Cyclists
2017

Ministry of Transport
TE MANATŪ WAKA
New Zealand Government

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Additional information

Enquires relating to crash statistics may be directed to the Ministry of Transport, PO Box 3175, Wellington, or by email on info@transport.govt.nz. For more information about road safety, visit the Ministry of Transport website at www.transport.govt.nz.

A selection of fact sheets is available via the research section of the Ministry of Transport website.

These include:

Crash fact sheets

- Alcohol and drugs
- Cyclists
- Diverted attention
- Fatigue
- Motorcyclists
- Overseas drivers
- Pedestrians
- Speed
- Trucks
- Young drivers

Travel survey fact sheets

- Comparing travel modes
- Cycling
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- Walking

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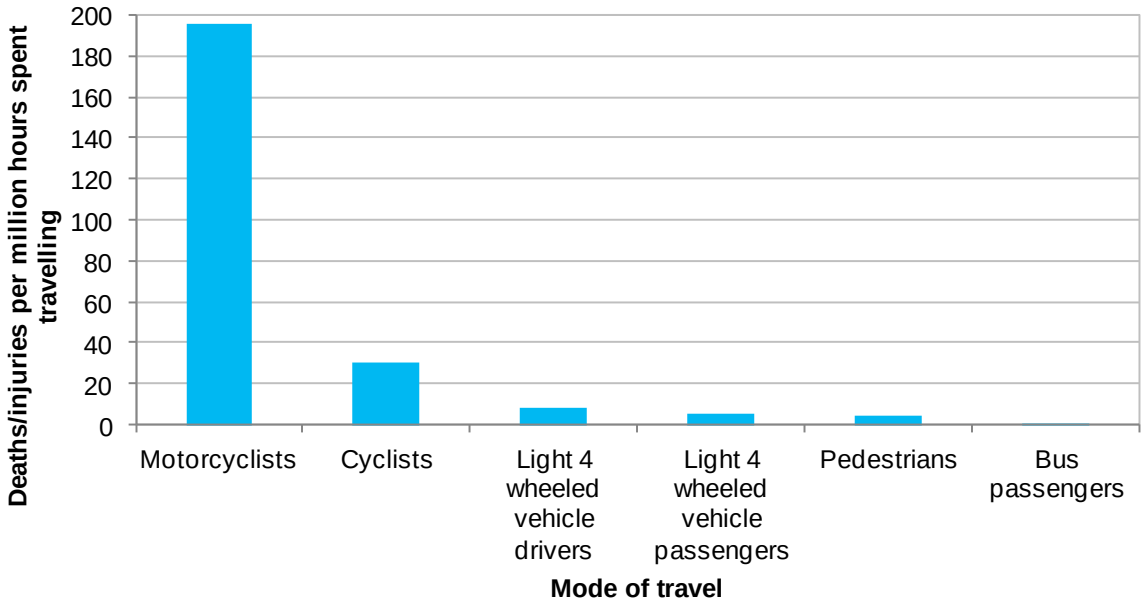
Key facts

In 2016, 5 cyclists died, 169 were seriously injured and 560 suffered minor injuries in police-reported crashes on New Zealand roads. This is about 6 percent of the total number of casualties from police-reported crashes in 2016[1].

Risk

Cyclists have a number of risk factors that do not affect car drivers. The main risk factors are decreased stability and a much lower level of protection than that provided by a car. In addition, a cyclist is less visible to other road users than a car or truck. These factors combined give cyclists a high level of risk per time unit travelled, although this risk is significantly lower than the risk carried by motorcyclists. The most recent travel survey data available is for June 2014 so all risk information in this publication is for the five years ended June 2014.

Figure 1: Deaths/injuries in motor vehicle crashes per million hours spent travelling, July 2010–June 2014 (all ages)



New Zealand research[2] suggests that if the number of individuals in New Zealand who cycle increases, the risk profile of cyclists may improve due to a 'safety in numbers' effect. It is also likely that, if cycling numbers increase, this will increase demand for cycle-friendly road infrastructure.

[1] Definitions for cyclist crashes and for fatal, serious and minor injuries and social cost are in **Terminology** at the end of the fact sheet.

[2] NZ Transport Agency Research Report 289 (2006)

Hospitalisations

Not all cyclist injuries are reported to police, and hospitalisation data from the Ministry of Health can provide a more complete picture of the number of cyclists injured in traffic crashes.

In 2016, 104 cyclists were hospitalised for over one day due to injuries received from crashes involving motor vehicles on public roads in New Zealand. An additional 361 cyclists were hospitalised from traffic incidents not involving a motor vehicle and another 493 from non-traffic incidents.

The total number of days stay in hospital by cyclists in 2016 was 817 from crashes involving motor vehicles, 1,724 from traffic incidents not involving a motor vehicle and 2,055 from non-traffic incidents.

In the remainder of this fact sheet cyclist deaths and injuries are those reported to police and recorded in the NZ Transport Agency's Crash Analysis System.

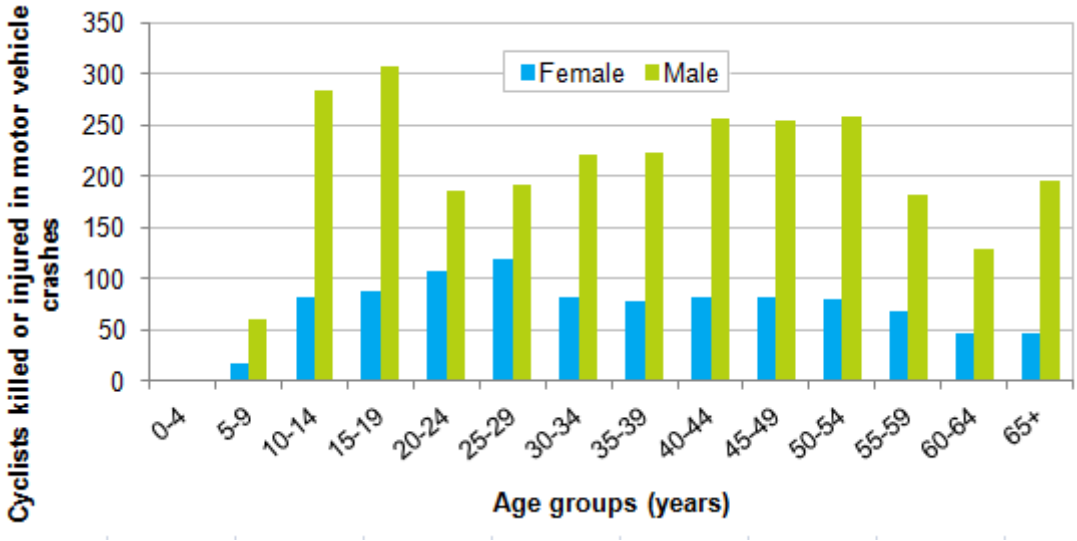
Time series

Table 1: Cyclists deaths and injuries, 1990–2016 (Police-reported crashes)

	Deaths		Injuries	
Year	Number	*% of all fatalities*	Number	*% of all injuries*
1990	27	*3.7%*	1,054	*6.0%*
1991	22	*3.4%*	1,000	*6.0%*
1992	17	*2.6%*	941	*5.8%*
1993	17	*2.8%*	910	*6.0%*
1994	15	*2.6%*	882	*5.3%*
1995	15	*2.6%*	813	*4.8%*
1996	13	*2.5%*	754	*5.1%*
1997	12	*2.2%*	724	*5.4%*
1998	16	*3.2%*	626	*5.0%*
1999	8	*1.6%*	619	*5.2%*
2000	19	*4.1%*	564	*5.1%*
2001	10	*2.2%*	699	*5.6%*
2002	14	*3.5%*	779	*5.6%*
2003	6	*1.3%*	732	*5.0%*
2004	7	*1.6%*	724	*5.1%*
2005	12	*3.0%*	757	*5.2%*
2006	9	*2.3%*	841	*5.5%*
2007	12	*2.9%*	887	*5.5%*
2008	10	*2.7%*	902	*5.9%*
2009	8	*2.1%*	830	*5.7%*
2010	10	*2.7%*	846	*6.0%*
2011	9	*3.2%*	785	*6.2%*
2012	8	*2.6%*	799	*6.6%*
2013	8	*3.1%*	821	*6.9%*
2014	10	*3.4%*	733	*6.5%*
2015	6	*1.9%*	745	*6.1%*
2016	5	*1.5%*	729	*5.9%*

Who gets injured?

Figure 2: Cyclist deaths and injuries in motor vehicle crashes by age and gender (2012-2016)

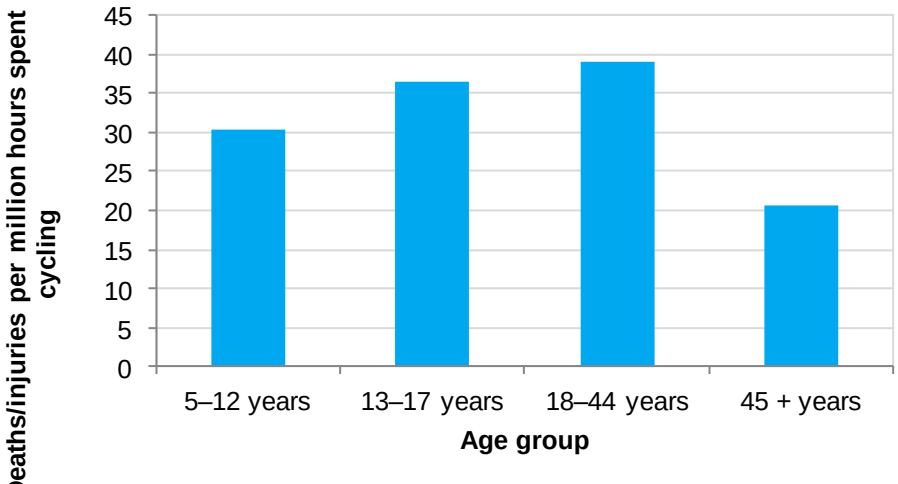


One in five (20 percent) cyclists killed or injured in traffic crashes are aged 10-19 years old.

Nearly three-quarters (74 percent) of cyclists involved in police-reported traffic crashes are male.

If the number of hours spent riding by different age groups (based on the New Zealand Household Travel Survey) is taken into account, cyclists in the 13–17 and 18–44 year old age groups appear to be more at risk of being in a collision with a motor vehicle than younger or older cyclists. These cyclists tend to ride further in a given time than younger cyclists, and may also ride in more dangerous traffic conditions, for example, on major commuting routes in cities and on the open road.

Figure 3: Cyclist deaths and injuries in motor vehicle crashes per million hours cycled

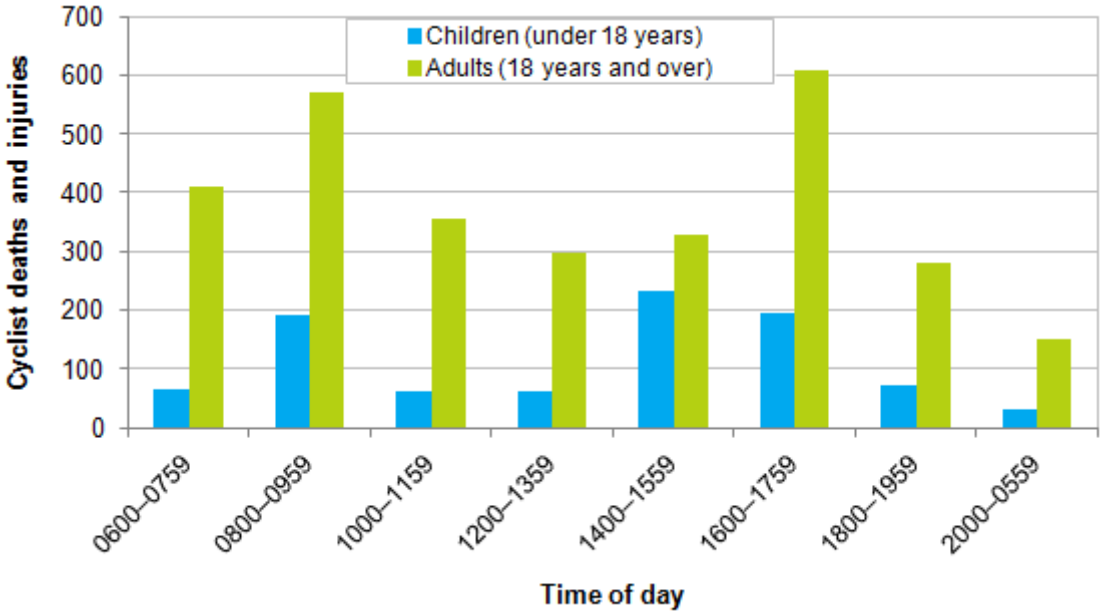


Source: Crash Analysis System, Household Travel Survey (July 2009 - June 2014)
Note: This data does not take fragility into account; that is the differing ability of different age groups to withstand the same degree of force in a crash.

When do injuries occur?

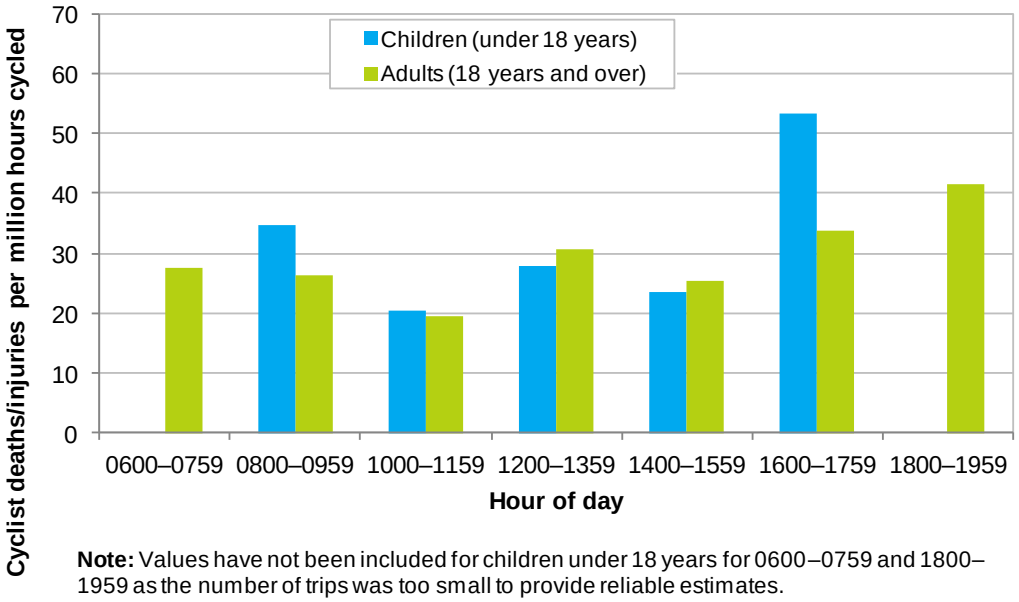
The graph below shows the numbers of cyclists injured in motor vehicle crashes by hour of day. This indicates that the morning (8–10 am) and the early evening (4–6 pm) are the times when the greatest numbers of cyclists are injured in crashes involving motor vehicles.

Figure 4: Cyclist deaths and injuries in motor vehicle crashes by time of day (2012–2016)



The following graph shows the number of reported cyclist injuries adjusted for the amount of time spent riding by time of day. The most recent Household Travel Survey data is for June 2014.

Figure 5: Cyclist deaths and injuries in motor vehicle crashes per million hours cycled, by age and time of day (July 2009–June 2014)



Note: Values have not been included for children under 18 years for 0600–0759 and 1800–1959 as the number of trips was too small to provide reliable estimates.

Where do injuries occur?

Approximately nine in every ten reported cyclist casualties occurred on urban roads (roads with a speed limit of 70km/h or less). Furthermore, over half of all cyclist casualties occur on major urban roads (typically busy arterials), rather than on the minor urban roads that usually provide access to adjacent properties.

While most cyclist injuries occur on urban roads, just over 1 in 3 (35 percent) cyclist deaths occur on the open road, due to the higher impact speeds associated with crashes on these roads.

Figure 6: Cyclist deaths and injuries in motor vehicle crashes by road type (2012–2016)

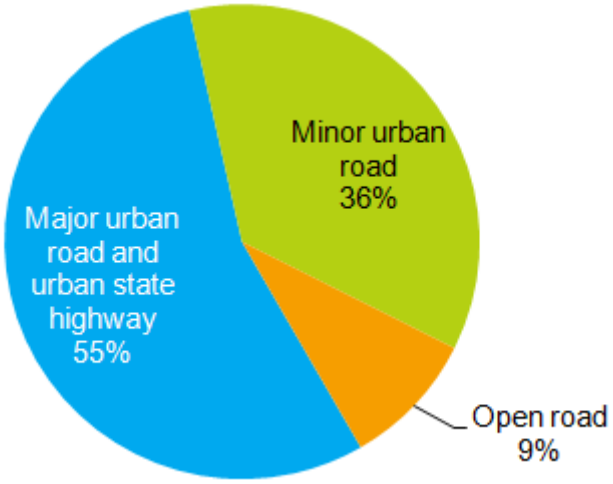
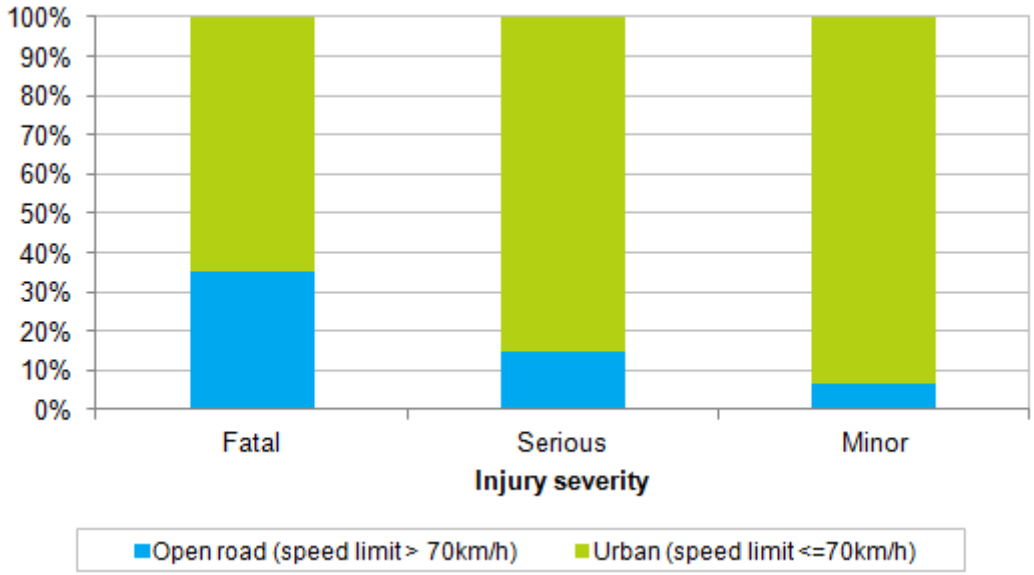
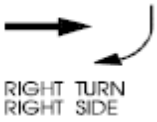


Figure 7: Percentage of cyclist deaths and injuries by road type (2012–2016)



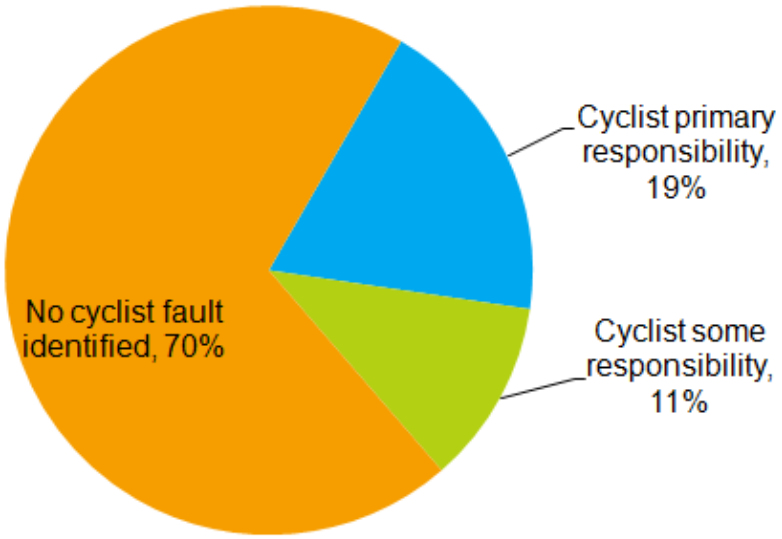
Types of crash

Table 2: Three specific crash movements each account for more than 10 percent of all cyclist deaths or injuries in police-reported crashes.

	Crossing (No Turns)	14.2%	This crash type involves a collision at a right angle, typically when both parties involved are moving straight through an intersection.
	Right Turn Against	15.3%	Approximately 87 percent of this crash type involves another vehicle turning in front of the cyclist.
	Crossing (Vehicle Turning)	9.9%	Approximately 82 percent of this crash type involves another vehicle turning in front of the cyclist while crossing an intersection.

Who was at fault?

Figure 8: Percentage of cyclist-vehicle collisions by fault (2012–2016)



Cyclists have primary responsibility[3] in 19 percent of all cyclist-vehicle crashes in which they are injured or die. Children and young adult cyclists are more likely than older cyclists to have the primary responsibility for a crash.

[3] Primary responsibility (fault) for a crash is based on the crash movements and crash cause factors assigned in the Crash Analysis System. It is not based on legal liability or court conviction. Fault/responsibility here only considers driver and rider factors contributing to the crash. There may also be road or system factors that contributed to the crash.

Of the cases where the cyclists are found to have primary responsibility, 32 percent of the at-fault cyclists failed to give way and 22 percent of the at-fault cyclists did not see the other party. Twenty-one percent were inattentive or their attention was diverted.

In the cases where the vehicle drivers are found to have primary responsibility in a crash involving a cyclist, 64 percent of the drivers in fatal or injury crashes failed to give way or stop and 59 percent did not see the other party. Thirteen percent were inattentive or their attention was diverted.

Terminology

Cyclist crashes: The data in this fact sheet for years before 2014 include only crashes that involve a motor vehicle. A crash between a cyclist and a pedestrian, for example, would not be included. The data from 2014 includes on-road cyclist crashes even when a motor vehicle is not involved in the crash. Very few such crashes are reported to the police and recorded in the Crash Analysis System.

The hospital data reported in this fact sheet provides an indication of the number of cyclist injuries from on-road traffic crashes that do not involve a motor vehicle.

Fatal injuries: injuries that result in death within 30 days of the crash.

Serious injuries: fractures, concussions, internal injuries, crushings, severe cuts and lacerations, severe general shock necessitating medical treatment and any other injury involving removal to and detention in hospital.

Minor injuries: injuries of a minor nature such as sprains and bruises.

Social cost: a measure of the total cost of road crashes to the nation. It includes: loss of life and life quality; loss of productivity; and medical, legal, court, and property damage costs.

Casualty: person who sustained fatal, serious or minor injuries.

Crash fault/responsibility: Primary responsibility (at-fault) for a crash is based on the crash movements and crash cause factors assigned in the Crash Analysis System. It is not based on legal liability or court conviction. Fault/responsibility here only considers driver and rider factors contributing to the crash. There may also be road or system factors that contributed to the crash.

References:

NZ Transport Agency Research Report 289 (2006) *Predicting accident rates for cyclists and pedestrians* www.nzta.govt.nz/resources/research/reports/289/index.html