TRANSIT NEW ZEALAND REGION ONE

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 on Northland's state highways. Four significant road safety issues for Transit New Zealand Region One are listed below along with the four major national issues, which are also relevant for Northland's state highways.

During the 1998–2002 period, 139 people were killed in 106 fatal crashes on Northland's state highways. Overall, the Police reported 2,407 crashes of which 676 involved injury.

The cost of crashes to the community is high, reaching $105 million in 2002 or totalling $608 million over the five-year period. However, road safety gains are evident on the state highways with a large reduction in social cost in 2002 and fewer injury crashes reported. Unfortunately the number of crashes occurring off the state highway network has increased, especially on rural local roads.

Most crashes on Northland's state highways involved vehicles losing control on a curve, on both rural and urban state highways. Crashes at night were above average. Fatigue is increasingly being identified as a common factor. There is a rising number of pedestrian casualties and a high proportion of child passengers being killed or injured. Motorcyclist crashes are also on the rise. Alcohol remains a common factor especially in open road highway crashes.

Major road safety issues

Transit New Zealand Region One

- **Loss of control on curves**
- Alcohol
- **Pedestrians**
- Intersections

Nationally

- **Speed**
- Alcohol
- **Failure to give way**
- Restraints

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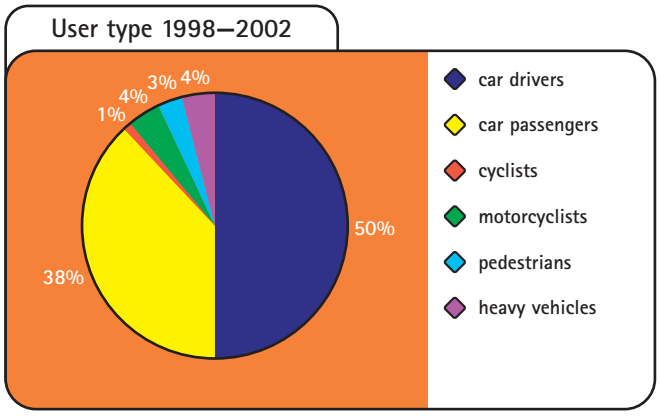
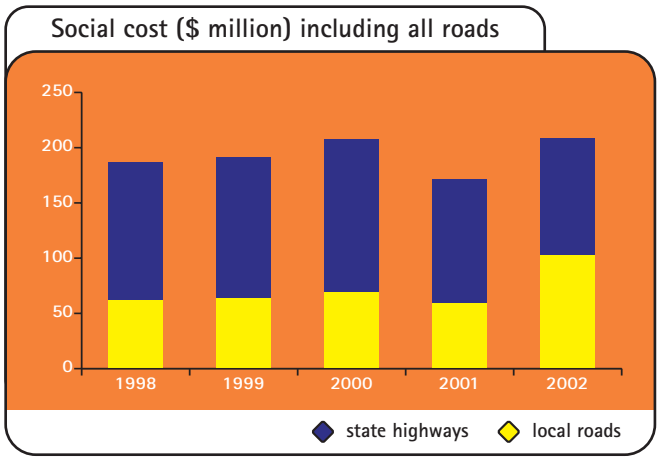
2002 road trauma for TNZ Region One

Deaths	21
Serious casualties	55
Minor casualties	154
Fatal crashes	17
Serious injury crashes	42
Minor-injury crashes	93
Non-injury crashes	319

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.

LAND transport safety AUTHORITY

Loss of control on curves

The majority of crashes in Transit New Zealand Region One involve vehicles losing control on curves. They make up 50 percent of all injury crashes on rural state highways and 28 percent on urban state highways. Both figures are well above the national average for this type of crash but urban crashes of this type reduced in 2002.

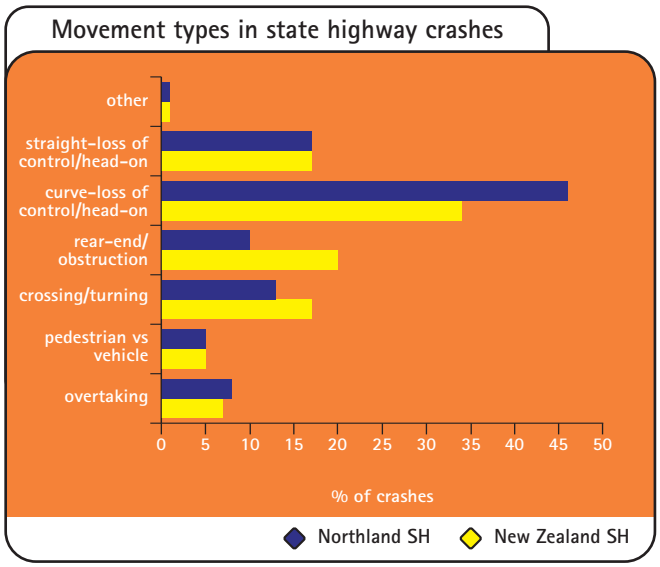
Many crashes on curves occur at night. Crashes in darkness increased in 1999 on rural state highways and have remained above average since then. Urban state highway crashes at night have now followed with a rise in 2002. In some winter months, over 70 percent of crashes occur at night.

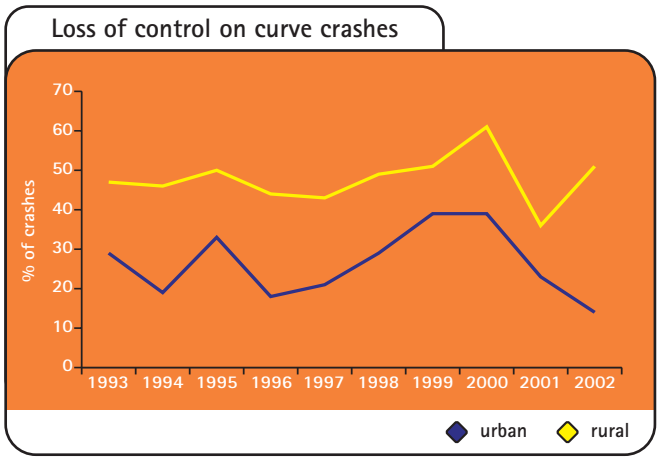
The severity of crashes on the open road is high compared with other parts of New Zealand. Transit New Zealand Region One has 45 percent of open road crashes that are fatal or serious compared with 37 percent in other areas. The severity of a single vehicle crash is likely to be higher if an object is struck or if the occupants are not wearing safety belts. Around 60 percent of rural state highway loss of control crashes end up with a vehicle leaving the road and hitting a roadside object. The most commonly struck objects are ditches. Crashes on Northland's state highways occur mainly on Fridays, particularly in the afternoon and evening. For loss of control crashes, the most frequent time is Sunday afternoon followed by Friday and Saturday. Afternoon and early evening are the most common times of day and most crashes occur over the summer months from October to January.

After alcohol, road factors are the second most common cause given in loss of control crashes on curves. These are often factors relating to a wet or slippery road surface. The proportion of crashes on wet roads is high from February through to May and in July.

Speed is also a common factor in loss of control crashes but the involvement of speed in rural state highway crashes has reduced significantly. It is now down to about 15 percent compared with 26 percent in 1999.

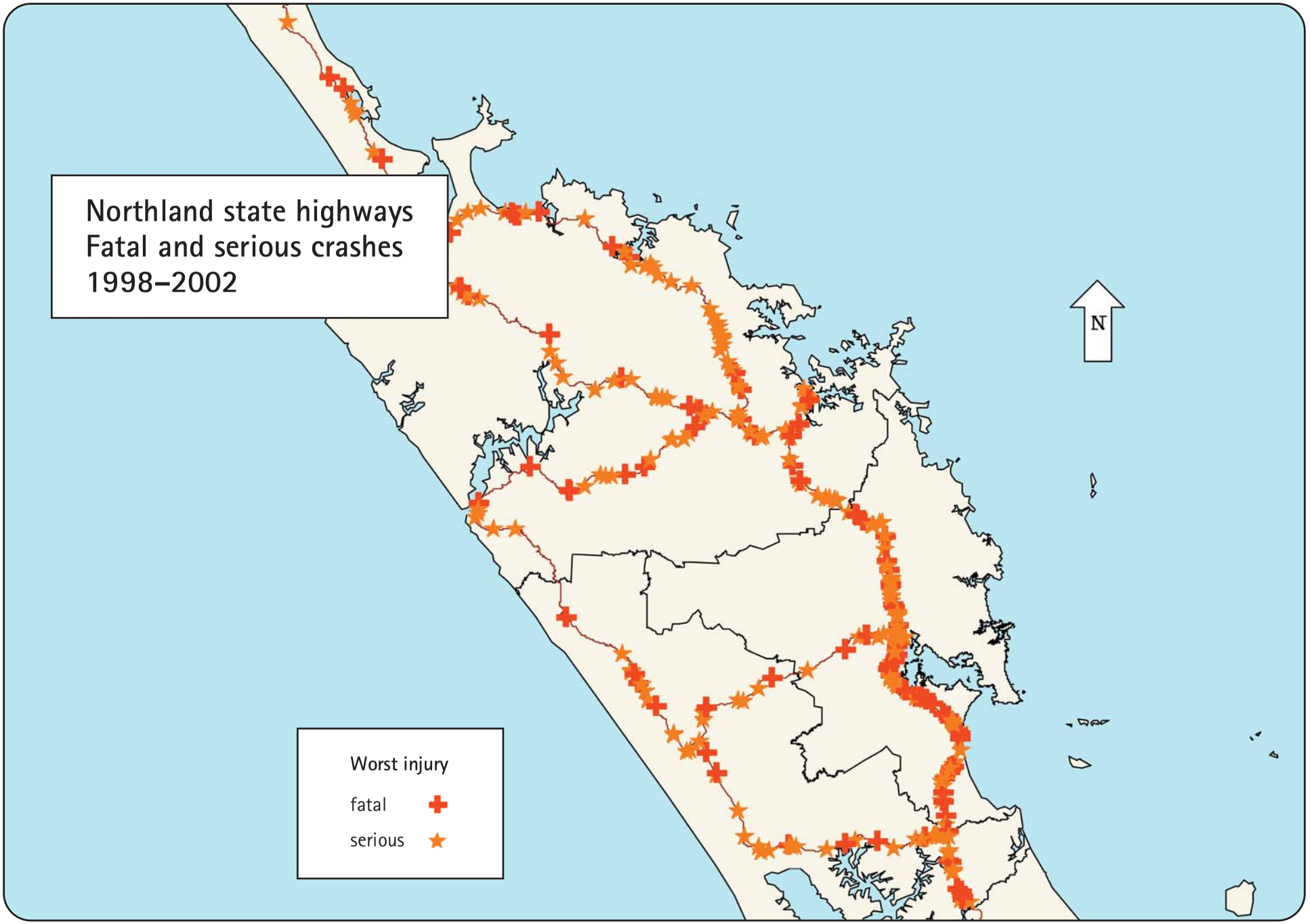
Fatigue is increasingly given as a factor in open road crashes on state highways and has been identified as a particular problem on the section of SH 1 south of Whangarei. After recent detailed investigation of crashes occurring along this route, fatigue as a contributing factor seems to be even more common than what has been reported.





Recommended actions

- Continue with crash reduction studies of existing sites and safety audit of new or reconstructed sites.
- Develop a priority list of sites for specific remedial action based on crash history and crash risk.
- 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.
- Use education campaigns, publicity and strict enforcement to ensure that safety belts and child restraints are being worn, especially for vehicles carrying children.
- Provide high and consistent levels of delineation, surface friction, road markings and streetlighting along urban routes.
- Provide clear zones or guard railing along identified routes to reduce the severity of injuries sustained in loss of control crashes.


Northland state highways
Fatal and serious crashes
1998–2002
N
Worst injury
fatal
serious

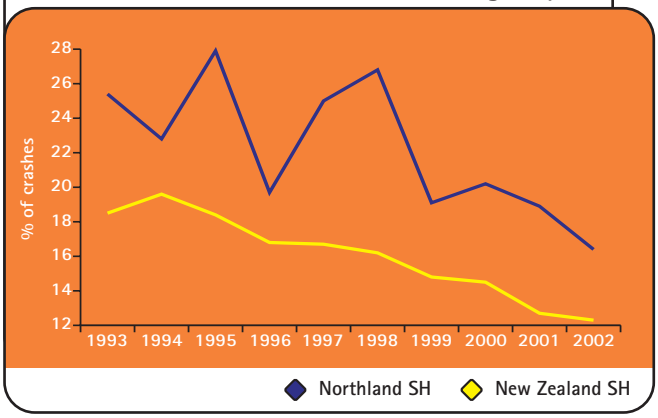
Alcohol

The number of crashes where alcohol was a factor has reduced over the past years on Northland's state highways. Alcohol-related crashes have dropped from 66 in 1995 to 21 in 2002. Crash numbers have reduced on the highways, but alcohol-related crashes as a percentage of all crashes have reduced from 33 percent down to seven percent (urban) and from 27 percent to 16 percent (rural). These are large reductions and the result of hard work by many agencies, community groups and individuals. Despite reducing to 16 percent, alcohol as a factor on rural state highways is still higher than the national figure, which is now down to 12 percent. Northland as a region 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 on urban roads.

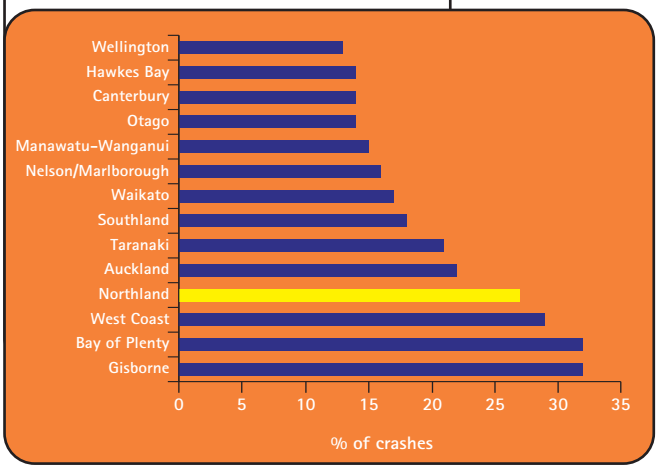
It is important to note that the Kaipara District cited alcohol as a factor in 59 percent of serious and fatal crashes in 2002 and the Far North District 33 percent.

Alcohol-affected drivers on state highways are represented in most age groups, mostly spread over a wide age range from 15 to 40 years old.

Alcohol-related crashes on rural state highways

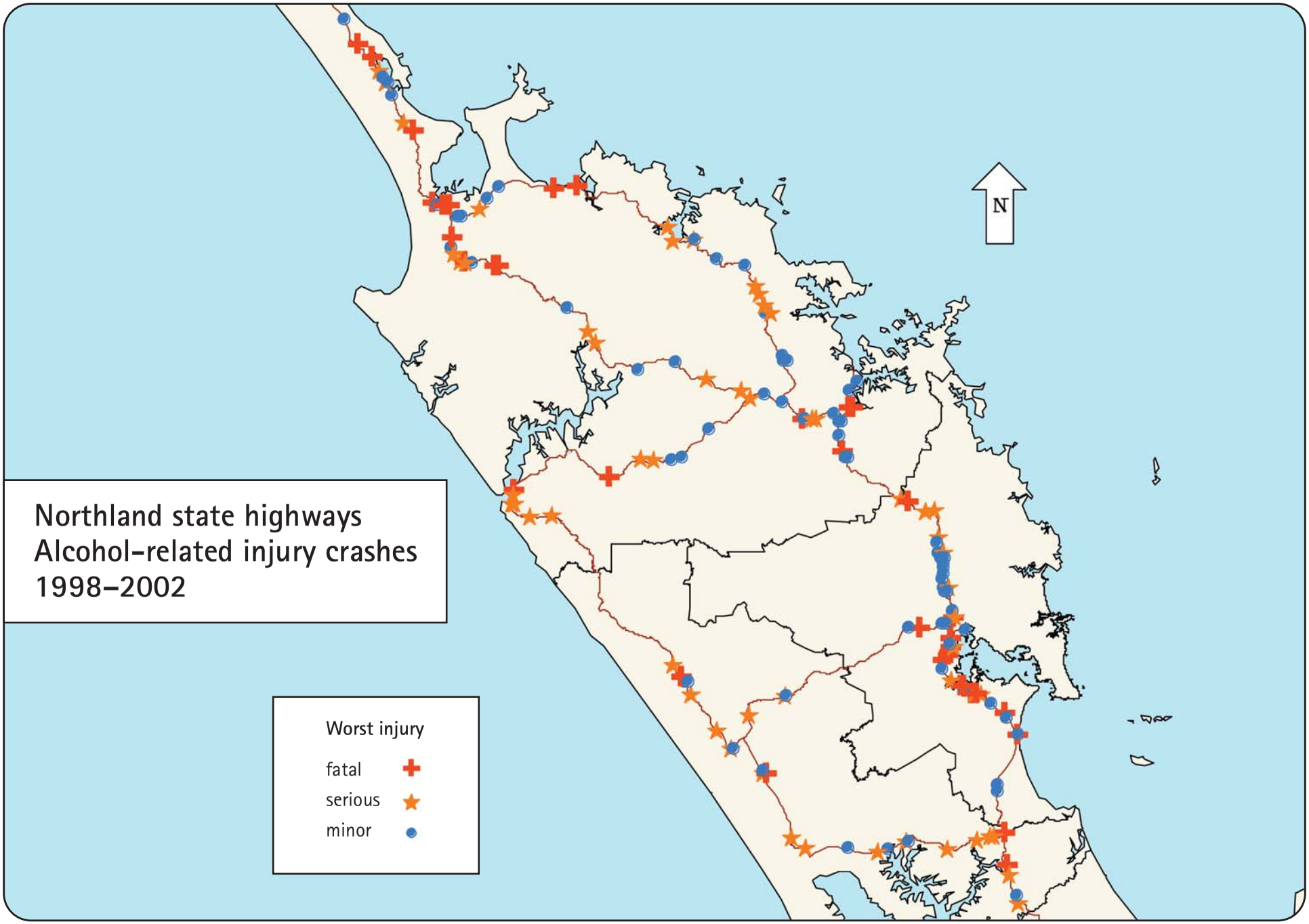


Fatal and serious alcohol crashes



Recommended actions

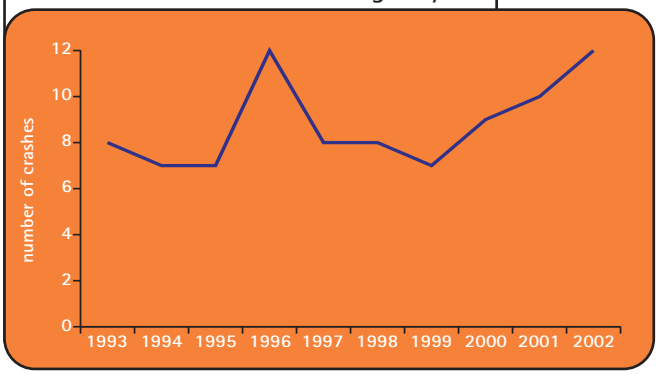
- Continue with proactive and sustained alcohol enforcement.
- Expand enforcement focus to include more rural areas, both on and off the highways.
- Identify high-risk establishments from where intoxicated people drive.
- Target repeat drink-drivers.
- Promote sober drivers through community groups,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


Northland state highways
Alcohol-related injury crashes
1998–2002
Worst injury
fatal
serious
minor
N

Pedestrians

Although pedestrian casualty numbers are lower than for some other road-user types and haven't previously featured as an issue, 2002 was a bad year with a sharp rise in casualties. Over the five-year period, 46 pedestrians have been killed or injured on Northland's state highways and 10 of those casualties occurred in 2002. The 2003 year shows no signs of improvement. Most (70 percent) of the pedestrian casualties were on urban state highways and they are over-represented as a road-user group compared with urban state highways in the rest of New Zealand. This is despite the predominantly rural nature of the state highway network in Northland.

Pedestrian crashes on state highways



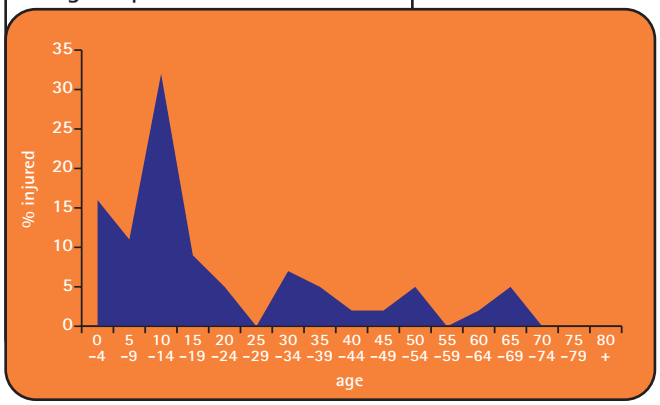
The age of pedestrians injured on state highways peaks at 10 to 14 years and is also high for children aged under five. In other parts of New Zealand the peak age for pedestrian casualties is higher at 15 to 19 years. Nearly 60 percent of pedestrian casualties on Northland's state highways are under 15 years old (New Zealand figure is 27 percent). Add this to the figure of 27 percent of passenger casualties who are aged under 15 years (New Zealand figure is 20 percent) and it shows that children are a vulnerable group on the highway network.

Many towns in Northland have a state highway running through them and the transition from a rural environment to an urban street can be difficult for drivers and pedestrians alike.

The needs of local road users can be in conflict with those of through traffic and some roads can be difficult to cross, especially for children, the elderly and the disabled. Many children walk or take a school bus to school and the trip to and from the bus can be hazardous.

Children and elderly people have more difficulty judging speed and the distance of oncoming traffic. Children can suddenly run out onto the road whereas the elderly need more time to cross than other road users.

Age of pedestrians in crashes



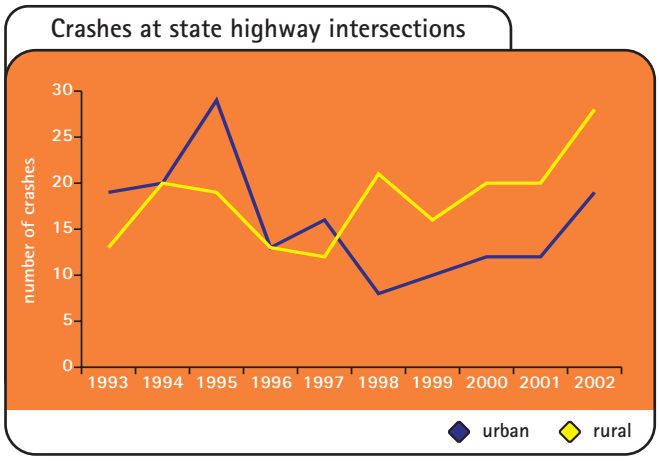
Urban speed is a factor in Northland with 21 percent of vehicles exceeding 60 km/h on urban roads. Higher traffic speeds increase stopping distances meaning that pedestrians are far more likely to be killed or seriously injured. A vehicle travelling at 50 km/h may be able to stop for a pedestrian, but 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 a possibility of fatal injury.

Recommended actions

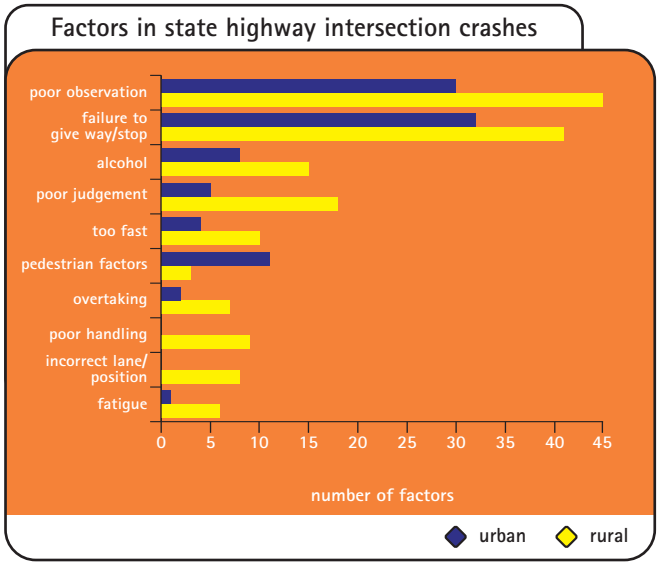
- Encourage safe pedestrian practices especially amongst children.
- Increase awareness amongst drivers of pedestrian needs and their vulnerability in crashes.
- Encourage road controlling authorities to plan and develop arterial routes away from residential areas and schools and provide a minimum number but 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.
- Increase the size of no parking zones around pedestrian facilities.
- Strictly enforce urban speed to reduce average travelling speed.
- Ensure pedestrian crossing points are appropriately located, built to very high design standards, have good delineation, are illuminated to the appropriate standard and are well maintained.

Intersections

Although collisions at intersections are not the major crash type in Northland, the number of these crashes has been increasing on the state highway network in recent years. There has been a lot of work done over the past 15 years improving intersections to reduce the number and severity of crashes. However, in recent years, crash numbers at urban state highway intersections have been rising. The proportion of rural crashes occurring at intersections has also risen against other crash types that have been reducing. About 45 percent of urban crashes are at intersections and, until 2001, intersection crashes made up about 15 percent of rural crashes. However in 2002, crashes at intersections increased to make up over 25 percent of rural crashes.



Not checking, poor judgement or failing to give way are common factors but speeding can also contribute to intersection crashes when drivers who fail to give way, misjudge the speed of approaching traffic. As mentioned previously, speed in urban areas is high with 21 percent of vehicles exceeding 60 km/h. This can also increase the severity of injuries. Most crashes result from either a driver making a right turn from a T junction into the path of another vehicle (approaching from the right), or making a right turn into a T junction into the path of an oncoming vehicle.



Recommended actions

- Continue to conduct crash reduction studies on identified intersection sites and ensure recommendations are implemented promptly.
- Conduct safety audits on all new intersection designs.
- Ensure an appropriate level of control at all state highway intersections and that signs are properly positioned for optimum visibility.
- Ensure streetlighting is of a high standard for urban and rural intersections.
- Enforce driver behaviour at intersections including giving way, stopping, indicating, following distance and speed.
- Raise awareness of the increasing number of heavy vehicles on the roads and the specific issues relating to heavy vehicles at intersections.
- Conduct education and publicity campaigns focusing on problems and driving tips at key intersections around the region.

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 56,055 hours will be delivered by the Police in the Northland Region as follows:

Project	Police hours
Strategic – alcohol/drugs, restraints, speed and visible road safety enforcement	41,755
Traffic management – crash attendance events, incidents, emergencies and disasters, traffic flow supervision	9.530
School road safety education	2,200
Police community services	2,570

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 42 percent in the Northland Region (45 percent at state highway sites and 39 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 on the state highways.

References

Transit New Zealand Region One Road Safety Report 1998–2002

LTSA Crash Analysis System

Where to get more information

For more specific information relating to road crashes in Transit New Zealand Region One, 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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