High-risk drivers in fatal and serious crashes: 2005-2009

19 January 2011

This report looks at the crash patterns for high-risk drivers compared to other at-fault drivers.

The analysis is limited to at-fault drivers in fatal and serious injury crashes. An at-fault driver is defined in the Crash Analysis System (CAS) as the driver deemed to have the primary responsibility for a crash. This is based on the crash movements and crash cause factors assigned in CAS. It is not based on legal liability or court conviction.

In this report high-risk drivers comprise:

- unlicensed and disqualified drivers (including drivers who are forbidden to drive or who have an expired licence or the wrong licence class for the vehicle being driven)
- drivers identified as evading enforcement or racing or showing off at the time of the crash
- drivers with a blood alcohol level of at least fifty percent over the adult legal limit (ie 120 mg/100 ml)
- repeat alcohol offenders, specifically drivers in alcohol-related crashes who have at least one prior alcohol conviction (includes full offence histories for drivers whose most recent conviction occurred since 2000)
- repeat speed offenders, specifically drivers in speed-related crashes who have at least two prior speeding offences with at least one involving 35 or more demerit points (excludes offences prior to July 2000 and all speed camera offences).

Speed camera offences do not attract demerit points so are not recorded on the driver licence register. With speed camera offences excluded from the definition of repeat speed offenders the role of speed in the high-risk driver group will be understated.

The data presented here are crashes for the five years 2005–2009.

The table below shows the percentage of at-fault drivers who were classified as high risk. This ranges from 35% for fatal crashes to only 16% for minor injury crashes.

Crash severity	At-fault drivers	% high risk
Fatal	1,613	35%
Serious	9,380	23%
Minor	40,884	16%
Total	51,877	17%

The following table shows deaths and injuries in crashes where a high-risk driver was at fault as a percentage of all road deaths and reported injuries.

Road deaths and injuries 2005–2009

	Deaths	Serious injuries	Minor injuries
Number			
Total number 2005–2009	1,969	12,960	63,129
Number in crashes with a high-risk driver	642	2,857	9,704
Percent			
Percent in crashes with a high-risk driver	33%	22%	15%

Crashes with drivers categorised here as high-risk drivers account for 33% of road deaths, 22% of serious injuries and 15% of minor injuries.

The remainder of this report is divided into two sections. The first is limited to at-fault drivers in fatal crashes. The second includes at-fault drivers in both fatal and serious injury crashes.

Note that percentages in tables do not always add to 100% due to rounding.

Fatal crashes

This section of the report presents data for fatal crashes only.

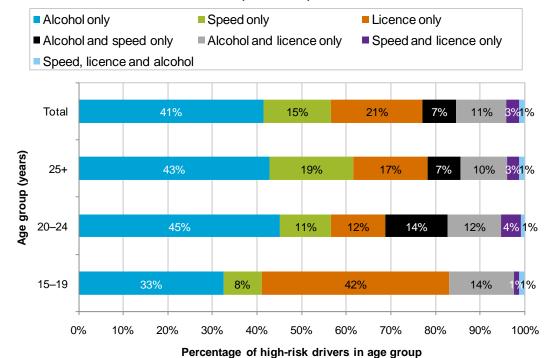
Of those categorised here as high-risk drivers, 25% have a prior alcohol offence, 25% have two or more prior speed offences, with at least one involving 35 or more demerits, 34% are unlicensed or disqualified (licence factors), 50% have a high blood alcohol level in the crash, 7% are racing or showing off and 3% are evading enforcement at the time of the crash. Any one driver may fall into several risk categories.

The table and graph below show the overlap between risk categories for high risk drivers in fatal crashes.

	Risk categories							
	Alcohol			Alcohol	Alcohol		Alcohol	
		Speed		Speed		Speed	Speed	
Driver age			Licence		Licence	Licence	Licence	
15–19	27	7	35	0	12	1	1	
20–24	52	13	14	16	14	5	1	
25+	139	61	54	24	34	9	4	
Other	3	0	7	0	0	0	1	
Total	221	81	110	40	60	15	7	

Note: 'Other' includes drivers aged under 15 years or with unknown age. 54 of the high-risk drivers shown were evading enforcement (17) or racing or showing off (37) at the time of the crash. 27 high-risk drivers were evading enforcement or racing or showing off at the time of the crash and do not fall in any of the other categories, so are not shown in this table and the subsequent graph.

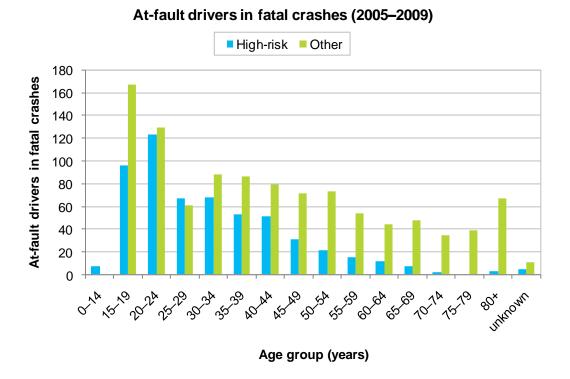
Overlap between risk categories for high-risk drivers in fatal crashes (2005–2009)



Driver characteristics

The graph below shows the age profile of high-risk drivers compared to other at-fault drivers involved in fatal crashes.

About half (52%) of the high-risk drivers are under 30. A higher proportion of younger drivers are in the high-risk group. High-risk drivers comprise nearly half (45%) of at-fault drivers aged under 30 whereas they make up 30% of at-fault drivers aged 40-59.

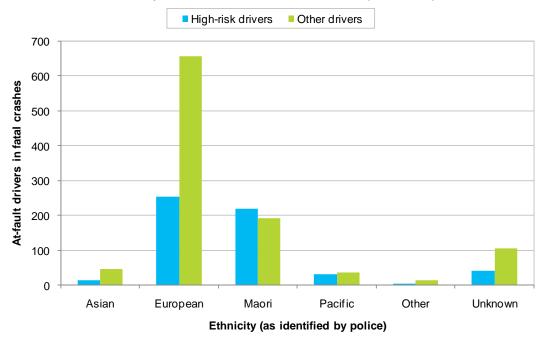


Overall 76% of at-fault drivers are male. Males make up 83% of high-risk drivers at fault compared to 72% of other at-fault drivers.

The graph over the page shows the ethnicity of high-risk drivers compared to other at-fault drivers involved in fatal crashes, as identified by police crash reports.

Ethnicity is not recorded on traffic crash reports for 7% of high-risk drivers. Where it is known, about half the high-risk drivers are reported as European (49%), compared to 42% Māori and 6% Pacific. A higher proportion of Māori and Pacific at-fault drivers are in the high risk group. Fifty-three percent of Māori and 46% of Pacific at-fault drivers are high risk, compared to 27% for drivers of other ethnicities. To some degree this reflects the younger age profile for Māori and Pacific people compared to the European population.

Ethnicity of at-fault drivers in fatal crashes (2005–2009)



When do high-risk drivers crash (fatal crashes)?

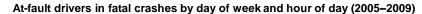
The graph and table below show when high-risk drivers crash compared to other at-fault drivers involved in fatal crashes.

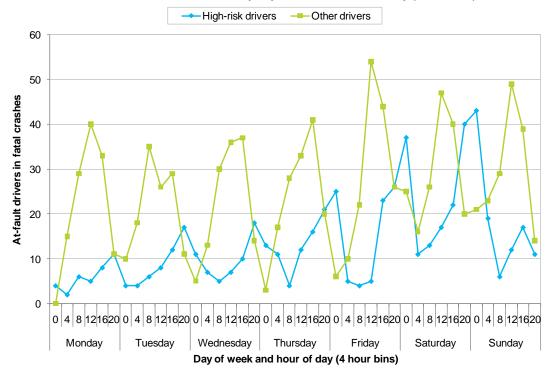
A higher proportion of high-risk driver crashes happen at night than for other at-fault drivers. Forty-five percent of high-risk driver crashes occur late at night (2200–0559 hours). This compares to only 15% of crashes for other at-fault drivers.

High-risk drivers comprise 61% of at-fault drivers involved in late night crashes. The proportions are lower for Monday and Tuesday nights.

	Day	(0600–17	59)	Evenin	ıg (1800–	2159)	Night	(2200–0	559)
Day of	High-		%	High-		%	High-		%
week	risk	Other	high	risk	Other	high	risk	Other	high
	drivers	drivers	risk	drivers	drivers	risk	drivers	drivers	risk
Monday	17	105	14%	12	17	41%	7	6	54%
Tuesday	22	90	20%	16	17	48%	13	22	37%
Wednesday	22	97	18%	11	25	31%	25	13	66%
Thursday	24	103	19%	24	24	50%	29	15	66%
Friday	20	104	16%	24	32	43%	44	26	63%
Saturday	43	107	29%	29	28	51%	68	39	64%
Sunday	33	116	22%	12	20	38%	63	39	62%
Total	181	722	20%	128	163	44%	249	160	61%

Note: On the day shown night is from 2200 until 0559 on the following day. A precise time is not recorded for about half a percent of fatal crashes.





Who is killed in high-risk driver crashes?

The following table shows who was killed in crashes involving high-risk drivers in the five years from 2005 to 2009.

Casualty age	At-fault high risk driver	Passenger with at-fault high risk driver	Other road user
Under 15	6	30	6
15–19	47	63	12
20–24	75	29	15
25–29	45	19	8
30–34	55	8	4
35–39	37	8	6
40–44	36	7	4
45–49	22	4	6
50-54	19	3	5
55–59	14	4	5
60+	17	4	15
unknown	3	0	1
Total	376	179	87

Well over half (59%) of the deaths in these crashes are the high-risk drivers themselves. A further 28% are passengers with high-risk drivers. The remaining 14% of deaths are other road users involved in the crash.

Where do high-risk drivers crash (fatal crashes)?

For both high-risk and other at-fault drivers, the majority of fatal crashes occur on the open road (72% for high-risk drivers and 77% for other at-fault drivers). A lower proportion of high-risk driver crashes are on open road State highways (39%) than other at-fault driver crashes (52%).

Crash location	High-risk drivers	% of high- risk drivers	Other drivers	% of other drivers
Urban road	157	28%	245	23%
Open road State highway	216	39%	550	52%
Other open road	188	34%	257	24%
Total	561	100%	1052	100%

For high risk drivers, 62% of fatal crashes are single vehicle crashes. Highrisk drivers comprise 49% of all at-fault drivers in single vehicle fatal crashes. This becomes more pronounced for urban areas where the equivalent figure is 59%.

Crash location	Crash type	High risk drivers	Other drivers	% that are high risk
Urban road	Single-vehicle	96	67	59%
	Other	61	178	26%
Open road	Single-vehicle	250	296	46%
·	Other	154	511	23%
Total	Single-vehicle	346	363	49%
	Other	215	689	24%

Note: 'Other' includes crashes with multiple vehicles or with at least one road user outside the vehicle driven by the at-fault driver.

Twenty-eight percent of the high-risk driver single-vehicle crashes happen in urban areas, compared to only 18% of other driver single-vehicle crashes.

Between 2005 and 2009, 168 people died in urban crashes involving an atfault high-risk driver. This compares to 474 deaths in open road crashes involving an at-fault high-risk driver. The following table shows who was killed in urban crashes involving high-risk drivers in the five years from 2005 to 2009.

Casualty age	At-fault high-risk driver	Passenger with at- fault high risk driver	Other road user
Under 15	3	6	4
15–19	18	22	3
20–24	31	9	7
25–29	9	5	0
30–34	10	1	0
35–39	8	1	2
40–44	5	0	1
45–49	0	0	0
50-54	4	0	1
55–59	2	0	0
60+	5	2	7
unknown	1	0	1
Total	96	46	26

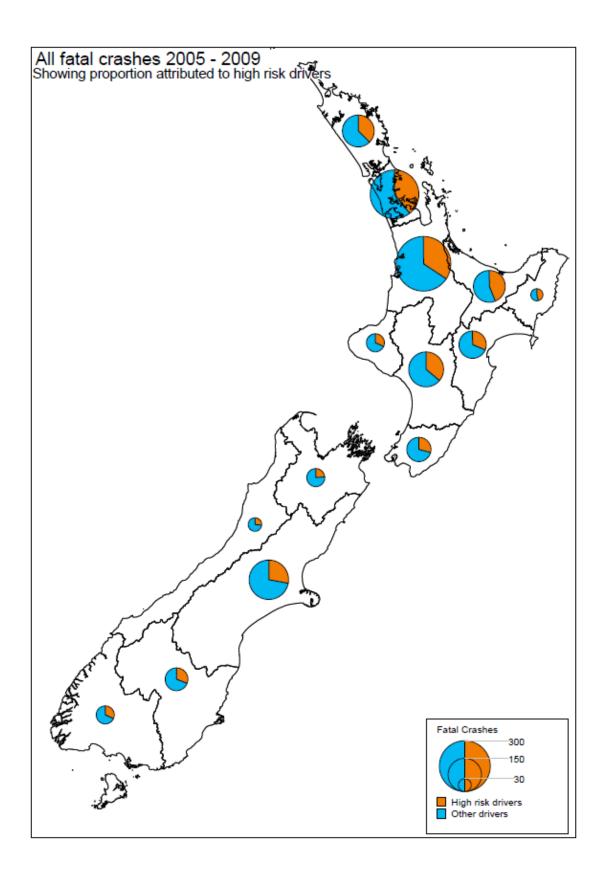
Urban/open road differences may be related in part to regional differences. The table below and the maps on the following pages show regional breakdowns.

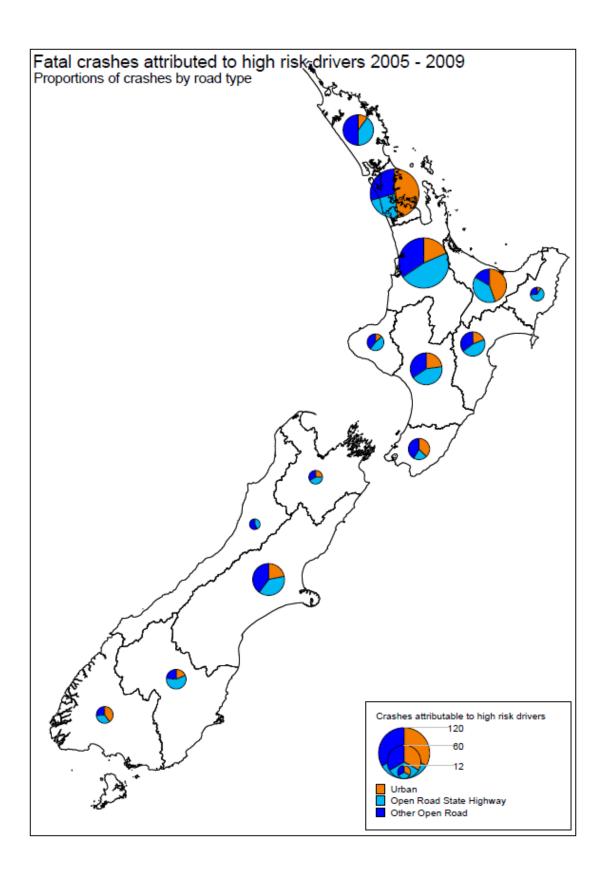
The table below shows the regional breakdown of fatal crashes with at-fault high-risk drivers. This is further broken down into crashes on urban and open roads. This information is also displayed on the maps on the following pages.

	At-fault drivers in fatal crashes			Fatal crashes with high-risk drivers at fault			
Region	High- risk drivers	Other drivers	% high risk	Urban	State highway open road	Other open road	% open road
Northland	48	80	38%	5	19	24	90%
Auckland	107	160	40%	51	24	32	52%
Waikato	113	215	34%	22	53	38	81%
Bay of Plenty	54	70	44%	24	21	9	56%
Gisborne	11	13	46%	1	7	3	91%
Hawke's Bay	31	68	31%	6	14	11	81%
Taranaki	15	32	32%	2	7	6	87%
Manawatu/ Wanganui	53	91	37%	13	22	18	75%
Wellington	24	58	29%	9	5	10	63%
Nelson/ Marlborough	12	38	24%	3	5	4	75%
West Coast	7	19	27%	0	3	4	100%
Canterbury	50	129	28%	11	19	20	78%
Otago	21	47	31%	4	12	5	81%
Southland	15	32	32%	6	5	4	60%
New Zealand	561	1052	35%	157	216	188	72%

The first of the following maps shows the regional distribution of fatal crashes and the proportion that involve a high-risk driver. The size of each pie is proportional to the number of fatal crashes in the region. The sizes of the pie segments indicate the proportion of crashes that have a high-risk driver at fault. Generally this proportion is higher in the North Island than in the South Island and is particularly high in the north and east of the North Island.

The second map shows the urban/open road breakdown for fatal crashes involving high-risk drivers by region. On this map the pie size indicates the number of fatal crashes with an at-fault high-risk driver. The pie segments show the urban/open road split for these crashes. In the regions that are dominated by large cities, such as Auckland and to a lesser degree Wellington, a higher proportion of crashes occur on urban roads than for other regions.





Alcohol factors and high-risk drivers

The first of the following tables shows the number of at-fault drivers with alcohol factors and the overlap between repeat drink drivers and drivers with high alcohol levels. The alcohol levels are blood alcohol levels in mg/100ml. The adult legal limit is 80mg/100ml. The second table shows the number of deaths caused by those drivers.

At-fault, high-risk drivers with alcohol factors in fatal crashes 2005–2009

	Alcohol			
Driver prior conviction	Below 120	120 – under 160	160 and over	Total
Prior alcohol conviction	47	28	63	138
No prior conviction	n/a	64	126	190
Total	47	92	189	328

Deaths from crashes with at-fault, high-risk drivers with alcohol factors 2005–2009

	Alcohol					
		120 - under 160 and				
Driver prior conviction	Below 120	160	over	Total		
Prior alcohol conviction	55	32	68	155		
No prior conviction	n/a	72	143	215		
Total	55	104	211	370		

Over the years 2005–2009 there were 561 deaths in crashes where alcohol was a contributing factor. As shown in the table above, 370 of those deaths (66%) were in crashes caused by a high-risk driver who had either a blood alcohol level at least 50% over the adult legal limit or a prior alcohol offence. The 155 deaths from crashes with drivers with a prior alcohol offence comprise 28% of all alcohol-related deaths.

The next two tables show the results for 2009 alone.

At-fault, high-risk drivers with alcohol factors in fatal crashes 2009

	Alcohol						
		120-under 160 and					
Driver prior conviction	Below 120	160	over	Total			
Prior alcohol conviction	9	6	14	29			
No prior conviction	n/a	16	28	44			
Total	9	22	42	73			

Deaths from crashes with at-fault, high-risk drivers with alcohol factors 2009

	Alcohol			
Driver prior conviction	Below 120	120-under 160	160 and over	Total
Prior alcohol conviction	11	8	15	34
No prior conviction	n/a	19	35	54
Total	11	27	50	88

In 2009 there were 123 deaths in crashes where alcohol was a contributing factor. As shown in the table above, 88 of those deaths (72%) were in crashes caused by a high-risk driver who had either a blood alcohol level at least 50% over the adult legal limit or a prior alcohol offence. The 34 deaths from crashes with drivers with a prior alcohol offence comprise 28% of all alcohol-related deaths.

Fatal and serious injury crashes

The remainder of the report presents data for fatal and serious injury crashes combined.

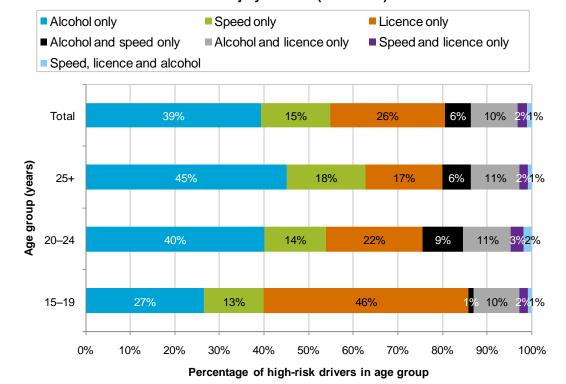
Of those categorised here as high-risk drivers, 26% have a prior alcohol offence, 23% have two or more prior speed offences, with at least one involving 35 or more demerits, 37% are unlicensed or disqualified (licence factors), 42% have a high blood alcohol level in the crash, 7% are racing or showing off and 4% are evading enforcement at the time of the crash. Any one driver may fall into several of these risk categories.

The table and graph below show the overlap between risk categories for high-risk drivers in fatal and serious injury crashes.

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	Risk category						
	Alcohol			Alcohol	Alcohol		Alcohol
		Speed		Speed		Speed	Speed
Driver age			Licence		Licence	Licence	Licence
15–19	122	61	211	5	47	9	4
20–24	234	80	126	54	62	17	10
25+	651	254	250	91	159	27	12
Other	7	0	77	2	1	0	1
Total	1,014	395	664	152	269	53	27

Note: 'Other' includes drivers aged under 15 years and of unknown age. 299 of the high-risk drivers shown were evading enforcement (116) or racing or showing off (184) at the time of the crash. One included both these factors. 134 high-risk drivers were evading enforcement or racing or showing off at the time of the crash and do not fall in any of the other categories, so are not shown in this table and the subsequent graph.

Overlap between risk categories for high-risk drivers in fatal and serious injury crashes (2005–2009)

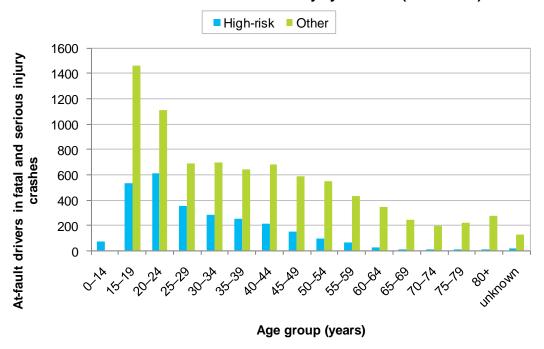


Driver characteristics

The graph below shows the age profile of high-risk drivers compared to other at-fault drivers involved in fatal and serious injury crashes.

Over half (58%) of the high-risk drivers are under 30. A higher proportion of younger drivers are in the high risk group. High-risk drivers comprise about a third (33%) of at-fault drivers aged under 30 whereas they make up 19% of at-fault drivers aged 40-59.

At-fault drivers in fatal and serious injury crashes (2005–2009)

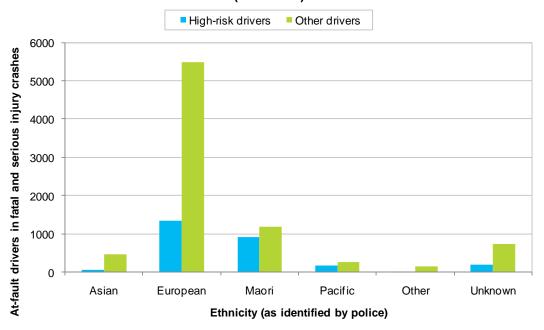


Overall 72% of at-fault drivers are male. Males make up 83% of high-risk drivers at fault compared to 68% of other at-fault drivers.

The graph over the page shows the ethnicity of high-risk drivers compared to other at-fault drivers involved in fatal and serious injury crashes, as identified by police crash reports.

Ethnicity is not recorded on traffic crash reports for seven percent of high-risk drivers. Where it is known, over half the high-risk drivers are reported as European (54%), compared to 36% Māori and 7% Pacific. A higher proportion of Māori and Pacific at-fault drivers are in the high risk group. Forty-three percent of Māori and 39% of Pacific at-fault drivers are high risk, compared to 19% for drivers of other ethnicities. To some degree this reflects the younger age profile for Māori and Pacific people compared to the European population.

Ethnicity of at-fault drivers in fatal and serious injury crashes (2005–2009)



When do high-risk drivers crash (fatal and serious injury crashes)?

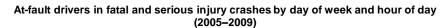
The graph and table below show when high-risk drivers crash compared to other at-fault drivers involved in fatal and serious injury crashes.

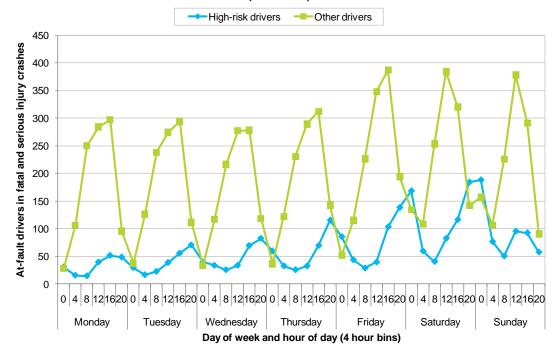
A higher proportion of high-risk driver crashes happen at night than for other at-fault drivers. Forty-two percent of high-risk driver crashes occur late at night (2200–0559). This compares to only 13% of crashes for other at-fault drivers.

High-risk drivers comprise 52% of at-fault drivers involved in late night crashes. The proportions are lower for Monday and Tuesday nights.

	Day (0600-1759)			Evenin	Evening (1800-2159)			Night (2200-0559)		
Day of week	High- risk drivers	Other drivers	% high risk	High- risk drivers	Other drivers	% high risk	High- risk drivers	Other drivers	% high risk	
Monday	88	803	10%	51	171	23%	58	86	40%	
Tuesday	97	792	11%	68	184	27%	65	104	38%	
Wednesday	104	762	12%	79	182	30%	98	95	51%	
Thursday	100	823	11%	85	201	30%	147	107	58%	
Friday	127	883	13%	128	272	32%	181	166	52%	
Saturday	197	890	18%	133	202	40%	319	248	56%	
Sunday	227	843	21%	77	166	32%	254	238	52%	
Total	940	5,796	14%	621	1,378	31%	1,122	1,044	52%	

Note: On the day shown night is from 2200 until 0559 on the following day. A precise time is not recorded for nearly one percent of fatal and serious crashes.





Who is killed and seriously injured in high-risk driver crashes?

The following table shows who was killed and seriously injured in crashes involving high-risk drivers (2005–2009).

Casualty age	At-fault high risk driver	Passenger with at-fault high risk driver	Other road user
Under 15	53	92	33
15–19	327	337	88
20–24	445	189	80
25–29	251	87	46
30–34	225	39	36
35–39	206	38	44
40–44	165	31	57
45–49	122	16	41
50-54	77	10	29
55–59	55	9	38
60+	42	10	69
unknown	13	73	26
Total	1,981	931	587

Well over half (57%) of the deaths and serious injuries in these crashes are the high-risk drivers themselves. A further 27% are passengers with high-risk drivers. The remaining 17% of deaths and serious injuries are other road users involved in the crash.

Where do high-risk drivers crash (fatal and serious injury crashes)?

For all at-fault drivers, the majority of fatal and serious crashes occur on the open road (55% for high-risk drivers and 57% for other at-fault drivers). A lower proportion of high-risk driver crashes are on open road State highways (26%) than other at-fault driver crashes (35%).

Crash location	High-risk drivers	% of high- risk drivers	Other drivers	% of other drivers
Urban road	1,219	45%	3,524	43%
Open road State highway	700	26%	2,931	35%
Other open road	789	29%	1,830	22%
Total	2,708	100%	8,285	100%

For high-risk drivers, 63% of fatal and serious injury crashes are single vehicle crashes. High-risk drivers comprise 36% of all at-fault drivers in single vehicle fatal and serious injury crashes. This becomes more pronounced in urban areas where the equivalent figure is 49%.

Crash location	Crash type	High-risk drivers	Other drivers	% that are high risk
Urban road	Single-vehicle	664	681	49%
	Other	555	2,843	16%
Open road	Single-vehicle	1,050	2,340	31%
	Other	439	2,421	15%
Total	Single-vehicle	1,714	3,021	36%
	Other	994	5,264	16%

Note: 'Other' includes crashes with multiple vehicles or with at least one road user outside the vehicle driven by the at-fault driver.

Thirty-nine percent of the high-risk driver single-vehicle crashes happen in urban areas, compared to only 23% of other driver single-vehicle crashes.

Between 2005 and 2009, 1,500 people were killed or seriously injured in urban crashes involving an at-fault high-risk driver. This compares to 1,999 people killed or seriously injured in open road crashes involving an at-fault high-risk driver.

The following table shows who was killed and seriously injured in urban crashes involving high-risk drivers in the five years from 2005 to 2009.

Casualty age	At-fault high- risk driver	Passenger with at-fault high risk driver	Other road user
Under 15	23	28	20
15–19	172	141	45
20–24	214	90	42
25–29	115	36	27
30–34	86	14	18
35–39	70	14	29
40–44	53	7	30
45–49	28	5	19
50-54	26	2	13
55–59	14	2	13
60+	14	4	31
unknown	4	40	11
Total	819	383	298

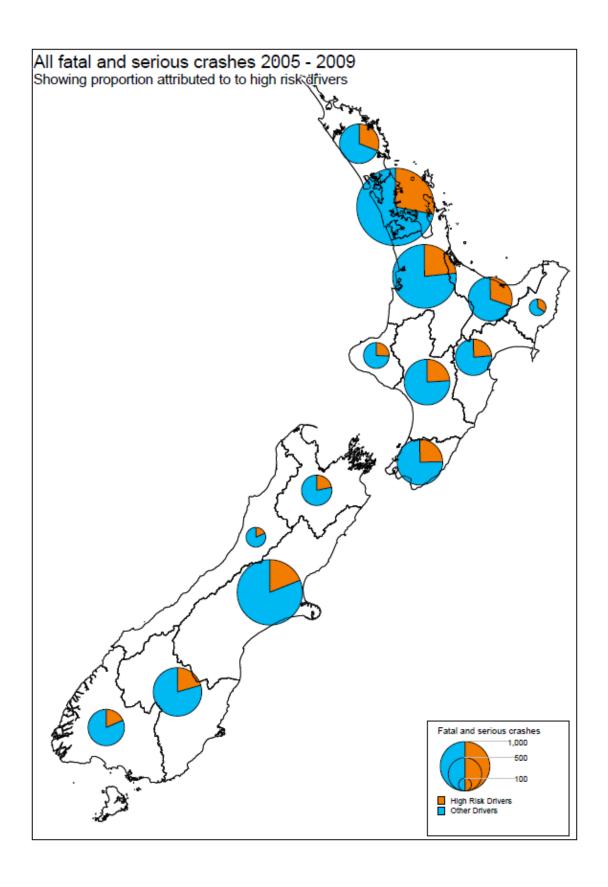
Urban/open road differences may be related in part to regional differences. The table below and the maps on the following pages show regional breakdowns.

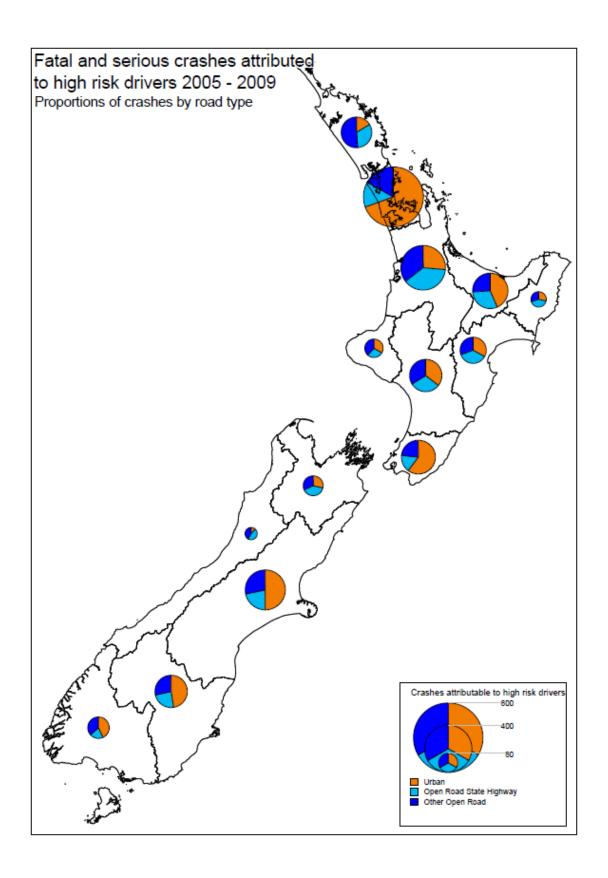
The table below shows the regional breakdown of fatal and serious injury crashes with at-fault high-risk drivers. This is further broken down into crashes on urban and open roads. This information is also displayed on the maps on the following pages.

	At-fault drivers in fatal and serious injury crashes			Fatal and serious injury crashes with high-risk drivers at fault			
Region	High- risk drivers	Other drivers	% high risk	Urban	State highway open road	Other open road	% open road
Northland	190	420	31%	32	61	97	83%
Auckland	580	1,446	29%	404	78	98	30%
Waikato	348	1,120	24%	94	131	123	73%
Bay of Plenty	227	520	30%	99	68	60	56%
Gisborne	49	94	34%	14	20	15	71%
Hawke's Bay	135	424	24%	45	49	41	67%
Taranaki	76	216	26%	25	22	29	67%
Manawatu/ Wanganui	199	625	24%	72	61	66	64%
Wellington	208	618	25%	126	34	48	39%
Nelson/ Marlborough	88	308	22%	26	34	28	70%
West Coast	33	147	18%	4	15	14	88%
Canterbury	287	1,194	19%	145	62	80	49%
Otago	190	725	21%	91	45	54	52%
Southland	98	428	19%	42	20	36	57%
New Zealand	2,708	8,285	25%	1,219	700	789	55%

The first of the following maps shows the regional distribution of fatal and serious crashes and the proportion that involve a high-risk driver. The size of each pie is proportional to the number of crashes in the region. The sizes of the pie segments indicate the proportion of crashes that have a high-risk driver at fault. Generally this proportion is higher in the North Island than in the South Island, and is particularly high in the north and east of the North Island.

The second map shows the urban/open road breakdown for fatal and serious injury crashes involving high-risk drivers by region. On this map the pie size indicates the number of fatal and serious injury crashes with an at-fault high-risk driver. The pie segments show the urban/open road split for these crashes. In the regions that are dominated by large cities, such as Auckland and to a lesser degree Wellington, a higher proportion of crashes occur on urban roads.





Definitions

An **at-fault** driver is defined in the Crash Analysis System (CAS) as the driver deemed to have the primary responsibility for a crash. This is based on the crash movements and cause factors assigned in CAS. It is not based on legal liability or court conviction.

Demerit points by speed band:

20 demerits - Exceeding speed limit by 11-20 km/h

35 demerits - Exceeding speed limit by 21-30 km/h

40 demerits - Exceeding speed limit by 31-35 km/h

50 demerits - Exceeding speed limit by 36 km/h or more

Demerit points do not apply to offences detected by speed cameras.

In this report **high-risk** drivers comprise:

- unlicensed and disqualified drivers (including drivers who are forbidden to drive or who have an expired licence or the wrong licence class for the vehicle being driven)
- drivers identified as evading enforcement or racing or showing off at the time of the crash
- drivers with a blood alcohol level of at least fifty percent over the adult legal limit (i.e.120 mg/100 ml)
- repeat alcohol offenders, specifically drivers in alcohol-related crashes who have at least one prior alcohol conviction (includes full offence histories for drivers whose most recent conviction occurred since 2000)
- repeat speed offenders, specifically drivers in speed-related crashes who have at least two prior speeding offences with at least one involving 35 or more demerit points (excludes offences prior to July 2000 and all speed camera offences).

Speed camera offences do not attract demerit points so are not recorded on the driver licence register. With speed camera offences excluded from the definition of repeat speed offenders the role of speed in the high-risk driver group will be understated.

Speed infringement information on the driver licence register prior to 2000 is not reliable.

"Evading enforcement" is the terminology used in the crash analysis system when drivers are fleeing from police.

These categories of high-risk driver are based on those set out in *Safer Journeys*. The categories in this report also include evading enforcement as a high risk behaviour. However, the detailed criteria used here are based on the data sources which are readily available to the Ministry, and the definitions have not been widely discussed.