

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 Canterbury region.

Reported crashes increased in 2001, probably due to improved reporting procedures by the New Zealand Police since last year's report. Most injuries happened to young people under 25 years of age, whether as drivers, passengers, cyclists or motorcyclists. Older road users were more frequently involved in crashes as drivers and pedestrians. The decline in motorcycle casualties seems to have stopped. Pedestrian casualties increased as a proportion of all casualties. Cyclist casualties jumped by 50 percent to 168 in 2001, but have since returned to normal levels.

Intersection crashes remained the biggest problem. The Canterbury road network of criss-crossed routes has resulted in many crossroads in both urban and rural areas.

Alcohol and speed too fast for conditions remain high on the agenda. Long-term progress is being achieved despite occasional set-backs. Roadside hazards remain a significant issue. This report also comments on cyclist and pedestrian issues, which are receiving a renewed emphasis in regional and national policy and funding.

Major road safety issues:

Canterbury region

Intersections

Speed

Alcohol

Roadside hazards

Pedestrians

Cyclists

Nationally

Speed

Alcohol

Failure to give way

Restraints



2001 road toll for Canterbury region

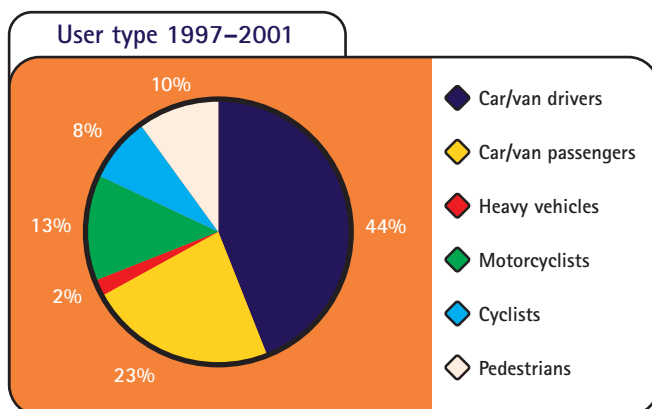


Deaths	46
Serious casualties	309
Minor casualties	1,260

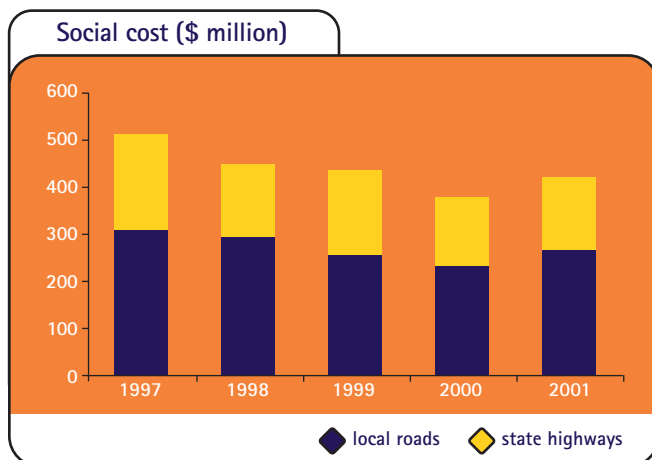


Fatal crashes	42
Serious injury crashes	254
Minor injury crashes	864
Non-injury crashes	2,681

Serious road 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.

Intersections

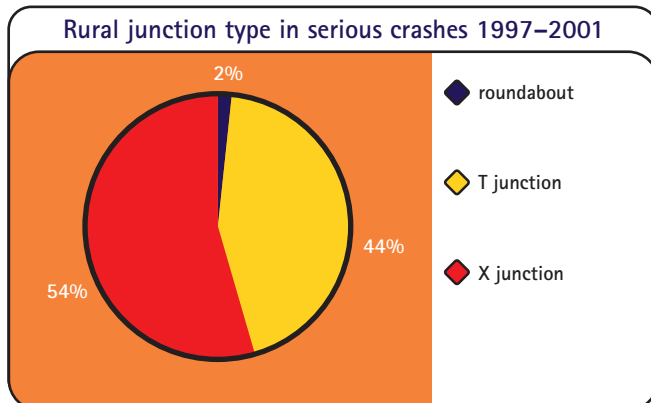
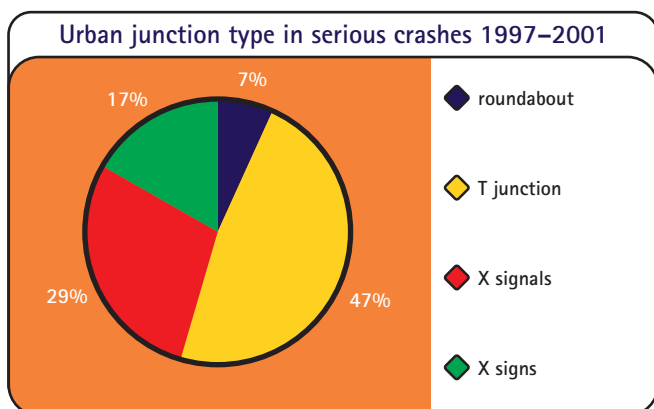
Between 1997 and 2001, Canterbury had a high proportion of crashes at intersections. This was the case on both urban and rural roads as well as on local roads and state highways. A number of factors contributed to this.

There are more opportunities for intersection crashes in Canterbury. The Canterbury Plains are criss-crossed with roads that typically meet at crossroad junctions. Crossroads are known to be more dangerous than T junctions. Approximately half the intersection crashes were at crossroads in both urban and rural speed limit areas. Outside Christchurch approximately half the urban and open road intersection crashes were at crossroads, compared with only 30 percent for all of New Zealand rural roads and 40 percent for all New Zealand urban roads.

Intersections have higher crash rates for cyclists, older people and motorcyclists, which were typically the groups more involved in Canterbury crashes than elsewhere.

Common reasons why vehicles failed to give way at intersections included a failure to see the other vehicle, misjudgement of speed and failure to notice the intersection or its control sign in time.

In Christchurch, Ashburton and Timaru urban areas, the busiest crossroads are mostly controlled by traffic signals. One common cause of crashes at these signals was a failure to notice them. These types of crash have reduced in Christchurch as signal displays have been upgraded. The other main crash type at signals was a failure to give way when turning right. More information on this crash type is contained in the issues report for Christchurch.



At the worst rural crossroads in Canterbury, the situation has been made safer by altering the layout (so that the straight-through path and views are interrupted for the side road approaches). Some changes have resulted in two separate T junctions, others have deviated the through path left from each direction by about two metres around central approach islands with extra control signs. There are many more rural intersections that would benefit from such treatment.

Many risky intersections in urban areas would be safer if converted to small roundabouts, which are also very effective in calming traffic in local areas.

New Transfund procedures permit such risky intersections to be identified and rectified, without waiting for crashes.

Recommended actions

- Conduct crash reduction studies to look at mass action opportunities for all crossroad types.
- Install more right turn arrows at traffic signals, operating consistently throughout the day.
- Plan for intersection capacity improvements that will permit safer layout and phasing options on congested routes.
- Continue to promote appropriate speed and intersection behaviours, through education campaigns backed by enforcement, carefully focused at addressable problems revealed by analysis.

Speed

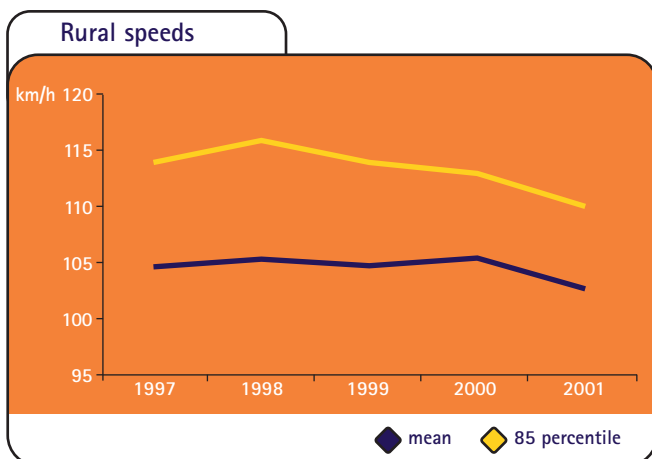
Speed is the single biggest killer on Canterbury roads. Ninety-four people (36 percent of deaths) died in the last five years in crashes involving speed too fast for conditions. When travelling faster a driver:

- has less control
- has less time to react to the unexpected
- is more likely to have speed misjudged by others
- is more likely to crash
- is more likely to be seriously injured.

There are two distinct types of speeding crashes. The first involves a vehicle that loses control due to speed too fast for conditions, most likely when turning at a bend or intersection.

The other crash type due to speed is where traffic may misjudge the speed of another vehicle, or where a driver has to react to unexpected events at intersections, driveways and places where pedestrians cross or parking is frequent. The speed limit is based on the likelihood of such events, so in many cases these crashes also involve speed above the urban limit. Pedestrians and cyclists benefit most from urban speed control, because a small reduction in vehicle speed can make quite a difference to the probability of death.

An increase in enforcement on rural state highways by the State Highway Patrol has reduced highway traffic speeds. Increased enforcement has also resulted in a decrease in urban speed.



As speed above the limit is coming under control, more attention should now be focused on speed too fast for the circumstances. Drivers should be educated to give better consideration to situations where they need to slow down. Such situations include shopping areas, wet roads, proximity to schools, residential areas before school, and from after school to tea time.

Many drivers are unskilled at anticipating hazards. The result is they react when it is too late to avoid a collision. For instance, with pedestrians crossing the road, research suggests that drivers frequently react too late because they presume the pedestrian will see them and give way. This is particularly the case for young male drivers. Drivers could be taught to practise the habit of anticipating hazards by lifting the foot off the accelerator and covering the brake pedal.

Public attitudes surveys show that speeding is not regarded as seriously as drink-driving, yet exceeding the urban limit by 10 km/h runs a similar increased risk of a crash as driving at the legal alcohol limit.

Recommended actions

Promotional activities

- Educate the public to:
 - be more aware of the risks of speeding
 - advocate for stricter enforcement of speed limits
 - better identify the appropriate speed in adverse conditions such as on wet roads and through commercial areas with extra pedestrian activity, and in the suburbs after school
 - be better at identifying and reacting early to hazards.

Enforcement

- Consider how to better target speed too fast for conditions.



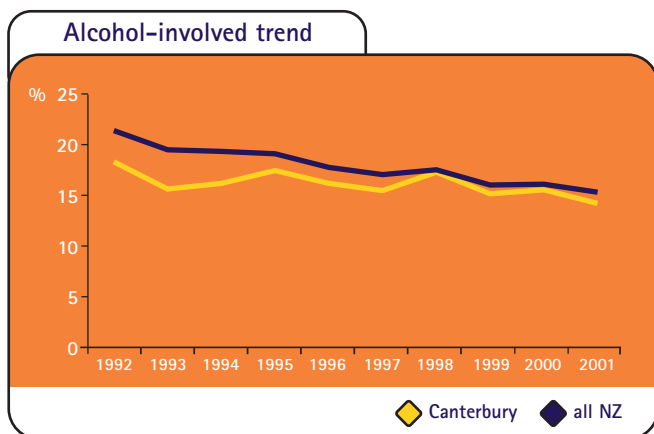
Alcohol

For a number of years alcohol-related crashes in Canterbury were significantly fewer than the rest of New Zealand, but for the last four years the nation has caught up with Canterbury. Simply maintaining lower alcohol involvement is an achievement, as often in the past the rate has jumped back up again after a campaign.

Seventy-three people (28 percent of all road deaths) died in crashes involving alcohol or drugs during 1997 to 2001. Forty-one of these died on rural roads and 32 on urban roads. In urban areas there were twice as many serious and minor injuries from crashes involving drink-driving than in rural areas. Eight involved drugs. Of the 64 people who died in alcohol-related crashes, only half were drunk drivers. Twenty-six were passengers, three were pedestrians and three were sober drivers. The message we have to get across is not just don't drink and drive. It is just as important not to get into a car with a drunk driver.

Historically it has been more difficult to reduce rural drink-driving. Recently there has been a pleasing drop in rural alcohol involvement. Over the last four years rural alcohol crashes have dropped from about 60 per year to 41 in 2001 (from 18 percent down to 12 percent of rural crashes).

Slow but steady improvement has been achieved in the urban areas. The existing urban alcohol involvement has been maintained at lower levels in recent years and may still be dropping slowly. The challenge is to maintain the pressure of existing programmes and find new ways to affect the behaviour of the hard core who are not responding to existing programmes. Existing promotions have been running for a long time now and may be losing their impact.



Recommended actions

- For young people maintain support for peer pressure groups like Students Against Driving Drunk (SADD).
- Keep up activities that reinforce the decisions of those choosing not to drink and drive.
- Continue to monitor progress and conduct research into the nature of the target groups.
- Develop new initiatives to target those who are not responding to existing campaigns.



Roadside hazards

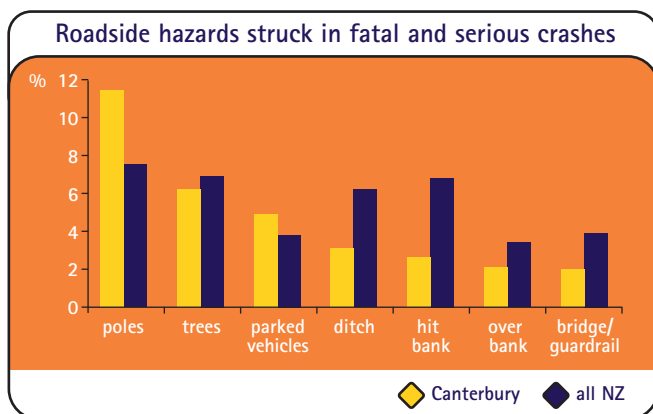
Fifty-three people (20 percent of all road deaths) died in crashes involving a collision with a pole or tree during 1997 to 2001. Other fixed roadside hazards such as bridges, ditches and banks were involved in another 49 deaths. Roadside hazards turn incidents where vehicles leave the road into crashes with potentially serious consequences.

The hazard is greatest on the busiest roads, the outside of bends and the departure side of intersections, particularly roundabouts. Research shows that on typical urban roads, four out of five vehicles that leave the road recover before reaching the fence line. At open road speeds a clear zone of nine metres from the edge line on rural roads is recommended, along with 4.5 metres from the traffic lane on urban roads.

There are legal, financial and institutional obstacles to more rapid progress with the location and design of utility poles. There have been awareness raising activities and some lobbying by road safety committees on the topic. Where new clear zone standards have been adopted, new hazards are less likely to be built. Moving or removing existing hazards can be more difficult. Transit New Zealand has adopted clear zone policies and has been implementing them in Canterbury, including removal of some existing trees. The relocation of overhead services underground is very effective, but progress is slow.

The topic of roadside hazards is receiving priority in the 2010 road safety strategy. It is also under consideration by a group from the Road Controlling Authorities Forum looking at standards and procedures for utilities in the road reserve.

Street trees make the street scene more attractive. Appropriate design in living streets can use street trees as part of effective traffic calming. Their use needs to be subject to firm guidance so that they contribute to safer roads and do not create new hazards.



Recommended actions

- Enhance the programmes to relocate utilities underground.
- Keep lobbying on legal, institutional and financial issues.
- Implement policies for safe planting of roadsides.
- Implement policies for roadside hazard clear zones.

Pedestrians

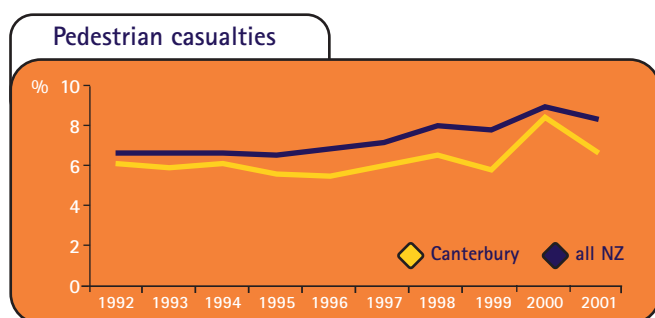
Thirty-one pedestrians died on Canterbury roads in the last five years and another 517 were injured, 161 seriously. The proportion of pedestrian casualties is increasing despite a small decrease in the numbers reported. This is because we are not making the same progress with pedestrian safety as with safety generally. The same problem is happening in the rest of New Zealand.

Nearly all pedestrian crashes were in urban areas, involving pedestrians crossing at commercial areas and on the busier roads. One quarter were at or near traffic signals, involving either turning vehicles that failed to give way or pedestrians who crossed without complying with the lights.

There are four distinct pedestrian groups to be considered.

- Preschool and primary aged children, who are still developing the ability to judge traffic situations and reliably cross the road safely. They typically are injured when crossing roads unsupervised near their homes. Adults as drivers and caregivers need to be more aware of children's limitations, unexpected actions and need for supervision in various situations.
- Teens that can cope well with traffic, but are injured when running heedless of traffic.
- Adults (typically males) who are more likely to be injured as pedestrians at night while affected by alcohol.
- Older adults who are closer to home and have more fragile bones.

Drivers who hit pedestrians are more likely to be younger and male. They presume on their right of way and react too late.



Recommended actions

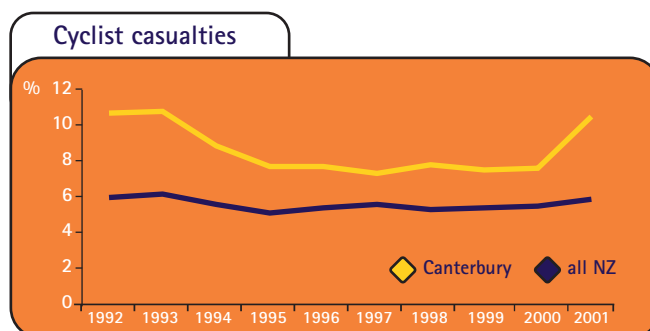
- Continue to build more kerb protrusions and pedestrian refuges on busier roads.
- Install traffic calming measures in commercial areas.
- Consider greater use of signals for pedestrians crossing multi-lane roads.
- Educate caregivers and drivers about the limited capability of children to make traffic decisions and to anticipate the unexpected rush out onto the road.
- Extend the slow down around schools message to include all areas where children are likely to be crossing a road before school and after school until nightfall.
- Develop materials to remind adult pedestrians of children's vulnerability and encourage them to take more care.

Cyclists

While only seven cyclists died on Canterbury roads in the last five years, 664 others were injured, 136 seriously. The risk of serious injury and death while cycling on urban roads is similar to walking the same distance. The severity of cyclist injuries was lower than for pedestrians. In the first part of 2001 the number of reported cyclist casualties jumped by over 50 percent (see graph). Fortunately the rate has returned to normal since August 2001. Cycle traffic counts indicate there was an increase in cycling activity in Christchurch in 2001.

New cyclists are more vulnerable while they are mastering the skills for safe cycling. There are a few key skills to safe cycling in traffic that can make a big difference. These skills are being taught well to most school children at age 10 by the Cycle Safe programme for schools in Christchurch. Adults starting to cycle also need similar training. Although children under 10 years of age may be able to control a bicycle competently, they are not able to judge moving traffic situations reliably. An information leaflet is being prepared by Cycle Safe to guide parents in the decision to permit their children to ride on the road.

Collisions between cyclists and cars were more likely to happen at intersections and driveways. Usually the cyclist was not noticed by the driver of a motor vehicle that failed to give way. Mid-block the main hazard was opening doors. A recent campaign has encouraged drivers to look for cyclists when opening car doors. An examination of crash reports shows that in nearly all cases there was also room for the cyclists to ride further away from the parked car, which would have prevented the crash.



Recommended actions

- Continue to improve roads, intersections and paths to be more cycle friendly.
- Continue to innovate and evaluate improvements.
- Continue and develop cycle education for schools and communicate with parents.
- Develop adult cycling safety education activities to complement cycle promotion.
- Encourage the correct wearing of cycle helmets.

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 foster local partnerships in road safety to help reduce the number of deaths and injuries in the Canterbury region.

Funding for regional community projects in the Canterbury region from the NZRSP for the 2002/2003 year has been confirmed as follows:

Project	General funding	Advertised 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

In addition to the above, each of the 10 local authorities receives funding for community road safety projects. The combined value of these is \$405,500.

Police enforcement

In addition to the 6,270 New Zealand Police hours to support community projects, a further 193,570 hours will be delivered by police in the Canterbury region as follows:

Project	Police hours
Strategic – alcohol/drugs, speed, restraint and visible road safety enforcement	147,045
Traffic management including crash attendance, incidents, emergencies and events	34,440
School road safety education	6,770
Police community services	5,315

Where to get more information

For more specific information relating to road crashes in the Canterbury region, please refer to the 1997 to 2001 Road Safety Data Report or contact the people or organisations listed below:

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