

# road safety issues

July 2003

In 2002, the nation witnessed a further reduction in road trauma, to a level not seen since the mid-1960s. That outcome is once again a credit to the many agencies and individuals whose efforts continue to drive the ongoing reduction in road trauma in New Zealand. However, the pain and anguish suffered by individuals and families and the cost to society of road crashes remain high. Therefore, there can be no let-up in our efforts not only to consolidate recent gains, but also to drive the level of trauma down even further.

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 in Auckland City.

As previously noted, the issues identified each year remain reasonably constant, taking into account the nature of the Auckland City environment and level of activity, and the fact that 80 percent of the data analysed each year was also included in last year's analysis.

Accordingly, the issues identified again suggest the best gains can be made in Auckland City by focusing the road safety effort for the coming year on providing for vulnerable road users, improving intersection management, managing hazards in the road environment, and managing speeds on arterial roads, particularly off peak.

Note: The greater part of the analysis in this report considers urban road crashes (speed limit less than 80 km/h).

## Major road safety issues

### Auckland City

Vulnerable road users

Crossing and turning/intersections

Road environment/hazard management

Speed

### Nationally

Speed

Alcohol

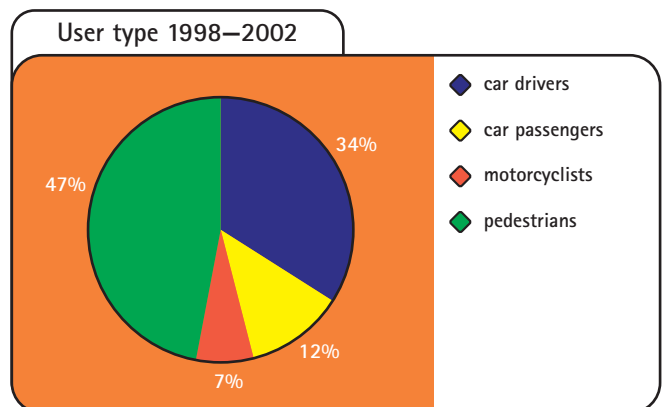
Failure to give way

Restraints

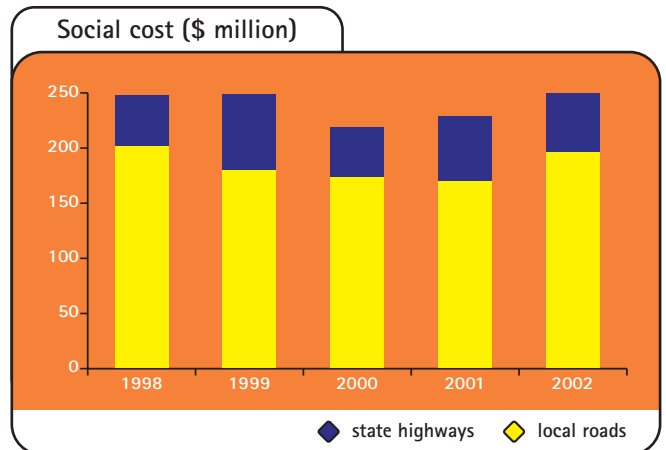
## 2002 road trauma for Auckland City

♀	Deaths	14
♀	Serious casualties	191
♀	Minor casualties	1,047
🚗	Fatal crashes	14
🚗	Serious injury crashes	175
🚗	Minor-injury crashes	797
🚗	Non-injury crashes	5,834

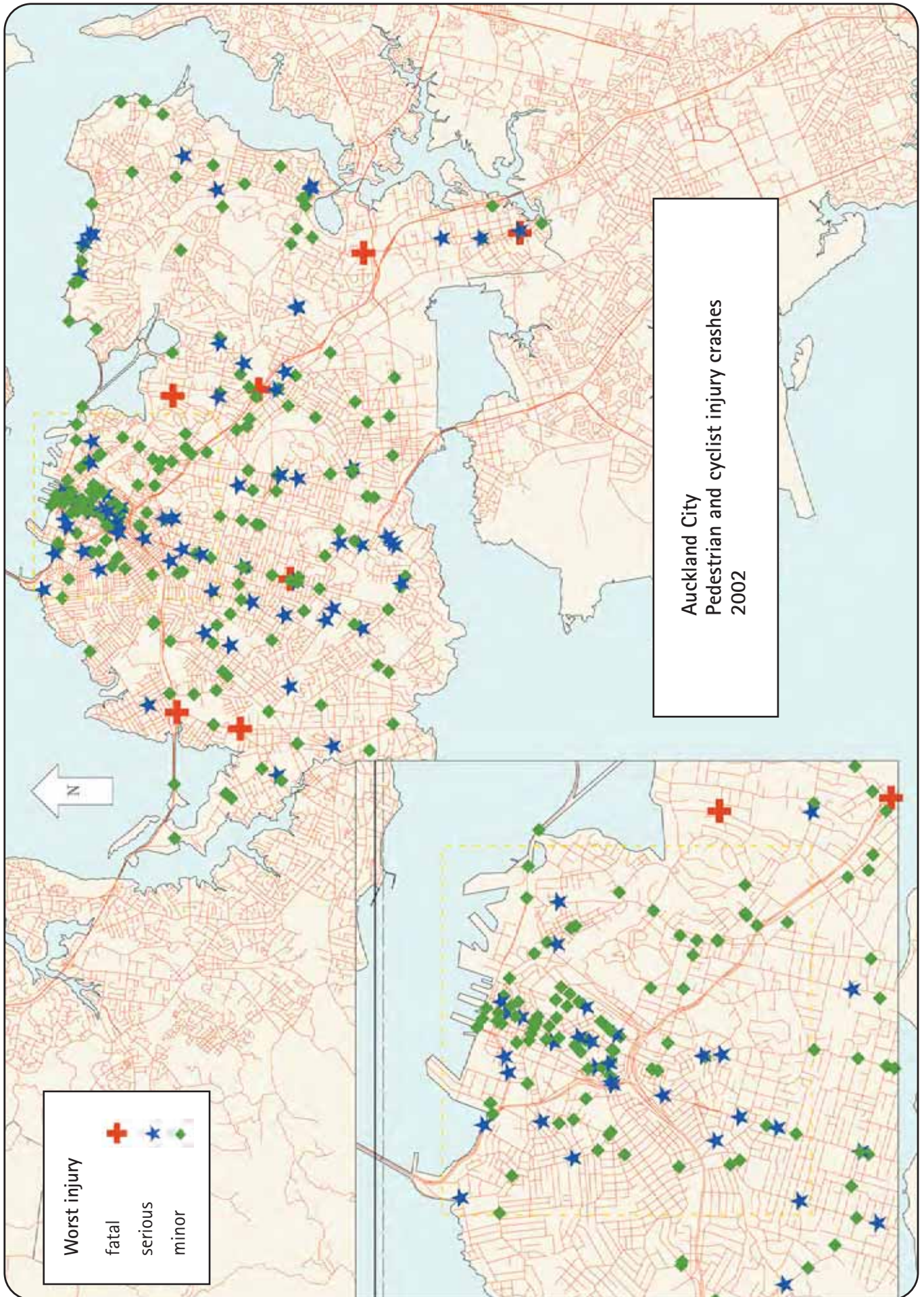
## Road deaths 1998–2002



## Estimated social cost of crashes\*



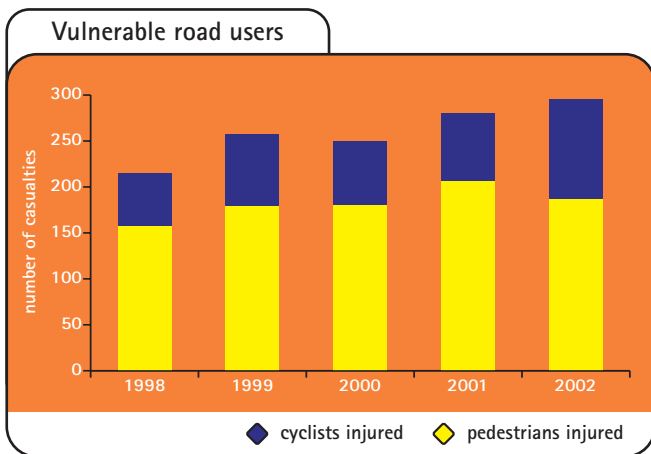
\* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2002 prices.





## Vulnerable road users

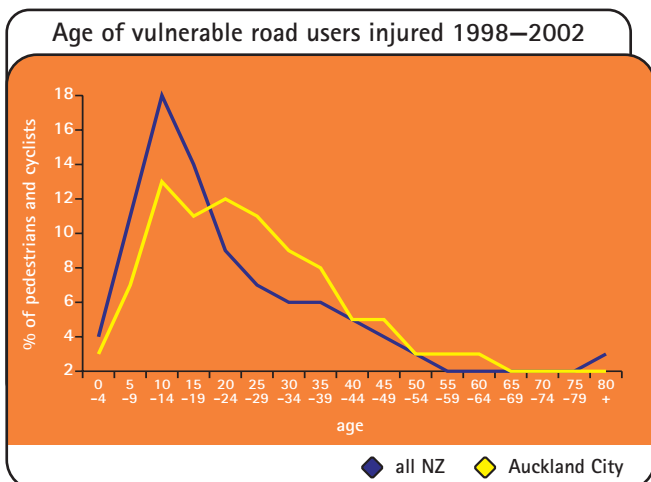
Vulnerable road users, traditionally pedestrians but increasingly cyclists as well, continue to be the group most likely to suffer fatal or serious injury while using roads in Auckland City. As a percentage of all casualties, those resulting from a crash between a vehicle and a vulnerable road user are both over-represented and trending upwards in Auckland City (from 18 percent of all casualties in 1998, to 24 percent in 2002).



The metropolitan nature of the city means that people and communities are operating and interacting within a bustling road-based transport network.

From 1998 to 2002, pedestrian casualties continued to be over-represented in Auckland City compared with peer group cities and all New Zealand data. Pedestrians represent around 18 percent of all casualties in Auckland City, whereas only 14 percent of all casualties are on foot in the rest of New Zealand.

The age distribution of vulnerable road users injured in Auckland City also shows a difference from the rest of the country. In Auckland City, both pedestrians and cyclists in the 20 to 44 year age group are at higher risk than nationally, while children are at a lower risk in comparison. However, child pedestrians remain the group facing by far the greatest risk overall, in line with national statistics.



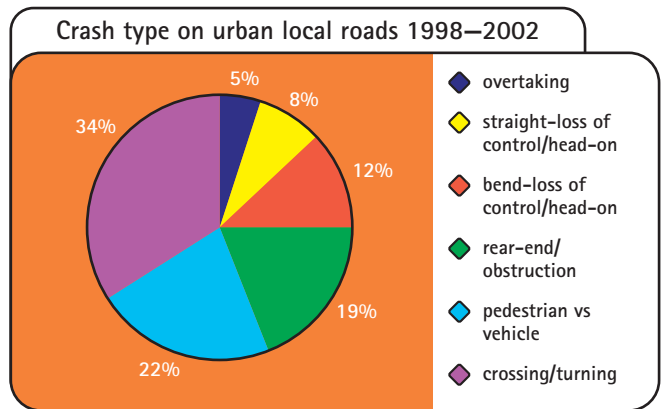
## Recommended actions

- Understand and capture the benefits of the government’s commitment to promoting walking and cycling as transport modes.
- Continue to develop and support programmes aimed at improving pedestrian discipline.
- Continue to investigate and provide improved access across busy roads for pedestrians, particularly in the vicinity of activities that generate pedestrian activity, such as schools and shopping areas.
- Progressively raise the expectation amongst property developers that they will be expected to provide on-street facilities to cater safely for the pedestrian activity their developments will generate.
- Ensure that the safety of cyclists is considered in all aspects of road management, and appropriate facilities provided where possible.



## Crossing and turning/intersections

Because of the huge number of potential conflicts, crossing and turning type crashes continue to be the most prevalent type in Auckland City. These accounted for 34 percent of all crashes reported in the period 1998–2002, and the vast majority of these occurred at urban intersections, where crossing conflicts principally occur.



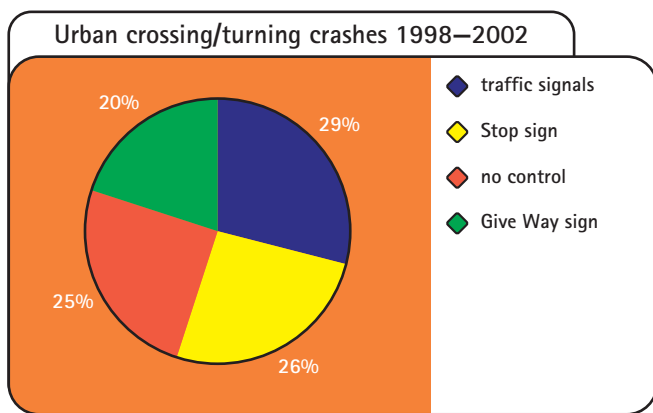
However, the number of crashes of this type is trending downwards, and Auckland City is not now over-represented when compared with peer group cities and all New Zealand data. Failure to give way or stop continued to be the predominant factor contributing to crossing/turning type crashes, while poor observation remained the second most prevalent factor. The number of crashes with failure to give way or stop recorded as a factor is showing a gradual downward trend.

While many crossing/turning crashes do not result in injury due to low impact speeds, it is this type of crash that can result in fatal or serious injury as speeds increase.

The majority of these crashes occurred at intersections, but 17 percent occurred as vehicles entered or left driveways. The most common crash involved an oncoming vehicle turning right in front of another vehicle (37 percent). A vehicle turning right out of a side street in the face of a straight through vehicle was the next most common, followed by right angle collisions.

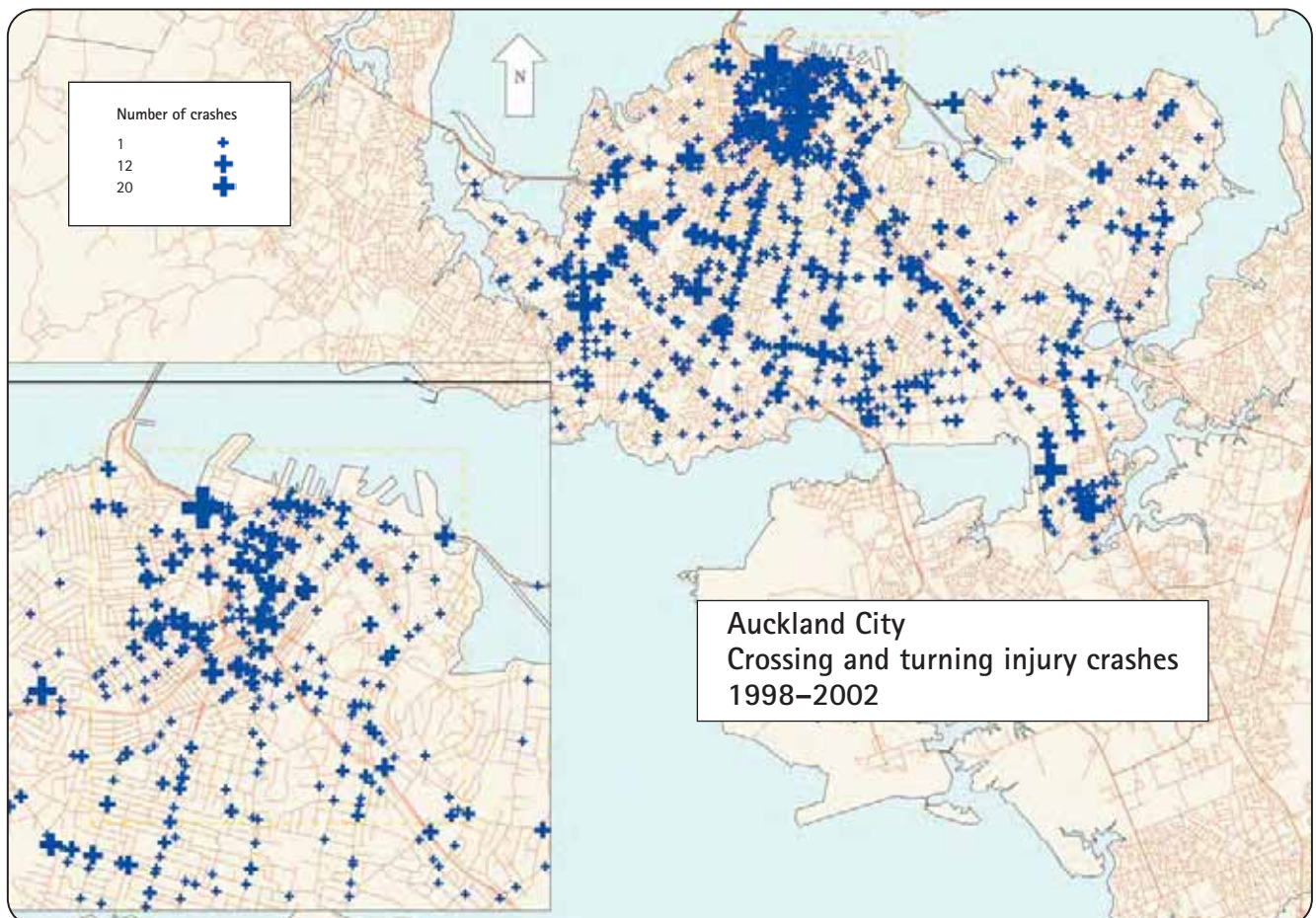
A perennial problem identified by crash reduction study teams is the impairment of advance visibility of traffic signals and intersection control signs by vegetation and general urban clutter. For intersections to operate as safely as possible, it is imperative that the message to approaching road users be delivered with clarity.

The following graph shows that the greatest percentage of crossing and turning crashes occurred at traffic signal controlled junctions. (Note: Give Way control includes roundabouts).



### Recommended actions

- Maintain the system for monitoring crash rates at individual intersections to identify potential black spot investigation sites.
- Follow up with remedial treatments, including traffic islands, road marking, signal management and phasing changes where indicated.
- Establish flush medians combined with peak time tidal clearways on major routes, where possible, to facilitate safe crossing and turning movements and provide greater separation between opposing flows, and parked and moving traffic.
- Monitor off-peak traffic speeds at key intersections, and ensure that signal timings, particularly the amber phase, reflect actual operating speed rather than an assumed or theoretical speed.
- Continue to support and encourage police enforcement of intersection discipline, including compliance with signals and sign controls.
- Continue to use roundabouts, where suitable, to reduce crossing/turning conflicts.
- Incorporate the maintenance of advance visibility of traffic signals and intersection control signs into routine systems and schedules.





# Road environment/ hazard management

The contribution that good design and management of the road environment can make to better road safety outcomes is now well recognised. Knowledge and application of sound traffic engineering principles and the proactive and effective management of hazards can reduce the number and severity of traffic crashes and the injuries resulting from them.

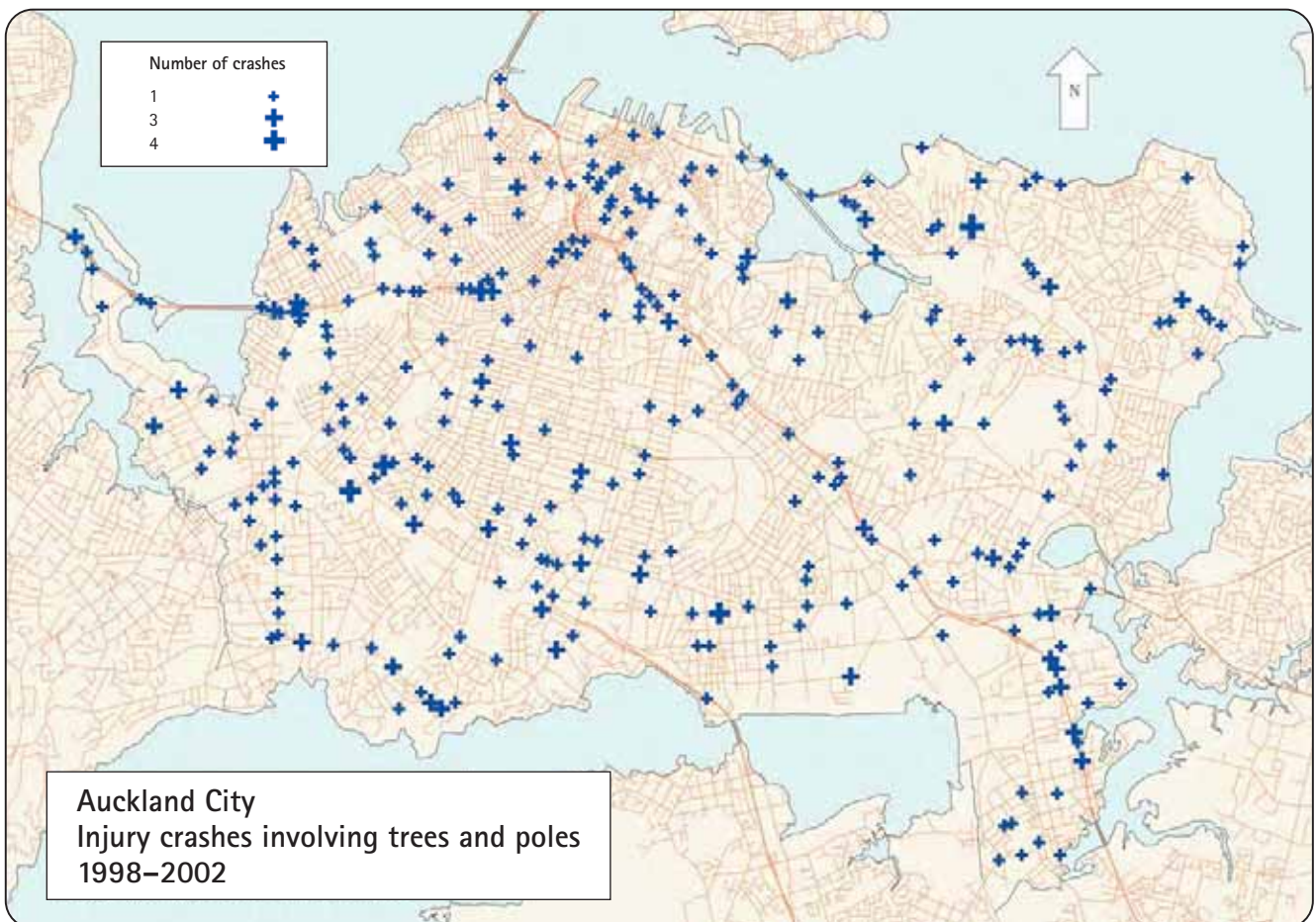
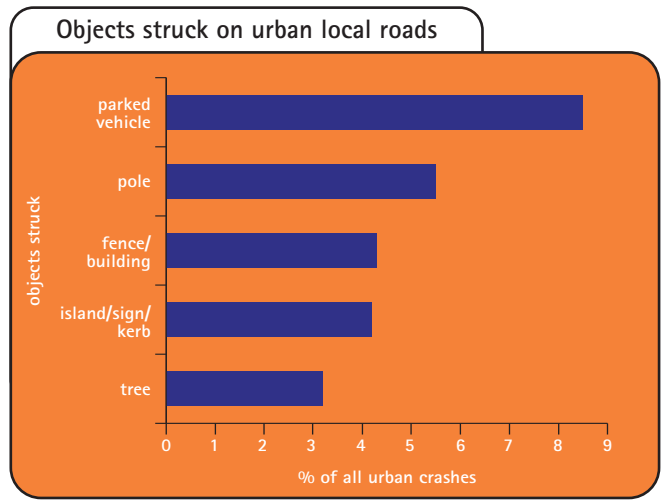
While the generally lower speed environment in Auckland City's major urban area means that many crashes do not result in fatal or serious injuries, the huge volume of activity in the city still results in a substantial contribution to the national tally of the social cost of road crashes. Accordingly, Auckland City must continue to face the challenge of progressively making its road environments safer.

The first step in best hazard management practice is to eliminate items that don't need to be in the road environment. However, it is equally important that traffic control devices, and other items of street furniture that need to be there, be designed and installed to minimise the risk of injury.

## Recommended actions

- Make ongoing progress towards implementing a safety management system that delivers best road environment management practice.

- Examine and review parking controls to minimise isolated parked vehicles on arterial routes, particularly at night.
- Ensure that well-maintained edge lines separate parked and moving traffic on arterial routes.
- Adopt safety audit as a tool for identifying and improving deficiencies on existing routes.
- Continue commitment to the elimination of poles within the road environment by working with service authorities to have services located underground.
- Continue to support the crash reduction study programme, which uses crash data to identify existing and emerging black spots, and recommends low-cost remedial treatments.

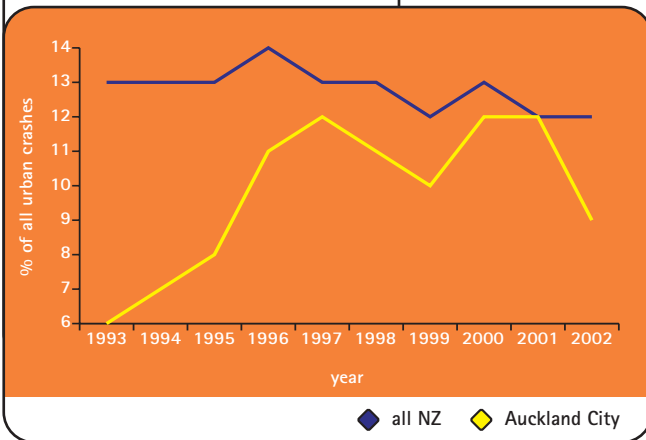


# 80 Speed

Speed too fast for the prevailing conditions continues to be the greatest single contributor to injury and trauma on New Zealand roads.

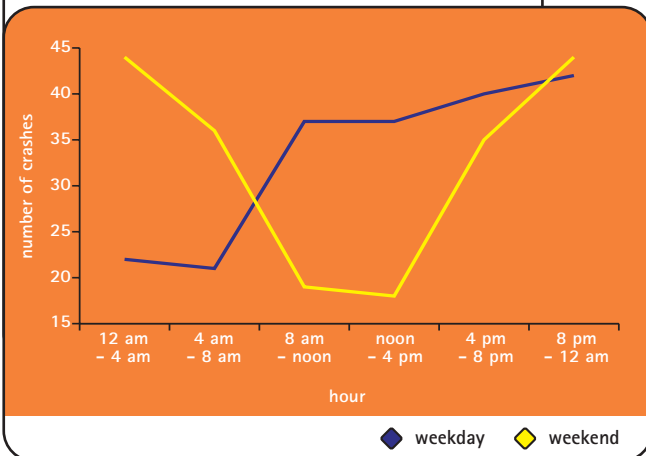
Crashes due to excessive speed on the Auckland City urban network have continued to trend gradually upwards since the early 1990s, despite a gradual downward trend nationally and in peer group cities. This means that additional effort, particularly police enforcement effort on key arterial routes, will be required in the short to medium term to halt and reverse this unfavourable trend.

Urban speed-related crashes



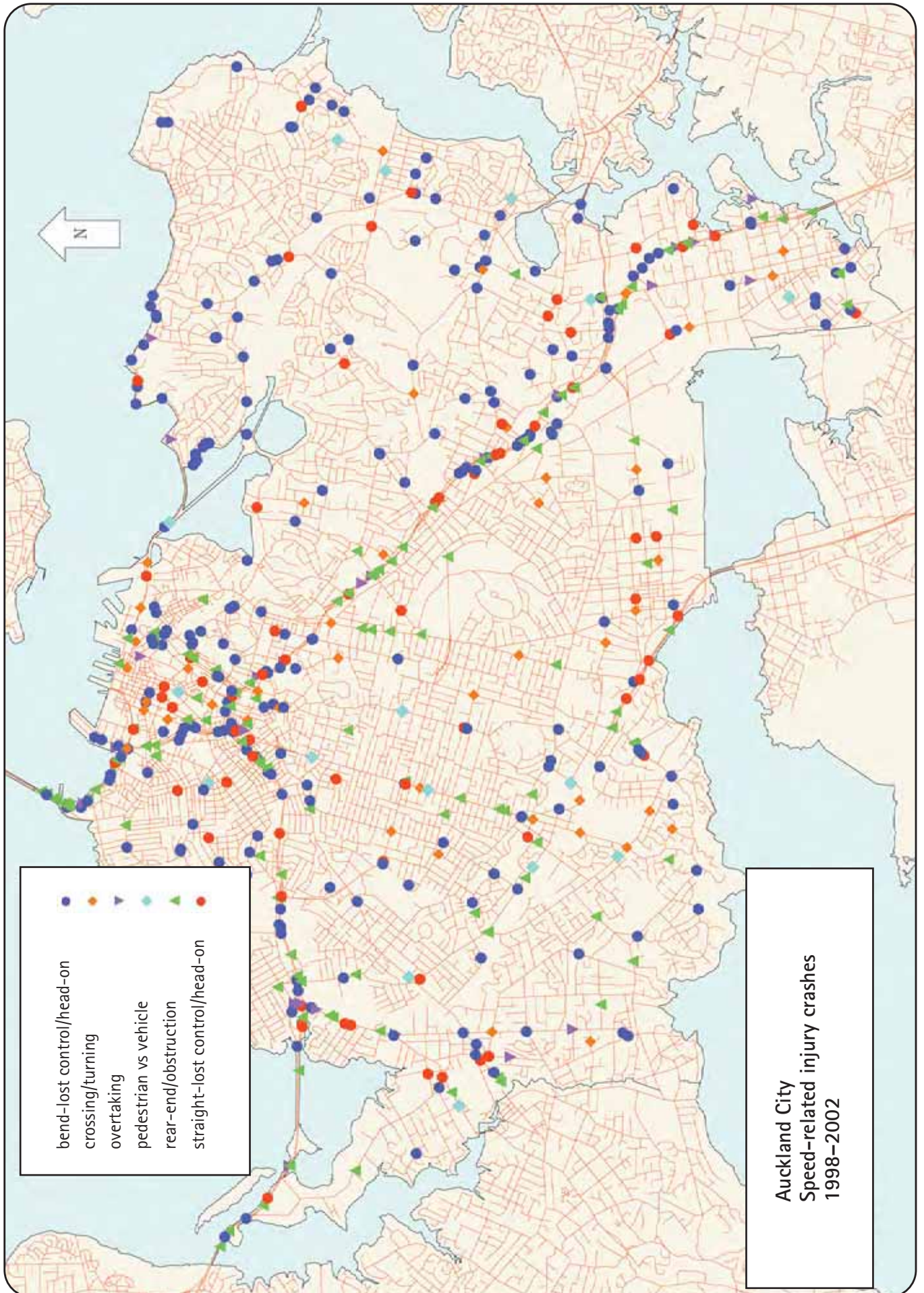
There was a clear increase in weekday speed-related crashes throughout the day (peaking in the 4 pm–8 pm period). Weekend crashes peaked either side of midnight.

Urban speed crashes by time 1998–2002



## Recommended actions

- Continue developing an effective speed measurement programme to provide an information base showing roads that exhibit an inappropriately high speed profile, and at what times high speeds occur.
- Continue to work with the Police to address the identified locations and times through their patrol planning processes.
- Continue programmes aimed at influencing the high-risk groups, principally males between 15 and 29 years (the highest-risk group remains the 20 to 24 year age group).
- Focus on addressing the safety of curves, particularly at night and in the wet. Over half of all speed-related crashes still occur at or near curves.
- Develop an understanding that speed and road environment hazards work together to promote injury. A quarter of speed-related crashes still involve collision with a roadside pole, despite the substantial progress made in recent years towards undergrounding of services.



# 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 road safety co-ordinator.

In the 2003/2004 year 183,650 police hours will be delivered by the Police in Auckland City as follows:

Project	Police hours
Strategic – alcohol/drugs, restraints, speed and visible road safety enforcement	121,670
Traffic management – crash attendance events, incidents, emergencies and disasters, traffic flow supervision	48,300
School road safety education	6,300
Police community services	7,380

## Road environment

The LTSA's crash reduction monitoring database shows that works implemented as a result of crash reduction studies have reduced crashes at the study sites by 14 percent in Auckland City (27 percent at state highway sites and 11 percent at local road sites).

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

Auckland City Road Safety Report 1998–2002

LTSA Crash Analysis System

## Where to get more information

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

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