

# 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 for the 1998–2002 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 on Auckland motorways.

Information in this report covers the northern motorway (in North Shore City), southern motorway, south-western motorway and north-western motorway together with SH 20 and 20A. The crash data for the south-western motorway, SH 20 and 20A has not been included in previous road safety issues reports. It has been included this year, as the motorway unit of the New Zealand Police will be taking over responsibility for these roads in 2003.

The following table shows the distribution of crashes over the network for the period 1998–2002.

Road	Fatal crashes	Injury crashes
SH 1	28	1,075
SH 16	6	344
SH 20	8	181
SH 20A	2	47
Local roads	4	377

Note: Local road crashes above and in the social cost graph are those at the junctions of motorway ramps and local authority roads.

## Major road safety issues

### Auckland motorways

Rear-end crashes

Driver factors

Serious injury crashes

Pedestrian vs vehicle crashes

### Nationally

Speed

Alcohol

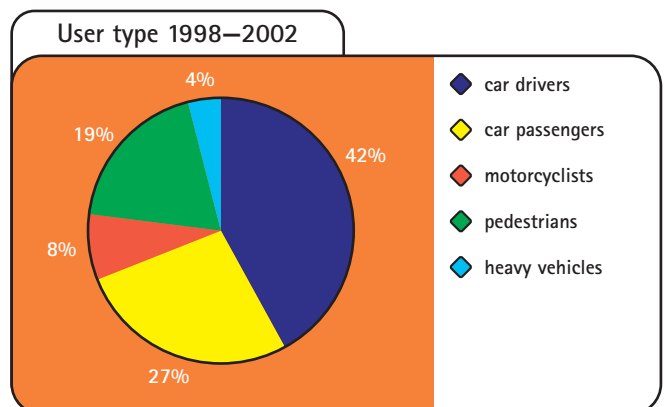
Failure to give way

Restraints

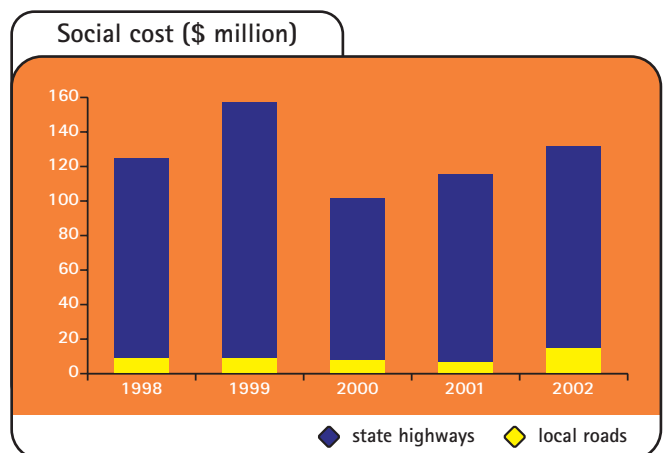
## 2002 road trauma for Auckland motorways

Deaths	6
Serious casualties	78
Minor casualties	529
Fatal crashes	6
Serious injury crashes	65
Minor-injury crashes	380
Non-injury crashes	2,169

## Road deaths 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.



## Rear-end crashes

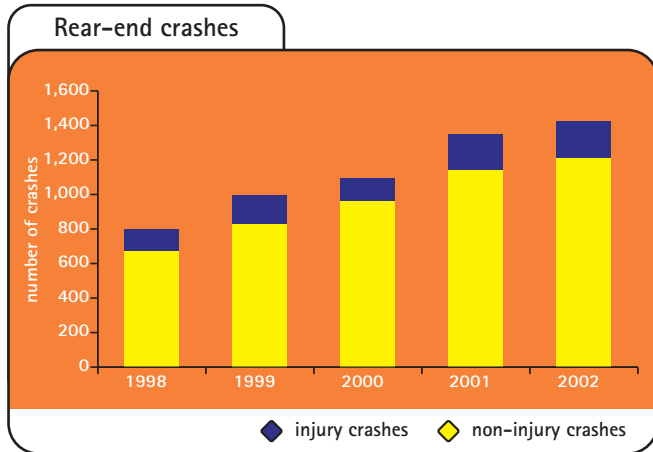
Rear-end crashes are common in a motorway environment as the road is designed to minimise many of the common conflicts that occur on other high-speed routes. On Auckland’s motorway network, 45 percent of all injury crashes are rear-end. Two thirds of the non-injury crashes are of this type. One of the disturbing trends with these crashes is the increasing number over the last few years despite various enforcement and education campaigns.

Of the 1,114 people injured as a result of rear-end crashes over the last five years three were killed, 66 received serious injuries and 1,043 sustained minor injuries. Over half of those injured were female (53 percent). Almost a quarter of the females injured were passengers while only 13 percent of males injured were passengers.

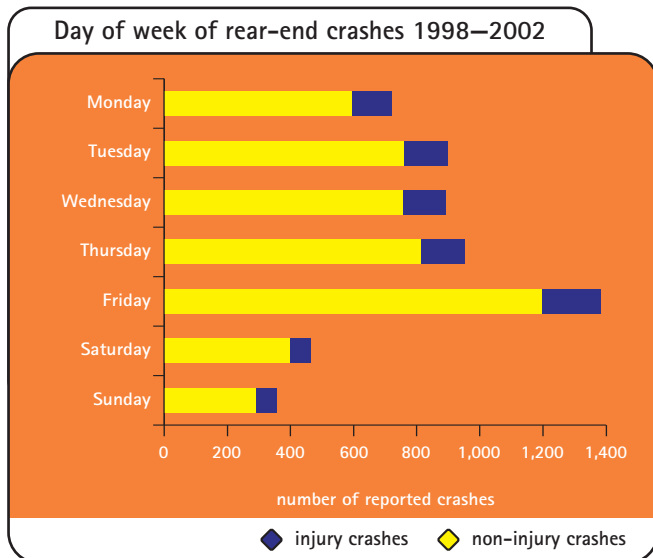
Almost a third of injury rear-end crashes occurred when the road was wet. The number per year has increased from 278 in 1998 to 491 in 2002.

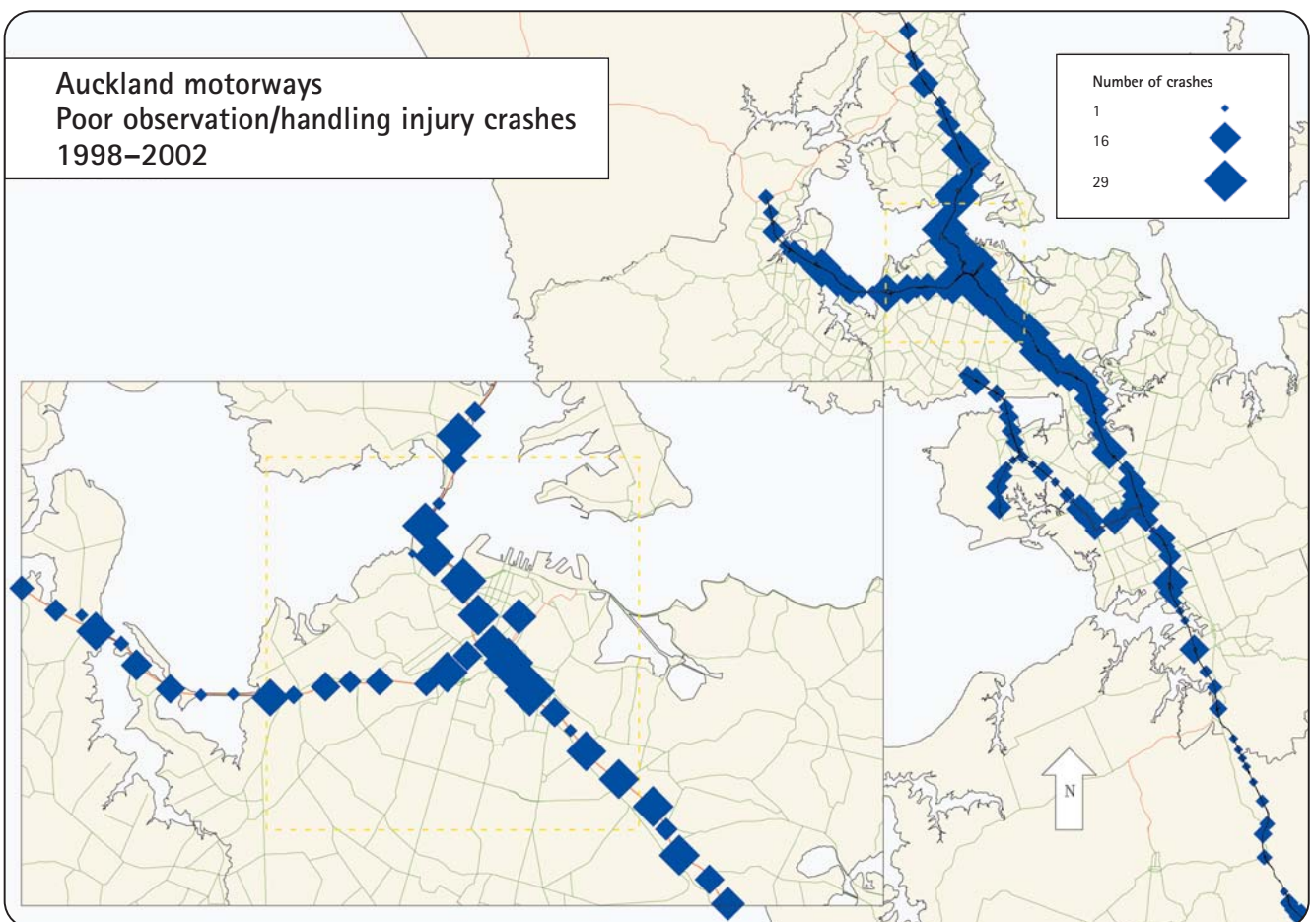
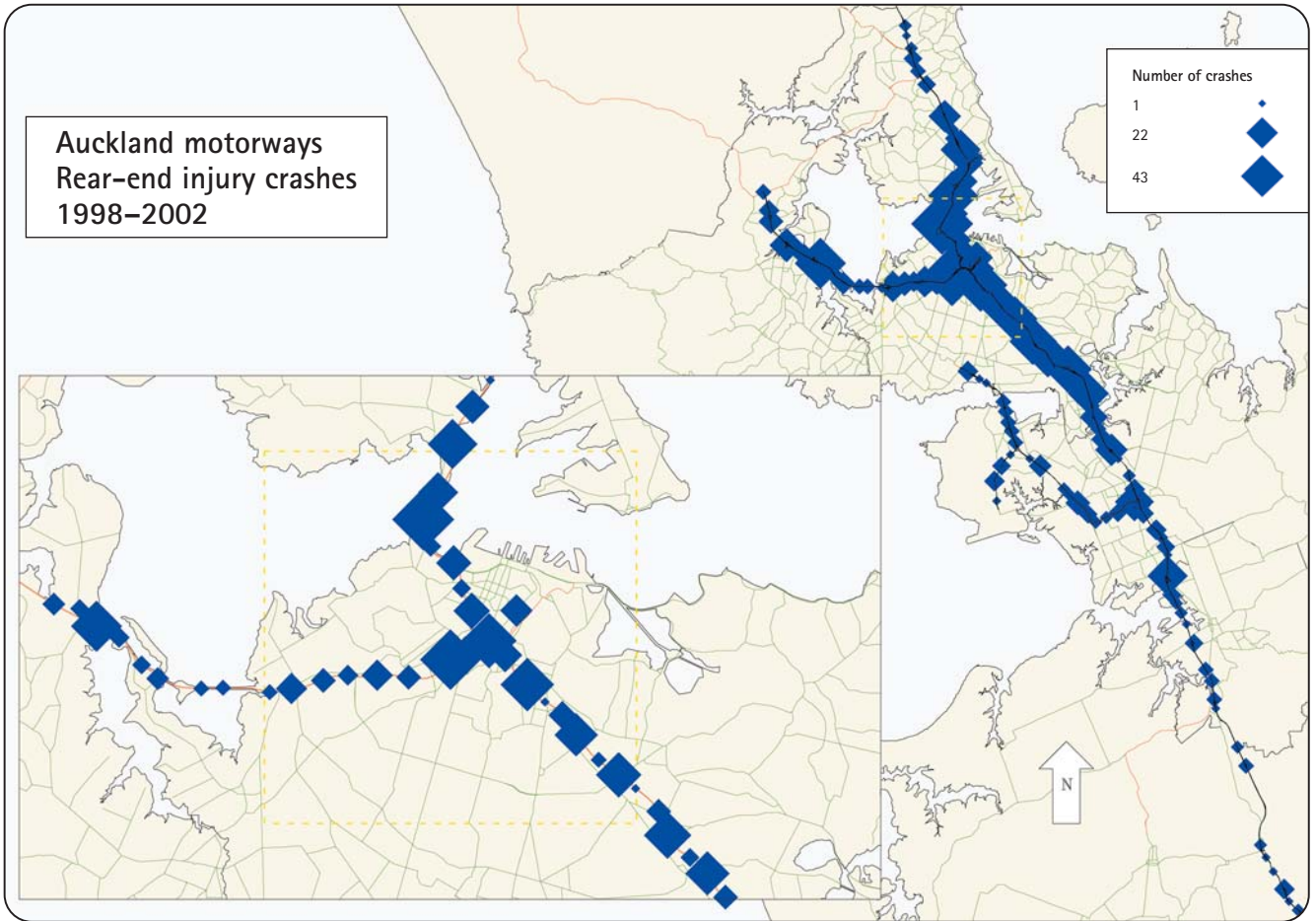
### Recommended actions

- Investigate education campaigns that have been successful in reducing rear-end crashes.
- Use crash data and monitoring systems to enhance incident detection systems and incident management plans to reduce secondary collisions.
- Enhance communication strategies with radio media to improve accuracy and frequency of incident reporting to the motoring public, especially during peak periods.
- Review the current surface friction investigatory level used on the motorway with a view to setting a level that better allows for the high incidence of congestion that often occurs.
- Continue to evaluate the benefits of ramp metering as a tool to control motorway congestion and queuing.



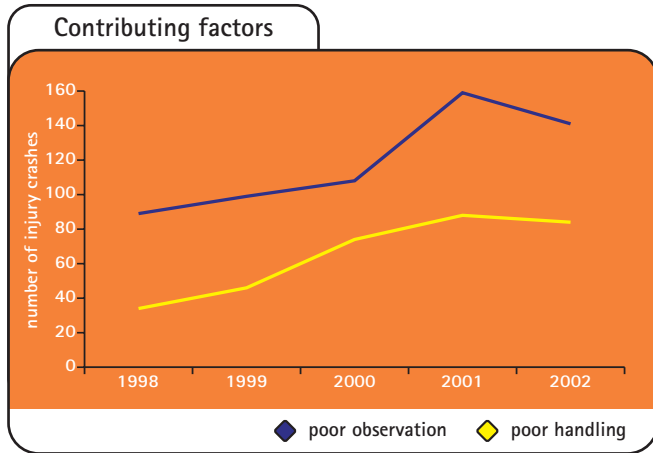
Almost a quarter of these crashes occurred on a Friday when congestion can be at its peak. In general, the evening peak (4 pm–7 pm) was the most likely time for rear-end crashes to occur. Many of the crashes involved multiple vehicles. The most vehicles recorded in a crash over the last five years was 11.





# Driver factors

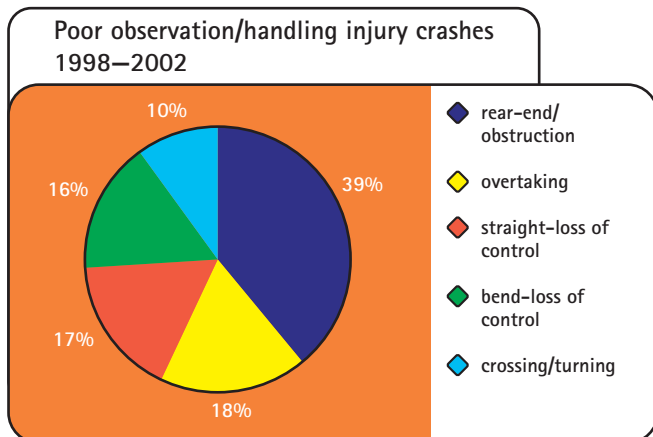
Driver factors that contribute to a crash are recorded by the police officer attending the crash. This data is then entered into a crash database where trends can be analysed. Of the many factors recorded, there are two factor groups that have clearly been increasing over the last five years. These are poor observation and poor handling.



Examples of the most common driver errors in these two groups are:

- failure to notice a vehicle slowing
- failure to check behind when changing lanes
- loss of control when turning, avoiding another vehicle, or under heavy braking
- travelling too fast for the conditions
- inattentive or attention diverted.

There are three main types of crashes involving these factors. They are rear-end, loss of control and overtaking crashes. The crossing and turning crashes referred to in the following graph occurred at the junctions of motorway ramps and local streets.



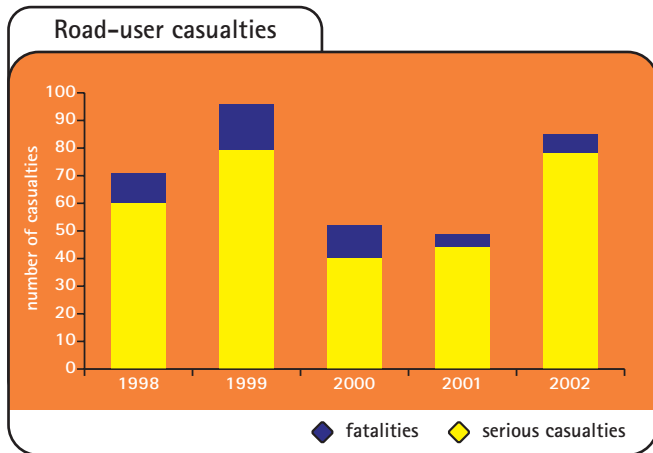
Male drivers in the 20 to 24 year age group feature predominately in the statistics. The peak age group for female drivers is the 25 to 29 year olds.

## Recommended actions

- Support education/publicity campaigns aimed at increasing driver awareness of this growing problem.
- Target programmes to the age group of drivers featuring in crash statistics.
- Promote the need for drivers to be alert at all times.

# Serious injury crashes

The overall number of reported casualties in 2002 is very similar to the number in 2001. However, there has been a clear increase in the number of serious casualties (44 in 2001 increasing to 78 in 2002). The biggest change actually occurred in the lower speed limit areas of the motorway network (from nine in 2001 to 33 in 2002).



Analysis of all serious and fatal crashes on the motorway network over the last five years shows that the majority of crashes are loss of control (44 percent). This is followed by rear-end/obstruction and crossing/turning crashes.

The two most commonly identified driver factors are alcohol and speed, closely followed by poor observation and poor handling.

Almost half of these crashes occurred during darkness – a quarter of them occurring between 7 pm and 6 am in the weekend.

Just over a quarter of these major crashes occurred at or near a junction, where high-speed motorway traffic meets merging or local road traffic. The five worst black spots for fatal and serious crashes are the intersection of:

SH 20 and Kirkbride Road

Fanshawe Street off ramp and Beaumont Street

SH 16 and SH 18

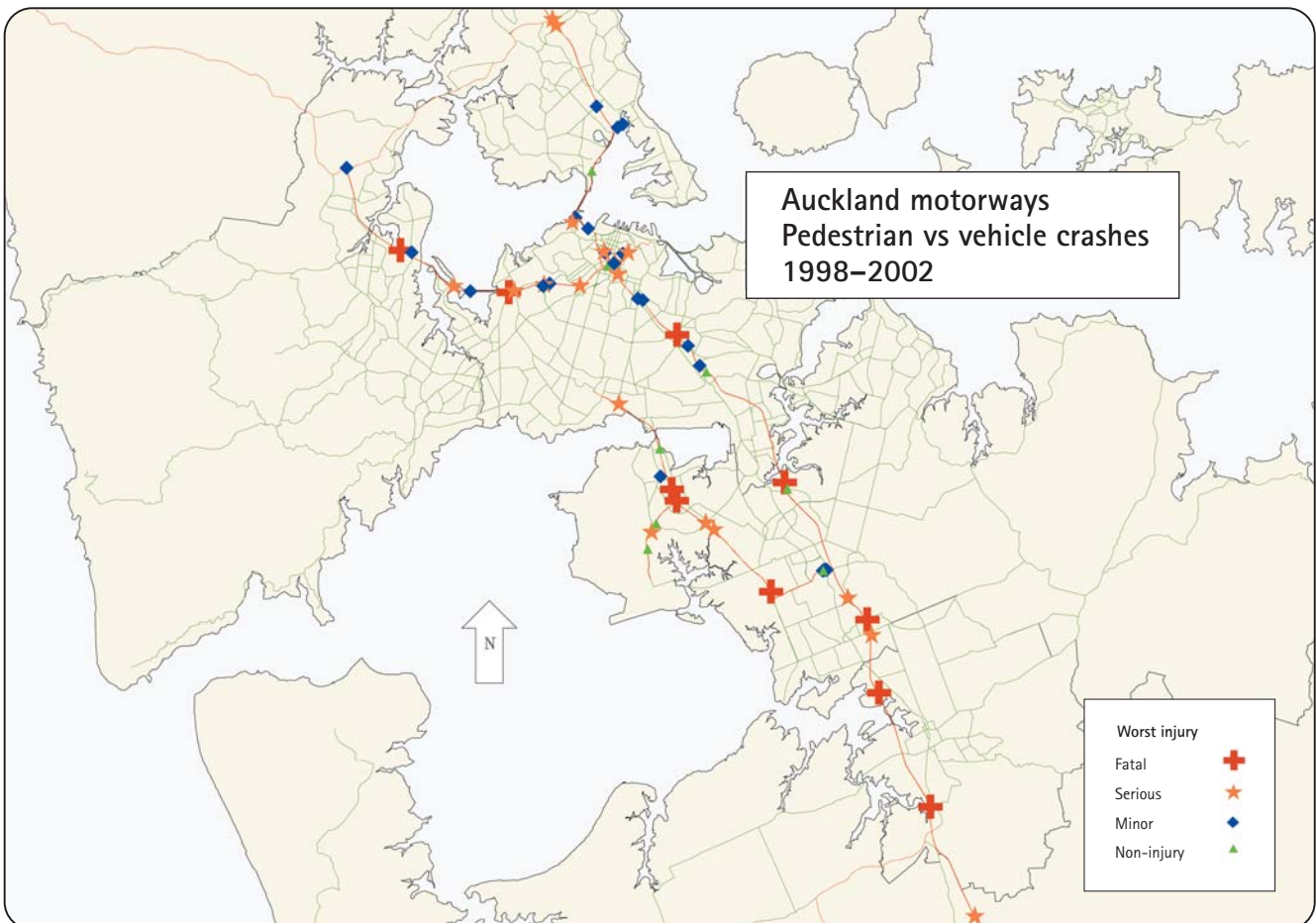
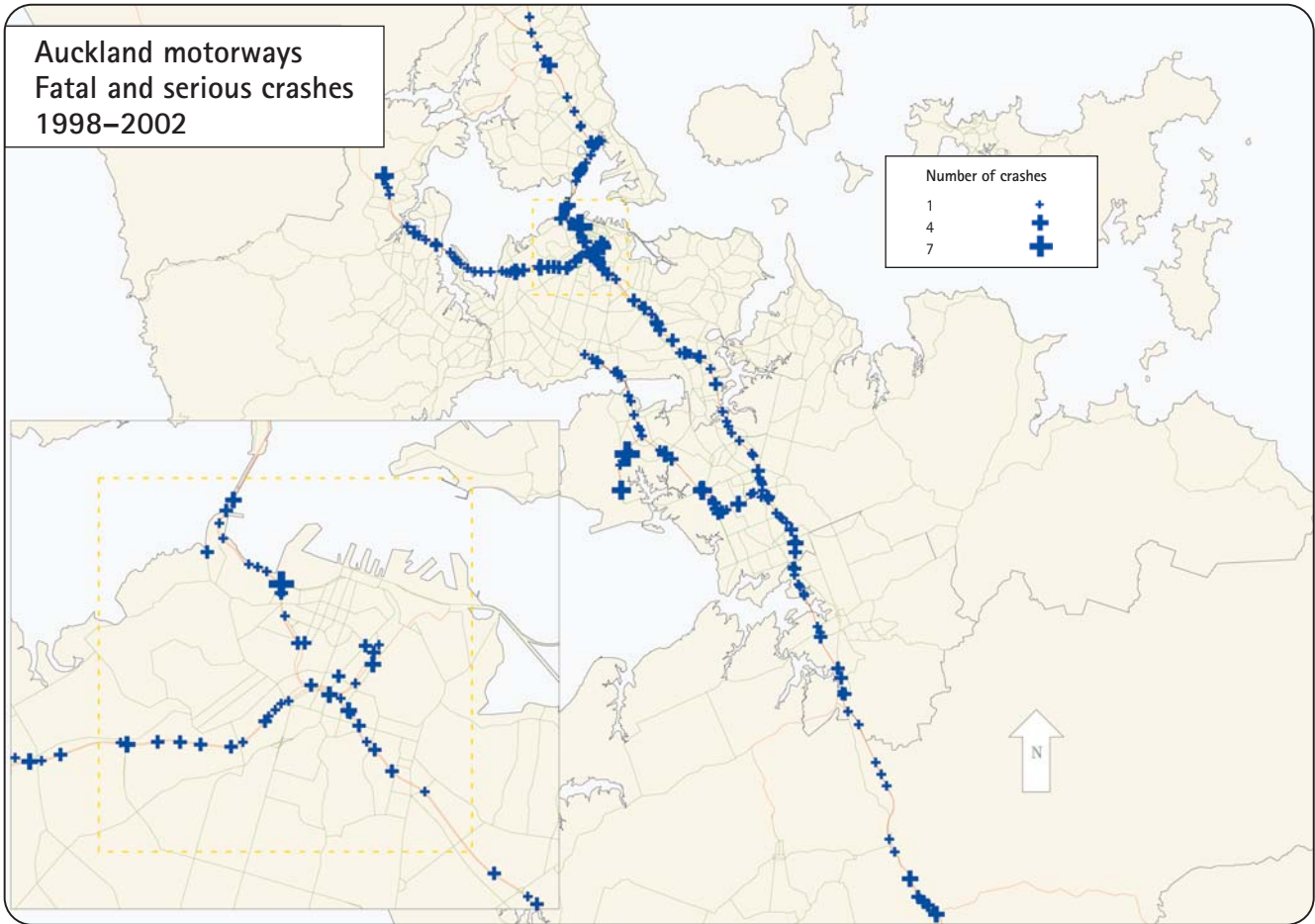
SH 20 and Puhinui Road

SH 20 and Ihumatao Road

## Recommended actions

- Support enforcement campaigns aimed at alcohol and speed control, especially during the Friday to Sunday period.
- Support education campaigns aimed at improving awareness of speeds appropriate for the driving conditions and the consequences of drink-driving.
- Discuss the issue of enforcement responsibility for junctions between motorway ramps and local streets at the Police district level.
- Continue and enhance the close relationship with other local road controlling authorities to implement recommendations of crash reduction studies in areas of shared responsibility.



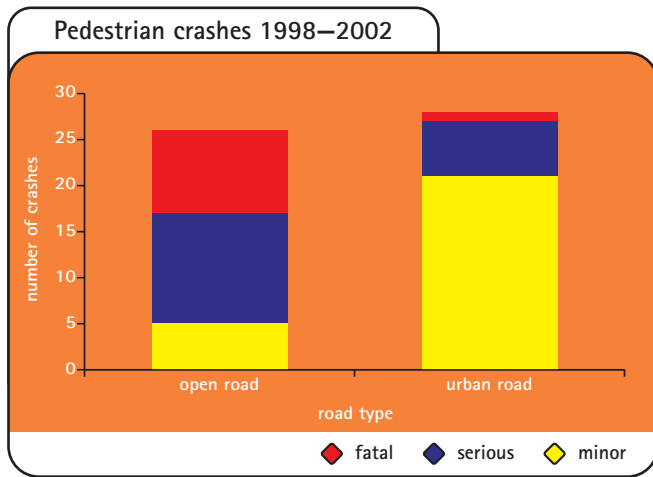




## Pedestrian vs vehicle crashes

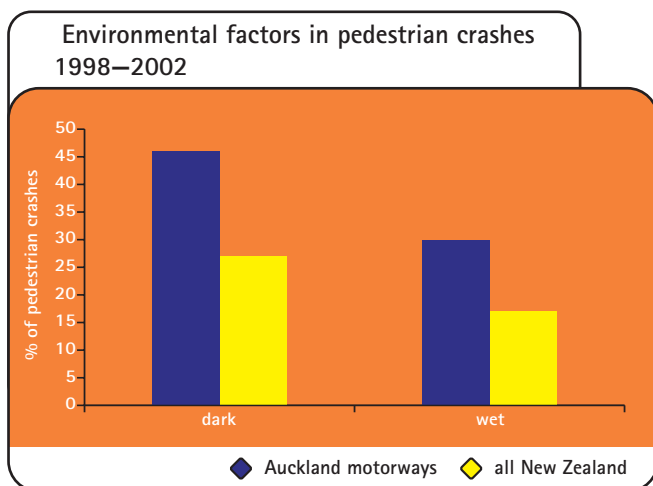
Pedestrian versus vehicle crashes only make up a small percentage of all crashes on the motorway network. They can, however, result in very serious and fatal injuries. Of the 70 pedestrians involved in crashes in the last five years, 10 have been killed and 21 seriously injured.

Half of these crashes occurred in the 80 km/h plus zones of the network (areas where pedestrians are prohibited), including all but one of the fatal crashes.



Almost a quarter of the pedestrian crashes have occurred on SH 20 and 20A, areas not previously covered by the Motorway Patrol Unit. Two thirds of these crashes were on the non-motorway sections of this highway.

Just under half of the crashes (46 percent) occurred in dark or twilight conditions. This is well above the national average where only 27 percent of pedestrian crashes occur at these times. The number occurring when the road is wet is also well above the national average.



## Recommended actions

- Carry out education campaigns aimed at improving pedestrian awareness of the high risks associated with using the motorway. This should include guidance as to what to do following a breakdown or crash.
- Support enforcement activities directed at pedestrians using the motorway, especially at night.
- Ensure motorway patrol staff are aware of the pedestrian safety issues on SH 20 and 20A.
- Analyse original crash reports to identify the reason pedestrians are crossing the motorway and identify any sites where improved pedestrian fencing or crossing facilities are required.

# 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 projects

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.

## Road policing

Police enforcement hours to support community projects are now allocated to police community services hours rather than to individual projects. The delivery of these hours to support community initiatives will need to be negotiated by the local authority road safety co-ordinators.

In 2003/2004 the Police are funded to deliver 78,580 hours of road policing on Auckland's motorways as follows:

Project	Police hours
Strategic – alcohol/drugs, restraints, speed and visible road safety enforcement	43,190
Traffic management – crash attendance events, incidents, emergencies and disasters, traffic flow supervision	34,400
Police community services	990

## Road environment

The LTSA's crash reduction monitoring database shows that works implemented as a result of crash reduction studies have reduced crashes at state highway study sites by 34 percent in the Auckland Region.

Recommendations from recent studies should be implemented and further annual studies undertaken which could consider mass action treatments to reduce crash problems.

## References

- Auckland Motorways Road Safety Report 1998–2002
- LTSA Crash Analysis System
- 2002 Motorway CRS Executive Summary Report (Section 8)

## Where to get more information

For more specific information relating to road crashes on Auckland motorways, please refer to the 1998 to 2002 Road Safety Report or the Land Transport Safety Authority Crash Analysis System, or contact the people or organisations listed below:

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