	Queensland 1996-2001													
Location	19	1996		1997		998	19	999	20	000	2001			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Brisbane City	50	15%	39	12%	34	13%	39	14%	35	13%	39	13%		
Rest of BSD*	42	12%	49	15%	29	11%	40	15%	38	14%	41	14%		
Provincial cities	114	34%	81	25%	77	30%	64	23%	72	26%	74	25%		
Rest of state	132	39%	152	47%	117	46%	130	48%	130	47%	142	48%		
Total	338	100%	321	100%	257	100%	273	100%	275	100%	296	100%		

### Table 4.12: Location of fatal crashes

\* Brisbane Statistical Division

As indicated in Table 4.12:

- Brisbane City had 39 fatal crashes (or 13 per cent of the state total) in 2001 which, while consistent in percentage terms, is also equal to the average over the 1996 to 2000 period; and
- rest of BSD had 41 fatal crashes (or 14 per cent of the state total) in 2001, which is slightly higher than the 1996 to 2001 average of 40 fatal crashes.

Table 4.13 shows the location of crashes of different severities listed by Main Roads districts.

Department of Main Roads	Fa	atal	Hospita	lisation	All cra	ashes
District Location	No.	%	No.	%	No.	%
Barcaldine	3	1%	23	1%	81	0%
Bundaberg	18	6%	204	5%	946	4%
Cairns	20	7%	285	7%	1275	6%
Cloncurry	7	2%	66	2%	197	1%
Emerald	6	2%	64	2%	214	1%
Gympie	38	13%	456	11%	2364	11%
Mackay	16	5%	143	3%	686	3%
Metropolitan Brisbane	73	25%	1555	37%	9335	43%
Nerang	33	11%	590	14%	2622	12%
Rockhampton	17	6%	178	4%	960	4%
Roma	4	1%	46	1%	145	1%
Toowoomba	33	11%	259	6%	1320	6%
Townsville	15	5%	216	5%	1063	5%
Warwick	13	4%	69	2%	295	1%
Total	296	100%	4154	100%	21503	100%

#### Table 4.13: Location of crashes by severity Queensland 2001

The table shows that:

- Metropolitan Brisbane, Nerang and Gympie districts accounted for 66 per cent of reported crashes, and 49 per cent of fatal crashes;
- the highest proportion of crashes for all severity levels occurred in Metropolitan Brisbane district, with over 40 per cent of Queensland's crashes; and
- Brisbane district also recorded the highest number of fatal crashes with 73 (or 25 per cent), followed by Gympie with 38 fatal crashes (or 13 per cent), and Nerang and Toowoomba, both with 33 fatal crashes (or 11 per cent) respectively.

# 5. FACTORS CONTRIBUTING TO CRASHES

### 5.1 Introduction

It is relatively uncommon for a single factor to be identified as the sole cause of a crash. Several factors are often represented in the "causal chain" of events resulting in crashes. However, issues such as alcohol use, excessive speed, fatigue (which are consistently reported as the causal factor by investigating police) and the failure to wear seat belts are discussed in more detail in this chapter.

Table 5.1 presents information collected by the police at the scene of traffic crashes concerning the causes of crashes. The data is usually collected within 24 hours of a crash, and the assessment of contributing factors may differ from those arrived at after a comprehensive investigation. Nevertheless, the table provides an indicative ranking list of the major causal factors.

Table	5.1: Assessed co	ontributing factors to crashe	s* - Queensland 20	01
	Fata	l crashes	All repo	orted crashes
	No.	Proportion of	No.	Proportion of all
		fatal crashes		reported crashes
Alcohol/drugs	84	28%	2283	11%
Disobeyed traffic rules**	82	28%	8147	38%
Inexperience	72	24%	4519	21%
Speed	50	17%	1066	5%
Inattention	50	17%	7051	33%
Other	41	14%	3018	14%
Fatigue	40	14%	1136	5%
Other driver conditions ***	25	8%	1274	6%
Age	24	8%	1158	5%
Negligence	17	6%	411	2%
Rain/wet road	13	4%	1540	7%
Road conditions	10	3%	980	5%
Vehicle defects	7	2%	652	3%
No street lighting	3	1%	79	0%
Total crashes	296	100%	21503	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, Age

The data presented in Table 5.1 concerning police opinion of cause-of-crash indicates that:

- alcohol or drug use was the largest contributor with 28 per cent of fatal crashes, but only eleven per cent of all reported crashes;
- disobedience of traffic rules was the equally largest contributor, being regarded as responsible for 28 per cent of fatal crashes and 38 per cent of all reported crashes during 2001;
- inexperience was cited as the third-ranking contributor for fatal crashes and ranked third for all reported crashes;
- speed contributed to five per cent of all crashes and 17 per cent of fatal crashes;
- whilst inattention was a contributing factor in 33 per cent of all reported crashes, it contributed to 17 per cent of fatal crashes; and
- other factors (such as medical condition, some atmospheric and lighting conditions etc) were considered to have contributed to 14 per cent of fatal crashes and 13 per cent of all reported crashes.

Fatigue and negligence are difficult to assess and thus may be understated in the data.

### 5.2 Trends

Long term trends in contributing circumstances in fatal crashes are shown in Table 5.2. The top contributing circumstance (disobeyed traffic rules) showed a slight decrease in 2001 compared with 2000 and remained well below the high numbers of the mid-1990's.

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
Disobeyed traffic rules	107	125	125	128	115	110	73	97	95	82	
Alcohol/drugs	107	98	103	132	101	101	86	85	94	84	
Inexperience	69	57	82	102	91	95	62	52	41	72	
Speed	66	80	51	46	48	51	30	40	49	50	
Other driver conditions	45	51	42	50	32	26	31	24	27	25	
Age	54	35	36	41	30	28	25	28	33	24	
Rain/wet road	47	25	35	41	22	16	29	10	14	13	
Negligence	19	15	31	25	14	17	19	18	18	17	
Inattention	25	15	24	41	26	26	28	47	38	50	
Road conditions	32	35	23	29	26	9	14	15	13	10	
Other	48	21	23	41	31	36	22	33	35	41	
Vehicle defects	23	21	11	17	13	7	13	14	10	7	
Fatigue	38	50	34	48	54	45	30	26	28	40	
No street lighting	15	3	6	7	5	9	9	1	4	3	

#### Table 5.2: Annual trends in contributing circumstances in fatal crashes Queensland 1992-2001

### 5.3 Alcohol

Alcohol use is considered to be a substantial contributor of the 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, and the extent of alcohol involvement in fatal crashes is analysed in more detail in the following section.

Table 5.3 presents information on the level of post-mortem testing of driver and motorcycle rider fatalities over the period 1996 to 2001, and the blood alcohol content (BAC) of those tested.

				Queens	sland 1	996-2001				-		
	19	996	19	997	19	998	19	999	20	000	20	001
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Untested	42	20%	26	13%	15	10%	40	24%	22	11%	22	12%
Tested	171	80%	172	87%	129	90%	127	76%	165	83%	155	88%
Total Fatalities	213	100%	198	100%	144	100%	167	100%	199	100%	177	100%
BAC results for those	tested	ł										
Nil	106	62%	113	66%	87	67%	89	70%	106	64%	112	72%
.0104 %	5	3%	13	8%	8	6%	6	5%	13	8%	4	3%
.0514 %	19	11%	21	12%	15	12%	15	12%	13	8%	14	9%
.1524 %	31	18%	15	9%	14	11%	8	6%	23	14%	23	15%
.25% and above	10	6%	10	6%	5	4%	9	7%	10	6%	2	1%
BAC .05% or more	60	35%	46	27%	34	26%	32	25%	46	28%	39	25%
BAC .15% or more	41	24%	25	15%	19	15%	17	13%	33	20%	25	16%

Table 5.3: Blood alcohol content of driver and motorcycle rider fatalities\*

\* Based on post-mortem tests

The table indicates that alcohol involvement in crashes has declined since 1996. After a notable rise in 2000 figures, the 2001 figures have decreased well below the levels of the late 1990's. Total driver and rider fatalities involving a BAC of 0.05 per cent or greater for 2001 was 39, a decrease of five fatalities over the 1996 to 2000 average of 44.

Of 177 driver and motorcycle rider fatalities during 2001:

- 88 per cent were given a post-mortem blood alcohol test;
- of those tested, 25 per cent had a BAC at or in excess of the general legal limit of 0.05 per cent for open license holders and provisional license holders over 25 years of age. This figure is three percentage points less than the 1996 to 2000 average; and
- 16 per cent of those tested had a BAC of 0.15 per cent or greater (three times the legal limit for most open license holders). In 2001, 25 fatalities recorded these levels representing a 24 per cent decrease over 2000. Compared with the average of 27 fatalities over the period 1996 to 2000, the 2001 figures have decreased by seven per cent.

Figure 5.1 provides a graphical representation of blood alcohol levels for all driver and motorcycle rider fatalities in 2001.

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



Table 5.4 presents data by year from 1996 to 2001 on the age groups of fatally injured drivers and motorcycle riders who were found to have a blood alcohol content of 0.05 per cent or greater.

Table 5.4: Age of drivers and motorcycle rider fatalities with BAC of 0.05% or greater*
Queensland 1996-2001

1996		1997		19	998	19	999	2000		2001			
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
1	2%	2	4%	0	0%	2	6%	0	0%	1	3%		
31	52%	14	30%	11	32%	7	22%	8	17%	13	33%		
28	47%	30	65%	22	65%	21	66%	37	80%	25	64%		
0	0%	0	0%	1	3%	2	6%	1	2%	0	0%		
60	100%	46	100%	34	100%	32	100%	46	100%	39	100%		
	19 No. 1 31 28 0 <b>60</b>	1996           No.         %           1         2%           31         52%           28         47%           0         0%           60         100%	1996         19           No.         %         No.           1         2%         2           31         52%         14           28         47%         30           0         0%         0           60         100%         46	1996         1997           No.         %         No.         %           1         2%         2         4%           31         52%         14         30%           28         47%         30         65%           0         0%         0         0%           60         100%         46         100%	1996         1997         19           No.         %         No.         %         No.           1         2%         2         4%         0           31         52%         14         30%         11           28         47%         30         65%         22           0         0%         0         0%         1           60         100%         46         100%         34	1996         1997         1998           No.         %         No.         %           1         2%         2         4%         0         0%           31         52%         14         30%         11         32%           28         47%         30         65%         22         65%           0         0%         0         0%         1         3%           60         100%         46         100%         34         100%	1996         1997         1998         19           No.         %         No.         %         No.         %         No.           1         2%         2         4%         0         0%         2           31         52%         14         30%         11         32%         7           28         47%         30         65%         22         65%         21           0         0%         0         0%         1         3%         2           60         100%         46         100%         34         100%         32	1996         1997         1998         1999           No.         %         No.         %         No.         %           1         2%         2         4%         0         0%         2         6%           31         52%         14         30%         11         32%         7         22%           28         47%         30         65%         22         65%         21         66%           0         0%         0         0%         1         3%         2         6%           60         100%         46         100%         34         100%         32         100%	1996         1997         1998         1999         20           No.         %         %         %         %         %         %         %         %         %         %         %         %         %         %         %	1996         1997         1998         1999         200           No.         %         No.         %         No.         %         No.         %           1         2%         2         4%         0         0%         2         6%         0         0%           31         52%         14         30%         11         32%         7         22%         8         17%           28         47%         30         65%         22         65%         21         66%         37         80%           0         0%         0         0%         1         3%         2         6%         1         2%           60         100%         46         100%         34         100%         32         100%         46         100%	$\begin{array}{c c c c c c c c c c c c c c c c c c c $		

\* Based on post-mortem tests

The table indicates that:

- illegal BACs have been found almost exclusively in drivers and motorcycle riders between the ages of 17 and 59 years; and
- during 2001, 33 per cent of driver and motorcycle rider fatalities with illegal BACs were aged between 17 and 24 years. This was above the previous five-year average of 31 per cent but notable higher than for 2000. The result for ages 25 to 59 years of 64 per cent was similar to the previous five-year average of 65 per cent.

Table 5.5 provides information on the four main road user groups (drivers, motorcycle riders, bicyclists and pedestrians) in terms of positive blood alcohol tests following a fatal crash.

Roaduser type	19	1996		1997		1998		999	20	000	2001	
	No.	%	No.	%								
Bicyclist	1	1%	0	0%	0	0%	0	0%	0	0%	1	2%
Driver	50	70%	38	57%	29	53%	26	54%	36	62%	34	63%
Motorcyclist	10	14%	8	12%	5	9%	6	13%	10	17%	5	9%
Pedestrian	10	14%	21	31%	21	38%	16	33%	12	21%	14	26%
Total	71	100%	67	100%	55	100%	48	100%	58	100%	54	100%

#### Table 5.5: Road user fatalities with BAC of 0.05% or greater\* Queensland 1996-2001

\* Based on post-mortem tests

It can be seen that:

- drivers made up the largest group of alcohol-related fatalities in 2001, constituting 63 per cent of fatalities tested with a BAC of 0.05 per cent or greater. This figure is above the previous five-year average of 59 per cent;
- the percentage of pedestrians recording a BAC of 0.05 per cent or greater in 2001 was 26 per cent, an increase from 2000, but lower than the previous five-year average; and
- five motorcycle rider fatalities revealed a BAC of 0.05 per cent or greater in 2001, a decrease of 36 per cent on the previous five-year average and half the number in 2000.

Figure 5.2 shows that the incidence of single vehicle crashes, crashes after dark and crashes on weekends is greatly elevated for alcohol related crashes compared with all crashes.



### 5.4 Speed

Table 5.1 demonstrated that although speed was a contributing factor in five per cent of all reported crashes, it was judged by the reporting officer to contribute to 17 per cent of fatal crashes and was the fourth most often cited contributing factor. Excessive speed for the prevailing conditions is believed to contribute to a further class of crashes.

Table 5.6 sets out information by year on the severities of crashes to which speed was judged by the reporting officer to be a contributing factor.

				Quee	nsland	<u>1996-200</u>	1					
Severity	1996		1997		1998		19	999	20	000	2001	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Fatal	48	6%	51	6%	30	4%	40	5%	49	5%	50	5%
Hospitalisation	177	22%	177	22%	215	25%	211	25%	239	25%	277	26%
Other injury	259	32%	228	28%	233	27%	210	25%	257	27%	298	28%
Property damage	334	41%	348	43%	378	44%	393	46%	402	42%	442	41%
Total	818	100%	804	100%	856	100%	854	100%	947	100%	1067	100%

Table 5.6: Severity of crashes to which speed was a contributing factor Queensland 1996-2001

The table shows that the distribution of severity levels in crashes to which speed was a contributing factor remained relatively constant from 1996 to 2001. All severity levels in 2001 recorded increases in crash numbers. The involvement of speed in fatal crashes in 2001 was 15 per cent above the 1996 to 2000 average of 44 fatal crashes.

The age groups of fatally injured road users involved in crashes caused by speed as a contributing factor are presented in Table 5.7.

Table 5.7: Age of fatalities in crashes to which speed was a contributing t	factor

	Queensianu 1996-2001													
Age group	19	1996		1997		998	19	999	2	000	2001			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
0 - 16 years	3	5%	1	2%	4	12%	5	11%	1	2%	2	4%		
17 - 24 years	31	55%	30	52%	19	56%	13	30%	19	34%	22	41%		
25 - 59 years	19	34%	27	47%	11	32%	24	55%	36	64%	30	56%		
60 years and over	3	5%	0	0%	0	0%	2	5%	0	0%	0	0%		
Total	56	100%	58	100%	34	100%	44	100%	56	100%	54	100%		

The table shows that the proportions of each age group involved in speed-related fatal crashes have shown an erratic trend over the period 1996 to 2001. However, in 2001, young adult (17-24 years) fatalities in speed related crashes showed an increase of 16 per cent over 2000. This age group comprised 41 per cent of all speed-related fatalities in 2001.

### 5.5 Fatigue

It is often difficult to isolate fatigue as a factor in crashes, particularly in the more severe crashes. One means of identifying likely fatigue-related crashes is to analyse single vehicle-type crashes (such as roll-over or hit object) on open roads during high-risk times for fatigue (i.e. 2pm to 4pm and 10pm to 6am). Also included in this analysis are other crashes where police reported fatigue to be a contributing factor. Naturally, this approach will ignore crashes which occur at other times of day, occur in urban areas or are multi-vehicle collisions (e.g. head-on crashes), unless positively identified as a fatigue crash by police. However, the assumptions described above do point to factors which collectively constitute the major ingredients for fatigue crashes and therefore allow consistent analysis.

Table 5.8: Severity of fatigue related crashes\* Queensland 1996-2001 Severity 1996 1997 1998 1999 2000 2001 No. % No. % No. % No. % No. % No. % 4% 44 4% 34 27 43 4% Fatal 53 3% 27 2% 2% Hospitalisation 322 25% 334 27% 324 28% 293 25% 309 26% 350 30% Other injury 400 31% 370 30% 314 27% 372 31% 353 30% 340 29% Property damage 502 39% 486 39% 501 43% 489 41% 499 42% 440 38% 100% Total 1277 100% 1234 100% 1173 100% 1181 100% 1188 100% 1173

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

The data presented in Table 5.8 indicates that:

- the total number of fatigue-related crashes in 2001 was lower than the 2000 figure by less than one per cent, and lower than the five-year average of 1211 crashes by three per cent; while
- the number of fatigue-related fatal crashes increased significantly by 59 per cent in 2001 compared with 2000 and was 16 per cent above the five-year period of 1996 to 2000 average.

An analysis of fatigue-related fatalities by various age groups is presented in Table 5.9.

Age group	1996		1997		19	998	19	999	2000		2001	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 16 years	5	9%	5	11%	2	5%	6	18%	1	3%	6	12%
17 - 24 years	21	38%	20	43%	20	50%	7	21%	14	37%	11	22%
25 - 59 years	27	49%	20	43%	17	43%	20	59%	17	45%	23	47%
60 years and over	2	4%	2	4%	1	3%	1	3%	6	16%	9	18%
Total	55	100%	47	100%	40	100%	34	100%	38	100%	49	100%

 Table 5.9: Fatalities by age group: fatigue related crashes

 Queensland 1996-2001

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

Table 5.9 indicates that:

- during 2001, the number of fatigue-related fatalities for 17 to 24 year olds decreased by 21 per cent when compared with this age group in 2000 and showed a 33 per cent decrease against the previous five-year average; and
- 47 per cent of Queensland's fatigue-related fatalities in 2001 involved the 25 to 59 years age group (just one percentage point below the previous five-year average of 48 per cent).

An analysis by day of week of single-vehicle crashes on open roads during typical fatigue periods shows that, for 2001, fatigue-related crashes were most likely to occur on Fridays, Saturdays and Sundays. Figure 5.3 charts the occurrence of fatigue-related crashes by day of week.



Analysis of previous years' data has revealed that the most over-represented days for fatiguerelated crashes are the weekend and Friday. In 2001, this trend continued with 52 per cent of fatigue-related crashes occurring on Fridays, Saturdays and Sundays.

### 5.6 Seat belt usage

Recent research indicates that seat belt wearing rates have improved in the general driving population over the past five years. However, in 2001, 29 per cent of vehicle occupants were unrestrained (where restraint use could be determined) compared with the previous five-year average of 29 per cent.

Figure 5.4 shows that the greater the severity of a road crash, the less likely it was that seat belts were worn.



As indicated in Figure 5.4:

- in 2001, 21 per cent of vehicle occupant fatalities were unrestrained compared with nine per cent of hospitalised casualties, three per cent of persons medically treated, and three per cent of persons receiving minor injuries; and
- the incidence rate for unrestrained fatalities in 2001 was similar to the previous fiveyear average.

In many instances, investigating police were unable to determine whether or not a vehicle occupant was wearing a restraint at the time of a crash. Table 5.10 presents seat belt usage data for vehicle occupant fatalities in instances where restraint use could be determined. It should be noted that bus passengers were not included as vehicle occupants for seat belt analysis.

	19	996	19	997	19	998	19	999	20	000	20	001
•	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Occupants:												
Not determined	89	33%	88	36%	62	32%	66	31%	63	27%	66	29%
Total determined	182	67%	155	64%	131	68%	145	69%	172	73%	160	71%
Total vehicle occupants	271	100%	243	100%	193	100%	211	100%	235	100%	226	100%
Of those occupants where	restra	int use c	ould be o	letermine	ed:							
Restrained	137	75%	110	71%	97	74%	98	68%	115	67%	113	71%
Unrestrained	45	25%	45	29%	34	26%	47	32%	57	33%	47	29%
Drivers:												
Not determined	48	28%	49	31%	37	31%	36	29%	39	25%	46	31%
Total determined	122	72%	107	69%	83	69%	89	71%	116	75%	104	69%
Total drivers	170	100%	156	100%	120	100%	125	100%	155	100%	150	100%
Of those drivers where rest	traint u	use could	d be dete	rmined:								
Restrained	92	75%	75	70%	63	76%	65	73%	77	66%	79	76%
Unrestrained	30	25%	32	30%	20	24%	24	27%	39	34%	25	24%
Passengers:												
Not determined	41	41%	39	45%	25	34%	30	35%	24	30%	20	26%
Total determined	60	59%	48	55%	48	66%	56	65%	56	70%	56	74%
Total vehicle passengers	101	100%	87	100%	73	100%	86	100%	80	100%	76	100%
Of those passengers where	e restr	aint use	could be	determir	ned:							
Restrained	45	75%	35	73%	34	71%	33	59%	38	68%	34	61%
Unrestrained	15	25%	13	27%	14	29%	23	41%	18	32%	22	39%

Table 5.10: Fatalities by seat belt usage - Queensland 1996-2001

The data in Table 5.10 indicates that:

- the percentage of cases of fatally injured vehicle occupants where restraint use could not be determined increased from 27 per cent in 2000 to 29 per cent in 2001;
- in 2001, 29 per cent of drivers and passengers killed on Queensland roads were unrestrained, equivalent to the average proportion for the previous five years; and
- fatally injured drivers were more likely to be wearing a seat belt than fatally injured passengers in 2001.

Table 5.11 shows a breakdown by age group of unrestrained vehicle occupants who were fatally injured for the period 1996 to 2001. The percentages represent the proportion of all vehicle occupant fatalities in that age group (where restraint use could be determined).

	20	001		Average 1996-2000					
Age group	Unrestrained	Total	%	Unrestrained	Total	%			
0 - 16 years**	4	8	50%	5	13	38%			
17 - 24 years	15	43	35%	12	44	27%			
25 - 39 years	9	31	29%	16	38	42%			
40 - 59 years	12	44	27%	8	32	25%			
60 years and over	7	34	21%	5	29	17%			
Total	47	160	29%	46	156	29%			

Table 5.11: Unrestrained vehicle occupant fatalities by age group
Queensland 2001 compared with average (1996-2000) *

\*\* Includes casualties of unknown age

The data presented in Table 5.11 indicate that:

- 50 per cent of vehicle occupants aged 0 to 16 years killed in road crashes during 2001 were unrestrained, making this the age group with least compliance;
- the 17 to 24 years age group, with 35 per cent non compliance, was the group next most likely to be unrestrained; and
- the only improvement over 1996 to 2000 occurred in the 25 to 39 years age group where the proportion of unrestrained vehicle occupants in 2001 decreased by 13 percentage points.

Figure 5.5 illustrates, for various age groups, the proportion of unrestrained vehicle occupant fatalities in 2001 compared with the average of the previous five years.



## APPENDIX 1 GLOSSARY

Road users are defined as:

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

A *road traffic* crash is a crash reported to the 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 \$1000 prior to 1 December 1991).

The *road toll* is a count 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.

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

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 *casualty* is the grouping of both fatalities and injuries.

A single vehicle crash is a crash in which only one moving motor 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 a crash which involves an initial collision between any two (or more) moving motor 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 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 an accident (i.e. driver, rider or pedestrian). Passengers are not regarded as controllers.

A *child* is regarded as being a road user aged under 17 years.

A *young adult* is a road user aged from 17 to 24 years.

A *mature aged road user* is a person who is aged from 25 to 59 years.

An *older road user* is a person who is aged 60 years or over.

*Heavy freight vehicle* refers to both rigid and articulated trucks.

A *vehicle occupant* is a person travelling in a car, utility, panel van, bus, rigid truck or articulated vehicle at the time of a crash.

A *driver* is the vehicle occupant in control of a motor vehicle at the time of a crash.

A *passenger* is any other occupant of a motor vehicle at the time of a crash.

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 a wheel recreational device. e.g. skateboard, rollerblades/skates.

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 6am to 10am and 4pm to 6pm, Monday to Friday.

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

## **APPENDIX 2 KEY SUMMARY TABLES**

In this section, major characteristics of road traffic crashes in Queensland during 2001 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.

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	Car, Truck, Bus								Motorcycle						
		Driver		F	Passenge	ər	ſ	Rider			Pillion				
Year	ĸ	н	м	к	н	м	-	к	н	М	к	н	М		
1996	170	1919	3411	104	1270	2008		39	562	519	2	44	42		
1997	157	1832	3328	88	1128	1891		40	504	406	3	42	44		
1998	120	1991	3280	75	1169	1840		23	535	383	2	55	35		
1999	125	2135	3315	87	1193	1840		39	490	395	2	42	23		
2000	155	2251	3467	82	1287	1856		30	489	357	3	38	28		
2001	150	2564	4219	77	1395	2223		28	536	451	1	48	40		

Table 1: Road traffic casualties by road user type - Queensland 1996 - 2001

	Pedestrian		n	Pedal Cyclist				Other		All Road Users			
Year	к	н	м	к	н	м	к	н	м	ĸ	н	М	
1996	55	411	393	10	259	444	5	16	18	385	4481	6835	
1997	59	373	375	12	253	420	1	14	18	360	4146	6482	
1998	48	393	336	9	240	427	2	14	21	279	4397	6322	
1999	49	385	319	9	241	336	3	15	22	314	4501	6250	
2000	39	425	349	6	277	356	2	18	17	317	4785	6430	
2001	51	420	336	15	272	364	2	23	22	324	5258	7655	

#### Legend:

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

\* Includes pillion passengers

		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	20	24	10	12	15	8	21	0	110			
%	0.0%	0.0%	18.2%	21.8%	9.1%	10.9%	13.6%	7.3%	19.1%	0.0%	100.0			
Passengers	1	6	15	4	2	6	1	1	6	0	42			
%	2.4%	14.3%	35.7%	9.5%	4.8%	14.3%	2.4%	2.4%	14.3%	0.0%	100.0			
Pedestrians	1	4	3	4	1	5	5	4	14	0	40			
%	2.5%	10.0%	7.5%	10.0%	2.5%	12.5%	12.5%	10.0%	35.0%	0.0%	100.0			
Motorcycle riders	0	0	3	4	5	9	5	0	2	0	28			
%	0.0%	0.0%	10.7%	14.3%	17.9%	32.1%	17.9%	0.0%	7.1%	0.0%	100.0			
Motorcycle pillions	0	0	0	1	0	0	0	0	0	0	1			
%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0			
Bicycle riders	0	5	1	0	1	1	3	0	3	0	14			
%	0.0%	35.7%	7.1%	0.0%	7.1%	7.1%	21.4%	0.0%	21.4%	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%	0.0%			
Total killed	2	15	42	37	19	33	29	13	46	0	236			
% of total	0.8%	6.4%	17.8%	15.7%	8.1%	14.0%	12.3%	5.5%	19.5%	0.0%	100.0			

# Table 2A: Road traffic casualties Queensland 2001by road user type and age group

# Table 2B: Road traffic casualties Queensland 2001by road user type and age group

	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	1	2	2	1	7	11	9	7	0	40		
%	0.0%	2.5%	5.0%	5.0%	2.5%	17.5%	27.5%	22.5%	17.5%	0.0%	100.0		
Passengers	1	4	6	2	1	2	4	6	10	0	36		
%	2.8%	11.1%	16.7%	5.6%	2.8%	5.6%	11.1%	16.7%	27.8%	0.0%	100.0		
Pedestrians	1	2	1	0	0	1	1	1	3	0	10		
%	10.0%	20.0%	10.0%	0.0%	0.0%	10.0%	10.0%	10.0%	30.0%	0.0%	100.0		
Motorcycle 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%	0.0%		
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%	0.0%		
Bicycle riders	0	0	0	0	0	0	0	1	0	0	1		
%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	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%	0.0%		
Total killed	2	7	9	4	2	10	16	17	20	0	87		
% of total	2.3%	8.0%	10.3%	4.6%	2.3%	11.5%	18.4%	19.5%	23.0%	0.0%	100.0		

			- ,			- <b>J</b> - <b>J</b> -	-				
					Persons	killed by	age goup	)			
Road user type	0-4*	5-16	17-20	21-25	26-29	30-39	40-49	50-59	60 &	Not	
	years	years	years	years	years	years	years	years	years	stated	Total
Drivers	0	1	22	26	11	19	26	17	28	0	150
%	0.0%	0.7%	14.7%	17.3%	7.3%	12.7%	17.3%	11.3%	18.7%	0.0%	100.0
Passengers	3	10	21	6	3	8	5	7	16	0	79
%	3.8%	12.7%	26.6%	7.6%	3.8%	10.1%	6.3%	8.9%	20.3%	0.0%	100.0
Pedestrians	2	6	4	4	1	6	6	5	17	0	51
%	3.9%	11.8%	7.8%	7.8%	2.0%	11.8%	11.8%	9.8%	33.3%	0.0%	100.0
Motorcycle riders	0	0	3	4	5	9	5	0	2	0	28
%	0.0%	0.0%	10.7%	14.3%	17.9%	32.1%	17.9%	0.0%	7.1%	0.0%	100.0
Motorcycle pillions	0	0	0	1	0	0	0	0	0	0	1
%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0
Bicycle riders	0	5	1	0	1	1	3	1	3	0	15
%	0.0%	33.3%	6.7%	0.0%	6.7%	6.7%	20.0%	6.7%	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%	0.0%
Total killed	5	22	51	41	21	43	45	30	66	0	324
% of total	1.5%	6.8%	15.7%	12.7%	6.5%	13.3%	13.9%	9.3%	20.4%	0.0%	100.0

#### Table 2C: Road traffic casualties Queensland 2001 by road user type and age group

\* Includes fatalities of unknown gender

						- <b>J</b> - <b>J</b> -					
					Males in	jured by a	age goup	1			
Road user type	0-4	5-16	17-20	21-25	26-29	30-39	40-49	50-59	60 &	Not	
	years	years	years	years	years	years	years	years	years	stated	Total
Drivers	0	41	796	708	479	999	777	571	562	8	4941
%	0.0%	0.8%	16.1%	14.3%	9.7%	20.2%	15.7%	11.6%	11.4%	0.2%	100.0
Passengers	102	418	440	279	139	194	110	85	113	32	1912
%	5.3%	21.9%	23.0%	14.6%	7.3%	10.1%	5.8%	4.4%	5.9%	1.7%	100.0
Pedestrians	25	126	56	47	24	64	43	49	76	10	520
%	4.8%	24.2%	10.8%	9.0%	4.6%	12.3%	8.3%	9.4%	14.6%	1.9%	100.0
Motorcycle riders	1	12	134	204	142	304	187	81	31	1	1097
%	0.1%	1.1%	12.2%	18.6%	12.9%	27.7%	17.0%	7.4%	2.8%	0.1%	100.0
Motorcycle pillions	0	4	6	5	3	2	2	0	2	2	26
%	0.0%	15.4%	23.1%	19.2%	11.5%	7.7%	7.7%	0.0%	7.7%	7.7%	100.0
Bicycle riders	3	231	81	61	52	109	82	38	38	9	704
%	0.4%	32.8%	11.5%	8.7%	7.4%	15.5%	11.6%	5.4%	5.4%	1.3%	100.0
Bicycle pillions	0	1	0	0	0	0	0	0	0	0	1
%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0
Total injured	131	833	1513	1304	839	1672	1201	824	822	62	9201
% of total	1.4%	9.1%	16.4%	14.2%	9.1%	18.2%	13.1%	9.0%	8.9%	0.7%	100.0

## Table 2D: Road traffic casualties Queensland 2001by road user type and age group

	Females 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	0	15	757	695	484	1005	830	573	379	5	4743		
%	0.0%	0.3%	16.0%	14.7%	10.2%	21.2%	17.5%	12.1%	8.0%	0.1%	100.0		
Passengers	76	556	483	266	177	316	283	265	368	37	2827		
%	2.7%	19.7%	17.1%	9.4%	6.3%	11.2%	10.0%	9.4%	13.0%	1.3%	100.0		
Pedestrians	11	106	31	36	17	50	35	30	72	3	391		
%	2.8%	27.1%	7.9%	9.2%	4.3%	12.8%	9.0%	7.7%	18.4%	0.8%	100.0		
Motorcycle riders	0	1	7	12	9	27	17	9	4	0	86		
%	0.0%	1.2%	8.1%	14.0%	10.5%	31.4%	19.8%	10.5%	4.7%	0.0%	100.0		
Motorcycle pillions	0	2	15	12	5	12	12	12	3	2	75		
%	0.0%	2.7%	20.0%	16.0%	6.7%	16.0%	16.0%	16.0%	4.0%	2.7%	100.0		
Bicycle riders	0	52	14	19	10	24	14	7	3	1	144		
%	0.0%	36.1%	9.7%	13.2%	6.9%	16.7%	9.7%	4.9%	2.1%	0.7%	100.0		
Bicycle pillions	0	2	0	0	0	0	0	0	0	0	2		
%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0		
Total injured	87	734	1307	1040	702	1434	1191	896	829	48	8268		
% of total	1.1%	8.9%	15.8%	12.6%	8.5%	17.3%	14.4%	10.8%	10.0%	0.6%	100.0		

Table 2E: Road traffic casualties Queensland 2001by road user type and age group

# Table 2F: Road traffic casualties Queensland 2001by road user type and age group\*

	Persons 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	0	56	1553	1403	963	2004	1607	1144	941	13	9684		
%	0.0%	0.6%	16.0%	14.5%	9.9%	20.7%	16.6%	11.8%	9.7%	0.1%	100.0		
Passengers	178	974	923	545	316	510	393	350	481	69	4739		
%	3.8%	20.6%	19.5%	11.5%	6.7%	10.8%	8.3%	7.4%	10.1%	1.5%	100.0		
Pedestrians	36	232	87	83	41	114	78	79	148	13	911		
%	4.0%	25.5%	9.5%	9.1%	4.5%	12.5%	8.6%	8.7%	16.2%	1.4%	100.0		
Motorcycle riders	1	13	141	216	151	331	204	90	35	1	1183		
%	0.1%	1.1%	11.9%	18.3%	12.8%	28.0%	17.2%	7.6%	3.0%	0.1%	100.0		
Motorcycle pillions	0	6	21	17	8	14	14	12	5	4	101		
%	0.0%	5.9%	20.8%	16.8%	7.9%	13.9%	13.9%	11.9%	5.0%	4.0%	100.0		
Bicycle riders	3	283	95	80	62	133	96	45	41	10	848		
%	0.4%	33.4%	11.2%	9.4%	7.3%	15.7%	11.3%	5.3%	4.8%	1.2%	100.0		
Bicycle pillions	0	3	0	0	0	0	0	0	0	0	3		
%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0		
Total injured	218	1567	2820	2344	1541	3106	2392	1720	1651	110	17469		
% of total	1.2%	9.0%	16.1%	13.4%	8.8%	17.8%	13.7%	9.8%	9.5%	0.6%	100.0		

\* Includes casualties of unknown gender

	Drivers			Μ	lotor cyclis	ts	Pedal cyclists		
Age group	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	1	0	0	0	0	5	0	0
17-20 years	20	2	0	3	0	0	1	0	0
21-25 years	24	2	0	5	0	0	0	0	0
26-29 years	10	1	0	5	0	0	1	0	0
30-34 years	9	2	0	6	0	0	0	0	0
35-39 years	3	5	0	3	0	0	1	0	0
40-49 years	15	11	0	5	0	0	3	0	0
50-59 years	8	9	0	0	0	0	0	1	0
60 years & over	21	7	0	2	0	0	3	0	0
Not stated	0	0	0	0	0	0	0	0	0
Total killed	110	40	0	29	0	0	14	1	0

Table 3A: Road traffic casualties Queensland 2001by road user type, age group and sex: persons killed

	Pedestrians				Passenger	S	Total		
Age group	Male	Female	Not stated	Male	Female	Not stated	Male	Female	Not stated
0-4 years	1	1	0	1	1	1	2	2	1
5-16 years	4	2	0	6	4	0	15	7	0
17-20 years	3	1	0	15	6	0	42	9	0
21-25 years	4	0	0	4	2	0	37	4	0
26-29 years	1	0	0	2	1	0	19	2	0
30-34 years	4	0	0	2	0	0	21	2	0
35-39 years	1	1	0	4	1	0	12	8	0
40-49 years	5	1	0	1	4	0	29	16	0
50-59 years	4	1	0	1	6	0	13	17	0
60 years & over	14	3	0	6	10	0	46	20	0
Not stated	0	0	0	0	0	0	0	0	0
Total killed	41	10	0	42	35	1	236	87	1

	Drivers			Motor cyclists			Pedal cyclists		
Age group	Male	Female	Not stated	Male	Female	Not stated	Male	Female	Not stated
0-4 years	0	0	0	1	0	0	3	0	0
5-16 years	41	15	0	16	3	0	232	54	0
17-20 years	796	757	0	140	22	0	81	14	0
21-25 years	708	695	0	209	24	0	61	19	0
26-29 years	479	484	0	145	14	0	52	10	0
30-34 years	497	527	0	158	21	0	59	13	0
35-39 years	502	478	0	148	18	0	50	11	0
40-49 years	777	830	0	189	29	0	82	14	0
50-59 years	571	573	0	81	21	0	38	7	0
60 years & over	562	379	0	33	7	0	38	3	0
Not stated	8	5	4	3	2	0	9	1	0
Total injured	4941	4743	4	1123	161	0	705	146	0

Table 3B: Road traffic casualties Queensland 2001by road user type, age group and sex: persons injured

	Pedestrians			Passengers			Total		
Age group	Male	Female	Not stated	Male	Female	Not stated	Male	Female	Not stated
0-4 years	25	11	0	102	76	0	131	87	0
5-16 years	126	106	0	418	556	0	833	734	0
17-20 years	56	31	0	440	483	0	1513	1307	0
21-25 years	47	36	0	279	266	0	1304	1040	0
26-29 years	24	17	0	139	177	0	839	702	0
30-34 years	35	26	1	115	162	0	864	749	1
35-39 years	29	24	0	79	154	0	808	685	0
40-49 years	43	35	0	110	283	0	1201	1191	0
50-59 years	49	30	0	85	265	0	824	896	0
60 years & over	76	72	0	113	368	0	822	829	0
Not stated	10	3	0	32	37	17	62	48	21
Total injured	520	391	1	1912	2827	17	9201	8268	22