



# Speed 2017

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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
- ▶ Driver travel
- ▶ Motorcycling
- ▶ Public transport
- ▶ Risk on the road
  - ▶ Introduction and mode comparison
  - ▶ Drivers and their passengers
  - ▶ Pedestrians, cyclists and motorcyclists
- ▶ Walking

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## Speed and crash risk

In this fact sheet speeding is defined as **driving too fast for the conditions**. The faster you go, the more likely you are to crash and the greater your risk of serious injury or death<sup>1</sup>. No matter what causes a crash, vehicle speed directly affects the force of impact.

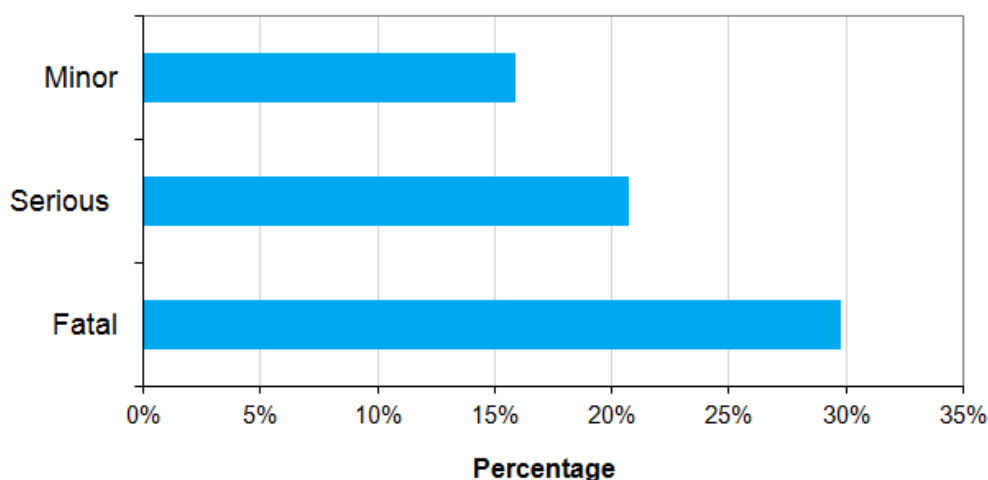
As speed increases, there is an increase in the following factors and, in turn, an associated increase in the risk of crash involvement<sup>1</sup>:

- ▶ Stopping distance — both the distance travelled during reaction time and the distance travelled after the brakes are applied
- ▶ The probability of exceeding the critical speed on a curve
- ▶ The chance of other road users misjudging how fast the speeding driver is travelling
- ▶ The probability of a rear-end crash if the driver has not accounted for the increased speed by increasing the following distance.

## Key facts

In 2016, speeding was a contributing factor in 79 fatal crashes, 406 serious injury crashes and 1,234 minor injury crashes. These crashes resulted in 93 deaths, 512 serious injuries and 1,759 minor injuries. The total social cost<sup>2</sup> of crashes involving drivers speeding was about \$879 million, which is approximately 22 percent of the social cost associated with all injury crashes.

**Figure 1: Percentage of crashes with driving too fast for the conditions cited as a contributing factor (2014–2016)**



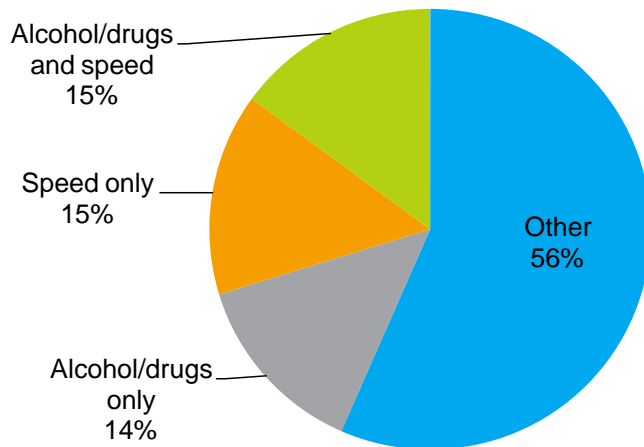
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<sup>1</sup> Patterson, Frith and Small (2000).

<sup>2</sup> Definitions for fatal, serious and minor injuries and social cost are in [Terminology](#) at the end of the fact sheet.

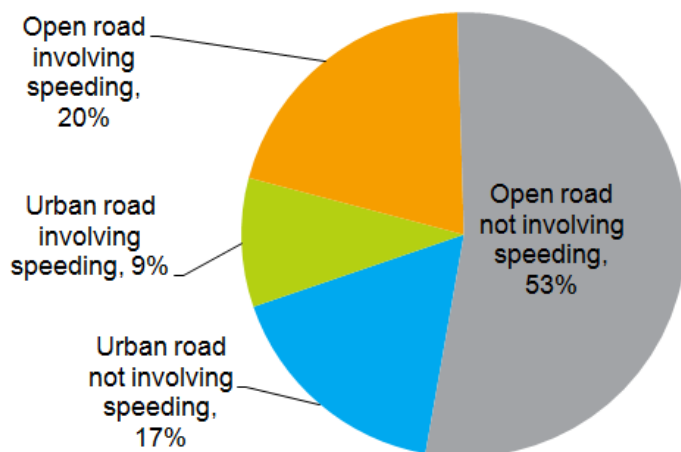
The more serious the crash, the more likely it is that speed was a contributing factor. In New Zealand, for the years 2014 to 2016, driver speed was a factor in 30 percent of fatal crashes, 21 percent of serious injury crashes and 16 percent of minor injury crashes.

**Figure 2: Speed and alcohol/drugs in fatal crashes (2014–2016)**



As shown in the graph, the combination of speeding and alcohol/drugs contributed to 15 percent of fatal crashes. Speeding alone contributed to 15 percent, and alcohol/drugs alone to 14 percent, of fatal crashes. So speeding and/or alcohol/drugs are contributing factors in 44 percent of all fatal crashes.

**Figure 3: Speeding in fatal crashes by road type (2014–2016)**



Twenty percent of all fatal crashes are open road (speed limits 80km/h and over) crashes that involve speeding as a contributing factor. A further 9 percent are urban (speed limits 70km/h or below) crashes in which speeding is a contributing factor.

Speeding was a contributing factor in 36 percent of urban fatal crashes and 28 percent of open road fatal crashes.

**Note:** Percentages may not add to 100 percent due to rounding.

## Time series

**Table 1: Crashes and casualties with speeding as a contributing factor**

Year	Crashes involving speed				Casualties from crashes involving speed			
	Fatal		Injury		Deaths		Injuries	
	Number	% of all fatal crashes	Number	% of all injury crashes	Number	% of all deaths	Number	% of all injuries
1987	251	37%	2,253	18%	292	37%	3,904	21%
1988	231	37%	2,204	19%	267	37%	3,650	21%
1989	257	40%	2,146	19%	311	41%	3,624	22%
1990	224	35%	2,041	17%	265	36%	3,422	19%
1991	190	34%	2,108	18%	225	35%	3,383	20%
1992	195	36%	1,918	17%	241	37%	3,164	20%
1993	192	37%	1,712	16%	228	38%	2,801	19%
1994	191	39%	1,816	16%	228	39%	2,982	18%
1995	182	36%	1,827	16%	221	38%	2,988	18%
1996	153	34%	1,684	17%	177	34%	2,806	19%
1997	137	29%	1,461	16%	162	30%	2,508	19%
1998	140	32%	1,415	17%	162	32%	2,427	20%
1999	124	29%	1,180	15%	153	30%	2,095	18%
2000	87	23%	1,122	15%	102	22%	1,923	18%
2001	123	31%	1,298	15%	141	31%	2,197	18%
2002	108	30%	1,431	15%	126	31%	2,339	17%
2003	140	35%	1,644	16%	167	36%	2,601	18%
2004	138	37%	1,632	16%	172	39%	2,624	19%
2005	112	33%	1,700	16%	130	32%	2,670	19%
2006	107	31%	1,734	16%	126	32%	2,746	18%
2007	116	31%	1,905	16%	132	31%	2,949	18%
2008	110	33%	1,726	15%	126	34%	2,629	17%
2009	100	30%	1,635	15%	113	29%	2,461	17%
2010	108	32%	1,500	14%	131	35%	2,293	16%
2011	76	29%	1,422	15%	84	29%	2,117	17%
2012	70	26%	1,356	15%	85	28%	1,898	16%
2013	74	31%	1,293	14%	83	33%	1,863	16%
2014	78	29%	1,352	16%	84	29%	1,923	17%
2015	93	32%	1,696	18%	101	32%	2,327	19%
2016	79	28%	1,640	17%	93	28%	2,271	18%

**Note:** The police Traffic Crash Report form was modified in 2001. The speeding ('too fast for conditions') data since this change are not strictly comparable to earlier data.

## Who dies in crashes involving speeding?

For every 100 drivers or riders who died in road crashes in which speeding was a contributing factor, 48 of their passengers and another 13 road users died with them.

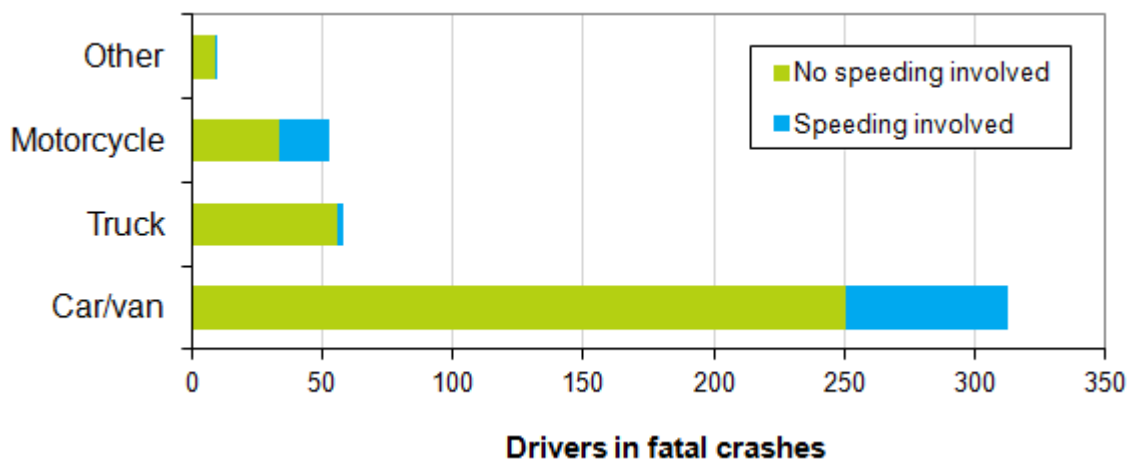
**Table 2: Deaths in crashes in which speeding was a contributing factor (2014–2016)**

Age	Speed-involved drivers	Passengers with speed-involved drivers	Other road users	Percentage of all deaths in age group
0-14	1	6	0	19%
15-19	24	27	1	50%
20-24	28	17	1	38%
25-29	25	8	2	37%
30-39	30	9	4	40%
40-49	25	5	1	27%
50-59	27	5	6	32%
60+	13	2	6	9%
Total	174	84	22	30%

**Note:** Totals may include casualties of unknown age

## Drivers involved in fatal crashes

**Figure 4: Drivers involved in fatal crashes by vehicle type (annual average 2014–2016)**



From 2014 to 2016, speeding was a contributing factor in fatal crashes for 20 percent of car and van drivers, 37 percent of motorcyclists and 5 percent of truck drivers.

Figure 5: Speeding drivers in fatal crashes by age group (annual average 2014–2016)

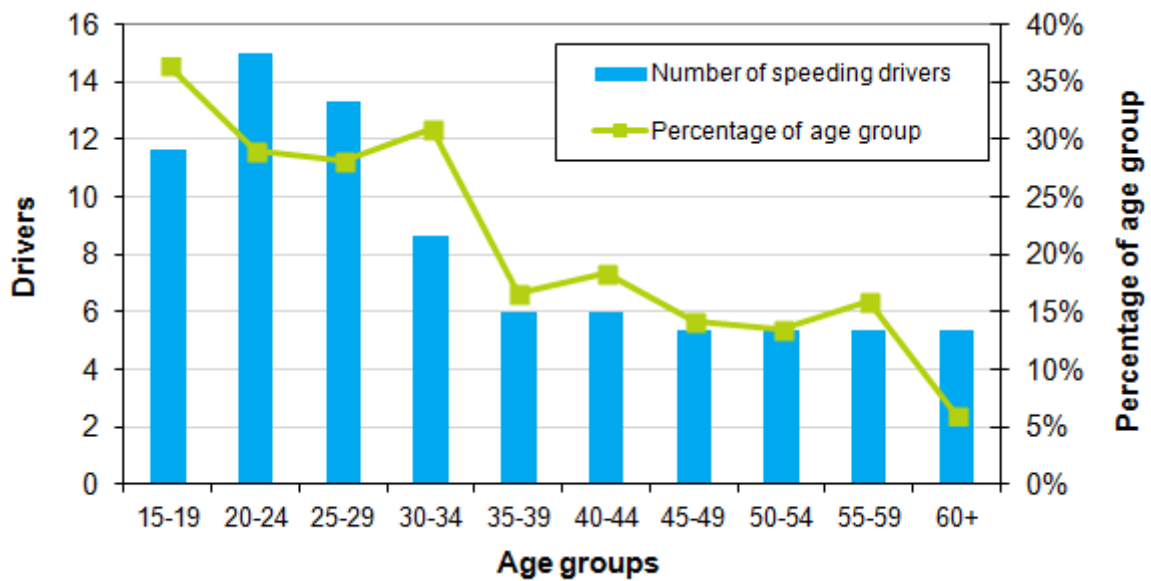


Table 3: Speeding drivers in fatal crashes by age and sex (2014–2016)

Age	Males		Females		Total	
	Number	%	Number	%	Number	%
15-19	31	42%	4	17%	35	36%
20-24	42	33%	3	12%	45	29%
25-29	32	29%	8	25%	40	28%
30-34	24	34%	2	14%	26	31%
35-39	14	17%	4	15%	18	17%
40-44	15	19%	3	16%	18	18%
45-49	14	15%	2	9%	16	14%
50-54	14	15%	2	7%	16	13%
55-59	15	19%	1	5%	16	16%
60+	13	7%	3	4%	16	6%
Total	218	22%	32	11%	253	19%

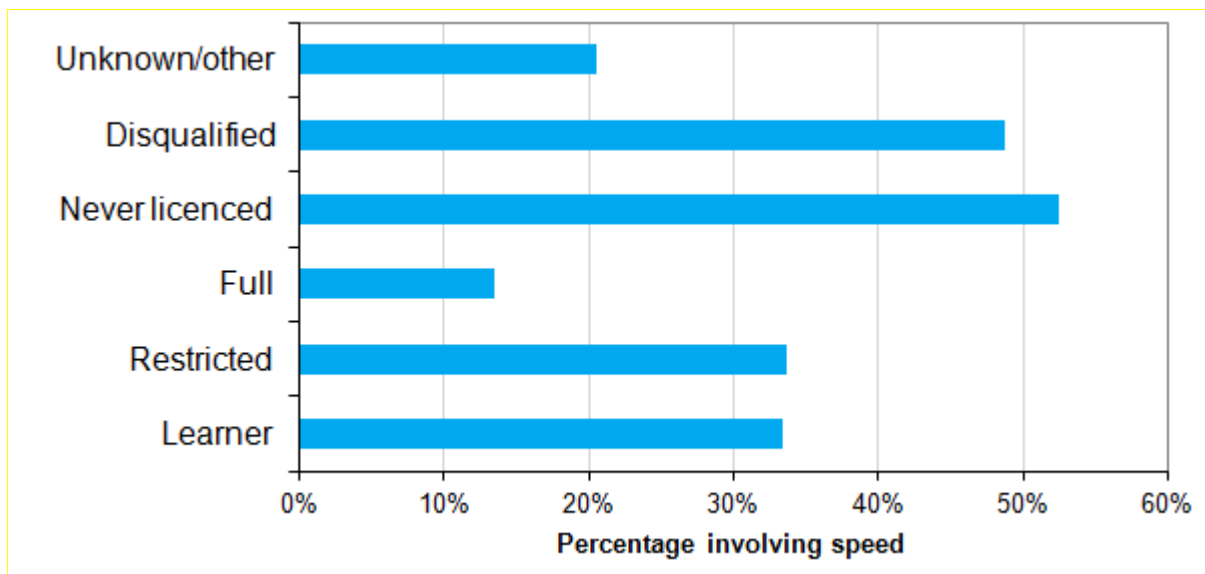
**Note:** Rows and columns do not add up to the totals because the age or sex of some drivers was not recorded.

% - shows, for each age/sex group, the percentage of the drivers in fatal crashes that had speed involvement.

The 20-24 year age group had the greatest number of drivers in fatal crashes involving speeding while the 15-19 year age group had the highest proportion (36 percent). Males have a higher proportion of involvement in speed-related crashes.



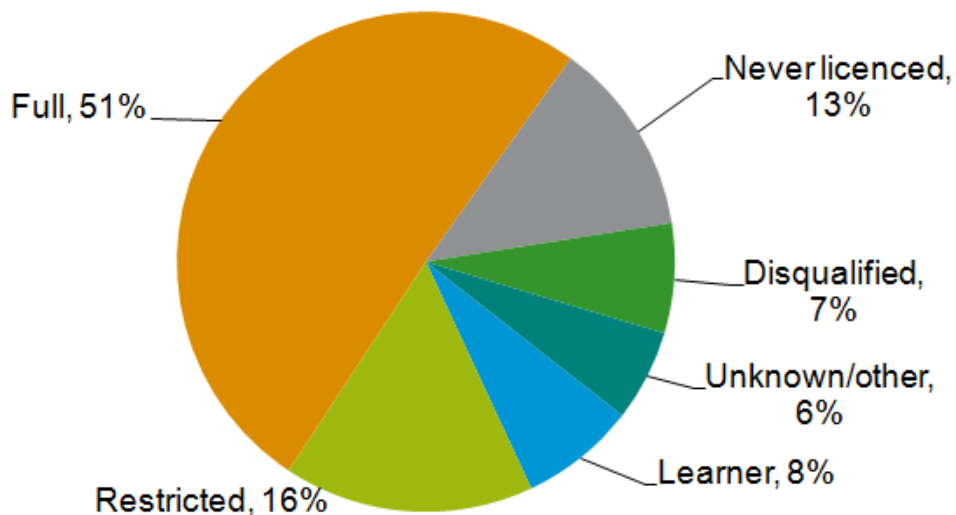
**Figure 6: Speeding drivers in fatal crashes: percentage of each licence type (2014–2016)**



**Note:** Unknown/other includes drivers with an expired, unknown or incorrect licence class. Disqualified includes drivers who have been forbidden to drive.

Never licenced and disqualified drivers in fatal crashes are much more likely to be speeding (52 percent and 49 percent, respectively) than drivers with a full licence (13 percent). Drivers with restricted or learner licences are more likely to be in speed-involved fatal crashes than those with full licences. However, this group falls into the younger age categories where speeding is a big contributor to fatal crashes, and this accounts for some of the difference.

**Figure 7: Licence status of speeding drivers in fatal crashes (2014–2016)**

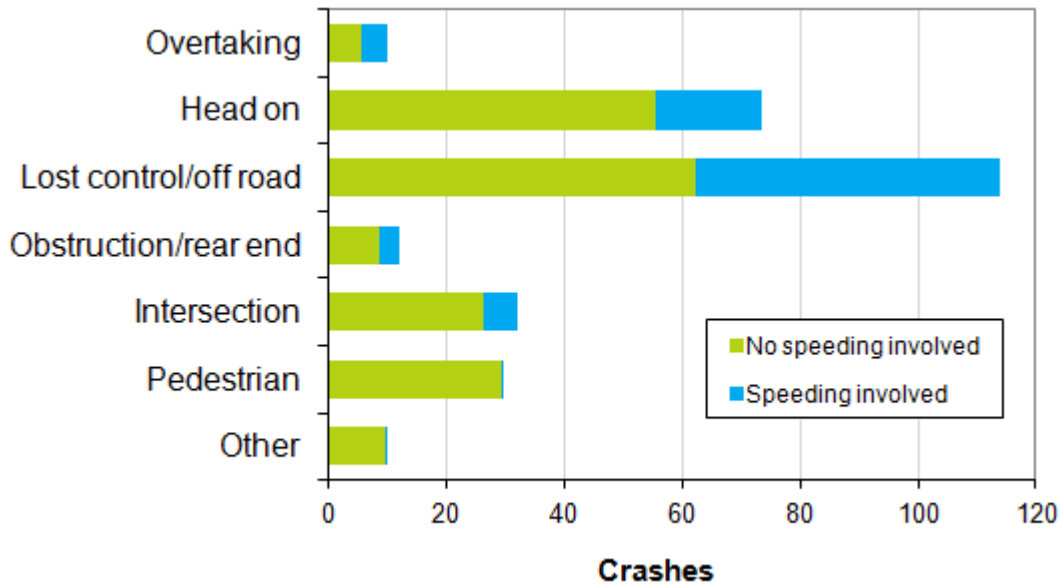


**Note:** Percentages may not add to 100 percent due to rounding.

Together, disqualified and never licensed drivers comprise 20 percent of all drivers in speed-related fatal crashes.

## Types of crash

Figure 8: Types of fatal crashes where speeding was a factor (annual average 2014–2016)



Loss of control and head-on crashes are the most common types of fatal crash involving speeding. Over four-fifths of the fatal crashes in which speed was a factor fall into these categories.

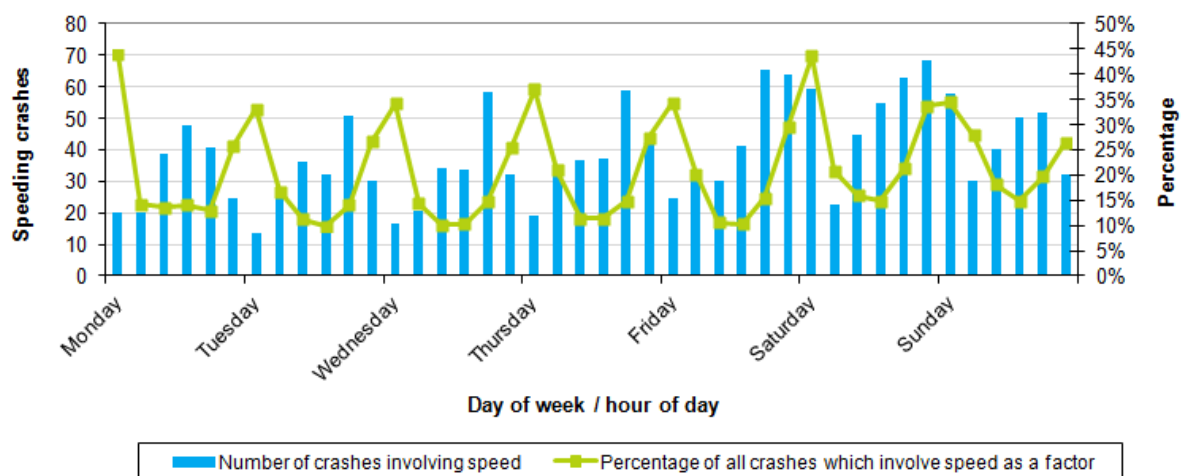
## When do crashes involving speeding occur?

Table 4: Fatal crashes involving speeding by time of day and day of week (2014–2016)

Day	Day (0600–1759)		Evening (1800–2159)		Night (2200–0559)	
	Number	%	Number	%	Number	%
Monday	21	26%	5	42%	2	14%
Tuesday	9	12%	4	36%	3	25%
Wednesday	17	25%	10	50%	12	46%
Thursday	15	19%	10	48%	9	36%
Friday	14	21%	15	39%	24	59%
Saturday	20	30%	9	45%	19	34%
Sunday	20	29%	3	19%	9	45%
<b>Total</b>	<b>116</b>	<b>23%</b>	<b>56</b>	<b>41%</b>	<b>78</b>	<b>40%</b>

**Note:** On the day shown, night begins at 2200 and finishes the following day at 0559.

**Figure 9: Fatal and injury crashes with drivers speeding as a factor, by time of day and day of week (annual average 2014–2016)**



**Note:** The week is divided into 4-hour blocks, beginning 0000–0359 Monday, with days labelled at 0000 hours.

For fatal and injury crashes with driver speeding as a factor, the highest number of crashes from Sunday through to Thursday occurs in the early evening. On Friday and Saturday the high numbers extend into the late evening and early morning. The highest proportion of driver speeding crashes occurs in the late evening and early morning.

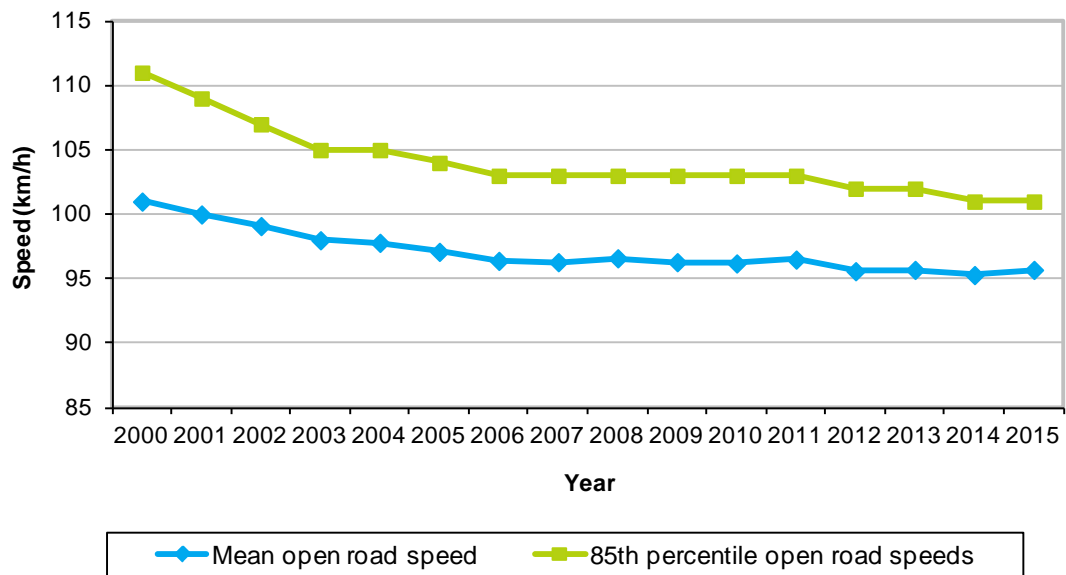
### Safety belts

Drivers in speed-related crashes are less likely to wear safety belts than drivers in crashes in which speed is not a factor. Between 2014 and 2016, at least 37 percent of the car and van drivers who died in speed-related crashes were not restrained at the time of the crash. This compares with 21 percent for drivers who died in crashes that did not involve speed. Restraint use was not recorded for 23 percent of driver deaths, so the level of restraint use could be even lower than indicated

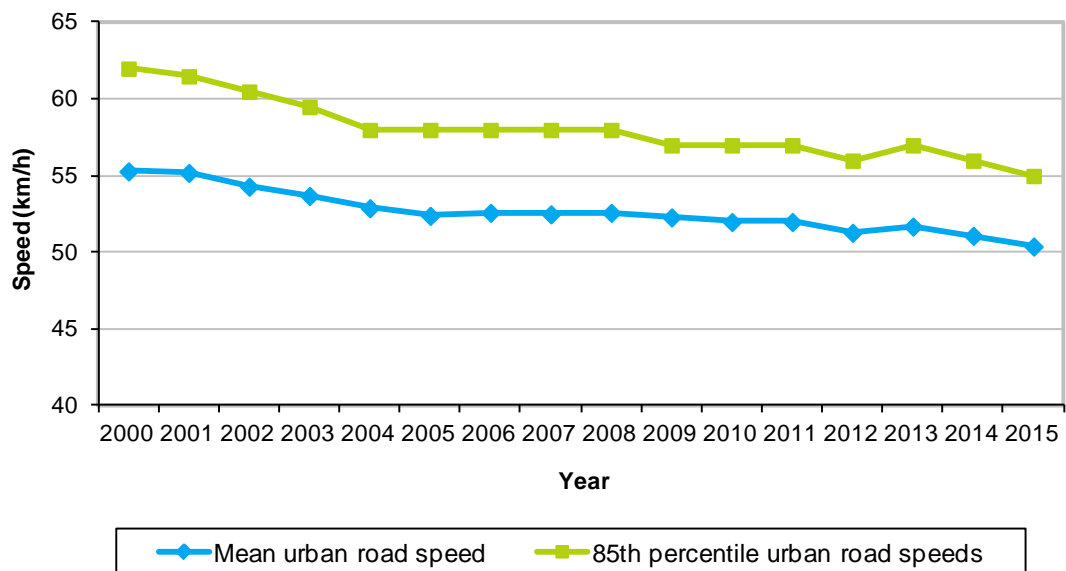
## Mean speeds

The following graphs show the results of surveys that monitor speeds of unimpeded vehicles in both 100km/h speed limit areas and urban 50km/h areas<sup>3</sup>. Monitoring the speeds of unimpeded vehicles measures drivers' choice of speed. This measure provides information on the effectiveness of speed management measures and information for developing safety policies. Survey discontinued.

**Figure 10: Open road speed (2000–2015)**



**Figure 11: Urban road speed (2000–2015)**



**Note:** 85<sup>th</sup> percentile speed means 15 percent of the vehicles surveyed were travelling faster than this speed.

<sup>3</sup> This is where vehicles are unimpeded by the presence of other vehicles (that is, there is at least 4 seconds headway between the measured vehicle and the vehicle in front of it) or by environmental features such as traffic lights, intersections, hills, corners or road works.

## The recent history of speed-related legislation

- ▶ In 1967, driving at an 'unreasonably slow speed' became a traffic offence.
- ▶ In 1971, the Speeding Infringement System was introduced.
- ▶ On 4 December 1973, the maximum open road speed limit was reduced from 55mph to 50mph (80km/h) as part of fuel conservation measures.
- ▶ In 1975, speed limit and road signs were changed over to the metric system.
- ▶ On 1 July 1985, the open road speed limit was increased from 80km/h to 100km/h for all vehicles except heavy motor vehicles, articulated vehicles and vehicles towing trailers.
- ▶ In 1989, a new schedule of infringement fees was introduced, including increased fees for speeding infringements.
- ▶ In October 1993, speed cameras were introduced.
- ▶ On 1 March 1999, a new provision of the Land Transport Act came into force allowing roadside suspension for driving at 50km/h or more above the posted speed limit.
- ▶ In 2001, the Land Transport (Road Safety Enforcement) Amendment Act 2001 removed legal impediments to the operation of urban speed cameras.
- ▶ In 2003, the Land Transport (Unauthorised Street and Drag Racing) Amendment Act created offences for street racing, wheel spinning and pouring slippery substances on the road to allow wheel spinning. Offenders can have their vehicles impounded for 28 days.
- ▶ On 25 February 2003, the Setting of Speed Limits Rule was signed, which set out the procedures for road controlling authorities to set enforceable speed limits.
- ▶ On 3 May 2004, the open road speed limit for all heavy vehicles was standardised at 90 km/h (except school buses, which remains at 80km/h). The speed limit for light vehicles towing trailers was also increased to 90 km/h.
- ▶ On 16 January 2006, a new provision of the Land Transport Act came into force allowing roadside licence suspension for driving at 40km/h or more above the posted speed limit.

## **Terminology**

**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.

## **References:**

Archer, J., Fotheringham, N., Symmons, M. and Corben B. (2008) *The Impact of Lowered Speed Limits in Urban and Metropolitan Areas* Monash University Accident Research Centre report 276.

Patterson, T.L., Frith, W.J., and Small, M.W. (2000) *Down with Speed: A review of the literature, and the impact of speed on New Zealanders* Accident Compensation Corporation and Land Transport Safety Authority. Wellington. [www.transport.govt.nz/research/Documents/ACC672-Down-with-speed.pdf](http://www.transport.govt.nz/research/Documents/ACC672-Down-with-speed.pdf)