

# 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 Whangarei District. Four significant road safety issues for the Whangarei District are listed below along with the four major national issues, which are also relevant for the Whangarei District.

During the 1998–2002 period, 80 people were killed in 61 fatal crashes in the Whangarei District. Overall, the Police reported 3,027 crashes of which 537 involved injury.

The cost to the Whangarei District community was high, with crash costs reaching \$83.8 million in 2002 and \$376 million over the five-year period. Road safety gains were evident on state highways in the district where the number of crashes reduced markedly in 2002. However, the number on the local road network has increased, especially on rural local roads.

Most crashes in the Whangarei District involved vehicles losing control on a curve and these crashes were common on both rural roads and urban roads. The district had an increasing number of pedestrians injured with 17 pedestrians killed or injured last year.

Alcohol remains a factor in crashes but good improvements have been made. Driving too fast for the conditions on the open road can contribute to loss of control crashes. In urban areas, high vehicle speeds can put pedestrians and cyclists at risk.

## Major road safety issues

### Whangarei District

Loss of control on curves

Alcohol

Pedestrians

Road and environmental factors

### Nationally

Speed

Alcohol

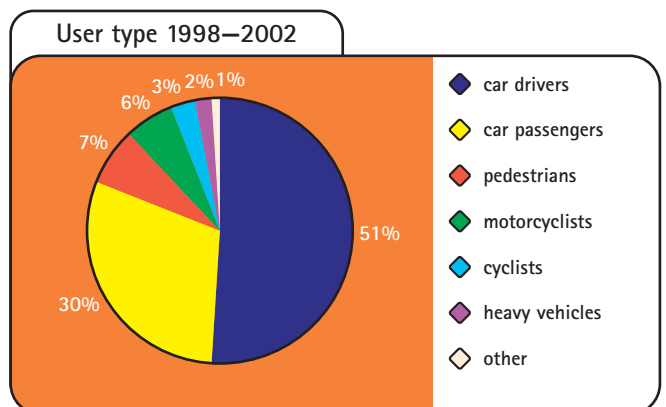
Failure to give way

Restraints

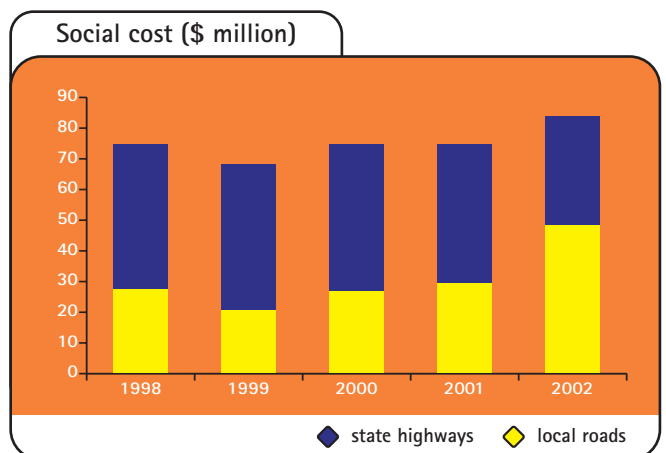
## 2002 road trauma for Whangarei District

Deaths	18
Serious casualties	40
Minor casualties	135
Fatal crashes	14
Serious injury crashes	31
Minor-injury crashes	97
Non-injury crashes	484

## 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

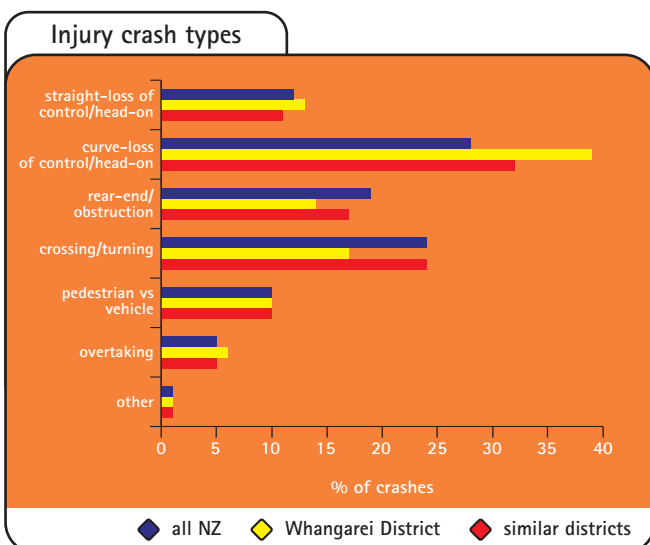
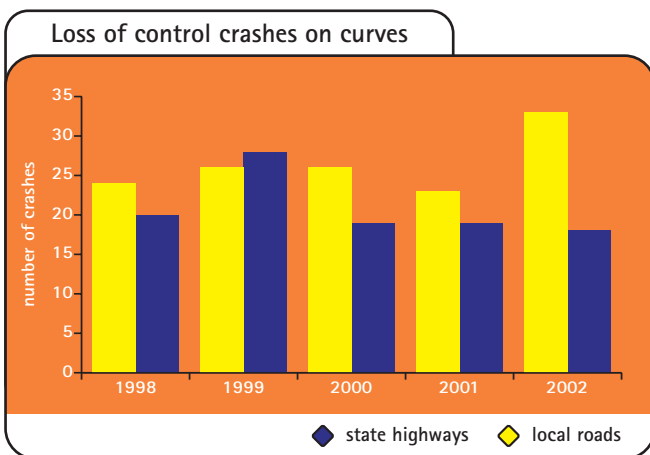
The majority of crashes in the Whangarei District involved vehicles losing control on curves. They made up 39 percent of all injury crashes and the number is increasing each year. On state highways there was a reduction in loss of control crashes in 2002, but this was offset by an increase on the local road network, particularly on rural (100 km/h) local authority roads. In 2002, there was a large reduction in the social cost resulting from crashes on state highways but the local road cost has risen to make up nearly 50 percent of the crash costs in the district. The severity of crashes on the open road was high compared with other parts of New Zealand with the Whangarei District having 47 percent of fatal or serious open road crashes, compared with 39 percent in other authorities. Speed, road factors and alcohol were over-represented as factors in crashes on curves. Fatigue was over-represented in open road crashes and has been identified as a particular problem on the section of SH 1 south of the Whangarei District. A recent investigation of crashes along this route reveals that fatigue as a contributing factor may be more common than what is being reported.

Speed-related crashes, which can contribute to loss of control crashes and increase the severity of injuries, are also rising. In the Whangarei District, 26 percent of open road crashes and 17 percent of urban crashes involved excessive speed for the conditions. Speed in urban areas in Northland is generally high, with 21 percent of vehicles exceeding 60 km/h on urban roads. Alcohol is also present in 32 percent of loss of control crashes in the Whangarei District. Most of the loss of control crashes (73 percent) in the district involved a single vehicle losing control, mostly on a right-hand curve and many crashes involved a collision with a roadside object which can also increase the severity of injuries.

Most loss of control crashes occur in May, with December and January also showing up as common months. Most occur in the weekends and often at night. This could coincide with high-alcohol crash numbers at these times. About 44 percent of the loss of control crashes occur at night. Speed, road factors, alcohol and poor handling make up the majority of factors contributing to loss of control crashes.

## Recommended actions

- Develop a priority list of sites that can be investigated for specific remedial action.
- Work to improve driver behaviour using education campaigns, billboards and pamphlets, ensuring that a wide range of organisations provide input.
- Continue enforcement of speed and increase police visibility on local road routes, targeting high-risk and identified routes.
- Develop a hierarchy of routes and provide high and consistent levels of lighting, delineation, surface friction and road markings on the routes at the top of the hierarchy.
- Provide clear zones or guard railing to reduce the severity of injuries sustained in loss of control crashes.

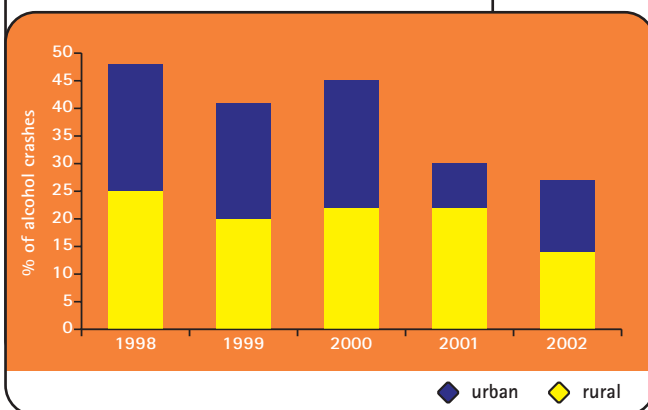




## Alcohol

The number of crashes where alcohol was a factor has reduced over the past years in the Whangarei District. Alcohol-related crashes have declined in both urban and rural areas from 49 in 1995 down to 19 in 2002. Crash numbers have reduced generally but alcohol-related crashes as a percentage of other crashes have reduced from 26 percent down to 19.9 percent on urban roads and 13.9 percent on rural roads. Alcohol involvement in serious and fatal crashes has reduced from 37 percent down to 18 percent. These are large reductions and are the result of hard work by many agencies, community groups and individuals.

Alcohol-related crashes 1998–2002

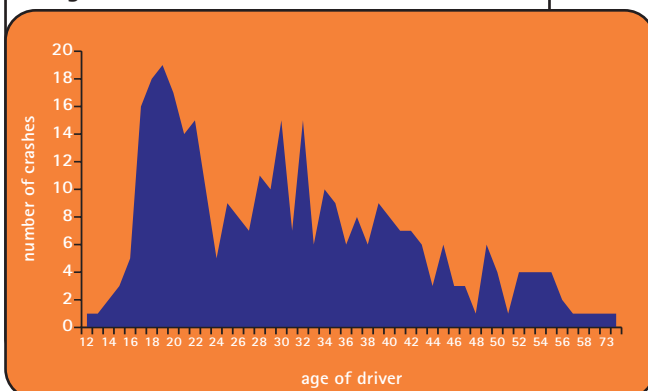


However, the effort must be sustained over the long term and Northland still has a clear problem with alcohol in crashes. Despite ranking ninth out of 14 New Zealand regions in terms of population and seventh in terms of road length, Northland ranks second from the top in the proportion of alcohol-related crashes on the open road and fifth for urban roads.

Drivers travel between districts and it is important to note that the Whangarei District's neighbour, the Kaipara District, recorded alcohol as a factor in 59 percent of serious and fatal crashes in 2002, while in the Far North District it was 33 percent.

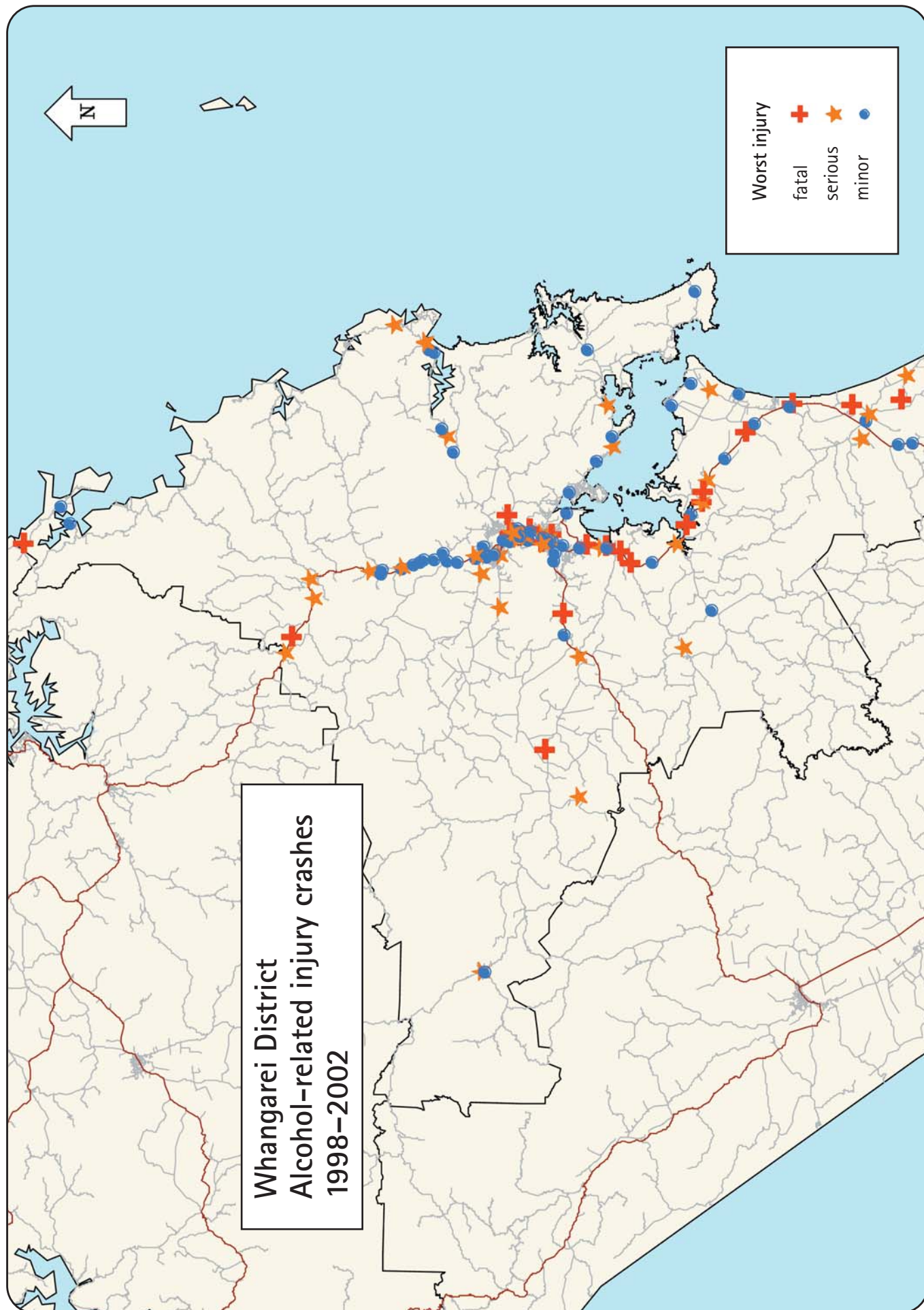
The age of alcohol-affected drivers in crashes peaks at around 20 years old with another peak for drivers in the mid-30s age group.

Age of alcohol-affected drivers in crashes



## Recommended actions

- Continue with active and sustained alcohol enforcement.
- Expand enforcement focus to include more rural parts of the district.
- Identify high-risk establishments from where intoxicated people drive.
- Target repeat drink-drivers.
- Promote sober drivers through community groups, sports clubs and schools.
- Support community initiatives that aim to reduce alcohol involvement.

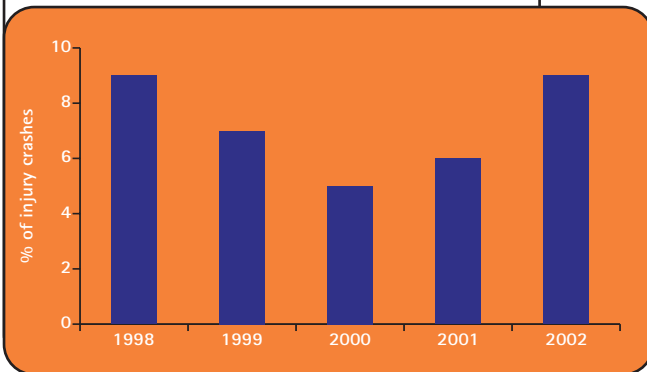




## Pedestrians

In New Zealand, pedestrians are the third highest group of road users killed, after drivers and passengers but above motorcyclists and cyclists. This is also the ranking for pedestrian casualties in the Whangarei District. They made up nearly 17 percent of the casualties in urban crashes in 2002. Furthermore, the pedestrian casualty trend in the district is on the way up and 2003 shows no signs of improvement.

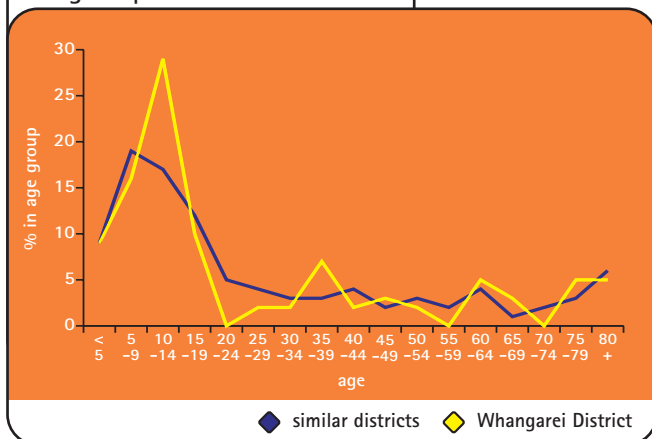
Pedestrians as a proportion of all crashes



The age of pedestrians injured in the Whangarei District peaks at 10 to 14 years whereas in other parts of New Zealand the peak is in the 5 to 9 year range. Nearly 30 percent of pedestrian casualties in the Whangarei District are in the 10 to 14 year age group.

Many children walk or take a school bus to school and the trip to and from the bus can be hazardous. The Whangarei District has a number of busy routes running through residential areas and also past schools. This means that the needs of local road users can be in conflict with those of through traffic, and roads can be difficult to cross, especially for children, the elderly and the disabled who may have difficulty judging speed and distance.

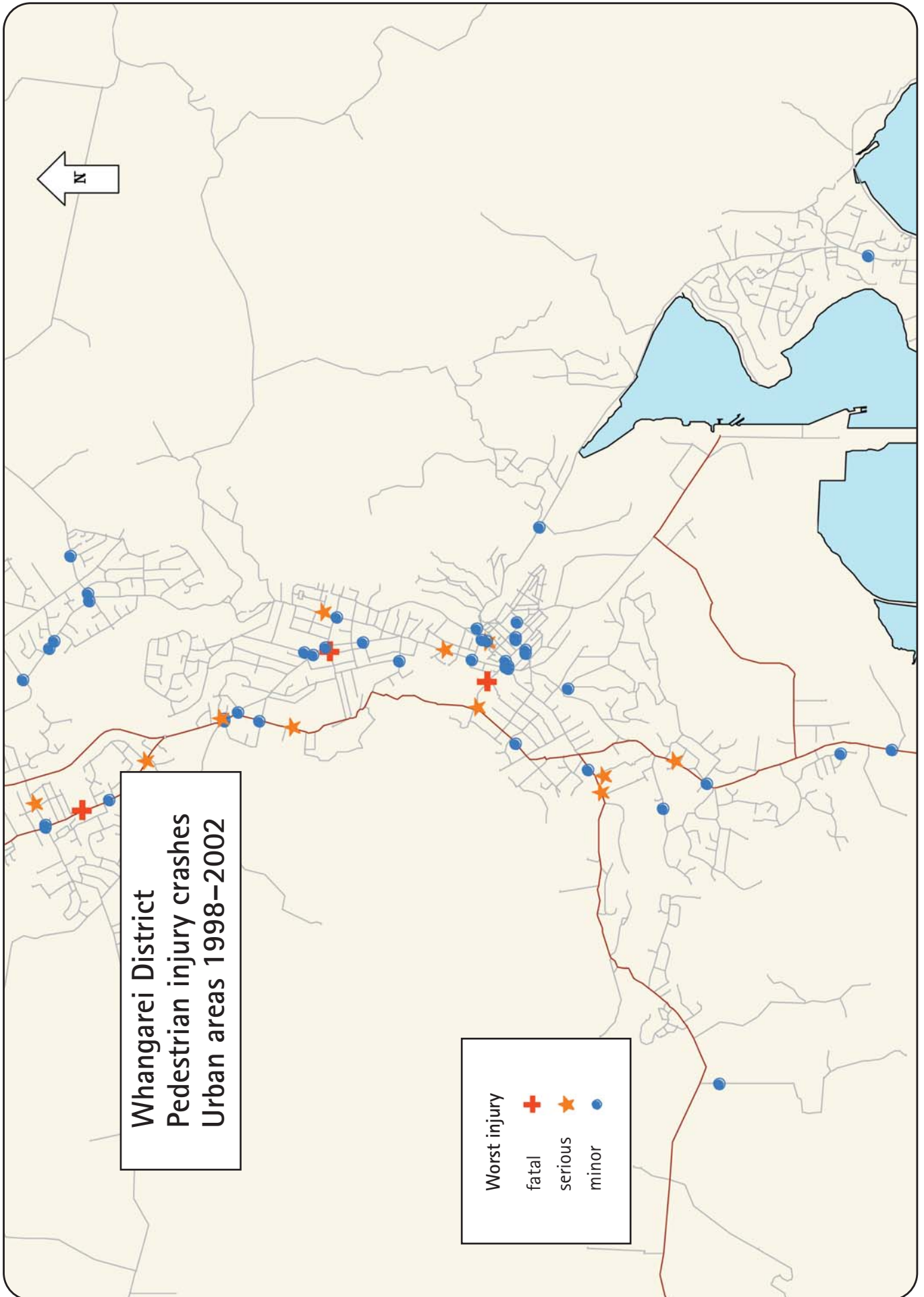
Age of pedestrians in crashes



Urban speed is a factor in Northland with 21 percent of vehicles exceeding 60 km/h on urban roads. Higher traffic speeds increase stopping distances, meaning that pedestrians are far more likely to be killed or seriously injured. A vehicle travelling at 50 km/h may be able to stop for a pedestrian, but if the vehicle's initial speed was 60 km/h, it would still be moving at a speed of 44 km/h when it impacted with the pedestrian, with the high possibility of fatal injury.

## Recommended actions

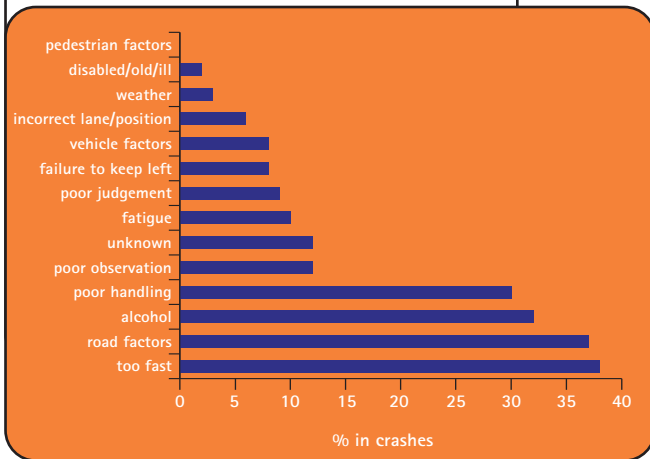
- Encourage safe pedestrian practices especially among children.
- Increase awareness among drivers of pedestrian needs and their vulnerability in crashes.
- Plan and develop arterial routes away from residential areas and schools and provide a high standard of crossing facilities along these routes.
- Plan, monitor and audit bus routes, pick up and drop off areas to ensure children are not put at risk.
- Discourage through traffic from using local streets.
- Increase size of no parking zones around pedestrian facilities.
- Strictly enforce urban speed to reduce average travelling speed.
- Ensure pedestrian routes and crossing points are well lit.



# 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. As mentioned above, many crashes in the Whangarei District involved loss of control and many of these loss of control crashes were on wet roads or at night. About 40 percent of loss of control crashes on curves occurred on wet roads but this jumped to 70 percent in June.

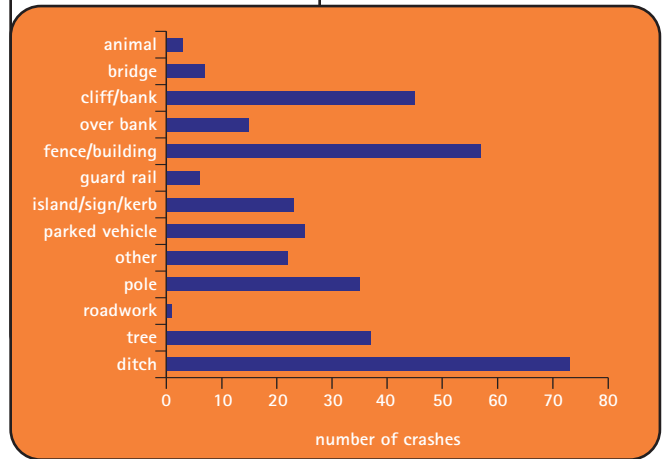
Factors in loss of control curve crashes



On average, about 44 percent of the loss of control crashes occur at night but this proportion can jump to over 60 percent in the winter months.

The severity of crashes on the open road is high with 47 percent of open road crashes being fatal or serious compared with 39 percent in other authorities. Drivers need to be aware of the need to adjust their speed for the conditions on Northland roads. The severity of a crash is influenced by the speed before the crash, obstacles in the roadside environment, whether the occupants are restrained and the crashworthiness of the vehicle. The roadside environment in the Whangarei 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 and many of the fatal and serious crashes where objects are hit occur at night.

Objects hit in crashes



## Recommended actions

- Improve roadmarking and delineation especially along high priority and high-risk routes.
- Upgrade streetlighting along main routes.
- Monitor skid resistance of roads and reseal before 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.
- Develop a hierarchy of urban roads to encourage traffic onto the highest level of the road network while discouraging through traffic from using local streets.
- Increase awareness of the need for drivers to take account of the changing road and weather conditions.

# 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 30,530 hours will be delivered by the Police in the Whangarei District as follows:

Project	Police hours
Strategic – alcohol/drugs, restraints, speed and visible road safety enforcement	23,180
Traffic management – crash attendance events, incidents, emergencies and disasters, traffic flow supervision	5,040
School road safety education	1,000
Police community services	1,310

## 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 41 percent in the Whangarei District (42 percent at state highway sites and 40 percent at local road sites).

The recommendations from recent 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

Whangarei 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 Whangarei 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  
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Phone 09 377 3400

Regional Education Advisor  
Karen Sandoy  
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Senior Road Safety Engineer  
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PO Box 1664, Whangarei  
Phone 09 459 6315

Road Safety Co-ordinator

Gillian Archer  
PO Box 1124, Whangarei  
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New Zealand Police

District Traffic Manager  
Inspector Rex Knight  
Private Bag 9016, Whangarei  
Phone 09 430 4500

Whangarei District Council

Traffic and Parking Engineer  
Wayne Davison  
Private Bag 9023, Whangarei  
Phone 09 430 4200

Transit New Zealand

Area Engineer Northland  
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