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Land Transport NZ
Ikiiki Whenua Aotearoa

road safety issues

Waitakere City

Land Transport New Zealand has prepared this road safety issues report. It is based on reported injury crash data and trends for the 2000–2004 period. The intent of the report is to highlight the key road safety issues and be a resource to identify possible ways to reduce the number of road deaths and injuries in Waitakere City.

Issues discussed in the body of the report are based on analysis of the city's local roads only and do not include state highways, which are covered in a separate report. However, state highway crashes are included in the casualty and social cost charts on this page.

The overview section of this report provides details of the main crash characteristics for the city. The four main issues were chosen based on reported numbers of fatal and serious crashes. These number of approximate deaths and hospitalisations discussed 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 and their road safety partners to drive the level of road trauma downwards to meet these target figures.

The number of fatal and serious crashes has decreased for the past two years, although minor crashes have increased during this time.

Major road safety issues

Waitakere City

- Vulnerable road users
- Roadside hazards
- Crashes at bends
- Poor observation

Nationally

- Speed
- Alcohol
- Failure to give way
- Restraints

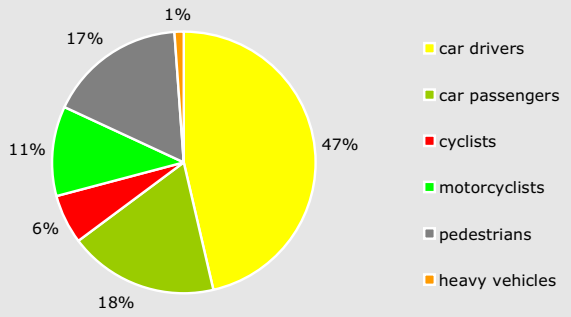
2004 road trauma for Waitakere City

Deaths	9
Serious casualties	67
Minor casualties	497

Fatal crashes	7
Serious injury crashes	58
Minor injury crashes	367
Non-injury crashes	1,311

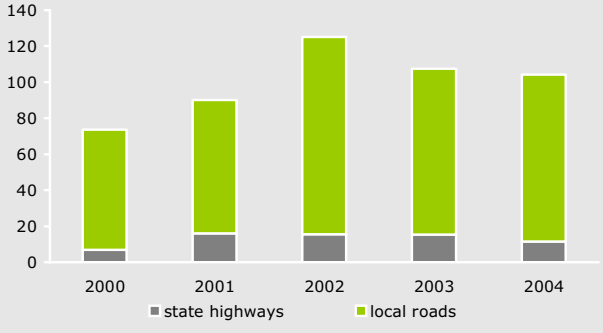
Fatal and serious casualties

User type 2000–2004



Estimated social cost of crashes*

Social cost ($ million)



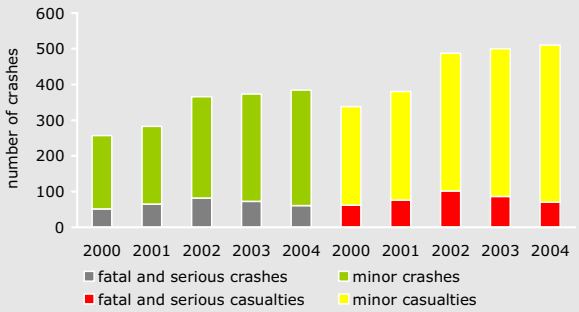
*The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2004 prices.

Overview

Crash and casualty trends

While the overall numbers of crashes and casualties increased over the past five years, fatal and serious crash and casualty numbers have been decreasing since 2002.

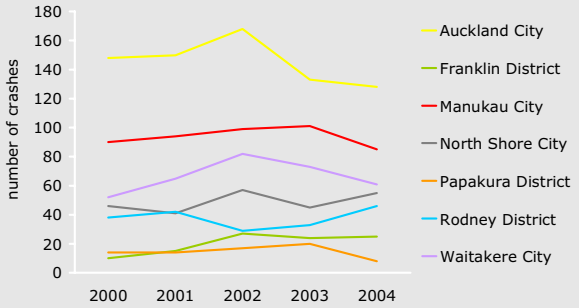
Crash and casualty numbers 2000–2004



Comparison with local authorities in the Auckland Region

The following chart shows the five-year trend in fatal and serious crash numbers for each of the territorial local authorities (TLAs) within the Auckland Region.

Fatal and serious crash trends by TLA 2000–2004

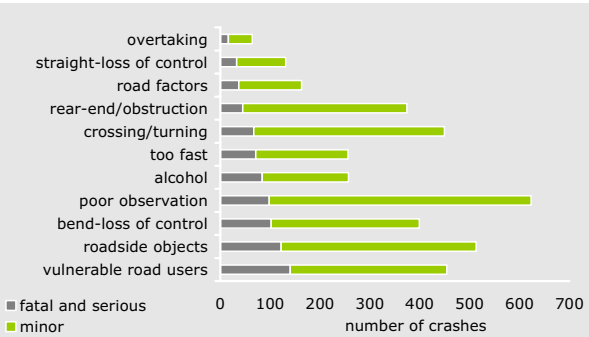


Selecting the issues

The four main issues discussed in this report were chosen because they had the highest reported numbers of fatal and serious crashes. This number of total and serious crashes approximates the number of deaths and hospitalisation, upon which targets to 2010 have been set in the national *Road Safety to 2010* strategy and the *Auckland Regional Road Safety Plan 2004–2010.*

Other issues not covered in this report also need to be addressed in order to reach the targets. Chief among these are alcohol and speed.

Main crash characteristics 2000–2004



Selected crash situations

The table below compares the proportions of injury crashes as well as crashes resulting in fatal or serious injury, over a range of crash situations in the city.

Situation	Injury	Fatal or serious
Wet road	33%	32%
Dry road	67%	68%
Dark	34%	40%
Light	66%	60%
Rural road	8%	10%
Urban road	92%	90%
Intersection	39%	32%
Mid-block	61%	68%

Crashes at night, on rural roads and away from intersections tended to result in higher injury severity, possibly due to the higher speeds generally associated with them.

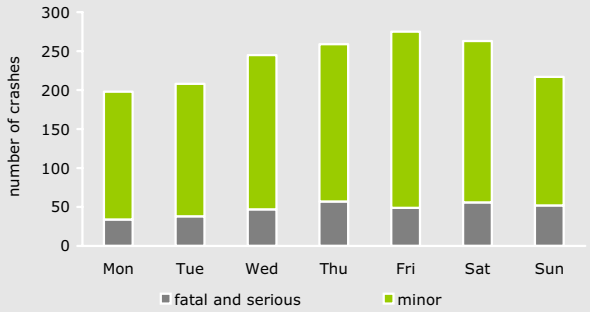
Vulnerable road users are those who have very little physical protection in the event of a crash and who are therefore more susceptible to severe injuries. As shown below, this was the case within Waitakere City.

Road user	Injury	Fatal or serious
Pedestrians	15%	22%
Motorcyclists	7%	13%
Cyclists	6%	7%

Crash times

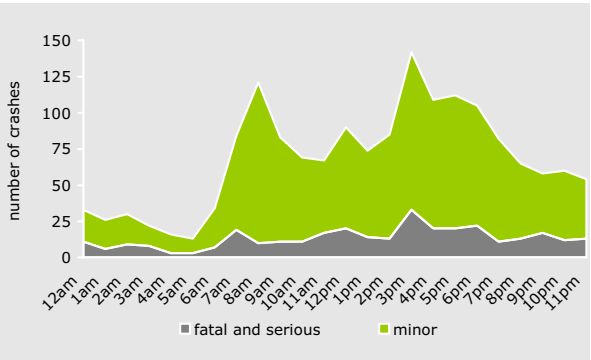
Overall crash numbers were highest from Wednesday through to Saturday, and these days plus Sunday had the greatest number of fatal or serious crashes.

Injury crashes by day of week 2000–2004



Most crashes occurred from 3 pm to 5 pm with another peak around 8 am.

Injury crashes by hour 2000–2004



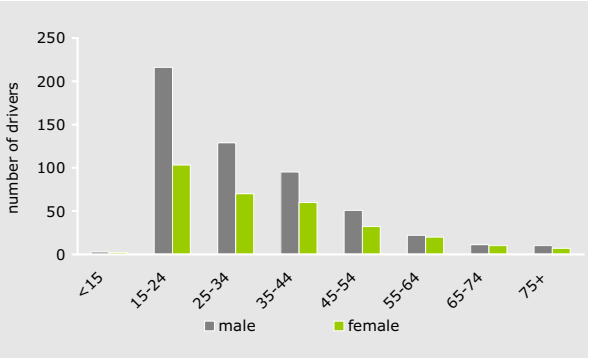
A number of crash characteristics were over-represented at night. The figures in the table below compare with a city average of 34 percent for all injury crashes that occurred at night.

Crash characteristic	Percent at night
Alcohol	76%
Excessive speed	49%
Straight–loss of control	57%
Roadside hazard struck	51%
Bend–loss of control	47%
Weekend	46%
Single vehicle crash	55%

Drivers at fault

The following chart shows the gender and age of drivers found to have been at fault in crashes.

Age and gender of at-fault drivers 2000–2004



Almost two thirds of crashes were caused by male drivers, and they typically resulted in more severe injuries than crashes involving female drivers. Male drivers were primarily responsible for crashes involving:

- alcohol
- excessive speed for the conditions
- overtaking
- loss of control
- poor handling
- fatigue.

Female drivers were disproportionately represented in crashes involving failure to give way or stop and poor observation.

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

Licence status	All drivers	At-fault drivers
Full	65%	56%
Learner/restricted/ overseas	28%	34%
Disqualified/expired/forbidden/ never licensed/wrong class	7%	10%

Unlicensed or disqualified drivers and drivers with conditional licences were disproportionately at fault in crashes compared with drivers holding a full licence.

Vulnerable road users

Vulnerable road users are those who have very little physical protection in the event of a crash. Motorcyclists have been included in the analysis for this year's report, in addition to pedestrians and cyclists, who were reported on last year.

Vulnerable road users were involved in 42 percent of the city's fatal or serious crashes and 27 percent of all injury crashes between 2000 and 2004. In this period, they accounted for 11 fatalities, 130 serious injuries and 330 minor injuries. While the overall number of crashes has generally risen, the number of fatal or serious crashes has reduced substantially in the past two years.

Vulnerable road user injury crashes 2000–2004

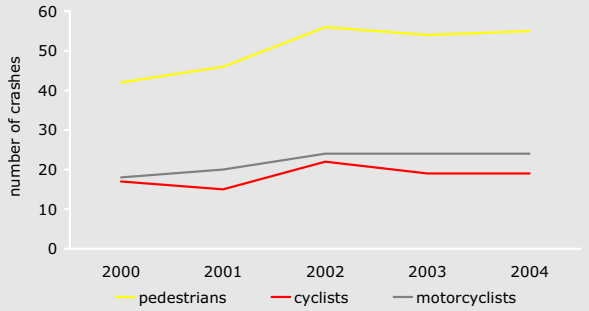
The following table compares the relative involvement of pedestrians, cyclists and motorcyclists in crashes over a range of road situations.

Situation	Pedestrian	Cyclist	Motorcyclist
Wet road	23%	12%	18%
Dry road	77%	88%	82%
Dark	21%	23%	31%
Light	79%	77%	69%
Rural road	1%	3%	10%
Urban road	99%	97%	90%
Intersection	26%	40%	39%
Mid-block	74%	60%	61%

Compared with city averages, a much lower proportion of crashes occurred on wet roads, in the dark and on rural roads (apart from motorcycle crashes). Most crashes occurred at mid-block locations – for cyclists and motorcyclists this was contrary to the Auckland Region as a whole, where roughly half the crashes were at intersections.

The chart below shows the relative numbers and the crash trends of the three vulnerable road user categories. Pedestrians were involved in more crashes than cyclists and motorcyclists combined.

Vulnerable road user categories 2000–2004



Pedestrians

Approximately eight percent of crashes were the result of pedestrians being in the wrong place at the wrong time, for instance, being struck as a result of a collision between vehicles. The majority of the remaining crashes involved pedestrians attempting to cross the road, with most being struck by a vehicle travelling from their right side (giving the driver less time to react and stop). Common crash causes are shown below.

Crash cause	Crashes
Running/walking heedless of traffic	54%
Vehicle failed to give way at a crossing	9%
Vehicle failed to give way in other situations	7%
Stepped out from behind a parked car	4%
Unsupervised child	13%
Pedestrian intoxicated	3%
Pedestrian playing on road	3%
Driver failed to check adequately when reversing	4%

Over half of pedestrians injured (59 percent) were aged 19 years or less. Peak crash times coincided with school start and finish times on weekdays.

Cyclists

Two thirds of cyclist crashes involved crossing or turning movements, roughly half at intersections. The remaining crashes generally involved rear-end collisions or overtaking manoeuvres and occurred primarily at mid-block locations. The most common crash causes are shown in the table below.

Crash cause	Crashes
Failure to give way at a driveway	16%
Failure to give way or stop in other situations	41%
Inadequate checking before giving way	27%
Riding on the footpath	22%

Over three quarters of cyclist crashes involved males, with the peak age groups being 10 to 14 year olds, five to nine year olds and 15 to 19 year olds. The peak time for crashes was from 3 pm to 6 pm, with a fairly even spread throughout the remaining daylight hours. Crash numbers generally increased from Monday through to Thursday, with much lower numbers on the remaining days.

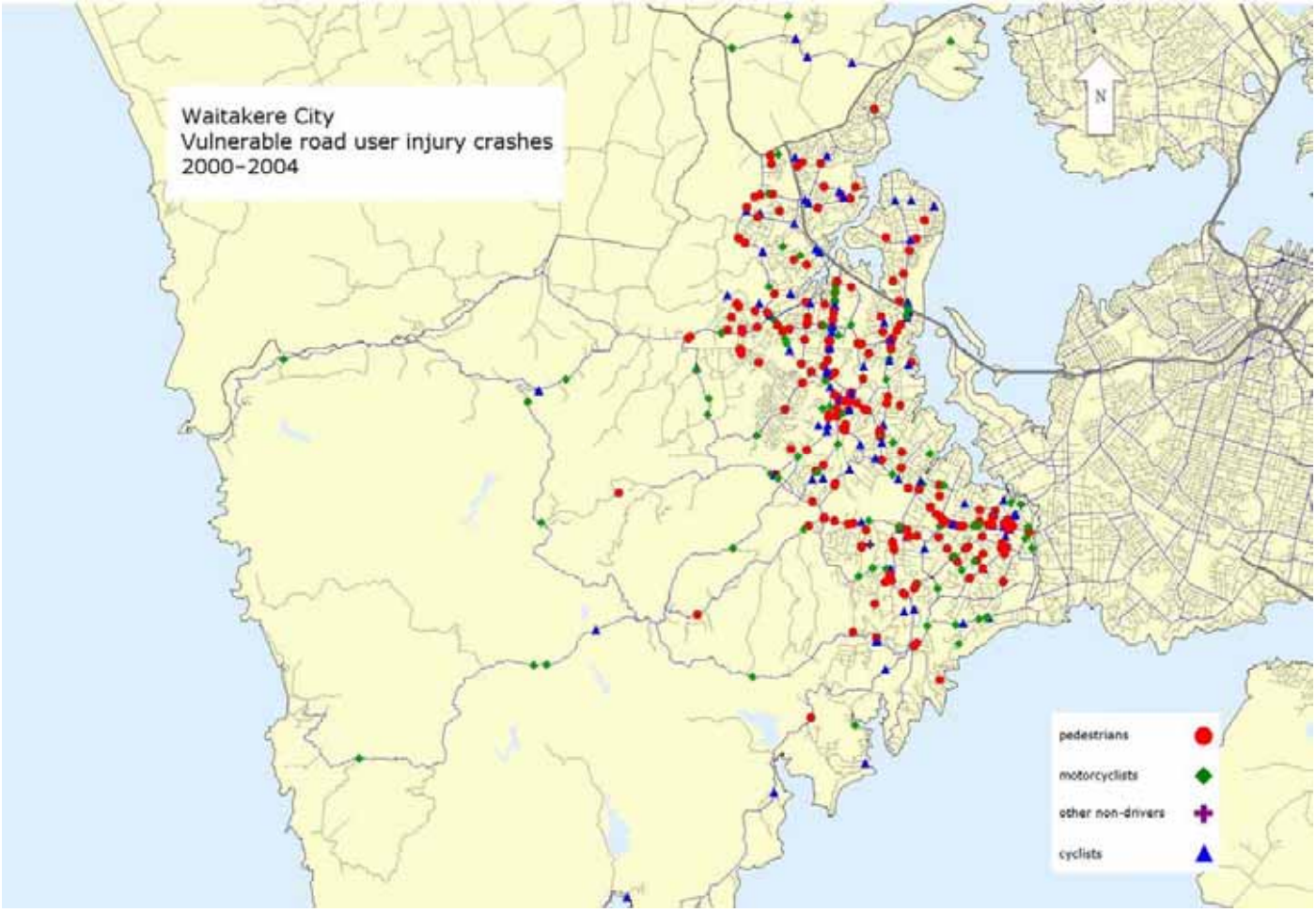
Motorcyclists

Forty-two percent of crashes involving motorcyclists were crossing or turning movements with almost two thirds occurring at intersections. Loss of control on bends and rear-end collisions comprised most of the remaining crashes, most of these being at mid-block locations. The most common crash causes are listed below.

Crash cause	Crashes
Poor observation	59%
Failure to give way or stop	43%
Excessive speed for the conditions	15%
Poor handling	12%
Road factors	14%

Road factors were divided fairly evenly between a slippery road surface, the condition of the surface itself and limited visibility along the road.

Ninety-four percent of motorcyclist injuries involved males, with the peak age groups between 20 and 39 years old. Peak crash times were 3 pm to 6 pm and 7 am to 8 am. Most crashes occurred on Sunday and Friday, with a fairly even distribution throughout the remainder of the week.



Roadside hazards

Roadside hazards were struck in 37 percent of fatal or serious crashes and 31 percent of injury crashes from 2000 to 2004. Crash numbers have steadily increased during this period.

Roadside hazard injury crashes 2000–2004

In total, 714 roadside hazards were struck in 513 crashes in the last five years. These crashes resulted in 17 fatalities, 124 serious injuries and 535 minor injuries. The roadside hazards most frequently struck are shown below.

Roadside hazard	Strikes
Post/pole	137
Parked vehicle	120
Tree	89
Fence	82
Cliff/bank	66
Ditch	37
Kerb	29
Traffic island	21

Of these hazards, proportionally more fatal or serious injuries occurred when trees or banks were struck.

Some of the main characteristics of roadside hazard crashes are shown below.

Crash characteristic	Crashes
Loss of control of vehicle	72%
Crash at a bend	56%
Urban road	87%
Mid-block location	79%
Single vehicle	79%
Rear-end crash	20%
Excessive speed	31%
Alcohol	33%
Road factors	21%
Poor handling	27%
Fatigue	11%

In the overview section of this report, roadside hazard crashes were shown to be over-represented at night compared with all crashes in the city. The following table shows individual characteristics of these crashes that occurred disproportionately at night or in the wet.

Description	Night	Wet
Alcohol	82%	42%
Excessive speed	61%	41%
Road factors	35%	82%
Poor handling	46%	51%
Fatigue	68%	34%

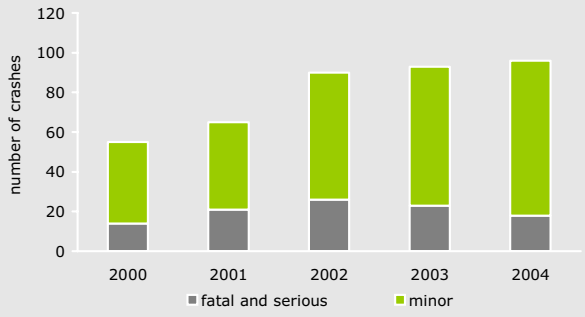
Road factors primarily involved a slippery surface, generally due to rain.

Male drivers were at fault in 70 percent of crashes and over half (57 percent) were aged between 15 and 29 years. Crash numbers generally increased throughout the week from Monday to Saturday, with a slight reduction on Sunday. Crashes occurred reasonably consistently throughout the day apart from higher numbers between 10 pm and midnight, and low numbers between 4 am and 6 am.

Crashes at bends

Between 2000 and 2004, 31 percent of crashes resulting in fatal or serious injury and 24 percent of all injury crashes involved loss of control or a head-on collision at a bend. These crashes resulted in 12 fatalities, 124 serious injuries and 451 minor injuries. Overall crash numbers increased during the past five years, although the number of fatal or serious crashes has been reducing since 2002.

Injury crashes at bends 2000–2004



The main characteristics of these crashes are shown in the following table.

Crash characteristic	Crashes
Single vehicle	66%
Head-on	29%
Roadside hazard struck	68%
Alcohol	29%
Excessive speed	40%
Road factors	32%
Poor handling	38%

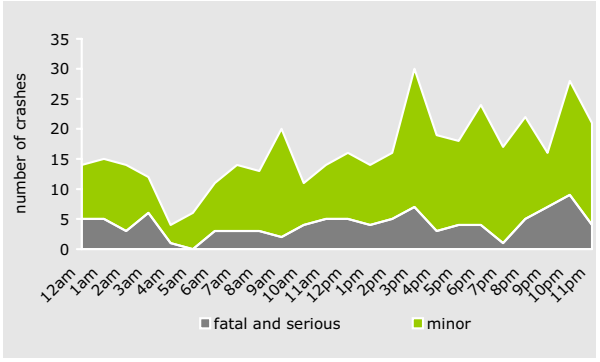
Crashes at bends were over-represented at night (47 percent) and on wet roads (51 percent) compared with the city averages of 34 and 33 percent respectively. Some of the individual characteristics of these crashes are shown below

Description	Night	Wet
Head-on 	32%	74%
Alcohol	81%	37%
Excessive speed	50%	46%
Road factors	29%	84%
Poor handling	42%	56%

Road factors generally involved a slippery road surface and to a lesser extent, the condition of the road surface itself.

Drivers at fault were male in 72 percent of crashes and almost two thirds were between 15 and 29 years old. Crash numbers generally rose throughout the week from Monday to Saturday, with a slight drop on Sunday. The distribution of crashes throughout the day is shown below.

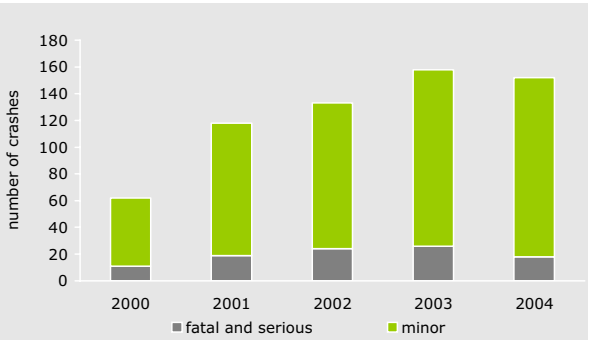
Injury crashes at bends by hour 2000–2004



Poor observation

Poor observation contributed to 29 percent of crashes resulting in fatal or serious injuries and 37 percent of all injury crashes between 2000 and 2004. These crashes resulted in seven fatalities, 99 serious injuries and 727 minor injuries. The number of minor crashes has increased each year since 2000, while fatal and serious crash numbers reduced last year.

Poor observation injury crashes 2000–2004



Most crashes involving poor observation were either crossing or turning movements or rear-end collisions.

Crossing or turning crashes

These crashes generally involved drivers failing to give way by not checking properly for other traffic at intersections or driveways. Some of the common factors associated with these crashes are tabled below.

Crash factor	Crashes
Checked too late when required to give way to traffic from another direction	78%
Failure to give way to non-turning traffic when turning	36%
Failure to give way at Give Way sign	30%
Failure to stop at Stop sign	9%
Failure to give way at driveway	12%
Failure to stop for red light at signals	5%

A disproportionate number of motorcyclists and cyclists were involved in these crashes, possibly because they were difficult to see in busy traffic. Female drivers were at fault in 55 percent of crossing or turning crashes, predominantly aged between 15 to 54 years old. Peak crash times were from 4 pm to 7 pm, 7 am to 10 am and 1 pm to 2 pm. The highest numbers of crashes occurred from Wednesday to Friday.

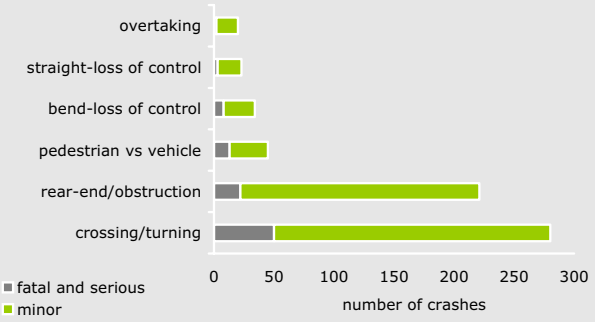
Rear-end crashes

These typically involved drivers not responding properly to situations around them in the traffic stream, with the most common factors shown below.

Crash factor	Crashes
Failure to notice car slowing	38%
Didn't check behind when changing lanes	14%
Alcohol	9%
Attention diverted – driver dazzled by sun/lights	11%
Attention diverted by other traffic	7%

Female drivers were at fault in 41 percent of these crashes, more than the average of 36 percent for all crashes city-wide. The peak ages were between 15 and 44 years old. Peak times were 8 am to 9 am and 3 pm to 4 pm, with an even distribution of crashes over the remaining daylight hours. Crashes occurred fairly evenly from Monday to Saturday, with much lower numbers on Sunday.

Crash type 2000–2004



Road environment

The Land Transport New Zealand crash reduction monitoring database shows that works implemented as a result of crash reduction studies have reduced crashes at the study sites by 26 percent in Waitakere City (29 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 crashes.

Where to get more information

For more specific information relating to road crashes in Waitakere City, please refer to the 2000 to 2004 road safety data report, the Land Transport New Zealand crash analysis system or contact the office listed below.

Contacts

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