



Australian Government

Australian Transport Safety Bureau

ATSB ROAD SAFETY REPORT

July 2006

Deaths of cyclists due to road crashes



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Published by: Australian Transport Safety Bureau
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ISBN and formal report title: see 'Document retrieval information' on page iii.

DOCUMENT RETRIEVAL INFORMATION

Publication date	No. of pages	ISBN	ISSN
July 2006	19	0 642 25540 7	

Publication title

Deaths of cyclists due to road crashes

Prepared by

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PO Box 967, Civic Square ACT 2608 Australia

www.atsb.gov.au

Abstract

The report gives an overview of the circumstances of road crashes in which cyclists died in the period 1991 to 2005 and provides more detail for 1996 to 2004, the latest period for which detailed data were available. It examines the incidence of helmet wearing among cyclist deaths, the major factors in fatal crashes involving cyclists and the main crash types. Age and gender distributions, day of week, time of day and speed limit at the crash site are also examined.

THE AUSTRALIAN TRANSPORT SAFETY BUREAU

The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal Bureau within the Australian Government Department of Transport and Regional Services. ATSB investigations are independent of regulatory, operator or other external bodies.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations. Accordingly, the ATSB also conducts investigations and studies of the transport system to identify underlying factors and trends that have the potential to adversely affect safety.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and, where applicable, relevant international agreements. The object of a safety investigation is to determine the circumstances to prevent other similar events. The results of these determinations form the basis for safety action, including recommendations where necessary. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations.

It is not the object of an investigation to determine blame or liability. However, it should be recognised that an investigation report must include factual material of sufficient weight to support the analysis and findings. That material will at times contain information reflecting on the performance of individuals and organisations, and how their actions may have contributed to the outcomes of the matter under investigation. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. While the Bureau issues recommendations to regulatory authorities, industry, or other agencies in order to address safety issues, its preference is for organisations to make safety enhancements during the course of an investigation. The Bureau is pleased to report positive safety action in its final reports rather than make formal recommendations. Recommendations may be issued in conjunction with ATSB reports or independently. A safety issue may lead to a number of similar recommendations, each issued to a different agency.

The ATSB does not have the resources to carry out a full cost-benefit analysis of each safety recommendation. The cost of a recommendation must be balanced against its benefits to safety, and transport safety involves the whole community. Such analysis is a matter for the body to which the recommendation is addressed (for example, the relevant regulatory authority in aviation, marine or rail in consultation with the industry).

INTRODUCTION

Though there are no comprehensive indicators of the extent of use of bicycles (or pedal cycles) for transport in Australia, there is some evidence suggesting the growing popularity of cycling for commuting to work and school and for recreation. For example, the Exercise, Recreation and Sport Survey results for 2004 show that cycling is the fourth most popular activity – after walking, aerobics/fitness and swimming – with a 15 per cent increase in participants since 2001.¹ It has also been reported by Bicycle Industries Australia that the number of bicycles sold in 2005 was 13 per cent greater than the number of motor vehicles sold and that more than a million bicycles were sold in Australia each year from 2002 to 2005². Anecdotal evidence suggests that the rising cost of fuel in 2006 has further increased the popularity of cycling.

Cyclists ride on the road reserve and on cycle paths outside the road reserve. The ‘road reserve’ is the entire width between abutting property boundaries, including footpaths and cycle paths, where the way is open to the public for travel purposes in a range of vehicles as a matter of right or custom. This report focuses on the deaths of cyclists who were riding on the road reserve at the time of the crash, as this is where road safety regulatory authorities can have an influence and where over 95 per cent of cyclist deaths occur. (Unpublished Australian Bureau of Statistics (ABS) ‘cause of death’ data obtained by the ATSB reveal that fewer than 4 per cent of cyclist deaths occur in off-road or ‘non-traffic’ locations.)

Two earlier reports by the ATSB on cyclist safety focused on helmet wearing³. Compulsory helmet wearing was introduced Australia-wide between 1990 and 1992 and both of these earlier reports concluded that bicycle helmets can help prevent fatal and non-fatal injury of cyclists involved in road crashes. One of the aims of this report is to examine the incidence of helmet wearing among cyclists killed in road crashes in more recent years.

Another report by the ATSB in 2004 on cyclist safety, based on data for 2000 and 2001, showed that cyclists account for about 11 per cent of persons seriously injured in road crashes each year⁴. More recent serious injury data are presently not available and this report is therefore limited to fatal crashes only.

Cycling has significant health and environmental benefits for the community, but cycling on the roads has risks that need to be recognised by cyclists and motorists alike. By examining the circumstances surrounding fatal crashes involving cyclists, all road users can learn something useful about sharing the road.

1 The Exercise, Recreation and Sport Survey, available at www.ausport.gov.au, is a joint initiative of the Australian Sports Commission and state and territory departments of sport and recreation and was first conducted in 2001.

2 See www.cyclingpromotion.com

3 Federal Office of Road Safety (FORS) *Helmet wearing and cyclist safety* (FORS, Canberra, 1997) and ATSB, *Bicycle helmets and injury prevention: a formal review* (ATSB, Canberra, 2000)

4 ATSB, *Cycle safety* (ATSB, Canberra, 2004)

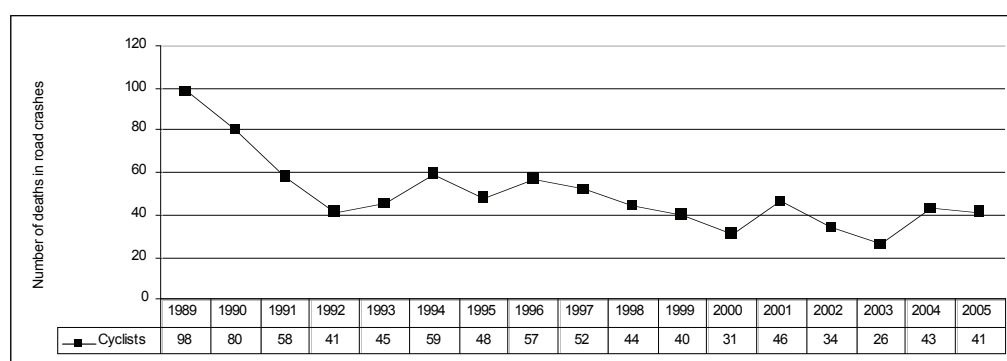
Main findings

- From 1996 to 2000, nearly one-third of all male cyclists and nearly half of male cyclists in the 10 to 19 age group killed in road crashes were not wearing a helmet. Similarly, nearly one-third of all female cyclists killed in road crashes in the period were not wearing a helmet. For 2001 to 2004, helmet usage in over half the cases was unknown, but in the 48 cases where it was known, 30 of the cyclists were wearing a helmet and 18 were not.
- The most frequently assigned major factor in fatal road crashes involving cyclists in the period 1996 to 2004 was the failure of cyclists and other road users to observe each other on the road. For cyclists, their visibility remains a key safety issue.
- The most common type of crash in which cyclists were fatally injured was the cyclist being hit from behind by a motor vehicle travelling in the same lane in the same direction. Cyclists riding on rural roads are particularly at risk of being run over from behind. From 1996 to 2004, there were at least 58 cases where a cyclist was run over by a motor vehicle coming from behind. This kind of crash occurred in urban as well as in rural areas but 38 cases occurred on rural roads, most during the day.
- The next most common crash type was the cyclist riding from the footway into an intersection or onto a road and being hit by an oncoming motor vehicle.

Cyclist deaths – an overview

Since the 1990s, cyclist deaths in road crashes have constituted on average between 2 and 3 per cent of the total deaths in road crashes in Australia. In the 1990s, the number of cyclist deaths ranged from 40 to 80 per year. In the 2000s so far (2000 to 2005), the range has been from 26 to 46 per year (**Figure 1**).

Figure 1 Cyclists killed in road crashes, Australia, 1989 to 2005: deaths in each calendar year



Source: ATSB's Fatal Road Crash Database, compiled monthly from police reports provided by the States and Territories.

In each of the 5-year periods since 1990 (1991–95, 1996–00 and 2001–05) males accounted for over 80 per cent of cyclist deaths in road crashes. Males in the 10–14 years, 15–19 years and 70 years or over age groups accounted for the highest percentages of cyclist deaths in these periods. In each of the 5-year periods, females in the 10–14 years and 15–19 years age groups accounted for some of the highest

percentages of cyclist deaths relative to other age groups of female cyclists, though the numbers are smaller and a pattern is less pronounced (**Table 1**).

Table 1 Cyclists killed in road crashes, Australia, 1991 to 2005: age groups by gender and period

	Age groups																
MALES	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+	Total	
1991-95	2	15	37	34	18	12	11	11	9	8	10	8	4	11	20	210	
Per cent of cyclist deaths in 1991-95	0.8	6.0	14.7	13.5	7.2	4.8	4.4	4.4	3.6	3.2	4.0	3.2	1.6	4.4	8.0	83.7	
1996-00	1	10	42	19	11	12	11	8	10	12	11	12	6	6	20	191	
Per cent of cyclist deaths in 1996-00	0.4	4.5	18.8	8.5	4.9	5.4	4.9	3.6	4.5	5.4	4.9	5.4	2.7	2.7	8.9	85.3	
2001-05	2	9	18	20	6	10	14	15	9	15	6	9	5	7	17	163	
Per cent of cyclist deaths in 2001-05	1.1	4.7	9.5	10.5	3.2	5.3	7.4	7.9	4.7	7.9	3.2	4.7	2.6	3.7	8.9	85.8	
FEMALES																	
1991-95	0	4	8	7	4	6	4	3	1	1	0	1	0	1	1	41	
Per cent of cyclist deaths in 1991-95	0.0	1.6	3.2	2.8	1.6	2.4	1.6	1.2	0.4	0.4	0.0	0.4	0.0	0.4	0.4	16.3	
1996-00	0	4	4	3	4	4	1	3	6	0	0	1	0	1	2	33	
Per cent of cyclist deaths in 1996-00	0.0	1.8	1.8	1.3	1.8	1.8	0.4	1.3	2.7	0.0	0.0	0.4	0.0	0.4	0.9	14.7	
2001-05	0	0	3	3	1	2	1	1	2	1	6	1	1	2	3	27	
Per cent of cyclist deaths in 2001-05	0.0	0.0	1.6	1.6	0.5	1.1	0.5	0.5	1.1	0.5	3.2	0.5	0.5	1.1	1.6	14.2	
PERSONS																	
1991-95	2	19	45	41	22	18	15	14	10	9	10	9	4	12	21	251	
Per cent of cyclist deaths in 1991-95	0.8	7.6	17.9	16.3	8.8	7.2	6.0	5.6	4.0	3.6	4.0	3.6	1.6	4.8	8.4	100.0	
1996-00	1	14	46	22	15	16	12	11	16	12	11	13	6	7	22	224	
Per cent of cyclist deaths in 1996-00	0.4	6.3	20.5	9.8	6.7	7.1	5.4	4.9	7.1	5.4	4.9	5.8	2.7	3.1	9.8	100.0	
2001-05	2	9	21	23	7	12	15	16	11	16	12	10	6	9	20	190	
Per cent of cyclist deaths in 2001-05	1.1	4.7	11.1	12.1	3.7	6.3	7.9	8.4	5.8	8.4	6.3	5.3	3.2	4.7	10.5	100.0	

Source: ATSB's Fatal Road Crash Database, compiled monthly from police reports provided by the States and Territories.

Note: Figure of 163 for males in 2001–05 includes 1 male cyclist of unknown age. Figure of 190 for persons in 2001–05 consequently also includes 1 cyclist of unknown age.

In the fifteen years from 1991 to 2005, 665 cyclists were killed in road crashes. In this period there were 661 road crashes in which a cyclist was killed, i.e. very few of these crashes involved the death of more than one cyclist. Based on unpublished ABS 'cause of death' data for the period 1997 to 2004 (the latest period for which such data are available) it is observed that about 86 per cent of cyclist deaths resulted from a collision between their bicycle and a motor vehicle (**Table 2**).

**Table 2 Cyclists killed in road crashes, Australia, 1997 to 2004:
circumstances of death**

Event	Counterpart	Percentage of cyclist deaths
Collision with	pedestrian	1
	pedal cycle or other non-motor vehicle	0
	car, pick-up truck, van or other motor vehicle	64
	heavy transport vehicle	22
	railway train or railway vehicle	1
	fixed or stationary object	4
Not a collision		5
Unknown		3

Source: Unpublished cause of death data obtained from the ABS. Note: Percentages are estimates only, as not all cyclist deaths in 2004 were registered at the time of receipt of the data from the ABS.

In each of the 5-year periods since 1990, the largest proportions of cyclist deaths have occurred on roads where the speed limit was 60 km/h: 55 per cent in 1991–95, 42 per cent in 1996–00 and 35 per cent in 2001–05. In 2001–05, the years in which 50 km/h speed zones were introduced in many Australian cities and towns, 18 per cent of cyclist deaths occurred in 50 km/h speed zones. One-fifth or more of cyclist deaths occurred in 100 km/h speed zones, though the proportion declined from 26 per cent in 1991–95 to 21 per cent in 2001–05 (**Table 3**).

Table 3 Cyclists killed in road crashes, Australia, 1991 to 2005: speed limit at crash site by calendar year

	Speed limit at site of crash (km/h)													Total
	20	25	40	50	60	70	75	80	90	100	110	Unlimited	Unknown	
1991	0	0	0	0	34	0	1	3	0	15	3	0	2	58
1992	1	0	0	0	22	0	3	1	1	13	0	0	0	41
1993	0	0	0	0	29	2	0	1	1	10	2	0	0	45
1994	0	0	1	0	33	3	0	5	1	15	0	1	0	59
1995	0	0	0	0	20	7	0	9	0	12	0	0	0	48
Total cyclist deaths in 1991-95	1	0	1	0	138	12	4	19	3	65	5	1	2	251
Per cent of cyclist deaths in 1991-95	0.4	0.0	0.4	0.0	55.0	4.8	1.6	7.6	1.2	25.9	2.0	0.4	0.8	100.0
1996	0	0	0	0	31	4	0	5	1	9	4	0	3	57
1997	0	0	0	0	28	1	0	11	0	8	2	0	2	52
1998	0	1	1	0	15	5	0	5	1	10	3	0	3	44
1999	0	0	0	2	12	5	0	6	0	11	4	0	0	40
2000	0	0	1	2	9	3	0	2	0	12	1	0	1	31
Total cyclist deaths in 1996-00	0	1	2	4	95	18	0	29	2	50	14	0	9	224
Per cent of cyclist deaths in 1996-00	0.0	0.4	0.9	1.8	42.4	8.0	0.0	12.9	0.9	22.3	6.3	0.0	4.0	100.0
2001	0	0	1	5	23	4	0	3	0	8	2	0	0	46
2002	0	0	0	5	11	6	0	5	0	7	0	0	0	34
2003	0	0	0	6	5	1	0	4	0	8	2	0	0	26
2004	0	0	0	9	13	1	0	4	0	10	5	0	1	43
2005	0	0	0	9	14	1	0	4	1	6	2	1	3	41
Total cyclist deaths in 2001-05	0	0	1	34	66	13	0	20	1	39	11	1	4	190
Per cent of cyclist deaths in 2001-05	0.0	0.0	0.5	17.9	34.7	6.8	0.0	10.5	0.5	20.5	5.8	0.5	2.1	100.0

Source: ATSB's Fatal Road Crash Database, compiled monthly from police reports provided by States and Territories.

In the fifteen years from 1991 to 2005, slightly higher proportions of cyclist deaths occurred on weekdays than on Saturdays or Sundays. About 30 per cent of cyclist deaths on weekdays occurred between 3 pm and 6 pm. Relatively high numbers of cyclist deaths occurred between 4 pm and 6 pm on Mondays, Tuesdays, Thursdays and Fridays. The highest number of all was 18 cyclist deaths that occurred between 3 pm and 4 pm on Wednesdays in the period. Similar patterns were evident in each of the five-year periods making up this period; there was no evidence of any significant change (**Table 4**).

Table 4 Cyclists killed in road crashes, Australia, 1991 to 2005: day of week by hour of day

	Day of the week								
Hour	SUN	MON	TUE	WED	THU	FRI	SAT	Total	Per cent
0	0	1	1	1	0	0	1	4	0.6
1	2	0	0	0	0	2	1	5	0.8
2	1	0	0	0	0	0	0	1	0.2
3	1	0	0	1	0	0	0	2	0.3
4	2	2	0	2	0	1	0	7	1.1
5	1	3	5	2	4	2	1	18	2.7
6	3	6	7	6	4	5	3	34	5.1
7	5	4	7	9	6	5	10	46	6.9
8	4	8	6	5	9	6	1	39	5.9
9	5	3	2	3	1	5	3	22	3.3
10	4	4	5	4	2	4	6	29	4.4
11	6	2	9	4	2	3	5	31	4.7
12	4	1	4	8	4	3	5	29	4.4
13	6	9	3	1	4	2	7	32	4.8
14	8	4	3	5	5	5	5	35	5.3
15	4	7	4	18	7	9	7	56	8.4
16	5	13	15	5	10	11	9	68	10.2
17	9	14	12	8	13	10	7	73	11.0
18	2	6	7	11	13	6	4	49	7.4
19	2	1	5	5	0	5	2	20	3.0
20	2	3	3	1	5	4	2	20	3.0
21	1	3	2	3	2	5	3	19	2.9
22	2	4	2	1	0	2	3	14	2.1
23	2	1	2	0	2	4	1	12	1.8
Total	81	99	104	103	93	99	86	665	100.0
Per cent	12.2	14.9	15.6	15.5	14.0	14.9	12.9	100.0	

Source: ATSB's Fatal Road Crash Database, compiled monthly from police reports provided by States and Territories. Note: Hour 0 is midnight to 00:59, hour 1 is 01:00 to 01:59 and so on.

Cyclist deaths – a closer look

1996 to 2000

For the years 1996 to 2000, the ATSB examined coronial information on fatal road crashes and coded relevant details into a national database. The database contains coded information on 222 of the 224 cyclist deaths in this period, i.e. about 99 per cent of cases. Examination of these cases revealed more information about cyclist deaths in the period 1996 to 2000.

In 1996–00, 222 cyclists died in 221 crashes in which 433 vehicles (including bicycles) were involved. It was observed that nearly one-third of male cyclists killed in road crashes and nearly half of those in the 10 to 19 age group were not wearing a helmet. Similarly, nearly one-third of female cyclists killed in road crashes in the period were not wearing a helmet (**Table 5**).

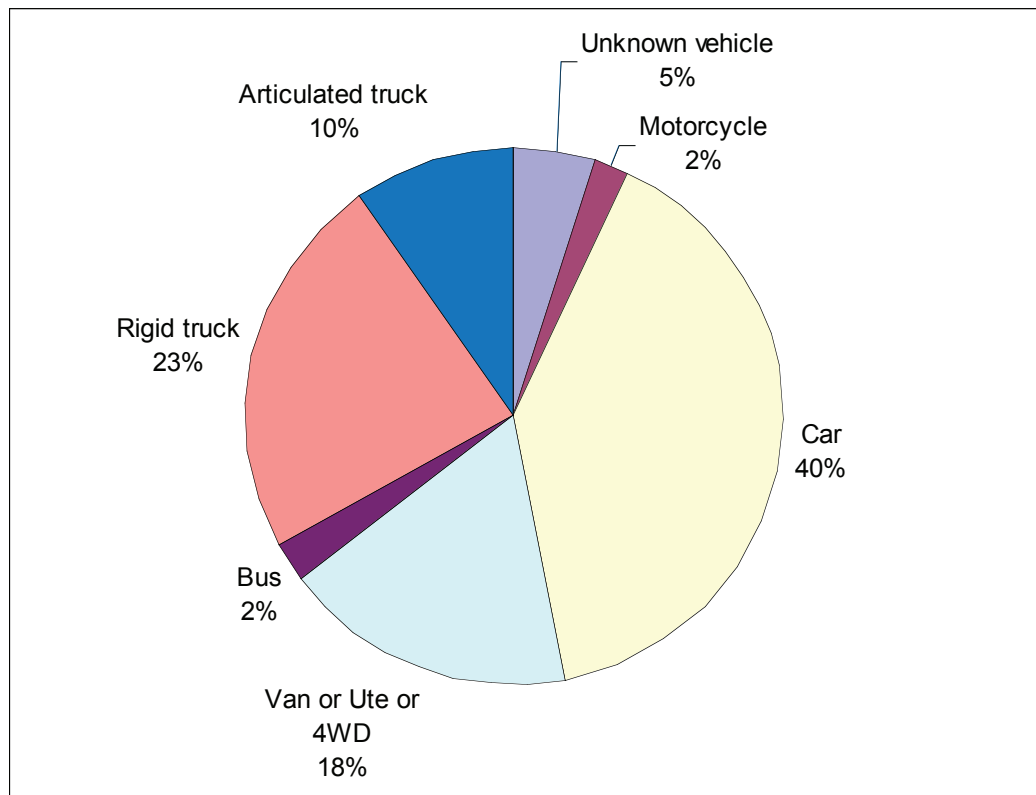
Table 5 Cyclists killed in road crashes, Australia, 1996 to 2000: helmet usage by age group and gender

	Age groups	Helmet use			Not worn	Unknown	Total
		Worn	Came off	Probably came off			
Males	5-9	0	1	0	5	5	11
	10-14	14	2	1	15	5	37
	15-19	3	0	0	12	3	18
	20-24	5	0	0	4	1	10
	25-29	8	0	0	3	2	13
	30-34	7	0	0	2	1	10
	35-39	2	3	0	3	0	8
	40-44	4	2	0	4	0	10
	45-49	8	0	0	3	2	13
	50-54	4	1	0	1	4	10
	55-59	6	1	0	2	3	12
	60-64	4	0	0	1	1	6
	65-69	3	0	0	2	2	7
	70+	13	1	2	3	3	22
	Total	81	11	3	60	32	187
Females	5-9	0	0	0	2	2	4
	10-14	0	1	1	1	0	3
	15-19	1	0	0	1	2	4
	20-24	1	0	0	3	0	4
	25-29	3	0	0	0	0	3
	30-34	0	0	0	1	0	1
	35-39	1	0	0	1	1	3
	40-44	3	0	0	1	1	5
	50-54	1	0	0	0	0	1
	55-59	0	0	0	0	2	2
	65-69	1	0	0	0	0	1
	70+	0	0	0	1	3	4
	Total	11	1	1	11	11	35

Source: ATSB's Fatal Road Crash Database, based on coding of coroners' reports.

Most cyclist deaths in 1996–00 resulted from crashes involving a motor vehicle. The types of motor vehicles most frequently involved were cars (40 per cent) followed by trucks (33 per cent) (**Figure 2**).

Figure 2 Crashes involving a motor vehicle in which a cyclist was killed, Australia, 1996 to 2000: proportions (per cent) of each vehicle type



Source: ATSB's Fatal Road Crash Database, based on coding of coroners' reports.

The main types of crashes in which cyclists were fatally injured in 1996–00 are described in **Table 6**. In 46 crashes (21 per cent), a motor vehicle ran into the rear of a bicycle travelling in the same lane in the same direction. Twenty of these occurred in a rural area during the day (between 6 am and 6 pm); a further 9 occurred in a rural area at night (between 6 pm and 6 am). In another 35 crashes (16 per cent), the cyclist was riding from the footway or verge onto the road and was hit by a motor vehicle travelling along the road. In 24 crashes (11 per cent), the cyclist was travelling straight ahead through an intersection and was hit by a motor vehicle travelling straight ahead through the intersection from a different direction. In 18 crashes (8 per cent), the cyclist collided head-on with a motor vehicle coming from the opposite direction.

Table 6 Crashes in which a cyclist was killed, Australia, 1996 to 2000: crash type by location (urban or rural) and time (day or night)

		Crash event							
Urban / Rural		Crash at intersection, cyclist and motor vehicle both travelling straight ahead through intersection in different directions	Head on	Both cyclist and motor vehicle travelling in same direction in same lane, motor vehicle hitting the cyclist from behind	Cyclist leaving a footway or verge and hitting a motor vehicle on the road	Other	Total		
Urban	Day	15	4	7	25	60	111		
	Night	5	2	10	9	14	40		
	Total	20	6	17	34	74	151		
Rural	Day	4	7	20	0	20	51		
	Night	0	5	9	1	3	18		
	Total	4	12	29	1	23	69		

Source: ATSB's Fatal Road Crash Database, based on coding of coroners' reports. Notes: Details for 1 crash were unknown so total adds to 220 rather than 221 crashes. The 'Other' category is large because small numbers of cyclists are killed in every type of crash that occurs on the roads. The categories 'urban' and 'rural' are based on the Australian Standard Geographical Classification. 'Rural' as used here means a location within an area with a population of less than 1000.

Other findings

- In over 60 per cent of crashes, the cyclist was deemed to be 'responsible' for the action that precipitated the fatal crash. This was particularly the case in crashes at intersections where the cyclist was either riding through the intersection on the road or moving from the footway onto the intersection. Cyclists were also found to be primarily responsible in other crashes where the cyclist moved from the footway to the road.
- In one-third of crashes (75), either the cyclist or the driver of the motor vehicle failed to observe the other. In another 21 crashes, some kind of misjudgement by the cyclist or the driver of the motor vehicle was considered to be the major factor in the crash. In another 14 crashes, the cyclist 'failed to observe road traffic signal or sign' and in another 13 crashes the bicycle had a 'critical malfunction or defect'.
- In the 46 crashes where the cyclist was run over from behind, 10 of the motor vehicle drivers failed to observe the cyclist, 5 drivers were under the influence of alcohol or drugs and the vision of 5 drivers was obscured for some reason, e.g. glare. For the other crashes, the reasons were many and varied or unknown.
- Blood alcohol concentration (BAC) was unknown for 93 of the 222 cyclists killed but in nearly 90 per cent of the cases where it was known, BAC was found to be zero. Only 15 of the 222 cyclists were tested for drugs and the results for 14 of these were positive – this is likely to reflect the circumstances of the 15, rather than the drugs prevalence among the 222.
- Of the 202 motor vehicle drivers involved in crashes in which a cyclist was killed, 130 were tested for alcohol and in most cases (119) BAC was found to be zero. Most were not tested for drugs but a few tested positive.
- In 86 per cent of crashes, the weather was fine. About two-thirds of the crashes occurred mid-block and one-third within an intersection. Fifteen crashes (7 per cent) occurred on a national highway, 90 crashes (41 per cent) on some other highway or arterial road and 112 crashes (51 per cent) on some other road.

2001 to 2004

For the period 2001 to 2004, the ATSB undertook an examination of the text of coroners' reports on cyclist deaths in road crashes. The ATSB is grateful to the Victorian Institute of Forensic Medicine for permission to use the National Coroners Information System (NCIS) for this purpose.⁵ Descriptions of the circumstances of 113 of the 149 cyclist deaths in 2001–04 (76 per cent of cases) were available on the NCIS at the time of this study. Cases were evenly distributed across all age and gender groups.

Examining the crashes in 2001–04, it was observed that:

- In 65 of the 113 cases, helmet usage was unknown but 30 of the cyclists were wearing a helmet and 18 were not. About one-third of cyclists wearing a helmet died of head injuries, while about half of those not wearing a helmet died of head injuries.
- As in 1996–00, cyclists were killed predominantly in collisions with cars (48 per cent), followed by trucks (22 per cent, down from 33 per cent in 1996–00) and vans, utes or 4WDs (16 per cent).
- The crash circumstances were also similar to those in 1996–00. Two important additional insights were obtained from reading the text descriptions of the crashes:
 - More than two-thirds of the deaths of cyclists aged 5–17 years were the result of the cyclist failing to give way to oncoming traffic and about half of these cases occurred at intersections. A typical behaviour for the younger (pre-teenage) cyclists was to enter the intersection from a footway without dismounting and without looking.
 - Teenage cyclists (13–17 years) on the other hand tended to be killed after failing to give way after crossing a median strip mid-block or veering sharply into the path of vehicles trying to overtake them.
- Cases were evenly distributed between rural and urban areas – 57 in a rural area and 56 in an urban area (an urban area was defined as having a population of 1000 or more).
- Blood alcohol concentration (BAC) was unknown for 59 of the 113 cyclists, but for nearly 90 per cent of the cyclists where it was known, BAC was found to be zero. Similarly, the presence of drugs was unknown for 58 cyclists, but for nearly 90 per cent of cyclists where it was known, no evidence of drugs was found. Similarly, very few of the motor vehicle drivers involved tested positive for alcohol or drugs.
- Weather conditions were unknown in 90 of the 113 cases, but most of the crashes (73) occurred in the day, i.e. between 6 am and 6 pm. There were 23 crashes within an intersection and 25 mid-block, though the location of 43 crashes was unknown.

⁵ The NCIS provides the full text of police narrative, coroner's finding, autopsy and toxicology report for road crash deaths from 2001 onwards. Further details on the NCIS can be obtained at www.ncis.org.au.

Data for 2001 to 2004 are currently incomplete but will be updated by the ATSB when more details are available.
