vehicle and 33 per cent (n=7,186) were single-vehicle type crashes.
- Of all fatal single vehicle crashes, vehicles hitting objects accounted for 66 per cent (n=86), consistent with the average for the previous five years.
- More severe crashes were more likely to occur on Friday, Saturday or Sunday, with 53 per cent (n=150) of fatal crashes and 46 per cent (n=2,045) of hospitalisation crashes occurring on these days. Fewest fatal crashes occurred on Mondays (10 per cent) and fewest crashes overall occurred on Sundays (11 per cent).
- While there were more crashes in urban areas in 2002, there were more fatal crashes outside urban areas; 47 per cent (n=133) of fatal crashes occurred outside urban areas, compared with 22 per cent (n=4,948) of all crashes. While 28 per cent (n=6,241) of all crashes occurred in Brisbane City in 2002, only 13 per cent (n=36) of fatal crashes occurred in Brisbane City.
- Based on police assessment, failure to obey traffic rules was the largest contributor to fatal and all reported crashes. This contributed in 34 per cent (n=96) of fatal crashes and 39 per cent (n=8,653) of all crashes.
- Alcohol or drug use contributed in 29 per cent (n=82) of fatal crashes and 13 per cent (n=2,840) of all crashes.
- Speed contributed in 17 per cent (n=48) and fatigue contributed in 15 per cent (n=42) of fatal crashes. Speed and fatigue each contributed in 5 per cent (n=1,154 and n=1,141 respectively) of all crashes.

Road Crash Database

The Road Crash Database plays a major role in road safety action planning in Queensland. Crash data are used to develop and evaluate the effectiveness of major counter-measures (see Chapter 1 of this report for details).The Department of Main Roads takes core data from the road crash data system operated by Queensland Transport and adds further site information to enable better planning for road safety engineering. Queensland Transport also provides a range of analysis services using road crash data, including crash profile reports on specific crash categories which can be provided on request.

1 ROAD TOLL IN CONTEXT

This chapter provides an analysis of road traffic crashes and their outcomes in Queensland for 2002 in terms of past trends, other states of Australia, and increases in population and vehicles. The chapter also outlines the key road safety initiatives and future directions of the Queensland Road Safety Action Plan.

1.1 Road fatality trends

The Queensland road toll for 2002 was 322 fatalities. This is 2 (0.6 per cent) fewer than in 2001 (n=324) and 3 (0.9 per cent) more than the average for the previous five years (n=319).

Figure 1.1 shows the longer-term trend in Queensland's road toll. Since the mid 1970's the road toll has decreased by 44 per cent overall. By 1989, the number of fatalities had decreased to 428, a level not experienced since the early 1960s. From then until 1995, fatalities increased and decreased within a range, with a low of 395 in 1991 and a high of 456 in 1995. From 1995, the road toll decreased again, with the toll in 1998 (n=279) the lowest since 1955.

Fig. 1.1: Annual road toll
Queensland 1972-2002

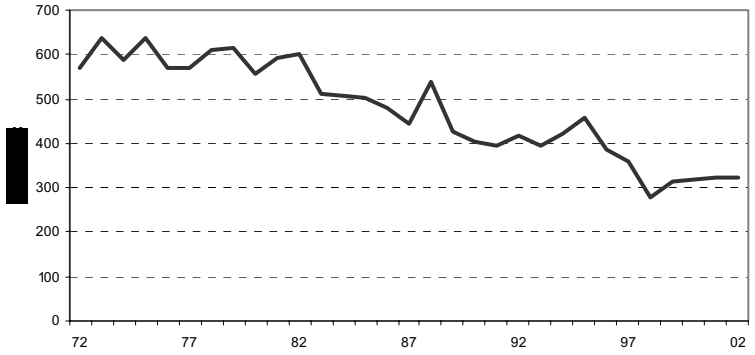


Figure 1.2 shows trends in the road toll against trends in vehicle registrations since 1972. While fatalities were 44 per cent lower by 2002, vehicle registrations were 216 per cent higher.

Fig. 1.2: Road toll and motor vehicle registration trends
Queensland 1972-2002

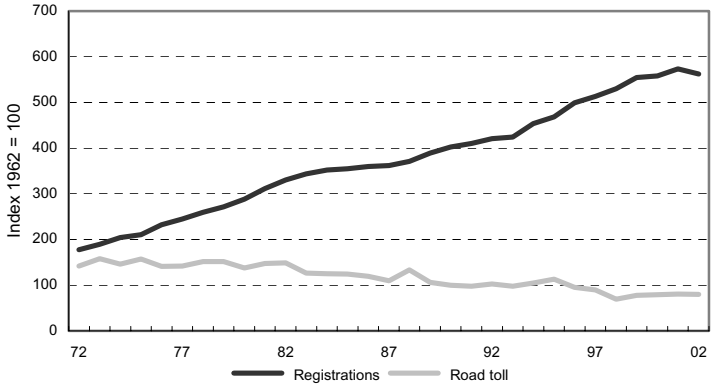


Table 1.1 shows fatality rates per capita and per vehicles registered in Queensland since 1972. A fatality rate of 29.7 per 100,000 population was experienced in 1972, compared with 8.7 per 100,000 population in 2002, a decrease of over 70 per cent. A fatality rate of 7.4 per 10,000 Queensland-registered vehicles was experienced in 1972, compared with 1.3 per 10,000 Queensland-registered vehicles in 2002, a decrease of over 80 per cent.

Table 1.1: Fatality rates per 100,000 population and per 10,000 vehicles registered Queensland 1972-2002

Year	Road Toll	Population* ('000)	Fatality rate per 100,000 population	Vehicles on register ** ('000)	Fatality rate per 10,000 vehicles
1972	572	1924.7	29.7	774.0	7.4
1977	572	2151.0	26.6	1067.2	5.4
1982	602	2456.5	24.5	1439.5	4.2
1987	442	2703.4	16.3	1575.3	2.8
1992	416	3030.5	13.7	1832.8	2.3
1997	360	3440.2	10.5	2232.9	1.6
2002	322	3707.2	8.7	2445.5	1.3

* ABS Cat. No. 3201.0

** ABS Cat. No. 9309.0

1.2 Road casualty trends

There were 18,155 casualties from crashes on Queensland roads in 2002, a decrease of 1 per cent (n=197) on 2001. Casualties as a result of road crashes are categorised by level of severity. These are, in order of severity fatal, hospitalised, medical treatment, and other injury (not requiring medical treatment).

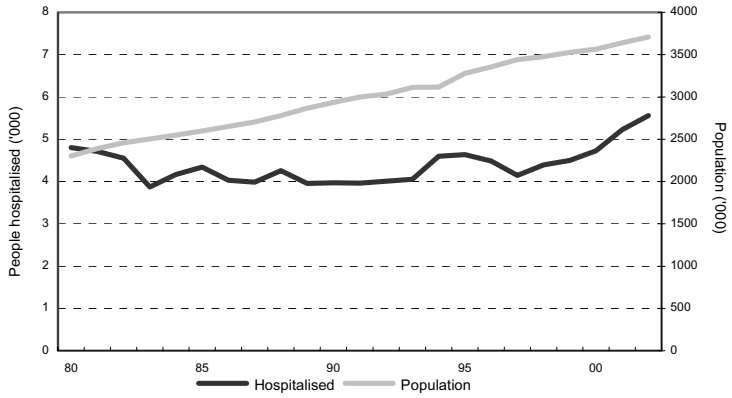
Table 1.2 shows that the proportion of casualties in each severity category has remained relatively constant over a five-year period. In 2002, almost a third (32 per cent, n=5,877) of casualties were fatal or required hospitalisation.

Table 1.2: Severity of road crash casualties Queensland 1997-2002

Severity	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Fatal	360	2%	279	2%	314	2%	317	2%	324	2%	322	2%
Hospitalisation	4146	28%	4397	29%	4503	30%	4790	31%	5314	29%	5555	31%
Medical treatment required	6483	43%	6325	42%	6252	42%	6446	42%	7884	43%	7544	42%
Other injury	3928	26%	4007	27%	3840	26%	3934	25%	4830	26%	4734	26%
Total	**14917**	**100%**	**15008**	**100%**	**14909**	**100%**	**15487**	**100%**	**18352**	**100%**	**18155**	**100%**

Figure 1.3 shows hospitalisations as a result of road crashes in the context of Queensland's population since 1980. While the state's population has increased throughout the period, during the 1980s and early 1990s, the number of hospitalisations decreased or remained constant. In 1994, the number of hospitalisations from crashes increased, and at a faster rate than the population increased. While this was reversed for the following three years, with the number of hospitalisations decreasing again, hospitalisations increased between 1998 and 2002, at a faster rate than the population increased.

Fig. 1.3: Road user hospitalisation and population trends
Queensland 1980-2002



1.3 Trends in total reported crashes

There were 22,081 road traffic crashes reported on Queensland roads in 2002, an increase of 0.3 per cent (n=68) on 2001.

Table 1.3 shows severity of crashes in Queensland 1997 to 2002. There were 283 fatal crashes in 2002, a decrease of 4 per cent (n=13) on 2001 and a decrease of 0.5 per cent (n=1) on the average for the previous five years. The proportion of crashes in each severity category remained relatively constant over the period. The fatality rate per 100 crashes dropped from 1.7 in 1997 to 1.3 in 2002.

Table 1.3: Severity of road crashes
Queensland 1997-2002

Severity	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Fatal	321	2%	257	1%	273	1%	275	1%	296	1%	283	1%
Hospitalisation	3328	17%	3518	18%	3567	18%	3822	19%	4230	19%	4439	20%
Medical treatment required	4762	25%	4613	24%	4572	23%	4790	24%	5920	27%	5611	25%
Other injury	2697	14%	2756	14%	2626	13%	2738	14%	3411	15%	3301	15%
Property damage only	8235	43%	8417	43%	8504	44%	8310	42%	8156	37%	8447	38%
Total	**19343**	**100%**	**19561**	**100%**	**19542**	**100%**	**19935**	**100%**	**22013**	**100%**	**22081**	**100%**

Table 1.4 shows the extent of vehicle damage in crashes 1997 to 2002. The proportion of vehicles in each damage category has remained relatively constant over the period. In 80 per cent of reported 2002 crashes, damage was extensive enough for at least one vehicle to be towed away.

Table 1.4: Extent of vehicle damage in road crashes*
Queensland 1997-2002

Overall damage	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Vehicle towed away	15865	82%	15957	82%	16083	82%	16379	82%	17407	79%	17730	80%
Minor damage	2545	13%	2606	13%	2553	13%	2595	13%	3470	16%	3295	15%
No damage	628	3%	671	3%	626	3%	662	3%	734	3%	721	3%
Unit not a vehicle	251	1%	255	1%	229	1%	240	1%	307	1%	259	1%
Not stated	54	0%	72	0%	51	0%	59	0%	95	0%	76	0%
Total	**19343**	**100%**	**19561**	**100%**	**19542**	**100%**	**19935**	**100%**	**22013**	**100%**	**22081**	**100%**

* Based on the most severe vehicle damage in each crash

A further breakdown of vehicles in each damage category arising from reported crashes in 2002 is shown in Table 1.5.

Table 1.5: Extent of vehicle property damage in road crashes*
Queensland 2002

	No.	%
Extensive, unrepairable	2877	13%
Major - towed away	6313	29%
Moderate - towed away	8540	39%
Moderate - vehicle driveable	1507	7%
Minor damage	1788	8%
No damage	721	3%
Unit not a vehicle	259	1%
Not stated	76	0%
Total	**22081**	**100%**

* Based on the most severe vehicle damage in each crash

1.4 Queensland in relation to Australia

The Australian road toll for 2002 was 1,714, a decrease of 2 per cent (n=42) on 2001. Queensland's fatality rate, of 8.7 per 100,000 population, or 1.3 per 10,000 registered vehicles, is equal to the national average.

Table 1.6 shows road tolls in Australian states and territories for 2001 and 2002. Queensland experienced the fourth highest road toll in 2002, both per capita and per 10,000 vehicles on register. The Australian Capital Territory experienced the lowest per capita road toll (3.1 per 100,000 population) and the Northern Territory, the highest (27.8 per 100,000 population).

Table 1.6: Road toll in 2002 compared with 2001
States and territories of Australia

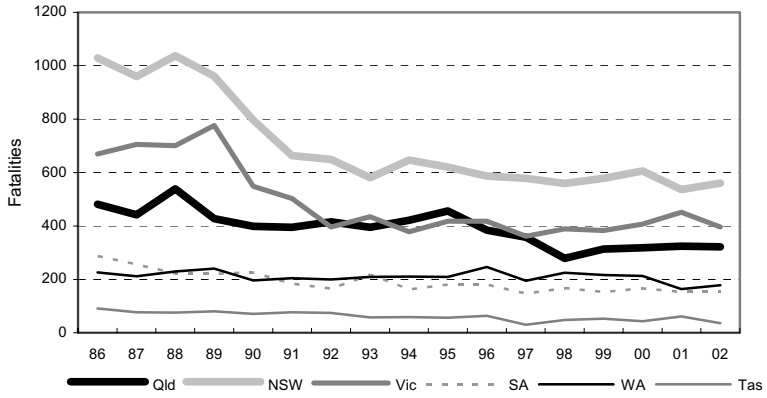
	Fatalities				Fatality rate	
	2002 No.	2001 No.	Variation No.	Variation per cent	per 100,000 population*	per 10,000 vehicles on register**
New South Wales	561	537	24	4%	8.4	1.5
Queensland	322	324	-2	-1%	8.7	1.3
Victoria	397	451	-54	-12%	8.1	1.2
Western Australia	179	164	15	9%	9.3	1.3
South Australia	154	153	1	1%	10.1	1.4
Tasmania	36	61	-25	-41%	7.6	1.1
Northern Territory	55	50	5	10%	27.8	5.3
Australian Capital Territory	10	16	-6	-38%	3.1	0.5
Australia	**1714**	**1756**	**-42**	**-2%**	**8.7**	**1.3**

* ABS Cat. No. 3201.0

** ABS Cat. No. 9309.0

Figure 1.4 shows annual road fatalities by State for the period 1986 to 2002. Road tolls in South Australia, Western Australia and Tasmania have remained relatively static throughout the period. New South Wales and Victoria experienced marked improvements in the late 1980s and early 1990s. Queensland experienced some improvements during this period, as well as further decreases between 1995 and 1998.

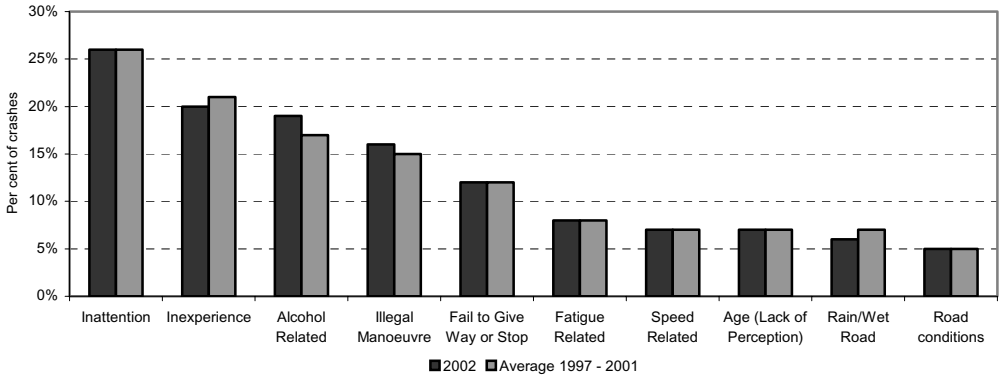
Fig. 1.4: Annual road fatalities by state 1986-2001



1.5 The major contributors to fatal and hospitalisation crashes in 2002

In order to help understand the road toll, police report factors that were assessed as having contributed to a crash. Figure 1.5 provides a ranking of the top ten such contributing factors for fatal and hospitalisation crashes in 2002.

Fig. 1.5: Top ten contributing factors in fatal and hospitalisation crashes, Queensland 2002



In 2002:

- Inattention contributed in 26 per cent (n=1,251) of fatal and hospitalisation crashes, consistent with the average for the previous five years.
- Inexperience contributed in 20 per cent (n=971) of fatal and hospitalisation crashes, compared with the average for the previous five years of 21 per cent (n=932).
- Alcohol contributed in 19 per cent (n=913) of fatal and hospitalisation crashes, compared with the average for the previous five years of 17 per cent (n=749).

1.6 Proposed next steps

During the 1970s and 1980s, Queensland's road toll decreased, relative to population growth and also in real terms. During the 1990s and early 2000s, Queensland has continued to experience rapid population and strong economic growth. The road toll has increased during this period, but by proportionately less than population increases.

A number of road safety initiatives have been introduced since 1972, including:

- compulsory seat belt wearing for occupants of cars (1972)
- reduction of blood alcohol limit to 0.05 per cent (1982)
- introduction of Random Breath Testing (1988)
- introduction of Random Road Watch (1991)
- compulsory helmet wearing for bicyclists (1992)
- introduction of Speed Cameras (1997)
- introduction of 50 km/h speed limits on local streets in south-east Queensland (1999).

Despite the benefits of these and other programs, the road toll remains high. Furthermore, hospitalisations continue to increase. Following the success of the 2000/2001 Road Safety Action Plan, the Queensland Government developed the 2002/2003 Queensland Road Safety Action Plan to enhance the measures which were proven to work and to introduce further effective programs.

The 2002/2003 Queensland Road Safety Action Plan prioritises strategies and programs in terms of

- the extent to which they target the total road toll
- their ability to reduce crashes
- their value for money.

The top ten priorities of the plan are included in Table 1.7

Table 1.7: Queensland Road Safety Action Plan - Top 10 actions in priorty order

Action	Type of crash addressed	Coverage of road toll	Proven crash reductions	Value for money score	Target group
Improve partnerships between road safety stakeholders	All crashes	Medium	Y	High	All road users
Implement the Driver Safety and Education Strategy	All crashes	High	Y	High	Drivers
Enhanced Speed Management Strategy	Speed-related crashes	Medium	Y	High	Drivers
More effective penalties and sanctions	All crashes	Medium	Y	High	All road users
Enhanced drink driving deterrence	All crashes	High	Y	Medium	All road users
Road safety engineering works	All crashes	Low	Y	Medium	All road users
Targeted public education and enforcement campaigns	All crashes	Low	Y	Medium	All road users
Enhance the application of random deterrence-oriented practices	All crashes	High	Y	High	All road users
Promote road safety research	All crashes	High	Y	Medium	All road users
Improve compliance levels with road rules	All crashes	High	Y	High	All road users

2 CHARACTERISTICS OF ROAD USERS INVOLVED IN CRASHES

2.1 Introduction

This chapter provides information on road user fatalities and hospitalised casualties as a result of road traffic crashes in 2002 in terms of their gender, age and the type of road user they were at the time of the crash. The chapter focuses primarily on fatalities and draws on some of the data reported later (Chapters 4 and 5) to describe aspects of crashes for the common age groupings of child road users, young adult road users, mature adult road users and senior adult road users.

For all age groupings, details are provided on gender, fatalities by type of road user, and on seat belt wearing. For child road user fatalities, details of the time of day of crashes are also provided. For young adult road user fatalities, whose fatality rate is relatively high, details of blood alcohol levels, time of day and day of week of crashes are provided. For mature adult road user fatalities, details of blood alcohol level and day of week are provided. For senior adult road user fatalities, details of time of day and responsibility for fatal crashes are provided.

2.2 Gender and age

Table 2.1 shows Queensland road fatalities by gender and age groupings from 1993 to 2002.

Table 2.1: Annual trends in fatalities by age group and gender

Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
All fatalities										
0-11 years*	19	22	25	20	21	17	18	12	14	18
12-16 years	18	18	21	20	17	14	19	16	13	10
17-24 years	122	103	121	107	113	79	77	61	84	97
25-59 years	174	194	208	172	155	121	143	166	147	150
60 years+	63	85	81	66	54	48	57	62	66	47
Total	396	422	456	385	360	279	314	317	324	322
Female fatalities										
0-11 years**	9	8	12	8	5	4	8	4	6	7
12-16 years	9	6	8	5	3	6	7	4	3	4
17-24 years	25	29	29	19	39	18	17	13	13	30
25-59 years	40	46	63	55	41	36	36	37	45	34
60 years+	23	38	32	30	21	17	20	26	20	19
Total	106	127	144	117	109	81	88	84	87	94
Male fatalities										
0-11 years**	10	14	13	12	16	12	8	8	7	10
12-16 years	9	12	13	15	14	8	12	12	10	6
17-24 years	97	74	92	88	74	61	60	48	71	67
25-59 years	134	148	145	117	114	85	107	129	102	116
60 years+	40	47	49	36	33	31	37	36	46	28
Total	290	295	312	268	251	197	224	233	236	227

* Includes fatalites of unknown age and/or gender

** Includes fatalities of unknown age

Male fatalities accounted for 70 per cent (n=227) of Queensland's 2002 road toll, a decrease of 3 per cent (n=9) on 2001. Female fatalities accounted for 29 per cent (n=94) of the 2002 road toll, an increase of 8 per cent (n=7) on 2001[1]. Both male and female fatalities had increased overall between 1998 and 2001, but the increases had been proportionately higher for males, with

[1] There was one fatality where the gender was not recorded.

fatalities 20 per cent (n=39) higher for males and 7 per cent (n=6) higher among females by 2001.

Table 2.2 shows fatalities within gender and age groupings as a proportion of the total 2002 road toll. For some age groupings (17 – 39 year-olds and over 79 year-olds), the proportion of road fatalities was higher than the proportion in the population. In 2002 road users aged between 17 and 24 years accounted for 30 per cent of the road toll, however they represented 11 per cent of Queensland's population. In 2002, the road fatality rate for 17 – 20 year-olds was three times the fatality rate for the entire population. The road fatality rate for 21 – 24 year olds was almost two-and-a-half times the fatality rate for the entire population. See later section 2.5 for discussion of relevant crash characteristics involving people within this age group.

Table 2.2: Age and gender of fatalities
Queensland 2002

Age group	Male	Female	Total	Proportion of road toll	Proportion of population	Fatalities per 100,000 persons*
0-4 years**	4	3	8	2%	7%	3.2
5-11 years	6	4	10	3%	10%	2.7
12-16 years	6	4	10	3%	7%	3.8
17-20 years	35	20	55	17%	6%	25.6
21-24 years	32	10	42	13%	5%	20.7
25-29 years	33	8	41	13%	7%	15.9
30-39 years	43	11	54	17%	15%	9.8
40-49 years	23	9	32	10%	15%	5.9
50-59 years	17	6	23	7%	12%	5.0
60-69 years	14	4	18	6%	8%	6.3
70-79 years	8	6	14	4%	5%	6.9
80 years and over	6	9	15	5%	3%	13.8
Total	**227**	**94**	**322**	**100%**	**100%**	**8.7**

* ABS Cat. No. 3201.0

** Includes fatalities of unknown gender

Table 2.3 compares fatalities within gender and age groupings for 2002 with those in 2001. In 2002, the largest percentage decrease in fatalities were in the 60 to 69 year-old age group (30 to 18 fatalities, a decrease of 40 per cent). For males, the largest decrease was 80 year olds and over (11 to 6 fatalities, a decrease of 45 per cent) and for females, 50 to 59 year-olds (17 to 6 fatalities, a decrease of 67 per cent).

In 2002, the largest percentage increase in fatalities was the 0-4 year-olds (4 to 7 fatalities, an increase of 75 per cent). For males, the largest percentage increase was the 0-4 year-olds (2 to 4 fatalities, an increase of 100 per cent). For females, the largest increase were the 25 to 29 year-olds (2 to 8 fatalities, an increase of 300 per cent).

Table 2.3: Age and gender of fatalities
Queensland 2002 compared to 2001

	Male			Female		
Age group	**2002**	**2001**	**Variation**	**2002**	**2001**	**Variation**
0-4 years	4	2	100%	3	2	50%
5-11 years	6	5	20%	4	4	0%
12-16 years	6	10	-40%	4	3	33%
17-20 years	35	42	-17%	20	9	122%
21-24 years	32	29	10%	10	4	150%
25-29 years	33	27	22%	8	2	300%
30-39 years	43	33	30%	11	10	10%
40-49 years	23	29	-21%	9	16	-44%
50-59 years	17	13	31%	6	17	-65%
60-69 years	14	21	-33%	4	9	-56%
70-79 years	8	14	-43%	6	7	-14%
80 years and over	6	11	-45%	9	4	125%
Total	**227**	**236**	**-4%**	**94**	**87**	**8%**

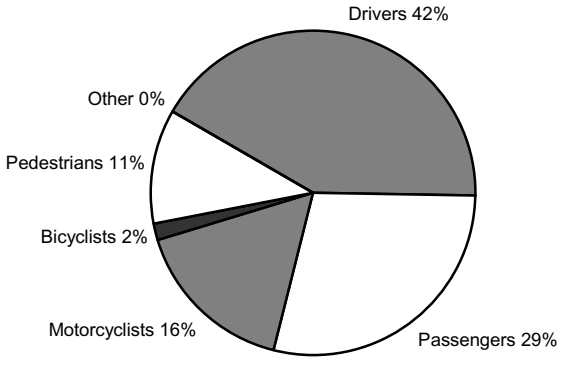
2.3 Types of road users

In 2002, 42 per cent (n=135) of road fatalities in Queensland were drivers. Passengers accounted for a further 29 per cent (n=92). Drivers made up 48 per cent (n=2,642) of hospitalisations. Passengers made up 27 per cent (n=1,475) of hospitalisations. This is consistent with longer term trends.

There were 53 motorcycle rider and pillion fatalities in 2002, an increase of 83 per cent on 2001 (n=29) and 56 per cent above the average for the previous five years (n=34). There was also a 24 per cent increase in motorcycle rider and pillion hospitalised in 2002 compared with 2001. This is the largest proportional increase in motorcycle rider and pillion fatalities and hospitalisations in at least 15 years.

Figure 2.1 shows all fatalities by type of road user.

Fig. 2.1: Road toll by road user type
Queensland 2002



Tables 2.4 and 2.5 show fatalities and hospitalisations[2] respectively by type of road user for 1997 to 2002.

[2] In terms of level of severity in casualty outcomes, hospitalised is the category that follows fatality.

Table 2.4: Fatalities by road user type
Queensland 1997-2002

Road user type	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Drivers	158	44%	121	43%	128	41%	157	50%	150	46%	135	42%
Passengers	88	24%	75	27%	87	28%	82	26%	78	24%	92	29%
Motorcyclists	43	12%	25	9%	41	13%	33	10%	29	9%	53	16%
Bicyclists	12	3%	9	3%	9	3%	6	2%	15	5%	5	2%
Pedestrians	59	16%	48	17%	49	16%	39	12%	51	16%	37	11%
Other	0	0%	1	0%	0	0%	0	0%	1	0%	0	0%
Total	**360**	**100%**	**279**	**100%**	**314**	**100%**	**317**	**100%**	**324**	**100%**	**322**	**100%**

Table 2.5: Hospitalised casualties by road user type
Queensland 1997-2002

Road user type	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Drivers	1841	44%	1998	45%	2145	48%	2260	47%	2607	49%	2642	48%
Passengers	1131	27%	1173	27%	1199	27%	1292	27%	1412	27%	1475	27%
Motorcyclists	546	13%	590	13%	532	12%	528	11%	592	11%	734	13%
Bicyclists	253	6%	240	5%	241	5%	277	6%	276	5%	290	5%
Pedestrians	373	9%	393	9%	385	9%	426	9%	423	8%	413	7%
Other	2	0%	3	0%	1	0%	6	0%	4	0%	1	0%
Total	**4146**	**100%**	**4397**	**100%**	**4503**	**100%**	**4789**	**100%**	**5314**	**100%**	**5555**	**100%**

2.4 Child road users

A total of 28 child road users were killed in 2002, an increase of 4 per cent (n=1) on 2001. Fatalities among children, who comprised 24 per cent of Queensland's population in 2002, accounted for 9 per cent of all 2002 road fatalities.

Figure 2.2 shows fatalities among children by type of road user. Table 2.6 shows child fatalities grouped by type of road user and age sub-groupings for 2002.

Fig. 2.2: Child fatalities by road user type
Queensland 2002

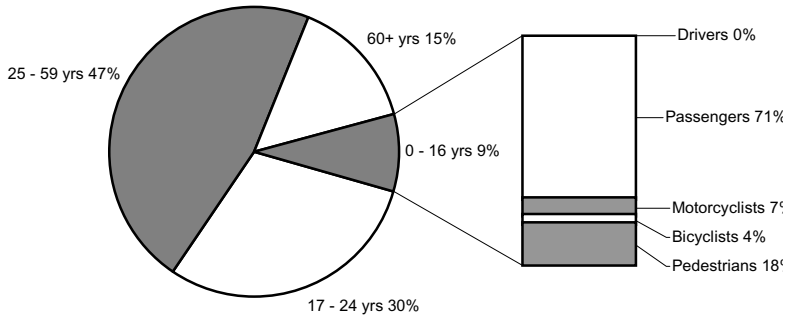


Table 2.6: Child fatalities by road user type and age group
Queensland 2002

Age group	Drivers	Passengers	Motorcyclists	Bicylists	Pedestrians	Total
0-4 years*	0	8	0	0	0	8
5-11 years	0	6	0	0	4	10
12-16 years	0	6	2	1	1	10
Total	**0**	**20**	**2**	**1**	**5**	**28**

* Includes fatalites of unknown age and/or gender

In 2002, 71 per cent (n=20) of child road user fatalities were passengers, compared with 48 per cent in 2001 (n=13). All 0-4 year-old fatalities in 2002 (n=8) were passengers, compared with 60 per cent (n=3) in 2001.

In 2002, 18 per cent (n=5) of child road user fatalities were pedestrians, compared with 30 per cent in 2001 (n=8). Of the 5 children pedestrian fatalities in 2002, 80 per cent (n=4) were of primary school age, compared with 63 per cent (n=5) in 2001.

Table 2.7 shows that in cases where seat belt use is known, 27 per cent (3 of 11) of the child vehicle occupant fatalities in 2002 were not wearing seat belts. This compares with 30 per cent (46 of 155) among all vehicle occupant fatalities for 2002. In 2001, 50 per cent (4 of 8) child vehicle occupant fatalities and 30 per cent of all vehicle occupant fatalities (48 of 161) were not wearing seat belts.

Table 2.7: Non-seat belt wearing of child vehicle occupant fatalities
Queensland 2002

Age group	Seat belt not worn	Total vehicle occupants killed *	Proportion of occupants unrestrained
0-4 years	0	7	0%
5-11 years	1	2	50%
12-16 years	2	2	100%
Total	**3**	**11**	**27%**
All vehicle occupants	46	155	30%

* Where restraint use could be determined

Table 2.8 shows that 54 per cent (n=15) of child road user fatalities in 2002 were involved in crashes that occurred between 8 am and 4 pm. A further 18 per cent (n=5) were involved in crashes that occurred after dark, with 1 per cent (n=2) involved in crashes that occurred between 6 pm and 12 midnight.

Table 2.8: Child road user fatalities by time of day
Queensland 2002

Age group	12am-6am	6am-8am	8am-2pm	2pm-4pm	4pm-6pm	6pm-12mn	Total
0-4 years*	0	1	4	1	2	0	8
5-11 years	0	0	1	4	3	2	10
12-16 years	3	0	3	2	2	0	10
Total	**3**	**1**	**8**	**7**	**7**	**2**	**28**

* Includes fatalites of unknown age and/or gender

Most fatalities among child road users in 2002 were caused by crashes that occurred from Monday to Friday (74 per cent), in daylight hours (85 per cent) and at mid-block locations (70 per cent). Most (76 per cent) of the units involved were cars. Compared with all road crash fatalities in 2002, fatalities among child road users were 124 per cent more likely to occur at uncontrolled intersections. See Chapter 4 for details of crashes by time of day, day of week and kind of crash.

2.5 Young adult road users

There was a total of 97 young adult road user fatalities as a result of road crashes in Queensland 2002, an increase of 15 per cent (n=13) on 2001. Young adult fatalities accounted for 30 per cent of the 2002 road toll, however young adults represented 11 per cent of Queensland's population. In 2002, 57 per cent (n=55) of young adult road user fatalities were 17-20 years-old, compared with 60 per cent (n=51) during 2001.

Figure 2.3 shows young adult fatalities grouped by road user type. Table 2.9 shows young adult fatalities grouped by type of road user and age sub-groupings for 2002.

Fig. 2.3: Young adult fatalities by road user type
Queensland 2002

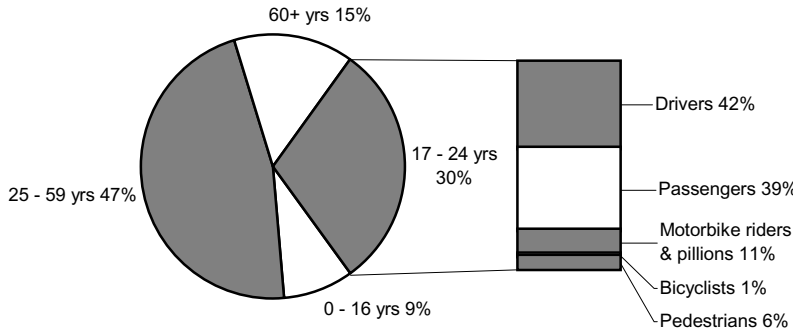


Table 2.9: Young adult fatalities by road user type and age group
Queensland 2002

Age group	Drivers	Passengers	Motorcyclists	Bicylists	Pedestrians	Total
17-20 years	20	26	4	0	5	55
21-24 years	21	12	7	1	1	42
Total	**41**	**38**	**11**	**1**	**6**	**97**

Most (81 per cent, n=79) of the young adult road user fatalities in 2002 were vehicle occupants and just over half (52 per cent, n=41) of these were drivers. Among 21 – 24 year-olds, 64 per cent (n=21) of vehicle occupant fatalities were drivers.

Pedestrian fatalities made up for 6 per cent (n=6) of young adult road user fatalities in 2002, compared with 8 per cent (n=7) in 2001.

Table 2.10 shows that, in cases where seat belt use is known, 31 per cent (18 of 58) of the young adult vehicle occupant fatalities in 2002 were not wearing seat belts. This compares with 30 per cent (46 of 155) among all vehicle occupant fatalities for 2002. In 2001, 35 per cent (15 of 43) of the young adult road user vehicle occupant fatalities and 30 per cent (48 of 161) of all vehicle occupant fatalities were not wearing seat belts.

Table 2.10: Non-seat belt wearing by young adult vehicle occupant fatalities
Queensland 2002

Age group	Seat belt not worn	Total vehicle occupants killed *	Proportion of occupants unrestrained
17-20 years	7	36	19%
21-24 years	11	22	50%
Total	**18**	**58**	**31%**
All vehicle occupants	46	155	30%

* Where restraint use could be determined

Table 2.11 shows that in 2002, 28 per cent (n=13) of the 47 alcohol-tested young adult driver and motorcycle rider fatalities had blood alcohol levels of 0.05 per cent or greater, compared with 25 per cent (n=41) for all tested driver and rider fatalities. In 2001, 31 per cent (n=13) of tested young adult driver and rider fatalities had blood alcohol levels of 0.05 per cent or greater.

Table 2.11: Alcohol involvement of young adult driver and rider fatalities
Queensland 2002

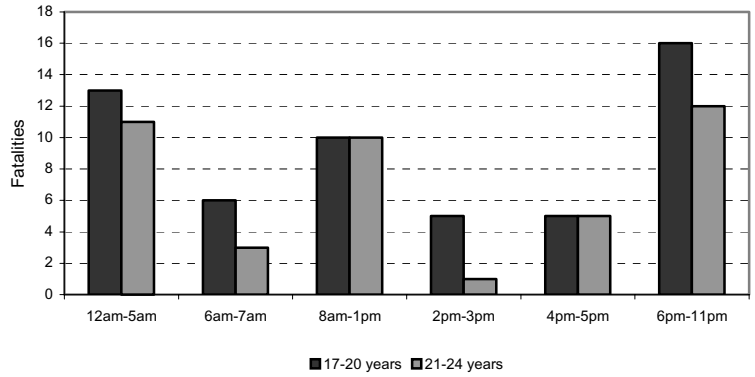
Age group	Tested	BAC 0.05% or greater	Proportion
17-20 years	20	5	25%
21-24 years	27	8	30%
Total	**47**	**13**	**28%**
All drivers and riders	167	41	25%

Table 2.12 and Figure 2.4 show fatalities among young adult road users by day of the week and time of day respectively. In 2002, 59 per cent (n=57) of the young adult road user fatalities were involved in crashes that occurred on a Friday, Saturday or Sunday, compared with 62 per cent (n=52) in 2001. Nearly a third (n=28) were in crashes that occurred between 6pm and midnight, and a further quarter (n=24) were in crashes that occurred between midnight and 6am.

Table 2.12: Young adult road user fatalities by day of week
Queensland 2002

Age group	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
17-20 years	7	4	4	10	7	6	17	55
21-24 years	6	3	4	6	2	13	8	42
Total	**13**	**7**	**8**	**16**	**9**	**19**	**25**	**97**

Fig. 2.4: Young adult road user fatalities by time of day
Queensland 2002



Most fatalities among young adult road users in 2002 were in crashes that occurred from Monday to Friday (64 per cent), after dark (53 per cent) and at mid-block locations (85 per cent). Most (70 per cent) of the units involved were cars, and just over half (53 per cent) of the crashes involved a single vehicle.

Compared with all road crash fatalities in 2002, fatalities among young adult road users were 80 per cent more likely to involve inexperience, 43 per cent more likely to involve speed, 27 per cent more likely to involve alcohol and 26 per cent more likely to occur after dark. Chapters 4 and 5 provide details about crashes and the factors that contribute to them.

2.6 Mature adult road users

There was a total of 150 mature adult road user fatalities as a result of road crashes in Queensland 2002, an increase of 2 per cent (n=3) on 2001. Mature adult fatalities accounted for 49 per cent of the 2002 road toll, however mature adults represented 49 per cent of Queensland's population. 25 – 29 year-olds, who represented 7 per cent of the population in 2002, accounted for 17 per cent of the 2002 road toll whereas 40 – 59 year-olds, who represented 27 per cent of the population, accounted for only 17 per cent of the road toll.

Figure 2.5 shows mature adult fatalities grouped by type of road user. Table 2.13 shows mature adult fatalities grouped by type of road user and age sub-groupings for 2002.

Fig. 2.5: Mature adult fatalities by road user type
Queensland 2002

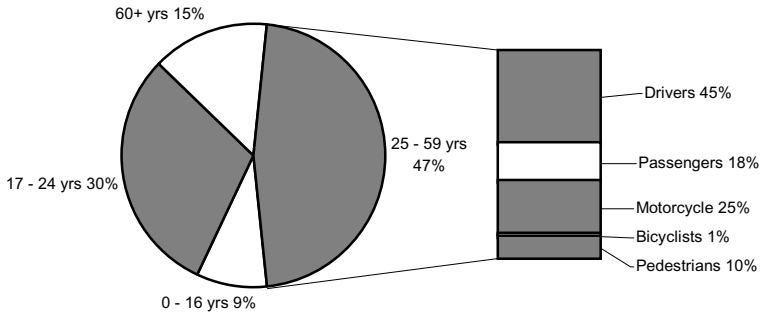


Table 2.13: Mature adult road user fatalities by type and age group
Queensland 2002

Age group	Drivers	Passengers	Motorcyclists	Bicylists	Pedestrians	Total
25-29 years	20	10	6	1	4	41
30-39 years	21	10	19	1	3	54
40-49 years	15	5	8	0	4	32
50-59 years	12	2	5	0	4	23
Total	**68**	**27**	**38**	**2**	**15**	**150**

Most (63 per cent, n=95) mature adult road user fatalities in 2002 were vehicle occupants and 72 per cent (n=68) of those were drivers.

Motorcyclist fatalities among mature adult road users were twice as high in 2002 (n=38) as they were in 2001 (n=19).

Table 2.14 shows that in cases where seat belt use is known, 38 per cent (23 of 61) of the mature adult vehicle occupant fatalities in 2002 were not wearing seat belts. This compares with 30 per cent (46 of 155) among all vehicle occupant fatalities for 2002. In 2002, failure to wear a seat belt was most common among 30 – 39 year-old vehicle occupant fatalities (with 47 per cent not wearing seat belts). In 2001, 29 per cent (22 of 75) of mature adult vehicle occupant fatalities and 40 per cent (8 of 20) of 30 – 39 year-olds vehicle occupant fatalities were not wearing seat belts, compared with 30 per cent (48 of 161) of all vehicle occupant fatalities who were not wearing seat belts.

Table 2.14: Non-seat belt wearing of mature adult vehicle occupant fatalities
Queensland 2002

Age group	Seat belt not worn	Total vehicle occupants killed *	Proportion of occupants unrestrained
25-29 years	5	15	33%
30-39 years	9	19	47%
40-49 years	4	16	25%
50-59 years	5	11	45%
Total	**23**	**61**	**38%**
All vehicle occupants	46	155	30%

* Where restraint use could be determined

Table 2.15 shows that 28 per cent (n=27) of the 95 alcohol-tested mature adult driver and motorcycle rider fatalities in 2002 had blood alcohol levels of 0.05 per cent or greater, compared with 25 per cent (n=41) of all driver and motorcycle rider fatalities who were tested. Among 25 – 29 year olds, 39 per cent (n=9) of tested driver and motorcycle rider fatalities had a blood alcohol level of 0.05 per cent or greater. In 2001, 28 per cent (n=25) of tested mature adult driver and motorcycle rider fatalities and 38 per cent (n=8) of tested 25 – 29 year-old driver and motorcycle rider fatalities found to have had blood alcohol levels of 0.05 per cent or greater, compared with 25 per cent (39 of 156) of all those killed who were tested.

Table 2.15: Alcohol involvement of mature adult driver and rider fatalities
Queensland 2002

Age group	Tested	BAC 0.05% or greater	Proportion
25-29 years	23	9	39%
30-39 years	38	9	24%
40-49 years	20	5	25%
50-59 years	14	4	29%
Total	**95**	**27**	**28%**
All drivers and riders	167	41	25%

Table 2.16 shows that fatalities among mature adult road users in 2002 tended to be spread throughout days of the week.

Table 2.16: Mature adult road users fatalities by day of week
Queensland 2002

Age group	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
25-29 years	8	7	1	2	4	10	9	41
30-39 years	11	3	7	3	11	11	8	54
40-49 years	6	2	5	3	4	3	9	32
50-59 years	2	3	5	2	4	2	5	23
Total	**27**	**15**	**18**	**10**	**23**	**26**	**31**	**150**

Most mature adult road user fatalities in 2002 were involved in crashes that occurred from Monday to Friday (62 per cent), in daylight hours (54 per cent) and at mid-block locations (85 per cent). Just over half (54 per cent) of the units involved were cars. Compared with all fatalities in 2002, fatalities among mature adult road users were 57 per cent more likely to involve inattention, 27 per cent more likely to involve alcohol, 48 per cent more likely to involve a motorcycle and 39 per cent more likely to involve a heavy vehicle.

2.7 Senior adult road users

There was a total of 47 senior adult road user fatalities as a result of road crashes in Queensland 2002, a decrease of 29 per cent (n=19) on 2001. Senior adult fatalities accounted for 15 per cent of the 2002 road toll, however senior adults represented 16 per cent of Queensland's population. Most (62 per cent, n=29) senior adult fatalities during 2002 were aged 70 years or older.

Table 2.17 shows fatalities among senior adults by type of road user and age sub-groupings for 2002. Figure 2.6 shows fatalities among senior adults by type of road user.

Fig. 2.6: Senior adult fatalities by road user type
Queensland 2002

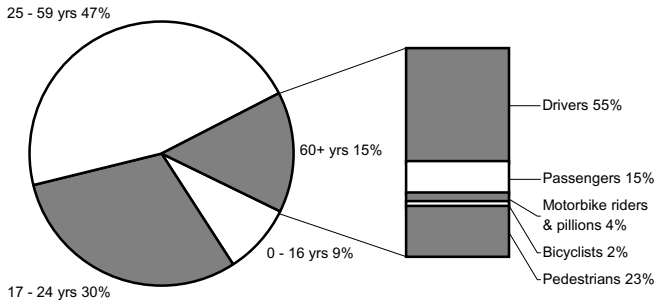


Table 2.17: Senior adult road user fatalities by type and age group
Queensland 2002

Age group	Drivers	Passengers	Motorcyclists	Bicylists	Pedestrians	Total
60-69 years	12	0	2	0	4	18
70-79 years	8	3	0	1	2	14
80 years and over	6	4	0	0	5	15
Total	**26**	**7**	**2**	**1**	**11**	**47**

Most (70 per cent, n=33) senior adult road user fatalities in 2002 were vehicle occupants and 79 per cent (n=26) of those were drivers. There were 7 passenger fatalities among senior adult road users in 2002, a 56 per cent decrease on 2001 (n=9).

There were 11 fatalities among senior adult pedestrians in 2002, a 35 per cent decrease on 2001 (n=6).

Table 2.18 shows that in cases where seat belt use is known, 8 per cent (n=2) of the senior vehicle occupant fatalities in 2002 were not wearing seat belts. This compares with 30 per cent (46 of 155) among all vehicle occupant fatalities for 2002. In 2001, 21 per cent (7 of 34) of senior adult vehicle occupant fatalities were not wearing seat belts, compared with 30 per cent (48 of 161) of all vehicle occupant fatalities who were not wearing seat belts.

Table 2.18: Non-seat belt wearing of senior adult vehicle occupant fatalities
Queensland 2002

Age group	Seat belt not worn	Total vehicle occupants killed *	Proportion of occupants unrestrained
60-69 years	1	8	13%
70-79 years	1	9	11%
80 years +	0	8	0%
Total	**2**	**25**	**8%**
All vehicle occupants	46	155	30%

* Where restraint use could be determined

Table 2.19 shows responsibility for fatal crashes involving senior adult drivers and pedestrians, compared with responsibility for fatal crashes among all drivers and pedestrians. For each crash, responsibility is indicated by the reporting police officer who makes an informed assessment as to the circumstances at the time of the crash investigation.

Table 2.19: Responsibility for fatal crashes involving senior adult drivers or pedestrians
Queensland 2002

	Drivers			Pedestrians		
Age group	**Responsible**	**Total**	**%**	**Responsible**	**Total**	**%**
60-69 years	16	23	70%	3	4	75%
70-79 years	11	16	69%	2	2	100%
80 years and over	5	6	83%	3	5	60%
Total	**32**	**45**	**71%**	**8**	**11**	**73%**
All age groups	215	355	61%	26	41	63%

Senior adult drivers were assessed most responsible in 71 per cent (n=32) of the fatal crashes in which they were involved during 2002, compared with 61 per cent (n=215) for all drivers. Drivers aged 80 years and over were assessed most responsible for 83 per cent (n=5) of the fatal crashes in which they were involved.

Senior adult pedestrians were assessed most responsible in 73 per cent (n=8) of the fatal crashes in which they were involved in 2002, compared with 63 per cent (n=26) for all pedestrians.

Table 2.20 shows senior adult road user fatalities by time of day. Most (79 per cent, n=37) occurred between 8 am and 6 pm.

Table 2.20: Senior adult road user fatalities by time of day
Queensland 2002

Age group	**6am-8am**	**8am-10am**	**10am-12pm**	**12pm-2pm**	**2pm-4pm**	**4pm-6pm**	**6pm-6am**	**Total**
60-69 years	2	1	3	0	3	4	5	18
70-79 years	0	2	3	3	2	3	1	14
80 years and over	0	5	1	0	3	4	2	15
Total	**2**	**8**	**7**	**3**	**8**	**11**	**8**	**47**

Most senior adult road user fatalities in 2002 were involved in crashes that occurred from Monday to Friday (78 per cent), in daylight hours (83 per cent), and at mid-block locations (65 per cent). Compared with all fatalities in 2002, senior adult road user fatalities were 129 per cent more likely to occur at roundabouts and 69 per cent more likely to involve the disobeying of traffic rules.

3 UNITS IN CRASHES

3.1 Introduction

This chapter looks at the various units involved in road crashes in Queensland in 2002, including vehicles and pedestrians. It compares 2002 with past trends.

There were 40,820 units involved in the 22,081 reported road traffic crashes on Queensland roads during 2002, a crash rate of 1.85 units per crash. For more severe crashes, the number of units per crash was lower (fatal 1.65 units per crash; hospitalisation 1.75 units per crash).

Table 3.1 shows the involvement of different types of units in crashes at various crash severity levels in 2002.

Table 3.1: Units involved in crashes by severity of crash
Queensland 2002

	Fatal		Hospitalisation		All crashes	
Unit type	**No.**	**%**	**No.**	**%**	**No.**	**%**
Car	205	44%	4567	59%	28006	69%
Utility/van	36	8%	801	10%	4479	11%
4-wheel drive	49	10%	477	6%	2495	6%
Rigid truck	24	5%	167	2%	896	2%
Articulated truck	17	4%	111	1%	549	1%
Road Train/B-double	7	1%	33	0%	157	0%
Bus	6	1%	75	1%	317	1%
Motorcycle	57	12%	724	9%	1482	4%
Tractor	11	2%	34	0%	204	0%
Towed device	1	0%	7	0%	30	0%
Bicycle	7	1%	297	4%	901	2%
Pedestrian	41	9%	419	5%	950	2%
Animal - ridden	0	0%	1	0%	4	0%
Animal - stock	2	0%	31	0%	171	0%
Animal - other	2	0%	22	0%	84	0%
Railway stock	2	0%	5	0%	29	0%
Other	0	0%	7	0%	66	0%
Total	**467**	**100%**	**7778**	**100%**	**40820**	**100%**

In 2002:

- Cars made up 44 per cent (n=205) of the units involved in fatal crashes and 69 per cent (n=28,006) of the units involved in all crashes.
- Unprotected road users (motorcyclists, bicyclists and pedestrians) made up 22 per cent (n=105) of the units involved in fatal crashes and 8 per cent (n=3,333) of the units involved in all crashes.
- Heavy freight vehicles made up 10 per cent (n=48) of the units involved in fatal crashes and 4 per cent (n=1,602) of the units involved in all crashes.

Table 3.2 shows the involvement of different types of units in fatal crashes from 1997 to 2002.

Table 3.2: Units involved in fatal crashes by year
Queensland 1997-2002

Type of vehicle	1997	1998	1999	2000	2001	2002
Car	286	209	232	210	243	205
Utility/van	78	75	73	56	59	36
4-wheel drive*	N/A	N/A	N/A	37	33	49
Rigid truck	24	17	17	31	17	24
Articulated truck	31	29	31	22	26	17
Road Train/B-double**	N/A	N/A	N/A	8	6	7
Bus	2	7	12	5	4	6
Motorcycle	44	25	44	34	29	57
Tractor	6	3	5	3	4	11
Towed device	0	1	1	0	0	1
Bicycle	12	10	10	6	16	7
Pedestrian	61	48	52	43	65	41
Animal - ridden	0	2	0	0	1	0
Animal - stock	5	3	1	0	2	2
Animal - other	0	2	0	0	2	2
Railway stock	3	4	0	2	1	2
Other	3	2	5	0	2	0
Total	**555**	**437**	**483**	**457**	**510**	**467**

* Was included in 'Car' prior to 2000

** Was included in 'Articulated truck' prior to 2000

Figure 3.1 illustrates the relative involvement of unit types in fatal crashes, Queensland 2002.

Fig. 3.1: Unit involvement in fatal crashes
Queensland 2002

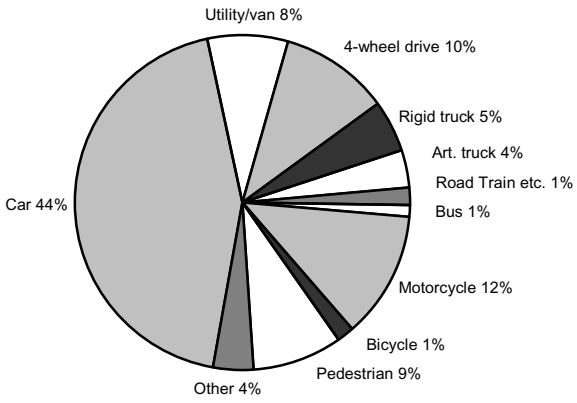
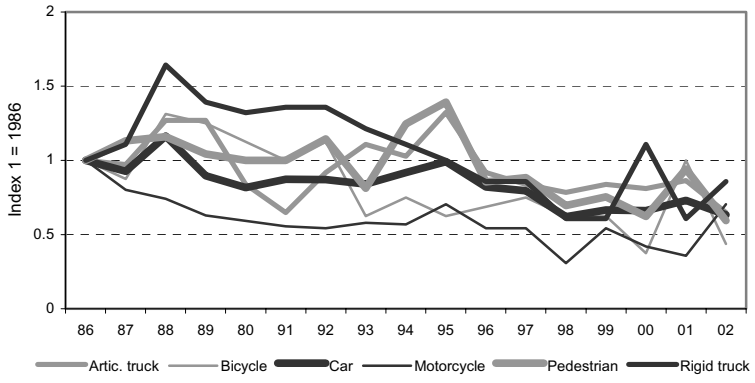


Figure 3.2 shows the involvement of major unit types in fatal crashes since 1986.

Fig. 3.2: Unit involvement trend for fatal crashes
Queensland 1986-2002



In 2002:

- The number of motorcycles involved in fatal crashes was 97 per cent (n=28) higher than in 2001 and 62 per cent (n=22) higher than the average for the previous five years.
- The number of rigid trucks involved in fatal crashes was 41 per cent (n=7) higher than in 2001 and 13 per cent (n=3) higher than the average for the previous five years.
- The number of utilities and vans involved in fatal crashes was 37 per cent (n=23) lower than in 2001 and 49 per cent (n=32) lower than the average for the previous five years.
- The number of pedestrians involved in fatal crashes was 37 per cent (n=24) lower than in 2001 and 24 per cent (n=13) lower than the average for the previous five years.

3.2 Fatal crash involvement by unit type

3.2.1 Cars

Table 3.3 shows the number of cars involved in fatal crashes from 1993 to 2002.

Table 3.3: Annual trends in fatal crash involvement of cars and variants
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Car	313	335	347	292	286	209	229	210	243	205
Utility/Van	72	85	107	84	78	75	73	56	59	36
4-wheel drive*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37	33	49

* Was included in 'Car' prior to 2000

In 2002, 290 cars were involved in fatal crashes, 13 per cent (n=45) less than in 2001 and 19 per cent (n=68) less than the average for the previous nine years. The car driver was considered most at fault by police assessment in 82 per cent (n=192) of the 233 fatal crashes involving a car, and 44 per cent (n=103) of these fatal crashes were single vehicle crashes.

Car drivers were considered most at fault in 68 per cent (n=192) of all fatal crashes in 2002.

Most fatal crashes involving cars in 2002 occurred at mid-block locations (81 per cent), from Monday to Friday (65 per cent) and in daylight hours (58 per cent).

Table 3.4 shows that utilities and vans had a lower fatal crash involvement rate than 4-wheel drives and other cars in 2002.

Table 3.4: Comparison of fatal crash involvement for cars and variants
Queensland 2002

Vehicle type	% of units in fatal crashes	% of total vehicle registrations	Fatal crash rate/10,000 vehicles
Car/4-wheel drive	54%	75%	1.4
Utility/Van	8%	17%	0.9
Total cars	**62%**	**92%**	**1.3**

3.2.2 Heavy freight vehicles

Table 3.5 shows the number of heavy freight vehicles involved in fatal crashes from 1993 to 2002.

Table 3.5: Annual trends in fatal crash involvement of heavy vehicles
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rigid truck	34	31	28	24	24	17	17	31	17	24
Articulated truck	41	38	49	34	31	29	31	22	26	17
Road Train/B-double*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	6	7

* Was included in 'Articulated truck' prior to 2000

In 2002, 48 heavy freight vehicles were involved in fatal crashes, 2 per cent (n=1) less than in 2001 and 20 per cent (n=12) less than the average for the previous nine years. The heavy freight vehicle driver was considered most at fault by police in 41 per cent (n=18) of the 44 fatal crashes involving a heavy freight vehicle, and 56 per cent (n=10) of these fatal crashes were single vehicle crashes.

Heavy freight vehicle drivers were considered most at fault in 6 per cent (n=18) of all fatal crashes in 2002.

Most fatal crashes involving heavy freight vehicles in 2002 occurred from Monday to Friday (84 per cent), at mid-block locations (75 per cent) and during daylight hours (66 per cent).

Compared with all fatal crashes in 2002, fatal crashes involving heavy vehicles were 50 per cent more likely to be as a result of traffic rules being disobeyed.

Table 3.6 shows that heavy freight vehicles had a fatal crash rate of 14 times that of cars in 2002.

Table 3.6: Comparison of fatal crash involvement for cars and heavy freight vehicles
Queensland 2002

Vehicle type	% of units in fatal crashes	% of total vehicle registrations	Fatal crash rate/10,000 vehicles
Total cars	62%	92%	1.3
Rigid trucks	5%	3%	3.5
Articulated trucks/Road Trains/B-doubles	5%	1%	18.2

3.2.3 Buses

Table 3.7 shows the number of buses involved in fatal crashes from 1993 to 2002.

Table 3.7: Annual trends in fatal crash involvement of buses
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Bus	7	7	6	6	2	7	12	5	4	6

In 2002, 6 buses were involved in fatal crashes, 50 per cent (n=2) more than in 2001 and equal to the average for the previous nine years. The bus driver was considered most at fault by police in 17 per cent (n=1) of the 6 fatal crashes involving a bus, and 100 per cent (n=1) of these fatal crashes was a single vehicle crash.

Bus drivers were considered most at fault in 0.3 per cent (n=1) of all fatal crashes in 2002.

Most fatal crashes involving buses in 2002 occurred after dark (67 per cent).

Table 3.8 shows that buses had a fatal crash rate of three times that of cars in 2002.

Table 3.8: Comparison of fatal crash involvement for cars and buses
Queensland 2002

Vehicle type	% of units in fatal crashes	% of total vehicle registrations	Fatal crash rate/10,000 vehicles
Total cars	62%	92%	1.3
Buses	1%	1%	4.0

3.2.4 Motorcycles

Table 3.9 shows the number of motorcycles involved in fatal crashes from 1993 to 2002.

Table 3.9: Annual trends in fatal crash involvement of motorcycles
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Motorcycle	47	46	57	44	44	25	44	34	29	57

In 2002, 57 motorcycles were involved in fatal crashes, 97 per cent (n=28) more than in 2001 and 67 per cent (n=16) more than the average for the previous nine years. In 2002, 51 motorcycle riders and 2 pillion passengers were killed in crashes. The motorcycle rider was considered most at fault by investigating police in 72 per cent (n=39) of the 54 fatal crashes involving a motorcycle, and 28 per cent (n=15) of these fatal crashes were single vehicle crashes.

Motorcycle riders were considered most at fault in 14 per cent (n=39) of all fatal crashes in 2002.

Most fatal motorcycle crashes in 2002 occurred during daylight hours (61 per cent), from Monday to Friday (56 per cent). Compared with all fatal crashes in 2002, fatal crashes involving motorcycles were 62 per cent more likely to occur at intersections, 39 per cent more likely to involve speed and 33 per cent more likely to be a result of rules being disobeying traffic rules.

Table 3.10 shows that motorcycles had a fatal crash rate of more than 5 times that of cars in 2002.

Table 3.10: Comparison of fatal crash involvement for cars and motorcycles
Queensland 2002

Vehicle type	% of units in fatal crashes	% of total vehicle registrations	Fatal crash rate/10,000 vehicles
Total cars	62%	92%	1.3
Motorcycles	12%	3%	7.3

3.2.5 Bicycles

Table 3.11 shows the number of bicycles involved in fatal crashes from 1993 to 2002.

Table 3.11: Annual trends in fatal crash involvement of bicycles
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Bicycle	10	12	10	11	12	10	10	6	16	7

In 2002, 7 bicycles were involved in fatal crashes, 56 per cent (n=9) less than in 2001 and 36 per cent (n=4) less than the average for the previous nine years. In 2002, 5 pedal cyclists were killed in crashes. The bicycle rider was considered most at fault by investigating police in 50 per cent (n=3) of the six fatal crashes involving a bicycle.

Bicycle riders were considered most at fault in 1 per cent (n=3) of all fatal crashes in 2002.

Most fatal bicycle crashes in 2002 occurred from Monday to Friday (83 per cent), during daylight hours (83 per cent) and at mid-block locations (67 per cent).

3.2.6 Pedestrians

Table 3.12 shows the number of pedestrians involved in fatal crashes from 1993 to 2002.

Table 3.12: Annual trends in fatal crash involvement of pedestrians
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Pedestrian	56	86	96	59	61	48	52	43	65	41

In 2002, 41 pedestrians were involved in fatal crashes, 37 per cent (n=24) less than in 2001 and 35 per cent (n=22) less than average for the previous nine years.

In 2002, there were 37 pedestrian fatalities. The pedestrian was considered most at fault in 72 per cent (n=26) of the 36 fatal crashes involving a pedestrian.

Pedestrians were considered most at fault in 9 per cent (n=26) of all fatal crashes in 2002.

Table 3.13 shows that 59 per cent (n=22) of the pedestrian fatalities occurred while attempting to cross a road. Of these, 77 per cent (n=17) occurred on roads with no traffic controls, and 10 per cent (n=2) occurred at traffic lights.

Table 3.13: Attempted action of pedestrians killed in fatal crashes
Queensland 2002

Attempted action	No. of fatalities	% involvement in fatal pedestrian crashes
Crossing carriageway - Traffic lights	2	5%
Crossing carriageway - Pedestrian Crossing	2	5%
Crossing carriageway - No traffic control	17	46%
Crossing carriageway - Other	1	3%
Remain stationary	9	24%
Walk against traffic	1	3%
Walk with traffic	3	8%
Work on vehicle	1	3%
Playing	1	3%
Total	**37**	**100%**

Most fatal crashes involving pedestrians in 2002 occurred at mid-block locations (84 per cent), from Monday to Friday (76 per cent) and after dark (57 per cent).

4 CHARACTERISTICS OF CRASHES

4.1 Introduction

This chapter analyses crash outcomes for 2002 in terms of the crash nature, single or multi-vehicle crash types, the time of day and day of the week crashes occurred. It compares 2002 with past trends.

4.2 Overall trends

Of the 22,081 reported crashes in Queensland in 2002, 62 per cent (n=13,621) were multi-vehicle and 33 per cent (n=7,186) were single-vehicle type crashes.

Table 4.1 shows trends in fatal crashes from 1993 to 2002 in terms of the crash nature. Compared with the average for the previous nine years, in 2002 there were 38 per cent (n=21) fewer hit pedestrian type crashes, 13 per cent (n=7) fewer angle crashes, 14 per cent (n=5) fewer overturned vehicles and 49 per cent (n=5) fewer rear-end crashes that resulted in fatalities. There were 16 per cent more fatal angle crashes in 2002 (n=43) than in 2001 (n=37).

Table 4.1: Annual trends in the nature of fatal crashes
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Hit object	101	93	105	93	95	80	65	79	89	86
Hit pedestrian	44	73	88	55	55	46	47	37	47	34
Head-on	55	62	70	46	48	23	47	47	44	52
Angle	71	60	50	60	54	44	36	34	37	43
Overturned	53	35	47	45	25	24	27	40	38	32
Rear-end	7	11	16	10	8	8	12	6	10	5
Fall from vehicle*	9	10	11	13	11	8	12	12	8	10
Sideswipe	7	10	10	9	16	11	19	13	17	13
Hit parked vehicle	2	6	7	4	3	6	5	6	0	3
Hit animal	7	4	3	3	5	6	1	0	4	3
Other	1	4	1	0	1	1	2	1	2	2

* Vehicle includes motor or pedal cycle

Figure 4.1 shows crashes in terms of overall types – single or multi-vehicle, pedestrian or others for 2002.

Fig. 4.1: Type of road crashes
Queensland 2002

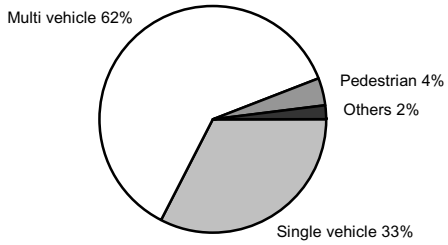


Figure 4.2 compares the severity of crash outcome for single-vehicle and multi-vehicle crashes. Of the 283 fatal crashes in 2002, 46 per cent (n=131) were single-vehicle and 40 per cent

(n=113) were multi-vehicle type crashes.

Fig. 4.2: Type of road crash by severity
Queensland 2002

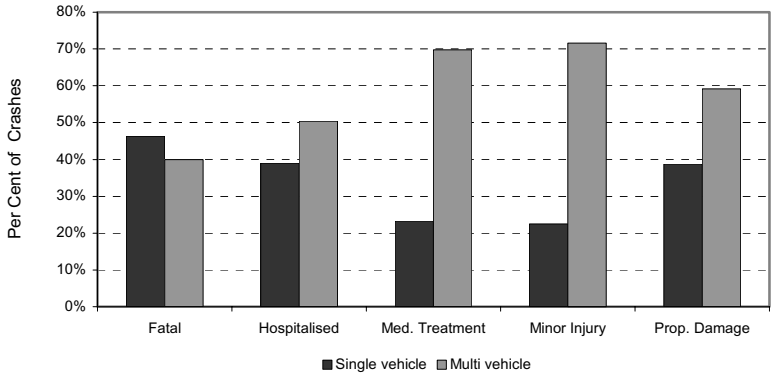


Table 4.2 provides a more detailed analysis of the nature of crashes in Queensland in 2002 grouped by the severity of crash.

Table 4.2: Crashes by nature of crash and severity
Queensland 2002

	Fatal		Hospitalisation		All crashes	
Nature of crash	**No.**	**%**	**No.**	**%**	**No.**	**%**
Hit object	86	30%	1066	24%	4678	21%
Head-on	52	18%	179	4%	451	2%
Angle	43	15%	1324	30%	6867	31%
Hit pedestrian	34	12%	385	9%	861	4%
Overturned	32	11%	364	8%	1326	6%
Sideswipe	13	5%	194	4%	1115	5%
Fall from vehicle *	10	4%	204	5%	389	2%
Rear-end	5	2%	538	12%	5188	23%
Hit animal	3	1%	54	1%	258	1%
Hit parked vehicle	3	1%	98	2%	793	4%
Other	2	1%	33	1%	155	1%
Total	**283**	**100%**	**4439**	**100%**	**22081**	**100%**

* Vehicle includes motor or pedal cycle

In 2002:

- Vehicles hitting objects accounted for 30 per cent (n=86) of fatal crashes and 21 per cent (n=4,678) of all crashes.
- Head-ons accounted for 18 per cent (n=52) of fatal crashes and 2 per cent (n=451) of all crashes.
- Vehicles hitting pedestrians accounted for 12 per cent (n=34) of fatal crashes and 4 per cent (n=861) of all crashes.
- 54 per cent (n=2,390) of crashes with hospitalisation outcomes were angle crashes or vehicles hitting objects.
- 55 per cent (n=12,055) of all crashes were angle or rear-end crashes.

4.3 Multi-vehicle crashes

Table 4.3 shows fatal multi-vehicle crashes from 1997 to 2002 by the nature of the crash. There were 113 fatal multi-vehicle crashes in 2002, 5 per cent (n=5) more than in 2001 and 6 per cent (n=6) more than the average for the previous five years.

Table 4.3: Multi-vehicle fatal crashes by nature of crash
Queensland 1997-2002

Nature of crash	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Angle	54	43%	44	51%	36	32%	34	34%	37	34%	43	38%
Head-on	48	38%	23	27%	47	41%	47	47%	44	41%	52	46%
Rear-end	8	6%	8	9%	12	11%	6	6%	10	9%	5	4%
Sideswipe	16	13%	11	13%	19	17%	13	13%	17	16%	13	12%
Total	**126**	**100%**	**86**	**100%**	**114**	**100%**	**100**	**100%**	**108**	**100%**	**113**	**100%**

Of all fatal multi-vehicle crashes in 2002:

- Angle crashes accounted for 38 per cent (n=43), consistent with the average for the previous five years.
- Head-on crashes accounted for 46 per cent (n=52), compared with the average for the previous five years of 39 per cent (n=42).
- Sideswipe crashes accounted for 12 per cent (n=13), compared with the average for the previous five years of 14 per cent (n=15).

Most fatal multi-vehicle crashes in 2002 occurred during daylight hours (77 per cent), from Monday to Friday (74 per cent) at mid-block locations (68 per cent).

Compared with all fatal crashes in 2002, fatal multi-vehicle crashes were 121 per cent more likely to occur at intersections controlled by Give Way/Stop signs and 89 per cent more likely to be a result of disobeying traffic rules. Fatal multi-vehicle crashes were 64 per cent less likely to involve fatigue and 31 per cent less likely to involve speed than all fatal crashes.

Table 4.4 shows hospitalisation multi-vehicle crashes by the nature of the crash from 1997 to 2002. In 2002, there were 2,235 hospitalisation multi-vehicle crashes, 7 per cent more than in 2001 (n=2,085) and 27 per cent more than the average for the previous five years (n=1,765).

Table 4.4: Multi-vehicle crashes involving hospitalisation by nature of crash
Queensland 1997-2002

Nature of crash	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Angle	976	63%	999	61%	1039	60%	1125	62%	1240	59%	1324	59%
Head-on	165	11%	178	11%	166	10%	141	8%	140	7%	179	8%
Rear-end	279	18%	325	20%	368	21%	381	21%	525	25%	538	24%
Sideswipe	141	9%	145	9%	147	9%	164	9%	180	9%	194	9%
Total	**1561**	**100%**	**1647**	**100%**	**1720**	**100%**	**1811**	**100%**	**2085**	**100%**	**2235**	**100%**

Of all multi-vehicle crashes that led to hospitalisations but not fatalities in 2002:

- Angle crashes accounted for 59 per cent (n=1,324), compared with the average for the previous five years of 61 per cent (n=1,076).
- Head-on crashes accounted for 8 per cent (n=179), compared with the average for the previous five years of 9 per cent (n=158).
- Rear-end crashes accounted for 24 per cent (n=538), compared with the average for the previous five years of 21 per cent (n=376).
- Sideswipe crashes accounted for 9 per cent (n=194), consistent with the average for the previous five years.

4.4 Single vehicle crashes

Table 4.5 shows fatal single-vehicle crashes by the nature of the crash from 1997 to 2002. There were 131 fatal single-vehicle crashes in 2002, 4 per cent less than in 2001 (n=137) and 2 per cent more than the average for the previous five years (n=127).

Table 4.5: Single-vehicle fatal crashes by nature of crash
Queensland 1997-2002

Nature of crash	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Hit object	95	71%	80	68%	65	60%	79	58%	89	66%	86	66%
Overturned	25	19%	24	20%	27	25%	40	29%	38	28%	32	24%
Hit parked vehicle	3	2%	6	5%	5	5%	6	4%	0	0%	3	2%
Fall from vehicle *	11	8%	8	7%	12	11%	12	9%	8	6%	10	8%
Total	**134**	**100%**	**118**	**100%**	**109**	**100%**	**137**	**100%**	**135**	**100%**	**131**	**100%**

* Vehicle includes motor or pedal cycle

Of all fatal single-vehicle crashes in 2002:

- Vehicles hitting objects accounted for 66 per cent (n=86), consistent with the average for the previous five years.
- Vehicles overturning accounted for 24 per cent (n=32), consistent with the average for the previous five years.

Most fatal single-vehicle crashes in 2002 occurred at mid-block locations (90 per cent), from Monday to Friday (55 per cent) and after dark (53 per cent). Cars comprised 71 per cent of the units involved.

Compared with all fatal crashes in 2002, fatal single-vehicle crashes were 105 per cent more likely to involve alcohol, 62 per cent more likely to involve fatigue and 62 per cent more likely to involve speed.

Table 4.6 shows hospitalisation single-vehicle crashes from 1997 to 2002 by the nature of the crash. There were 1,736 hospitalisation single-vehicle crashes in 2002, 3 per cent (n=57) more than in 2001 and 16 per cent more than the average for the previous five years (n=1,491).

Table 4.6: Single-vehicle crashes involving hospitalisation by nature of crash
Queensland 1997-2002

Nature of crash	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Hit object	861	64%	902	62%	907	64%	916	59%	1069	64%	1069	62%
Overturned	313	23%	327	22%	292	21%	386	25%	377	22%	364	21%
Hit parked vehicle	61	5%	87	6%	86	6%	96	6%	71	4%	98	6%
Fall from vehicle *	120	9%	142	10%	133	9%	145	9%	162	10%	205	12%
Total	**1355**	**100%**	**1458**	**100%**	**1418**	**100%**	**1543**	**100%**	**1679**	**100%**	**1736**	**100%**

* Vehicle includes motor or pedal cycle

Of the hospitalisation single-vehicle crashes in 2002:

- Vehicles hitting objects accounted for 62 per cent (n=1,069), consistent with the average for the previous five years.
- Vehicles overturning accounted for 21 per cent (n=364), compared with the average for the previous five years of 23 per cent (n=339).

- Motorcycle riders and pillion passengers, bicyclists or other vehicle occupants falling from vehicles accounted for 12 per cent (n=205), compared with the average for the previous five years of 10 per cent (n=140).

4.5 Crashes by time of day

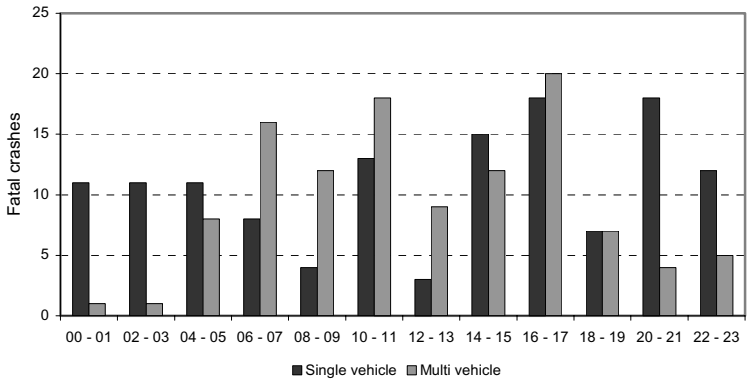
Table 4.7 shows fatal crashes after dark compared with all fatal crashes 1993 to 2002.

Table 4.7: Annual trends in the nature of fatal crashes occuring after dark
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Fatal crashes after dark	150	154	171	142	152	102	124	111	118	119
All fatal crashes	357	368	408	338	321	257	273	275	296	283
% after dark	42%	42%	42%	42%	47%	40%	45%	40%	40%	42%

Figure 4.3 shows fatal multi-vehicle and single-vehicle crashes by time of day in 2002. Fatal multi-vehicle crashes occurred most frequently during day-time periods, while fatal single-vehicle crashes occurred more often after dark.

Fig. 4.3: Fatal crashes by time of day
Queensland 2002



In 2002:

- 42 per cent (n=48) of fatal multi-vehicle crashes occurred during morning and afternoon commuting periods (6 to 10 am and 4 to 6 pm) compared with 23 per cent (n=30) of single-vehicle fatal crashes.
- 35 per cent (n=39) of fatal multi-vehicle crashes occurred from 10 am to 4 pm, compared with 24 per cent (n=31) of fatal single-vehicle crashes.
- 23 per cent (n=26) of fatal multi-vehicle crashes occurred after dark (between 6 pm and 6 am), compared with 53 per cent (n=70) of fatal single-vehicle crashes.

Table 4.8 shows crashes by time of day and severity of outcome for 2002.

Table 4.8: Crashes by time of day by severity
Queensland 2002

	Fatal		Hospitalisation		All crashes	
Time period	**No.**	**%**	**No.**	**%**	**No.**	**%**
Midnight - 6 am	53	19%	430	10%	1822	8%
6 am - 10 am	44	16%	755	17%	4121	19%
10 am - 4 pm	77	27%	1629	37%	8144	37%
4 pm - 6 pm	43	15%	692	16%	3659	17%
6 pm - midnight	66	23%	933	21%	4335	20%
Total	**283**	**100%**	**4439**	**100%**	**22081**	**100%**

A higher proportion of fatal crashes occur after dark, with 42 per cent (n=119) of fatal crashes occurring after dark (6 pm to 6 am), compared with 28 per cent (n=6,157) of all crashes. Between midnight and 6 am the proportion of fatal crashes (19 per cent) was more than double that of all crashes (8 per cent). In the middle of the day, the reverse was the case, with 27 per cent (n=77) of fatal crashes occurring between 10 am and 4 pm, compared with 37 per cent (n=8,144) of all crashes.

4.6 Crashes by day of week

Table 4.9 shows fatal crashes by day of week from 1993 to 2002. Table 4.10 shows fatal crashes by day of the week and severity of outcome for 2002.

Table 4.9: Annual trends in fatal crashes by day of week
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Monday	41	42	45	36	30	31	33	31	30	29
Tuesday	41	43	43	48	44	25	24	36	39	33
Wednesday	45	54	58	34	45	32	29	35	36	32
Thursday	45	50	52	46	42	36	35	41	42	39
Friday	59	65	74	53	56	39	57	46	46	53
Saturday	65	59	67	60	64	55	50	49	61	51
Sunday	61	55	69	61	40	39	45	37	42	46

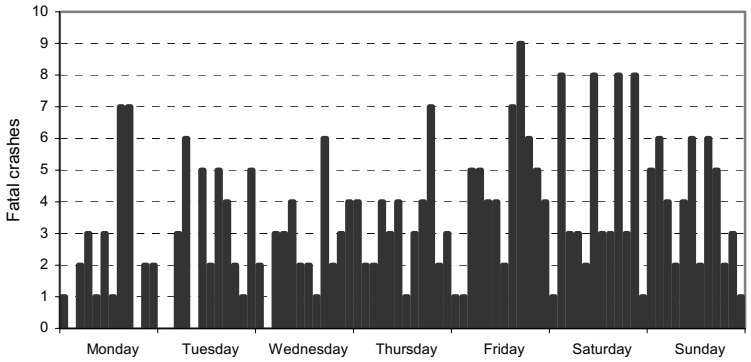
Table 4.10: Crashes by day of week by severity
Queensland 2002

	Fatal		Hospitalisation		All crashes	
Day of week	**No.**	**%**	**No.**	**%**	**No.**	**%**
Monday	29	10%	556	13%	2917	13%
Tuesday	33	12%	582	13%	3068	14%
Wednesday	32	11%	621	14%	3153	14%
Thursday	39	14%	635	14%	3294	15%
Friday	53	19%	739	17%	3866	18%
Saturday	51	18%	726	16%	3273	15%
Sunday	46	16%	580	13%	2510	11%
Total	**283**	**100%**	**4439**	**100%**	**22081**	**100%**

More severe crashes were more likely to occur on Friday, Saturday or Sunday, with 53 per cent (n=150) of fatal crashes and 46 per cent (n=2,045) of hospitalisation crashes occurring on these days. Fewest fatal crashes occurred on Mondays (10 per cent) and fewest crashes overall occurred on Sundays (11 per cent).

Figure 4.4 shows fatal crashes by time of day and day of week for 2002. Crashes generally peaked in the late afternoon hours in 2002.

Fig. 4.4: Fatal crashes by time of day & day of week
Queensland 2002



4.7 Spatial location of crashes

Table 4.11 shows location and severity of crashes for 2002. Most crashes occurred in cities. Crashes in the greater Brisbane urban area accounted for 46 per cent (n=10,051) of all reported crashes, and crashes in provincial cities accounted for a further 32 per cent (n=7,082).

Table 4.11: Location of crashes by severity
Queensland 2002

	Fatal		Hospitalisation		All crashes	
Location	**No.**	**%**	**No.**	**%**	**No.**	**%**
Brisbane City	36	13%	1130	25%	6241	28%
Rest of BSD*	42	15%	725	16%	3810	17%
Provincial cities	72	25%	1359	31%	7082	32%
Rest of state	133	47%	1225	28%	4948	22%
Total	**283**	**100%**	**4439**	**100%**	**22081**	**100%**

* Brisbane Statistical Division

While there were more crashes in urban areas in 2002, there were more fatal crashes outside urban areas; 47 per cent (n=133) of fatal crashes occurred outside urban areas, compared with 22 per cent (n=4,948) of all crashes. While 28 per cent (n=6,241) of all crashes occurred in Brisbane City in 2002, only 13 per cent (n=36) of fatal crashes occurred in Brisbane City.

Table 4.12 shows fatal crashes by location 1997 to 2002.

Table 4.12: Location of fatal crashes
Queensland 1997-2002

Location	1997		1998		1999		2000		2001		2002	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Brisbane City	39	12%	34	13%	39	14%	35	13%	39	13%	36	13%
Rest of BSD*	49	15%	29	11%	40	15%	38	14%	41	14%	42	15%
Provincial cities	87	27%	78	30%	69	25%	72	26%	76	26%	72	25%
Rest of state	146	45%	116	45%	125	46%	130	47%	140	47%	133	47%
Total	**321**	**100%**	**257**	**100%**	**273**	**100%**	**275**	**100%**	**296**	**100%**	**283**	**100%**

* Brisbane Statistical Division

Of all fatal crashes in 2002:

- 13 per cent (n=36) occurred in Brisbane City, consistent with the average for the previous five years.
- 15 per cent (n=42) occurred in the remainder of the greater Brisbane urban area, compared with the average for the previous five years of 14 per cent (n=39).

Table 4.13 shows location and severity of crashes by district.

Table 4.13: Location of crashes by severity
Queensland 2002

Main Roads	Fatal		Hospitalisation		All crashes	
District location	**No.**	**%**	**No.**	**%**	**No.**	**%**
Barcaldine	0	0%	22	0%	75	0%
Bundaberg	26	9%	242	5%	1054	5%
Cairns	19	7%	297	7%	1316	6%
Cloncurry	6	2%	71	2%	231	1%
Emerald	2	1%	63	1%	210	1%
Gympie	37	13%	434	10%	2457	11%
Mackay	17	6%	143	3%	701	3%
Metropolitan Brisbane	65	23%	1680	38%	9184	42%
Nerang	34	12%	632	14%	2822	13%
Rockhampton	14	5%	211	5%	998	5%
Roma	9	3%	42	1%	135	1%
Toowoomba	24	8%	267	6%	1463	7%
Townsville	22	8%	242	5%	1141	5%
Warwick	8	3%	93	2%	294	1%
Total	**283**	**100%**	**4439**	**100%**	**22081**	**100%**

Metropolitan Brisbane, Nerang and Gympie districts accounted for 66 per cent (n=14,463) of reported crashes and 48 per cent (n=136) of fatal crashes in 2002. Metropolitan Brisbane experienced more crashes than any other district and more fatal crashes than any other district. In numbers of fatal crashes, Brisbane was followed by Gympie and then Nerang.

5 FACTORS CONTRIBUTING TO CRASHES

5.1 Introduction

This chapter explores the factors that contribute to crashes and their severity, including alcohol, speed, fatigue and failure to wear seat belts.

A crash is a complex combination of contributing and causal factors. This means that a factor is one of many that have occurred and have contributed to a crash event. A road crash event has one or more units involved, and each unit involved may be assigned contributing factors.

Table 5.1 provides an indicative ranking of factors contributing to crashes in 2002 as assessed by police. Police assessments are normally collected within 24 hours of a crash and later more comprehensive investigations can lead to a modified assessment.

Table 5.1: Assessed contributing factors to crashes*
Queensland 2002

	Fatal crashes		All reported crashes	
	No.	Proportion of fatal crashes	No.	Proportion of all reported crashes
Disobeyed traffic rules**	96	34%	8653	39%
Alcohol/drugs	82	29%	2840	13%
Inattention	71	25%	6946	31%
Inexperience	54	19%	4746	21%
Speed	48	17%	1154	5%
Fatigue	42	15%	1141	5%
Other	26	9%	2961	13%
Age	22	8%	1230	6%
Other driver conditions***	17	6%	1305	6%
Negligence	13	5%	478	2%
Rain/wet road	10	4%	1569	7%
Road conditions	6	2%	987	4%
Vehicle defects	5	2%	669	3%
No street lighting	3	1%	76	0%
Total crashes	**283**	**100%**	**22081**	**100%**

* More than one contributing factor could be attributed to a crash and therefore this table may not reflect crash totals

** Disobeyed traffic rules does not include Alcohol/Drugs, Inexperience, Speed and Inattention

*** Driver conditions do not include Inattention, Negligence, Inexperience, Fatigue or Age

Based on police assessments, in 2002:

- Failure to obey traffic rules contributed in 34 per cent (n=96) of fatal crashes and 39 per cent (n=8,653) of all crashes.
- Alcohol or drug use contributed in 29 per cent (n=82) of fatal crashes and 13 per cent (n=2,840) of all crashes.
- Inattention contributed in 25 per cent (n=71) of fatal crashes and 31 per cent (n=6,946) of all crashes.
- Speed contributed in 17 per cent (n=48) and fatigue contributed in 15 per cent (n=42) of fatal crashes. Speed and fatigue each contributed in 5 per cent (n=1,154 and n=1,141 respectively) of all crashes.
- Other factors (such as a medical condition, some atmospheric and lighting conditions) contributed in 9 per cent (n=26) of fatal crashes and 13 per cent (n=2,961) of all crashes.

Fatigue and negligence are difficult to assess and may be under or over-stated in the data.

5.2 Trends

Table 5.2 shows factors contributing to fatal crashes as assessed by police from 1993 to 2002.

Table 5.2: Annual trends in contributing circumstances in fatal crashes
Queensland 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Disobeyed traffic rules*	125	125	128	115	110	73	97	95	83	96
Alcohol/drugs	98	103	132	101	101	86	85	94	83	82
Inexperience	57	82	102	91	95	62	52	41	72	54
Speed	80	51	46	48	51	30	40	50	50	48
Other driver conditions**	51	42	50	32	26	31	24	27	25	17
Age	35	36	41	30	28	25	28	33	24	22
Rain/wet road	25	35	41	22	16	29	10	14	13	10
Negligence	15	31	25	14	17	19	18	18	18	13
Inattention	15	24	41	26	26	28	47	38	48	71
Road conditions	35	23	29	26	9	14	15	13	10	6
Other	21	23	41	31	36	22	33	35	41	26
Vehicle defects	21	11	17	13	7	13	14	11	7	5
Fatigue	50	34	48	54	45	30	26	28	40	42
No street lighting	3	6	7	5	9	9	1	4	3	3

* Disobeyed traffic rules does not include Alcohol/Drugs, Inexperience, Speed and Inattention

** Driver conditions do not include Inattention, Negligence, Inexperience, Fatigue or Age

Failure to obey traffic rules contributed in 34 per cent (n=96) of fatal crashes in 2002, compared with 28 per cent (n=83) in 2001, and the average for the previous nine years of 33 per cent (n=106).

5.3 Alcohol and road fatalities

Alcohol use is considered to be a substantial contributor to more severe crashes, especially those involving a fatality (see Table 5.1). Drivers, motorcycle and bicycle riders and pedestrians affected by alcohol play a major role in road crashes.

Table 5.3 shows the extent of post-mortem testing of driver and motorcycle rider fatalities from 1997 to 2002, and the blood alcohol content (BAC) of those tested.

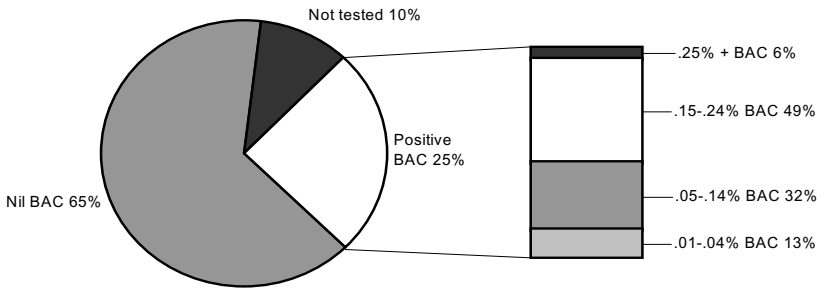
Table 5.3: Blood alcohol content of driver and motorcycle rider fatalities*
Queensland 1997-2002

	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Untested	26	13%	15	10%	21	12%	22	12%	21	12%	19	10%
Tested	172	87%	129	90%	151	88%	165	88%	157	88%	167	90%
Total fatalities	198	100%	144	100%	172	100%	187	100%	178	100%	186	100%
BAC results for those tested												
Nil	113	66%	87	67%	113	75%	106	64%	113	72%	120	72%
0.01 - 0.04	13	8%	8	6%	6	4%	13	8%	5	3%	6	4%
0.05 - 0.14	21	12%	15	12%	15	10%	13	8%	14	9%	15	9%
0.15 - 0.24	15	9%	14	11%	8	5%	23	14%	23	15%	23	14%
0.25 and over	10	6%	5	4%	9	6%	10	6%	2	1%	3	2%
BAC 0.05% or more	46	27%	34	26%	32	21%	46	28%	39	25%	41	25%
BAC 0.15% or more	25	15%	19	15%	17	11%	33	20%	25	16%	26	16%

* Based on post-mortem tests

Figure 5.1 shows blood alcohol testing results for all drivers and motorcycle rider fatalities in crashes in 2002.

Fig. 5.1: Blood alcohol level for driver & motorcycle rider fatalities, Queensland 2002



Of 186 driver and motorcycle rider fatalities in 2002:

- 90 per cent (n=167) were given a post-mortem blood alcohol test.
- 25 per cent (n=41) of those tested had a BAC of 0.05 per cent or greater.
- 16 per cent (n=26) of those tested had a BAC of 0.15 per cent or greater (three times the legal limit for most open license holders).

Table 5.4 shows the age group of drivers and motorcycle rider fatalities in crashes by year and age group who were tested and who had a BAC of 0.05 per cent or greater for the period 1997 to 2002.

Table 5.4: Age of drivers and motorcycle rider fatalities with a BAC of 0.05% or greater*
Queensland 1997-2002

Age group	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 16 years**	2	4%	0	0%	2	6%	0	0%	1	3%	0	0%
17 - 24 years	14	30%	11	32%	7	22%	8	17%	13	33%	13	32%
25 - 59 years	30	65%	22	65%	21	66%	37	80%	25	64%	27	66%
60 years and over	0	0%	1	3%	2	6%	1	2%	0	0%	1	2%
Total	**46**	**100%**	**34**	**100%**	**32**	**100%**	**46**	**100%**	**39**	**100%**	**41**	**100%**

* Based on post-mortem tests ** Includes casualties of unkown age

17 – 24 year-old drivers and motorcycle riders represented 32 per cent (n=13) of fatalities with a BAC of 0.05 per cent or greater in 2002, compared with the average for the previous five years of 28 per cent (n=11). 25 to 59 year-olds represented 66 per cent (n=27), compared with the average for the previous five years of 69 per cent (n=27).

Table 5.5 shows fatalities for the main controller road user types (drivers, motorcycle riders, bicyclists and pedestrians) who had a BAC of 0.05 per cent or greater from 1997 to 2002.

Table 5.5: Road user fatalities with BAC of 0.05% or greater*
Queensland 1997-2002

Roaduser type	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bicycle rider	0	0%	0	0%	0	0%	0	0%	1	2%	0	0%
Driver	38	57%	29	53%	26	54%	36	62%	34	62%	30	56%
Motorcycle rider	8	12%	5	9%	6	13%	10	17%	5	9%	11	20%
Pedestrian	21	31%	21	38%	16	33%	12	21%	15	27%	13	24%
Total	**67**	**100%**	**55**	**100%**	**48**	**100%**	**58**	**100%**	**55**	**100%**	**54**	**100%**

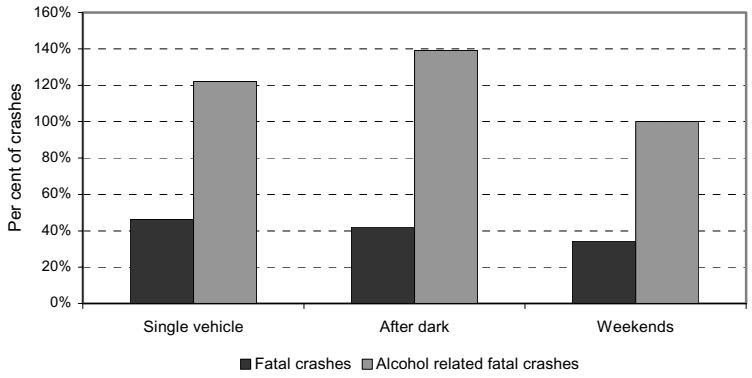
* Based on post-mortem tests

In 2002:

- Drivers represented 56 per cent (n=30) of fatalities tested who had a BAC of 0.05 per cent or greater, compared with the average for the previous five years of 58 per cent (n=33).
- Pedestrians represented 24 per cent (n=13) of fatalities tested who had a BAC of 0.05 per cent or greater, compared with the average for the previous five years of 30 per cent (n=17).
- Motorcycle riders represented 20 per cent (n=11) of fatalities tested who had a BAC of 0.05 per cent or greater, compared with 9 per cent (n=5) in 2001 and the average for the previous five years of 12 per cent (n=7).

Figure 5.2 shows that single vehicle crashes, crashes after dark and crashes on weekends were more likely to be alcohol-related than other crashes in 2002.

Fig. 5.2: Crashes involving alcohol by selected variables Queensland 2002



5.4 Speed as a contributing factor to fatalities

Table 5.6 shows the number of crashes in which speed was assessed as a contributing factor in terms of crash severity from 1997 to 2002.

Table 5.6: Severity of crashes to which speed was a contributing factor Queensland 1997-2002

Severity	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Fatal	51	6%	30	4%	40	5%	50	5%	50	5%	48	4%
Hospitalisation	177	22%	215	25%	211	25%	240	25%	281	26%	294	25%
Other injury	228	28%	233	27%	210	25%	259	27%	309	28%	288	25%
Property damage	348	43%	378	44%	393	46%	401	42%	449	41%	524	45%
Total	**804**	**100%**	**856**	**100%**	**854**	**100%**	**950**	**100%**	**1089**	**100%**	**1154**	**100%**

Speed was a contributing factor in 17 per cent (n=48) of fatal crashes in 2002, compared with the average for the previous five years of 15 per cent (n=50). Speed ranked fifth highest contributing factor to fatal crashes overall during 2002 (see Table 5.1)

Table 5.7 shows the number of fatalities by age group for which speed was a contributing factor for the period 1997 to 2002.

Table 5.7: Age of fatalities in crashes to which speed was a contributing factor
Queensland 1997-2002

Age group	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 16 years**	1	2%	4	12%	5	11%	2	4%	2	4%	0	0%
17 - 24 years	30	52%	19	56%	13	30%	19	33%	22	41%	25	46%
25 - 59 years	27	47%	11	32%	24	55%	36	63%	30	56%	28	52%
60 years and over	0	0%	0	0%	2	5%	0	0%	0	0%	1	2%
Total	**58**	**100%**	**34**	**100%**	**44**	**100%**	**57**	**100%**	**54**	**100%**	**54**	**100%**

46 per cent (n=25) of speed-related fatalities in 2002 were 17 – 24 year-olds, compared with 41 per cent (n=22) in 2001 and the average for the previous five years of 43 per cent (n=21).

5.5 Fatigue as a contributing factor

Table 5.8 shows fatal crashes in which fatigue was considered to be a contributing factor from 1997 to 2002. Because fatigue is difficult to determine, particularly in more severe crashes, for the purpose of this report, the numbers based on police assessment have been augmented to include single-vehicle crashes (such as roll-overs or hit objects), on open roads, during high-risk times for fatigue (that is 2 pm to 4 pm and 10 pm to 6 am). While this approach may still understate the contribution of fatigue (it ignores crashes at other times of day, crashes in urban areas and multi-vehicle crashes such as head-on crashes unless positively identified as fatigue-related by police), it does isolate the common factors of fatigue-related crashes and will allow for consistent analysis over time.

Table 5.8: Severity of fatigue related crashes*
Queensland 1997-2002

Severity	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Fatal	45	4%	30	3%	26	2%	28	2%	40	3%	42	4%
Hospitalisation	335	28%	316	28%	289	26%	295	26%	349	30%	335	29%
Other injury	343	29%	300	27%	351	31%	347	30%	334	29%	333	29%
Property damage	458	39%	474	42%	461	41%	479	42%	423	37%	431	38%
Total	**1181**	**100%**	**1120**	**100%**	**1127**	**100%**	**1149**	**100%**	**1146**	**100%**	**1141**	**100%**

* Single vehicle-type crashes in 100km/h and over zones during typical fatigue times (2-4pm, 10pm-6am) or where police considered fatigue was a contributing factor

There were 42 fatigue-related fatal crashes in 2002, 5 per cent more (n=2) than in 2001 and 24 per cent (n=8) more than the average for the previous five years.

Table 5.9 shows fatigue-related fatalities by age 1997 to 2002.

Table 5.9: Fatalities by age group: fatigue related crashes*
Queensland 1997-2002

Age group	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 16 years**	5	10%	2	6%	6	18%	1	3%	6	13%	5	10%
17 - 24 years	20	42%	18	50%	7	21%	14	36%	10	22%	12	24%
25 - 59 years	21	44%	15	42%	19	58%	18	46%	21	46%	27	55%
60 years and over	2	4%	1	3%	1	3%	6	15%	9	20%	5	10%
Total	**48**	**100%**	**36**	**100%**	**33**	**100%**	**39**	**100%**	**46**	**100%**	**49**	**100%**

* Single vehicle-type crashes in 100km/h and over zones during typical fatigue times (2-4pm, 10pm-6am) or where police considered fatigue was a contributing factor

** Includes casualties of unkown age

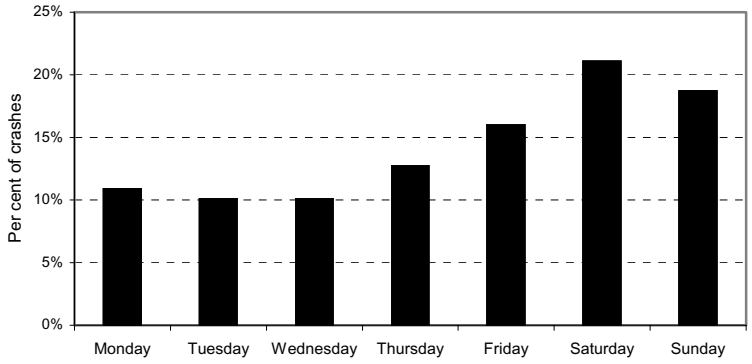
In 2002:

- 55 per cent (n=27) of fatigue-related fatalities were 25 – 59 year-olds, compared with the average for the previous five years of 48 per cent (n=19).

- 24 per cent (n=12) of fatigue-related fatalities were 17 – 24 year-olds, compared with 22 per cent (n=10) in 2001 and the average for the previous five years of 35 per cent (n=14).

Figure 5.3 shows all fatigue-related crashes by day of week for 2002.

Fig. 5.3: Fatigue-related crashes by day of week
Queensland 2002

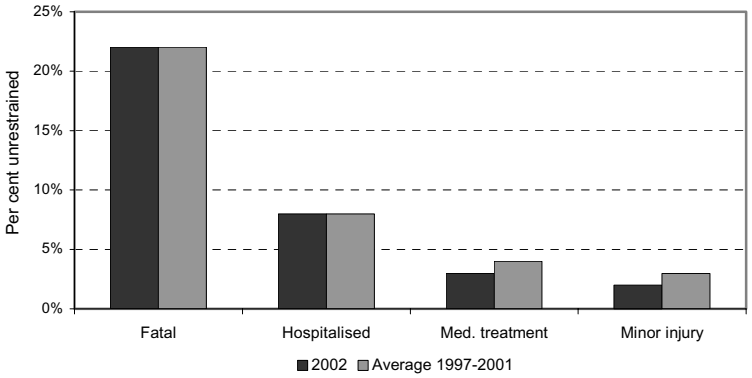


Fatigue-related crashes were most likely to occur on Friday, Saturday and Sunday in 2002.

5.6 Seat belt usage

Figure 5.4 shows seat belt usage of vehicle occupant casualties in terms of crash severity for 2002. The greater the severity of a crash, the higher the proportion of unrestrained casualties.

Fig. 5.4: Proportion of unrestrained vehicle occupant casualities, Queensland 2002



In 2002:

- 22 per cent (n=64) of all vehicle occupant casualties in fatal crashes were not wearing seat belts, consistent with the average for the previous five years.
- 8 per cent (n=342) of all vehicle occupant casualties in hospitalisation crashes were not wearing seat belts, consistent with the average for the previous five years.

Table 5.10 shows seat belt usage for vehicle occupant fatalities from 1997 to 2002.

Table 5.10: Fatalities by seat belt usage
Queensland 1997-2002

	1997		1998		1999		2000		2001		2002	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Occupants:												
Not determined	88	36%	62	32%	66	31%	63	27%	65	29%	65	30%
Total determined	155	64%	131	68%	145	69%	172	73%	161	71%	155	70%
Total vehicle occupants	243	100%	193	100%	211	100%	235	100%	226	100%	220	100%
Of those occupants where restraint use could be determined:												
Restrained	110	71%	97	74%	98	68%	115	67%	114	71%	109	70%
Unrestrained	45	29%	34	26%	47	32%	57	33%	47	29%	46	30%
Drivers:												
Not determined	49	31%	37	31%	36	29%	39	25%	45	30%	38	29%
Total determined	107	69%	83	69%	89	71%	116	75%	105	70%	93	71%
Total drivers	156	100%	120	100%	125	100%	155	100%	150	100%	131	100%
Of those drivers where restraint use could be determined:												
Restrained	75	70%	63	76%	65	73%	77	66%	80	76%	65	70%
Unrestrained	32	30%	20	24%	24	27%	39	34%	25	24%	28	30%
Passengers:												
Not determined	39	45%	25	34%	30	35%	24	30%	20	26%	27	30%
Total determined	48	55%	48	66%	56	65%	56	70%	56	74%	62	70%
Total vehicle passengers	87	100%	73	100%	86	100%	80	100%	76	100%	89	100%
Of those passengers where restraint use could be determined:												
Restrained	35	73%	34	71%	33	59%	38	68%	34	61%	44	71%
Unrestrained	13	27%	14	29%	23	41%	18	32%	22	39%	18	29%

In 2002:

- Seat belt use could not be determined for 30 per cent (n=65) of the driver and passenger fatalities.
- When restraint use was determined 30 per cent (n=46) of the driver and passenger fatalities were not wearing seat belts, consistent with the average for the previous five years.

Table 5.11 shows vehicle occupant fatalities who weren't wearing seat belts, compared with all vehicle occupant fatalities, by age from 1997 to 2002.

Table 5.11: Unrestrained vehicle occupant fatalities by age group
Queensland 2002 compared with average (1997-2001)*

	2002			Average 1997-2001		
Age group	**Unrestrained**	**Total**	**%**	**Unrestrained**	**Total**	**%**
0 - 16 years**	3	11	27%	5	13	38%
17 - 24 years	18	58	31%	12	42	29%
25 - 39 years	14	34	41%	15	36	42%
40 - 59 years	9	27	33%	8	33	24%
60 years and over	2	25	8%	5	29	17%
Total	**46**	**155**	**30%**	**45**	**153**	**29%**

* Where restraint use could be determined ** Includes casualties of unkown age

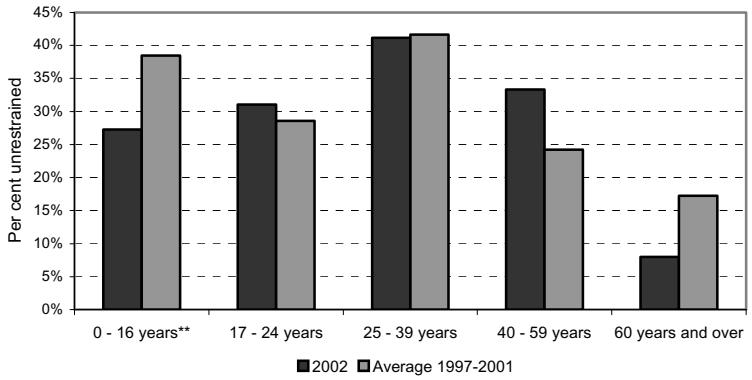
In 2002:

- 41 per cent (n=14) of the 25 – 39 year-old vehicle occupant fatalities were not wearing a seat belt.

- 33 per cent (n=9) of the 40 – 59 year-old vehicle occupant fatalities were not wearing a seat belts.
- 27 per cent (n=3) of the under 17 year-old vehicle occupant fatalities were not wearing a seat belts, compared with the average for the previous five years of 38 per cent (n=5).
- 8 per cent (n=2) of the over 59 year-old vehicle occupant fatalities were not wearing a seat belts, compared with the average of the previous five years of 17 per cent (n=5).

Figure 5.5 compares the proportion of unrestrained vehicle occupant fatalities in 2002 with the proportional average of the previous five years by age group.

Fig. 5.5: Proportion of unrestrained vehicle occupant fatalities by age, Queensland 2002



APPENDIX 1 GLOSSARY

Road users are defined as:

- drivers of motor vehicles
- motorcycle riders
- bicycle riders
- horse riders
- passengers of the above
- pedestrians

A *vehicle* is a device upon which any person or property may be transported or drawn upon a road.

A *unit* is the classification into which all road conveyances are categorised, e.g. car, bus, truck, pedestrian, animal etc.

A *road traffic crash* is an incident reported to police which resulted from the movement of at least one road vehicle on a road and involving death or injury to any person, or property damage.

A *property damage only* crash is a crash where at least one vehicle is towed away or the damage cost is greater than $2,500 (or $1,000 prior to 1 December 1991).

An *angle* crash is a crash in which vehicles collide at any angle other than side swipe, rear-end or head-on.

The *road toll* is the number of fatalities (excluding injuries) resulting from road traffic crashes.

A *fatality* is recorded when any person dies within 30 days as a result of injuries sustained in a road traffic crash.

An *injury* is recorded when any person involved in a road traffic crash: (a) requires hospitalisation; (b) requires medical treatment; or (c) receives a minor injury (i.e. first aid treatment only).

A *serious injury* is any person involved in a road traffic crash: (a) requires hospitalisation (i.e. is admitted to hospital) or (b) requires medical treatment.

A *casualty* is a fatality or injury.

A serious *casualty* is a fatality or hospitalised casualty.

A *single vehicle* crash is an incident in which only one moving vehicle is involved in the initial event, either in a collision (e.g. with a roadside pole) or a non-collision (e.g. a roll over). A collision with a parked car is considered a single vehicle crash because the characteristics of this type of crash are similar to crashes where a vehicle collides with a roadside object.

A *multi-vehicle* crash is an incident which involves an initial collision between any two (or more) moving vehicles.

A *blood alcohol content* (BAC) reading is a measure of the proportion of alcohol in a person's blood. This reading is typically obtained using a breathalyser or by conducting a blood test. Where a breathalyser has been used the results have been recorded as a proportion of alcohol in a person's blood. Where possible, a post-mortem blood analysis is carried out on a fatally injured road user.

A *controller* is a road user who exercises control over their movements at the time of a crash (i.e. driver, rider or pedestrian). Passengers are not regarded as controllers.

A child road user is a person aged under 17 years.

A young adult is a person aged from 17 to 24 years.

A mature adult is a person aged from 25 to 59 years.

A senior adult is a person aged 60 years or over.

Cars include 4-wheel drives, utilities and vans.

Heavy freight vehicle is a rigid truck, articulated truck or a road train/bdouble/triple.

A *vehicle occupant* is a person travelling in a car, bus, truck or tractor at the time of a crash.

A *driver* is any person in control of a car, truck, bus or tractor at the time of a crash. (Includes motorised wheel chair, excludes controllers of motorcycles, mopeds or bicycles)

A *passenger* is a person other than the driver travelling in or on a car, truck, bus or tractor.

A *rider* is any person in control of a motorcycle, moped, or bicycle.

A *motorcyclist* is either the rider or pillion passenger of a motorcycle.

A *pedal cyclist* is either the rider or pillion passenger of a bicycle.

A *pedestrian* is either an ordinary pedestrian or a person on skates, rollerblades or a skateboard.

A *peak commuter* period refers to that time of day when most commuters are either travelling to or returning from work. For this report it is considered to cover the periods from 6 am to 10 am and 4 pm to 6pm, Monday to Friday.

The *provincial cities* are: Bundaberg, Cairns, Caloundra, Charters Towers, Cooloola, Gladstone, Gold Coast, Hervey Bay, Mackay, Maryborough, Mount Isa, Rockhampton, Thuringowa, Toowoomba and Townsville.

APPENDIX 2 KEY SUMMARY TABLES

In this section, major characteristics of road traffic crashes in Queensland during 2002 are presented as a series of more detailed cross-tabulations from the Queensland Road Crash System maintained by Queensland Transport's Land Transport and Safety Division. A list of summary tables contained in this section is presented below.

Table 1: Road traffic casualties by road user type
Queensland 1997-2002

	Car, Truck, Bus						Motorcycle					
	Driver			Passenger			Rider			Pillion		
Year	K	H	M	K	H	M	K	H	M	K	H	M
1997	157	1832	3328	88	1128	1891	40	504	406	3	42	44
1998	120	1991	3281	75	1169	1840	23	535	383	2	55	35
1999	125	2135	3316	87	1195	1841	39	490	395	2	42	23
2000	155	2252	3476	82	1287	1862	30	490	357	3	38	28
2001	150	2592	4343	77	1407	2300	28	543	465	1	49	40
2002	131	2634	4273	90	1473	2087	51	684	438	2	50	24

	Pedestrian			Pedal Cyclist			Other			All Road Users		
Year	K	H	M	K	H	M	K	H	M	K	H	M
1997	59	373	375	12	253	420	1	14	18	360	4146	6482
1998	48	393	336	9	240	427	2	14	22	279	4397	6324
1999	49	385	319	9	241	336	3	15	22	314	4503	6252
2000	39	426	349	6	277	356	2	19	18	317	4789	6446
2001	51	423	343	15	276	372	2	24	21	324	5314	7884
2002	37	413	334	5	290	358	6	11	30	322	5555	7544

Legend:
K = Killed, H = Admitted to hospital, M = Received medical treatment

Table 2A: Road traffic casualties by road user type and age group
Queensland 2002

	Males killed by age goup										
Road user type	**0-4 years**	**5-16 years**	**17-20 years**	**21-25 years**	**26-29 years**	**30-39 years**	**40-49 years**	**50-59 years**	**60 & years**	**Not stated**	**Total**
Drivers	0	0	14	15	17	17	9	8	18	0	98
%	0.0%	0.0%	14.3%	15.3%	17.3%	17.3%	9.2%	8.2%	18.4%	0.0%	100.0%
Passengers	4	6	17	9	6	4	3	0	3	0	52
%	7.7%	11.5%	32.7%	17.3%	11.5%	7.7%	5.8%	0.0%	5.8%	0.0%	100.0%
Pedestrians	0	3	0	3	1	2	4	4	5	0	22
%	0.0%	13.6%	0.0%	13.6%	4.5%	9.1%	18.2%	18.2%	22.7%	0.0%	100.0%
Motorcycle riders	0	2	4	9	3	19	7	5	1	0	50
%	0.0%	4.0%	8.0%	18.0%	6.0%	38.0%	14.0%	10.0%	2.0%	0.0%	100.0%
Motorcycle pillions	0	0	0	0	0	0	0	0	0	0	0
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Bicycle riders	0	1	0	1	1	1	0	0	1	0	5
%	0.0%	20.0%	0.0%	20.0%	20.0%	20.0%	0.0%	0.0%	20.0%	0.0%	100.0%
Bicycle pillions	0	0	0	0	0	0	0	0	0	0	0
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total killed	**4**	**12**	**35**	**37**	**28**	**43**	**23**	**17**	**28**	**0**	**227**
% of total	**1.8%**	**5.3%**	**15.4%**	**16.3%**	**12.3%**	**18.9%**	**10.1%**	**7.5%**	**12.3%**	**0.0%**	**100.0%**

Table 2B: Road traffic casualties by road user type and age group
Queensland 2002

	Females killed by age goup										
Road user type	**0-4 years**	**5-16 years**	**17-20 years**	**21-25 years**	**26-29 years**	**30-39 years**	**40-49 years**	**50-59 years**	**60 & years**	**Not stated**	**Total**
Drivers	0	0	6	8	1	4	6	4	8	0	37
%	0.0%	0.0%	16.2%	21.6%	2.7%	10.8%	16.2%	10.8%	21.6%	0.0%	100.0%
Passengers	3	6	9	3	4	6	2	2	4	0	39
%	7.7%	15.4%	23.1%	7.7%	10.3%	15.4%	5.1%	5.1%	10.3%	0.0%	100.0%
Pedestrians	0	2	5	0	1	1	0	0	6	0	15
%	0.0%	13.3%	33.3%	0.0%	6.7%	6.7%	0.0%	0.0%	40.0%	0.0%	100.0%
Motorcycle riders	0	0	0	0	0	0	0	0	1	0	1
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Motorcycle pillions	0	0	0	0	1	0	1	0	0	0	2
%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	100.0%
Bicycle riders	0	0	0	0	0	0	0	0	0	0	0
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Bicycle pillions	0	0	0	0	0	0	0	0	0	0	0
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total killed	**3**	**8**	**20**	**11**	**7**	**11**	**9**	**6**	**19**	**0**	**94**
% of total	**3.2%**	**8.5%**	**21.3%**	**11.7%**	**7.4%**	**11.7%**	**9.6%**	**6.4%**	**20.2%**	**0.0%**	**100.0%**

Table 2C: Road traffic casualties by road user type and age group*
Queensland 2002

	Persons killed by age goup										
Road user type	**0-4 years**	**5-16 years**	**17-20 years**	**21-25 years**	**26-29 years**	**30-39 years**	**40-49 years**	**50-59 years**	**60 & years**	**Not stated**	**Total**
Drivers	0	0	20	23	18	21	15	12	26	0	135
%	0.0%	0.0%	14.8%	17.0%	13.3%	15.6%	11.1%	8.9%	19.3%	0.0%	100.0%
Passengers	8	12	26	12	10	10	5	2	7	0	92
%	8.7%	13.0%	28.3%	13.0%	10.9%	10.9%	5.4%	2.2%	7.6%	0.0%	100.0%
Pedestrians	0	5	5	3	2	3	4	4	11	0	37
%	0.0%	13.5%	13.5%	8.1%	5.4%	8.1%	10.8%	10.8%	29.7%	0.0%	100.0%
Motorcycle riders	0	2	4	9	3	19	7	5	2	0	51
%	0.0%	3.9%	7.8%	17.6%	5.9%	37.3%	13.7%	9.8%	3.9%	0.0%	100.0%
Motorcycle pillions	0	0	0	0	1	0	1	0	0	0	2
%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	100.0%
Bicycle riders	0	1	0	1	1	1	0	0	1	0	5
%	0.0%	20.0%	0.0%	20.0%	20.0%	20.0%	0.0%	0.0%	20.0%	0.0%	100.0%
Bicycle pillions	0	0	0	0	0	0	0	0	0	0	0
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total killed	**8**	**20**	**55**	**48**	**35**	**54**	**32**	**23**	**47**	**0**	**322**
% of total	**2.5%**	**6.2%**	**17.1%**	**14.9%**	**10.9%**	**16.8%**	**9.9%**	**7.1%**	**14.6%**	**0.0%**	**100.0%**

* Includes fatalities of unknown gender

Table 2D: Road traffic casualties by road user type and age group
Queensland 2002

	Males injured by age goup										
Road user type	**0-4 years**	**5-16 years**	**17-20 years**	**21-25 years**	**26-29 years**	**30-39 years**	**40-49 years**	**50-59 years**	**60 & years**	**Not stated**	**Total**
Drivers	1	34	850	689	491	964	729	547	628	5	4938
%	0.0%	0.7%	17.2%	14.0%	9.9%	19.5%	14.8%	11.1%	12.7%	0.1%	100.0%
Passengers	109	439	382	248	130	205	121	84	97	44	1859
%	5.9%	23.6%	20.5%	13.3%	7.0%	11.0%	6.5%	4.5%	5.2%	2.4%	100.0%
Pedestrians	20	129	46	56	45	84	53	45	63	15	556
%	3.6%	23.2%	8.3%	10.1%	8.1%	15.1%	9.5%	8.1%	11.3%	2.7%	100.0%
Motorcycle riders	0	20	144	223	165	332	242	98	32	4	1260
%	0.0%	1.6%	11.4%	17.7%	13.1%	26.3%	19.2%	7.8%	2.5%	0.3%	100.0%
Motorcycle pillions	0	5	8	3	0	1	0	2	0	1	20
%	0.0%	25.0%	40.0%	15.0%	0.0%	5.0%	0.0%	10.0%	0.0%	5.0%	100.0%
Bicycle riders	1	228	60	75	50	127	94	54	38	15	742
%	0.1%	30.7%	8.1%	10.1%	6.7%	17.1%	12.7%	7.3%	5.1%	2.0%	100.0%
Bicycle pillions	1	2	0	0	0	0	0	0	0	0	3
%	33.3%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total injured	**132**	**857**	**1490**	**1294**	**881**	**1713**	**1239**	**830**	**858**	**84**	**9378**
% of total	**1.4%**	**9.1%**	**15.9%**	**13.8%**	**9.4%**	**18.3%**	**13.2%**	**8.9%**	**9.1%**	**0.9%**	**100.0%**

Table 2E: Road traffic casualties by road user type and age group
Queensland 2002

Road user type	Females injured by age goup										
	0-4 years	5-16 years	17-20 years	21-25 years	26-29 years	30-39 years	40-49 years	50-59 years	60 & years	Not stated	Total
Drivers	0	22	754	726	473	1087	812	559	434	6	4873
%	0.0%	0.5%	15.5%	14.9%	9.7%	22.3%	16.7%	11.5%	8.9%	0.1%	100.0%
Passengers	114	508	479	281	158	356	265	266	411	52	2890
%	3.9%	17.6%	16.6%	9.7%	5.5%	12.3%	9.2%	9.2%	14.2%	1.8%	100.0%
Pedestrians	13	85	28	42	20	37	32	31	58	6	352
%	3.7%	24.1%	8.0%	11.9%	5.7%	10.5%	9.1%	8.8%	16.5%	1.7%	100.0%
Motorcycle riders	0	0	11	20	8	32	16	10	4	0	101
%	0.0%	0.0%	10.9%	19.8%	7.9%	31.7%	15.8%	9.9%	4.0%	0.0%	100.0%
Motorcycle pillions	0	4	9	7	3	16	16	6	1	3	65
%	0.0%	6.2%	13.8%	10.8%	4.6%	24.6%	24.6%	9.2%	1.5%	4.6%	100.0%
Bicycle riders	1	35	11	21	21	28	12	8	6	0	143
%	0.7%	24.5%	7.7%	14.7%	14.7%	19.6%	8.4%	5.6%	4.2%	0.0%	100.0%
Bicycle pillions	0	0	0	0	0	0	0	0	0	0	0
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total injured	**128**	**654**	**1292**	**1097**	**683**	**1556**	**1153**	**880**	**914**	**67**	**8424**
% of total	**1.5%**	**7.8%**	**15.3%**	**13.0%**	**8.1%**	**18.5%**	**13.7%**	**10.4%**	**10.8%**	**0.8%**	**100.0%**

Table 2F: Road traffic casualties by road user type and age group*
Queensland 2002

Road user type	Persons injured by age goup										
	0-4 years	5-16 years	17-20 years	21-25 years	26-29 years	30-39 years	40-49 years	50-59 years	60 & years	Not stated	Total
Drivers	1	56	1604	1415	964	2051	1541	1106	1062	13	9813
%	0.0%	0.6%	16.3%	14.4%	9.8%	20.9%	15.7%	11.3%	10.8%	0.1%	100.0%
Passengers	224	947	861	529	288	561	386	350	508	115	4769
%	4.7%	19.9%	18.1%	11.1%	6.0%	11.8%	8.1%	7.3%	10.7%	2.4%	100.0%
Pedestrians	33	214	74	98	65	121	85	76	121	22	909
%	3.6%	23.5%	8.1%	10.8%	7.2%	13.3%	9.4%	8.4%	13.3%	2.4%	100.0%
Motorcycle riders	0	20	155	243	173	364	258	108	36	10	1367
%	0.0%	1.5%	11.3%	17.8%	12.7%	26.6%	18.9%	7.9%	2.6%	0.7%	100.0%
Motorcycle pillions	0	9	17	10	3	17	16	8	1	5	86
%	0.0%	10.5%	19.8%	11.6%	3.5%	19.8%	18.6%	9.3%	1.2%	5.8%	100.0%
Bicycle riders	2	263	71	96	71	155	106	62	44	16	886
%	0.2%	29.7%	8.0%	10.8%	8.0%	17.5%	12.0%	7.0%	5.0%	1.8%	100.0%
Bicycle pillions	1	2	0	0	0	0	0	0	0	0	3
%	33.3%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total injured	**261**	**1511**	**2782**	**2391**	**1564**	**3269**	**2392**	**1710**	**1772**	**181**	**17833**
% of total	**1.5%**	**8.5%**	**15.6%**	**13.4%**	**8.8%**	**18.3%**	**13.4%**	**9.6%**	**9.9%**	**1.0%**	**100.0%**

* Includes casualties of unknown gender

Table 3A: Road traffic casualties by road user type, age group and sex: persons killed
Queensland 2002

Age group	Drivers			Motorcyclists			Pedal cyclists		
	Male	Female	Not stated	Male	Female	Not stated	Male	Female	Not stated
0-4 years	0	0	0	0	0	0	0	0	0
5-16 years	0	0	0	2	0	0	1	0	0
17-20 years	14	6	0	4	0	0	0	0	0
21-25 years	15	8	0	9	0	0	1	0	0
26-29 years	17	1	0	3	1	0	1	0	0
30-34 years	10	2	0	11	0	0	0	0	0
35-39 years	7	2	0	8	0	0	1	0	0
40-49 years	9	6	0	7	1	0	0	0	0
50-59 years	8	4	0	5	0	0	0	0	0
60 years and over	18	8	0	1	1	0	1	0	0
Not stated	0	0	0	0	0	0	0	0	0
Total killed	**98**	**37**	**0**	**50**	**3**	**0**	**5**	**0**	**0**

Age group	Pedestrians			Passengers			Total		
	Male	Female	Not stated	Male	Female	Not stated	Male	Female	Not stated
0-4 years	0	0	0	4	3	1	4	3	1
5-16 years	3	2	0	6	6	0	12	8	0
17-20 years	0	5	0	17	9	0	35	20	0
21-25 years	3	0	0	9	3	0	37	11	0
26-29 years	1	1	0	6	4	0	28	7	0
30-34 years	1	0	0	1	3	0	23	5	0
35-39 years	1	1	0	3	3	0	20	6	0
40-49 years	4	0	0	3	2	0	23	9	0
50-59 years	4	0	0	0	2	0	17	6	0
60 years and over	5	6	0	3	4	0	28	19	0
Not stated	0	0	0	0	0	0	0	0	0
Total killed	**22**	**15**	**0**	**52**	**39**	**1**	**227**	**94**	**1**

Table 3B: Road traffic casualties by road user type, age group and sex: persons injured
Queensland 2002

	Drivers			Motorcyclists			Pedal cyclists		
Age group	**Male**	**Female**	**Not stated**	**Male**	**Female**	**Not stated**	**Male**	**Female**	**Not stated**
0-4 years	1	0	0	0	0	0	2	1	0
5-16 years	34	22	0	25	4	0	230	35	0
17-20 years	850	754	0	152	20	0	60	11	0
21-25 years	689	726	0	226	27	0	75	21	0
26-29 years	491	473	0	165	11	0	50	21	0
30-34 years	556	575	0	185	21	0	70	16	0
35-39 years	408	512	0	148	27	0	57	12	0
40-49 years	729	812	0	242	32	0	94	12	0
50-59 years	547	559	0	100	16	0	54	8	0
60 years and over	628	434	0	32	5	0	38	6	0
Not stated	5	6	2	5	3	7	15	0	1
Total injured	**4938**	**4873**	**2**	**1280**	**166**	**7**	**745**	**143**	**1**

	Pedestrians			Passengers			Total		
Age group	**Male**	**Female**	**Not stated**	**Male**	**Female**	**Not stated**	**Male**	**Female**	**Not stated**
0-4 years	20	13	0	109	114	1	132	128	1
5-16 years	129	85	0	439	508	0	857	654	0
17-20 years	46	28	0	382	479	0	1490	1292	0
21-25 years	56	42	0	248	281	0	1294	1097	0
26-29 years	45	20	0	130	158	0	881	683	0
30-34 years	44	25	0	130	193	0	985	830	0
35-39 years	40	12	0	75	163	0	728	726	0
40-49 years	53	32	0	121	265	0	1239	1153	0
50-59 years	45	31	0	84	266	0	830	880	0
60 years and over	63	58	0	97	411	0	858	914	0
Not stated	15	6	1	44	52	19	84	67	30
Total injured	**556**	**352**	**1**	**1859**	**2890**	**20**	**9378**	**8424**	**31**

Table 4A: Road traffic casualties:
Restraint details by age group: persons killed
Queensland 2002

Restraint details	0 - 4 years	5 - 16 years	17 - 20 years	21 - 25 years	26 - 29 years	30 - 39 years	40 - 49 years	50 - 59 years	60 years & over	Not stated	Total
Fitted:											
Worn	7	1	29	12	9	10	12	6	23	0	109
Not worn	0	0	6	11	3	9	3	4	1	0	37
Unknown if worn	0	2	6	5	5	4	0	1	6	0	29
Not fitted	0	3	1	1	1	0	1	1	1	0	9
Unknown	1	6	4	6	6	8	4	0	2	0	37
Not applicable	0	8	9	13	11	23	12	11	14	0	101
Total killed	**8**	**20**	**55**	**48**	**35**	**54**	**32**	**23**	**47**	**0**	**322**

Table 4B: Road traffic casualties:
Restraint details by age group: persons injured
Queensland 2002

Restraint details	0 - 4 years	5 - 16 years	17 - 20 years	21 - 25 years	26 - 29 years	30 - 39 years	40 - 49 years	50 - 59 years	60 years & over	Not stated	Total
Fitted:											
Worn	194	798	2027	1543	981	2111	1591	1223	1342	47	11857
Not worn	13	38	81	72	54	96	54	33	25	4	470
Unknown if worn	6	45	161	136	83	161	116	78	75	22	883
Not fitted	4	39	29	15	7	29	23	16	14	0	176
Unknown	8	82	164	173	121	200	132	101	106	53	1140
Not applicable	36	509	320	452	318	672	476	259	210	55	3307
Total injured	**261**	**1511**	**2782**	**2391**	**1564**	**3269**	**2392**	**1710**	**1772**	**181**	**17833**

Table 5A: Road traffic casualties:
Seat belt usage by age group: persons killed
Queensland 2002

Age group	Total killed*	Unknown seat belt usage	Unrestrained	Restrained
0-4	8	1	0	7
5-11	6	4	1	1
12-16	6	4	2	0
17-20	45	9	7	29
21-24	33	11	11	11
25-29	26	11	5	10
30-34	16	5	7	4
35-39	15	7	2	6
40-49	20	4	4	12
50-59	12	1	5	6
60-69	12	4	1	7
70-79	11	2	1	8
80+	10	2	0	8
Not stated	0	0	0	0
Total	**220**	**65**	**46**	**109**

* Does not include occupants of buses or tractors

Table 5B: Road traffic casualties:
Seat belt usage by age group: persons injured
Queensland 2002

Age group	Total seriously injured*	Unknown seat belt usage	Unrestrained	Restrained
0-4	148	11	14	123
5-11	289	24	14	251
12-16	411	63	37	311
17-20	1791	227	95	1469
21-24	1146	173	60	913
25-29	1081	164	54	863
30-34	1004	138	57	809
35-39	807	104	41	662
40-49	1312	159	58	1095
50-59	1020	107	29	884
60-69	609	51	8	550
70-79	423	45	9	369
80+	199	22	7	170
Not stated	73	35	5	33
Total	**10313**	**1323**	**488**	**8502**

* Does not include occupants of buses or tractors

Table 6: Road traffic casualties:
Seat belt and helmet wearing details by injury severity
Queensland 2002

Road user type/safety device used	Killed	Seriously injured	Other injury	Total
Driver:				
Restraint worn	65	5752	2318	8135
Fitted but not worn	25	225	40	290
No restraint fitted	3	27	6	36
Not stated	38	903	509	1450
Sub total driver	131	6907	2873	9911
Passenger:				
Restraint worn	44	2789	998	3831
Fitted but not worn	12	184	21	217
No restraint fitted	6	118	25	149
Not stated	28	467	143	638
Sub total passenger	90	3558	1187	4835
Total vehicle occupants	**221**	**10465**	**4060**	**14746**
Pedal cycle rider & pillion:				
Helmet worn	4	512	143	659
No helmet worn	0	85	23	108
Not stated	1	51	75	127
Total pedal cycle rider & pillion	**5**	**648**	**241**	**894**
Motorcycle rider & pillion:				
Helmet worn	48	1122	171	1341
No helmet worn	3	28	5	36
Not stated	2	46	81	129
Total motorbike rider & pillion	**53**	**1196**	**257**	**1506**

Table 7: Road traffic casualties by road user type and most severe injury sustained: persons killed
Queensland 2002

Nature of injury	Drivers*	Motorcycle riders	Bicycle riders	Other	Pedestrians	Passengers**	Total
Fractures							
Skull & Face	0	1	1	0	0	1	3
Spine & Trunk	4	2	0	0	0	1	7
Upper Limbs	0	0	0	0	0	0	0
Lower Limbs & Mult	1	1	0	0	1	2	5
Sub-Total	5	4	1	0	1	4	15
Lacerations							
Head & Face	0	0	0	0	0	0	0
Neck & Trunk	0	1	0	0	0	0	1
Upper Limbs	0	0	0	0	0	0	0
Lower Limbs	0	0	0	0	0	0	0
Sub-Total	0	1	0	0	0	0	1
Other							
Intracranial	27	16	4	0	7	24	78
Concussion	0	0	0	0	0	0	0
Internal	100	30	0	0	28	66	224
Nerve/Spinal Cord Injury	0	0	0	0	0	0	0
Crush Injury	0	0	0	0	1	0	1
Blood Vessel Injury	0	0	0	0	0	0	0
Foreign Matter in Orifice	0	0	0	0	0	0	0
Burn	3	0	0	0	0	0	3
Dislocation	0	0	0	0	0	0	0
Sprain/Strain	0	0	0	0	0	0	0
Abrasions	0	0	0	0	0	0	0
Contusion	0	0	0	0	0	0	0
Shock	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Sub-total	130	46	4	0	36	90	306
Total fatalities	**135**	**51**	**5**	**0**	**37**	**94**	**322**

* Includes horse riders

** Includes pillion passengers

Table 8A: Road traffic crashes:
Involved controllers by road user type and age group: males only
Queensland 2002

	Driver		Motorcycle rider		Bicycle rider	
Age group	**Inv**	**Resp**	**Inv**	**Resp**	**Inv**	**Resp**
0-4	1	1	0	0	1	1
5-7	0	0	0	0	10	8
8-12	0	0	1	1	77	61
13-15	43	41	13	12	117	87
16-19	3111	2217	104	69	76	50
20-24	3455	2106	248	146	75	32
25-29	2581	1383	219	115	66	30
30-34	2192	1037	205	122	71	19
35-39	1868	882	160	89	58	14
40-49	3306	1383	261	154	95	27
50-59	2558	1144	110	67	54	12
60-69	1379	672	27	14	22	6
70+	1131	738	6	5	17	10
Not stated	283	219	7	6	17	12
Total	**21908**	**11823**	**1361**	**800**	**756**	**369**

	Pedestrian		Other road user		Total	
Age group	**Inv**	**Resp**	**Inv**	**Resp**	**Inv**	**Resp**
0-4	20	14	0	0	22	16
5-7	26	22	0	0	36	30
8-12	59	50	0	0	137	112
13-15	36	24	0	0	209	166
16-19	43	28	1	1	3335	2491
20-24	65	41	13	8	3856	2480
25-29	54	33	21	13	2941	1722
30-34	45	24	16	5	2529	1345
35-39	41	23	28	14	2155	1111
40-49	58	26	47	32	3767	1792
50-59	49	20	33	15	2804	1389
60-69	27	15	17	7	1472	791
70+	41	24	5	2	1200	821
Not stated	15	14	3	2	325	273
Total	**579**	**358**	**184**	**99**	**24788**	**14539**

Legend:
Inv = Number of controllers* involved in a crash
Resp = The controller considered most responsible for the crash by police

* Controller - see definitions, Appendix 1