



briefing notes - road safety issues

Rotorua District

Land Transport New Zealand has prepared this road safety issues report, it is based on reported crash data and trends for the 2002–2006 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 the Rotorua District.

This report is the eighth road safety report for the Rotorua District. The data in this report applies to local roads and State Highways in the Rotorua 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 for any local body 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 the Rotorua 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 for 2006.

We encourage local authorities to use the Ministry of Transport's Crash Analysis System (CAS) to further investigate the highlighted issues.

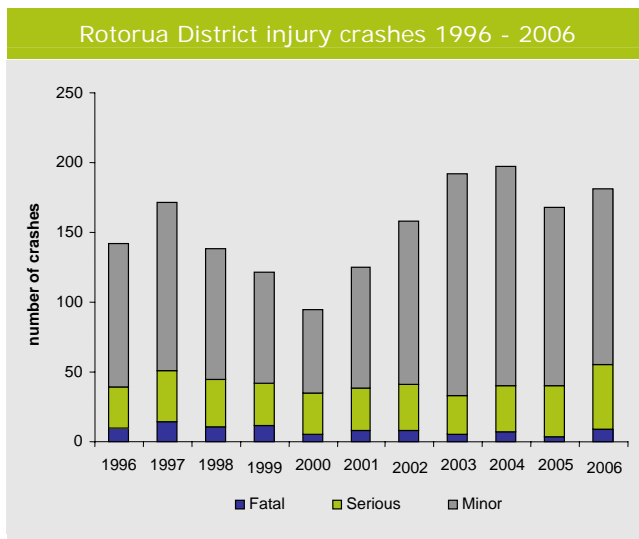
Major Road Safety Issues		2006 road trauma	
Rotorua District		Casualties	
Intersections		Deaths	12
Alcohol		Serious casualties	54
Speed		Minor casualties	189
Bends – Loss of Control			
Nationally		Crashes	
Speed		Fatal crashes	9
Alcohol		Serious injury crashes	46
Failure to give way		Minor injury crashes	125
Restraints		Non-injury crashes	607

Overview of 2006

In 2006 on local roads in Rotorua District there were 92 injury crashes and 388 non-injury crashes, in addition there were 88 injury crashes and 219 non-injury crashes on State Highways, as reported by the New Zealand Police.

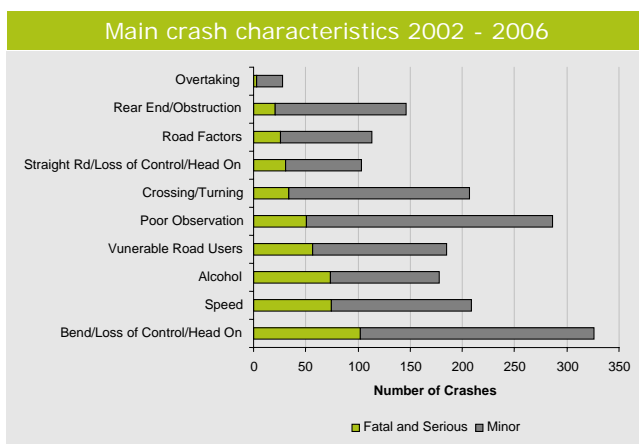
The table below shows the number of injuries resulting from 2006 crashes by rural or urban areas for both local and Transit roads (rural is defined as an area with a speed limit of 80km/h or more).

	Fatalities	Serious injuries	Minor injuries	Total
Rural	10	24	80	114
Urban	2	30	109	141
Total	12	54	189	255



Fatalities in the district have been fluctuating over the last 10 years.

The number of serious injuries fell between 1997 and 2003, but now seem to be rising.



Further information about 2006 injury and non-injury crashes on local roads:

- Worst month May (48), best February (32)
- Worst day Friday (82), best Wednesday (57)
- Wet road 24 percent
- Night time 31 percent
- Midblock 58 percent
- 72 percent of at fault drivers are male (injury crashes)
- 44 percent of at fault drivers in injury crashes have a full NZ licence

Further information about 2006 injury and non injury crashes on Transit roads

- Worst month June (35), best February (15)
- Worst day Saturday (50), best Friday (36)
- Wet road 27 percent
- Night time 33 percent
- Midblock 56 percent
- 55 percent of at fault drivers are male (injury crashes)
- 56 percent of at fault drivers in injury crashes have a full NZ licence

It has been observed nationally that there is a growing group of drivers who have not been exiting the graduated licence system and who are choosing to stay on restricted licences. This is making it increasingly difficult to distinguish drivers who are truly inexperienced from those that should have moved to a full licence. As a consequence it is more difficult to target educational material.

This is certainly true in Rotorua District with only 48 percent of at fault drivers in injury crashes being the holder of a full driving licence.

Driver licence status (injury crashes, at fault drivers all Rotorua District roads)	Percentage of total at fault drivers (NZ value in brackets)
Full	48.5 (58.4) %
Learner	10.5 (9.5) %
Restricted	17.5 (17.6) %
Never Licenced	5.3 (2.2) %
Disqualified	3.5 (1.7) %
Overseas	4.7 (4.2) %
Expired	2.3 (0.5) %
Other / unknown	7.6 (5.6) %

Speed

Nationally, speed is one of the major contributing factors to road crashes. For the 12 months to the end of December 2006, excessive speed contributed to around 31 percent of fatal crashes and 16 percent of injury crashes.

During 2006, there were 1,839 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 Rotorua District, excessive speed was a factor in 32 percent of injury crashes in 2006.

Speed related injury crashes	2002	2003	2004	2005	2006
Urban	21	13	16	15	32
Rural	16	15	28	27	25
Total	37	28	44	42	57

There were 208 speed-related injury crashes reported in the last five years.

Males are also highly represented as at fault drivers in speed related crashes, accounting for 77 percent of drivers

Drivers at fault or part fault in speed related injury crashes (2002-2006) *	Male	Female	Total
15- 19 years	58	14	72
20 - 24	30	10	40
25 - 29	21	8	29
30 - 39	15	10	25
40 - 49	19	2	21
50 - 59	5	1	6
60 - 69	2	0	2
70+	1	0	1
Total	151	45	196

* (note ranges are not equal)

The following table illustrates the licence status of at fault drivers in speed related crashes in Rotorua District and all New Zealand (2006).

Driver licence status, speed related injury crashes, at fault drivers in Rotorua District	Percentage of total at fault drivers in speed related crashes (NZ value in brackets)
Full	32.7 (43.0) percent
Learner	18.2 (15.3) percent
Restricted	12.7 (22.5) percent
Never Licenced	10.9 (4.5) percent
Disqualified	7.3 (4.1) percent
Overseas	3.6 (3.7) percent
Expired	1.8 (0.5) percent
Other / unknown	12.7 (6.2) percent

Further facts about speed related crashes in Rotorua District (divided into local roads and Transit roads) (2002 -2006)

Local roads

- 5 deaths, 40 serious injuries, 127 minor injuries
- Male drivers 78 percent
- Most common crash type Bend – (lost control/head on)
- 78 percent at midblock
- 35 percent wet road
- 59 percent night time
- Worst month April, best June
- Worst day of week Sunday, best Friday

Transit roads

- 15 deaths, 47 serious injuries, 124 minor injuries
- Male 76 percent
- Most common crash type Bend – (lost control/head on)
- 32 percent at intersections
- 47 percent wet road
- 46 percent night time
- Worst month July, best October
- Worst day Sunday, best Tuesday

Intersections

Crashes at intersections are the most common crash type in urban areas of Rotorua District.

During the five year period 2002 to 2006 there were 317 injury crashes at intersections and 1405 non-injury crashes. In these 8 people died, 59 received serious injuries and 368 received minor injuries.

Intersection crashes	2002	2003	2004	2005	2006
Injury crash	57	78	69	54	59
Non-injury crash	280	284	233	329	279
Total	337	362	302	383	338

The table below shows the locations of the five intersections with the highest number of crashes in Rotorua District between 2002 and 2006.

Intersection name	Total crashes 2002 - 2006	Injury crashes 2002 - 2006	Total crashes in 2006
SH 5 / Lake Road	51	-	10
SH 30A / Amohau Street	46	8	10
Hinemoa Street / Hinemaru Street	41	5	7
SH 30 / Tarawera Road	36	3	6
Tutanekai Street / Arawa Street	34	5	5

Crashes at Tee junctions in urban areas are the most common type of intersection crash reported, followed by crashes at X type urban junctions.

Junction type	Rural	Urban
Roundabout	10	184
Tee	122	874
Cross (X)	4	418
Y	7	20
Other (includes driveways)	2	80

The main causes contributing to crashes described in Police reports were:

- Failure to stop and give way
- Not checking properly
- Alcohol

Intersections present most drivers with one of their biggest driving challenges and as a result less experienced drivers are well represented in these crashes as illustrated in the table below showing licence class of at fault drivers.

Driver licence status, intersection related injury crashes, at fault drivers in Rotorua District	Percentage of total at fault drivers in intersection related crashes (NZ value in brackets)
Full	52.7 (60.9) %
Learner	8.7 (9.4) %
Restricted	17.3 (14.8) %
Never Licenced	4.7 (2.5) %
Disqualified	3.0 (1.6) %
Overseas	3.4 (3.7) %
Expired	2.0 (0.8) %
Other / unknown	8.3 (6.3) %

Further facts about intersection related crashes in Rotorua District 2002 to 2006 (divided into local roads and Transit roads):

Local roads

- 0 deaths, 25 serious injuries, 178 minor injuries
- 66 percent of at fault drivers are male
- Most common crash type – crossing/turning
- 11 percent alcohol over limit
- 97 percent urban
- 25 percent wet roads
- 30 percent night time
- Worst month October, best January
- Worst day of week Wednesday, best Monday

Transit roads

- 8 deaths, 34 serious injuries, 190 minor injuries
- 62 percent of at fault drivers are male
- Most common crash type - crossing/turning
- 9 percent alcohol over limit
- 72 percent urban
- 26 percent wet roads
- 27 percent night time
- Worst month July, best September
- Worst day of week Saturday, best Monday

Drink-driving

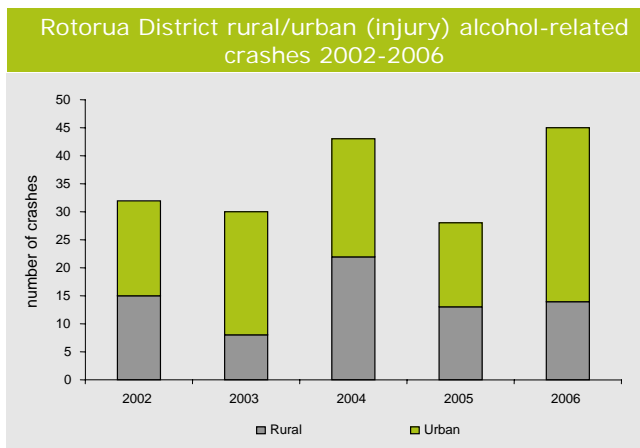
Alcohol affects the way people drive. Studies show that the risk of being involved in a crash increases rapidly as a driver's blood alcohol level rises. A driver over the legal limit (80mg of alcohol per 100ml of blood) is three times more likely to be involved in a crash than a sober driver.

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 2006, alcohol-affected drivers contributed to 31 percent of all fatal crashes and 15 percent of all injury crashes.

In the Rotorua District alcohol was a factor in 25 percent of injury crashes in 2006, an increase from 2005, and increasing in line with the national trend.

There were 178 alcohol-related injury crashes reported in the last five years.



Key locations

The following provides a breakdown of the key locations in Rotorua District at which drink-driving crashes occurred during the 2002 to 2006 period.

Rotorua District
SH 5, 1500m south of SH 30
SH 30 / Wharenui Road intersection
Sunset Road, 300m east of Pukehangi Road
Clayton Road / Susan St intersection

The following table illustrates the licence status of at fault drivers in alcohol related crashes in Rotorua District and all New Zealand (2006).

Driver licence status, alcohol related injury crashes, at fault drivers in Rotorua District	Percentage of total at fault drivers in alcohol related crashes (NZ value in brackets)
Full	36.8 (41.6) percent
Learner	15.8 (15.8) percent
Restricted	13.2 (20.8) percent
Never Licenced	10.5 (4.6) percent
Disqualified	13.2 (6.2) percent
Overseas	0 (1.0) percent
Expired	2.6 (1.4) percent
Other / unknown	7.9 (8.2) percent

Further facts about alcohol related crashes in Rotorua District (divided into local roads and Transit roads) (2002 -2006)

Local roads

- 3 deaths, 37 serious injuries, 94 minor injuries
- Male driver 79 percent
- Most common crash type Bend – (lost control/head on)
- 40 percent at intersections
- 82 percent urban
- 29 percent wet road
- 81 percent night time
- Worst month October, best February
- Worst day of week Sunday, best Monday

Transit roads

- 13 deaths, 42 serious injuries, 91 minor injuries
- Male drivers 75 percent
- Most common crash type Bend – (lost control/head on)
- 27 percent at intersections
- 40 percent urban
- 28 percent wet road
- 68 percent night time
- Worst month November, best February
- Worst day of week Saturday, best Tuesday

Road factors

A safe road environment incorporates numerous design principles, appropriate geometric design standards, good delineation under all conditions, adequate surface skid resistance and a roadside free of unforgiving hazards. It should also serve the safety needs of all vehicles and road users.

Road factors that contribute to crashes include those that affect the way a driver reacts to the driving conditions, such as:

- a slippery road surface
- obstructions on the road, such as slips
- limited visibility
- signs, signals and/or road markings being damaged or in poor condition.

Nationally, road factors were a contributing factor in 12 percent of injury crashes in 2006, with slippery road surfaces being the key factor.

In the Rotorua District, road factors were a factor in 10 percent of injury crashes in 2006, an increase from 2005.

There were 113 road factor related injury crashes reported in the last five years.

Road factors were predominantly a rural issue in the Rotorua District, in 2006 (rural is defined as an area with a speed limit of 80km/h or more).

Road factor related injury crashes	2002	2003	2004	2005	2006
Urban	14	8	9	5	3
Rural	14	12	18	13	17
Total	28	20	27	18	20

Key locations

The following provides a list of the key locations at which road factor crashes occurred during the 2002 to 2006 period.

Rotorua District
Okareka Loop Road (north), 500m east of Tarawera Road
SH 5, 1500m south of Waiotapu Road (south)
Hamurana Road, 500m east of Usworth Road

The following table shows various road factors involved in injury crashes for Rotorua District during the period 2002-2006.

Number of occasions Police reported this factor 2002 to 2006	Local road	Transit road
Slippery road	40	47
Road surface in poor condition	6	6
Road obstructed	-	3
Visibility limited	9	10
Signs or signals (needed or faulty)	-	2
Markings (needed or faulty)	-	1
Street lighting	1	2

Further facts about road factor related crashes in Rotorua District (2002 -2006) by local and Transit roads.

Local roads

- 2 deaths, 7 serious injuries, 66 minor injuries
- Most common crash type Bend – (lost control/head on)
- 18 percent at intersections
- 51 percent urban
- 69 percent wet road
- 31 percent night time
- Worst month February, best November

Transit roads

- 10 deaths, 22 serious injuries, 80 minor injuries
- Most common crash type Bend – (lost control/head on)
- 22 percent at intersections
- 22 percent urban
- 59 percent wet road
- 43 percent night time
- Worst month July, best August

Vulnerable road users

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

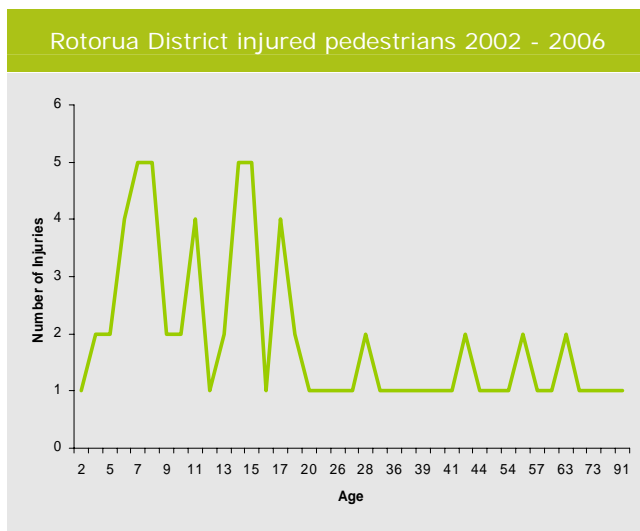
Pedestrians

Although pedestrian injuries do not feature highly in the total road injury picture in Rotorua District, representing 9 percent of all injuries, and making up 9 percent of all fatalities.

Pedestrian injuries	2002	2003	2004	2005	2006
Fatal	1	1	-	-	1
Serious	1	2	3	5	4
Minor	13	12	11	15	10
Total	15	15	14	20	15

Most (74 percent) pedestrian crashes occur on urban roads away from intersections and during daylight hours.

There is a strong bias toward the afternoon.



Young people are the most commonly injured in pedestrian crashes. This may be because they walk more than other age groups. However many of them may 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. They 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.

The recent decision by Police to enforce a lower speed tolerance around schools is a strong step in creating a safer lower speed environment for young pedestrians.

Pedestrian crashes are concentrated on arterial and collector roads. The top three locations (on the basis of fatal and serious injuries) are shown in the table below.

Location	Number of pedestrian injury crashes
SH 30A / Fenton Street	7
SH 5 / Malfroy Road	3
SH 30A / Tutaheki Street	2

Further information regarding 2002 -2006 pedestrian injury crashes:

Local roads

- The most common crash type was for a pedestrian crossing the road being hit by a driver approaching from their right (65 percent).
- Worst month August (8), best January (1)
- Worst day of week Tuesday (12), best Monday (3)
- Number of at fault drivers 8

Transit roads

- The most common crash type was for a pedestrian crossing the road being hit by a driver approaching from their right (74 percent).
- Worst month November (7), best May (0)
- Worst day of week Tuesday (5), best Sunday (2)
- Number of at fault drivers 3

Partnerships

Land Transport NZ works closely with many road safety partners at national, regional and local levels. These include government departments, enforcement agencies, territorial local authorities, health authorities and local service providers.

Some of the key road safety partners in the Hamilton City include:

New Zealand Police

Bay of Plenty District Road Policing Manager
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