

road safety issues

July 2003

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 1998–2002 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 the body of this report are based on analysis of the district's local road crashes only, and do not include state highways, which are covered in a separate report. State highway crashes, however, do feature in the casualty and social cost charts on this page.

The social cost of crashes in the district has been reducing since 2000, which is an encouraging trend. However, there were still 14 fatalities and almost 300 other injuries caused by road crashes in 2002. The severity of some of these casualties could have been reduced if more drivers and passengers wore safety belts. Wearing a safety belt reduces the chance of death or serious injury in a crash by 40 percent. Surveys carried out last year showed that fewer people were wearing safety belts than in 2001.

This year's report includes a general overview of local road crash trends, followed by a closer look at the main issues identified. More detailed information about crash numbers and trends can be found in the road safety report for the Rodney District published each year by the LTSA.

Major road safety issues

Rodney District

Crashes on bends
Roadside hazards
Alcohol
Speed

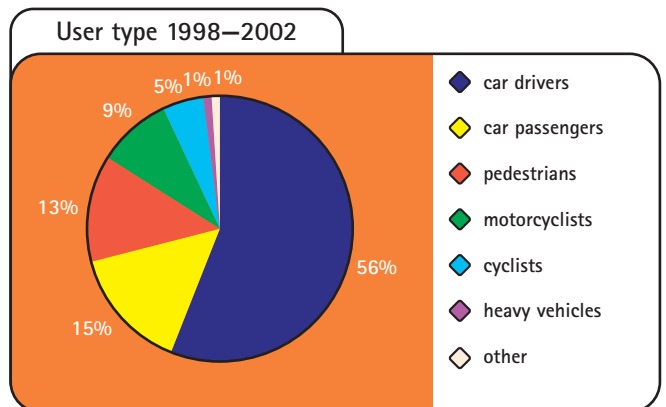
Nationally

Speed
Alcohol
Failure to give way
Restraints

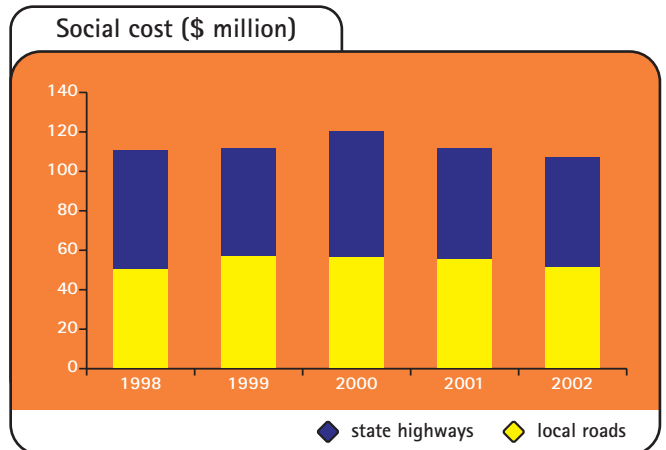
2002 road trauma for Rodney District

Deaths	14
Serious casualties	74
Minor casualties	221
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Fatal crashes	14
Serious injury crashes	54
Minor-injury crashes	136
Non-injury crashes	471

Road deaths 1998–2002



Estimated social cost of crashes*

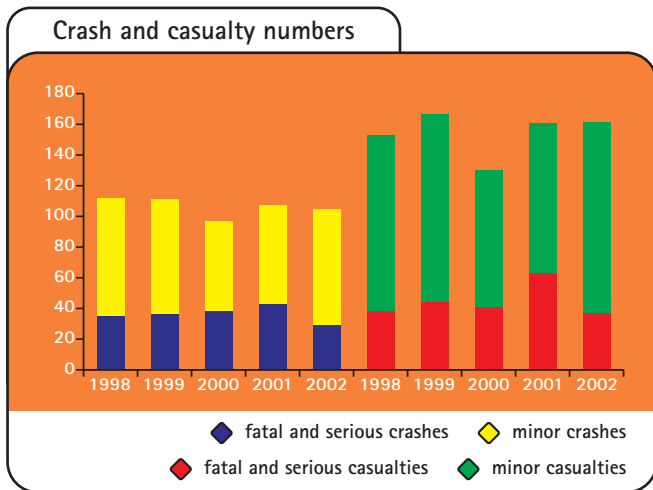


* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

Overview of local road crashes

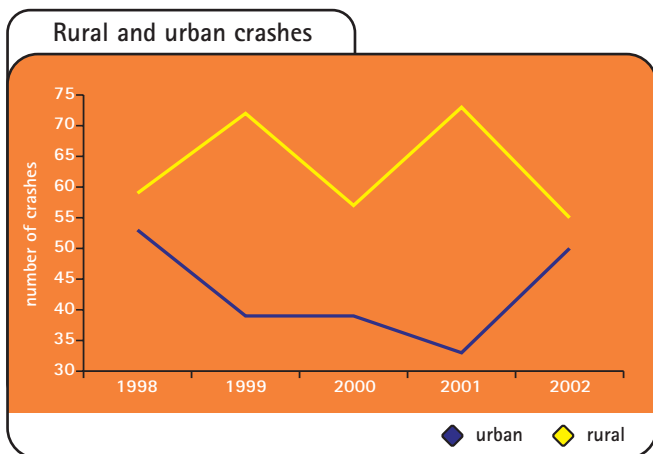
Crash and casualty trends

The overall number of crashes on Rodney District local roads remained relatively static in the 1998–2002 period. Last year saw a reduction in the number of crashes involving serious and fatal injuries, but an increase in minor-injury crashes. This is reflected in casualty numbers as shown in the chart below.



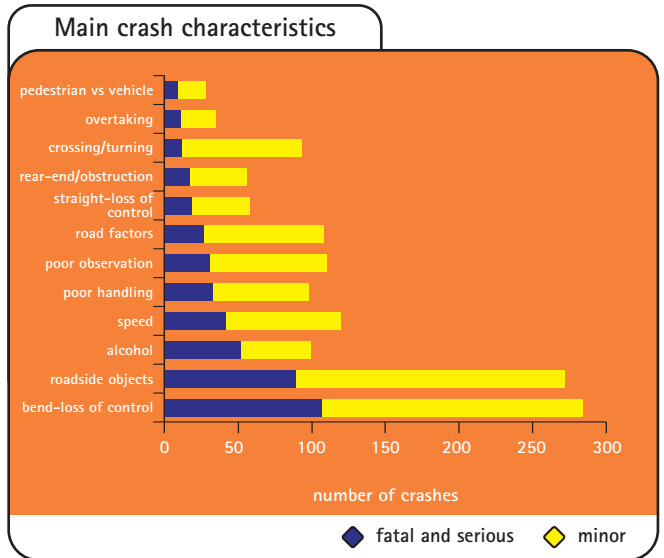
Rural/urban split

Most crashes (59 percent) occurred on rural roads and between 1998 and 2001 the gap between rural and urban crash numbers was generally widening. However, last year saw a reduction in rural crashes and an increase in urban crashes to close the gap significantly. Rural crashes normally resulted in more severe injuries than urban crashes.



Main crash characteristics

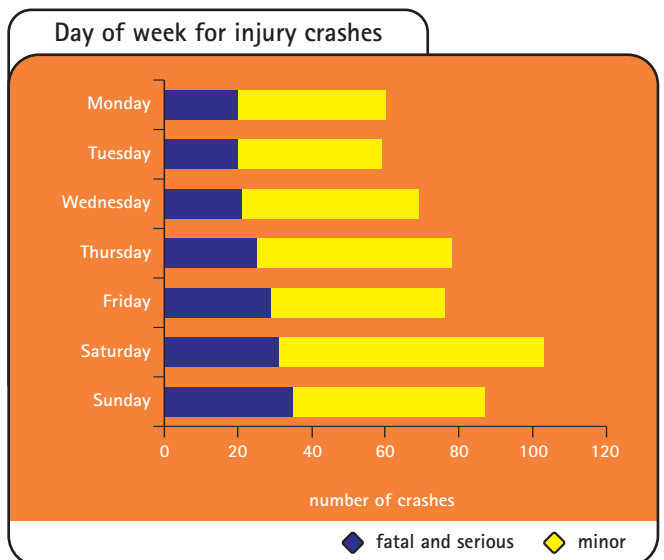
The following chart illustrates the main characteristics of crashes within the district. The four issues discussed later in this report were chosen because crashes with their characteristics had the highest incidence of fatal and serious injuries. They also accounted for three quarters of all injury crashes and occurred primarily on rural roads.



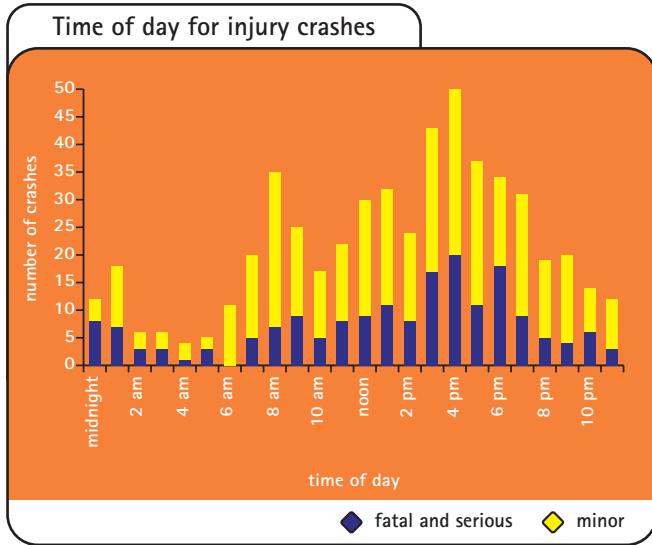
Other crash categories, particularly poor observation, road factors, poor handling and crossing/turning also featured prominently, but had higher numbers of minor injuries. Careful examination of all major crash categories and appropriate treatment of problems are required if Rodney District roads are to be made safer.

Crash times

The number and severity of crashes generally increased throughout the week, culminating in higher numbers during the weekend. This is illustrated in the following chart.



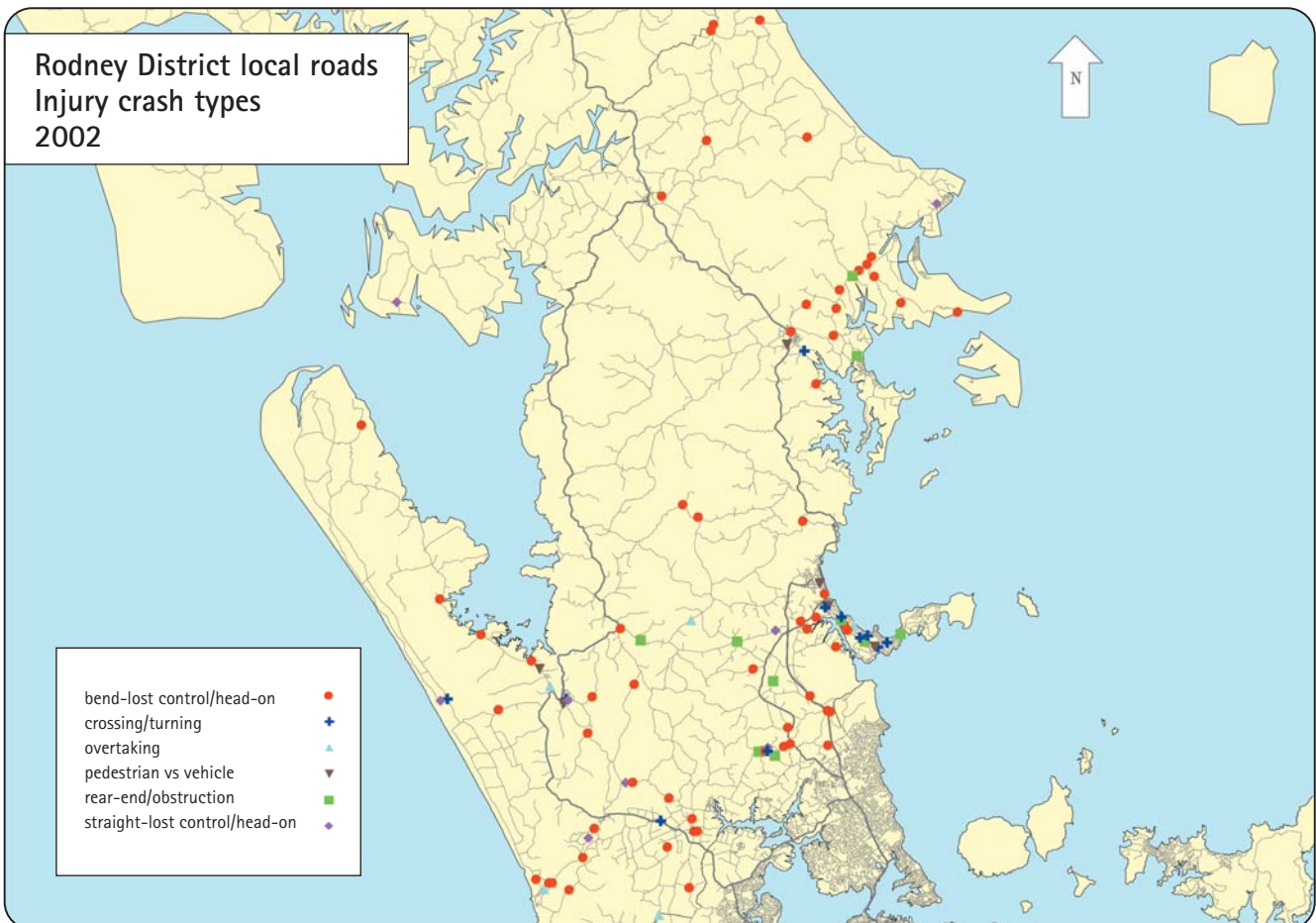
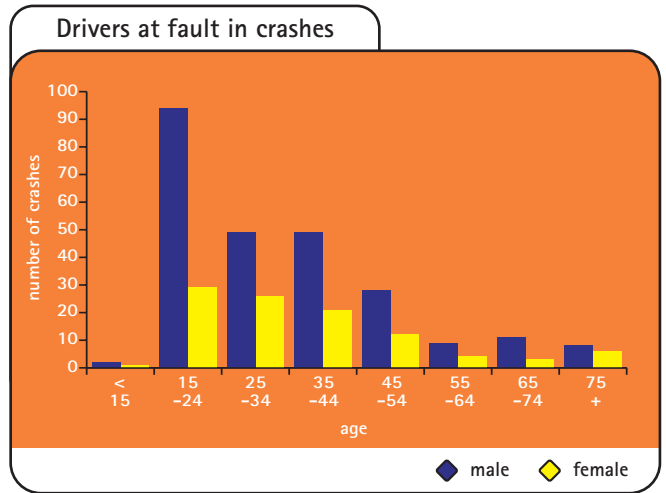
Most crashes occurred from mid-afternoon through to mid-evening, with the highest peak during the evening rush hour at 5 pm. A smaller peak occurred around 9 am.



Roughly a third of crashes in the district occurred during the hours of darkness. A very high proportion of alcohol-related crashes occurred at night, while speed-related crashes were also over-represented at night.

Drivers at fault

The chart below 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 almost two thirds of all drivers were aged between 15 and 39 years. Women drivers were disproportionately represented in crossing or turning crashes where failure to give way was often a factor.





Crashes on bends

Loss of control or head-on crashes on bends was the most serious issue in the Rodney District in the 1998–2002 period. These crashes accounted for over half (53 percent) of all injury crashes, including 59 percent of crashes involving fatal or serious injury. Total crash numbers have remained fairly static, however it is pleasing that fewer crashes involving fatal or serious injury occurred last year.

Crash severity	1998	1999	2000	2001	2002
Fatal and serious	20	19	26	27	15
Minor	37	35	28	33	44
Total	57	54	54	60	59

Crashes on bends typically involved young male drivers, and alcohol and speed were major contributing factors. Other prominent factors were poor handling and road factors (primarily slippery road surface). Crashes in wet road conditions and at night were over-represented when compared with district crashes as a whole.

Around three quarters of crashes on bends involved a single vehicle, which often went on to strike a roadside hazard, such as a bank, ditch, pole or tree. The remaining crashes were head-on collisions, and these generally resulted in more severe injuries to the vehicle occupants due to higher overall impact speeds.

Almost half the crashes on bends in the district occurred on just eight roads, namely:

Road	Number of crashes
Coatesville Riverhead Highway	33
East Coast Road	26
Old North Road	22
Whangaparaoa Road	16
Kahikatea Flat Road	11
Matakana Road	11
Muriwai Road	10
South Head Road	8



Recommended actions

Engineering

The Rodney District has begun developing a safety management system (SMS) for its roading network with assistance from the LTSA. The SMS will help to identify road safety strategies, standards, expertise, management systems and audit regimes appropriate to the roading network.

- Either within or outside of an SMS framework, specific actions to address crashes at bends could include:
 - prioritising routes for treatment according to their crash rates
 - systematically investigating and treating surface friction, drainage, delineation, lighting, signposting and road geometry issues.

Enforcement

- Support the continued development of road safety action plans (RSAPs) to direct resources to the areas of greatest road safety risk, including:
 - targeted enforcement of speed and alcohol
 - targeted enforcement of younger male drivers.

Education

- Conduct programmes aimed at improving cornering behaviour, including driving at appropriate speeds.
- Conduct programmes targeting younger male drivers.



Roadside hazards

Roadside hazards were struck in just over half of all injury crashes in the Rodney District between 1998 and 2002. Last year there was a significant reduction in crash numbers after the previous four years had shown very little change.

Crash severity	1998	1999	2000	2001	2002
Fatal and serious	18	18	22	18	13
Minor	38	38	34	40	33
Total	56	56	56	58	46

Roadside hazards were most often struck in loss of control crashes, and to a much lesser extent in rear-end collisions or overtaking crashes. Alcohol and speed were major factors, followed by a number of factors indicating driver error such as poor handling, poor observation and poor judgement. An uneven or slippery road surface was also a factor in many of these crashes. Younger male drivers (aged between 15 and 39 years) were at fault in almost three quarters of crashes.

The most frequently struck roadside hazards are shown below. In total 373 objects were struck in 272 crashes between 1998 and 2002. These crashes resulted in 15 fatalities and over 350 other injuries.

Roadside hazard	Number of strikes
Ditch	77
Cliff/bank	67
Tree	52
Post/pole	48
Fence	42
Over bank	21
Parked vehicle	17

Solid objects or unprotected hazards near the side of a road make it much less safe than a road with good clear zones outside the road edges that allow errant vehicles room to recover safely.

Recommended actions

Engineering

The development of the Rodney District’s safety management system should help to formalise a programme to tackle this issue. Specific actions to address these crashes could include:

- ranking of hazards and routes in priority order for treatment. Treatment could consist of removing, relocating or protecting the hazard, depending on specific circumstances
- working with utility companies to remove poles from within the road reserve and to place services underground where possible
- adopt clear zones on new or upgraded roads
- ensure adequate separation exists between parked vehicles and through traffic on major or problem routes.

Enforcement

- Support the continued development of road safety action plans (RSAPs) to direct resources to the areas of greatest road safety risk, including:
 - targeted enforcement of speed and alcohol
 - targeted enforcement of younger male drivers.

Education

- Conduct programmes to increase driver awareness of the problem.

Alcohol

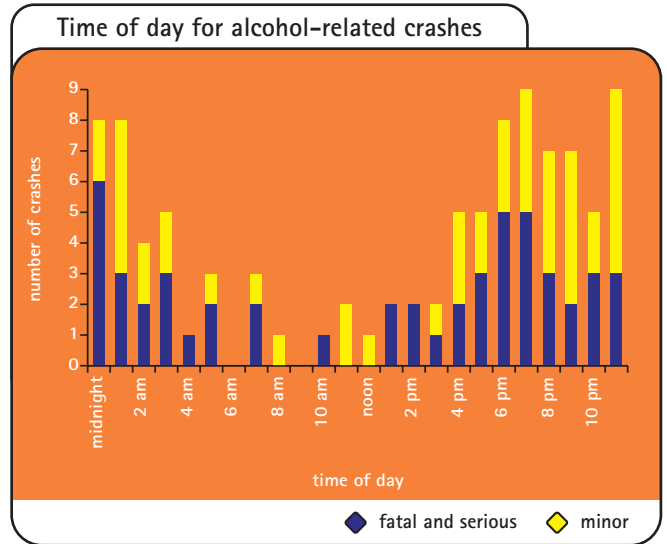
In the period 1998–2002, 29 percent of crashes resulting in fatal or serious injury and 19 percent of all injury crashes involved alcohol as a contributing factor. Crash numbers for the past two years have been lower than for the preceding three years.

Crash severity	1998	1999	2000	2001	2002
Fatal and serious	10	12	12	9	9
Minor	12	7	10	9	9
Total	22	19	22	18	18

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.

Younger male drivers (15 to 39 years old) were at fault in most of these crashes, which generally involved a single vehicle running off the road after losing control. Excessive speed for the conditions was cited as an additional factor in around a quarter of alcohol-related crashes, while poor handling, poor observation and fatigue also featured.

A very high proportion of crashes (72 percent) occurred during the hours of darkness, which is reflected in the times shown in the following chart. Around two thirds of crashes occurred on Friday, Saturday or Sunday.



Recommended actions

Engineering

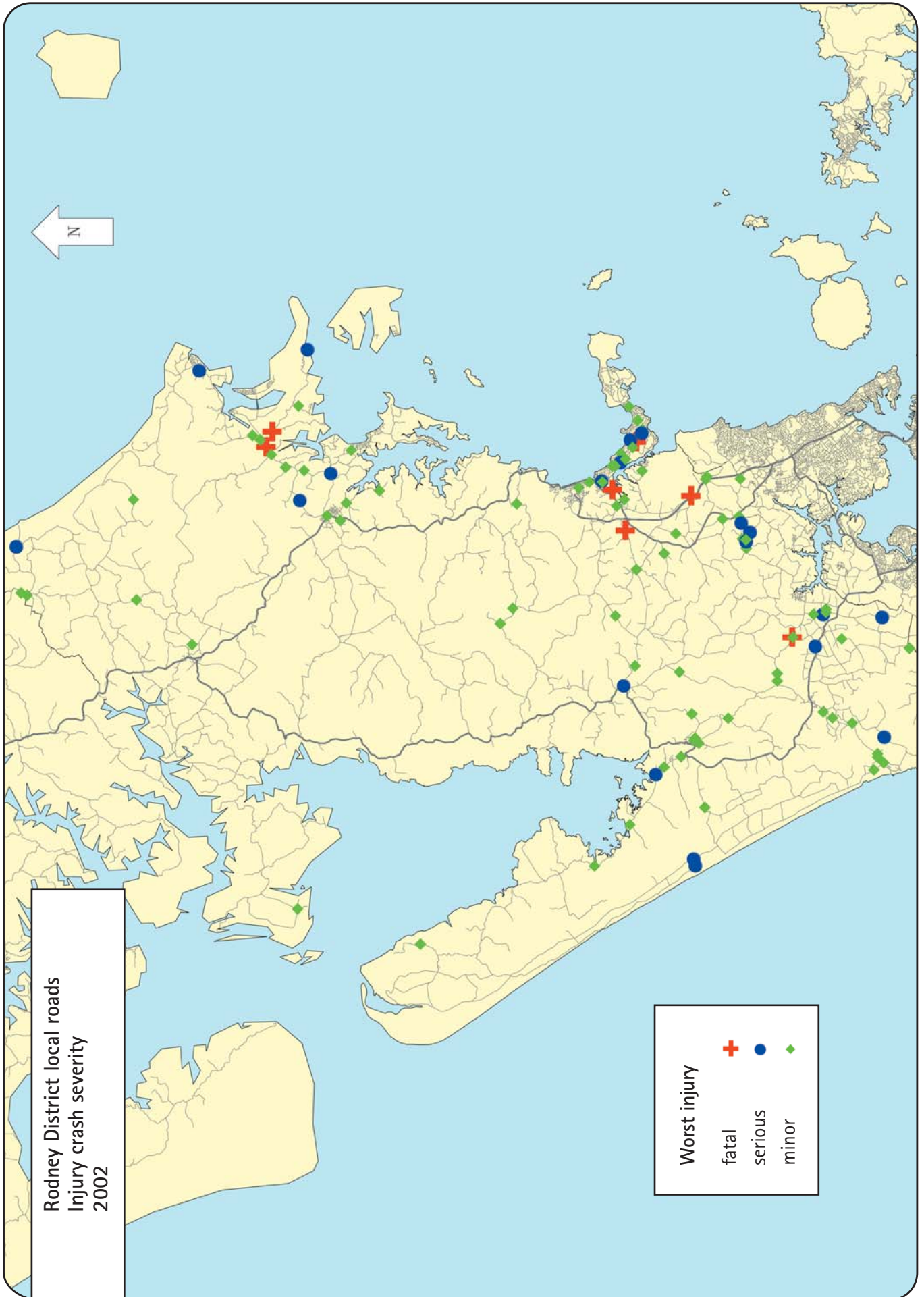
- Carry out studies of roads or routes where high numbers of alcohol-related crashes occur, with the purpose of upgrading them to appropriate and consistent standards. Specific treatments that could be looked at include:
 - street lighting, delineation, signposting, road marking, use of profiled edge lines.

Enforcement

- Support the continued development of road safety action plans (RSAPs) to direct resources to the areas of greatest road safety risk, including:
 - targeted enforcement of high-risk times and locations
 - targeted enforcement of younger male drivers.

Education

- Support continued programmes targeting younger male drivers.



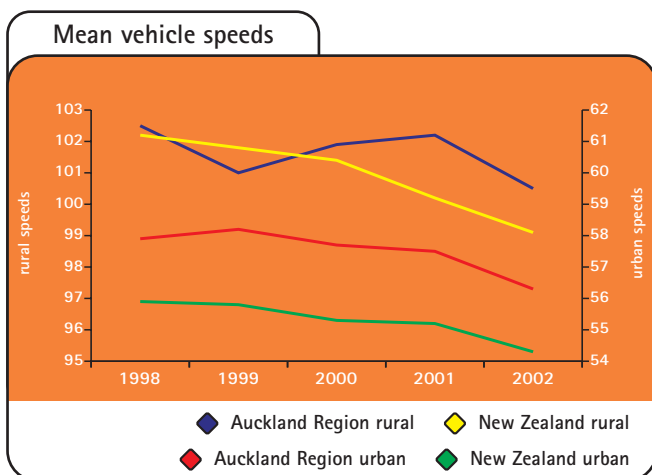
80 Speed

Between 1998 and 2002, 23 percent of crashes resulting in fatal or serious injury and 23 percent of all injury crashes involved excessive speed for the conditions as a contributing factor. The overall number of speed-related crashes in the Rodney District has remained fairly static for the past three years.

Crash severity	1998	1999	2000	2001	2002
Fatal and serious	7	5	8	13	9
Minor	17	14	17	13	17
Total	24	19	25	26	26

Reducing speed 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 figures were not available for the Rodney District, but throughout the Auckland Region mean speeds in both rural and urban areas reduced substantially last year. However, speeds were still higher than throughout New Zealand as a whole, as shown in the following chart.



Younger male drivers (15 to 39 years old) were at fault in a very high proportion of speed-related crashes within the district. These crashes generally involved loss of control, and alcohol, slippery or poor road surface and poor observation were factors often associated with them.

Recommended actions

Engineering

- Carry out studies of roads or routes where high numbers of speed-related crashes occur, with the purpose of upgrading them to appropriate and consistent standards. Specific treatments that could be looked at include: delineation, signposting, shoulder width, alignment and surface friction.

Enforcement

- Support the continued development of road safety action plans (RSAPs) to direct resources to the areas of greatest road safety risk, including:
 - targeted enforcement of high-risk times and locations
 - stricter enforcement of speed limits.

Education

- Conduct programmes to improve awareness of driving at appropriate speeds for the conditions, particularly on winding roads.
- Conduct programmes designed to influence younger male drivers.

New Zealand Road Safety Programme

Reducing road trauma involves a multi-pronged approach, which includes education, engineering and enforcement. The New Zealand Road Safety Programme (NZRSP) provides funding to educate road users to change their behaviour through projects delivered by road safety co-ordinators and community groups. The programme also funds the New Zealand Police for their targeted enforcement activities and support of community road safety projects. Transfund New Zealand provides funding to local authorities for roading projects through its National Land Transport Programme.

Community projects

Through the Community Road Safety Programme (CRSP) the NZRSP provides funding for community development and community programmes to support road safety and to bring about positive and sustainable changes in community attitudes and behaviours. CRSP funding of community initiatives aims to encourage local involvement and ownership of road safety issues, and to target local resources and effort to local risks. This year's review of the programme initiates a re-focus of effort and funding into community development. This involves working with and within different communities of people to assist them in becoming aware of their own local road safety issues and developing solutions to achieve better road safety outcomes.

Road policing

Police enforcement hours to support community projects are now allocated to police community service hours rather than to individual projects. The delivery of these hours to support community initiatives will need to be negotiated by the road safety co-ordinator.

In the 2003/2004 year 26,585 hours will be delivered by the Police in the Rodney District as follows:

Project	Police hours
Strategic – alcohol/drugs, restraints, speed and visible road safety enforcement	21,490
Traffic management – crash attendance events, incidents, emergencies and disasters, traffic flow supervision	3,950
School road safety education	900
Police community services	245

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 35 percent in the Rodney District (36 percent at state highway sites and 33 percent at local road sites).

Recommendations from recent studies should be implemented and further studies undertaken to consider mass action or local area traffic management to reduce crash problems.

References

Rodney District Road Safety Report 1998–2002
LTSA Crash Analysis System

Where to get more information

For more specific information relating to road crashes in the Rodney District, please refer to the 1998 to 2002 Road Safety Data Report or the Land Transport Safety Authority Crash Analysis System, or contact the people or organisations listed below:

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