

briefing notes - road safety issues

Bay of Plenty Region

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 Bay of Plenty region. In this report the Bay of Plenty region includes Rotorua, Western Bay of Plenty, Whakatane, Kawerau and Opotiki, District Councils and Tauranga City Council.

A report for the Bay of Plenty region has not been produced for the last few years. All the material unless otherwise stated in this report applies to both local roads and state highways.

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

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

We encourage councils in the Bay of Plenty region to use their free access to the Ministry of Transport's Crash Analysis System (CAS) to delve deeper into the highlighted issues. All data in this report is from CAS.

Major road safety issues *		2008 road trauma	
Bay of Plenty region		Casualties	Bay of Plenty region
Alcohol		Deaths	29
Speed		Serious casualties	176
Bend / Loss of Control		Minor casualties	629
Intersections			
Nationally		Crashes	Bay of Plenty region
Speed		Fatal crashes	26
Alcohol		Serious injury crashes	140
Failure to give way		Minor injury crashes	429
Restraints		Non-injury crashes	1556

* Issues are not in any specific order of importance

Overview

In 2008 on local roads in the Bay of Plenty region there were 349 injury crashes and 981 non-injury crashes. In addition there were 246 injury crashes and 575 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 595 injury crashes on local roads and state highways.

Casualties by urban / rural 2008

	Fatalities	Serious injuries	Minor injuries	Total
Rural	18	106	312	436
Urban	11	70	317	398
Total	29	176	629	834

Casualties by state highway / local road 2008

	Fatalities	Serious injuries	Minor injuries	Total
Local roads	8	98	352	458
State highways	21	78	277	376
Total	29	176	629	834

Crash trends in the Bay of Plenty region

Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Injury Crashes
1999	43	105	287	435
2000	32	98	230	360
2001	35	100	279	414
2002	29	135	427	591
2003	40	109	435	584
2004	32	127	424	583
2005	24	127	385	536
2006	29	150	389	568
2007	27	171	442	640
2008	26	140	429	595

Local road and state highway 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	29	21
Too fast	28	23
At bends	40	35
At intersections	29	33
Pedestrians	8	7
Cyclists	7	7
Motorcyclists	17	10
Road factors	10	13
Night time	38	34

Further information about 2004 to 2008 injury and non-injury crashes on **local roads** in the Bay of Plenty region:

- Worst month June, best October
- Worst day Friday, best Sunday
- 23 percent on wet roads
- 31 percent at night
- 42 percent at intersections
- 3466 roadside objects struck
- Social cost of crashes in 2008 \$158m

Further information about 2004 to 2008 injury and non-injury crashes on **state highways** in the Bay of Plenty region:

- Worst month May, best September
- Worst day Friday, best Monday
- 26 percent on wet roads
- 32 percent at night
- 40 percent at intersections
- 2124 roadside objects struck
- Social cost of crashes in 2008 \$158m

Speed

Nationally, speed is one of the major contributing factors for 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 23 percent of injury crashes in the Bay of Plenty region involved travelling too fast for the conditions. These crashes resulted in 59 fatalities, 259 serious injuries and 759 minor injuries.

Crash numbers have fluctuated over the last 5 years.

Speed related crashes

Speed related crashes	2004	2005	2006	2007	2008
Rural	89	60	80	83	88
Urban	54	49	62	44	52
Total	143	109	142	127	140

The other main causes contributing to speed related crashes were:

- Handling errors
- Alcohol
- Road factors

Speed related injury crashes by location

Road (road lengths may differ)	Social cost of crashes 2004-2008
Settlers Rd—2800m south of SH 5, Reporoa	\$1,600,000
SH 29 / Tasman Quay intersection, Tauranga	\$1,200,000
SH 29 at Omanawa Stream bridge, Tauriko	\$470,000
SH 30 / Thornton Rd intersection, Whakatane	\$1,200,000
Ohope Rd—400m east of Burma Rd, Ohope	\$1,800,000

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

Drivers age *	Male	Female	Total
2004 - 2008			
15-19 years	162	61	223
20 - 24	101	40	141
25 - 29	57	14	71
30 - 39	78	28	106
40 - 49	46	14	60
50 - 59	22	10	32
60 - 69	7	4	11
70+	2	4	6
Total	475	175	650

* note age ranges are not equal

Further information about the 386 speed related injury crashes in the Bay of Plenty region on **local roads** 2004 to 2008:

- 21 deaths, 135 serious injuries and 438 minor injuries
- Most common crash type 'Lost control on bend'
- 74 percent midblock
- 33 percent wet road
- 53 percent night time
- Worst month December, best November
- Worst day of week Saturday, best Tuesday
- Worst three hour time period 6pm to 9pm

Further information about the 275 speed related injury crashes in the Bay of Plenty region on **state highways** 2004 to 2008:

- 38 deaths, 124 serious injuries and 321 minor injuries
- Most common crash type 'Lost control on bend'
- 78 percent mid-block
- 42 percent wet road
- 53 percent night time
- Worst month July, best October
- Worst day of week Sunday, best Thursday
- Worst three hour time period 3pm to 6pm

Intersections

During the five year period 2004 to 2008 within the Bay of Plenty region there was a total of 4661 crashes at intersections, 953 of these were injury crashes and 3708 non-injury.

85 percent of these crashes were in urban areas and 17 people were killed, 249 received serious injuries and 1025 received minor injuries.

Crashes at Intersections

	2004	2005	2006	2007	2008
Injury crash	197	184	187	191	194
Non-injury crash	737	808	748	736	679
Total	934	992	935	927	873

Locations with the most injury crashes 2004 to 2008

Intersection name	Injury crashes 2004 - 2008	total Injury crashes 2008
SH 2 / Domain Rd, Papamoa	10	-
SH 2 / Maketu Rd, Te Puke	9	-
SH 30A / Fenton St, Rotorua	8	1
SH 5 / Settlers Rd, Reporoa	8	3
SH 30 / Paroa Rd, Whakatane	8	2

Junction control Injury and non-injury crashes

Junction control	Traffic signals	Nil	Give Way	Stop
Number of crashes	486	1082	2243	807

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
- Speed
- General errors of judgement

Junction type Injury and Non-injury crashes

Junction Type	Open	Urban
Roundabout	66	793
Tee	493	1971
Cross (X)	84	997
Y	29	46
Other (includes driveways)	26	155

Further information about the 564 injury crashes at intersections on **local roads** in the Bay of Plenty region 2004 to 2008:

- 6 deaths, 144 serious injuries and 568 minor injuries
- 20 percent wet roads
- 30 percent night time
- Worst month June, best September
- Worst days of week Friday & Saturday (equal), best Sunday
- Worst three hour time period 3pm to 6pm

Further information about the 389 injury crashes at intersections on **state highways** in the Bay of Plenty region 2004 to 2008:

- 11 deaths, 105 serious injuries and 457 minor injuries
- 21 percent wet roads
- 27 percent night time
- Worst month May, best November
- Worst day of week Friday, best Sunday & Monday (equal)
- 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 the Bay of Plenty region alcohol was a factor in 21 percent of injury crashes in 2008.

Number of alcohol related injury crashes

Crash year	Open road	Urban road	Total
2004	65	60	125
2005	53	53	106
2006	56	72	128
2007	66	56	122
2008	60	61	121
Total	300	302	602

(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 (formerly Land Transport NZ) has been adding driver factor codes to all non-injury crashes for the Bay of Plenty 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.

In 2008 there were 177 non-injury alcohol related crashes reported by the Police in the Bay of Plenty region

Alcohol related injury crashes

Road (road lengths may differ)	Social cost of crashes
SH 29 at Omanawa Stream bridge,	\$10,700,000
SH 5 / Western Rd intersection, Ngongotaha	\$1,400,000
Bellvue Rd / Windsor Rd intersection, Tauranga	\$1,100,000
SH 2 / Barrett Rd intersection, Omokoroa	\$307,000
SH 2 / Gulliver Rd intersection, Omokoroa	\$4,900,000

Further information about the 334 alcohol related injury crashes in the Bay of Plenty region on **local roads** 2004 to 2008:

- 22 deaths, 137 serious injuries and 336 minor injuries
- 79 percent of at fault drivers were male
- Most common crash type ‘Lost control on bend’
- 35 percent at intersections
- 69 percent urban
- 24 percent wet road
- 79 percent night time
- Worst three hour time period 9pm to midnight
- Worst month February, best May
- Worst day of week Saturday, best Monday & Tuesday (equal)

Further information about the 268 alcohol related injury crashes in the Bay of Plenty region on **state highways** 2004 to 2008:

- 39 deaths, 116 serious injuries and 269 minor injuries
- 75 percent of at fault drivers were male
- Most common crash type ‘Lost control on bend’
- 20 percent at intersections
- 29 percent urban
- 28 percent wet road
- 69 percent night time
- Worst three hour time period 9pm to midnight
- Worst month September, best May
- Worst day of week Saturday, best Monday

Bends – loss of control or head on

Between 2004 and 2008 35 percent of all injury crashes in the Bay of Plenty region were loss of control or head on crashes on bends. These crashes resulted in 82 fatalities, 368 serious injuries and 1167 minor injuries.

Crash numbers have remained relatively steady over the last 5 years apart from a decline in 2005.

Crashes at bends 2004 to 2008

Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	17	52	149	218
2005	15	40	116	171
2006	14	54	142	210
2007	12	65	133	210
2008	14	56	152	222
Total	72	267	692	1031

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 Bay of Plenty region were cliffs or banks (203), fences (184), trees (132), posts or poles (92) and ditches (87) from a total of 1042 objects struck.

Main characteristics of injury lost control or head on crashes at bends

Crash characteristic	Percentage of crashes
Single vehicle	77
Alcohol	34
Excessive speed for the conditions	47
Road factors	21
Poor handling	37
Rural road	70
Wet road	32
Night time	47

Further information about the 534 injury loss of control or head on crashes on bends on **local roads** in the Bay of Plenty region 2004 to 2008:

- 22 deaths, 169 serious injuries and 612 minor injuries
- 72 percent of at fault drivers were male
- Most common at fault driver age group was 15 to 19 years (33 percent of all at fault drivers)
- 37 percent of crashes involved alcohol
- 54 percent of crashes involved 'too fast for the conditions'
- Worst month December, best May
- Worst day of week Saturday, best Tuesday
- Worst three hour time period 3pm to 6pm

Further information about the 497 injury loss of control or head on crashes on bends on **state highways** in the Bay of Plenty region 2004 to 2008:

- 60 deaths, 199 serious injuries and 555 minor injuries
- 69 percent of at fault drivers were male
- Most common at fault driver age group was 15 to 19 years (19 percent of at fault drivers)
- 30 percent of crashes involved alcohol
- 39 percent of crashes involved 'too fast for the conditions'
- Worst months July & December, best May
- Worst day of week Saturday, best Monday
- Worst three hour time period 6pm to 9pm

Rear End Crashes

Between 2004 and 2008, 17 percent of all injury crashes in the Bay of Plenty region involved rear end collisions. These crashes resulted in 7 fatalities, 87 serious injuries and 564 minor injuries.

There were also 3081 non-injury rear end crashes which have remained at between 550 and 650 per year for the last 5 years.

Rear End collisions 2004 to 2008

Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2003	2	10	75	87
2004	1	18	81	100
2005	3	21	71	95
2006	-	15	89	104
2007	1	16	87	104
Total	7	80	403	490

Most rear end crashes involve a driver failing to see a car slowing, with 18 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, Rotorua	5
SH 29 / Aerodrome Rd intersection, Tauranga	4
SH 29 / 20m north of Spur Ave, Tauranga	4
Cameron Rd / Nineteenth Ave intersection, Tauranga	4
King St—20m south of Victoria Ave, Whakatane	4

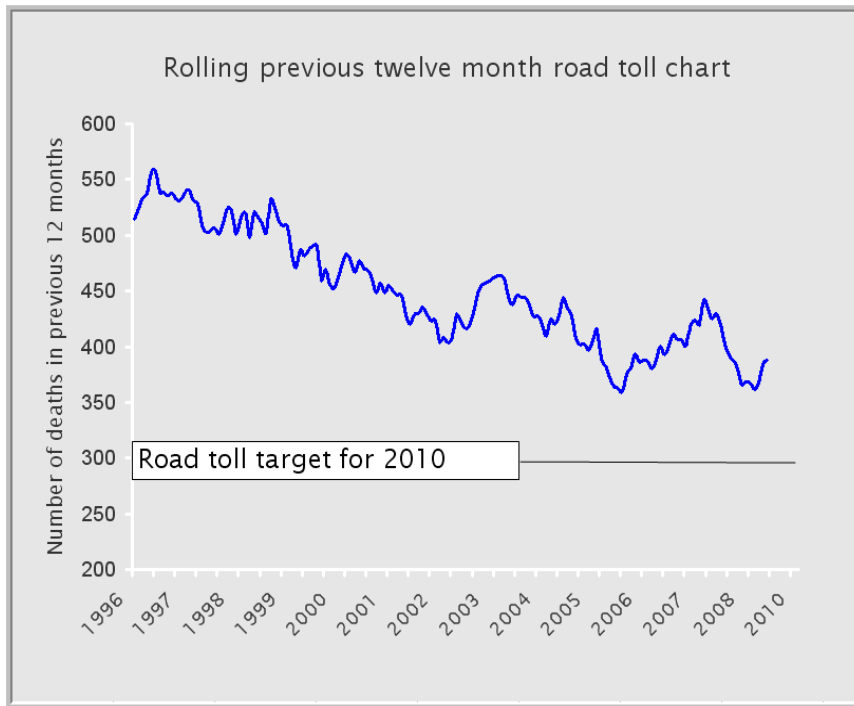
Age and gender of at fault drivers (note—age ranges are not equal)

Ages of drivers at fault in injury crashes (2004 to 2008)	Male	Female	Total
15- 19	58	38	96
20 - 24	48	24	72
25 - 29	29	21	50
30 - 39	53	38	91
40 - 49	49	25	74
50 - 59	34	24	58
60 - 69	19	8	27
70+	17	15	32
Total	307	193	500

Further information about rear end injury crashes on **local roads** and **state highways** in the Bay of Plenty region 2004 to 2008:

- 4 deaths, 48 serious injuries and 302 minor injuries on **local roads**
- 3 deaths, 39 serious injuries and 262 minor injuries on **state highways**
- 11 percent involved alcohol
- 8 percent involved 'too fast for the conditions'
- 21 percent at night
- 19 percent in the wet
- 61 percent of drivers with a "full" licence
- 61 percent of at fault drivers were male
- Most common cause of crashes, 'failed to see vehicle slowing'
- Worst month January, best August
- Worst day of week Friday, best Sunday
- 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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