

road safety issues

The Land Transport Safety Authority (LTSA) has prepared this road safety issues report. It is based on the tables and graphs in Christchurch City 1999–2003 road safety report and more detailed analysis of the crashes using the LTSA Crash Analysis System (CAS). The intent of the report is to highlight the key road safety issues in Christchurch City.

Overall the number of injury crashes and casualties in 2003 decreased from 2002 levels. This is reflected in the detailed analysis of the CAS where reductions in the number of most types of crashes were recorded.

Significant changes were:

- urban injury crashes decreased
- rural casualties decreased
- the proportion of fatal and serious injury crashes increased
- urban male casualties decreased
- intersection crashes decreased.

During the period 1999 to 2003 the following trends emerged:

- casualty numbers gradually increased
- almost 60 percent of injury crashes occurred at intersections
- around one third of injury crashes involved roadside hazards
- pedestrian casualties were an increasing proportion of all casualties.

Major road safety issues

Christchurch City

Intersections

Roadside hazards

Cyclists

Pedestrians

Nationally

Speed

Alcohol

Failure to give way

Restraints



2003 road trauma for Christchurch City



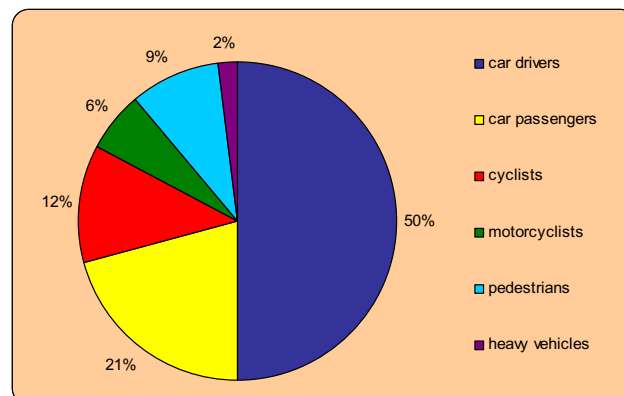
Deaths	14
Serious casualties	155
Minor casualties	793



Fatal crashes	13
Serious injury crashes	140
Minor injury crashes	582
Non-injury crashes	1,593

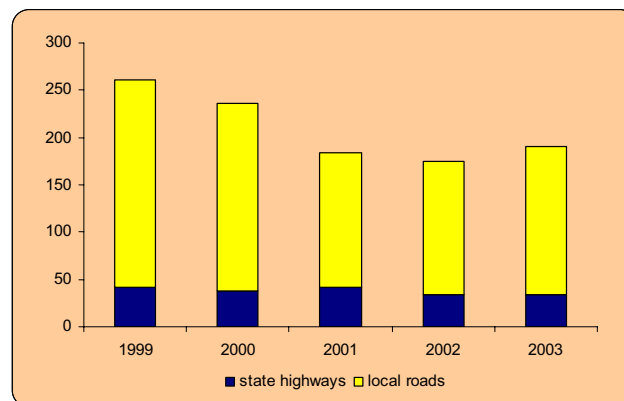
Road casualties 1999–2003

User type 1999–2003



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 2002 prices.

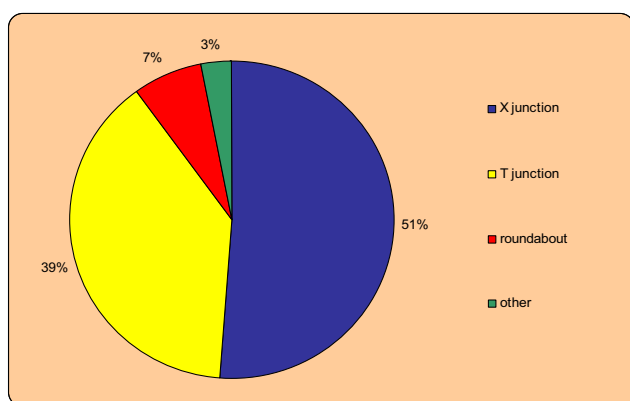
Intersections

About 60 percent of urban injury crashes occurred at intersections. In the five-year period from 1999 to 2003 these accounted for 23 fatalities, 316 serious injuries and 2,224 minor injuries.

The most common days and times for intersection crashes were Thursday and Friday from noon to 6 pm. Sunday was the quietest day for intersection crashes and was also the quietest day for crashes overall.

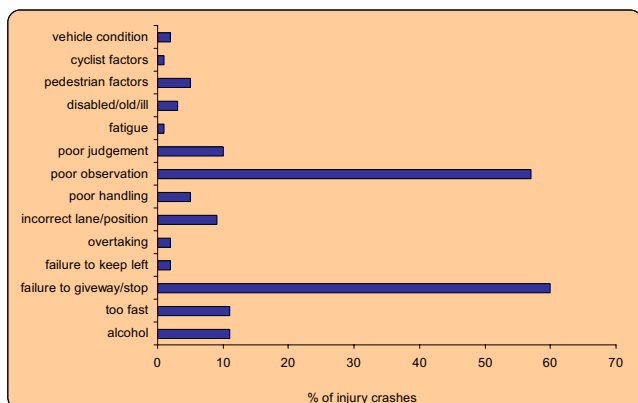
Injury crashes at urban intersections

1999–2003



About 50 percent of injury crashes occurred at crossroads with the majority of these crashes occurring at high traffic volume intersections with traffic signals. A further 39 percent of injury crashes occurred at T junctions. Thirty percent of intersection injury crashes occurred at night and 18 percent occurred in wet conditions.

Contributing factors in urban intersection injury crashes 1999–2003



The major factors in urban intersection crashes were failure to stop/give way, poor observation, speed and alcohol.

Roadside hazards

In the five-year period from 1999 to 2003, 25 people (32 percent of all road deaths) died in crashes involving a collision with a pole or a tree. A further 146 people suffered serious injuries and 458 received minor injuries. Striking a roadside hazard such as a tree or pole can change a minor off-road crash into a life threatening event.

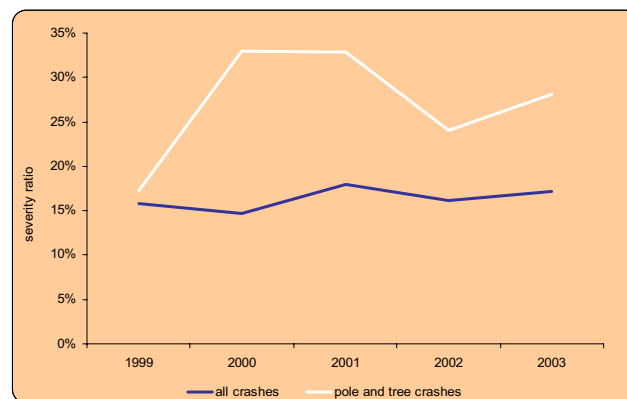
The hazard is greatest on busiest roads, the outside of bends and the departure side of intersections, particularly roundabouts.

The undergrounding of overhead services is very effective, but progress has been slow. Legal, financial and institutional obstacles have impeded more rapid progress.

The safety benefits of undergrounding services will not be achieved if existing poles are replaced by equally hazardous trees. Trees make the street scene more attractive. Appropriate design in residential streets can use trees as an effective aid in calming traffic. Their use, however, needs to be subject to firm guidance so that they contribute to safer roads and don't become new hazards.

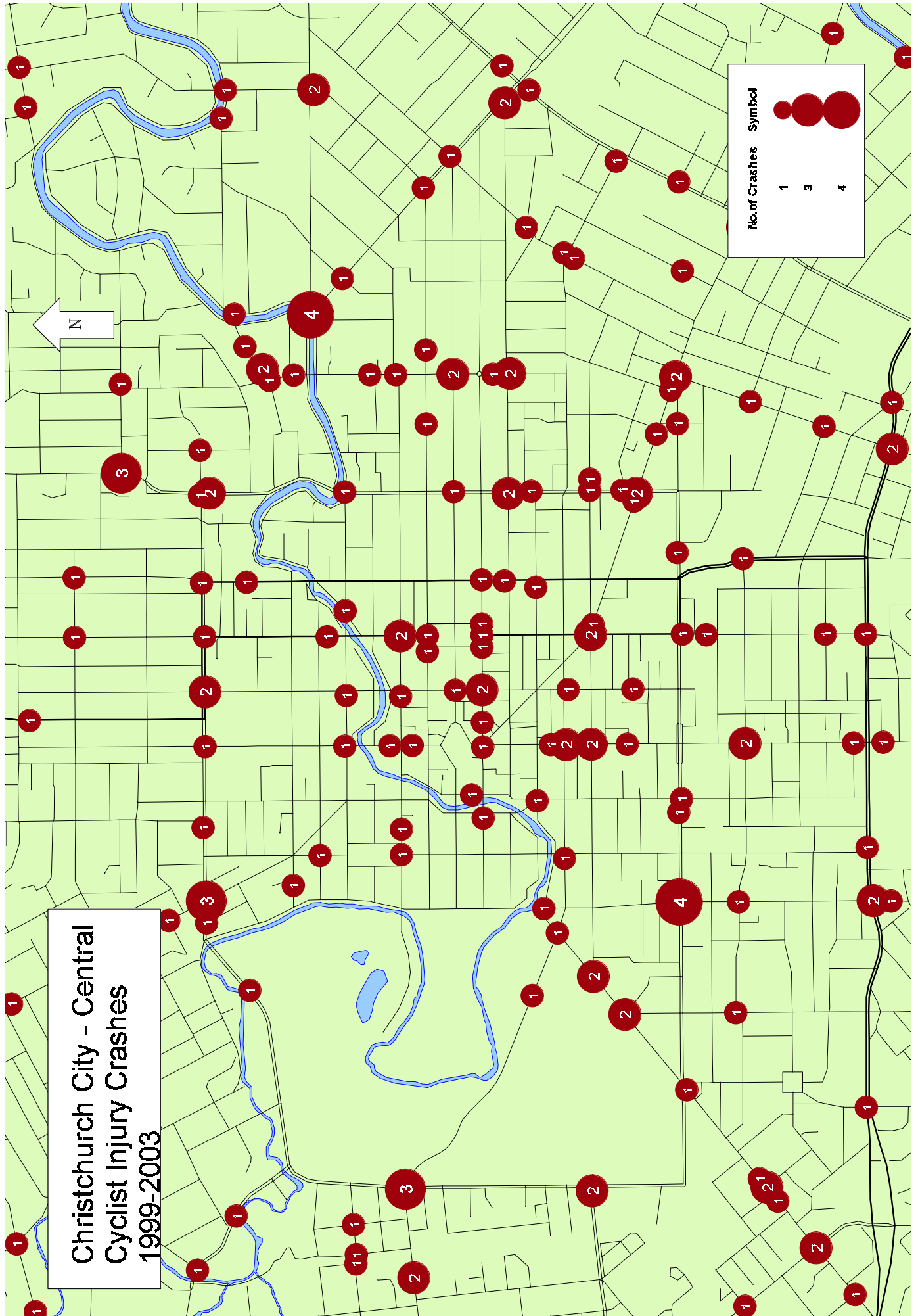
Ten sites where there have been pole crashes were identified in a recent crash reduction study. The study identified safety improvements such as shifting of poles and/or improving signposting and delineation.

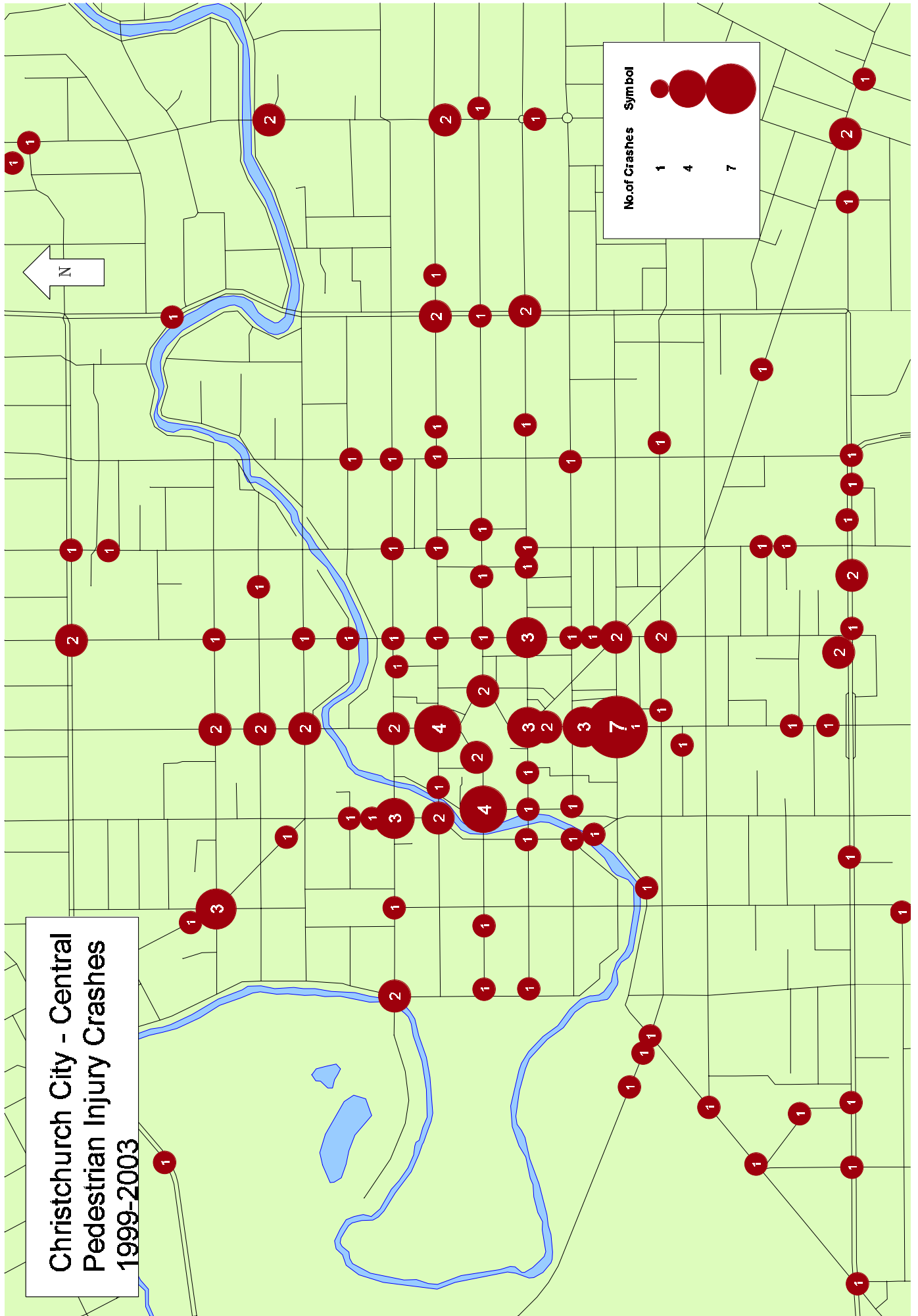
Injury severity ratio of pole and tree crashes



Severity ratio = the number of fatalities and serious injuries as a percentage of all injuries.

The graph above illustrates the severity of injuries in crashes into trees and poles when compared with all crashes over the 1999–2003 period. On average, a crash into a pole or tree is 70 percent more likely to result in a serious or fatal injury than other types of injury crashes.







Cyclists

Cyclist casualties reported on Christchurch roads in the last five years included:

- five fatalities
- 108 serious injuries
- 450 minor injuries.

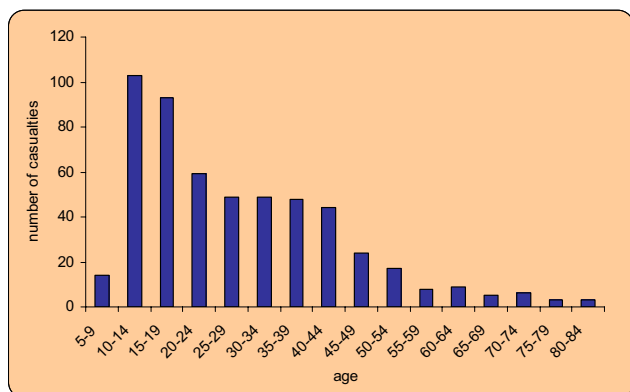
Cyclist injuries in Christchurch city are the second most common type of road user injury after those suffered by car occupants.

Cyclist casualties are spread throughout the city but are more concentrated in the central area. The first map shows the locations of cyclist casualties in central Christchurch for the period from 1999 to 2003 – these are concentrated at the intersections of major roads.

Collisions between cyclists and motor vehicles are most likely to happen at intersections and driveways. Usually the driver of a motor vehicle who fails to give way to a cyclist has not noticed the cyclist.

The main mid-block crash type is where a cyclist collides with an opening door. An examination of crash reports shows that in nearly all cases, there was room for the cyclists to ride further away from the parked car, which would have prevented the crash.

Cyclist casualties by age 1999–2003



The graph above shows that almost half the cyclist casualties occurred in the age groups from 10 to 24 years. Over 60 percent of these casualties were male, while over all age groups nearly 70 percent were male.



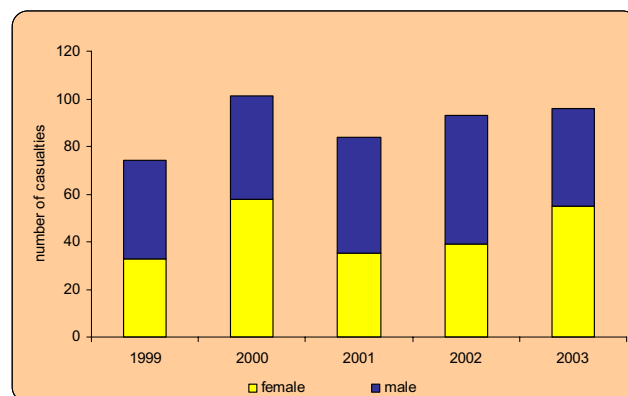
Pedestrians

In the last five years, 16 pedestrians died and 434 were injured on Christchurch roads, 121 seriously. Despite a decline in overall casualties, the proportion of pedestrian casualties increased in 2003. This is due to less progress being made with pedestrian safety compared with road safety in general.

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. Typically they are injured when crossing roads unsupervised near their homes. Drivers and caregivers need to be more aware of children's limitations, unexpected actions, and need for supervision in a variety of situations.
- Teenagers cope well with traffic, but are typically injured when running heedless of traffic.
- Adults, typically males, are much more likely to be involved in crashes at night and when affected by alcohol.
- Older adults have more fragile bones and are therefore more susceptible to injuries.

Pedestrian casualties 1999–2003



The graph above shows an almost equal split between male and female pedestrian casualties over the past five years. Males were more likely to be casualties up to the age of 40 years with the balance shifting towards females above this age.

Pedestrian casualties generally occurred on busy roads with a greater concentration of them in the central city. The central city area also had the highest concentration of pedestrian crashes where alcohol was involved.

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