

road safety issues

The Land Transport Safety Authority (LTSA) has prepared this road safety issues report. It is based on reported state highway crash data and trends for the 1999–2003 period. The intent of the report is to highlight key road safety issues and trends on Northland state highways.

During the 1999–2003 period, 130 people were killed in 101 fatal crashes on Northland state highways. Overall, the Police reported over 2,600 crashes of which 885 involved injuries. The number of minor and non-injury crashes reported in 2003 was significantly larger than in previous years. The table below shows the distribution of crashes by state highway.

Reported crashes for the period 1999–2003

Highway number	Fatal crashes	Serious crashes	Minor crashes	Non-injury
1	67	125	318	1,042
10	9	38	72	177
11	3	7	11	43
12	14	46	92	225
14	7	14	40	131
15	1	2	7	45

Loss of control crashes (especially those on bends) continued to dominate the crash scene on Northland state highways, representing over three quarters of the social cost of the most serious crashes. Pedestrians and passengers (especially young people) were over-represented in urban state highway crashes. On rural highways road factors are over-represented as a contributing factor.

Major road safety issues

Northland state highways

- Loss of control (including speed and alcohol)
- Passengers
- Pedestrian casualties
- Road factors

Nationally

- Speed
- Alcohol
- Failure to give way
- Restraints

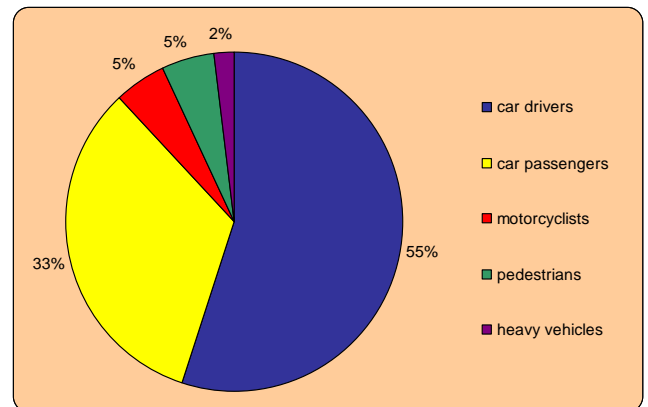


2003 road trauma for Northland state highways

Deaths	22
Serious casualties	57
Minor casualties	283
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Fatal crashes	17
Serious injury crashes	46
Minor injury crashes	98
Non-injury crashes	339

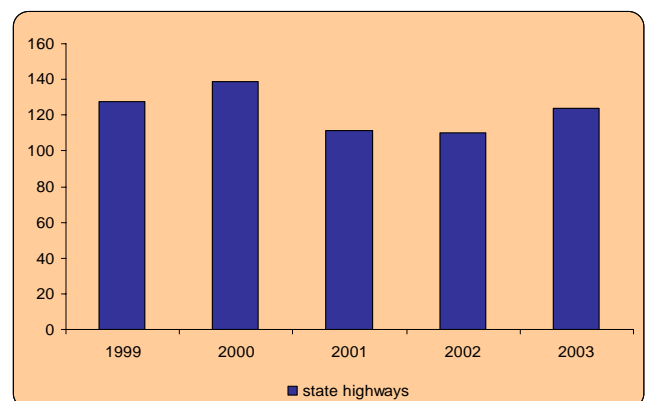
Road deaths 1999–2003

User type



Estimated social cost of crashes*

Social cost (\$ million)

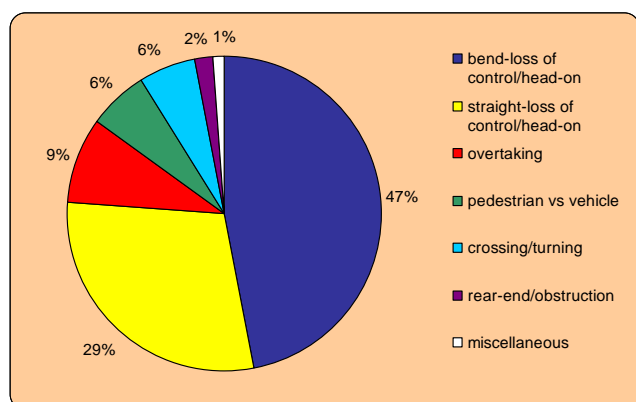


*The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

Loss of control (including speed and alcohol)

Loss of control crashes were the major contributor to the overall social cost of crashes on Northland state highways, accounting for just over three quarters of the social cost of fatal and serious crashes.

Percentage of social cost for fatal and serious crashes 1999–2003



In the 554 loss of control crashes involving injury over the last five years, 102 people died, 243 received serious injuries and 615 sustained minor injuries. Forty percent of the people injured were passengers in vehicles.

The majority of loss of control crashes occurred at bends. These were over-represented on both urban and rural state highways when compared with all New Zealand state highways.

There are three main factors that contribute to crashes. These are:

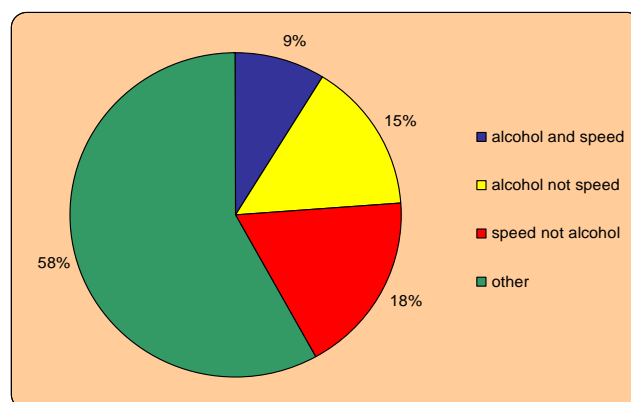
- the driver
- the vehicle
- the road.

The driver

There are four clear driver factors identified in crash reports for loss of control crashes – speed, alcohol, poor handling and fatigue. Many of the crashes would include a combination of these.

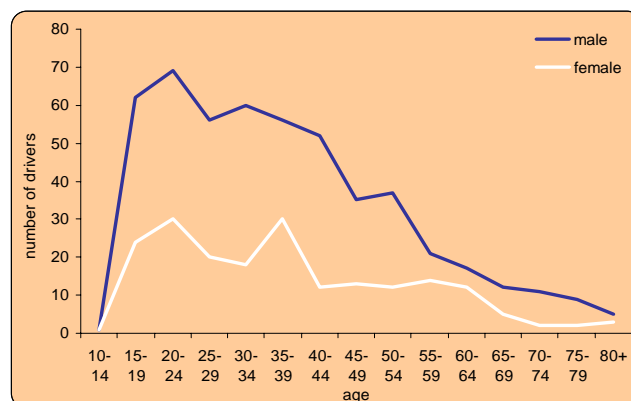
The following graph shows that almost half of these crashes involved speed and/or alcohol.

Loss of control crash factors 1999–2003



Poor handling was quoted as a factor in 23 percent of the crashes and fatigue in 20 percent. Male and female drivers in the 20 to 24 year age group featured predominantly in the crash statistics.

Age and gender of drivers involved in loss of control crashes 1999–2003

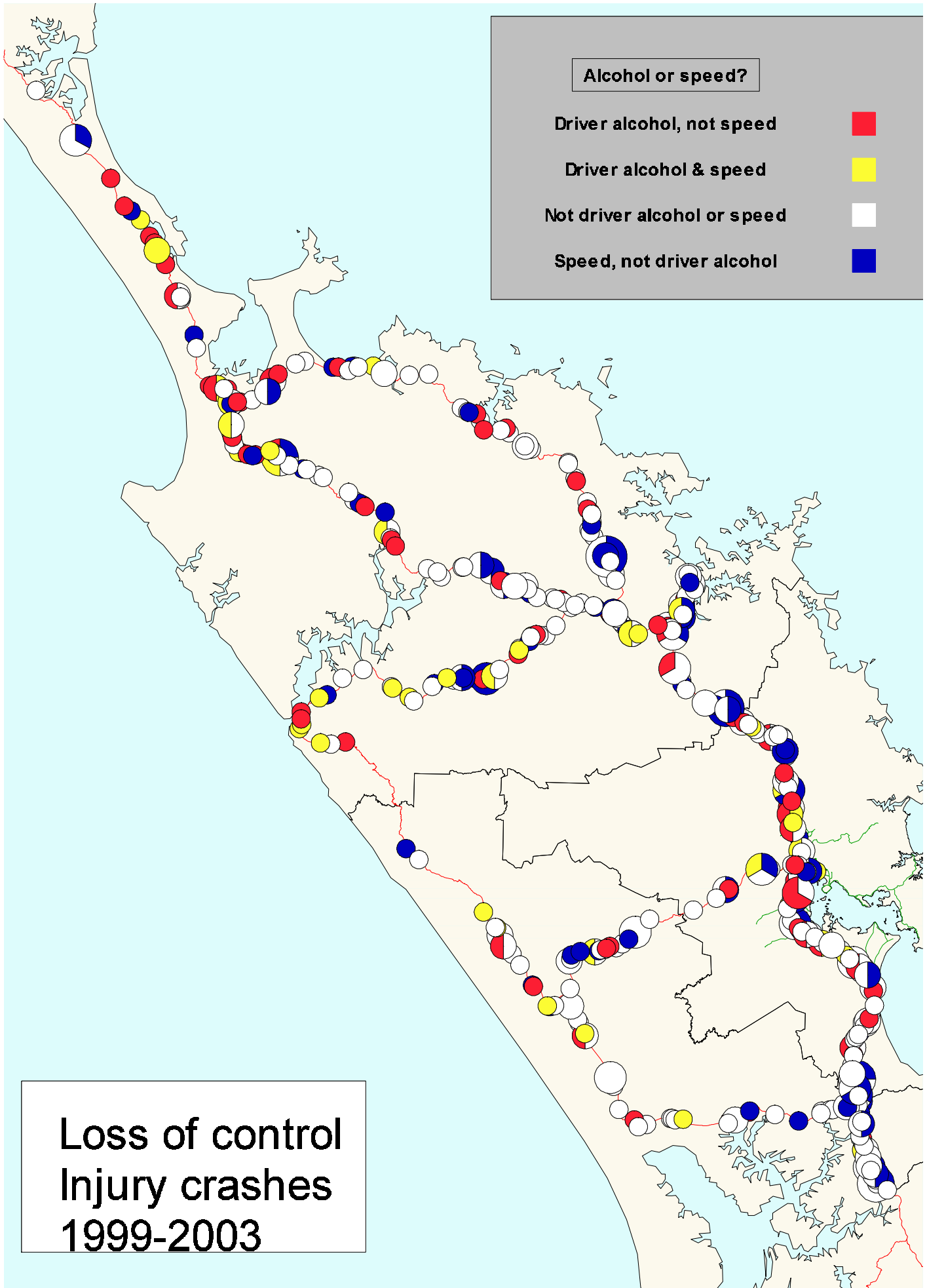


The vehicle

Vehicle factors were identified as a contributing factor in 10 percent of these crashes. The most common fault was problems with tyres, mainly worn tread. Of the 566 vehicles with known warrant of fitness status, 76 had no current warrant of fitness (a total of 721 vehicles were involved).

The road

In almost a quarter of these crashes the condition of the road was reported as a contributing factor. Road factors were over-represented when compared with all New Zealand state highways. The most commonly quoted fault was a wet and slippery road. Loose material on a sealed road and roads under construction or maintenance were also commonly reported factors.

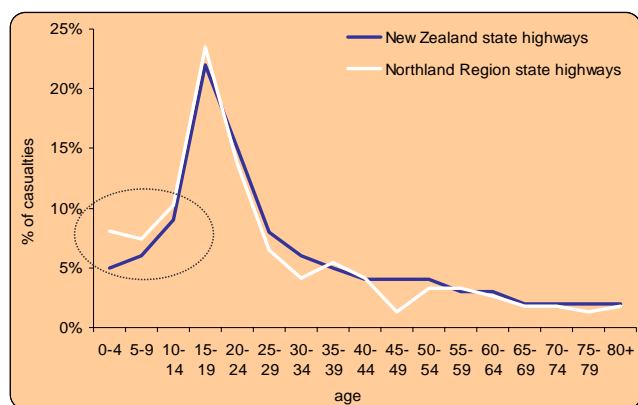


Passengers

When compared with the average for all New Zealand state highways, the proportion of passengers injured in crashes on Northland state highways was significantly higher (especially on urban highways). Injuries to passengers represented over a third of all state highway traffic related injuries. Between 1999 and 2003, 528 people were injured or killed.

Of particular concern was the over-representation of injuries to young passengers. The graph below shows the age breakdown of passenger casualties.

Passenger casualties 1999–2003



Injury crashes involving passengers peaked in the afternoon between 1 pm and 5 pm on weekdays. In the weekend, when 45 percent of the crashes occurred, the peak spread from noon to midnight.

Loss of control and the combination of speed and alcohol again featured prominently in crashes resulting in injuries to passengers.

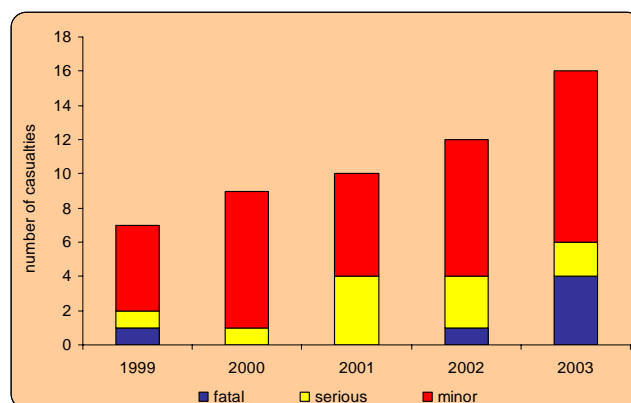
The use of safety belts and correctly installed and fitted child restraints can help reduce injuries to passengers. Recent national surveys showed that adult front seat wearing rates in the Northland Region were only slightly below the New Zealand average. Restraint wearing by adult rear seat passengers was actually higher than the New Zealand average. However, the restraint wearing rate in the Kaipara District was low. Child restraint wearing rates were similar to national rates but, in the Far North District, they were lower.

2003	Adult front seat	Adult rear seat	Child restraint
all NZ	92%	81%	86%
Northland	90%	87%	84%
Far North	87%	90%	78%
Whangarei	91%	95%	91%
Kaipara	92%	75%	88%

Pedestrian casualties

Pedestrian casualties on state highways in the Northland Region continue to be a concern (especially on urban highways). This issue was raised in last year's report following an increase in 2002. The number in 2003 has again increased.

Injury severity in pedestrian crashes



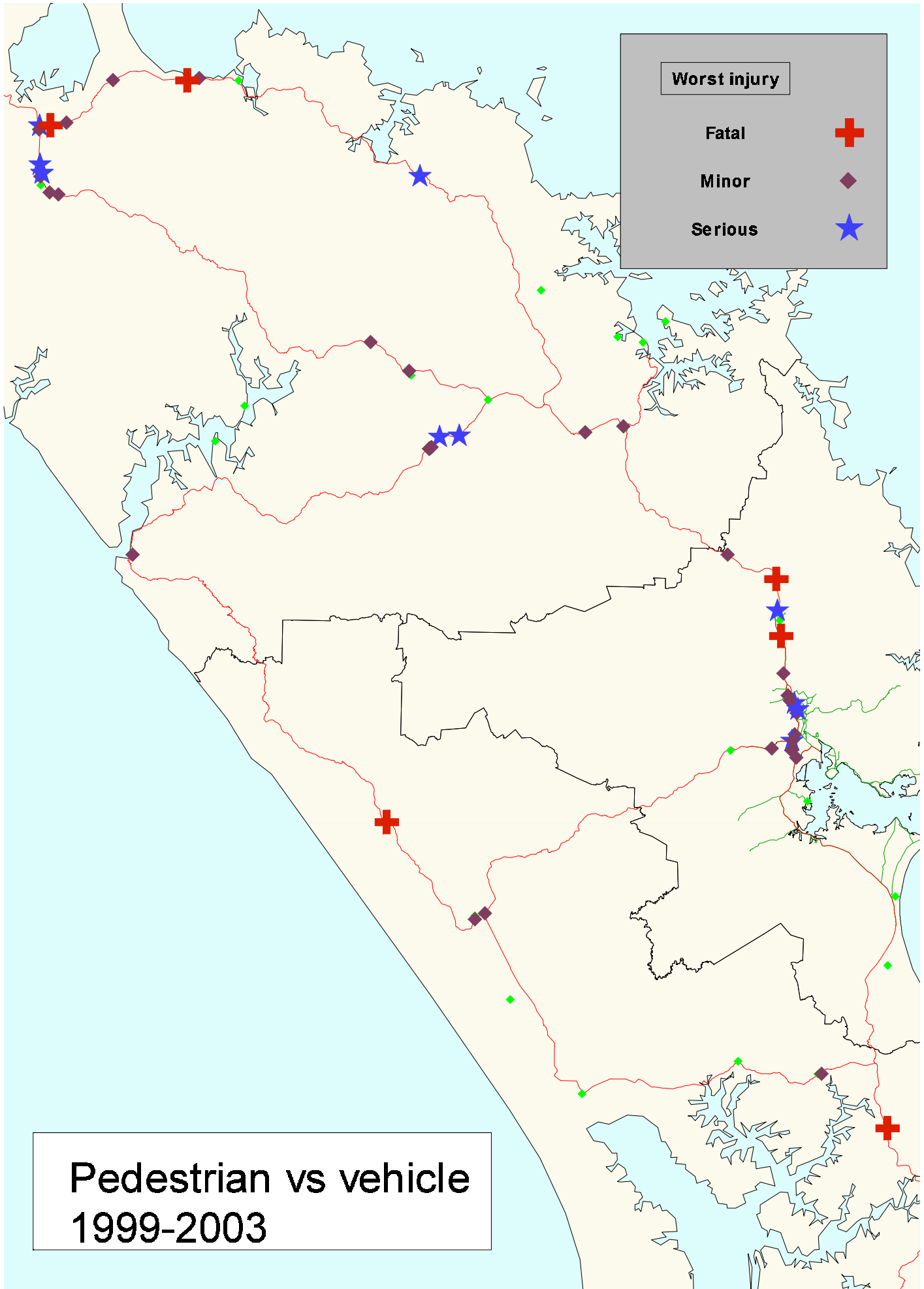
While the number of crashes is relatively small compared with all state highway crashes, the upward trend is of concern. As traffic and pedestrian volumes increase, the incidence of conflicts occurring increases. The road environment (especially in urban areas) needs to cater for all road users not just vehicles.

Half of those injured were under 15 years of age and were well over represented when compared with the New Zealand average. Young males in the 10 to 14 year age group were the most at risk.

More crashes occurred in the afternoon between noon and 7 pm. There was a slight peak in the after-school period. Over half of the crashes occurred when a pedestrian was crossing the road from a vehicle's left side.

The most commonly quoted pedestrian factor was walking or running heedless of traffic. Another commonly reported factor involved young children being unsupervised at the time of the crash. Two factors that were commonly mentioned in rural crashes were pedestrians wearing dark clothing and/or being visibly intoxicated.

The following map clearly shows that these crashes were clustered around the many big and small towns in the Northland Region where a state highway divides a community. A multi-pronged approach including education, enforcement and engineering improvements will be required to curb this upward trend in pedestrian casualties.

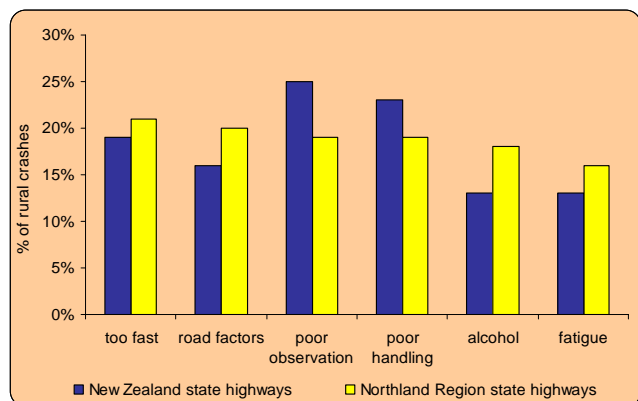




Road factors

The second most commonly reported contributing crash factor in rural state highway crashes in the Northland Region was road factors. One in every five injury crashes involved a contributing road factor. This factor was over-represented when compared with all rural state highway crashes in New Zealand.

Rural road factor injury crashes 1999–2003

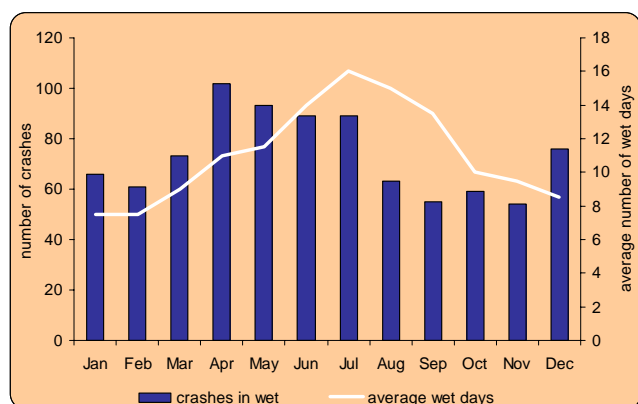


Note: More than one factor can be attributed to a crash

The majority of road factors involved a problem with the road being slippery, either because of rain, loose material on the seal, oil/diesel/fuel on the surface, or because of a build-up of tar. Other factors involved the road being under construction or maintenance, very heavy rain or visibility limited by a crest or a curve.

It can be difficult to determine if the high percentage of slippery road surfaces from rain is the result of a worn road surface or simply a result of there being more wet days than elsewhere in the country. One way to do this is to compare the number of wet road crashes per month with the number of recorded wet days per month.

Injury and non-injury wet road crashes 1999–2003



Wet road crashes peaked in April and May at the time when the number of wet days per month starts to increase.

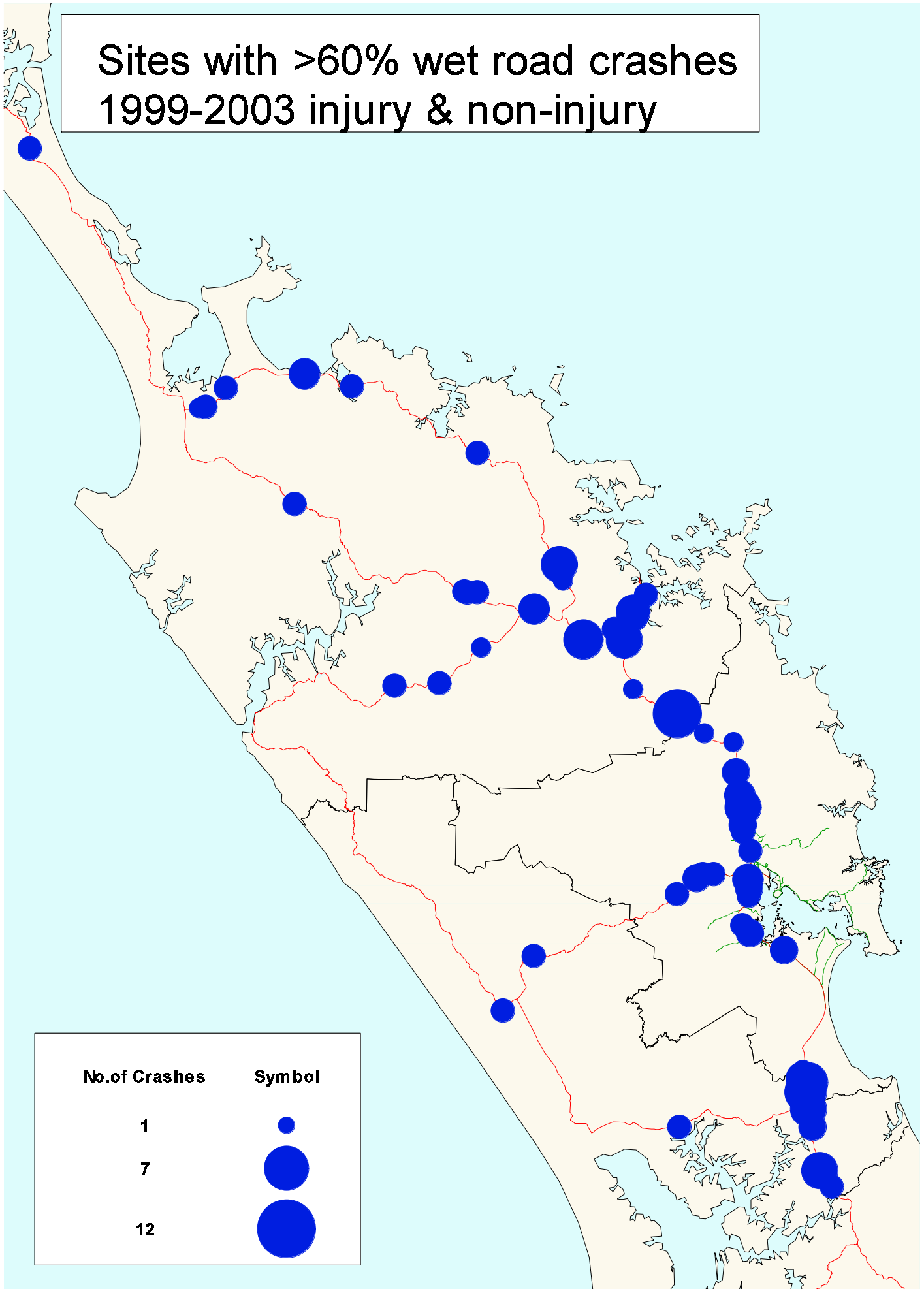
It may be necessary for Transit New Zealand to review skid testing investigatory levels or the testing cycle used (ie the level of skid resistance at which further investigation of the surface is required).

Crash data can also be used to identify sites that have a history of wet road crashes. For example, the section of State Highway 1 at Hautapu Road (Moerewa) has 72 percent crashes in the wet with 11 of the 16 wet road crashes occurring in 2003. This could indicate a failure of the road surface to provide an adequate level of surface friction.

The table below lists other sites on Northland state highways with high percentages of wet road crashes.

SH number	Side road/feature	Total crashes	Wet crash %
SH 11	1 km south of Rigden Road	6	100%
SH 1N	1 km north of Otioro Road	5	100%
SH 1N	½ km north of Otioro Road	7	86%
SH 1N	South of Pilbrow Hill	10	80%
SH 1N	½ km north of Mower Road	5	80%
SH 1N	At Akerama Road	15	73%
SH 10	1 km north of Waklin Road	7	71%
SH 11	1 km north of Taumarere Bridge	7	71%
SH 1N	At Saleyards Road	7	71%
SH 1N	north of SH 12	7	71%
SH 1N	1 km south of SH 11	7	71%
SH 1N	3 km south of Waipu Gorge Road	9	67%
SH 1N	½ km north of Mangapai Road	6	67%
SH 1N	2 km south of Waipu Gorge Road	6	67%
SH 1N	At Baldrock Road	6	67%
SH 10	¼ km west of Stratford Drive	5	60%
SH 12	at Taheke Bridge	5	60%
SH 1N	½ km north of SH 1C	5	60%
SH 1N	At Salmon Road	5	60%
SH 1N	At Waikaramu Road	5	60%
SH 1N	At Toe Toe Road	5	60%
SH 1N	At King Street	5	60%
SH 1N	At Arcus Street	5	60%
SH 1N	South of Piroa Stream Bridge	5	60%

Sites with >60% wet road crashes
1999-2003 injury & non-injury



Road environment

The LTSA's crash reduction monitoring database shows that works implemented as a result of state highway crash reduction studies have reduced crashes at the study sites by 45 percent in the Northland Region.

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

Where to get more information

For more specific information relating to state highway road crashes in the Northland Region, 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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