

briefing notes - road safety issues

Auckland Motorways

Land Transport New Zealand has prepared this road safety issues report. It is based on reported crash data and trends for the 2003–2007 period.

The intent of the report is to highlight the key road safety issues and be a resource to identify possible ways to reduce the number of road deaths and injuries on the Auckland Motorways.

This report is the ninth road safety report for the Auckland Motorways. All the material unless otherwise stated in this report applies to the area patrolled by the Police Motorway unit. Information about crashes on State Highways outside this area can be found in the separate "Auckland State Highways" report.

In each new report one year's data is added to a five year block and the oldest dropped so it is unlikely that the core issues would change radically from report to report. However, this rolling five year analysis is very useful for identifying trends.

The issues chosen for this report are drawn from either the most common crash types, those that appear over-represented and those with high social cost (high numbers of fatal and serious crashes mainly).

We have included a brief overview of crashes on the Motorway.

We encourage Auckland Motorway Intel staff to use their free access to the Ministry of Transport's Crash Analysis System (CAS) to delve deeper into the highlighted issues. All data and maps in this note are from CAS

Major road safety issues

Auckland Motorways

Alcohol

Rear end crashes

Night time crashes

2007 road trauma

Casualties Auckland Motorways

Deaths 6

Serious casualties 42

Minor casualties 695

Nationally

Speed

Alcohol

Failure to give way

Restraints

Crashes Auckland Motorways

Fatal crashes 4

Serious injury crashes 36

Minor injury crashes 500

Non-injury crashes 2085

Overview

In 2007 on Auckland Motorways there were 540 injury crashes and 2085 non-injury crashes. It should be noted that as the Motorway is not defined as a separate local body it is difficult for Land Transport NZ to exactly match crash statistics in this report with the data Motorway Police gather themselves for their precise area of patrol.

The table below shows the number of injuries resulting from 540 crashes by rural or urban areas for the motorway.

Urban is defined as an area with a speed limit of 70 km/h or less and in the case of the motorway these would generally but not always be ramps.

Casualties by injury type 2007				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	6	32	590	628
Urban (ramps)	0	10	105	115
Total	6	42	695	743

Fatal and serious crash numbers on the Auckland Motorways in the main have been relatively steady over the last nine years.

In 2007 there was a slight drop in the number of serious crashes reported, with a corresponding drop in fatal crashes as well.

However there was a small rise in minor injuries being reported.

Neither of these changes are outside the range of prior data so these changes are not of concern.

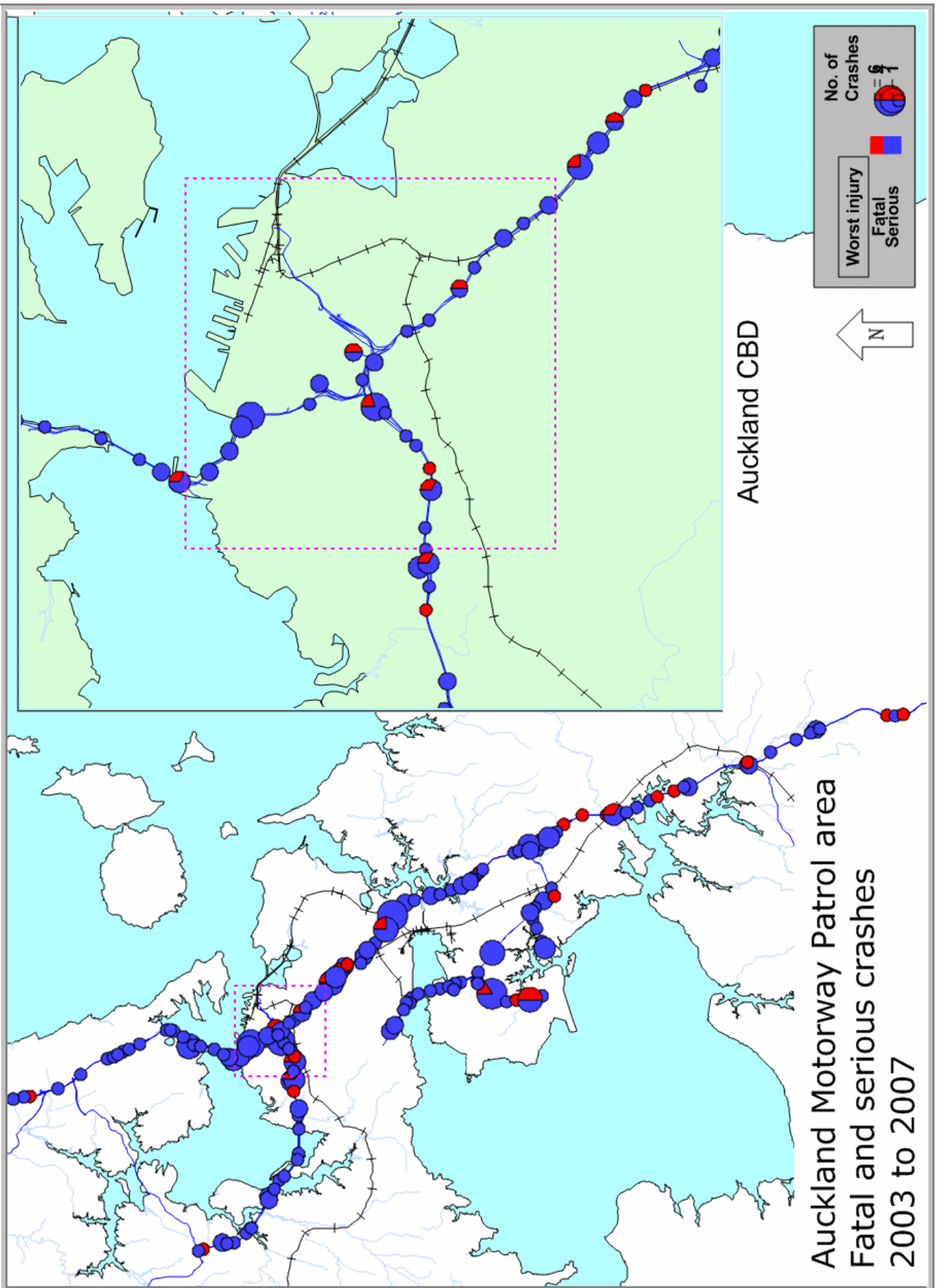
Crash trends in Auckland Motorways				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1998	9	46	304	359
1999	13	61	345	419
2000	8	29	329	366
2001	5	38	424	467
2002	6	66	378	450
2003	7	48	481	536
2004	8	42	497	547
2005	4	43	539	586
2006	9	41	468	518
2007	4	36	500	540

Motorway crashes 2003 to 2007		
Crash type or contributory cause 2003 to 2007	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	31	11
Too fast	17	13
At bends	17	9
At intersections	37	25
Pedestrians	6	1
Motorcyclists	13	5
Road factors	7	6
Night time	56	35
Rear end	21	52
Poor Observation	30	37

Further information about the 2727 injury and 10,666 non-injury crashes on the Auckland Motorway 2003 to 2007:

- Worst month May, best January
- Worst day Friday, best Sunday
- 28 percent on wet roads
- 30 percent at night
- 27 percent at intersections
- 159 roadside objects struck in fatal and serious crashes
- Social cost of crashes in 2007 \$140m

Social Cost For Crashes 2003-2007		
Year	Injury \$(m)	Non-Injury \$(m)
2003	89	58
2004	96	58
2005	86	63
2006	99	61
2007	80	60



Night time crashes

Between 2003 and 2007 there were a total of 177 mainly ramp night time injury crashes and 773 night time open road injury crashes resulting in 30 fatalities, 151 serious injuries and 1160 minor injuries.

Night time injury crashes

	2003	2004	2005	2006	2007
Urban (ramps)	33	39	43	37	25
Rural	161	143	153	153	163
Total	194	182	196	190	188

Between 2003 and 2007 fifty-six percent of fatal and serious crashes and 35 percent of injury crashes occurred on the motorway during the hours of darkness.

Comparisons to other networks are difficult, however when the Auckland Motorway which is more completely lit, is compared to other New Zealand motorways mainly in Christchurch and Wellington the proportion of fatal and serious crashes at night is still higher in Auckland.

Time of day of non-ramp injury motorway crashes by highway number

Crash period	SH 16	SH 1N	SH 20 SH 20A SH 20B
Midnight to 4am	24	95	28
4am till 8am	28	66	19
4pm till 8pm	55	190	38
8pm till midnight	48	139	27

Most crashes involve a combination of factors contributing to the crash.

The five most common causes of night time crashes from 2003-2007 are:

- Alcohol
- Following too closely
- Speed
- Loss of control when turning
- Inattention, especially failing to notice cars slowing, stopping or stopped in front.

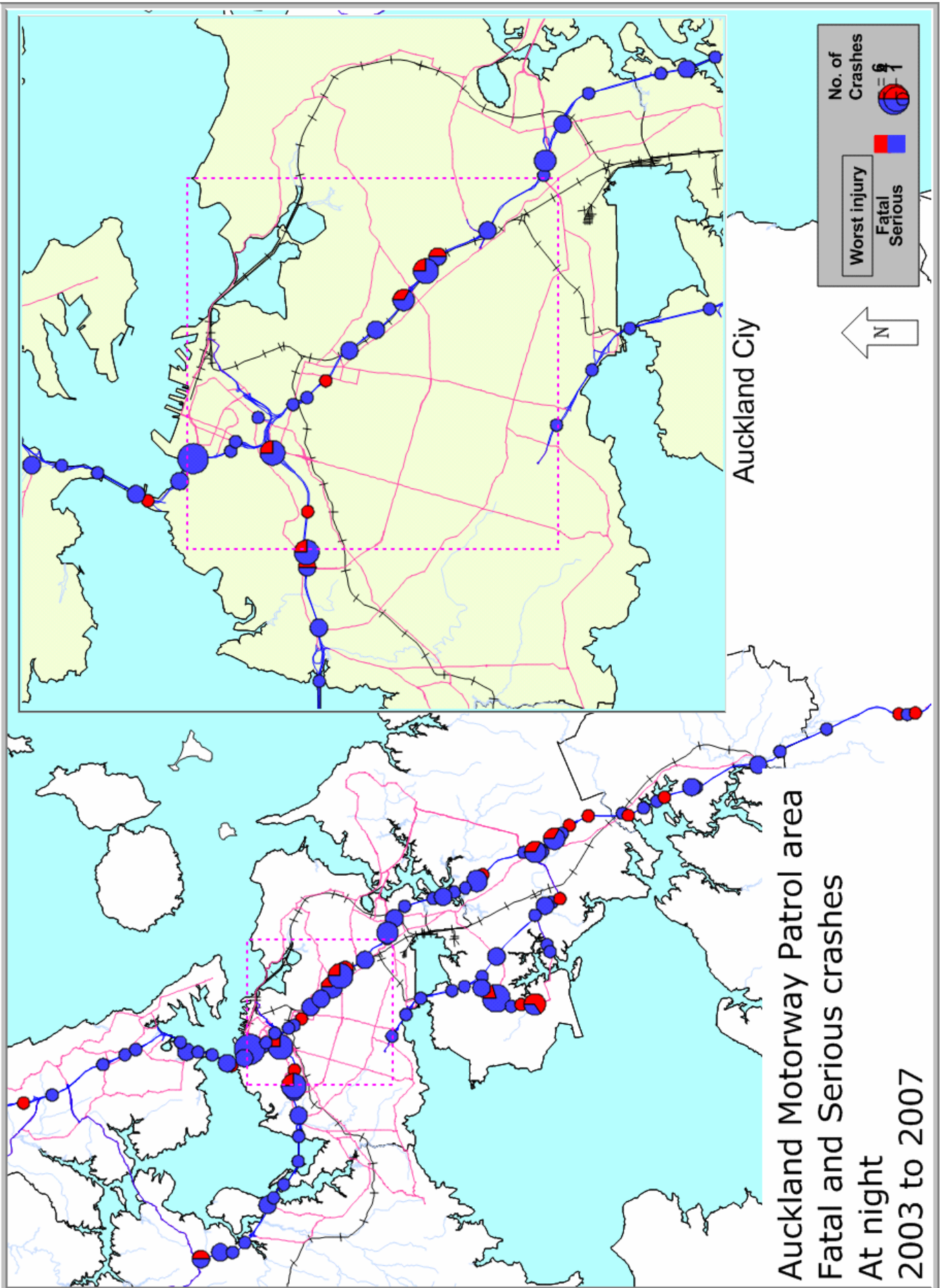
Younger drivers are highly represented in night times crashes on Auckland Motorways. Possibly this is a result of two factors - firstly that younger people drive far more at night and secondly despite the fact that they see better at night than older drivers and have better glare recovery, they underestimate how difficult it can be to see traffic hazards at night.

Age and gender of at fault drivers (note ages ranges are not equal)

Ages of drivers at fault in night time injury crashes (2003 to 2007)	Male	Female	Total
15- 19	109	53	162
20 - 24	134	69	203
25 - 29	91	24	115
30 - 39	132	65	197
40 - 49	106	28	134
50 - 59	54	20	74
60 - 69	19	9	28
70+	12	6	18
Total	657	274	931

Further information about night time injury crashes on the Auckland Motorways 2003 to 2007:

- 30 deaths, 151 serious injuries and 1160 minor injuries
- Most common crash types, rear end of queue, then loss of control off road to left
- 23 percent also include alcohol
- 39 percent wet road
- 19 percent speed related
- Worst month June, best February
- Worst day of week Friday, best Monday
- Worst three hour time period 6pm till 9pm



Alcohol

Alcohol affects the way people drive. Studies show that the risk of being involved in a crash increases rapidly as a driver's blood alcohol level rises. A driver over the legal limit (80mg of alcohol per 100ml of blood) is three times more likely to be involved in a crash than a sober driver.

Contrary to popular opinion, people with high blood alcohol levels are more likely to be injured or killed in a crash than sober drivers in the same crash and if injured, they are also more likely to encounter complications in their recovery.

In New Zealand for the 12 months to December 2007, alcohol-affected drivers contributed to 31 percent of all fatal crashes and 15 percent of all injury crashes.

There were 288 alcohol-related injury crashes reported in the last five years.

On the Auckland Motorways, alcohol was a factor in 11 percent of injury crashes in 2007, a small decrease from 2006.

Many alcohol related crashes involve vehicles hitting a roadside objects. The three main objects hit were guard rails (100), post or poles (30) and trees (21) from a total of 240 objects hit.

Alcohol related injury crashes by time of day			
Time (four hour blocks)	Fatal crash	Serious crash	Minor crash
Midnight to 4am	5	25	65
4am to 8am	3	10	39
8am to midday	1	3	13
Midday to 4pm	2	2	6
4pm to 8pm	2	8	36
8pm to midnight	2	13	50
Totals	15	61	209

From the beginning of 2007 Land Transport NZ has been adding driver factor codes to all non-injury crashes for the northern region.

This will allow the Police and other agencies to target alcohol related crashes more quickly and with even more geographic accuracy than ever before.

Age and gender of at fault drivers			
Ages of drivers at fault in night time injury crashes (2003 to 2007)	Male	Female	Total
15- 19	37	17	54
20 - 24	56	11	67
25 - 29	34	8	42
30 - 39	50	20	70
40 - 49	39	6	45
50 - 59	13	7	20
60 - 69	0	0	0
70+	3	0	3
Total	232	69	301

Alcohol related injury crashes by Highway number			
Highway number	Fatal crash	Serious crash	Minor crash
Ramp	1	17	40
16	2	11	38
1N	9	19	99
20	0	10	29
20 (A and B)	3	4	6

Further information about alcohol related injury crashes on Auckland Motorways 2003 to 2007:

- 17 deaths, 86 serious injuries and 368 minor injuries
- 77 percent of at fault drivers were male
- Most common crash type 'loss of control - off road to left'
- 33 percent too fast for the conditions
- 34 percent wet road
- 76 percent night time
- 8 percent include fatigue
- Worst month June, best March and May (equal)
- Worst day of week Sunday, best Wednesday

Rear End Crashes

Between 2003 and 2007, 52 percent of all injury crashes on Auckland Motorways involved rear end collisions.

These crashes resulted in 3 fatalities, 62 serious injuries and 1879 minor injuries.

There were also 6089 non-injury rear end crashes which are steady at around 1200 per year.

Rear End collisions 2003 to 2007				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2003	1	12	281	294
2004	0	6	282	288
2005	1	13	290	304
2006	1	10	246	257
2007	0	8	273	281
Total	3	49	1372	1424

Most rear end crashes involve a driver following too closely with 40 percent of all injury rear end crashes including this factor.

Main characteristics of injury rear end crashes	
Crash characteristic	Percentage of crashes
Following too closely	40
Alcohol	4
Excessive speed for the conditions	11
Road factors	6
Poor handling	2
Wet road	29
Night time	27
Poor Observation	42
Average number of vehicles per crash	2.8

Age and gender of at fault drivers (note age ranges are not equal)

Ages of drivers at fault in night time injury crashes (2003 to 2007)	Male	Female	Total
15- 19	112	67	179
20 - 24	159	106	265
25 - 29	127	55	182
30 - 39	228	108	336
40 - 49	198	74	272
50 - 59	120	54	174
60 - 69	58	18	76
70+	40	13	53
Total	1042	495	1537

Further information about rear end injury crashes (2003 to 2007) on the Auckland Motorways :

- 3 deaths, 62 serious injuries and 1879 minor injuries
- 68 percent of at fault drivers were male
- Most common cause of crashes, following too closely
- Worst month June, best January
- Worst day of week Friday, best Sunday
- Worst time period 3pm to 6pm

National issues

This section contains some brief information on the key national road safety issues as measured in Auckland Motorways. They may have been covered elsewhere in this document or not be a specific issue.

Speed

"Too fast" was recorded in 13 percent of injury crashes in the region in the last five years resulting in 16 deaths and 504 other injuries.

Speed as a factor in crashes reduced sharply in 2007 after four years remaining virtually the same.

Forty-three percent of speed-related crashes were "rear-end". Alcohol (27 percent) and poor handling were the other driver factors often associated with speed.

At fault drivers aged less than 25 were the most highly represented in speed-related crashes.

Alcohol

Alcohol was involved in 11 percent of injury crashes in the region in the last five years resulting in 17 deaths and 454 other injuries.

Although there was a small fall in alcohol related injury crashes in 2007 the overall trend is upwards.

Speed and poor observation were the other factors often associated with alcohol.

Failure to give way

Failure to give way or stop was reported in 10 percent of all reported injury crashes for the last five years resulting in 3 deaths and 393 other injuries.

Ninety-eight percent occurred at intersections.

Restraints

The Ministry of Transport conducts surveys of restraint use. The results of these surveys are at a Regional Council, Police District and local body level.

The front seat belt wearing rate in Auckland Region was 96 percent in 2007.

The results are obtainable from the Ministry of Transport website :

<http://www.transport.govt.nz/safety-belt-statistics-front-seat-200-1/>

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