

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 2001–2005 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 Rodney District.

Except for the two graphs on this page and the table opposite, the data in this report applies only to local roads within the Rodney District. For state highways there is a separate Transit New Zealand report for the Transit Auckland region.

The issues remain similar to those of previous years. The four main issues discussed in this report were chosen because crashes with their characteristics had the highest numbers of fatal injuries. Serious injuries were also significant in these issues as depicted in a chart in the overview section.

Focusing on crashes resulting in severe injury is consistent with the *Road safety to 2010* strategy and the *Auckland Regional road safety plan*. Both of these documents set targets for reducing deaths and hospitalisations arising from road crashes. While highlighting just four issues in this publication, crash types not specifically covered also need to be addressed if these targets are to be met.

Major road safety issues

Rodney District

Loss of control crashes at bends

Roadside hazards

Speed

Alcohol

Nationally

Speed

Alcohol

Failure to give way

Restraints



2005 road trauma for Rodney District



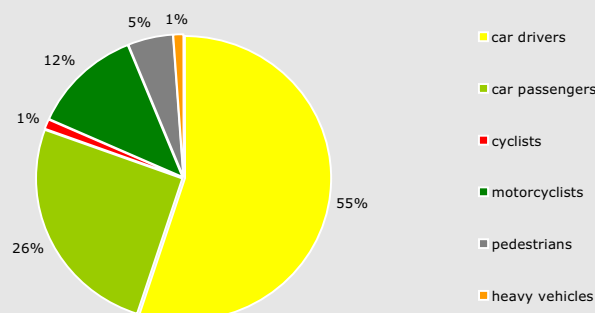
Deaths	23
Serious casualties	61
Minor casualties	253



Fatal crashes	19
Serious injury crashes	46
Minor injury crashes	170
Non-injury crashes	503

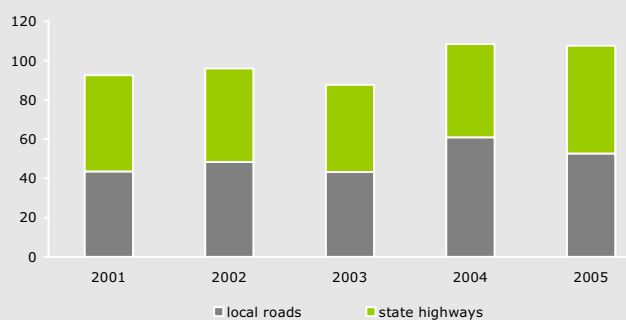
Fatal and serious casualties

User type 2001–2005



Estimated social cost of crashes*

Social cost (\$ million)



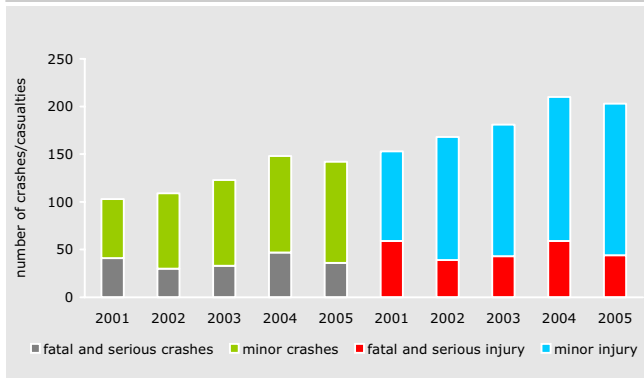
* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2005 prices.

Overview

Crash and casualty trends

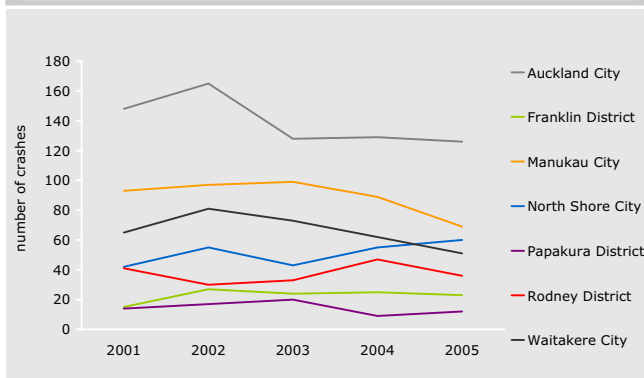
The increasing trend of recent years abated in 2005 with a small decrease in totals of both crash and casualty numbers. Pleasingly, the decrease was mainly in the more severe injuries with 36 fatal or serious crashes in 2005 compared with 47 in 2004.

Injury crash and casualty numbers



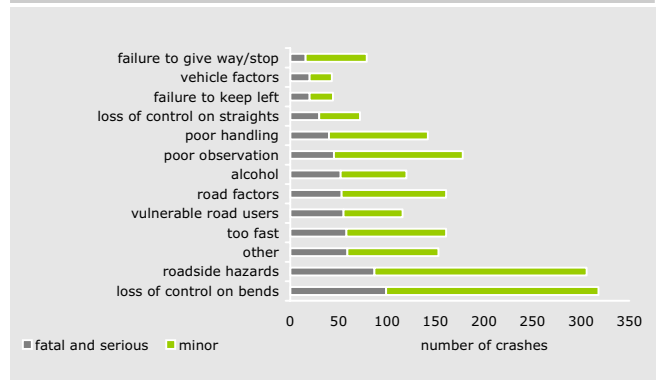
Taking a regional perspective the graph below shows the five-year trend for fatal and serious crashes as compared with other road controlling authorities (RCAs) in the Auckland region.

Fatal and serious crash trend 2001-2005



The issues considered for discussion in this report are illustrated in the following graph. Those chosen had the highest numbers of fatal and serious injury crashes. It can be clearly seen that several other issues are almost as significant. This means that there is ample opportunity for improvement on issues not expressly mentioned in this report.

Main crash characteristics 2001-2005



Some points to explain the preceding graph:

- The categories on the vertical axis are an assortment of entities, namely, factors associated with a crash, road user groups, crash movement type groups, and a grouping of crashes that hit a roadside hazard.
- Any one crash may occur in multiple categories (and does not apportion blame), eg a crash caused by a speeding motorcyclist who swerved to avoid a drunk pedestrian at a corner would be counted in the vulnerable road user, alcohol, speed, and loss of control at a bend categories.
- Vulnerable road users include motorcyclists, pedestrians, cyclists, skateboarders, power-cyclists, and wheeled pedestrians. (The latter two types have counts of two and one respectively).
- 'Other' is a group of miscellaneous factors for any of the more than 300 individual crash factors that fall outside of the 16 specific crash factor groups.
- Poor handling includes a group of factors concerned with losing control of the vehicle not due to a road, vehicle or environmental issue.
- Poor observation covers failed to notice, attention diverted and did not look or see factors.

Crash types not specifically covered in this report also need to be addressed if safety targets are to be met. Alcohol and speed crashes were chosen, however the graph shows similar counts for poor observation, poor handling, road factors, vulnerable road users and other categories.

Loss of control crashes at bends

Between 2001 and 2005, there were 318 injury crashes where a driver lost control of their vehicle at a bend in the Rodney District. These resulted in 17 fatalities and 118 serious injuries as well as 365 minor injuries. This type of crash accounted for 51 percent of all crashes in the Rodney District compared with 25 percent for all of New Zealand.

The main factors attributed to these crashes is summarised in the following table and are compared

to the figures for the rest of New Zealand’s local roads. The percentage values do not total 100 percent (and in fact are typically over 150 percent), as a crash may have more than one factor. Alcohol, speed and poor handling are a contributing factor in this type of crash less often in Rodney than in New Zealand in general. Poor judgement (a grouping of misjudgement and inexperience factors) is over-represented.

Crashes reported 2001–2005		
	Rodney District	All of New Zealand
Alcohol	25%	29%
Too fast	38%	46%
Poor handling	34%	38%
Poor judgement	16%	12%
Road factors	22%	21%

Delving further into the Rodney crashes reveals this list of the individual factors and the number of crashes in which they were attributed. Entering corners too fast was the single biggest issue in loss of control crashes. Unfortunately when considering individual factors like this, the crash locations are dispersed and it is usually not possible to locate a specific area for treatment.

Crashes reported 2001–2005	
Factor	Number of crashes
Too fast entering corner	114
Lost control when turning	68
Alcohol test above limit or test refused	47
Road slippery (rain)	37
Lost control due to road conditions	30
Alcohol suspected	26
Inexperience	19
Lost control under heavy braking	17
Lost control on unsealed shoulder	12
New driver showed inexperience	12
Foreign driver lacking local experience	11
Road surface deep loose metal	11

Looking at the licence status of the drivers deemed to be at fault or partly at fault, a different pattern emerged when comparing Rodney with the rest of New Zealand. People with full licences and presumably some driving experience, were over-represented. For all types of crashes, the figures were about 60 percent for both all of New Zealand and the Rodney District. However, a fully licensed driver being at fault in a loss of control on a bend crash was less likely in the rest of the country than it was in the Rodney District. This is shown in the following table. Considering fewer (69 percent) crashes were single vehicle crashes in Rodney (the New Zealand figure is 75 percent), this was surprising. In a single vehicle

crash, fault can be attributed to either the road, the vehicle or the driver.

Crashes reported 2001–2005		
Culpable drivers licence type	Rodney District	All of New Zealand
Full	59%	47%
Restricted/learner	23%	31%
Overseas	5%	4%
Never/disqualified/expired	6%	10%

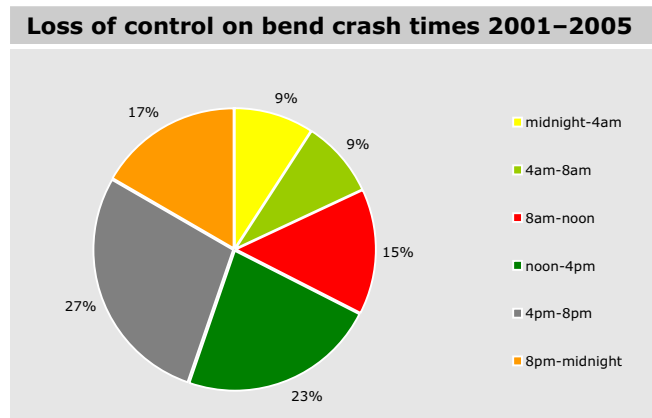
Sixty-three percent of drivers in Rodney involved in loss of control on bend crashes held a full licence (52 percent for New Zealand) – the difference to the figures in the table is the culpability.

Addressing this problem is not straightforward – the speed entering a corner may be too high, but it may still be below the limit, making enforcement difficult. A problem with the nature of the roads peculiar to Rodney is unlikely as road factors in the table opposite is about average for the country as a whole.

A list of the sites that had three or more loss of control on bend injury crashes over the last five years follows. A site is a 100 metre (urban) or 30 metre (rural) radius circle.

- Coatesville Riverhead Highway 1,300 metres north of Ridge Road.
- Coatesville Riverhead Highway 70 metres west of O’Brien Road.
- East Coast Road 25 metres south of Rodeo Road.
- East Coast Road 100 metres north of Bawden Road.
- Old North Road 200 metres north of Terry Smyth Drive.
- Old North Road 300 metres south of Old Railway Road.
- Omaha Valley Road at the intersection of Leigh Road.

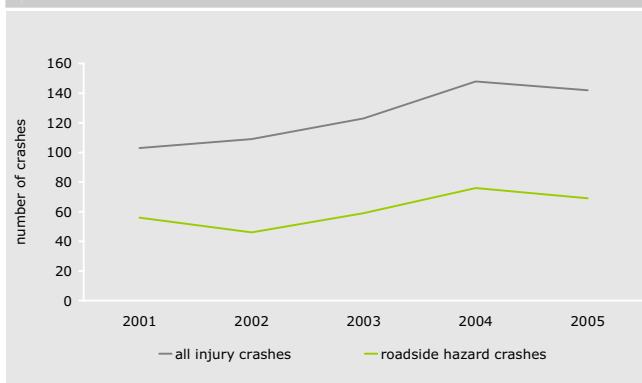
The crash time of all injury crashes is shown below.



Roadside hazards

Between 2001 and 2005, roadside objects were struck in about half of all crashes. The figure for fatal or serious crashes was higher at 60 percent. If drivers leave the road and are able to come to a rest or regain control without coming into contact with a roadside hazard, the resultant injury is likely to be less severe. An exception would be a guard rail where it has hopefully prevented the vehicle from hitting something more unforgiving. The graph below shows the similarity in the trends over the past five years of all injury crashes and crashes into roadside hazards. One conclusion is that in a crash in the Rodney District, vehicles will often come into contact with a roadside hazard.

Roadside hazard crash trends 2001–2005



Between 2001 and 2005, 417 roadside hazards were struck in 306 injury crashes. These crashes resulted in 21 fatalities, 89 serious injuries, and 321 minor injuries. There were seven fatalities in 2005 involving crashes with roadside hazards. Trees, ditches, and cliffs or banks were the roadside hazards hit more frequently. The roadside hazards most frequently struck are shown in the following table.

Object struck	Number of strikes
Cliff/bank	72
Ditch	71
Tree	64
Fence	57
Post or pole	46
Over bank	22
Parked vehicle	17

Solid objects or unprotected hazards near the side of a road increase the likelihood of severe injuries occurring in a crash. A programme to remove hazards or mitigate their effects based on risk would be beneficial. This could include:

- a long-term initiative to resite transmission lines
- develop and initiate a process to progressively remove banks and make ditches traversable, or failing this, to install sections of guard rail
- liaison with landscapers and planners in the area to ensure a road safety input is included in any new developments

- landowners being made aware of the dangers so that new constructions, such as fences and culverts, would be of a less harmful design.

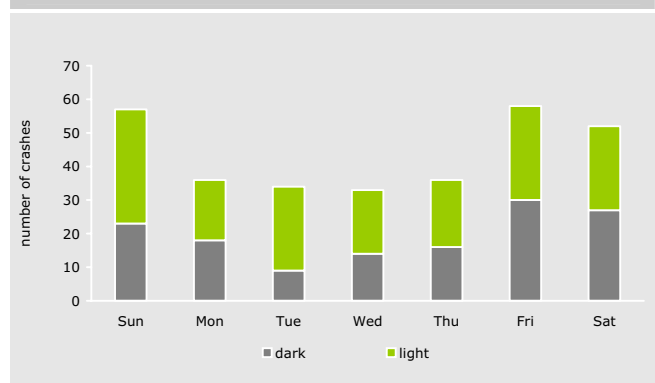
Crashes where roadside hazards were struck shared many similarities to crashes at bends. Some of the main crash characteristics of injury crashes were as follows.

Crashes reported 2001–2005		
Crash characteristic	Rodney district percentage of injury crashes	New Zealand percentage of injury crashes
Single vehicle	87%	80%
Vehicle loss of control	83%	73%
Rural road	70%	40%
Loss of control on a bend	67%	51%
Too fast	33%	32%
Wet road	31%	28%
Poor handling	30%	29%
Alcohol	29%	28%

In the Rodney District, there were higher numbers of single vehicle crashes, loss of control on a bend crashes and rural crashes, that resulted in a roadside object being struck.

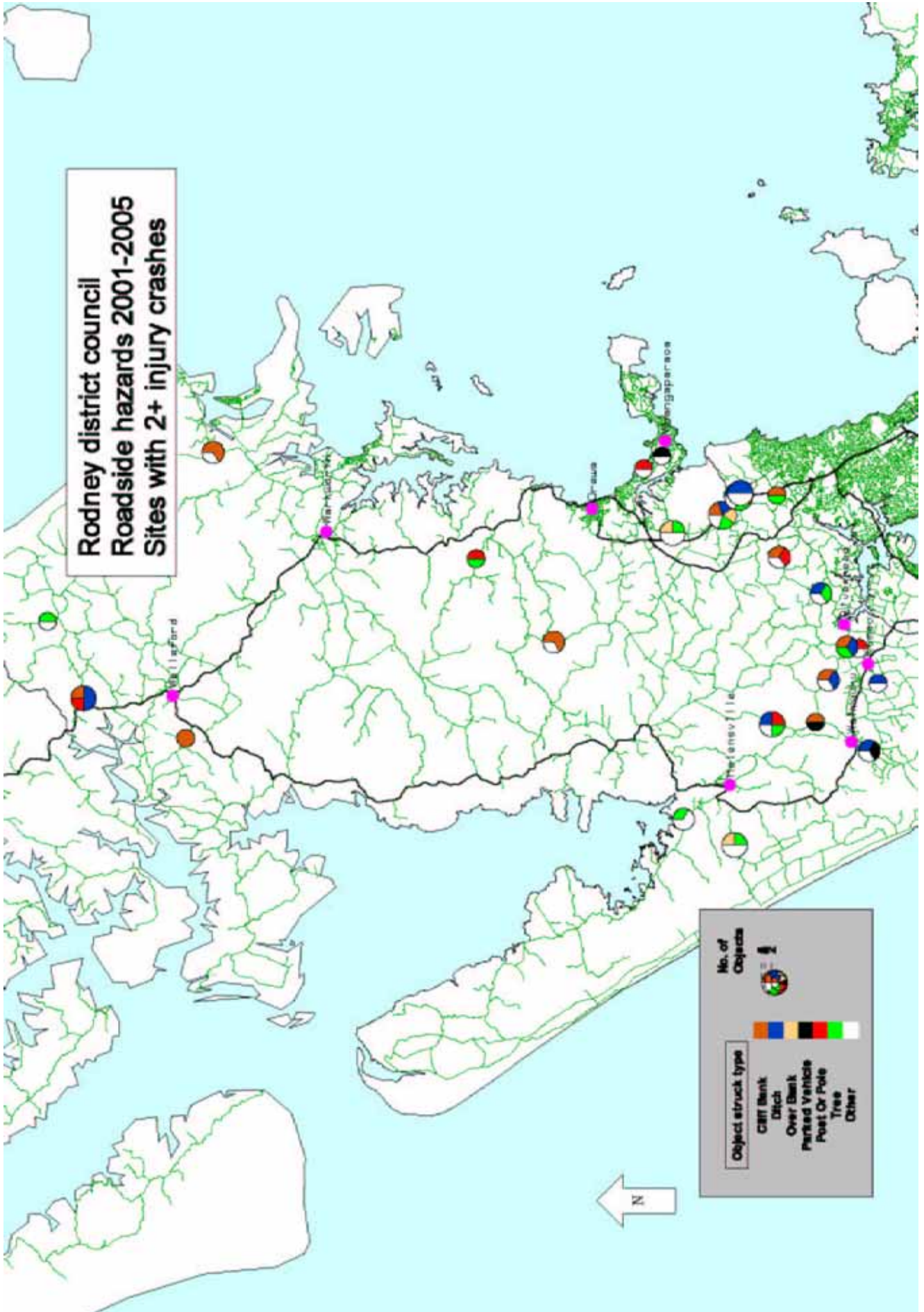
Timing of these crashes is shown in the graph below – the weekends having more crashes into roadside hazards. Those occurring in the dark seem more variable by the day of the week than daylight crashes. Perhaps this is a reflection of people not driving so often at night during the week.

Roadside hazard crash times 2001–2005



The types of vehicles that are hitting roadside hazards are summarised in the table below and compared with figures for the rest of New Zealand.

Crashes reported 2001–2005		
Vehicle type	Rodney District	All of New Zealand
Car/station wagon	77%	79%
Motorcycle/moped	5%	4%
Truck	3%	3%
Van/utility/SUV	15%	12%
Bus/taxi or other	0%	2%



Speed

Speed was a factor in 25 percent of injury crashes in the five-year period, but in 29 percent of all fatal and serious crashes speed was recorded as a factor. This reflects the generally more severe injuries sustained in crashes at speed when compared with, for example, lower speed intersection crashes. Over this period, excessive speed has been a factor in 20 deaths on Rodney District roads, with a further 71 people suffering serious injuries.

The climb in injury crash numbers since 2000 reduced in 2005 with 37 injury crashes – the same as 2004. The severity was generally lower though, perhaps reflecting some progress in educating people about the use of safety belts and child restraints. A factor to also consider in these crash trends is the strong population growth in the Rodney District. (There was a 15.8 percent increase in population between the 2001 and 2006 census). This, together with a reasonably buoyant economy, means that the number of vehicle kilometres travelled each year is growing at this rate or higher.

Crashes reported 2001–2005			
Year	Fatal	Serious	Minor
2001	2	11	13
2002	3	6	17
2003	3	8	22
2004	6	11	20
2005	3	5	29

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 increases the severity of injuries. Research has shown that a one km/h reduction in mean speed can produce up to a three percent reduction in injury crashes.

The following table provides information relating to speed-related crashes within the district.

Crashes reported 2001–2005	
Crash characteristic	Percentage of injury crashes
Loss of control	86%
Male drivers at fault	84%
Mid-block location	85%
Drivers aged 15 to 29	65%
Single vehicle	64%
Hit roadside hazard	64%
At night	43%
Wet road	39%
Alcohol was also a factor	29%

Speed-related crashes were often accompanied by other factors, the most common being alcohol (29 percent), poor handling (28 percent), road factors (19 percent), and poor judgement (13 percent). Road factors normally involved a slippery road surface, and to a lesser extent, the condition of the road surface. The poor handling category includes loss of control, except for vehicle faults or road conditions. Poor judgement includes either miscalculating speed, distance, or position, or inexperience.

Crashes reported 2001–2005		
Vehicle type	Rodney District	All of New Zealand
Car/station wagon	76%	80%
Motorcycle/moped	7%	5%
Truck	4%	3%
Van/utility/SUV	13%	10%
Bus/taxi or other	0%	1%

Vehicles involved in speed-related crashes are summarised in the table above and compared with figures for the rest of New Zealand. There is a similarity to the table for roadside hazard vehicles. Vans, utilities, SUVs and motorcycles are over-represented.

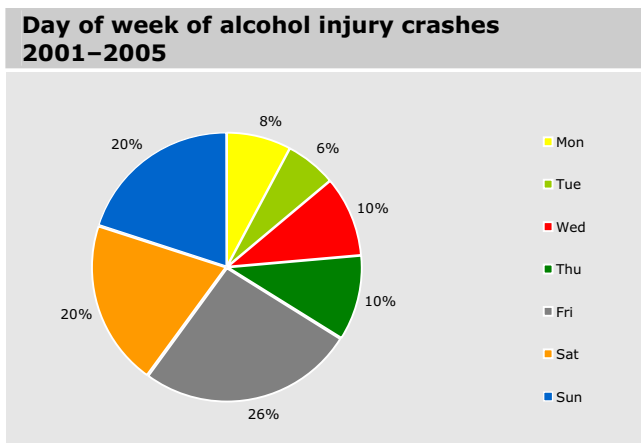
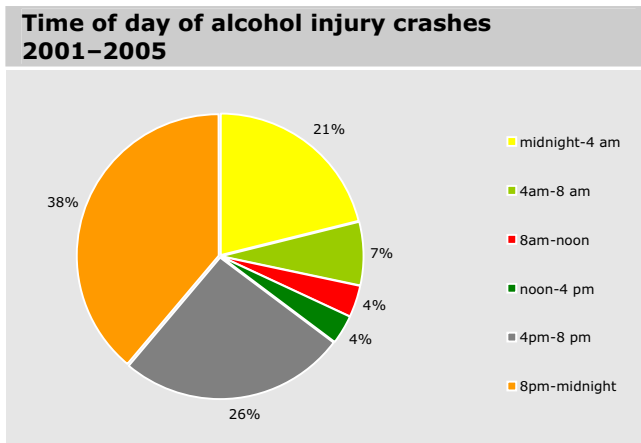
Crashes were most common in the 12 pm to 4 pm period, with the highest numbers recorded on Saturday, Sunday, and Thursday. The time period from 4 pm to 8 pm was also prevalent on these days.

Alcohol

Alcohol was a factor in 25 percent of fatal and serious crashes occurring between 2001 and 2005 in the Rodney District. Eighteen percent of all injury crashes also had alcohol as a factor. Injury crash numbers have generally shown an increasing trend since 2001, although there was a lull in 2004. Rodney District has about the same level of alcohol crashes when compared with similar road controlling authorities. However, there were slightly more alcohol crashes when compared with national figures. Three people died last year in alcohol-related crashes. A further five sustained serious injuries.

Some of the main characteristics of alcohol-related crashes were.

Crashes reported 2001–2005	
Crash characteristic	Percentage of injury crashes
Mid-block location	88%
Loss of control	84%
Single vehicle	78%
Hit roadside hazard	77%
Male drivers at fault	76%
At night	76%
Drivers aged 15 to 29	61%
Speed was also a factor	40%
Learner/restricted licence	28%
Wet road	27%
Poor handling also a factor	26%
Not licensed/disqualified	11%



The alcohol crashes occurred largely at night and over Friday, Saturday and Sunday as depicted in the two charts above.

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 (80 mg of alcohol per 100 ml of blood) is three times more likely to be involved in a crash than a sober driver.

Young male drivers were the prominent group in alcohol crashes. However, 15–19 year old females, males up to 39 years old, (and males 40–49 years old) also had high figures.

Drivers in crashes reported 2001–2005				
Age group	Involved		Percentage at fault	
	Female	Male	Female	Male
15–19	10	28	80%	100%
20–24	3	14	100%	100%
25–29	4	11	75%	100%
30–34	5	14	100%	86%
35–39	3	14	67%	57%
40–44	3	7	100%	57%
45–49	3	7	33%	100%
50–54	0	3	-	67%
55–59	2	0	50%	-
60–64	0	4	-	75%
65–69	0	1	-	0%
75–79	0	1	-	100%

There were 139 drivers involved in alcohol crashes in the Rodney district between 2001 and 2005.

Of those:

- 15 had no driver licence. They were either never licensed, disqualified, had an expired licence or were forbidden to hold a licence
- an additional 15 were driving on a restricted driver licence and crashed outside of the hours of 5 am to 10 pm when they should be accompanied by a full licence holder
- a further nine were driving on learner licences and should always be accompanied by a full licence holder.

Thirty-nine of the 139 of alcohol crashes involved drivers that were not legally licensed to drive and were under the influence of alcohol.

We have no information regarding whether the learner and restricted drivers were accompanied by a full licence holder when they were involved in a crash. The *Land Transport (Driver Licensing) Rule* states that the full licence holder is in charge of the vehicle and must have held a full licence for at least two years and should sit in the front seat if possible. It would appear that this level of supervision is not preventing novice drivers from crashing. This, coupled with the holding of a valid licence not being an impediment to driving, is a major part in 28 percent of alcohol crashes.

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Where to get more information

For more specific information relating to road crashes in the Rodney District, please refer to the 2001 to 2005 Road Safety Data Reports, the Ministry of Transport's Crash Analysis System or contact the office listed here.

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