TRANSIT NEW ZEALAND REGION ONE

road safety issues

July 2002

The Land Transport Safety Authority (LTSA) has prepared this Road Safety Issues Report. It is based on reported crash data and trends for the 1997–2001 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 Transit New Zealand (TNZ) Region One.

In the five years from 1997 to 2001, there were 1,388 fatal and injury crashes reported on Northland roads and 57 percent of these crashes were on the state highway network. Of the 142 fatal crashes on Northland roads over the five-year period, 76 percent were on the state highway network.

For open road state highways across New Zealand, just over nine percent of the injury crashes involve a fatality. However, on the open road state highways in Northland the percentage was nearly double, with 16 percent being fatal crashes.

The social cost of crashes on the Northland state highway network in 2001 has been calculated at $108.6 million.

Out of 72 authorities in New Zealand, Whangarei ranks fourth, the Far North ranks fifth and Kaipara ranks 16th in the number of fatalities in open road state highway crashes over the five-year period 1997 to 2001.

The 2001 budget for spending on Northland's state highways was reduced compared with previous years due to efficiencies gained in new long-term performance-based contracts. However, the proportion of spending on both construction and maintenance on state highways in Northland is low when compared with the high social cost of crashes in the region.

Major road safety issues:

TNZ Region One

- Loss of control on curves
- Alcohol
- Passengers
- Fatigue

Nationally

- Speed
- Alcohol
- Failure to give way
- Restraints

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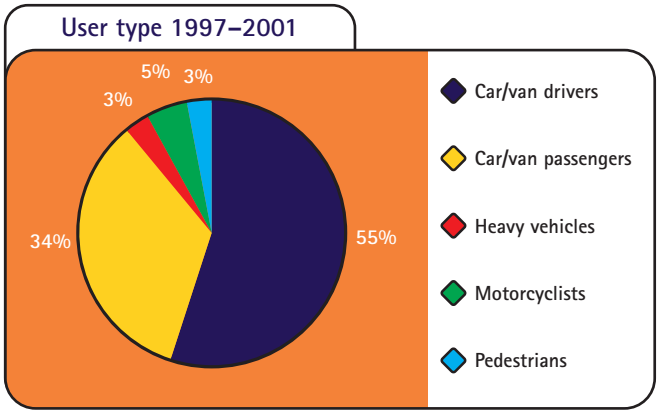
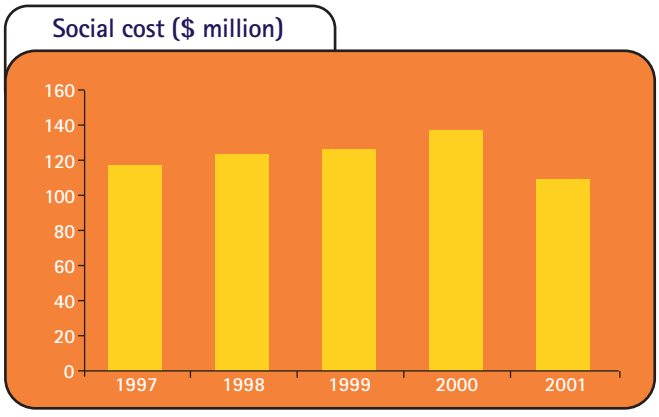
2001 road toll for TNZ Region One

Deaths	21
Serious casualties	76
Minor casualties	176
Fatal crashes	17
Serious injury crashes	50
Minor injury crashes	88
Non-injury crashes	353

Road user casualties 1997–2001



Estimated social cost of crashes*

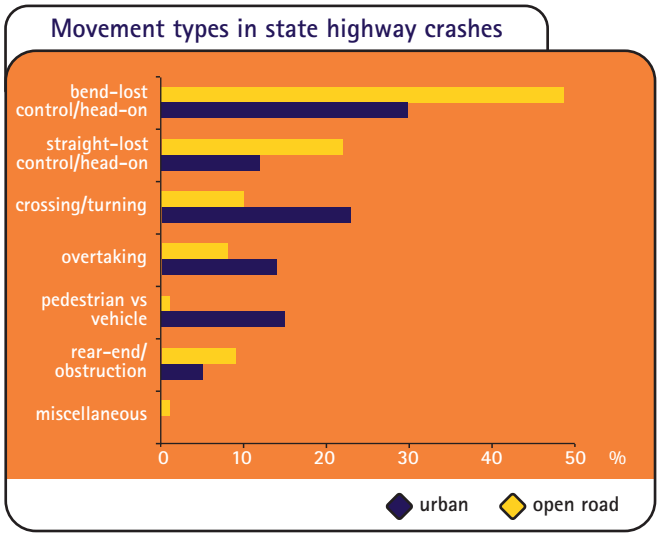


* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2001 prices.

LAND transport safety AUTHORITY

Loss of control on curves

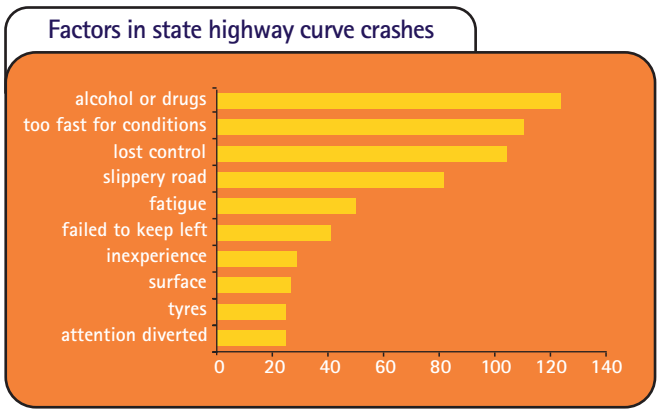
The most common crash type on Northland's state highways was loss of control or head-on crashes on curves. They made up nearly half of the open road state highway crashes and nearly a third of the urban state highway crashes. Most of the fatal crashes on the state highways were loss of control or head-on crashes on curves.



Typically these crashes were a single vehicle crash, with loss of control on a right-hand or left-hand curve.

Most of the at-fault drivers in these crashes were male, with a high proportion in the 15 to 24 year age range.

The most common contributing factor in these curve crashes on state highways was drivers affected by alcohol. Speeding, slippery road surface, tiredness, inexperience and poor tyres were also common factors. Some crashes featured only one of these factors, while other crashes may have involved multiple factors.



The peak time of year for these crashes was during October, December and January. Crash numbers peaked on Sunday and the most common time of day for these crashes was afternoon and early evening.

On urban state highways, 54 percent of the crashes occurred at night compared with the open road where about 38 percent were at night. The proportion of all types of crashes at night on the open road state highways has increased in recent years. It is now higher than average with 37 percent occurring at night.

Crash numbers of this type were steadily rising each year until a significant reduction in the latter half of 2001.

The three main movement types associated with these crashes were:


37%

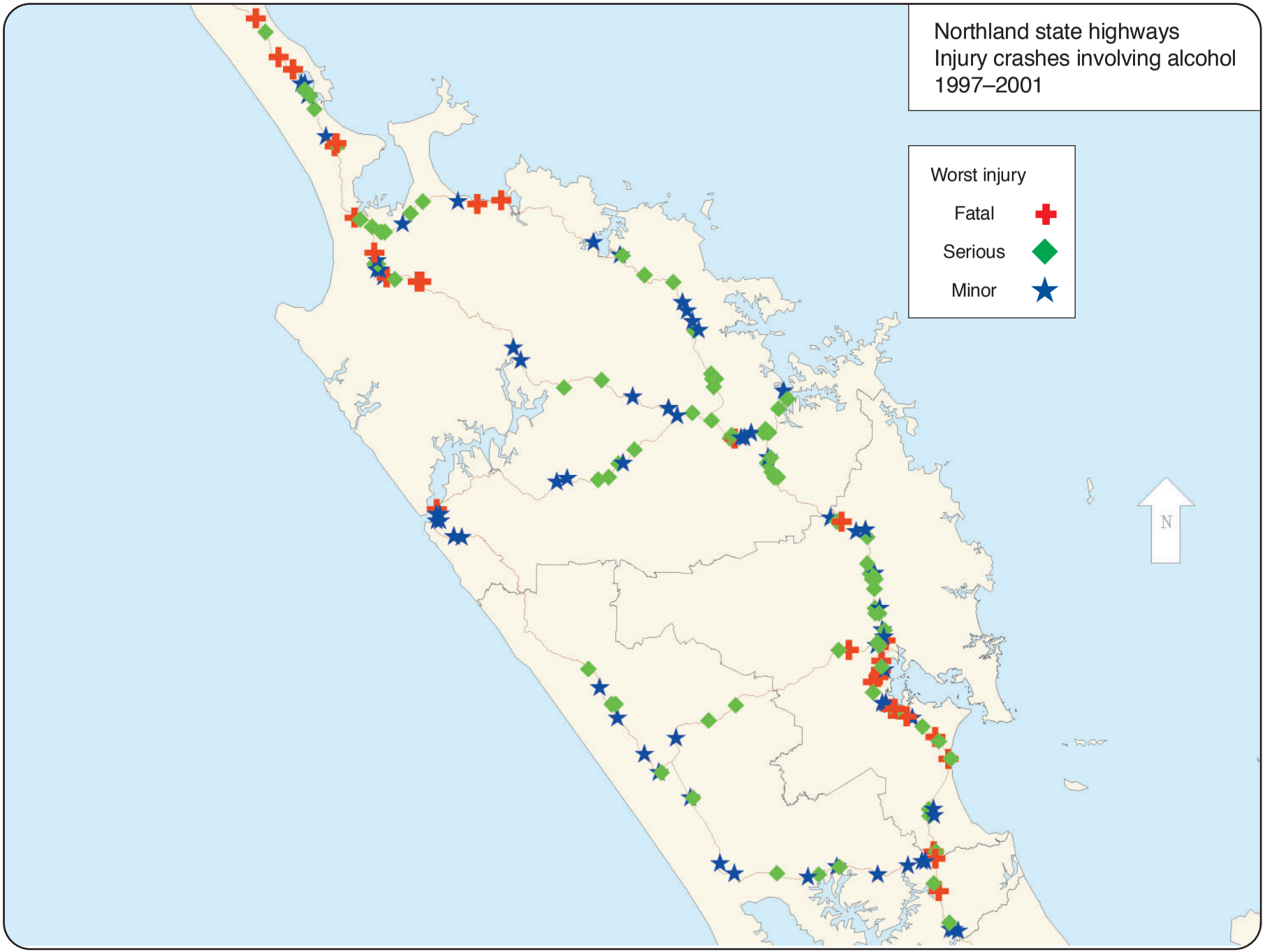

35%

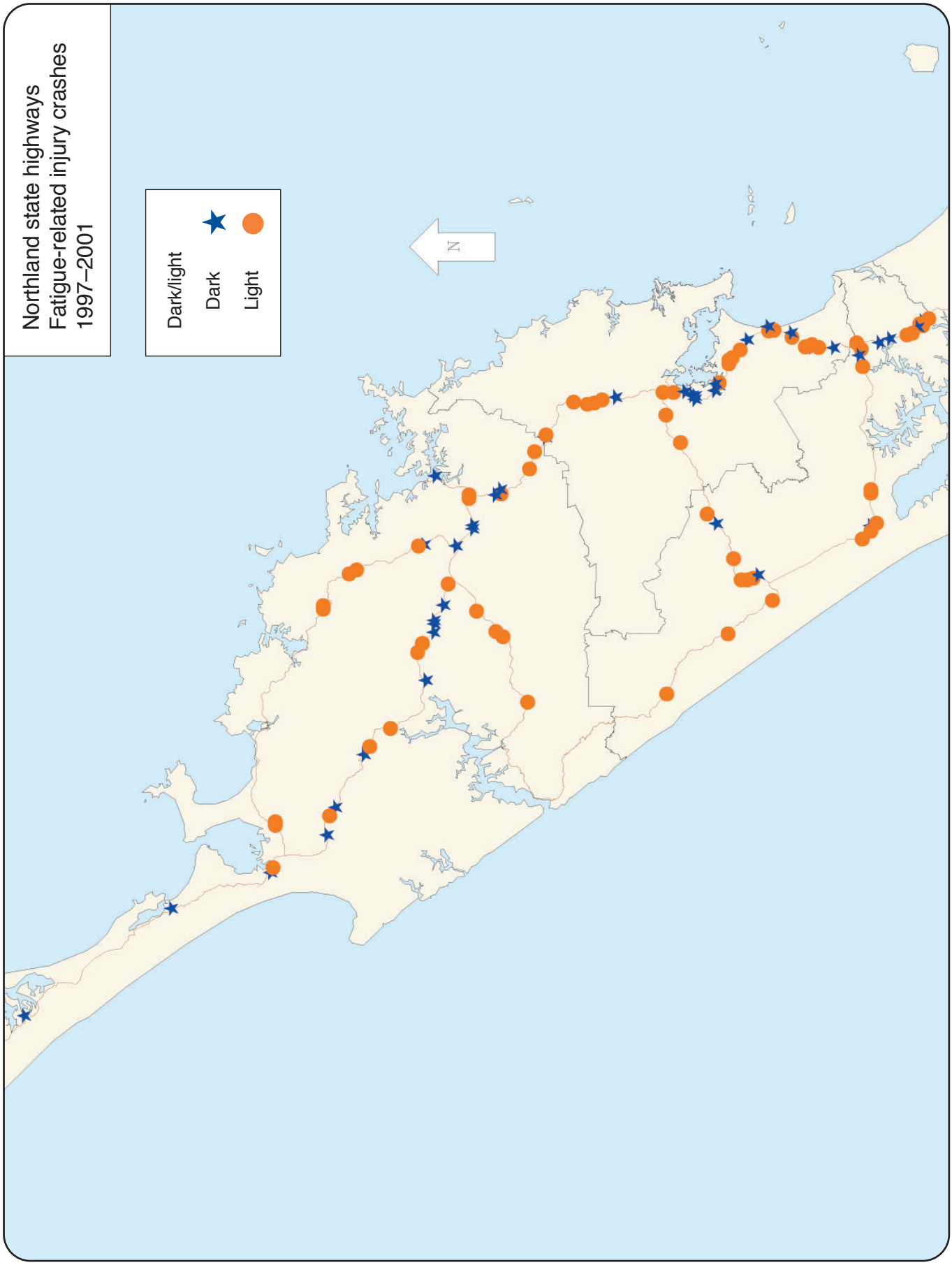

19%

A high proportion of state highway crashes resulted in a roadside object being struck. Ditches, cliffs/banks, fences and trees were the most common objects struck after vehicles lost control on curves.

Recommended actions

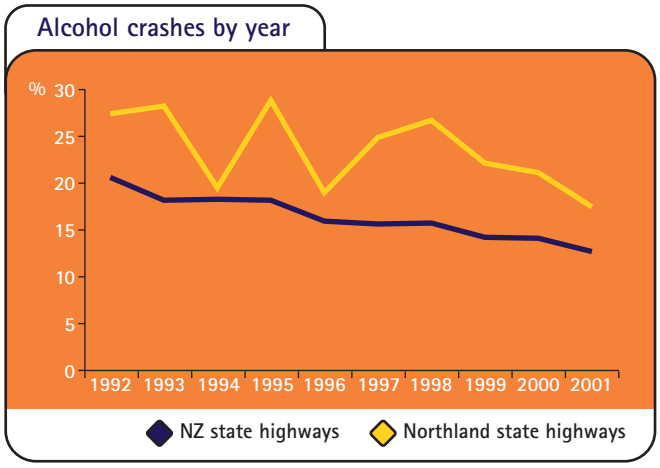
- Conduct safety audits targeting curve delineation, clear zones, sealed shoulder width, drainage, surface friction and road condition.
- Identify sub-standard curves and set up a programme of safety improvement projects.
- Conduct crash reduction studies on high-risk spots and routes.
- Ensure enforcement programme focuses on speed and alcohol while targeting high-risk locations.
- Conduct education campaigns targeted primarily at young male drivers highlighting the need for appropriate speed, particularly at curves.


Northland state highways
Injury crashes involving alcohol
1997–2001
Worst injury
Fatal
Serious
Minor
N

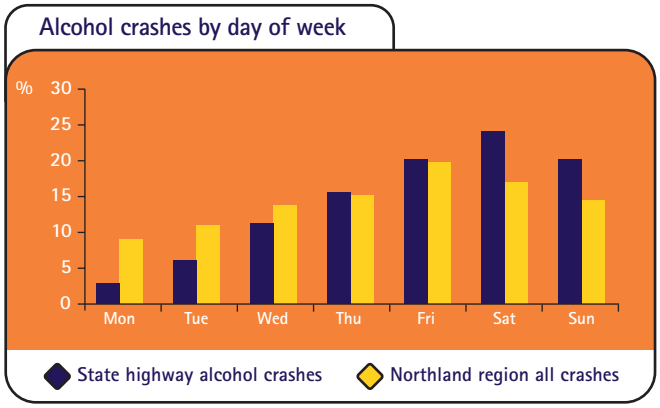

Northland state highways
Fatigue-related injury crashes
1997–2001
Dark/light
Dark
Light
N

Alcohol

Alcohol made up 22 percent of all the factors in state highway crashes. On state highways in urban areas the percentage of alcohol factors reduced to 10 percent, but alcohol factors remained in about 20 percent of open road crashes.



The number of alcohol-related crashes on state highways peaked during October. Over the week, the number of crashes increased to a peak on Saturdays. The most common times of day for alcohol-related crashes on state highways were around 6pm, 11pm and from 1am to 2am.



The main age group of drivers that contributed to these alcohol crashes was spread over a wide range, from 15 to 40 years old. Most of the at-fault drivers (80 percent) were male.

Many of the alcohol-related crashes occurred on State Highway 1 between Whangarei and Ruakaka and also on State Highway 1 from Kaitaia north.

The main movement types associated with alcohol-related crashes were:

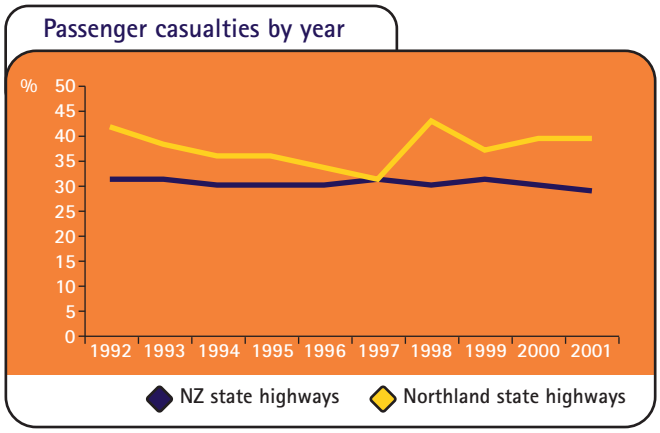
Recommended actions

- Continue alcohol enforcement campaigns with particular emphasis at night and on weekends.
- Use targeted enforcement aimed at high-risk areas and times.
- Target both urban and open road state highways for drink-driving.
- Continue education and publicity campaigns targeted at male drivers.
- Conduct studies of sections of state highway with high alcohol crash histories to identify possible improvements to delineation, markings, shoulder widths and clear zones.

Passengers

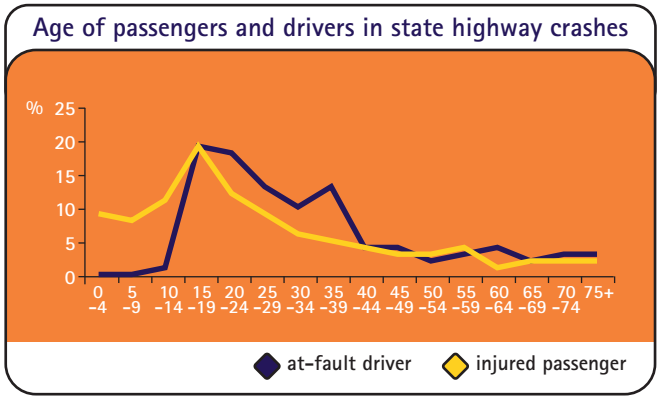
Passengers were over-represented in crashes on both urban and rural state highways. They made up 35 percent of urban casualties and 40 percent of open road casualties. Also, the proportion of passenger casualties compared with other road users is increasing. The most common age of passenger casualties was 15 to 19 years, but child passengers aged 0 to 14 years featured highly in crashes compared with other parts of New Zealand.

While most (67 percent) of the at-fault drivers in crashes were male, more of the injured passengers were female (58 percent). The number of female casualties in crashes each year is increasing. The majority of female passengers were aged 15 to 19 years. In the under-15 year age range, the casualties were evenly split between males and females.



The most common factors in crashes involving injured passengers were when the drivers were influenced by alcohol and/or drugs and when drivers were travelling too fast for the conditions.

Failure to keep left, inexperience, tiredness and slippery road surface also played a part in these crashes.



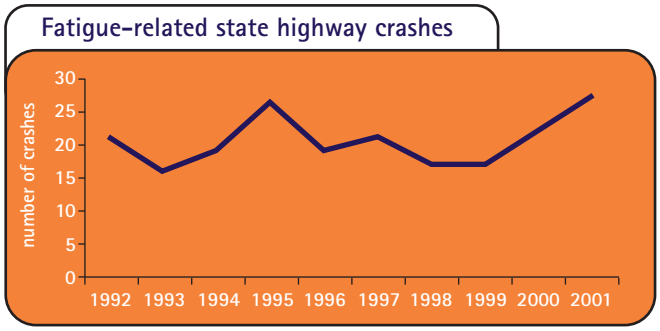
Recommended actions

- Conduct regular education and publicity campaigns to improve restraint wearing especially for children and young adults.
- Develop community programmes targeting females as passengers.
- Ensure regular ongoing enforcement of restraint wearing targeting high-risk times and locations.
- Ensure that enforcement of other issues also covers restraint wearing.
- Continue enforcement of restricted and unlicensed drivers.

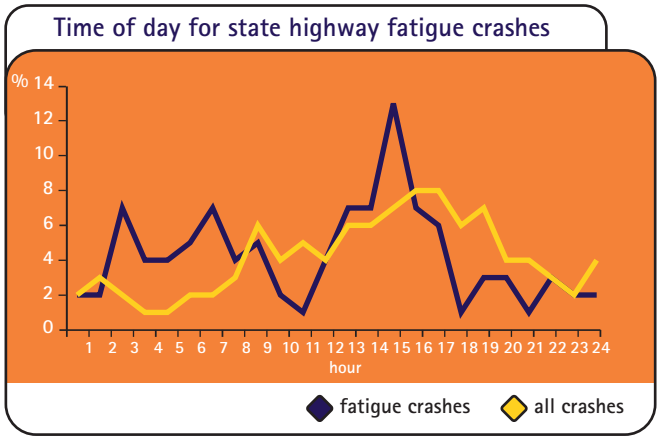
Fatigue

The number of open road state highway crashes with fatigue as a factor has been increasing since 1999.

Fatigue was over-represented as a factor in crashes compared to other parts of the country. Fatigue was a factor in 100 cases in open road state highway crashes over the five-year period. Fatigue factors occurred in 13 percent of Northland's state highway crashes compared with the national figure of 4.5 percent for New Zealand state highways.



Fatigue crashes mainly occurred on a Sunday, with January the peak month of the year, followed by November. The most common time of the day for fatigue crashes to occur was 2pm to 3pm.



Virtually all the fatigue-related crashes on Northland's state highways were loss of control crashes. The main movements were:

The most common location for fatigue crashes was on State Highway 1 south of Whangarei extending down to the regional boundary. Other common locations were near Ohaeawai (both State Highway 1 and State Highway 12) and State Highway 1 near Okaihau.

Speed was not usually a factor, but alcohol was a common contributing factor in the fatigue crashes. Fatigued drivers were usually male (over 80 percent) and in the 20 to 25 and 35 to 40 age groups.

Recommended actions

- Raise awareness of fatigue issues by increasing the number of fatigue stop initiatives.
- Develop specific fatigue-related enforcement strategies for specific locations and times of day, targeting a random selection of vehicles.
- Install textured edge lines on state highways.
- Install wider shoulders to give better recovery space in high-risk areas.
- Use community projects and advertising campaigns to raise awareness of fatigue issues.
- Provide clear zones (remove roadside hazards) to reduce the severity of crashes where vehicles leave the road.
- Provide and maintain good rest areas to encourage drivers to take a break.

New Zealand Road Safety Programme

Reducing 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 Roading Programme.

Community projects

Community funding of road safety projects aims to encourage local involvement and ownership of issues, and target local resources and effort to local risks. Central to community programmes is the need to develop and motivate local partnerships in road safety to help reduce the number of deaths and injuries in Northland.

Funding for community projects across Northland from the NZRSP for the 2002/2003 year includes:

Project name	Funding	Police hours
Driver licensing	$24,000	
Local road safety support	$5,000	
Community road safety forum	$5,000	
Youth road safety initiatives	$10,000	
Community road safety initiatives	$19,500	
Child restraint campaign and safety belt compliance	$12,000	
He Oranga Poutama – Te Kohanga Reo Training Programme	$5,000	
Driver education programme	$5,000	
Pacific community safety campaign	$5,900	
Road safety co-ordination	$65,000	
Speed control for the conditions	$22,000	200
Rural Alcohol Watch (RAW)	$26,000	1,000
Restraint use programme	$36,000	300
Intersection safety	$10,000	
Driver licence training assistance	$40,000	400
Safety culture	$5,000	
Students against driving drunk (SADD)	$9,500	
Small projects community involvement	$12,300	
Sign project maintenance	$4,500	

Police enforcement

In the Northland region, 56,055 hours will be delivered by police as follows:

	Hours
Strategic – drinking or drugged driver, restraint device, speed, 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	670
Regional community projects	1,900

In addition to these hours there is the delivery by the Highway Patrol, Commercial Vehicle Investigation, Enhanced Alcohol CBT Project and Traffic Camera Operations.

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 on state highways in Northland. This compares with a 36 percent reduction for crashes at study sites on state highways throughout New Zealand.

Recommendations from recent studies should be implemented and further studies undertaken. Mass action analysis and treatment for identified problems should also be considered.

References

TNZ Region One Road Safety Report 1997–2001

LTSA Crash Analysis System

Where to get more information

For more specific information relating to road crashes on state highways in Northland, please refer to the 1997 to 2001 Road Safety Report or the LTSA Accident Investigation System, or contact the people or organisations listed below:

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