

# road safety issues

July 2003

The Land Transport Safety Authority (LTSA) has prepared this road safety issues report. It is based on reported crash data and trends over the five-year period 1998–2002. 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 Kaipara District. Four significant road safety issues for the Kaipara District are listed below along with the four major national issues, which are also relevant for the Kaipara District.

During the 1998–2002 period, 30 people were killed in 25 fatal crashes in the Kaipara District. Overall, the Police reported 608 crashes of which 210 involved injury.

The cost to the Kaipara District community is high. Social cost due to crashes totalled \$30.6 million for 2002 and \$165.7 million during the five years. Significant crash reduction has occurred on the state highways in the district but the number of crashes reported on the local open road network has increased.

Most crashes in the Kaipara District involve vehicles losing control on a curve and occur on both rural and urban roads. Driving too fast for the conditions on the open road also contributes to many crashes. Excessive speed was identified as a factor in 43 percent of the Kaipara District's open road injury crashes in 2002. Alcohol remains a factor in 22 percent of injury crashes, well above the New Zealand average of 14 percent.

Passengers are still a highly represented group but injuries to passengers reduced in 2002. Another emerging trend in the Kaipara District is crashes involving motorcycles.

## Major road safety issues

### Kaipara District

Loss of control on curves

Road and environmental factors

Alcohol

Crash reporting

### Nationally

Speed

Alcohol

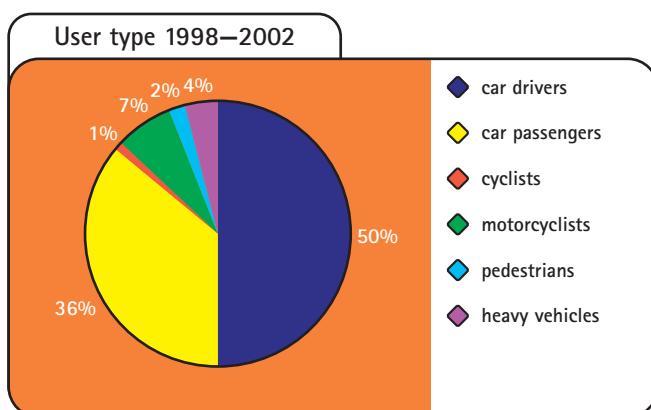
Failure to give way

Restraints

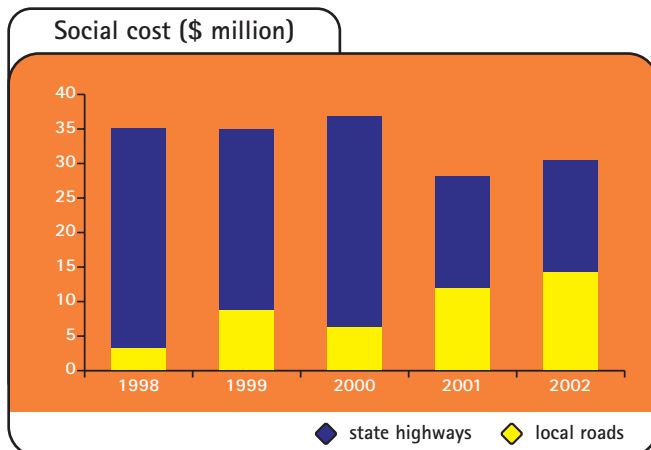
## 2002 road trauma for Kaipara District

Deaths	5
Serious casualties	14
Minor casualties	47
Fatal crashes	5
Serious injury crashes	12
Minor-injury crashes	33
Non-injury crashes	71

## Road casualties 1998–2002



## Estimated social cost of crashes\*

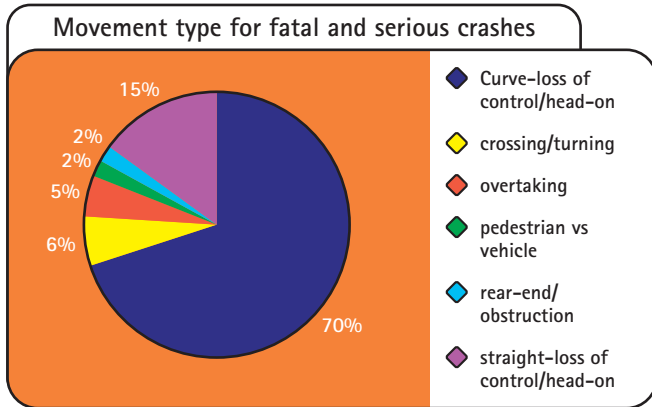


\* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs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

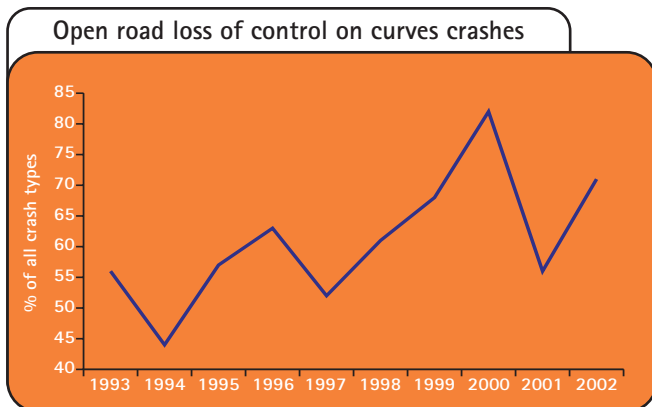


# Loss of control on curves

The majority of crashes in the Kaipara District involved vehicles losing control on curves. They made up 70 percent of all injury crashes with the next most common type being loss of control on straight roads at 15 percent.



The proportion of crashes on different road types in the Kaipara District has changed in recent years with significant reductions on state highways being offset by an increase in crashes on local roads. In 1998, 69 percent of injury crashes and 89 percent of fatal and serious crashes were on the state highway network. However, in 2002, 52 percent of injury crashes and 47 percent of fatal and serious crashes occurred on the state highway network. Crashes on the local road network now make a clear contribution to the road safety issues in the district. The number of loss of control crashes on curves reported in the Kaipara District has doubled on the local roads since 1998.



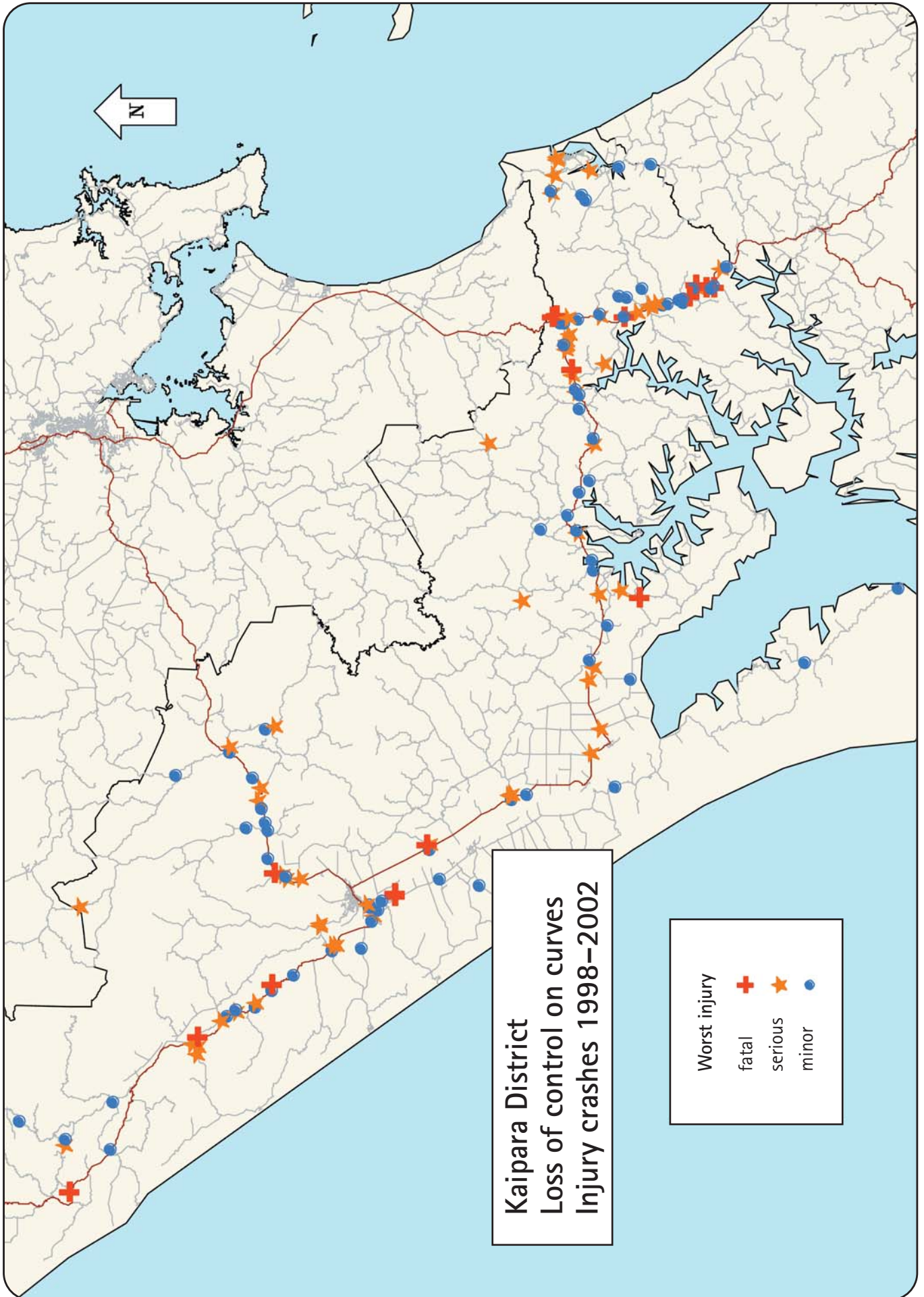
Loss of control crashes occur throughout the year and are also spread across the days of the week. Most occur in the early evenings and 41 percent occur during darkness. Common contributing factors are alcohol, speed, driver fatigue and road factors.

The severity of the loss of control crashes can be increased by a number of factors including high speeds, hitting roadside objects and vehicle occupants not wearing safety belts.

To relate these factors to the Kaipara District, speed factors in crashes rose sharply in 2002 with 43 percent of open road crashes involving excessive speed for conditions. The most commonly struck roadside objects were cliffs, ditches, trees, and fences. Passengers are the second largest road-user group injured in crashes in the Kaipara District and it is important to improve the low level of restraint wearing throughout Northland, particularly for child restraints and rear seat passengers. Gains are already being made with wearing rates increasing and passenger casualty numbers declining.

## Recommended actions

- Develop a priority list of sites that can be investigated for specific remedial action.
- Continue enforcement of speed and increase police visibility on local road routes, targeting high-risk routes.
- Work to improve driver behaviour using education campaigns, billboards and pamphlets, ensuring that a wide range of organisations provide input.
- Continue to work on improving restraint wearing, particularly for passenger safety belts and child restraints through education and enforcement campaigns.
- Provide high levels of advisory signing, delineation, surface friction and road markings on rural routes.
- Provide clear zones or guardrail at high-risk sites to reduce the severity of injuries sustained in loss of control crashes.



# Road and environmental factors

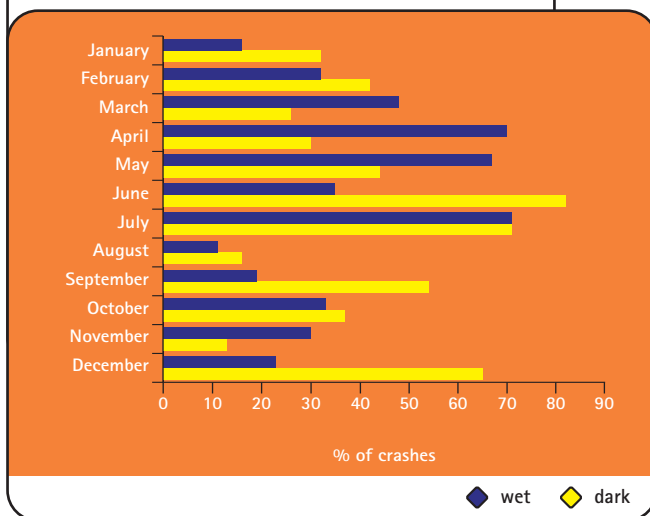
Northland is a difficult environment in which to build and maintain roads. Heavy rain and unstable geology mean that road repairs are often necessary.

Road and environmental factors are a significant contributor to crashes in the Kaipara District. These factors can include slippery surface due to rain (the most common factor), loose material on the seal or unsealed roads. Examples of other road or environmental factors that can contribute to crashes are the design and visibility of vehicle entrances for both residential and commercial areas, missing signs or delineation, slippery or uneven seal, inadequate streetlighting, stray animals and lack of guard rail protection.

As mentioned previously, many crashes in the Kaipara District involve loss of control and many of these loss of control crashes are on wet roads or at night. Forty-one percent of loss of control crashes on curves occur at night but this can reach over 80 percent in the winter months.

On average, 38 percent of crashes occur on a wet road but the proportion can reach over 70 percent in April, May and July.

Factors in loss of control on curve crashes



In the Kaipara District 46 percent of open road crashes are fatal or serious compared with a New Zealand average of 34 percent or compared with an average of 39 percent for territorial authorities similar to the Kaipara District. Speed is a common factor in Kaipara District crashes and drivers need to be aware of the need to adjust their speed for the conditions.

The severity of a crash is influenced by a number of factors including the speed before the crash, obstacles in the roadside environment, whether the occupants are restrained, and the crashworthiness of their vehicle. The roadside environment in the Kaipara District can be unforgiving, with ditches, fences, trees and poles close to the carriageway, giving little opportunity for recovery. The most common objects hit after leaving the road are ditches, cliffs, fences, trees and poles. Many of the fatal and serious crashes where objects are hit occur at night.

Types of objects struck



## Recommended actions

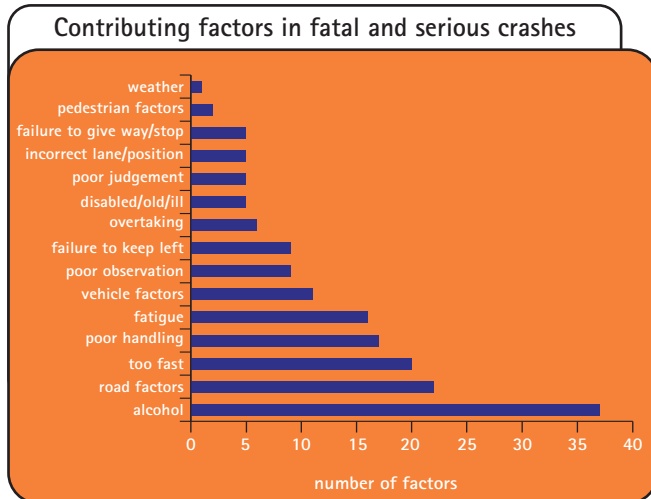
- Improve roadmarking and delineation especially along high-speed routes and those with high crash rates.
- Monitor the skid resistance of roads and reseal before the surface friction deteriorates.
- Set up a programme to move poles and other roadside obstacles away from the carriageway at high-risk locations.
- Improve sight distance and position of new and existing driveways.
- Install guard rails on bridges and at other roadside hazards.
- Use publicity to increase awareness of the need for drivers to take account of the changing road and weather conditions.



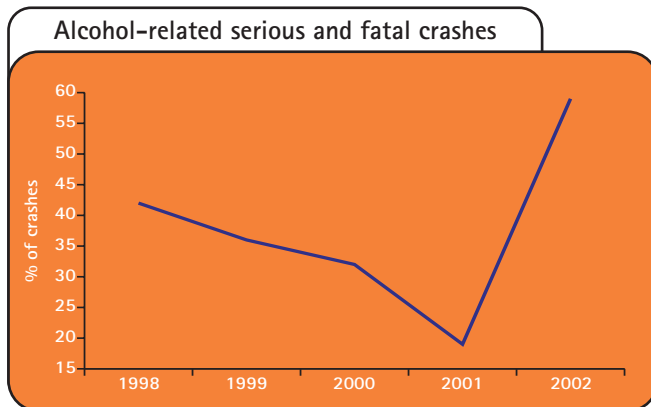
# Alcohol

The national reduction in the number of crashes involving alcohol is encouraging. Nationally, the alcohol contribution has continued to reduce and was a factor in 15 percent of the open road crashes causing injury in 2002.

Northland has historically been near the top of the country for crashes involving alcohol and still ranks second in New Zealand for the percentage of open road crashes involving alcohol and ranks fifth for urban roads.



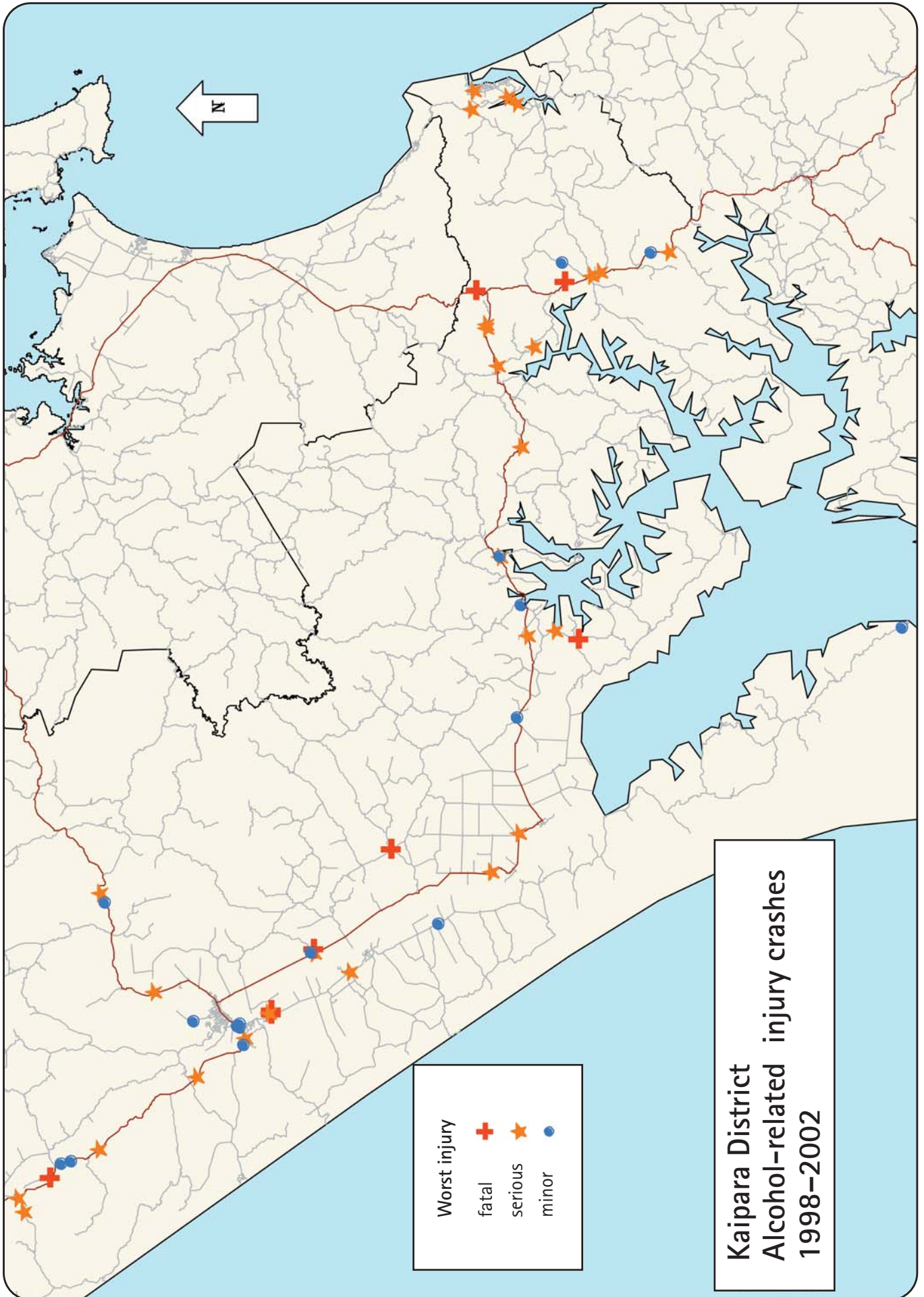
Some gains are being made in the Kaipara District but more reductions need to be made. Alcohol crashes on urban roads have reduced but open road crashes, despite falling in 2001, were on the rise again in 2002. Alcohol was a factor in 59 percent of the Kaipara District's serious and fatal crashes in 2002 and is one of the most common contributing factors for all injury crashes in the district.



Many alcohol-affected drivers in crashes are in the 17 to 21 year age range but the early 30s are also a common age group.

## Recommended actions

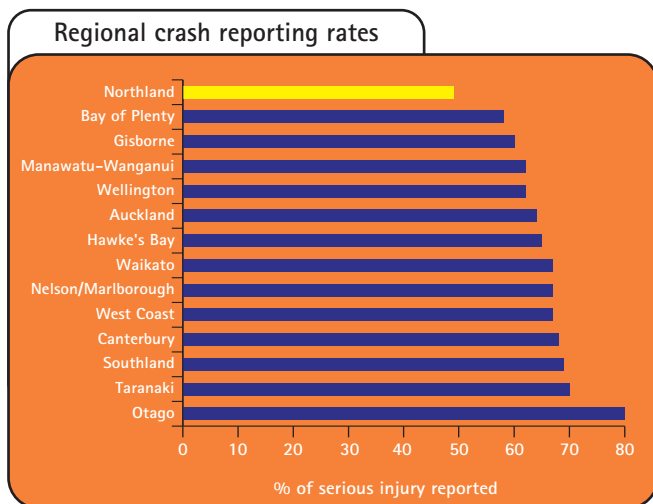
- Conduct active and sustained alcohol enforcement using a full range of enforcement tactics.
- Expand enforcement focus into more rural parts of the district.
- Identify the high-risk premises from where intoxicated people drive.
- Target the repeat drinking drivers with enforcement and education campaigns.
- Promote sober drivers through community groups, sports clubs and schools.
- Support community initiatives that aim to reduce alcohol involvement.





## Crash reporting

The Kaipara District has a low number of crashes compared with the Whangarei and Far North Districts but lower traffic volumes and lower crash numbers can still mean high severity. The severity of crashes in the Kaipara District is still high, with 11 percent of crashes being fatal and 32 percent being serious. This is a Northland-wide problem and can point to low numbers of minor and non-injury crashes being reported to the Police. Northland has traditionally had one of the highest severity rates in the country and had the lowest reporting rate. The two measures are linked because reduced reporting of crashes can mean that minor-injury crashes are not reported or else are reported but only as non-injury. The proportion of fatal and serious crashes that are reported therefore seems higher. There is then less economic justification for road safety improvements in the region because potential reductions cannot be claimed on the crashes have not been recorded.



National comparisons show that Northland has the lowest crash reporting rate, estimated as 49 percent of all serious injury crashes compared with Otago, the highest at 80 percent. Reporting of crashes can have an economic component because every crash that is prevented means that more money can be used in other areas such as non-urgent surgery, crime prevention and road improvements.

The average social cost of crashes in the Kaipara District during the years 1998–2000 was \$35.6 million. In 2001/2002, it was 18 percent less at \$29.4 million. Positive changes are evident in the Kaipara District with a significant rise in non-injury crashes being reported since March 2002. Accordingly, the severity rate has reduced as fatal and serious crashes now make up less of the total. This may indicate that, although no more crashes are occurring, the reporting of crashes is starting to improve in the district. Improved reporting means that more high-risk sites can be identified, more resources put into investigating problems and more money justified for road improvements, enforcement and education programmes. The rural districts especially can benefit from increased funding for safety improvements through improved crash reporting.

## Recommended actions

- Encourage improved reporting of crashes of all severity types by members of the community.
- Continue to improve the systems that allow for crashes to be reported to the Police and the council.
- Encourage good liaison between emergency services so that all crashes are attended and reported.
- Ensure all injury crashes are reported to the Police and ensure that those reported to the Police are attended and followed up with crash reports.
- Encourage the Police to identify suggested engineering, enforcement or education improvements that could be made at crash sites.
- Regularly analyse crash information and local feedback systems to identify emerging problems.
- Investigate high-risk crash areas on a regular basis using all available expertise.

# 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) is the primary planning and funding programme for road safety activity undertaken by the New Zealand Police, LTSA and community groups. Transfund New Zealand provides funding to Transit New Zealand and local authorities for roading projects through its National Land Transport Programme.

## Community Road Safety Programme

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.

CRSP funding for the 2003–2004 year in the Northland Region has been confirmed as follows.

Community development	\$234,250
Community programmes	\$134,750

Community initiatives across the region will be delivered to address the high-risk issues of alcohol speed, restraints (with emphasis on child and rear seat passengers) and young driver behaviour. Other local road safety issues can also be addressed at a community level using this programme.

In addition, an allocation of advertising funding to support community initiatives is also available. This separate funding is administered by the LTSA and specific application criteria must be met. The funding criteria can be supplied by the regional education advisor at the address provided below.

## Road policing

In the 2003–2004 year 8,650 hours will be delivered by police in the Kaipara District as follows:

Project	Police hours
Strategic – alcohol/drugs, restraints, speed and visible road safety enforcement	6,010
Traffic management – crash attendance events, incidents, emergencies and disasters, traffic flow supervision	1,660
School road safety education	400
Police community services	580

## 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 55 percent in the Kaipara District (74 percent at state highway sites and 28 percent at local road sites).

The recommendations from past studies should be implemented promptly to gain maximum benefit from the investigation process, and further studies should be planned to identify and address crash problems in the district.

## References

Kaipara 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 Kaipara 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:

### Contacts

Land Transport Safety Authority Regional Manager Peter Kippenberger Private Bag 106 602, Auckland Phone 09 377 3400	New Zealand Police District Traffic Manager Inspector Rex Knight Private Bag 9016, Whangarei Phone 09 430 4500
Regional Education Advisor Karen Sandoy PO Box 1664, Whangarei Phone 09 459 6314	Kaipara District Council Roading Engineer Blair King Private Bag 1001, Dargaville Phone 09 439 7059
Senior Road Safety Engineer John Garvitch PO Box 1664, Whangarei Phone 09 459 6315	Transit New Zealand Area Engineer Northland Richard Green PO Box 1899, Whangarei Phone 09 459 6933
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