

road safety issues

The Land Transport Safety Authority (LTSA) has prepared this road safety issues report. It is based on reported injury crash data and trends for the 1999–2003 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 Waitakere City.

Issues identified in the body of this report are based on an analysis of the city's local road crashes only and do not include state highways which are covered in a separate report. State highway crashes, however, are included in the road deaths and social cost charts on this page.

The overview section of this report gives details of trends and the main crash characteristics for Waitakere City. Issues reported on are based on fatal and serious crashes, which are comparable with the deaths and hospitalisations figure in the *Auckland Regional Road Safety Plan 2004–2010* and for which target reductions have been set for 2010.

A considerable effort is required by all road controlling authorities to drive the level of road trauma down to meet these target figures.

More detailed information about crash numbers and trends can be found in the Road Safety Data Report for Waitakere City published each year by the LTSA. Further analysis of crash data can be carried out using Crash Analysis System (CAS) software held by most road controlling authorities and the LTSA.

Major road safety issues




Waitakere City

- Crashes at bends or with roadside hazards
- Vulnerable road users
- Poor observation
- Alcohol

Nationally

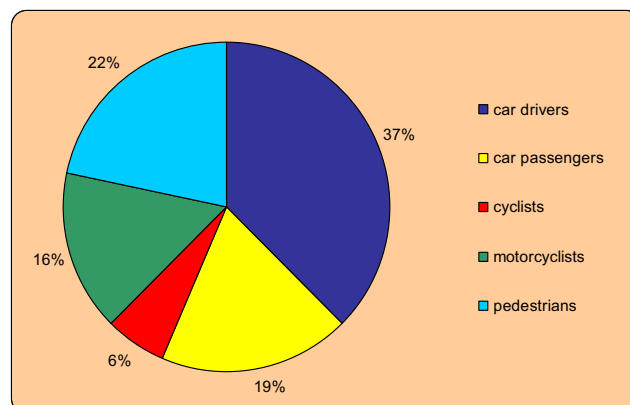
- Speed
- Alcohol
- Failure to give way
- Restraints

2003 road trauma for Waitakere City

	Deaths	7
	Serious casualties	84
	Minor casualties	474
<hr/>		
	Fatal crashes	7
	Serious injury crashes	69
	Minor injury crashes	347
	Non-injury crashes	1,334

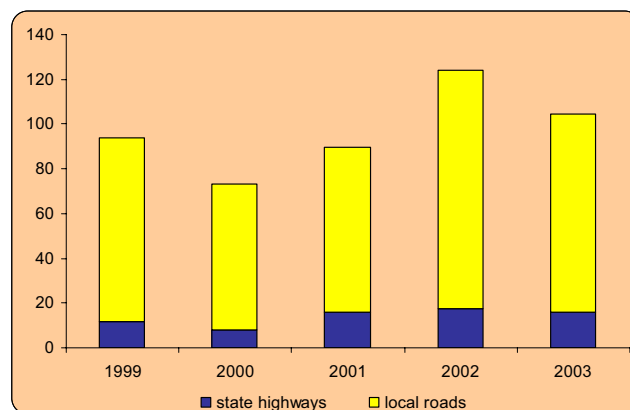
Road deaths 1999–2003

User type



Estimated social cost of crashes*

Social cost (\$ million)



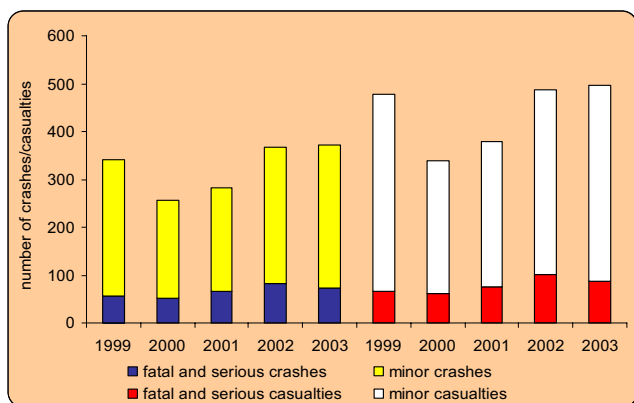
*The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

Overview of local road crashes

Crash and casualty trends

The number of crashes in Waitakere City has been increasing since 2000, although last year there was a reduction in fatal and serious injury crashes.

Crash and casualty numbers

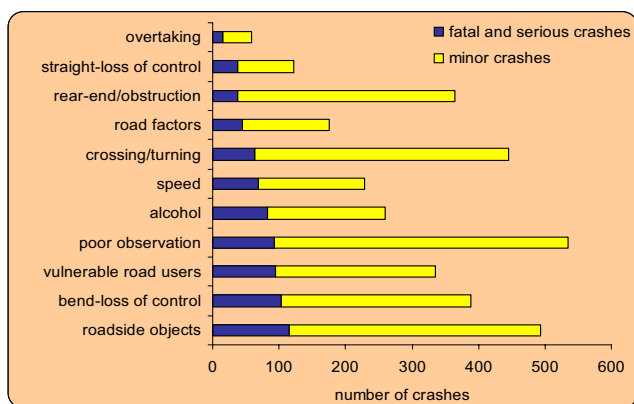


Main crash characteristics

The four main issues discussed later in this report were chosen because crashes with their characteristics had the highest numbers of fatal and serious injuries (as shown in the chart below). Focusing on crashes resulting in severe injury is consistent with the *Road Safety to 2010* strategy, and the *Auckland Regional Road Safety Plan 2004–2010*. These documents both set targets for reductions in deaths and hospitalisations arising from road crashes.

Crash types not specifically covered in this report also need to be addressed if these targets are to be met.

Main crash characteristics



Selected crash situations

The following table shows the proportions of injury crashes, plus crashes resulting in fatal or serious injuries for a selected number of crash situations in the city.

Situation	Injury crashes	Fatal/serious crashes
Wet road	31%	31%
Dry road	69%	69%
Dark	34%	40%
Light	66%	60%
Rural road	8%	12%
Urban road	92%	88%
Intersection	40%	30%
Mid-block	60%	70%

Crashes at night on rural roads and away from intersections tended to result in higher injury severity. This may be due to higher speeds generally associated with these crashes. Higher risk of severe injury is also associated with certain types of road user, as shown below:

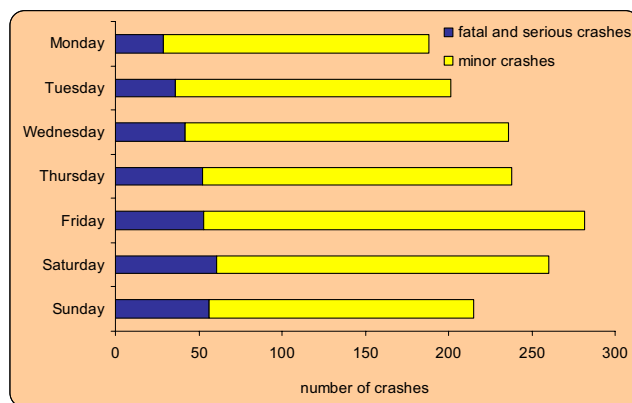
Road users	Injury crashes	Fatal/serious crashes
Pedestrians	15%	22%
Motorcyclists	6%	13%
Cyclists	6%	7%

All of these road users are vulnerable through having little protection in a crash. Motorcyclists often travel at higher speeds than other traffic.

Crash times

The number and severity of crashes generally increased throughout the week.

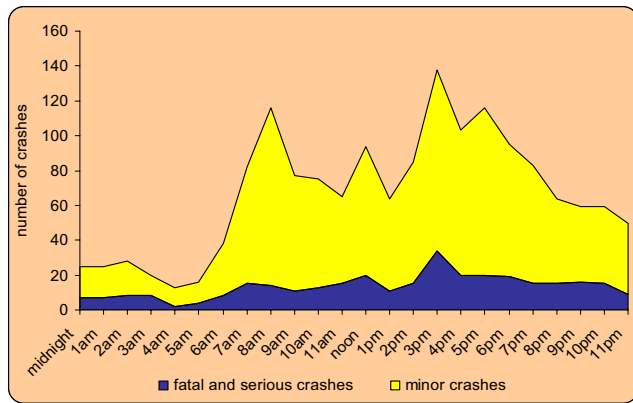
Day of week for crashes



The peak period for crashes was 3 pm to 7 pm, with smaller peaks occurring around 8 am and noon. Crashes between midnight and 3 am in particular resulted in a high proportion of severe injuries.

A number of crash factors were highly over-represented in night crashes, particularly alcohol, fatigue and speed. These factors all contributed significantly to loss of control crashes (around 60 percent of loss of control crashes on straight roads and around 50 percent of loss of control crashes at bends occurred at night).

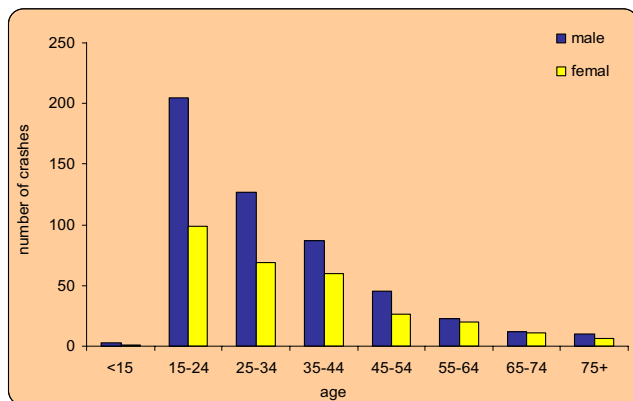
Time of day for crashes



Drivers at fault

The following chart shows the gender and age distribution of drivers deemed to have been at fault in crashes. Sixty-five percent of crashes were caused by male drivers and 37 percent by drivers aged between 15 and 24 years.

Drivers at fault in crashes



Male drivers had more crashes resulting in severe injuries than females. This can be explained by males being involved in the majority of crashes involving excessive speed. Women drivers were disproportionately represented in crossing or turning crashes where failure to give way was often a factor.

The table below compares the proportion of drivers at fault with all drivers involved in crashes for different classes of driver licence.

Licence status	All drivers	Drivers at fault
Full	66%	58%
Learner/restricted/overseas	28%	32%
Disqualified/expired/forbidden/never licensed	6%	10%

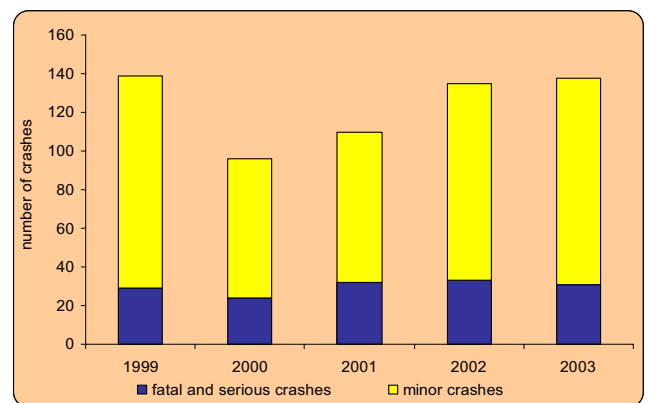
It is evident that unlicensed/disqualified drivers and also drivers with conditional licences were at fault in more crashes than those holding a full licence.

Crashes at bends or with roadside hazards

Between 1999 and 2003, 45 percent of crashes resulting in fatal or serious injury and 38 percent of all injury crashes in Waitakere City occurred at bends, or involved a collision with a roadside hazard.

- Two out of every three crashes at bends involved a roadside hazard being struck.
- Over half (53 percent) of crashes with roadside hazards occurred at bends.

Crashes at bends or with roadside hazards



Crashes at bends and those where roadside hazards were struck had similar characteristics, generally involving:

Crash characteristic	% of crashes
Loss of control	77%
Single vehicle	67%
Alcohol	30%
Excessive speed	28%
Road factors	25%
Poor handling	24%

Many of these characteristics occurred more frequently at night or in the wet as shown below.

Description	% at night	% in wet
Loss of control	50	46
Single vehicle	55	43
Alcohol	82	40
Speed	53	45
Road factors	34	79
Poor handling	46	51

The city average for crashes at night was 34 percent and on wet roads was 31 percent. Night-time delineation and lighting on routes and road surface friction should be investigated in response to these crashes. Young males were the drivers at fault in around three-quarters of these crashes.

Roadside hazards contributed to 14 fatalities and 644 other injuries between 1999 and 2003. The roadside hazards most frequently struck are shown below.

Roadside hazard	Number of strikes
Post or pole	133
Parked vehicle	106
Tree	90
Fence	78
Cliff or bank	69
Ditch	37

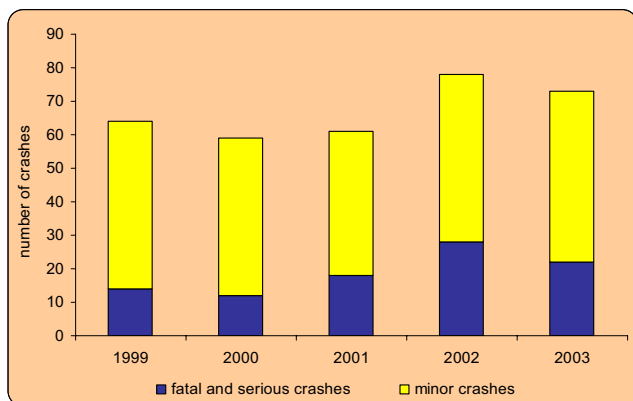
Most roadside hazards were struck by out of control vehicles, except for parked vehicles which were generally struck in rear-end type collisions where a vehicle in the traffic stream wandered off course.

Solid objects or unprotected hazards near the side of a road increase the likelihood of severe injuries occurring in a crash. A programme to remove hazards or mitigate their effects based on risk would be beneficial.

Vulnerable road users

Vulnerable road users were involved in 29 percent of fatal or serious crashes and 21 percent of all injury crashes in Waitakere City. Pedestrians accounted for 71 percent of vulnerable road user crashes and cyclists accounted for most of the remainder. Crash numbers in the past two years have been higher than in preceding years.

Vulnerable road user crashes



The following table compares details for pedestrians and cyclists in a number of selected crash situations.

Situation	Pedestrians	Cyclists
Wet	21%	12%
Dry	79%	88%
Dark	22%	17%
Light	78%	83%
Rural road	2%	3%
Urban road	98%	97%
Mid-block	73%	58%
Intersection	27%	42%

When comparing these figures with the city averages shown in the overview section, it is apparent that pedestrians and cyclists had less crashes than other road users in the wet, at night and on rural roads. Since many pedestrian and cyclist trips are connected with school activities, it is not surprising that a higher number of crashes occur on urban roads in day-time. Lower numbers of crashes on wet roads could suggest that pedestrians and cyclists use other transport modes during inclement weather.

A high number of pedestrian crashes occurred at mid-block locations (86 percent), generally where no formal pedestrian crossings existed. The most common crash causes were:

Crash cause	% of crashes
Running/walking heedless of traffic	56%
Unsupervised child	14%
Failure to give way at a crossing	11%

Just over two thirds of cyclist crashes involved crossing or turning movements, with most remaining crashes being either overtaking or rear-end type collisions. The most common crash causes were:

Crash cause	% of crashes
Failure to give way at a driveway	21%
Riding on the footpath	20%
Inadequate checking before giving way to traffic from another direction	20%

Around two thirds of crashes involving vulnerable road users occurred on main roads within Waitakere City, ie roads classified as arterials or major collectors. Just over two thirds of crashes involved males and a high proportion of people injured were young as shown below:

Age	% of injuries
0 to 9 years	25%
10 to 14 years	21%
15 to 24 years	20%
25 to 49 years	18%
50 years and over	16%

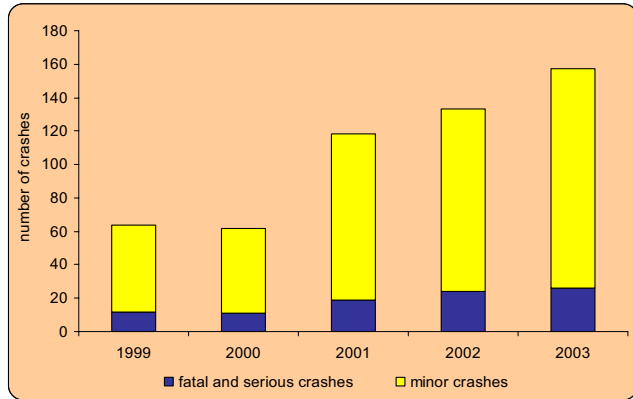
Crash numbers generally increased throughout the week from Monday to Friday and then tapered off in the weekend. Peak crash times were between 3 pm and 5 pm and around 8 am.



Poor observation

Poor observation contributed to 28 percent of crashes, resulting in fatal or serious injuries and a third of all injury crashes in the city between 1999 and 2003. Crash numbers have increased significantly since 2000.

Poor observation crashes

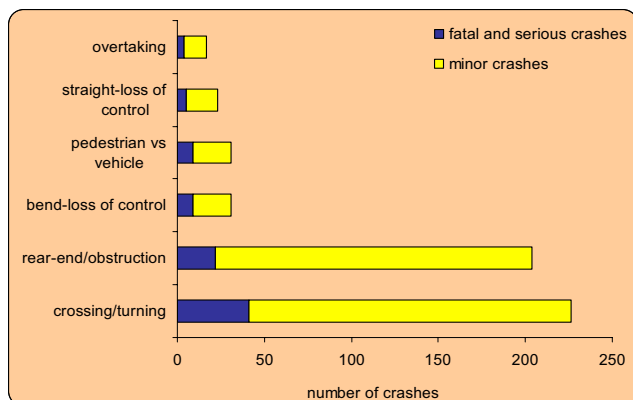


Most crashes were either rear-end collisions or intersection type turning or crossing movements. Rear-end crashes typically involved drivers not responding correctly to situations around them in the traffic stream, such as:

- not checking behind thoroughly when changing lanes
- not noticing vehicles slowing ahead.

Crossing or turning crashes generally involved drivers failing to give way by not checking properly for other traffic at intersections or driveways.

Poor observation crash types



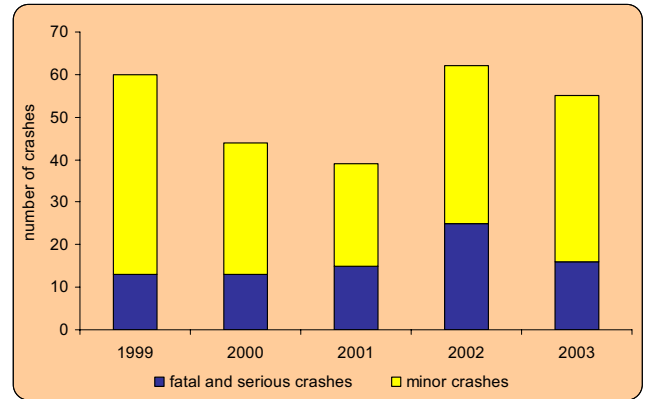
Women drivers were at fault in 55 percent of crossing or turning crashes and 42 percent of rear-end collisions, compared with their city-wide average of 35 percent in all crashes. Over three quarters of crashes were caused by drivers aged between 15 and 44 years and most occurred during daylight hours with a reasonably even spread between 7 am and 7 pm. Crash numbers generally increased throughout the week from Monday to Friday, dropping slightly on Saturday and substantially on Sunday.



Alcohol

Alcohol was a factor in a quarter of fatal and serious crashes and 16 percent of all injury crashes between 1999 and 2003. Last year there was a substantial reduction in the number of fatal and serious crashes.

Alcohol-related crashes



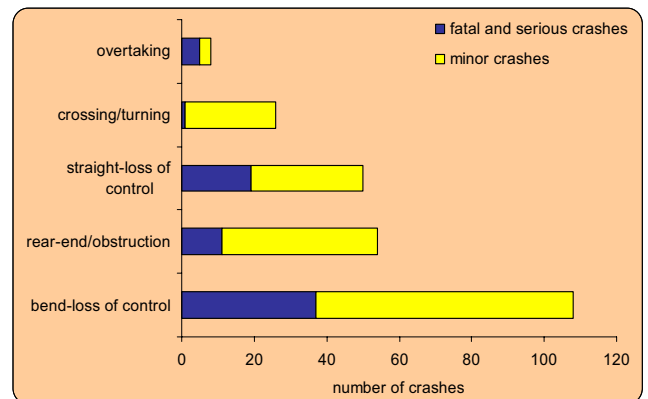
Studies show that the risk of being involved in a crash increases rapidly as a driver's blood alcohol level rises. A driver over the legal limit (80 mg of alcohol per 100 ml of blood) is three times more likely to be involved in a crash than a sober driver.

Some of the main characteristics of alcohol-related crashes were:

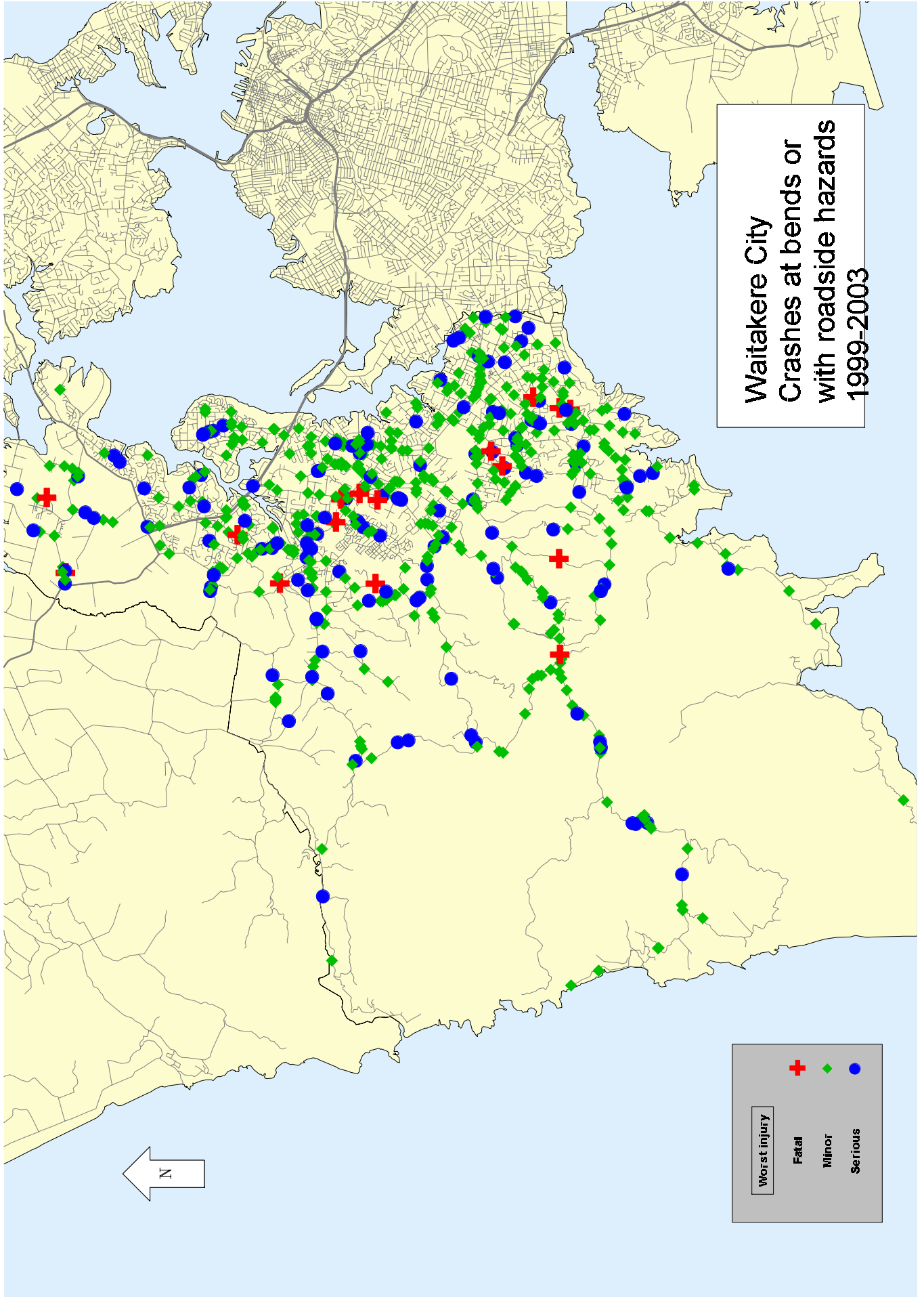
Crash characteristic	% of crashes
Male drivers at fault	80%
Younger drivers (15 to 39 years)	83%
At night	77%
Mid-block locations	71%
Friday to Sunday	63%
Single vehicle	57%

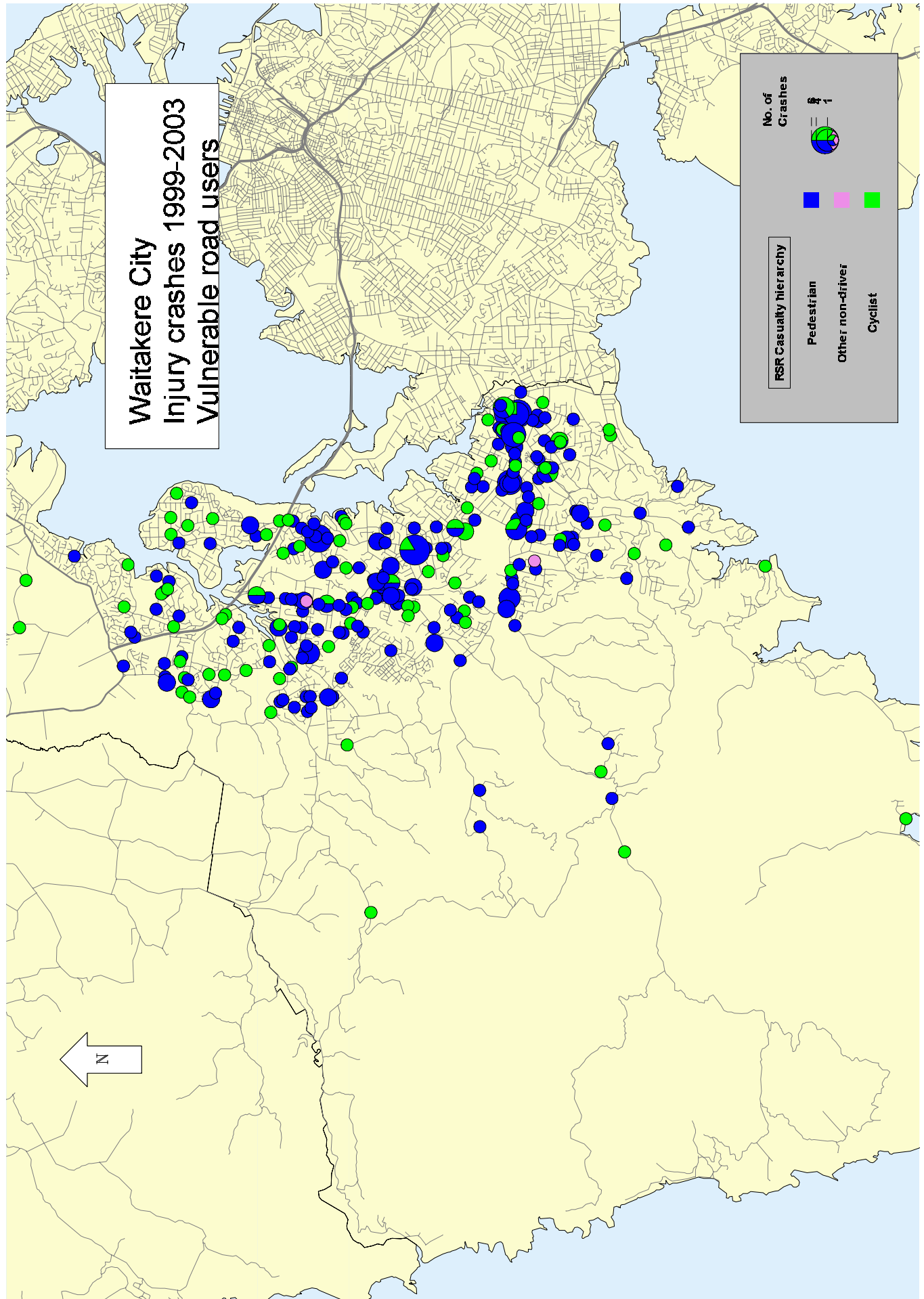
The main crash movements were associated with loss of control as shown in the chart below.

Alcohol-related crash types



Excessive speed for the conditions was cited as an additional factor in around a quarter of alcohol-related crashes, while poor observation and poor handling also featured.





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 27 percent in Waitakere City (36 percent at state highway sites and 26 percent at local road sites).

Recommendations from recent studies should be implemented as soon as possible. Analysis of the crashes at all completed sites should be undertaken regularly to ensure that safety has been improved and sites re-examined if no improvement has occurred. Further crash reduction studies should be undertaken to continue the reduction of crash numbers and severity.

Where to get more information

For more specific information relating to road crashes in Waitakere City, please refer to the 1999 to 2003 Road Safety Data Report, the LTSA's Crash Analysis System or contact the LTSA as listed below.

Contacts

Land Transport Safety Authority
Regional Manager
Peter Kippenberger

Regional Education Advisor
Sandra Mills

Senior Road Safety Engineer
John Janssen

See LTSA staff contact details at bottom of page

Road Safety Co-ordinator
Kitch Cuthbert
Waitakere City Council
Private Bag 93 109
Henderson
Phone 09 836 8000

Roading and Traffic Manager
Ross Hill
Waitakere City Council
Private Bag 93 109
Henderson
Phone 09 836 8000

New Zealand Police
Road Policing Manager
North Shore Waitakere
Dick Trimble
Phone 09 441 3700

Auckland Regional Office
Level 6, 1 Queen Street
Private Bag 106 602, Auckland
Phone 09 969 9800, Fax 09 969 9813
www.ltsa.govt.nz