

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 Christchurch.

Reported crashes increased in 2001, probably due to improved reporting procedures by the New Zealand Police since the last issues report. Most injuries happened to young people under 25 years old as drivers, passengers, cyclists or motorcyclists. Older road users were more frequently involved as drivers and pedestrians. Pedestrian casualties returned to normal in 2001 after a surge in 2000, but six of them were fatal. Cyclist casualties jumped by 50 percent to 146 in 2001, but have since returned to normal rates.

Intersections remain the main issue. As the network becomes more congested, management of signal controlled intersections is forced to trade off efficiency against safety unless provision is made for more ambitious intersection improvements.

Alcohol and speed remain high on the agenda. Long-term progress is being achieved despite occasional setbacks. 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:

Christchurch

Intersections

Speed

Alcohol

Roadside hazards

Pedestrians

Cyclists

Nationally

Speed

Alcohol

Failure to give way

Restraints



2001 road toll for Christchurch



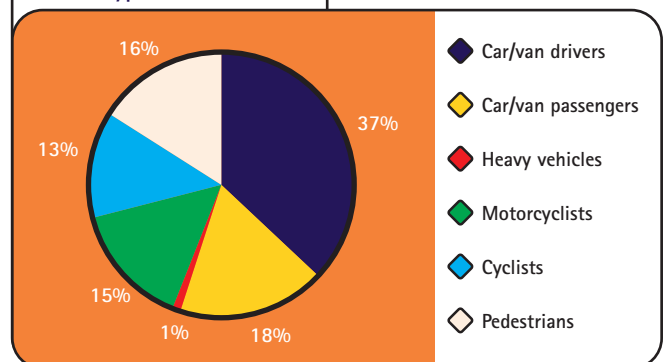
Deaths	15
Serious casualties	157
Minor casualties	781



Fatal crashes	13
Serious injury crashes	136
Minor injury crashes	589
Non-injury crashes	738

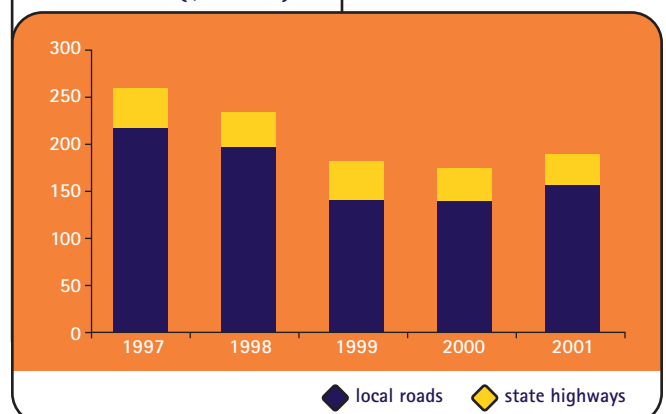
Serious road casualties 1997–2001

User type 1997–2001



Estimated social cost of crashes*

Social cost (\$ million)



* 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

Christchurch continues to have a high proportion of crashes at intersections. The number and proportion have increased slightly in the last three years. As the network comes under increased congestion pressure, intersections and traffic queuing from them are areas where safety has become a concern.

As mentioned in the last report, the highest proportion of crashes was at crossroads controlled by signals, so this report will follow that issue further.

Reported crashes caused by a vehicle running a red light have almost halved since 1995. In nearly all these crashes the driver claims not to have noticed the red light. The improvement in these statistics follows a progressive effort to upgrade the lanterns and position them more conspicuously, along with enforcement and education campaigns on obeying red lights.

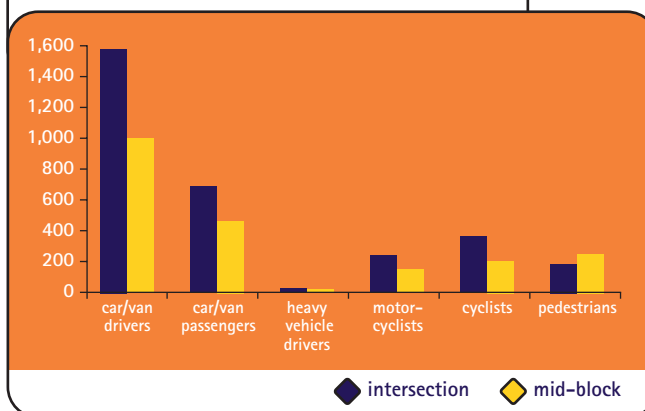
With the drop in red light running between 1997 and 2001, the main problem at traffic signals was the right turn across opposing traffic. While to some extent occurring at black spots, the problem was spread across many existing intersections and may require a general mass action improvement and design policy response.

The standard of intersection layout and phasing varies considerably across the city. There are some excellent examples of best practice intersection design that could be emulated elsewhere in the network.

Recent crash reduction studies have identified a number of factors contributing to the right turn against opposing traffic crash type.

- Many intersections have been set out so that vehicles turning right from one direction cannot see past vehicles waiting to turn right from the opposite direction.
- Drivers turning on yellow misjudge whether approaching traffic will stop. This is worse on multi-lane roads where one lane stops but another does not.
- Drivers turning misjudge the speed or distance of approaching traffic.
- Some drivers, such as inexperienced and overseas drivers, get confused by the complexity of signal phases and displays, particularly those that alter at an intersection at different times of day, or are different from similar intersections.
- Confusion over whether vehicles are turning left is also a problem, but this should reduce with proposed changes to the give way rules.

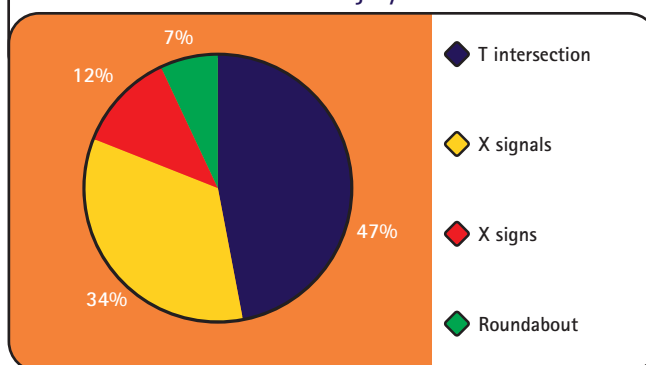
Casualties – intersection crashes 1997–2001



Recommended actions

- Conduct crash reduction studies that look at intersection crash themes.
- Install more right turn arrows to operate consistently through the day.
- Improve intersection lane layouts.
- Plan for intersection capacity improvements that will permit safer layout and phasing options.
- Continue to promote appropriate speed and intersection behaviours through education campaigns backed by enforcement, carefully focused at addressable problems revealed by analysis.

Urban intersection serious injury crashes 1997–2001



Speed

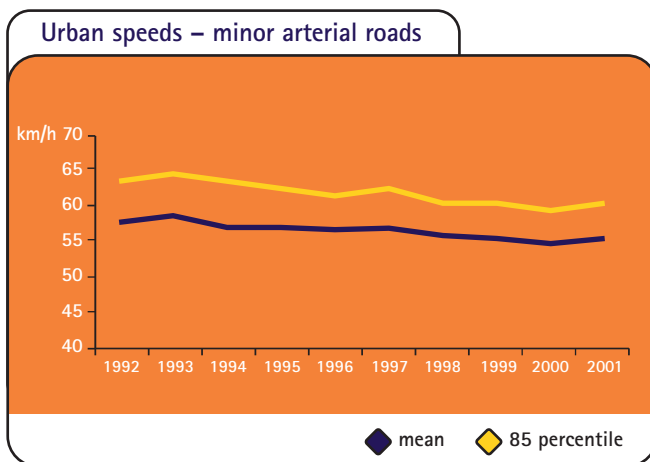
Speed remains the single biggest issue on Christchurch roads. 43 people (44 percent of deaths) died in the last five years in crashes involving speed too fast for conditions.

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 cause serious injuries.

Research shows that the greatest benefits of speed control come in the built-up areas, where people more frequently have to judge the speed of approaching traffic, and drivers are more likely to encounter unexpected hazards. The extent of injury and likelihood of death to pedestrians and cyclists are critically dependent on impact speed.

Speed surveys on urban arterial roads indicate that winter speeds may have increased in 2001 for the first time since 1993 (see graph below). Since then there has been a large increase in the enforcement of urban speed. Speeds surveyed in January 2002 were much lower.



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

Recommended actions

Christchurch has a speed management strategy. Now that most speed limits have been revised it should be re-focused. Promotion should educate the public to:

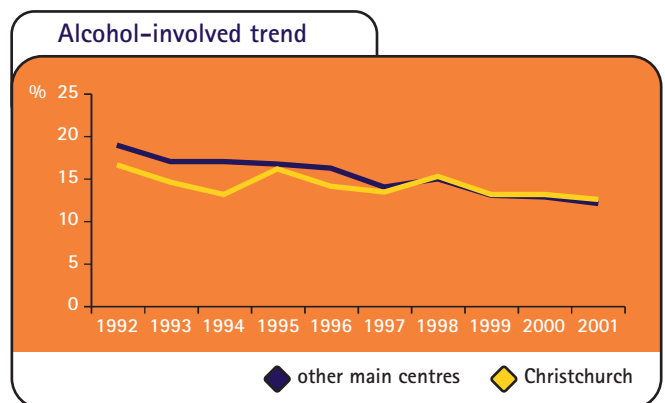
- be more aware of the risks of speeding
- advocate for stricter enforcement of speed limits
- better identify the appropriate speed in adverse conditions such as on wet roads, through commercial areas with extra pedestrian activity and in the suburbs after school.

Alcohol

Twenty-eight people (29 percent of road deaths) died in crashes involving alcohol or drugs during 1997–2001. Despite advances over many years, one injury accident in eight still involves alcohol. The long-term downward decline has levelled off for the last three years.

Christchurch has been overtaken by the other main centres, as shown in the accompanying chart. Maintaining the low levels has itself been an achievement, as past experience has shown a tendency for alcohol involvement to rise again at the end of short-term campaigns. 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 these programmes.

Existing promotions have been running for a long time now and may be losing their impact.



Recommended actions

- Maintain support for youth peer pressure groups such as 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.



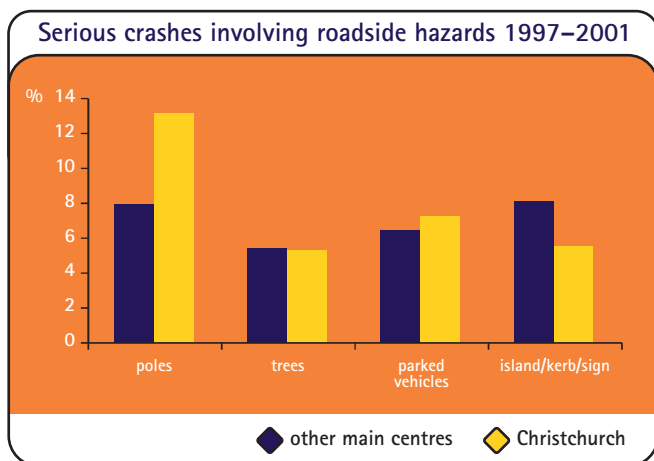
Roadside hazards

Twenty-six people (27 percent of all road deaths) died in crashes involving a collision with a pole or tree during the period 1997 to 2001. Six hundred and forty-two people were likewise injured, 155 of them seriously. Roadside hazards turn incidents where a vehicle leaves the road into crashes with potentially serious consequences.

The hazard is greatest on busiest roads, the outside of bends and the departure side of intersections, particularly roundabouts. Research shows that on urban roads, four out of five vehicles that leave the road recover before reaching the fence line.

Placing overhead services underground is very effective, but progress is slow. There are legal, financial and institutional obstacles to more rapid progress. The topic of roadside hazards is receiving priority in the 2010 road safety strategy.

The safety benefits of underground services will not be achieved if existing poles are replaced by equally hazardous street trees. Street trees make the street scene more attractive, and 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 programme to place 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

Seventeen pedestrians died on Christchurch roads in the last five years and 425 were injured, 128 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.

As shown in the accompanying map, nearly all pedestrians injured were crossing busier roads, with most of these in commercial areas. 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.

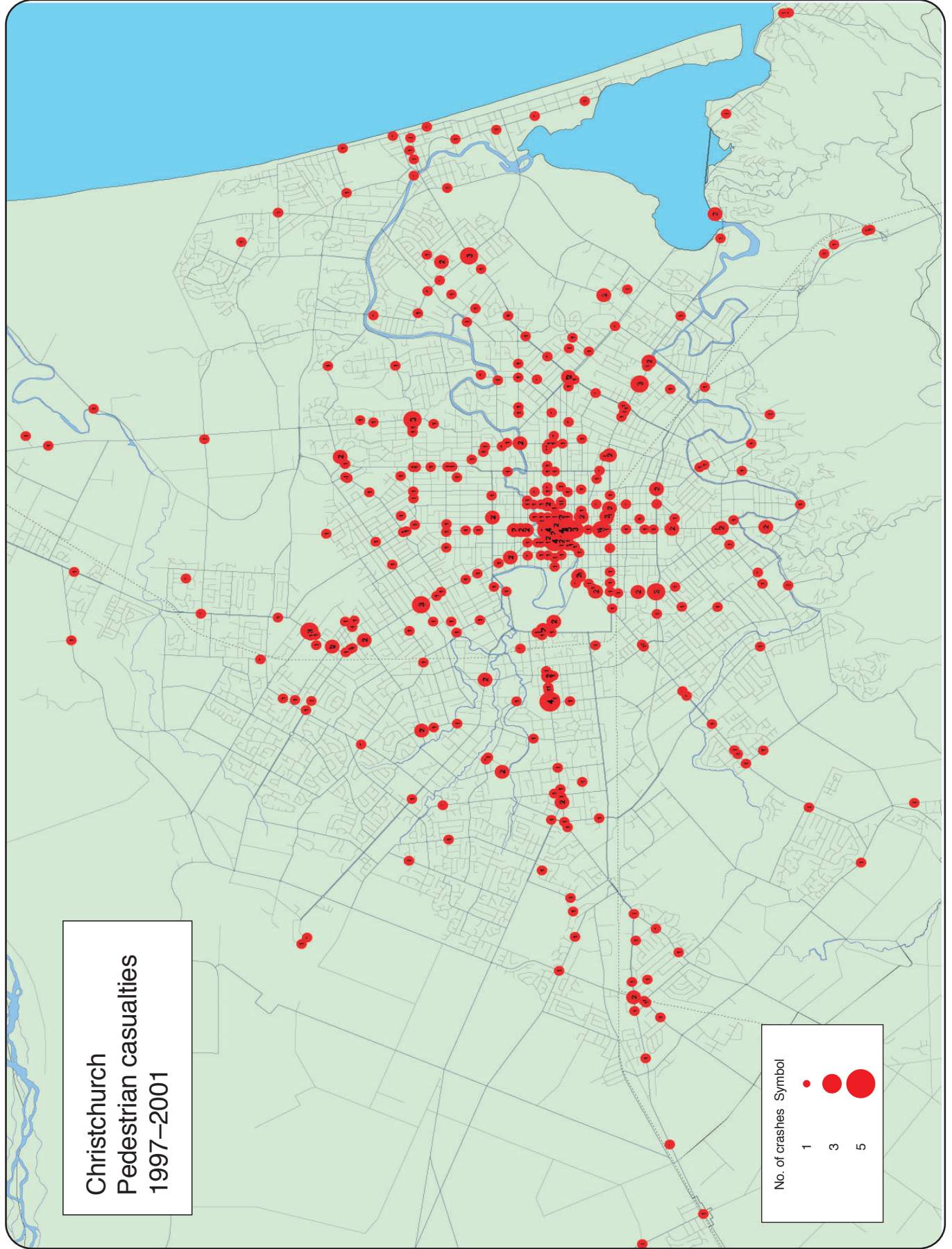
- Pre-school and primary aged children, who are still developing the ability to judge traffic situations and reliably cross the road safely. They are typically injured when crossing roads unsupervised near their homes. Adults as drivers and caregivers need to be more aware of young children's limitations, unexpected actions and need for supervision in various situations.
- Teens who can cope well with traffic, but are typically 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 that hit pedestrians were more likely to be younger and male. They presumed they had right of way and reacted too late.

Recommended actions

- Continue to build more kerb protrusions and pedestrian refuges on busier roads.
- Introduce 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 the need to anticipate an unexpected rush out onto the road.
- Extend the message that drivers need to slow down around schools, before and after school until nightfall, and wherever there may be children.
- Develop materials to remind adult pedestrians of their vulnerability, and encourage them to take more care.

Christchurch
Pedestrian casualties
1997–2001



No. of crashes Symbol

1

3

5



Cyclists

While only four cyclists died on Christchurch roads in the last five years, 572 were injured, 113 seriously. The risk of serious injury and death while cycling is similar to walking. 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. Fortunately the rate has returned to normal since August 2001. Cycle traffic counts indicate there was an increase in cycling activity in 2001.

As new cyclists take to the road they are more vulnerable while mastering the skills for safe cycling. There are a few key skills to safe cycling in traffic that make a big difference. These skills are being taught well to most school children at 10 years of age, by the Cycle Safe programme for schools. Adults starting to cycle also need similar training.

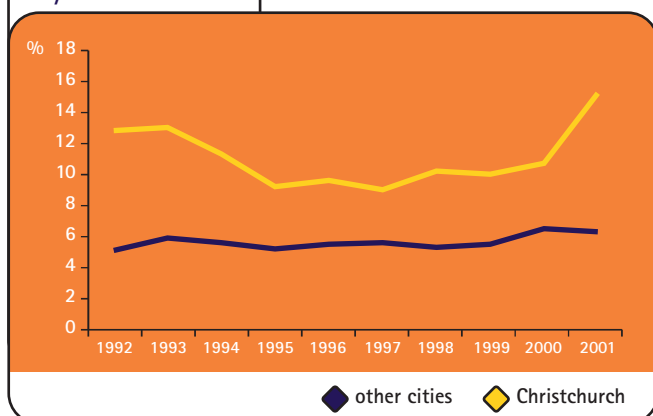
Although children under 10 years of age may be able to competently control a bicycle, they are not able to reliably judge moving traffic situations. An information leaflet is being prepared by Cycle Safe to guide parents in the decision to permit their children to ride on the road.

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 car drivers to look out for cyclists when opening 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 make them more cycle friendly.
- Continue to innovate and evaluate improvements.
- Continue to 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.

Cyclist casualties



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 Christchurch.

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

Project	Funding	Police hours
Road safety co-ordinator	\$38,000	
Speed	\$20,000	250
CAAP	\$60,000	2,940
Restraints	\$5,000	100
Cycle safety	\$2,500	250
Intersection safety	\$20,000	850
Older road users	\$6,500	

Christchurch will also be involved this year 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 4,390 police hours to support community projects, a further 104,050 hours will be delivered by police in Christchurch as follows:

Project	Hours
Strategic – alcohol/drugs, speed, restraint and visible road safety enforcement	74,180
Traffic management including crash attendance, incidents, emergencies and events	22,620
School road safety education	3,500
Police community services	3,750

Road environment

Christchurch has an allocation for minor safety projects on local roads in Transfund New Zealand's National Land Transport Programme 2002–2003.

Where to get more information

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

Land Transport Safety Authority

Regional Manager
Dennis Robertson
Phone 03 363 5661

Regional Education Advisor
Bob Clements
Phone 03 363 5677

Area Road Safety Engineer
Tim Hughes
Phone 03 363 5643

Road Safety Co-ordinator

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Phone 03 332 2722

New Zealand Police

Inspector Derek Erasmus
PO Box 2109, Christchurch
Phone 03 363 7417

Christchurch City Council

Brian Neill
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