MACKENZIE DISTRICT

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 Mackenzie district.

There were no fatalities and only one urban crash in the Mackenzie district in 2001. The social cost of crashes in the 2001 year was $5.01 million, with around half this amount a result of crashes on rural state highways and just under half from crashes on local rural roads. Over the 1997–2001 five-year period, however, a higher proportion of the social cost resulted from crashes on rural state highways. The social cost in 1997 was significantly higher than more recent years as there were seven rural fatal crashes that year compared with between none and two in subsequent years.

In the Mackenzie district about:

- 80 percent of both travel and injury crashes happened on rural state highways
- 17 percent of travel and 19 percent of injury crashes happened on rural local roads
- 2.5 percent of both travel and injury crashes happened on urban roads, mostly on urban state highways.

Most of the reported non-injury crashes also happened on rural state highways but a higher proportion happened on urban local roads.

Half the casualties from the crashes were drivers and over a third were passengers in cars or vans.

Major road safety issues:

Mackenzie district

- Rural state highway crashes
- Rural local road crashes
- Overseas drivers

Nationally

- Speed
- Alcohol
- Failure to give way
- Restraints

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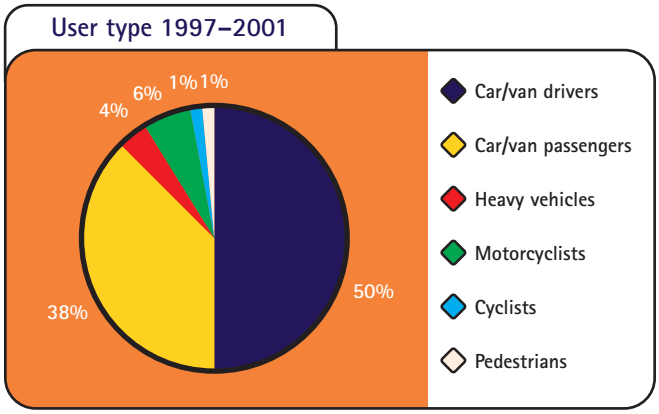
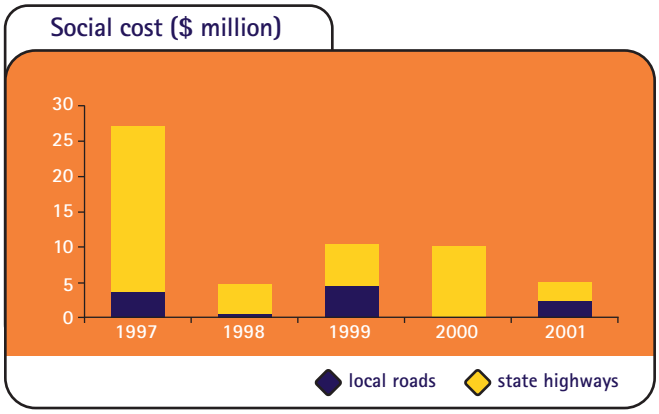
2001 road toll for Mackenzie district

Deaths	0
Serious casualties	5
Minor casualties	23
Fatal crashes	0
Serious injury crashes	4
Minor injury crashes	10
Non-injury crashes	30

Road user casualties 1997–2001



Estimated social cost of crashes*



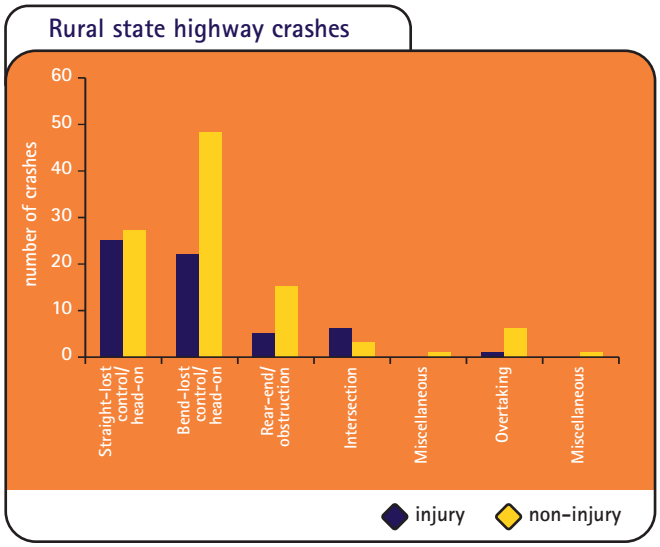
* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

LAND transport safety AUTHORITY

Rural state highway crashes

Crashes on rural state highways between 1997 and 2001 killed 10 people and injured 93, 25 of these seriously. These casualties resulted from 59 reported injury crashes. In addition there were 100 reported non-injury crashes over the same period on these roads.

Most of the crashes on the rural state highways were loss of control or head-on crashes on straights or bends, as shown by the graph below. Most of these were single vehicle, loss of control crashes. Only seven of the injury and four of the non-injury crashes were head-on collisions.



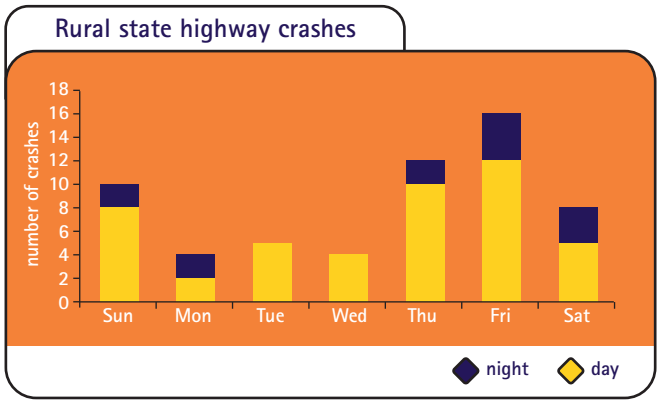
Over half the casualties were drivers and about 40 percent were passengers in cars or vans. Six motorcyclists, one cyclist and two people in trucks were injured. Just over half the casualties were male and about a third of these were drivers. There were slightly more female passenger than female driver casualties.

Drivers of all age groups crashed on the rural state highways. In the injury crashes most were male and over half were under 35 years old. Fatigue, inattention and poor handling were the three most common factors contributing to the crashes, each involved in about a quarter of the crashes. Loss of control on unsealed shoulders was the most common poor handling factor.

Fatigue was an issue with drivers in most age groups. Two thirds of the fatigue crashes happened during the day. Young drivers were more likely than older drivers to be travelling too fast for the conditions and to be affected by alcohol. Over half the alcohol crashes happened at night.

About one fifth of the injury crashes were on hilly sections of the highway and just over half on bends. Of those on bends most were on easy or moderate bends, with only four crashes recorded as having occurred on severe bends.

Most of the injury crashes happened between midday and 8pm, and on Thursday or Friday. The graph below shows the number of crashes by day of week and whether by day or at night.



Recommended actions

Education

- Support campaigns on adjusting drivers' speed for different environment and road conditions.
- Encourage campaigns on the need to be fully alert when driving.
- Raise awareness of fatigue issues by community projects and continuing use of fatigue stops.

Enforcement

- Support strategic enforcement campaigns targeting speed and alcohol on rural roads, especially from Thursday to Sunday.

Engineering

- Encourage shoulder widening to ensure roads are the appropriate width with good recovery areas for errant vehicles.
- Ensure advisory signs are appropriate, consistent and in the correct position.
- Maintain good road surfaces and drainage.
- Ensure roadside areas are kept clear of solid objects.
- Continue road realignment projects where appropriate.

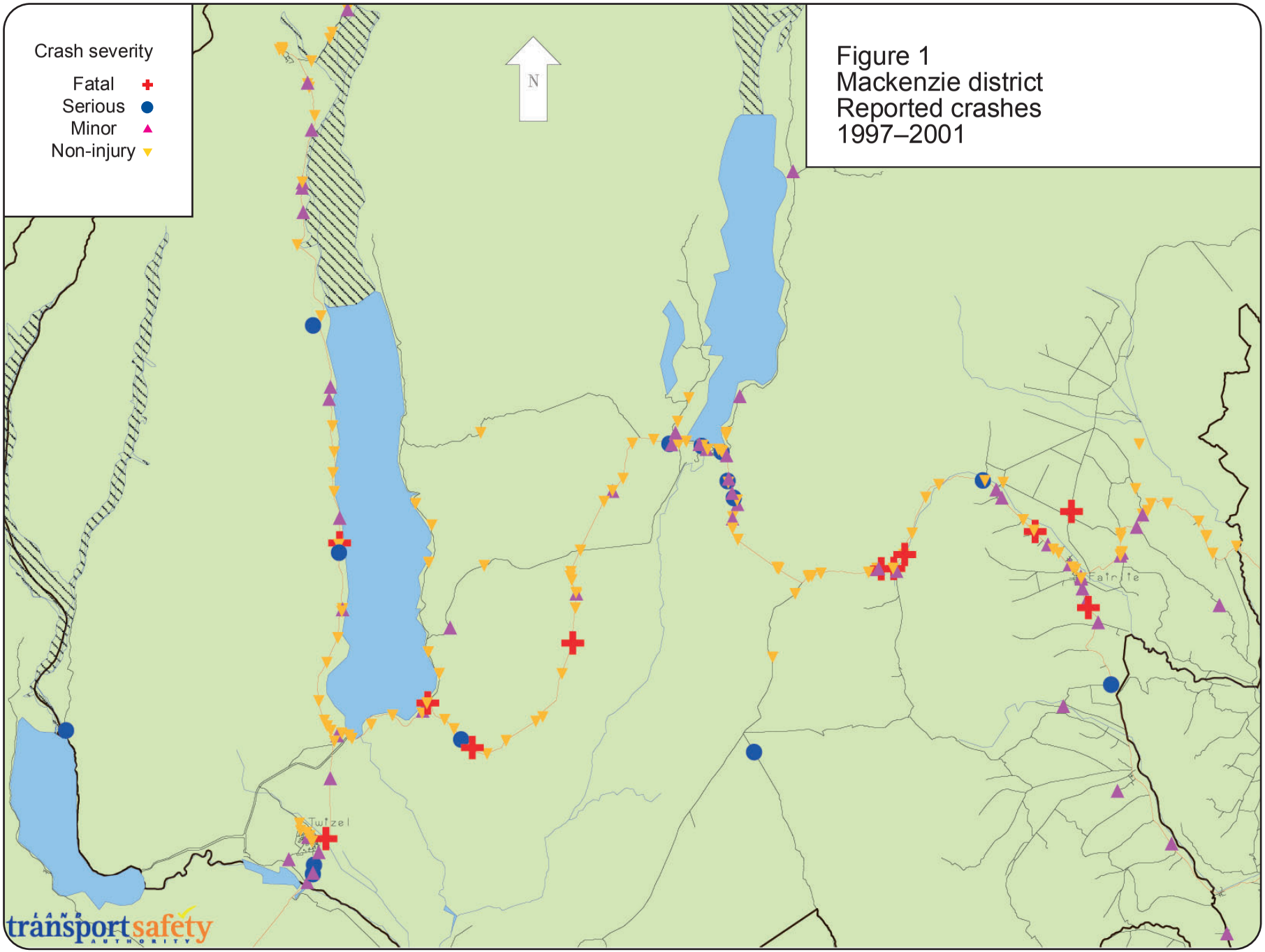


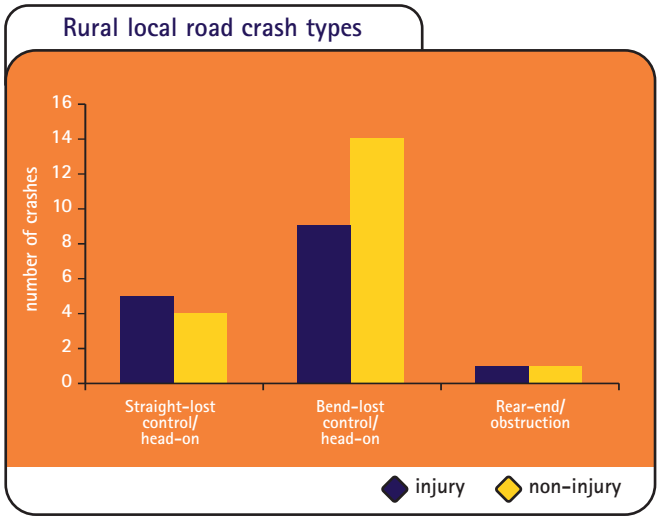
Figure 1
Mackenzie district
Reported crashes
1997–2001

Rural local road crashes

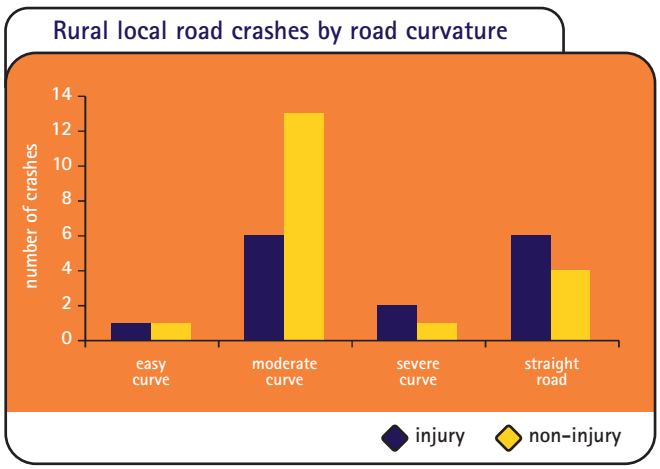
Crashes on rural local roads between 1997 and 2001 killed two people and injured 23, four seriously. These casualties resulted from 15 reported injury crashes. In addition there were 19 reported non-injury crashes over the same period on these roads.

There was an increase in the number of crashes on rural local roads in 2001. Nearly half the crashes on these roads for the five-year period happened in 2001 (six injury and 10 non-injury crashes) and all but two of these were on unsealed roads.

Nearly all the crashes on rural local roads were loss of control or head-on crashes on bends or straights, as shown by the graph below. Five of the injury crashes were head-on crashes on bends on unsealed roads. The rear-end obstruction crashes were an injury collision with a U-turning vehicle and a non-injury collision with a boulder that had fallen from the hillside.



Most of the crashes were on moderate curves. Of the 15 injury crashes, nine were on sealed roads but most of the 19 non-injury crashes were on unsealed roads. The graph below shows the road curvature at the crash locations.



Over half the casualties were drivers and about a quarter were passengers of cars or vans. One motorcyclist and three passengers in trucks were injured. Over two thirds of the casualties were males and nearly three quarters of these males were drivers. There were slightly more female passenger than female driver casualties.

All of the drivers in the reported injury crashes on rural local roads were under 60 years old and a third of them under 20. Most, about 80 percent, were male. Inexperience was the most common factor. It included overseas drivers failing to adjust to the conditions, new drivers showing inexperience, and inexperience with the vehicle being driven. Young drivers travelled too fast entering corners.

Drivers crashed when they did not adjust to the narrow gravel road conditions, particularly on bends. Road factors were considered to contribute to 40 percent of the injury crashes. These included deep loose metal road surfaces, unusually narrow roads and visibility limited by a curve.

Most of the crashes happened during daylight hours but there was no day of the week that had significantly more crashes than other days.

Recommended actions

Education

- Encourage education campaigns aimed at improving rural driving skills, especially driving on unsealed roads.
- Support campaigns on adjusting drivers' speed for different environment and road conditions.
- Encourage education campaigns aimed at getting drivers to slow down approaching bends and on narrow roads.

Engineering

- Maintain gravel roads to an appropriate standard.
- Encourage shoulder widening to ensure roads are the appropriate width with good recovery areas for errant vehicles.
- Ensure advisory signs are appropriate, consistent and in the correct position.
- Maintain good road surfaces and drainage.
- Ensure roadside areas are kept clear of solid objects.
- Continue seal extension projects, where appropriate.

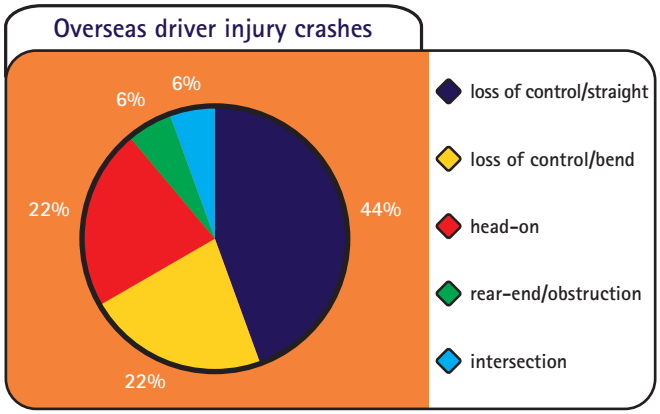
Overseas drivers

Nearly a quarter of the injury crashes in the Mackenzie district involved drivers with an overseas licence. These 18 crashes from 1997 to 2001 killed four people, one driver and one passenger from overseas. Fifteen overseas drivers and nine overseas passengers received serious or minor injuries. All the crashes were in rural areas with a 100km/h speed limit: most were between Fairlie and Mount Cook on State Highway 8 or State Highway 80. Only three were on local rural roads. The map below shows a plot of the crashes involving overseas drivers.

Two were head-on crashes involving tourists driving on the right-hand side of straight sections of road. Two were head-on collisions on bends, one where the overseas driver swung wide on a bend and one where the overseas driver cut the corner. Most of the crashes, however, were single vehicle loss of control type crashes: eight on straight sections of road and four on bends. The following graph shows the types of crashes involving overseas drivers in the Mackenzie district.

In nearly all of the 18 injury crashes the overseas driver was in a rental car. Only one involved an overseas driver in a four-wheel-drive recreational vehicle and one on a rented motorcycle. None involved overseas drivers in camper vans. The most common driver factor was a failure to adjust to local conditions. Seven of the overseas drivers were female and 11 were male.

The crashes happened on all days of the week and mostly during the day rather than at night. Only two of the crashes happened on unsealed roads and all but one when the road was dry. Ice or snow was not identified as a factor in any of the crashes.



Recommended actions

- Target these drivers through local campaigns and tourism and visitor support networks.
- Encourage rental car companies to ensure tourists are adequately informed about driving in New Zealand.
- Ensure rest and viewing areas are well sign-posted and marked.

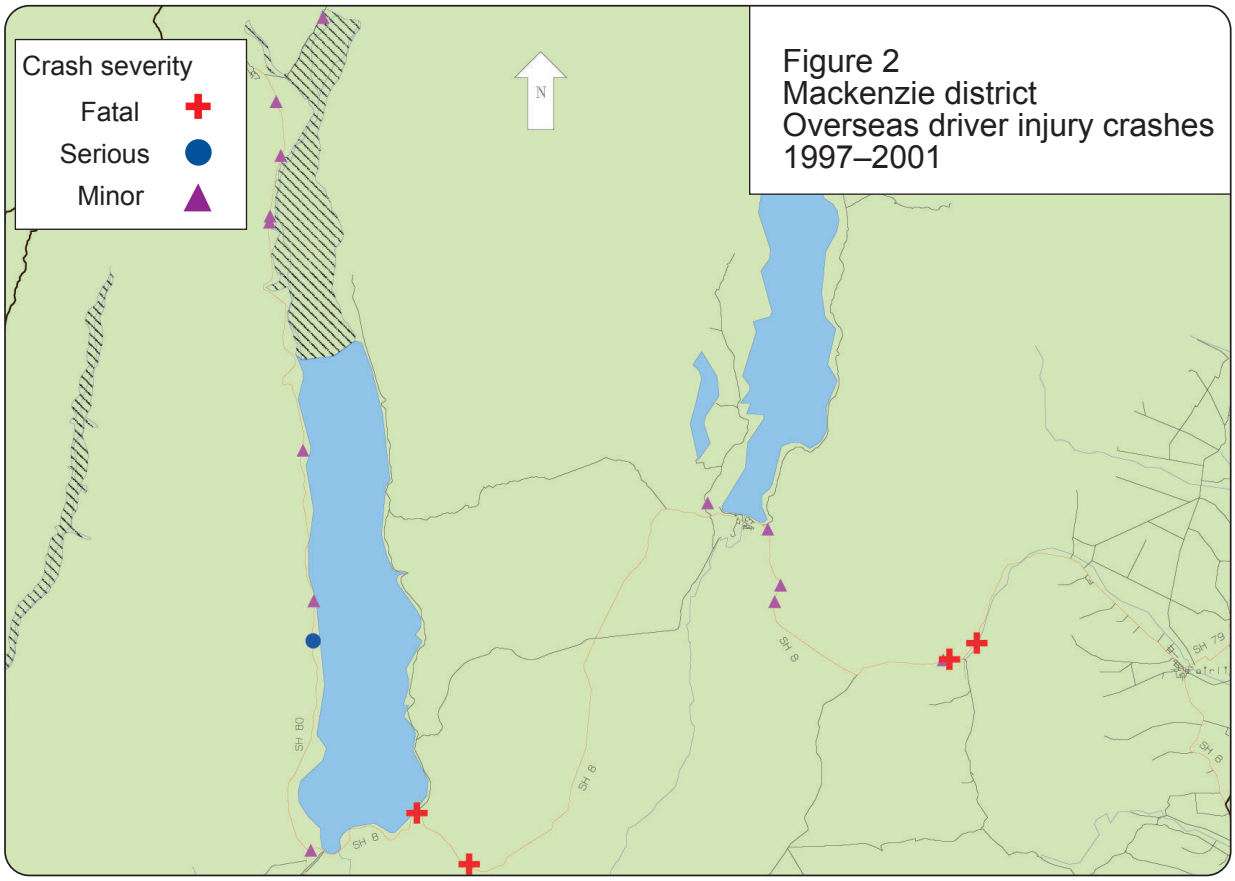


Figure 2
Mackenzie district
Overseas driver injury crashes
1997–2001

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 Land Transport 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 the Mackenzie district.

Funding for community projects in the Mackenzie district from the NZRSP for the 2002/2003 year has been confirmed as follows:

Project	Funding	Police hours
Road safety co-ordinator	$6,000	–
Community alcohol action programme	$5,000	100
Restraints	$500	10
Intersections/poor observation safety	$2,000	25
Rural driving/fatigue	$2,500	25

The Mackenzie district will also be involved in regionally funded projects to target the high-risk issues of speed, alcohol, restraints and pedestrian issues. These projects have been funded as follows:

Project	General funding	Advertising funding
Regional road safety co-ordinator	$38,000	–
Speed	$60,000	$20,000
Intersection safety	$50,000	$8,000
Fatigue	$20,000	$29,510
Pedestrian safety	$10,000	$10,000
A & P show displays	$20,000	–
Development of safe driving policies	$3,500	–
Regional billboard project	–	$11,000

Police enforcement

In addition to the 160 police hours to support community projects, a further 1,800 hours will be delivered by the New Zealand Police in the Mackenzie district as follows:

Project	Police hours
Strategic – alcohol/drugs, speed, restraint and visible road safety enforcement	1,310
Traffic management including crash attendance, incidents, emergencies and events	370
School road safety education	60
Police community services	60

Road environment

Transfund New Zealand's National Land Transport Programme 2002–2003 has allocations for safety improvement projects in the Mackenzie district.

Where to get more information

For more specific information relating to road safety in the Mackenzie district please refer to the 1997–2001 Road Safety Data Report, or one of the contacts listed below.

Land Transport Safety Authority
Regional Manager
Dennis Robertson
Phone 03 363 5661

Regional Education Advisor
Bob Clements
Phone 03 363 5677

Senior Road Safety Engineer
Steve Parry
Phone 03 363 5646

Road Safety Co-ordinator
Wayne Dyche
South Canterbury Road Safety Charitable Trust
PO Box 522, Timaru
Phone 03 684 8199
Mobile 025 386 285

New Zealand Police
Strategic Traffic Manager
Derek Erasmus
PO Box 2109, Christchurch
Phone 03 363 7417

Mackenzie District Council
Dave Inwood
PO Box 52, Fairlie
Phone 03 685 8514

Transit New Zealand
Area Engineer
Colin Hey
PO Box 1479, Christchurch
Phone 03 366 4455

Christchurch Regional Office
Level 5, BNZ House, 129 Hereford Street
PO Box 13-364, Christchurch
Phone 03 363 5666, Fax 03 363 5655
www.ltsa.govt.nz

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