

briefing notes - road safety issues

Rodney District

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 in Rodney District.

This report is the ninth road safety report for Rodney District. All the material unless otherwise stated in this report applies to local roads. Local roads are all non State Highway roads in the district.

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.

The issues chosen for this report are drawn from either the most common crash types, those that appear over-represented when Rodney District is compared to similar local bodies or those with high social cost (high numbers of fatal and serious crashes mainly).

We have included a brief overview of crashes in the district.

We encourage Rodney District to use its 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 report are from CAS.

Major road safety issues

Rodney District

Bends

Alcohol

Speed

Vulnerable road users

Nationally

Speed

Alcohol

Failure to give way

Restraints

2007 road trauma

Casualties

Rodney District

Deaths

8

Serious casualties

54

Minor casualties

184

Crashes

Rodney District

Fatal crashes

7

Serious injury crashes

33

Minor injury crashes

126

Non-injury crashes

309

Overview

In 2007 on local roads in Rodney District there were 166 injury crashes and 1309 non-injury crashes. In addition there were 121 injury crashes and 264 non-injury crashes on State Highways both as reported by the New Zealand Police.

The table below shows the number of injuries resulting from the 166 local road crashes by rural or urban areas (rural is defined as an area with a speed limit of 80km/h or more).

Casualties by injury type 2007				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	5	28	107	140
Urban	3	26	77	106
Total	8	54	184	246

Fatal and serious injuries have remained relatively stable, perhaps increasing a little, for the last decade (as below). Minor injury crashes have been steadily increasing.

There is a reasonable possibility, since fatal and serious crashes are stable, that some of the increase in minor injuries may be the result of improved reporting by NZ Police and perhaps the growing urbanisation of parts of Rodney where crashes tend to be less severe.

Crash trends in Rodney District				
Year	Fatalities	Serious injuries	Minor injuries	Total
1998	5	33	113	151
1999	8	37	119	164
2000	8	33	93	134
2001	5	54	95	154
2002	8	32	129	158
2003	5	38	138	181
2004	11	48	151	210
2005	9	35	162	206
2006	6	44	152	302
2007	8	55	184	247

Crash types and contributory crash causes 2003 to 2007

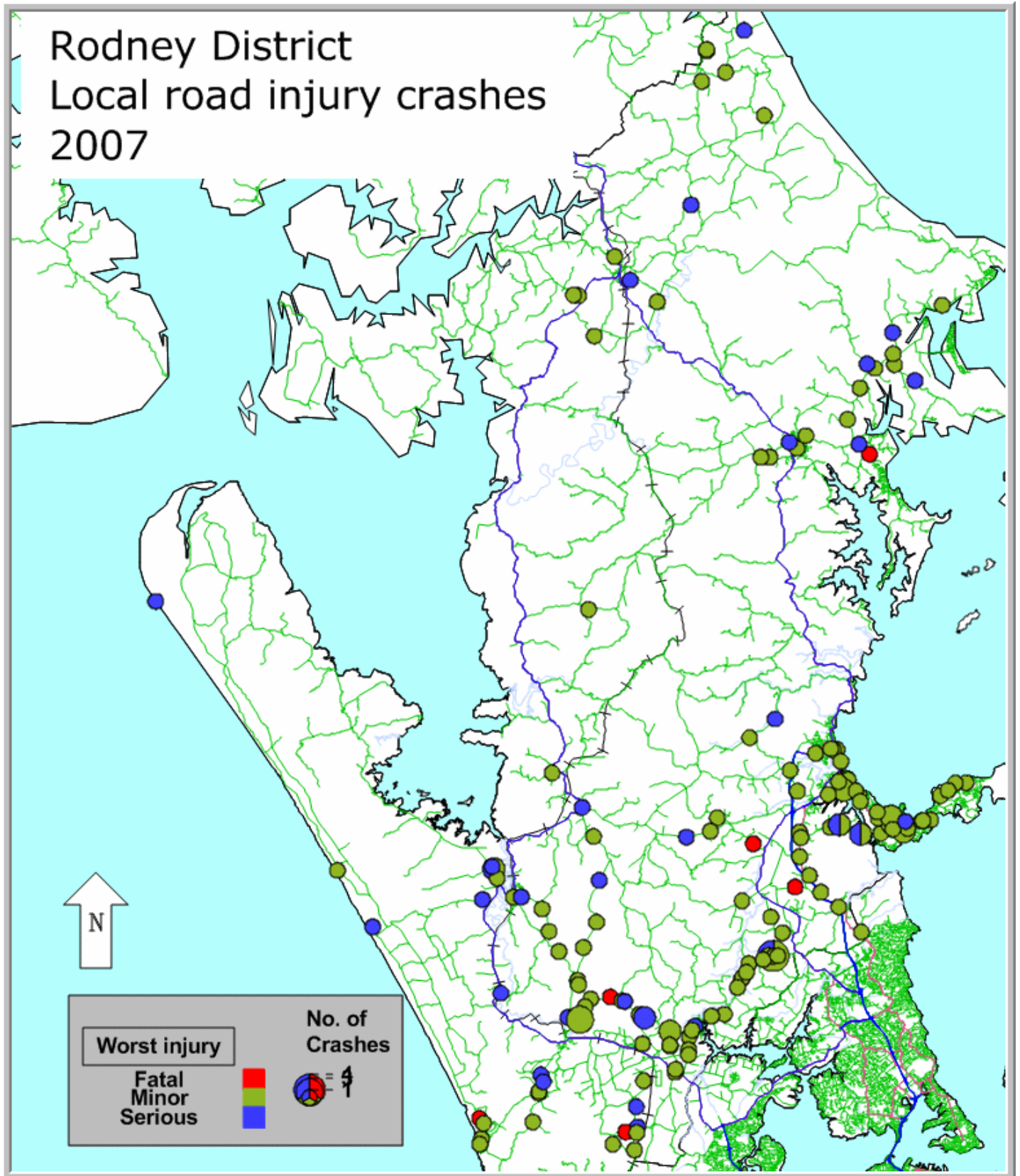
Crash type or contributory cause	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	28	19
Too fast	29	25
Bends–lost control	51	49
At intersections	18	22
Motorcyclist	18	11
Road factors	19	18
Night time	40	34
Roadside object struck	49	50

Further information about 2003 to 2007 injury and non-injury crashes on local roads:

- Worst month December, best April
- Worst day Friday, best Tuesday
- Worst three hour period 3pm till 6pm
- 28 percent on wet roads
- 36 percent at night
- Number of roadside objects struck 1368, including 143 trees and 161 poles/posts
- 61 percent of at fault drivers held a full NZ drivers licence (injury crashes)
- Social cost of crashes in 2007 \$63.5m

Further information about 2003 to 2007 injury and non-injury crashes on State Highways:

- Worst month December, best June
- Worst day Saturday, best Tuesday
- Worst three hour period 3pm till 6pm
- 33 percent on wet roads
- 29 percent at night
- Number of roadside objects struck, 876 including 70 trees and 59 poles/posts
- 66 percent of at fault drivers held a full NZ drivers licence (injury crashes)
- Social cost of crashes in 2007 \$44.4m



Crashes at bends

Between 2003 and 2007 forty-nine percent of all injury crashes in Rodney District occurred at bends. These crashes resulted in 18 fatalities, 110 serious injuries and 406 minor injuries.

Overall crash numbers have fluctuated but the general trend is upwards in both urban and rural areas.

Crashes at bends 2003 to 2007				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2003	1	13	42	56
2004	6	21	44	71
2005	3	14	56	73
2006	2	18	51	71
2007	6	16	65	87
Total	18	82	258	358

Most crashes at bends involve a driver losing control of their vehicles and either running off the road or colliding with another vehicle.

After drivers lose control their vehicles often crash into roadside hazards such as ditches, banks, poles or trees. Hitting these objects can result in a relatively minor off-road event turning into something far more serious.

The most common roadside hazards struck in bend related injury crashes in Rodney District were cliffs or banks (81), trees (51), posts or poles (49), fences (43) and ditches (54) from a total of 445 objects struck.

Main characteristics of injury crashes at bends (2003–2007)	
Crash characteristic	Percentage of crashes
Single vehicle	74
Alcohol	24
Excessive speed for the conditions	40
Road factors	25
Poor handling	37
Rural road	76
Wet road	35
Night time	40

Further information about the 358 injury crashes on bends (2003 to 2007) on local roads in Rodney District:

- 18 deaths, 110 serious injuries and 406 minor injuries
- 67 percent of at fault drivers were male
- Most common crash type "lost control turning right"
- 25 percent involve road factors most commonly "slippery due to rain" *
- Most common at fault driver age group 15 to 19 years
- 24 percent of crashes involved alcohol
- 40 percent of crashes involved travelling too fast for the conditions
- Worst month January, best October
- Worst day of week Friday, best Tuesday
- Worst three hour period, 3pm till 6pm

Further information about the 192 injury crashes on bends (2003 to 2007) on State Highways in Rodney District:

- 28 deaths, 76 serious injuries and 201 minor injuries
- 69 percent of at fault drivers were male
- Most common crash type "lost control turning right"
- 20 percent involve road factors most commonly "slippery due to rain" *
- Most common at fault driver age group 15 to 19 years
- 26 percent of crashes involved alcohol
- 36 percent of crashes involved travelling too fast for the conditions
- Worst month September, best May
- Worst day of week Saturday, best Wednesday
- Worst three hour period, 3pm till 6pm

*note Land Transport NZ does not automatically assume that because a road is "wet" it is "slippery"

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 33 percent of all fatal crashes (a slight increase on 2006) and 15 percent of all injury crashes (the same as 2006).

There were 8005 alcohol-related injury crashes reported in New Zealand in the last five years.

In Rodney District, alcohol was a factor in 19 percent of injury crashes and 28 percent of fatal and serious crashes in 2007.

Alcohol crashes			
Crash year	Open road	Urban road	Total
2003	17	5	22
2004	15	11	26
2005	21	10	31
2006	15	11	26
2007	17	14	31
Total	85	51	136

Alcohol related crashes in Rodney District are relatively stable in number, this against a background of steadily rising injury crash numbers overall.

The crash locations of alcohol related crashes occurring between 2003 and 2007 are shown on the map on the following page.

From the beginning of 2007 Land Transport NZ has been adding driver factor codes to all non-injury crashes for the northern region. This change will allow the Police and other agencies to target alcohol related crashes more quickly and with even more geographic accuracy than ever before.

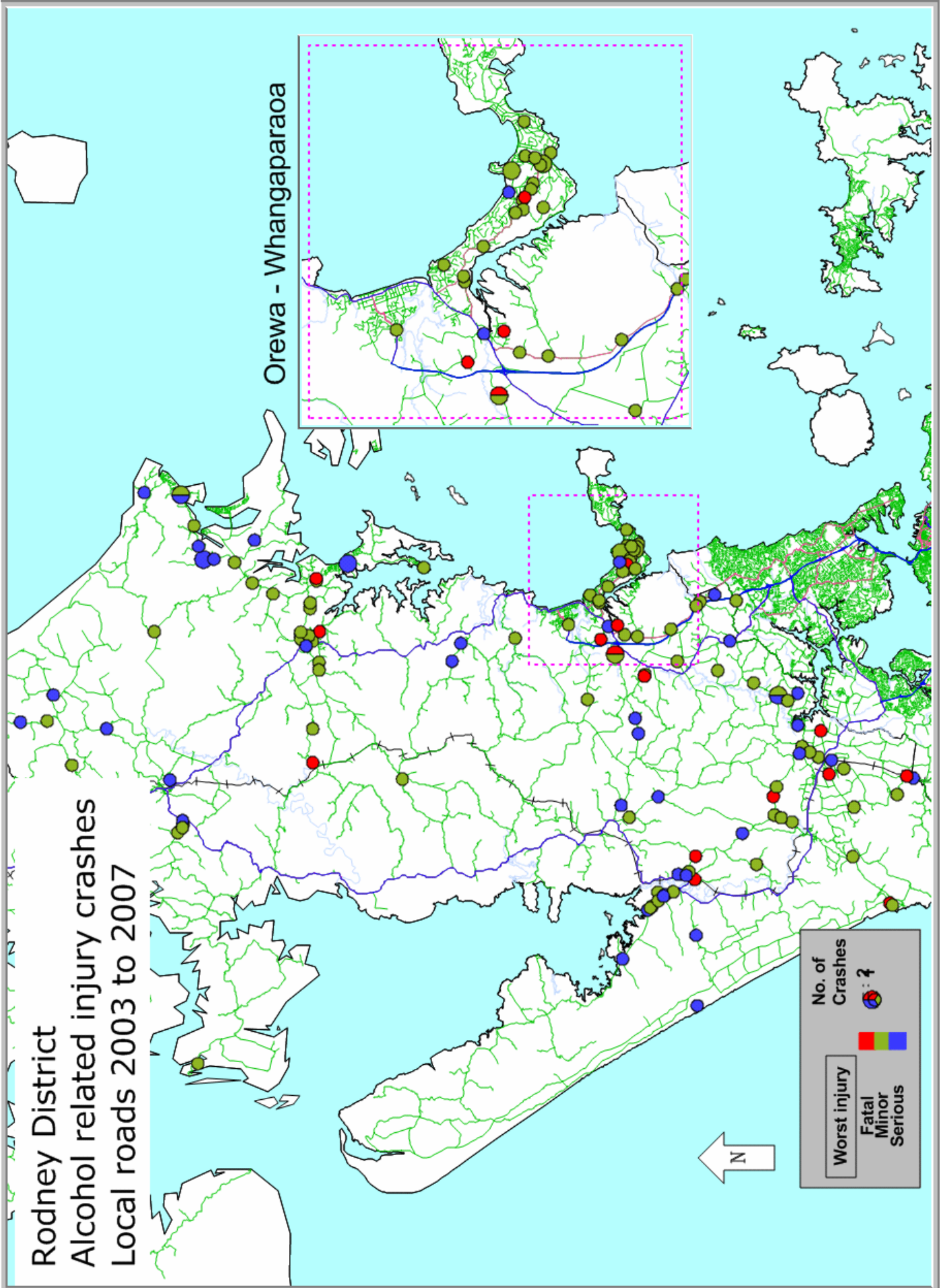
Last year in Rodney District there were 62 non-injury alcohol related crashes (local roads and State Highways).

Further information about the 136 alcohol related injury crashes in Rodney District on local roads (2003 to 2007):

- 15 deaths, 62 serious injuries and 147 minor injuries
- 80 percent of at fault drivers were male
- Most common crash type "lost control turning right"
- 18 percent at intersections
- 37 percent urban
- 26 percent wet road
- 78 percent night time
- Worst three hour period 9pm till midnight, next worst 6pm till 9pm
- Worst months February and September (equal), best January
- Worst day of week Friday, best Saturday

Further information about the 72 alcohol related injury crashes in Rodney District on State Highways (2003 to 2007):

- 12 deaths, 34 serious injuries and 76 minor injuries
- 86 percent of at fault drivers were male
- Most common crash type "lost control turning right"
- 14 percent at intersections
- 22 percent urban
- 31 percent wet road
- 71 percent night time
- Worst three hour period 6pm till 9pm and midnight till 3am (equal) then 3pm till 6pm
- Worst months February, March, October and December (all with equal numbers)
- Worst day of week Sunday, best Wednesday



Speed

Nationally, speed is one of the major contributing factors to road crashes. For the 12 months to the end of December 2007, excessive speed contributed to around 33 percent of fatal crashes and 18 percent of injury crashes.

During 2007, nationally there were 2103 injury crashes where the driver was travelling too fast for conditions.

Reducing speeds to appropriate levels is an important road safety goal. Excessive speed increases the likelihood of a crash occurring by reducing the time available for drivers to respond to hazardous situations and it also leads to more serious injuries. Research has shown that a one km/h reduction in mean speeds can produce up to a three percent reduction in injury crashes.

In the Rodney District, excessive speed was a factor in 25 percent of all injury crashes in 2007.

There were 185 speed related injury crashes reported in the last five years.

Speed related injury crashes					
Road type	2003	2004	2005	2006	2007
Urban	8	11	15	11	13
Rural	25	26	22	23	31
Total	33	37	37	34	34

Overall speed related crashes numbers have been relatively stable for the last four years.

On local roads 77 percent of speed related crashes occur at bends (73 percent on State Highways) and a high percentage of them occur at night (45 percent and 38 percent respectively).

This would suggest some investigation of night time curve delineation may be useful.

It is interesting to observe the higher night time percentage on local roads.

Some of this difference may be a function of the effectiveness of the Police Highway Patrols.

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

Drivers at fault in speed related injury crashes (2003-2007)	Male	Female	Total
15 - 19 years	53	13	66
20 - 24	23	10	33
25 - 29	23	2	25
30 - 39	20	7	27
40 - 49	13	5	18
50 - 59	9	3	12
60 - 69	2	1	3
70+	0	0	0
Total	143	41	184

Further information about the 185 speed related injury crashes in Rodney District on local roads (2003 to 2007):

- 20 deaths, 61 serious injuries and 217 minor injuries
- Most common crash type "lost control turning right"
- 90 percent mid-block
- 38 percent wet road
- 45 percent night time
- Worst month March, best June, September and November (equal)
- Worst days of week Friday and Saturday (equal), best Tuesday

Further information about the 95 speed related injury crashes in Rodney District on State Highways (2003 to 2006):

- 22 deaths, 39 serious injuries and 104 minor injuries
- Most common crash type "lost control turning right"
- 92 percent mid-block
- 44 percent wet road
- 38 percent night time
- Worst month February, best July
- Worst day of week Saturday, best Tuesday

Vulnerable road users (Pedestrians, Cyclists and Motorcyclists)

Vulnerable road users are those who have very little physical protection in the event of a crash with a vehicle and are therefore susceptible to severe injuries.

In February 2005, the Government launched 'Getting there – on foot, by cycle' its strategy to advance walking and cycling in New Zealand. This strategy aims to improve the environment for walking and cycling and at the same time improve safety, as well as increase the choices available for walking and cycling as day-to-day transport options.

Land Transport NZ expects local authorities to take a proactive approach to this subject. This should include the development of a walking and cycling strategy and submitting appropriate projects for funding to progress that strategy.

It is vitally important to recognise that promotion alone of walking and cycling will not be effective at increasing mode share unless these activities can be made safer.

There has also been a rise in motorcycle registrations in the last few years. This is partially in response to rising fuel costs but also to a growing number of empty nest "baby boomers" purchasing motorcycles that are more powerful than anything they owned in the 1970's.

Combined, pedestrians, cyclists and motorcyclists made up 24 percent of all fatal and serious casualties on local roads in Rodney District.

Pedestrians

Pedestrian injuries do not feature highly in the overall road injury picture in Rodney District, representing six percent of all injury crashes and seven percent of fatal and serious injuries.

Pedestrian injuries 2003 to 2007					
Pedestrian injuries	2003	2004	2005	2006	2007
Fatal	0	0	0	0	0
Serious	2	5	3	2	3
Minor	8	8	5	9	3
Total	10	13	7	11	6

Most (78 percent) of pedestrian crashes occur on roads with a speed limit of 50km/hr or less. The main concentration of local road crashes is in the Orewa and Whangaparaoa area, a much lower concentration can be found in the rural roads between Kumeu and Riverhead.

The highest proportion of injuries in pedestrian crashes involve young people up to the age of 19 years old – making them the most at-risk group. This may be because they walk more than other age groups.

Younger age groups may also not be mature enough to make the correct road crossing decisions.

For example young children have difficulty in judging the speed and distance of approaching vehicles.

Children are also easily distracted and unable to focus on multiple events at a time, so when they want to cross a road their attention can be easily distracted by say, a friend shouting out from across the street, a dog coming towards them or a noisy car passing by.

Road designers and motorists alike need to understand that children do not think like 'mini adults' when they are walking and playing near the road. The road environment needs to be made as safe as possible to mitigate against the unpredictable actions that children take.

We encourage Rodney District to continue implementing their programme of measures to address safety outside schools.

Further information about the 46 injury pedestrian crashes on local roads in Rodney District 2003 to 2007:

- 19 percent occurred at intersections
- Worst month, August
- Worst day of week Monday, best Sunday
- Where a driver was at fault (approximately 40 percent of the time) 44 percent held a full NZ Drivers licence
- 3 pedestrians were intoxicated
- 3 were pedestrians from a school bus

Further information about the 17 injury pedestrian crashes on State Highways in Rodney District 2003 to 2007:

- 29 percent at intersections
- Worst day Thursday
- 59 percent in rural areas
- 1 pedestrian from a school bus
- State Highway (SH) 1N 11 crashes, SH 16 4 crashes and SH 17 2 crashes (both in Dairy Flat)

Cyclists

There were 19 injury crashes between cyclists and motor vehicles between 2003 and 2007 representing only a small proportion of all injury crashes in the district. One person died, four received serious injuries and 14 received minor injuries.

Cyclist crashes and injuries					
	2003	2004	2005	2006	2007
Number of crashes	3	2	4	7	3
Number of injuries	3	2	4	7	3

Most (68 percent) cycling crashes occurred on urban roads, a third were at intersections and all but one in daylight hours.

In the last two years more cycles than cars were imported into New Zealand. In recent years the increase in cycle numbers on many roads in New Zealand has become quite noticeable.

There has been a noticeable increase in weekend recreational and training cyclists using Rodney District roads in the past five years. Almost half of cyclists injured on local roads were aged 20 or more and on State Highways 90 percent of cyclists were over 20.

Cycling crashes on local roads are concentrated in the southern and eastern parts of the district, mainly Whangaparaoa, Orewa and Riverhead. There were four cycling crashes on State Highway 17 and three on State Highway One in the Red Beach area.

Further information about the 19 reported cyclist vs vehicle crashes on local roads in Rodney District 2003 to 2007:

- Worst day of the week Tuesday, best Sunday
- Worst four hour period, midday till 4pm

Further information about the 12 reported injury cyclist vs vehicle crashes on State Highways in Rodney District 2003 to 2007:

- Worst day of the week Wednesday
- 17 percent in the dark
- Two thirds were male riders
- 36 percent aged 50 or more

Motorcyclists

Motorcyclists are represented in 11 percent of all injury crashes and 18 percent of fatal and serious crashes in the district.

Nationally motorcycling fatalities dropped from a high of 20 percent of all fatalities in 1988 to just six percent in 2003. Since then there has been a significant increase in motorcycle registrations and this has reversed the downward trend.

In 2007 motorcyclists accounted for almost 10 percent of road fatalities in New Zealand and by mid 2008 this had reached over 11 percent.

Injuries to motorcyclists					
	2003	2004	2005	2006	2007
Fatal	1	1	4	0	0
Serious	3	8	3	8	11
Minor	3	5	7	16	18
Total	7	14	14	24	29

Crash numbers have risen from a low of seven in 2003 to 28 in 2007.

It does appear that in Rodney District many riders are recreational motorcyclists rather than commuters (see below).

Further information about the 82 injury motorcycle crashes on local roads in Rodney District 2003 to 2007:

- The most common crash type "lost control turning right"
- 65 percent on rural roads
- Worst four hour period midday till 4pm
- Worst day of week Sunday, next Saturday representing 48 percent of all crashes (suggesting these are recreational rather than commuter motorcyclists)
- 93 percent of motorcyclists injured were male

Further information about the 53 injury motorcycle crashes on State Highways in Rodney District 2003 to 2007:

- The most common crash type "lost control turning right"
- 75 percent on rural roads
- Worst day of week Sunday, next Saturday, representing 55 percent of all crashes (suggesting these are recreational rather than commuter motorcyclists)

National issues

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

Speed

“Too fast” was recorded in 25 percent of injury crashes in the district in the last five years resulting in 20 deaths and 278 other injuries. Speed as a factor in crashes is not reducing in the district.

Eighty-seven percent of speed related crashes were “loss of control”. Alcohol and poor handling were the other driver factors often associated with speed.

At fault male drivers aged less than 19 were the most highly represented in speed-related crashes. (29 percent of all at fault drivers)

Alcohol

Alcohol was involved in 19 percent of injury crashes in the district in the last five years, resulting in 15 deaths and 209 other injuries. The number of injury crashes involving alcohol is not decreasing.

Sixty-two percent of alcohol crashes were in rural areas of the district.

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

Failure to give way

Failure to give way or stop was reported in 13 percent of all reported injury crashes for the last five years, resulting in four deaths and 132 other injuries.

Sixty-eight percent of crashes were in urban areas of the district.

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 Rodney District was 97 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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