

road safety issues

The Land Transport Safety Authority (LTSA) has prepared this road safety issues report. It is based on reported injury crash data and trends for the 1999–2003 period. The intent of the report is to highlight the key road safety issues and to identify possible ways to reduce the number of road deaths and injuries in the Rodney District.

Issues identified in this report are based on analysis of Rodney District's local road crashes only and do not include state highways which are covered in a separate report. State highway crashes are included in the road deaths and social cost charts on this page.

The overview section of this report gives details of trends and the main crash characteristics for the Rodney District. Issues reported on are based on fatal and serious crashes, which are comparable with the deaths and hospitalisations figure in the *Auckland Regional Road Safety Plan 2004–2010* and for which target reductions have been set for 2010.

A considerable effort is required by all road controlling authorities to drive the level of road trauma down towards these target figures.

More detailed information about crash numbers and trends can be found in the Road Safety Data Report for the Rodney District published each year by the LTSA. Further analysis of crash data can be carried out using Crash Analysis System (CAS) database held by most road controlling authorities and the LTSA.

Major road safety issues




Rodney District

- Crashes at bends
- Roadside hazards
- Alcohol
- Speed

Nationally

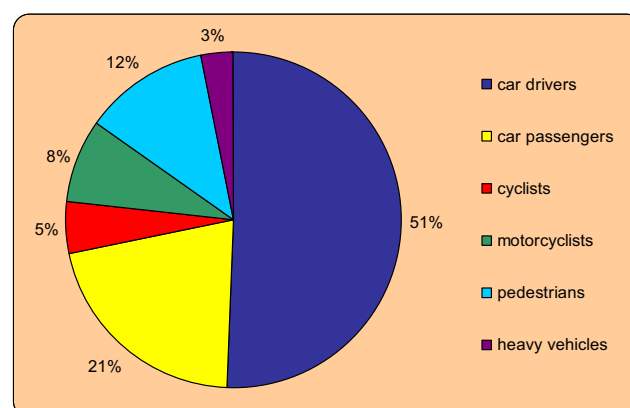
- Speed
- Alcohol
- Failure to give way
- Restraints

2003 road trauma for Rodney District

	Deaths	12
	Serious casualties	57
	Minor casualties	235
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	Fatal crashes	12
	Serious injury crashes	40
	Minor injury crashes	153
	Non-injury crashes	527

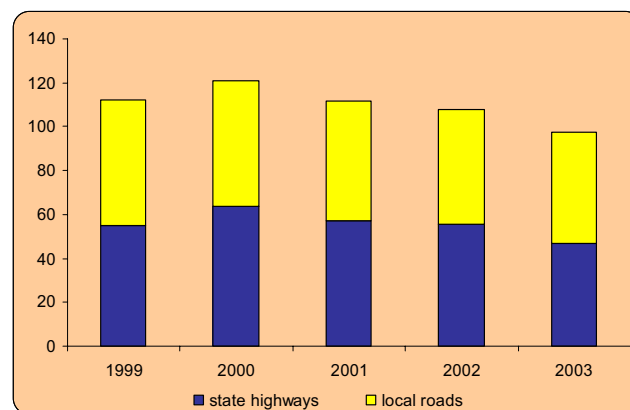
Road deaths 1999–2003

User type



Estimated social cost of crashes*

Social cost (\$ million)



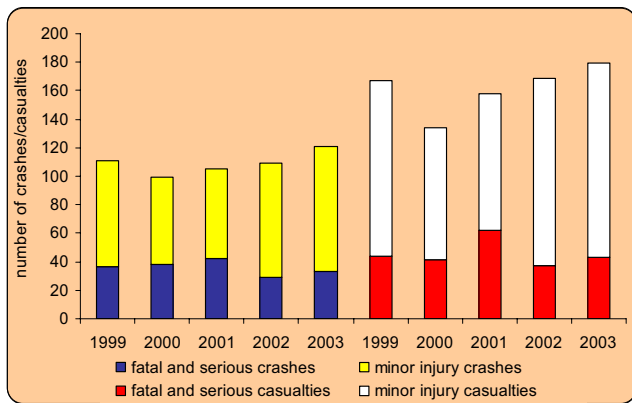
*The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2002 prices.

Overview of local road crashes

Crash and casualty trends

The overall number of crashes and casualties has increased gradually in recent years. Minor injury crashes made up most of this increase. The number of crashes each year resulting in fatal or serious injury has generally been decreasing.

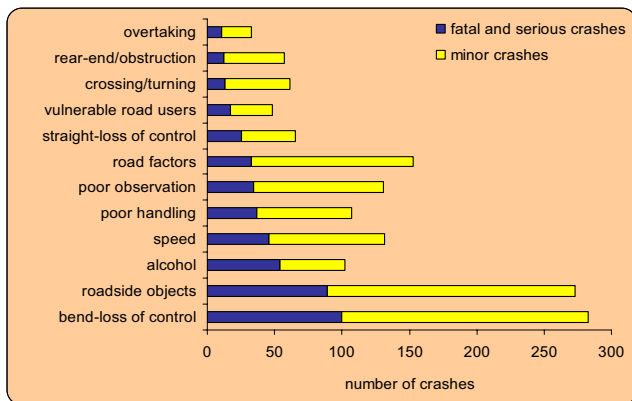
Crash and casualty numbers



Main crash characteristics

The four main issues discussed in this report were chosen because crashes with their characteristics had the highest number of fatal and serious injuries (as shown in the chart below). Focusing on crashes resulting in severe injury is consistent with the *Road Safety to 2010* strategy and the *Auckland Regional Road Safety Plan 2004–2010*. These documents both set targets for reductions in deaths and hospitalisations arising from road crashes.

Main crash characteristics



Crash types not specifically covered in this report also need to be addressed if these targets are to be met.

Selected crash situations

The following table shows the proportion of injury crashes plus crashes resulting in fatal or serious injuries for a selected number of crash situations in the Rodney District.

Situation	Injury crashes	Fatal/serious crashes
Wet road	30%	21%
Dry road	70%	79%
Dark	32%	37%
Light	68%	63%
Rural road	62%	67%
Urban road	38%	33%
Intersection	19%	16%
Mid-block	81%	84%

Crashes at night on rural roads and away from intersections tended to result in higher injury severity. This may be due to higher speeds generally associated with these crashes. Rural roads and mid-block locations accounted for most of the increased number of crashes in the district in recent years.

Higher risk of severe injury was also associated with certain types of road user, as shown below.

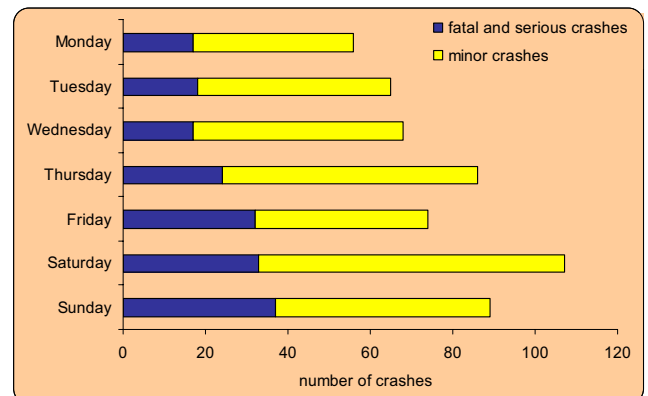
Road users	Injury crashes	Fatal/serious crashes
Motorcyclists	10%	16%
Cyclists	2%	3%

These road users are vulnerable as they have little protection in a crash. Motorcyclists often travel at higher speeds than other traffic.

Crash times

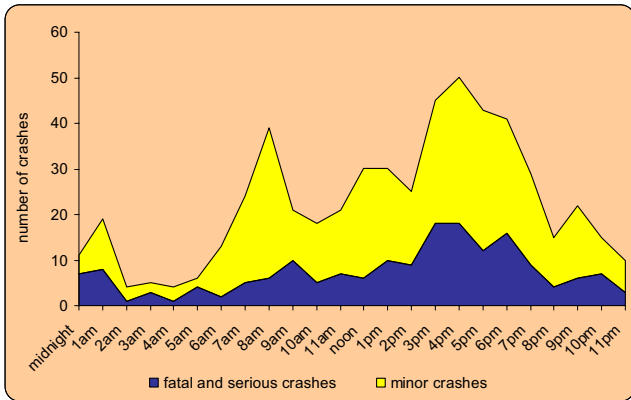
The number and severity of crashes was lowest early in the week and generally increased through the week.

Day of week for crashes



Most crashes occurred from mid-afternoon to mid-evening with another peak around 9 am. A very high proportion of alcohol-related crashes occurred at night, while speed-related crashes were also over-represented at night.

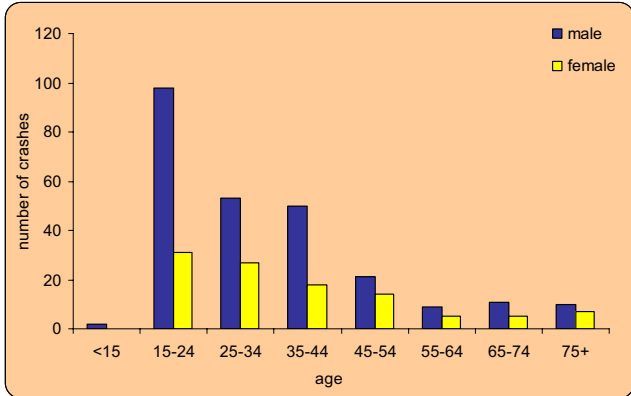
Time of day for crashes



Drivers at fault

The following chart shows the gender and age distribution of drivers deemed to have been at fault in crashes. Seventy percent of crashes were caused by male drivers and 36 percent by drivers aged between 15 and 24 years.

Drivers at fault in crashes



Male drivers had proportionately more crashes resulting in severe injuries. This can be explained by males being involved in the majority of crashes involving excessive speed. Women drivers were disproportionately represented in rear-end crashes.

The table below compares the proportion of drivers at fault with all drivers involved in crashes for different classes of driver licence.

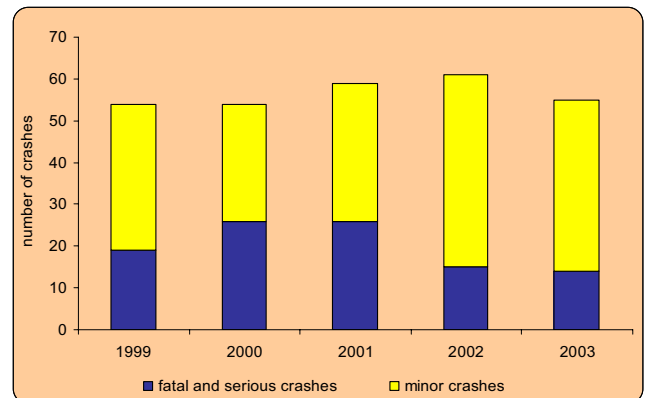
Licence status	All drivers	Drivers at fault
Full	71%	65%
Learner/restricted/overseas	21%	25%
Disqualified/expired/forbidden/never licensed	8%	10%

It is evident that unlicensed/disqualified drivers and also drivers with conditional licences were at fault in more crashes than those holding a full licence.

 **Crashes at bends**

Between 1999 and 2003, 56 percent of crashes resulting in fatal or serious injury and 52 percent of all injury crashes in the Rodney District occurred at bends. The number of crashes producing fatal or serious injuries has dropped substantially in the last two years.



Crashes at bends



Crashes at bends usually involved a driver losing control of their vehicle and had the following main characteristics:

Crash characteristic	% of crashes
Single vehicle	70%
Head-on collision	30%
Roadside hazard struck	64%
Alcohol	25%
Excessive speed	37%
Road factors	41%
Poor handling	27%
Rural road	73%

The proportion of crashes on bends occurring at night or in the rain was higher than the district average. Some of the individual characteristics of these crashes were highly over-represented.

Description		% at night	% in wet
Loss of control		50%	38%
Head-on		9%	65%
Alcohol		75%	25%
Speed		43%	39%
Road factors		25%	54%
Poor handling		35%	40%

Road factors primarily involved a slippery road surface, due in most cases to rain, but also caused by loose metal or other material on the surface, and in a few cases, by oil.

The district average for crashes at night was 32 percent and 30 percent on wet roads as shown in the overview section of this report. Night-time delineation, lighting on routes and road surface friction should be investigated in response to these crashes.

In around three quarters of the crashes, drivers at fault were young males.

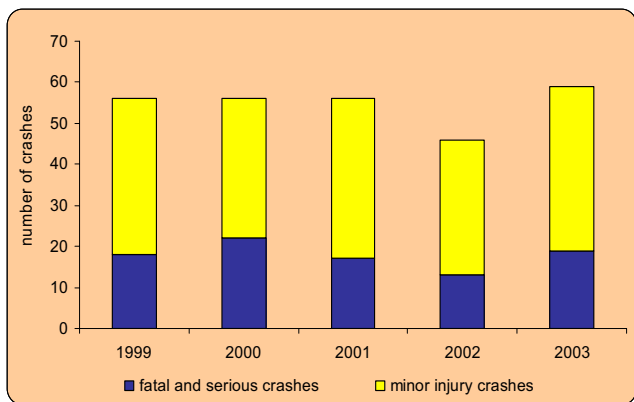
Around 45 percent of crashes on bends were located on just 10 roads, namely:

Road	Number of crashes
Coatesville – Riverhead Highway	31
Old North Road	25
East Coast Road	21
Whangaparaoa Road	14
Kahikatea Flat Road	11
South Head Road	8
Leigh Road	8
Mangawhai Road	8
Matakana Road	6
Muriwai Road	6

Roadside hazards

Between 1999 and 2003, roadside hazards were struck in half of the fatal or serious crashes and also half of all injury crashes in the Rodney District. Crash numbers last year increased to the levels seen prior to 2002.

Crashes with roadside hazards



In total, 363 roadside hazards were struck in 273 crashes between 1999 and 2003. These crashes resulted in 17 fatalities and 368 other injuries. The roadside hazards most frequently struck are shown below.

Roadside hazard	Number of strikes
Ditch	72
Cliff/bank	69
Tree	55
Post/pole	47
Fence	41
Over bank	19
Parked vehicle	15

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.

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

Crash characteristic	% of crashes
Vehicle lost control	83%
At a bend	66%
Rural road	70%
Single vehicle	86%
Excessive speed	32%
Alcohol	28%
Road factors	32%
Poor handling	27%

Once again the proportion of crashes occurring at night was higher than the district average and some of the individual characteristics of roadside hazard crashes were over-represented as shown below.

Description	% at night	% in wet
Alcohol	74%	28%
Speed	46%	37%
Road factors	32%	53%
Poor handling	41%	35%

Most road factors related to a slippery surface, although the condition of the road surface itself and restricted visibility along the road also featured.

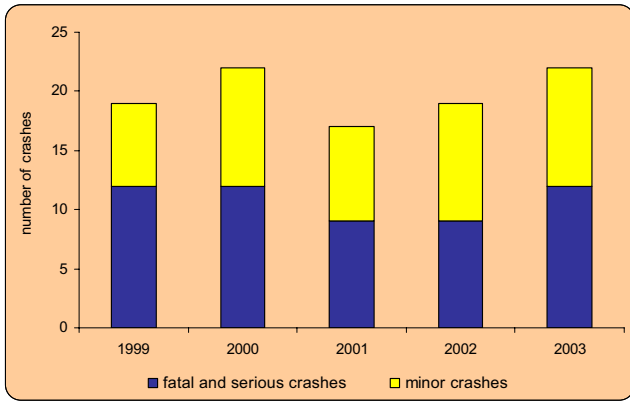
Almost three quarters of drivers at fault in these crashes were male and most (73 percent) were aged between 15 and 39 years. Crash numbers were evenly spread through the week with substantially higher numbers in the weekend.



Alcohol

Between 1999 and 2003, alcohol was a factor in 30 percent of fatal and serious crashes and 18 percent of all injury crashes. Crash numbers have increased since 2001.

Alcohol-related crashes



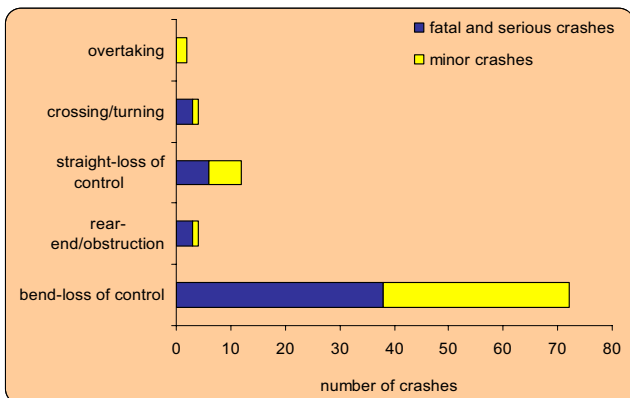
Studies show that the risk of being involved in a crash increases rapidly as a driver's blood alcohol level rises. A driver over the legal limit (80 mg of alcohol per 100 ml of blood) is three times more likely to be involved in a crash than a sober driver.

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

Crash characteristic	% of crashes
Male drivers at fault	79%
Younger drivers (15 to 44 years)	90%
At night	74%
Mid-block locations	84%
Friday to Sunday	68%
Single vehicle	81%

Excessive speed for the conditions was a contributing factor to many alcohol-related crashes, along with poor handling. The main crash movement was loss of control at bends as shown in the following chart.

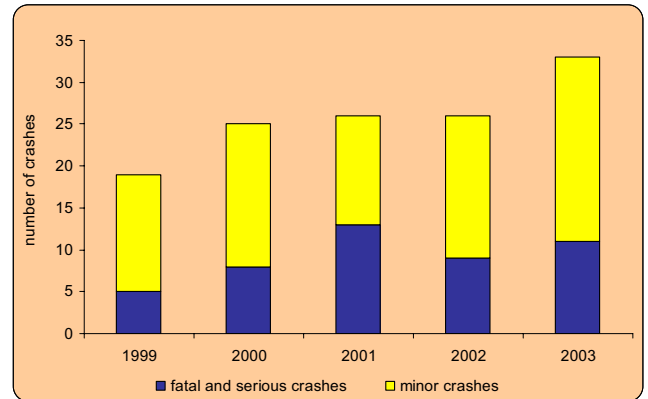
Alcohol crash movement types



Speed

Speed was a factor in 26 percent of fatal and serious crashes and 24 percent of all injury crashes between 1999 and 2003. Over this period, excessive speed has been a factor in 11 deaths on Rodney District roads. Crash numbers have been increasing steadily since 1999.

Speed-related crashes



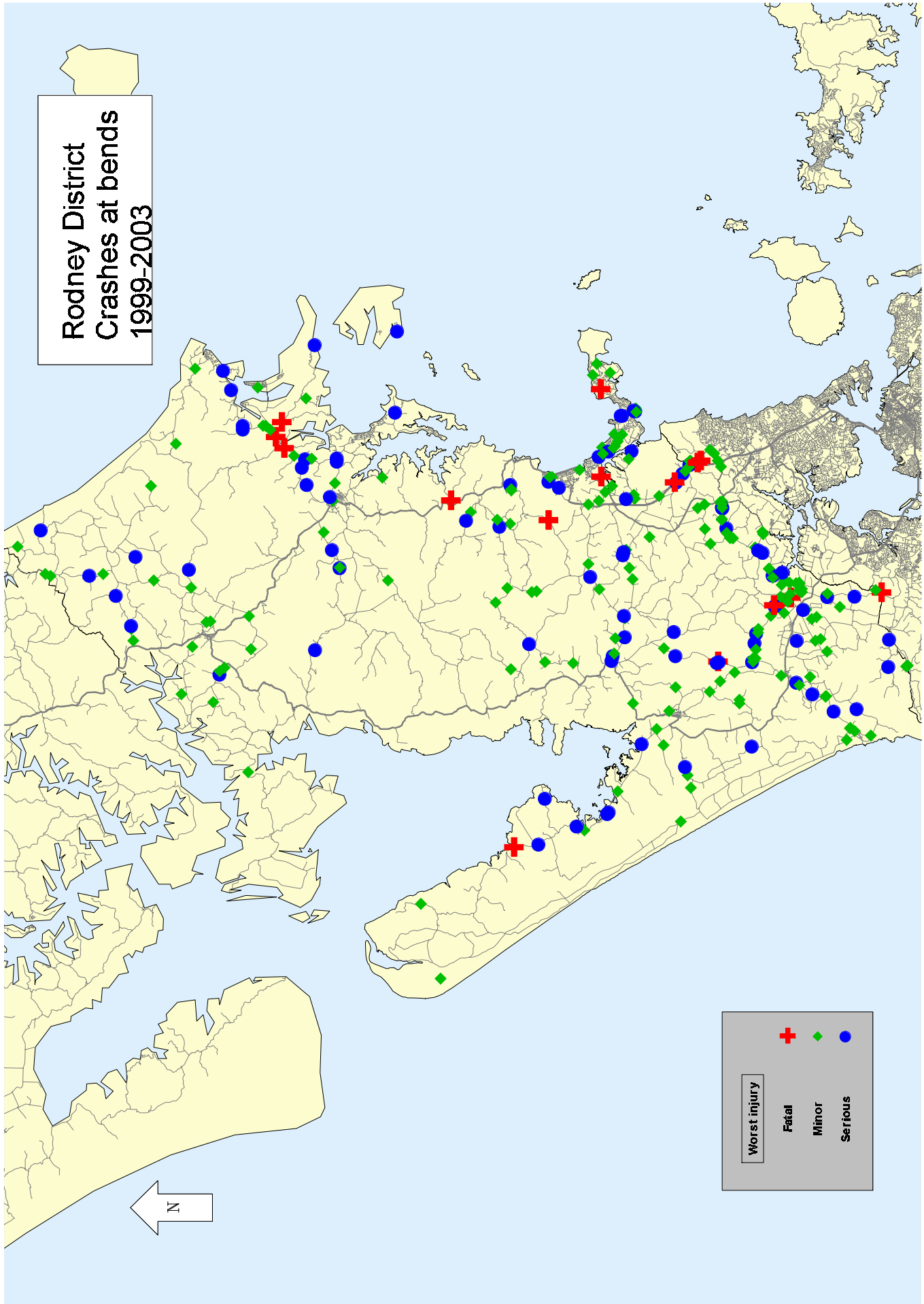
Reducing speeds to appropriate levels is an important road safety goal. Excessive speed increases the likelihood of a crash occurring by reducing the time available for drivers to respond to hazardous situations and it also increases the severity of injuries. Research has shown that a one km/h reduction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

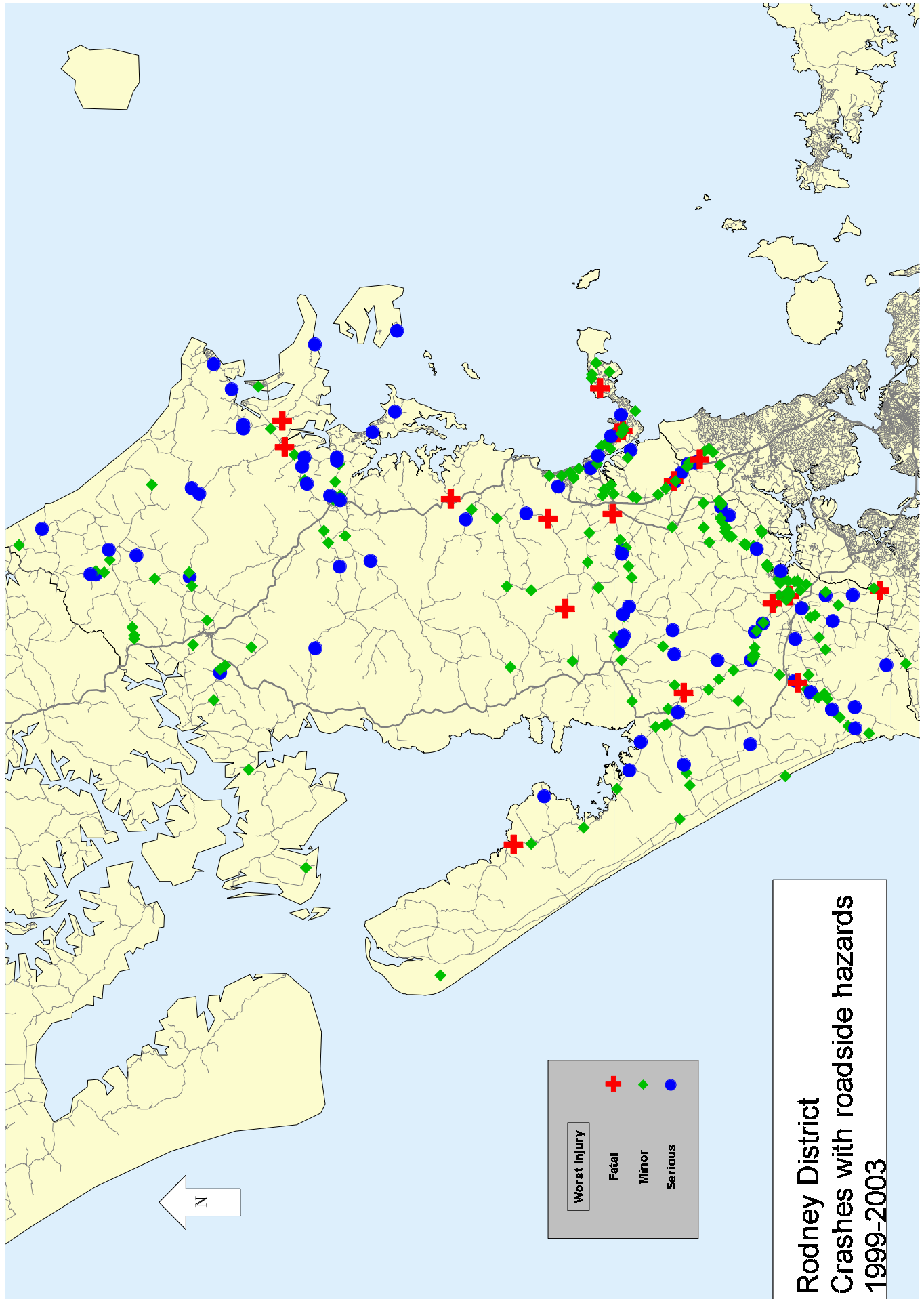
Specific information relating to speed crashes within the district is shown below.

Crash information	% of crashes
Male drivers at fault	85%
Drivers aged between 15 and 34	75%
Loss of control	88%
Single vehicle	67%
Mid-block location	82%
Wet road	36%
At night	40%

Speed-related crashes were often accompanied by other factors such as road factors, alcohol, poor handling and poor judgement. Road factors normally involved a slippery road surface and to a lesser extent the condition of the road surface.

Crashes fluctuated throughout the week, with the highest numbers recorded on Thursday and Saturday, followed by Sunday.





Rodney District
Crashes with roadside hazards
1999-2003

Road environment

The LTSA's crash reduction monitoring database shows that works implemented as a result of crash reduction studies have reduced crashes at the study sites by 47 percent in the Rodney District (55 percent at state highway sites and 20 percent at local road sites).

Recommendations from recent studies should be implemented as soon as possible. Analysis of the crashes at all completed sites should be undertaken regularly to ensure that safety has been improved and sites re-examined if no improvement has occurred. Further crash reduction studies should be undertaken to continue the reduction of crash numbers and severity.

Where to get more information

For more specific information relating to road crashes in Rodney District, please refer to the 1999 to 2003 Road Safety Data Report, the LTSA's Crash Analysis System or contact the LTSA as listed below.

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