



briefing notes - road safety issues

Rotorua District

New Zealand Transport Agency has prepared this road safety issues report. It is based on reported crash data and trends for the 2004-2008 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 tenth road safety report for the Rotorua district. All the material unless otherwise stated in this report applies to both local roads and state highways.

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 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.

We encourage Rotorua District Council to use its free access to the Ministry of Transport's Crash Analysis System (CAS) to delve deeper into the highlighted issues. All data in this report are from CAS.

Major road safety issues *		2008 road trauma	
Rotorua District		Casualties	Rotorua District
Alcohol		Deaths	6
Speed		Serious casualties	43
Bend / Loss of Control		Minor casualties	207
Intersections			
Nationally		Crashes	Rotorua District
Speed		Fatal crashes	6
Alcohol		Serious injury crashes	34
Failure to give way		Minor injury crashes	141
Restraints		Non-injury crashes	468

* Issues are not in any specific order of importance

Overview

In 2008 on local roads in Rotorua district there were 91 injury crashes and 265 non-injury crashes. In addition there were 90 injury crashes and 203 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 181 injury crashes on local roads and state highways.

Casualties by urban / rural 2008

	Fatalities	Serious injuries	Minor injuries	Total
Rural	2	23	92	117
Urban	4	20	115	139
Total	6	43	207	256

	Fatalities	Serious injuries	Minor injuries	Total
Local roads	2	20	93	115
State highways	4	23	114	141
Total	6	43	207	256

Crash trends in Rotorua district

Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Injury Crashes
1999	12	30	79	121
2000	5	30	60	95
2001	8	30	87	125
2002	8	33	117	158
2003	5	28	159	192
2004	7	33	157	197
2005	4	36	128	168
2006	9	46	126	181
2007	5	51	129	185
2008	6	34	141	181

Local road crashes

Crash type or contributory cause 2004 to 2008	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	32	20
Too fast	41	30
At bends	45	38
At intersections	28	35
Pedestrians	11	11
Cyclists	7	9
Motorcyclists	20	7
Road factors	9	12
Night time	39	36

Further information about injury and non-injury crashes on **local roads** in Rotorua district 2004 to 2008:

- Worst month January, best June
- Worst day Friday, best Sunday
- 27 percent on wet roads
- 31 percent at night
- 44 percent at intersections
- 1075 roadside objects struck
- Social cost of crashes in 2008 \$37m

Further information about injury and non-injury crashes on **state highways** in Rotorua district 2004 to 2008:

- Worst month July, best August & October (equal)
- Worst day Saturday, best Monday
- 31 percent on wet roads
- 32 percent at night
- 43 percent at intersections
- 717 roadside objects struck
- Social cost of crashes in 2008 \$41m

Speed

Nationally, speed is one of the major contributing factors to road crashes. Reducing speeds 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 situations and it leads to more serious injuries. Research has shown that a 1 km/h reduction in mean speed can produce a 3 percent reduction in injury crashes.

Between 2004 and 2008 21 percent of injury crashes in the Rotorua district involved travelling too fast for the conditions. These crashes resulted in 16 fatalities, 87 serious injuries and 278 minor injuries.

Crash numbers have fluctuated over the last 5 years.

Speed related crashes					
Speed related crashes	2004	2005	2006	2007	2008
Rural	28	27	27	29	31
Urban	18	15	33	18	18
Total	46	42	60	47	49

The other main causes contributing to speed related crashes were:

- Handling errors
- Alcohol
- General errors of judgement

Speed related crashes by location	
Road (road lengths may differ)	2004-2008
Settlers Rd—2800m south of SH 5	\$1,600,000
SH 36 / Central Rd intersection	\$1,300,000
SH 36—3500m north of Dudley Rd	\$300,000
SH 5—2700m south of SH 30	\$5,800,000
SH 5 / Settlers Rd intersection	\$300,000

Age and sex of at fault drivers in speed related injury crashes

Drivers age *	Male	Female	Total
2004 - 2008			
15-19 years	62	17	79
20 - 24	36	21	57
25 - 29	22	9	31
30 - 39	22	12	34
40 - 49	17	1	18
50 - 59	8	5	13
60 - 69	3	1	4
70+	1	1	2
Total	171	67	238

* note age ranges are not equal

Further information about the 134 speed related injury crashes in the Rotorua district on **local roads** 2004 to 2008:

- 6 deaths, 43 serious injuries and 142 minor injuries
- Most common crash type 'Lost control on bend'
- 76 percent midblock
- 37 percent wet road
- 54 percent night time
- Worst month December, best June
- Worst day of week Sunday, best Tuesday
- Worst three hour time period 6pm to 9pm

Further information about the 110 speed related injury crashes in the Rotorua district on **state highways** 2004 to 2008:

- 10 deaths, 44 serious injuries and 136 minor injuries
- Most common crash type 'Lost control on bend'
- 73 percent midblock
- 49 percent wet road
- 53 percent night time
- Worst month July, best October & December (equal)
- Worst day of week Sunday, best Thursday
- Worst three hour time period 6pm to 9pm

Intersections

During the five year period 2004 to 2008 within the Rotorua district there was a total of 1630 crashes at intersections, 304 of these were injury crashes and 1326 non-injury.

91 percent of these crashes were in urban areas and 5 people were killed, 68 received serious injuries and 328 received minor injuries.

Crashes at Intersections					
	2004	2005	2006	2007	2008
Injury crash	69	54	59	56	66
Non-injury crash	233	328	280	254	231
Total	302	382	339	310	297

Locations with the most injury crashes 2004 to 2008		
Intersection name (Within a radius of 50m)	Injury crashes 2004 - 2008	total Injury crashes 2008
SH 5 / Settlers Rd	8	3
SH 30A / Fenton Street	8	1
Malfroy Road / Ranolf Street	6	-
SH 30A / Tarewa Rd	6	2
SH 30A / SH 5	6	1

Junction control Injury and non-injury crashes				
Junction control	Traffic signals	Nil	Give Way	Stop
Number of crashes	223	351	760	282

The most common crash type at intersections is when a driver turns right and is hit by a vehicle approaching from the right.

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

- Failure to stop and give way
- Not checking properly
- General errors of judgement

Junction type Injury and Non-injury crashes		
Junction Type	Open	Urban
Roundabout	12	182
Tee	128	848
Cross (X)	1	380
Y	6	11
Other (includes driveways)	2	60

Further information about the 157 injury crashes at intersections on **local roads** in Rotorua district 2004 to 2008:

- 31 serious injuries and 157 minor injuries
- 24 percent wet roads
- 34 percent night time
- Worst month June, best September
- Worst day of week Wednesday, best Sunday
- Worst three hour time period 3pm to 6pm

Further information about the 147 injury crashes at intersections on **state highways** in Rotorua district 2004 to 2008:

- 5 deaths, 37 serious injuries and 171 minor injuries
- 29 percent wet roads
- 30 percent night time
- Worst month July, best November
- Worst day of week Friday, best Monday
- Worst three hour time period 3pm to 6pm

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 a sober driver 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 2008, alcohol-affected drivers contributed to 34 percent of all fatal crashes (the same as 2007) and 15 percent of all injury crashes (the same as 2007).

In Rotorua district alcohol was a factor in 19 percent of injury crashes in 2008.

Number of alcohol related injury crashes

Crash year	Open road	Urban road	Total
2004	22	21	43
2005	13	15	28
2006	14	31	45
2007	14	20	34
2008	17	18	35
Total	80	105	185

(Open road is classified as any area with a speed limit of 80km/hr or more)

From the beginning of 2007 New Zealand Transport Agency (formally Land Transport NZ) has been adding driver factor codes to all non-injury crashes for the Rotorua district.

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

In 2008 there were 49 non-injury alcohol related crashes reported by the Police in the East Waikato

Alcohol related injury crashes by location

Road (road lengths may differ)	Crash social costs 2004-2008
SH 5 / Western Rd intersection	\$1,400,000
SH 5—1300m south of SH 30	\$2,800,000
Malfroy Rd west / Ford Rd insection	\$1,700,000
SH 30—800m south of Whirinaki Valley Rd	\$1,200,000
SH 30—1000m north of Rotokawa Rd	\$200,000

Further information about the 91 alcohol related injury crashes in Rotorua district on **local roads** 2004 to 2008:

- 4 deaths, 34 serious injuries and 94 minor injuries
- 79 percent of at fault drivers were male
- Most common crash type 'lost control on bend'
- 38 percent at intersections
- 78 percent urban
- 24 percent wet road
- 79 percent night time
- Worst three hour time period 9pm to midnight
- Worst month January, best April & August (equal)
- Worst day of week Saturday, best Monday

Further information about the 94 alcohol related injury crashes in Rotorua district on **state highways** 2004 to 2008:

- 9 deaths, 35 serious injuries and 102 minor injuries
- 68 percent of at fault drivers were male
- Most common crash type 'Lost control on bend'
- 24 percent at intersections
- 36 percent urban
- 33 percent wet road
- 68 percent night time
- Worst three hour time period 9pm to midnight
- Worst months March & September (equal), best February
- Worst day of week Sunday, best Monday

Bends – loss of control or head on

Between 2004 and 2008 38 percent of all injury crashes in the Rotorua district were loss of control or head on crashes on bends. These crashes resulted in 17 fatalities, 116 serious injuries and 410 minor injuries.

Crash numbers have fluctuated over the last 5 years.

Crashes at bends 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	2	24	56	82
2005	3	15	43	61
2006	4	23	44	71
2007	2	15	43	60
2008	5	10	56	71
Total	16	87	242	345

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 injury loss of control or head on crashes on bends in the Rotorua district were cliffs or banks (74), fences (64), ditches (42), and trees (41) from a total of 356 objects struck.

Main characteristics of injury lost control or head on crashes at bends	
Crash characteristic	Percentage of crashes
Single vehicle	80
Alcohol	30
Excessive speed for the conditions	53
Road factors	23
Poor handling	34
Rural road	68
Wet road	36
Night time	49

Further information about the 167 injury loss of control or head on crashes on bends on **local roads** in the Rotorua district 2004 to 2009:

- 7 deaths, 48 serious injuries and 194 minor injuries
- 77 percent of at fault drivers were male
- Most common at fault driver age group 15 to 19 years (34 percent of all at fault drivers)
- 33 percent of crashes involved alcohol
- 63 percent of crashes involved 'too fast for the conditions'
- Worst month December, best November
- Worst day of week Sunday, best Wednesday
- Worst three hour time period 6pm to 9pm

Further information about the 388 injury loss of control or head on crashes on bends on **state highways** in the Rotorua district 2004 to 2008:

- 10 deaths, 68 serious injuries and 216 minor injuries
- 61 percent of at fault drivers were male
- Most common at fault driver age group was 30 to 39 years (20 percent of at fault drivers)
- 28 percent of crashes involved alcohol
- 44 percent of crashes involved 'too fast for the conditions'
- Worst month July, best May
- Worst day of week Saturday, best Friday
- Worst three hour time period 6pm to 9pm

Rear End Crashes

Between 2004 and 2008, 15 percent of all injury crashes in Rotorua district involved rear end collisions. These crashes resulted in 1 fatality, 19 serious injuries and 162 minor injuries.

There were also 1030 non-injury rear end crashes which from a high in 2005 have reduced each year to 2008.

Rear End collisions 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	1	1	25	27
2005	-	3	25	28
2006	-	8	25	33
2007	-	4	22	26
2008	-	3	22	25
Total	1	19	119	139

Most rear end crashes involve a driver failing to see a car slowing with 19 percent of all injury rear end crashes including this factor. 11 percent involve a driver following too closely.

Locations with the most injury rear end crashes 2004 to 2008	
Location name (Within a radius of 100m)	Total Injury crashes
Lake Rd—50m east of Tarewa Rd	5
SH 5 / Lake Rd intersection	3
SH 5 / SH 30 intersection	3
SH 5 / Malfroy Rd intersection	3
SH 30A / Fenton St intersection	3

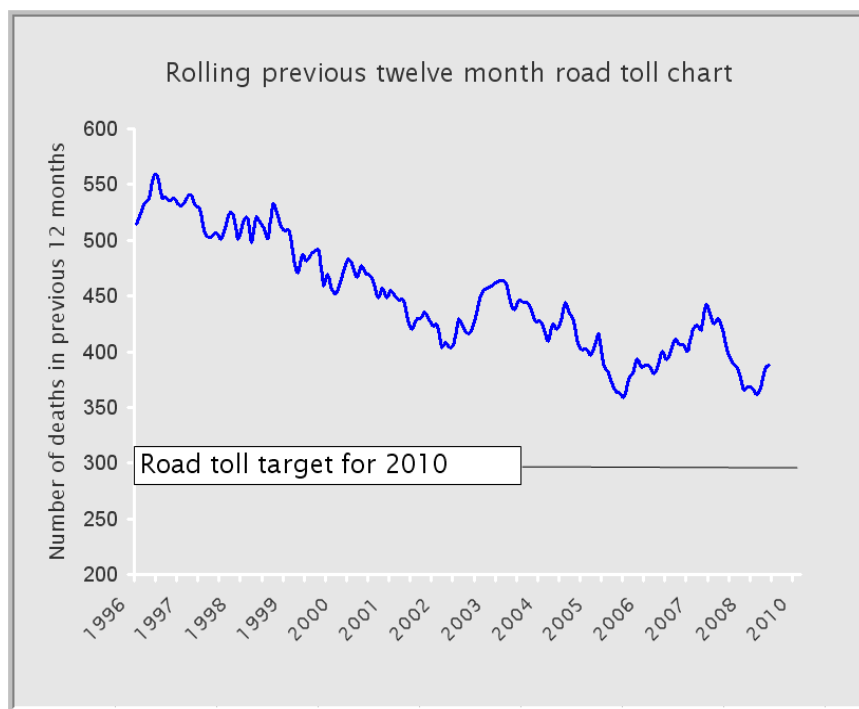
Age and gender of at fault drivers (note—age ranges are not equal)

Ages of drivers at fault in injury crashes (2004 to 2008)	Male	Female	Total
15- 19	18	11	29
20 - 24	7	7	23
25 - 29	7	7	12
30 - 39	8	8	26
40 - 49	7	7	24
50 - 59	4	4	10
60 - 69	3	3	8
70+	3	3	7
Total	50	50	139

Further information about the 139 rear end injury crashes on **local roads** and **state highways** in Rotorua district 2004 to 2008:

- 9 serious injuries and 73 minor injuries on **local roads**
- 1 death, 10 serious injuries and 89 minor injuries on **state highways**
- 9 percent involved alcohol
- 9 percent involved 'too fast for the conditions'
- 19 percent at night
- 22 percent in the wet
- 73 were on urban roads
- 51 percent of drivers with a "full" licence
- 64 percent of at fault drivers were male
- Worst month March, best September
- Worst day of week Friday, best Thursday
- Worst three hour time period, 3pm to 6pm

The next ten years—moving beyond Road Safety 2010



In August this year the Ministry of Transport will embark on a nationwide road safety consultation programme as it moves to formulate priorities for the next ten years.

Information will be published on their web site and we would encourage any person or group with an interest in road safety to watch the site carefully for developments. Follow this link :

<http://www.transport.govt.nz/ourwork/Land/landsafety/SaferJourneys-RoadSafetyStrategyto2020/>

The chart on the left illustrates the progress made during the life of the Road Safety 2010 strategy and although progress has been made it would seem highly unlikely that the target of 300 or fewer fatalities will be met.

Restraints

The Ministry of Transport (MoT) conducts surveys of restraint use. Results are available for front, rear and child restraints although not all at a local authority level.

See the MoT website : <http://www.transport.govt.nz/research/safetybeltstatistics/>

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