

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 Transit New Zealand Region Two.

Crashes used for the analysis contained in this report exclude non-injury crashes and also those crashes covered by the separate Auckland motorways report. The motorway sections excluded from this report are the:

- northern motorway (within the boundaries of North Shore City)
- southern motorway
- north-western motorway (SH16 to junction with SH18).

The remaining injury crashes are distributed among the state highways as follows: SH1 (27%), SH1A (0%), SH16 (23%), SH17 (10%), SH18 (11%), SH20 (16%), SH20A (5%), SH22 (7%).

The number of reported injury crashes last year was a 12 percent increase on the previous year 2000 (with three more fatalities).

September and December were months with abnormally high numbers of crashes (when compared with other regions), while June was an abnormally low month over the five years. Sunday and Monday were days with unusually high crash numbers, while Tuesday and Wednesday had significantly fewer crashes.

Major road safety issues:

Transit New Zealand Region Two

Crashes on bends

Failure to give way

Alcohol

Speed

Nationally

Speed

Alcohol

Failure to give way

Restraints



2001 road toll for TNZ Region Two

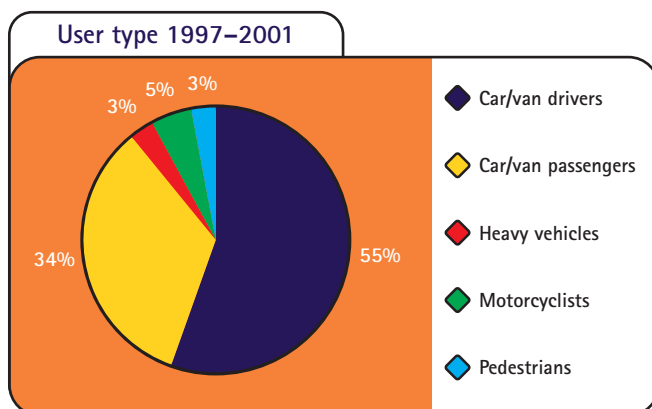


Deaths	16
Serious casualties	61
Minor casualties	224

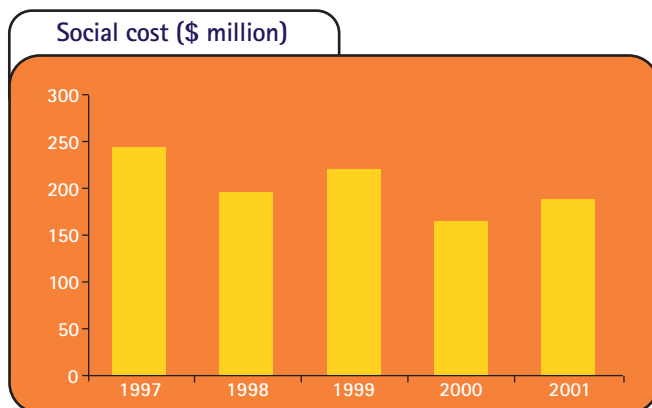


Fatal crashes	14
Serious injury crashes	41
Minor injury crashes	137
Non-injury crashes	552

Road deaths 1997–2001



Estimated social cost of crashes*



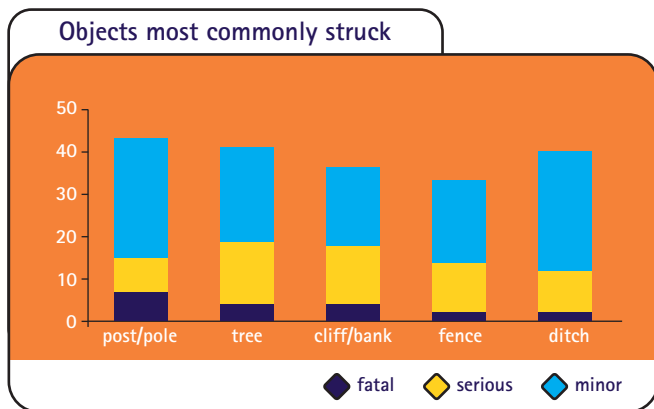
* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

Crashes on bends

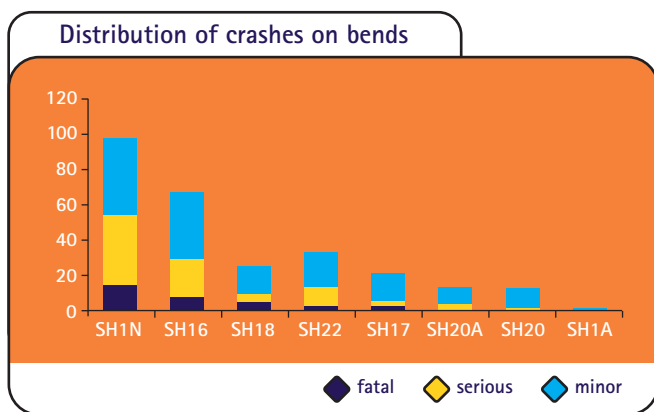
From 1997 to 2001, 277 (27 percent) of the reported injury crashes occurred on bends. These crashes resulted in 37 fatalities consisting of 21 car or van drivers, 11 car or van passengers and five motorcyclists. In total 259 car or van drivers, 168 passengers, 23 motorcyclists and 18 occupants of heavy motor vehicles were injured in crashes on bends over the five years 1997–2001.

The majority of these crashes (148 or 53 percent) happened during the weekends.

The following chart shows the most commonly struck roadside objects, along with the severity of injuries that occurred.



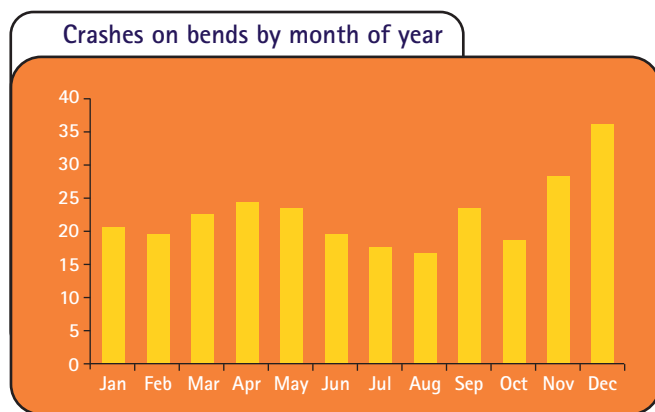
Crashes on bends were distributed among the state highways as shown below.



The most noteworthy crash causes were: travelling too fast for the conditions (93 instances), alcohol proven or suspected (64 cases), driver fatigue (40), road slippery due to rain (38), inattention or attention diverted (31), loss of control due to road conditions (18) and tyre faults (14).

Quite a high proportion of the crashes on bends occurred at night (42 percent) and in wet conditions (42 percent).

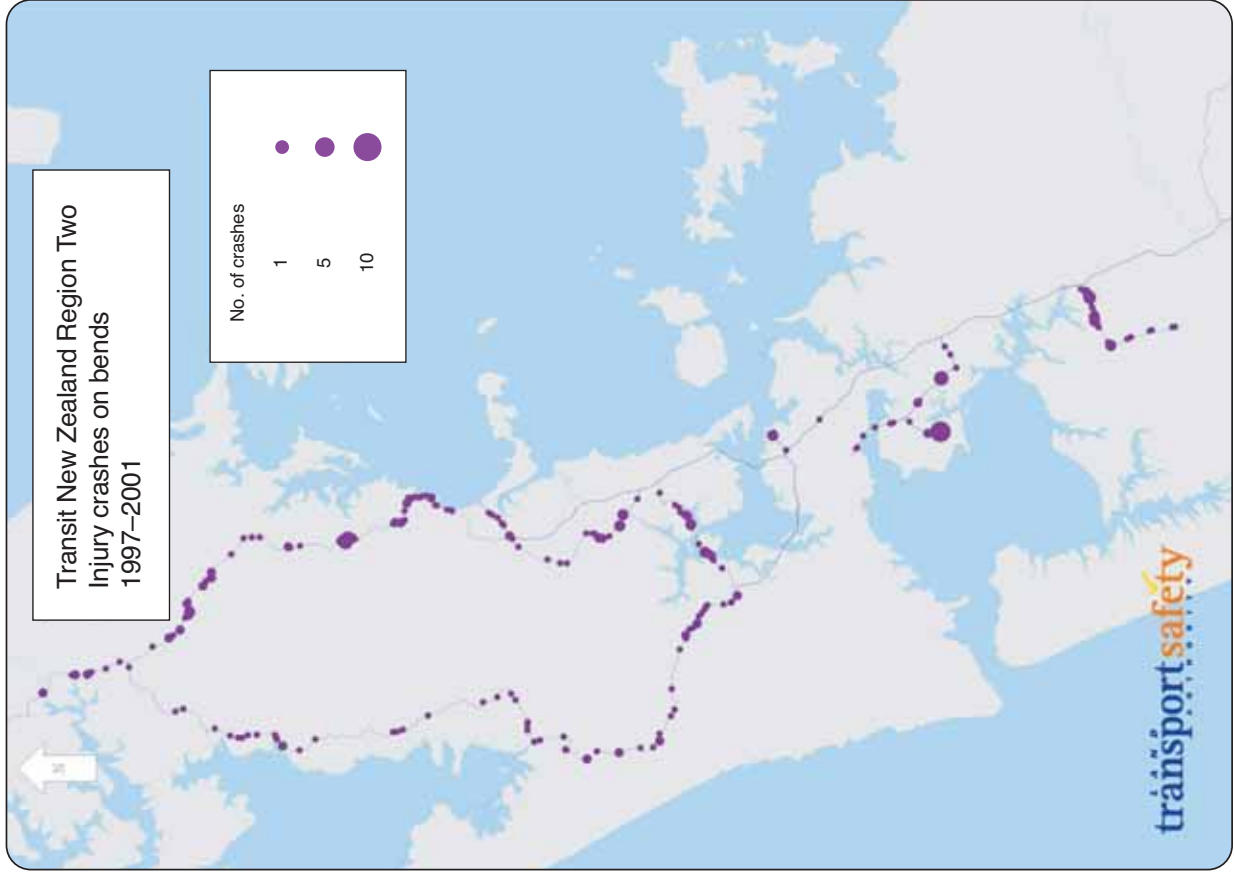
The worst month was December with 37 crashes, followed by November with 29. There was a secondary peak in April and a trough in August.



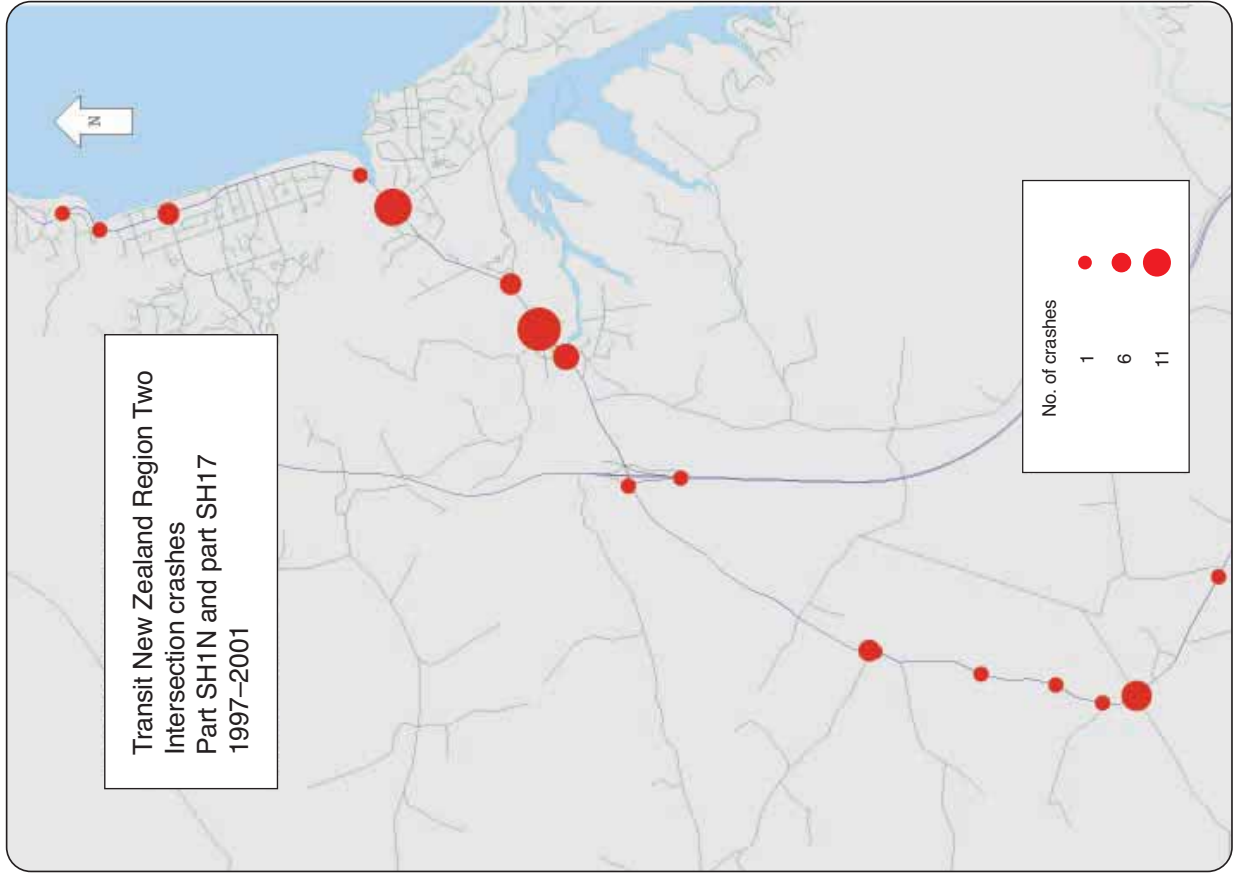
Recommended actions

- Conduct a safety audit/safety survey of curve delineation, signposting, shoulder width, surface friction and street lighting of curves in black spot areas.
- Ensure skid resistance is up to standard and consistent throughout curves.
- Ensure advisory signs are appropriate, consistent and in the correct position.
- Ensure roadside areas are kept clear of solid objects at curves.
- Provide sealed road shoulders where appropriate.
- Continue road realignment projects where appropriate.
- Maintain good road surfaces and drainage.
- Support campaigns on adjusting drivers' speed for different driving conditions.
- Support education programmes on the need to be fully alert when driving.
- Support education programmes and target enforcement on driving too fast for the conditions and alcohol.
- Support enforcement targeting high-risk areas and times of year, with over 50 percent of the resources for this risk to be targeted at weekend traffic.

Transit New Zealand Region Two
Injury crashes on bends
1997–2001



Transit New Zealand Region Two
Intersection crashes
Part SH1N and part SH17
1997–2001





Failure to give way

Crossing and turning type crashes at intersections accounted for 266 (26 percent) of the 1,021 reported injury crashes from 1997 to 2001. Fatalities included two car or van drivers, three passengers and three motorcyclists. Another 411 road users were injured, 62 seriously.

In 2001 the frequency of this type of crash increased against the downward trend of the previous years.

There were slightly more crashes in urban areas (138) than on the open road (128). Fatal and serious crashes were evenly split between urban and open roads.

The proportion of crossing/turning crashes in rural areas was more than double the average for this classification of road nationally. In urban areas the reverse was true, with a significantly lower proportion of this type of crash.

The majority occurred in dry conditions (78 percent) and during daylight hours (68 percent).

In 91 percent of crashes someone failed to give way or stop, most commonly because they performed an inadequate check (29 percent).

The most noteworthy crash causes were: did not stop at steady red light (21) or arrow (11); speed – either travelling too fast to give way (8) or misjudged speed of other vehicle (16); visibility obstructed by other vehicles (17); alcohol proven or suspected (16).

Two types of movements dominated: they were:

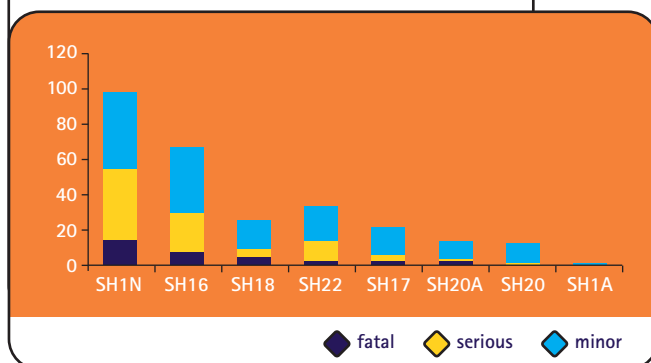


98 (37%)



111 (41%)

Distribution of crashes at intersections



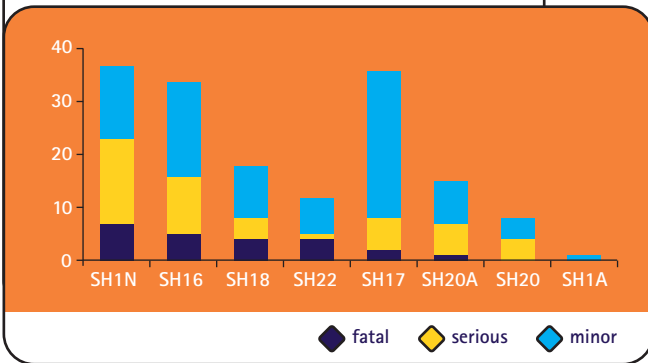
Recommended actions

- Continue with safety audits/surveys of intersection controls and visibility.
- Consider installing splitter islands on rural crossroads.
- Research why vehicles are failing to notice and give way to other vehicles.
- Encourage crash reduction studies of known black spots.
- Encourage education programmes to address driving at an appropriate speed, signalling intentions, choosing a safe gap and checking for motorcyclists.
- Consider use of billboards in problem areas that encourage road users to drive with their lights on (rural areas).
- Support the risk targeted patrol planning of the New Zealand Police, including video surveillance of intersections for red light runners.
- Support the presence of visible police patrols at identified problem spots.



Alcohol

Distribution of crashes involving alcohol



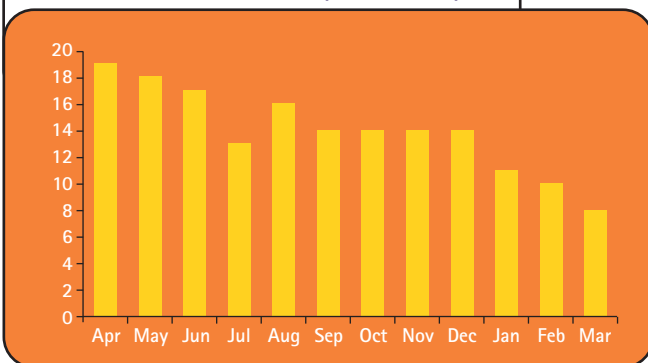
Alcohol was cited as a contributing factor in 168 (16 percent) of the injury crashes from 1997 to 2001. Last year's figure of 29 – one less than the year before – just manages to continue a five-year downward trend, although this progress appears to have plateaued.

Male drivers were involved in 140 such crashes compared with 25 females.

Predictably, the highest density of crashes occurred during weekends at night (77 percent were in the dark or twilight, 56 percent in the weekend).

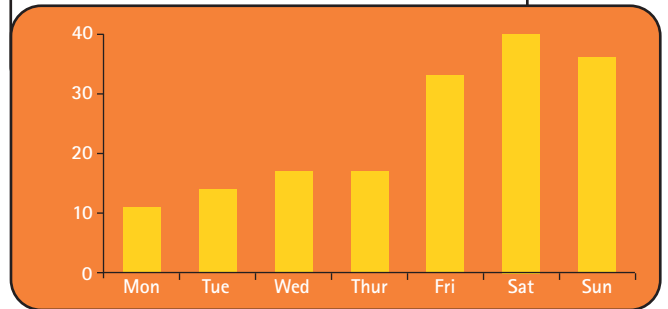
The worst months were April, May and June – together accounting for 32 percent of the total for only 25 percent of the year. There was a declining trend in alcohol-related crashes from April to March. (See chart below. Note: months start at April.)

Alcohol-related crashes by month of year

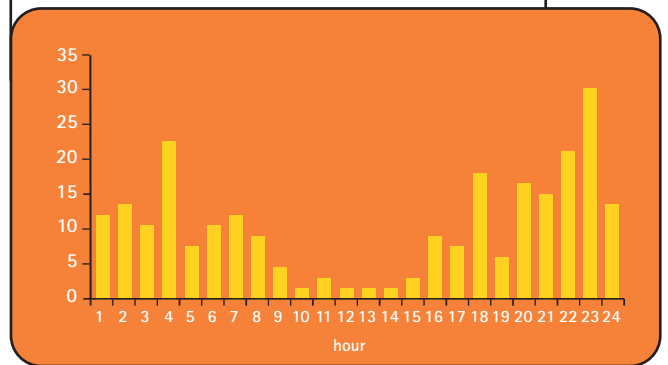


The following charts graphically illustrate the associated time of day and days of the week.

Alcohol-related crashes by day of week



Alcohol-related crashes by time of day



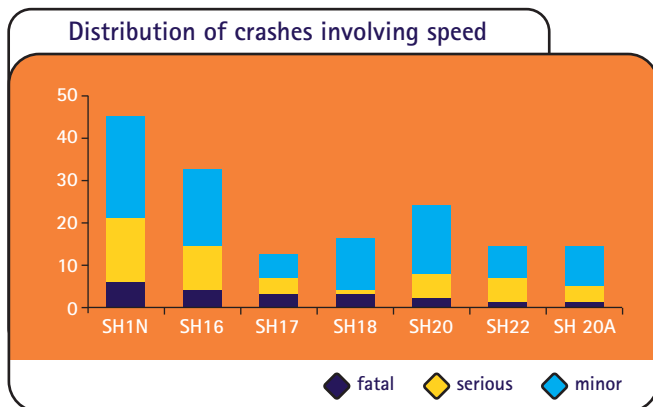
Recommended actions

- Conduct crash studies to determine whether road improvements can help.
- Provide consistent 'no surprises' road environments.
- Increase the current standard of road marking, including the use of wider edge lines and high standard reflective signing.
- Remove roadside obstacles that might be hit by drivers having problems controlling their vehicle.
- Encourage community education and advertising programmes targeting young male drivers.
- Support host responsibility and designated driver programmes in rural communities, sports clubs and licensed premises.
- Investigate ways to identify and target recidivist drink-drivers. (Currently Roadsaf Auckland are developing a programme that focuses on repeat drink-drivers. For more information visit their website, www.roadsafekland.org.nz.)
- Continue to support drink driving strategic enforcement campaigns, especially on rural roads, at night and during weekends.

80 Speed

Speed-related crashes increased last year, going against a constant downward trend from 1997 to 2000. At 38 crashes, this is the highest recorded figure in the last five years.

The crashes were distributed as follows.

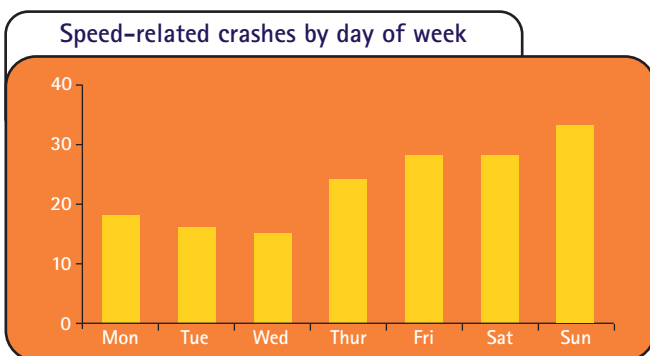


Fifty-seven percent of these crashes happened on bends where drivers did not necessarily exceed the speed limit but rather drove too fast for the conditions.

Loss of control on straight roads was slightly higher in both urban and rural areas than for the peer group, but not significantly so. However, in rural areas this type of crash has shown an upward trend for two years in a row now, which could be an indicator of an increase in speeding.

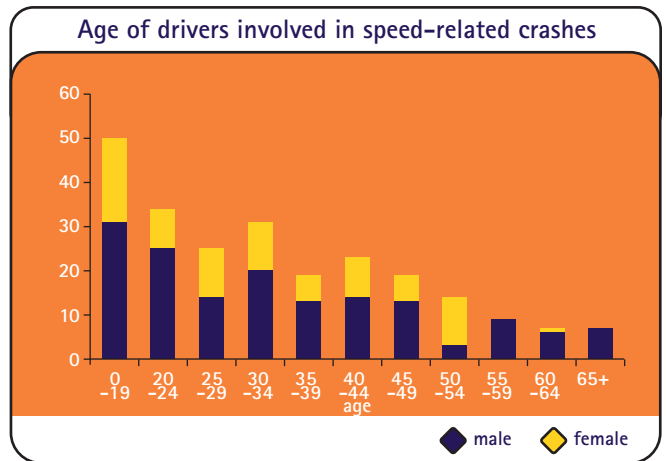
Speeding also impinges on intersection crashes (issue two). It is more difficult for other road users to discern the approach speeds of speeding vehicles when making gap selection decisions.

There were relatively few reported speed-related crashes on Monday, Tuesday or Wednesday.



No particular time of day stands out as significant.

The following chart shows that speed-related crashes were dominated by younger drivers. These crashes could be more accurately labelled misjudgement (due to inexperience) combined with inappropriate speeds, given that cornering makes up the majority of these crashes.



Recommended actions

- Support enforcement campaigns aimed at excess speed for the conditions, especially:
 - during the Thursday to Sunday period
 - on straight roads leading up to problem bends.
- Investigate engineering solutions that will prompt drivers to slow down, such as:
 - well-placed signs and road delineation
 - oversized and fluorescent warning signs
 - rumble strips on edge lines and centre lines of curves
 - strategically placed delineation that accentuates the apparent severity of curves.
- Support education programmes.

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 Roding 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 region.

Funding for regional community projects over \$10,000 in the Auckland region from the New Zealand Road Safety Programme for the 2002/2003 year includes:

Project	Funding
Road safety co-ordinator	\$38,000
Speed	\$53,000
Alcohol	\$22,500
Pedestrian safety	\$20,000
Committee-run community projects	\$20,000
Kia Tika Te Huarahi	\$28,000
Mai Roadshow – R.I.S.K.Y. on the road (reckless in speed kills you on the road)	\$49,550
Te Oranga Huarahi class 1 learner and restricted	\$20,000
Pasifika road safety radio campaign – Kidsafe week	\$20,000
Motorway safety campaign	\$40,000

Police enforcement

The State Highway Patrol carries out strategic enforcement and public holiday traffic management projects on state highways. Nationally 337,500 police hours have been allocated to the State Highway Patrol of which North Shore/Waitakere/Rodney (25,000 hours) and Counties Manukau (31,500 hours) districts cover the Transit Auckland region.

A considerable number of other hours is also provided by general duties branches for traffic management (crash attendance, events, incidents, emergencies and disasters), road safety education, and police community services. Strategic traffic units also support state highway enforcement and the traffic alcohol group is also involved.

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 43 percent in the Auckland region.

Recommendations from recent studies should be implemented and further studies undertaken to consider mass action or local area traffic management to reduce crash problems.

References

Transit New Zealand Region Two Road Safety Report 1997–2001
LTSA Crash Analysis System

Where to get more information

For more specific information relating to road crashes in Transit New Zealand Region Two, 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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Regional Education Advisor
Rae-Anne Kurucz

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