



briefing notes - road safety issues

Waitakere City

Land Transport New Zealand has prepared this road safety issues report. It is based on reported crash data and trends for the 2002–2006 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.

This report is the eighth road safety report for Waitakere City. All the material unless otherwise stated in this report applies to both local roads and to Transit New Zealand (Transit NZ) roads.

In each new report one year's data is added to a five year block and the oldest dropped so it is unlikely that the core issues would change radically from report to report.

The issues chosen for this report are drawn from either the most common crash types, those that appear over-represented when Waitakere City is compared to similar local bodies or those with high social cost (high numbers of fatal and serious crashes mainly).

We have included a brief overview of crashes in the city.

We encourage Waitakere City to use its free access to the Ministry of Transport's Crash Analysis System to delve deeper into the highlighted issues.

Major road safety issues		2006 road trauma	
Waitakere City		Casualties	Waitakere City
Intersections		Deaths	8
Bends		Serious casualties	79
Vulnerable road users		Minor casualties	439
Roadside hazards			
Nationally		Crashes	Waitakere City
Speed		Fatal crashes	7
Alcohol		Serious injury crashes	65
Failure to give way		Minor injury crashes	328
Restraints		Non-injury crashes	1162

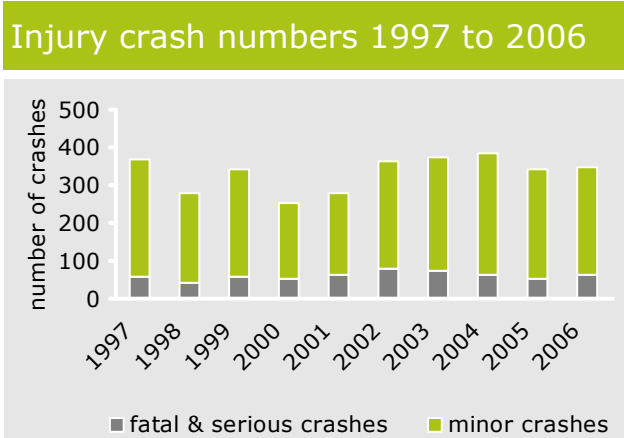
Overview

In 2006 on local roads in Waitakere City there were 346 injury crashes and 1014 non-injury crashes. In addition there were 52 injury crashes and 148 non-injury crashes on Transit NZ roads both as reported by the New Zealand Police.

The table below shows the number of injuries resulting from 2006 crashes by rural or urban areas for local roads (rural is defined as an area with a speed limit of 80km/h or more).

Local road casualties 2006				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	0	5	21	26
Urban	8	64	358	430
Total	8	69	379	456

Fatal and serious crash numbers in the city have been fluctuating over the last ten years although the trend since a high in 2002 appears to be downwards.

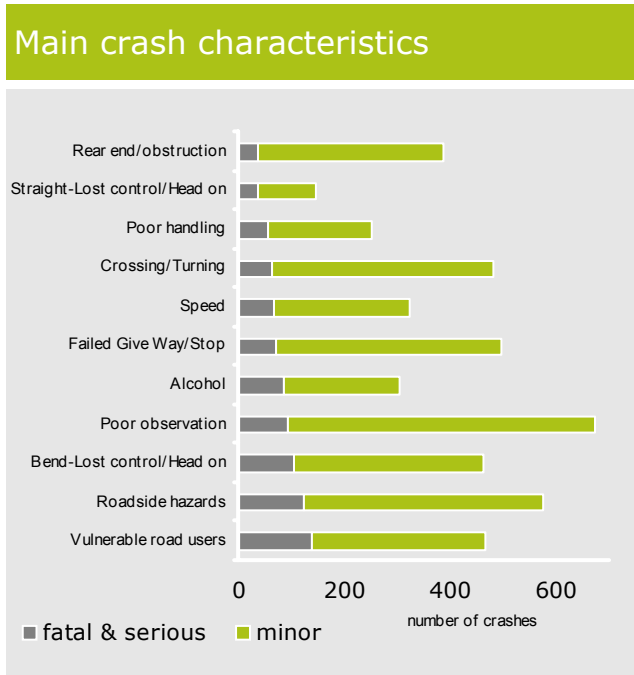


The following chart shows the main characteristics of local road crashes.

These are prioritised by the number of fatal and serious crashes and the main issues discussed in this report are based on this.

Note that some of these are similar or overlap, for instance failure to give way or stop is a factor in most turning or crossing crashes.

Likewise most crashes involving poor observation are turning and crossing crashes, generally at intersections.



Further information about 2006 injury and non-injury crashes on local roads in Waitakere City:

- Worst month December (129), best January (79)
- Worst day Friday (236), best Monday (148)
- 27 percent on wet roads
- 35 percent at night
- 43 percent at intersections
- Social cost of crashes in 2006 \$93m
- At fault or part fault (injury crashes) male driver 70 percent
- 46 percent of at fault drivers held a full NZ licence

Further information about 2006 injury and non injury crashes on Transit NZ roads

- Worst month April (25), best October (9)
- Worst day Friday (41), best Monday (19)
- 29 percent wet road
- 33 percent night time
- 35 percent at intersections
- Social cost of crashes in 2006 \$12m
- At fault or part fault (injury crashes) male driver 64 percent
- 54 percent of at fault drivers held a full NZ licence

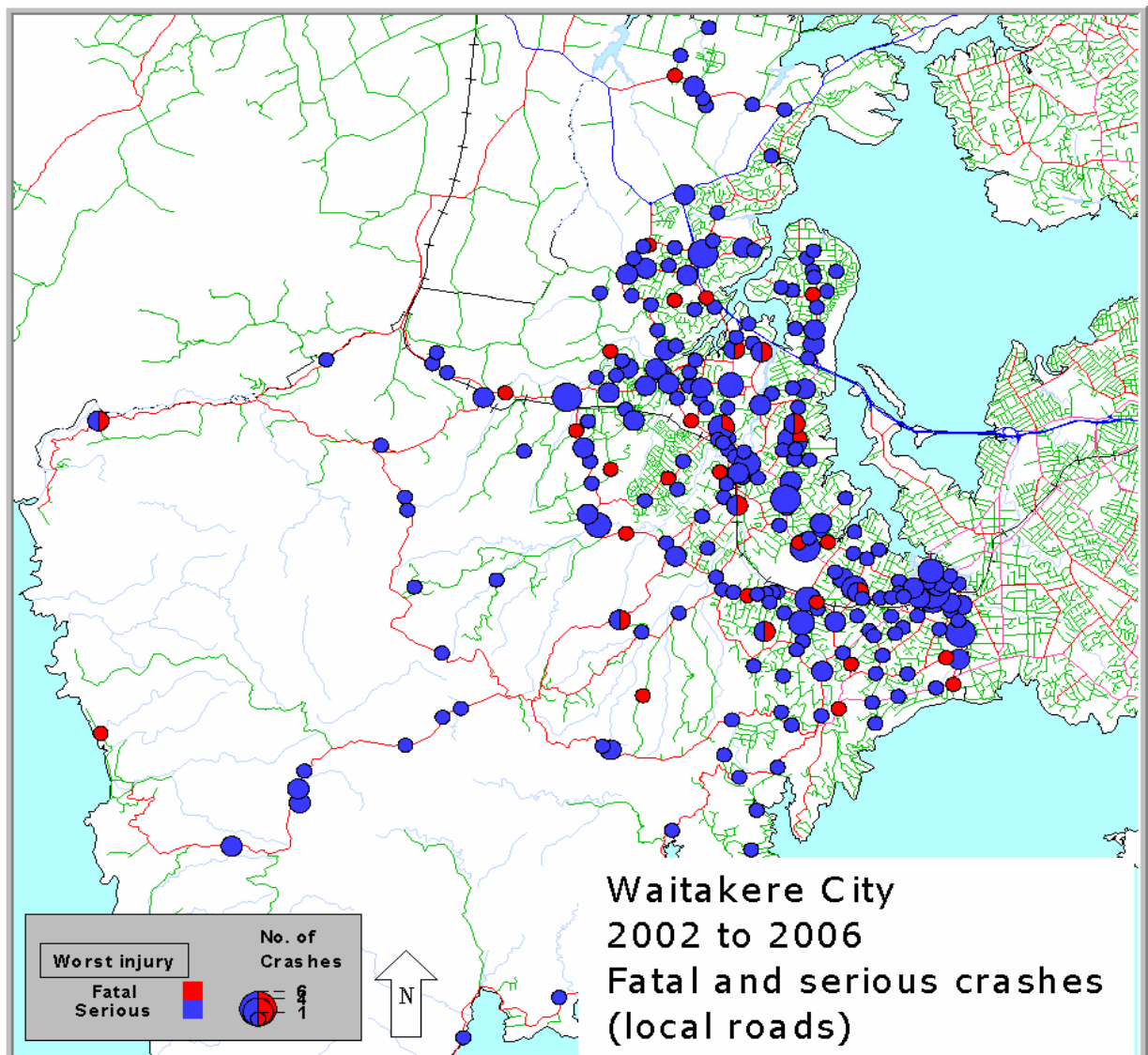
Overview continued

It has been observed nationally that there is a growing group of drivers who have not been exiting the graduated licence system and who are choosing to stay on restricted licences.

This is making it increasingly difficult to distinguish drivers who are truly inexperienced from those that should have moved to a full licence. As a consequence it is more difficult to target educational material.

This is certainly true in Waitakere City with as little as 48 percent of at fault drivers in injury crashes being the holder of a full driving licence.

At fault driver licence status	
Driver licence status Waitakere City 2006	Percentage of total 'at fault' drivers (New Zealand 2006 value in brackets)
Full	48.0 (58.4) %
Learner	12.5 (9.5) %
Restricted	23.3 (17.6) %
Never licenced	3.8 (2.2) %
Disqualified	1.9 (1.7) %
Overseas	1.9 (4.2) %
Expired	0.8 (0.5) %
Other / unknown	7.5 (5.6) %



Crashes at bends

Between 2002 and 2006 twenty-five percent of all injury crashes in Waitakere City occurred at bends. These crashes resulted in 18 fatalities, 129 serious injuries and 591 minor injuries.

Crash numbers have remained fairly steady over the last five years.

Crashes at bends 2002 to 2006				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2002	4	26	69	99
2003	3	21	77	101
2004	3	16	83	102
2005	4	17	80	101
2006	2	18	81	101
Total	16	98	390	504

Most crashes at bends involved a driver losing control of their vehicle and either running off the road or colliding with another vehicle.

After drivers lose control their vehicles often crash into roadside hazards such as ditches, banks, poles or trees. Hitting these objects can result in a relatively minor off-road event turning into something far more serious.

The three most common roadside hazards struck in injury crashes at bends in Waitakere City were trees (89), posts and poles (85) and fences (77) from a total of 517 objects struck.

Main characteristics of injury crashes at bends

Crash characteristic	Percentage of crashes
Single vehicle	67 %
Alcohol	30 %
Excessive speed for the conditions	45 %
Road factors	15 %
Poor handling	40 %
Rural road	23 %
Wet road	44 %
Night time	48 %

At fault driver licence status 2006

Driver Licence status, bend related injury crashes, at fault drivers in Waitakere City	Percentage of total at fault drivers in bend related crashes (New Zealand value in brackets)
Full	46.2 (51.1) %
Learner	12.8 (10.7) %
Restricted	22.2 (17.9) %
Never licenced	4.7 (4.1) %
Disqualified	2.0 (2.8) %
Overseas	2.9 (5.6) %
Expired	1.0 (0.9) %
Other / unknown	8.1 (6.8) %

Further information about injury crashes at bends (2002 to 2006) on local roads in Waitakere City:

- 17 deaths, 121 serious injuries and 546 minor injuries
- 77 percent of at fault drivers were male
- Most common at fault driver age group 15-19 years
- 30 percent of crashes involved alcohol
- Worst month January (53), best October (29)
- Worst day of week Saturday (92), best Tuesday (45)

Further information about injury crashes on bends (2002 to 2006) on Transit NZ roads in Waitakere City:

- 1 death, 8 serious injuries and 45 minor injuries
- 61 percent of at fault drivers were male
- Most common at fault driver age group 20-24 years
- 33 percent involved alcohol
- Worst month November (11)
- Worst day of week Sunday (11)

Intersections

During the five year period 2002 to 2006 there were a total of 3740 crashes at intersections within Waitakere City. Of these crashes, 95 percent occurred in urban areas and 90 percent were on local roads.

Intersections conflicts resulted in 825 injury crashes and 2195 non-injury crashes.

In these seven people were killed, 137 received serious injuries and 987 received minor injuries.

Crashes at Intersections					
	2002	2003	2004	2005	2006
Injury crash	154	173	175	170	153
Non-injury crash	656	643	593	521	502
Total	810	816	768	691	655

Locations with the most crashes			
Intersection name	Total crashes 2002 - 2006	Injury crashes 2002 - 2006	Total 2006
Gt North / Henderson Valley	69	12	6
Titirangi / Rata	65	8	10
Swanson / Lincoln	61	15	10
Gt North / Archibald	48	9	5
Lincoln / Central Park	47	12	8

Junction type Injury and Non-injury crashes		
Junction Type	Rural	Urban
Roundabout	7	451
Tee	65	2097
Cross (X)	2	606
Y	82	127
Other (includes driveways)	6	289

The most common intersection crash type is when a driver turns right at an intersection and is hit by a vehicle approaching from the right (commonly at tee junctions).

The main causes contributing to crashes described in Police reports were:

- Failure to stop and give way
- Not checking properly
- General errors of judgement

Intersections present drivers with one of their biggest driving challenges, particularly for less experienced drivers. The table below which shows the licence class of at-fault drivers reveals slightly disproportionate representation of learner, restricted and never licenced drivers in crashes.

At fault driver licence status 2006	
Driver Licence status, intersection related injury crashes, at fault drivers in Waitakere City	Percentage of total at fault drivers in intersection related crashes (New Zealand value in brackets)
Full	53.3 (60.9) %
Learner	12.3 (9.4) %
Restricted	15.4 (14.8) %
Never licenced	3.8 (2.5) %
Disqualified	1.3 (1.6) %
Overseas	3.1 (3.7) %
Expired	0.8 (0.8) %
Other / unknown	9.9 (6.3) %

Further information about injury crashes at intersections on local roads in Waitakere City (2002 to 2006):

- 7 deaths, 122 serious injuries
- 14 percent involved alcohol
- 30 percent wet roads
- 32 percent night time
- Worst month July, best January
- Worst day of week Friday, best Monday

Further information about injury crashes at intersections on Transit NZ roads in Waitakere City (2002 to 2006):

- 0 deaths, 15 serious injuries
- 16 percent involved alcohol
- 28 percent wet roads
- 33 percent night time
- Worst month July and September, best January
- Worst day of week Saturday, best Sunday

Vulnerable road users (Pedestrians, Cyclists and Motorcyclists)

Vulnerable road users are those who have very little physical protection in the event of a crash and are therefore susceptible to severe injuries.

In February 2005, the Government launched 'Getting there – on foot, by cycle' its strategy to advance walking and cycling in New Zealand transport. This strategy aims to improve the environment for walking and cycling and at the same time improve safety, as well as increase the choices available for walking and cycling as day-to-day transport options.

Land Transport NZ expects local authorities to take a proactive approach to this subject. This should include the development of a walking and cycling strategy and submitting appropriate projects for funding to progress that strategy.

It is vitally important to recognise that promotion alone of walking and cycling will not be effective at increasing mode share unless these activities can be made safer.

Pedestrians

Although pedestrian injuries do not feature highly in the overall road injury picture in Waitakere City, representing only ten percent of all injuries, they make up 19 percent of fatal and serious injuries.

Pedestrian injuries 2002 to 2006					
Pedestrian injuries	2002	2003	2004	2005	2006
Fatal	3	1	2	0	1
Serious	19	17	11	9	17
Minor	39	42	47	28	35
Total	61	60	60	37	53

Most (98 percent) pedestrian crashes occur on urban roads, the majority of these away from intersections (mid-block) and during daylight hours. There is strong crash bias toward the afternoon.

Forty-six percent of injuries in pedestrian crashes involve young people up to the age of 19 years old –making them the most at-risk group.

This may be because young people walk more than other age groups. However many of them may not be mature enough to make the correct road crossing decisions. For example young children have difficulty in judging the speed and distance of approaching vehicles.

They are also easily distracted and unable to focus on multiple events at a time, so when they want to cross a road their attention can be easily distracted by say, a friend shouting out from across the street, a dog coming towards them or a noisy car passing by. Road designers and motorists alike need to understand that children do not think like "mini adults" when they are walking and playing near the road. The road environment needs to be made as safe as possible to mitigate against the unpredictable actions that children take.

The recent decision by Police to enforce a lower speed tolerance around schools is a strong step in creating a safer lower speed environment for young pedestrians.

Pedestrian crashes are concentrated on arterial and collector roads.

The top five locations 2002 to 2006 are shown in the table below.

Roads with the most pedestrian crashes	
Location	Number of pedestrian injury crashes
Gt North intersection Memorial	5
Edsel 50m east Railside	4
Gt North intersection Rata	4
Totara 5m west Memorial Dr West	3
Rankin 20m south Clark	3

Further information about the 252 injury pedestrian crashes on local roads in Waitakere City (2002 to 2006):

- The most common type of crash involved a pedestrian crossing the road being hit by a vehicle approaching from the right (41 percent)
- The second most common type of crash was crossing the road and being hit by a vehicle approaching from the left (22 percent)
- Worst month June (29)
- Worst day of week Thursday (56), best Sunday (20)

Further information about injury pedestrian crashes on Transit NZ roads in Waitakere City (2002 to 2006):

- Number of pedestrian crashes 7

Cyclists

Cyclist injuries do not feature highly in the overall road injury picture in Waitakere City, representing only four percent of all injuries, however they make up six percent of fatal and serious crashes.

Cyclist injuries					
	2002	2003	2004	2005	2006
Fatal	0	0	0	0	0
Serious	7	5	4	4	6
Minor	15	15	16	19	13
Total	22	20	20	23	19

Most (98 percent) cycling crashes occurred on urban roads, the majority of these away from intersections (mid-block) and during daylight hours.

Last year (2006) more cycles than cars were imported into New Zealand. In recent years the increase in cycle numbers on many roads in New Zealand has become quite noticeable.

Cyclist injuries are concentrated on the 5 to 14 years and mid 40's age groups.

Further information about the 96 cyclist injury crashes on local roads in Waitakere City (2002 to 2006):

- The most common type of crash was a crossing or turning movement, followed by overtaking and then rear end collision.
- 40 percent at intersections
- 18 percent at night
- Worst month March (18), best December (3)
- Worst day of the week Thursday (21), best Sunday (7)
- Number of crashes involving riding on the footpath 19
- 89 percent of cyclists injured were male

Further information about the 8 cyclist injury crashes on Transit NZ roads in Waitakere City (2002 to 2006):

- 75 percent at intersections
- 50 percent at night
- 100 percent of cyclists injured were male

Motorcyclists

Although motorcyclist injuries do not feature highly in the overall road injury picture in Waitakere City, representing only five percent of all injuries, they make up 11 percent of fatal and serious injuries.

Nationally motorcycling fatalities dropped from a high of 20 percent of all fatalities in 1988 to just six percent in 2003. Since then there has been a significant increase in motorcycle registrations and this has reversed the downward trend.

In 2006 motorcyclists accounted for 9.5 percent of road fatalities in New Zealand.

Motorcyclist injuries					
	2002	2003	2004	2005	2006
Fatal	1	3	0	1	0
Serious	14	9	4	5	10
Minor	12	16	25	18	29
Total	27	28	29	24	39

Most (85 percent) motorcycle crashes occur on urban roads, the majority of these away from intersections (mid-block) and during daylight hours.

Motorcycling injuries are spread fairly evenly between age groups 15 to 49 years old, before tapering off.

Further information about the 120 motorcyclist injury crashes on local roads in Waitakere City (2002 to 2006):

- 43 percent at intersections
- 28 percent at night
- 19 percent in the wet
- Worst month August (18), best November (4)
- Worst day of week Wednesday (21), best Monday (11)
- 88 percent of motorcyclists injured were male

Further information about the 20 motorcyclist injury crashes on Transit NZ roads in Waitakere City (2002 to 2006):

- 45 percent at intersections
- 40 percent at night
- 40 percent in the wet
- 90 percent of motorcyclists injured were male

Roadside hazards

A safe road environment incorporates numerous design principles, appropriate geometric design standards, good delineation under all conditions, adequate surface skid resistance and a roadside free of unforgiving hazards. It should also serve the safety needs of all vehicles and road users.

Roadside hazards normally contribute to the overall crash outcome by increasing injury severity but can in themselves be a contributory factor in a crash. For example occupants in an errant vehicle striking a large tree close to the road edge are likely to sustain worse injuries than if the tree was not present.

If the same tree had low branches and was located at an intersection it could also contribute to a lack of visibility.

Nationally, road side objects (small and large) are struck in almost 40 percent of all injury crashes.

In Waitakere City roadside hazards were a factor in 32 percent of injury crashes between 2002 and 2006.

Roadside hazard injury crashes					
	2002	2003	2004	2005	2006
Urban	92	102	121	96	125
Rural	20	32	21	31	24
Total	112	134	142	127	149

Further information about roadside hazard related crashes on local roads in Waitakere City (2002 to 2006):

- 24 deaths, 120 serious injuries and 610 minor injuries
- Most common crash type "loss of control at bend" (318)
- 53 percent night time
- 38 percent wet road
- Worst month July (62)

Further information about roadside hazard related crashes on Transit NZ roads in Waitakere City (2002 to 2006):

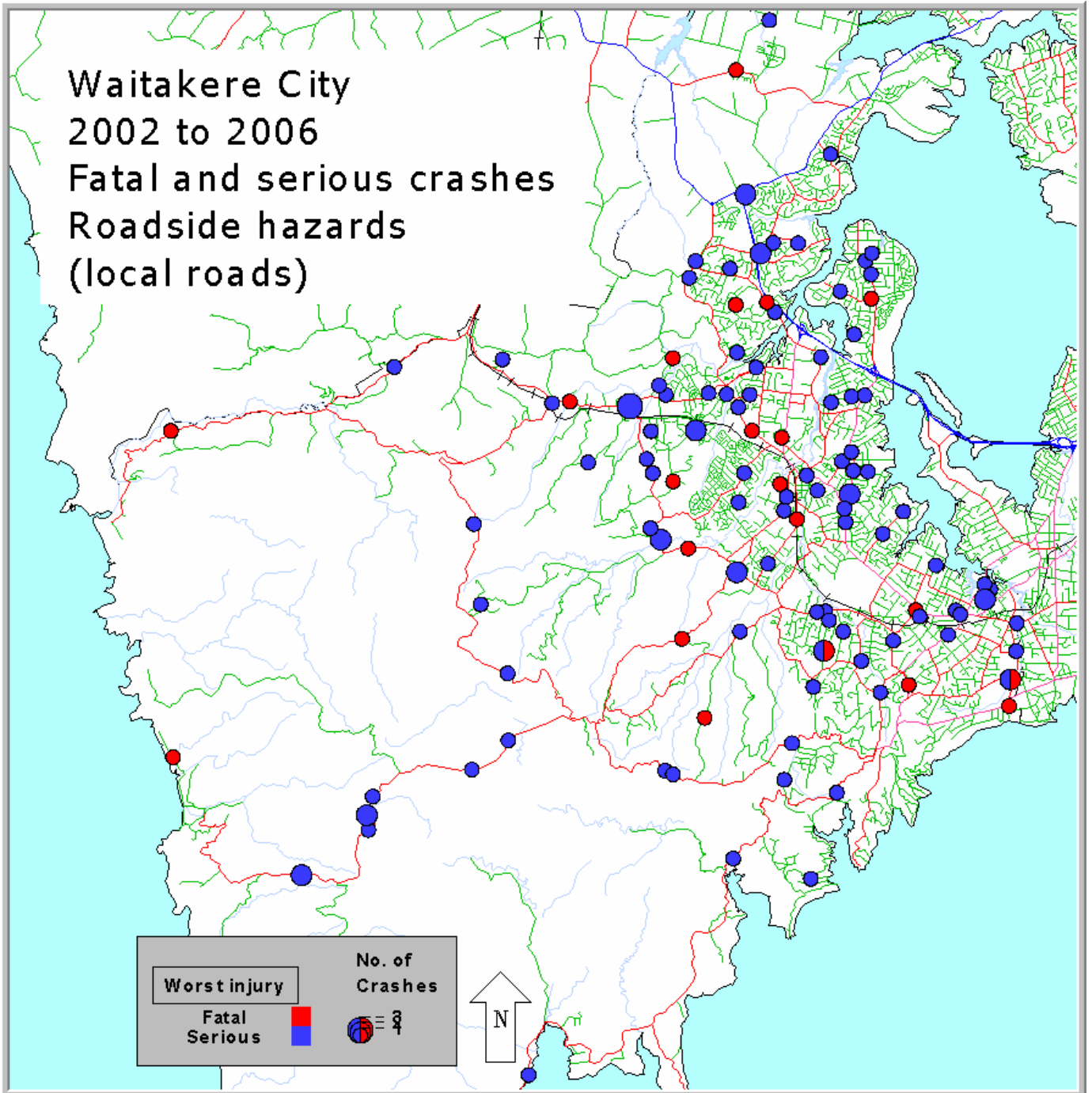
- 3 deaths, 9 serious injuries and 93 minor injuries
- Most common crash type "loss of control at bend" (32)
- 55 percent night time
- 40 percent wet road
- Worst month December, best January

The following table shows the number of various road side hazards involved in injury crashes for Auckland Region during the period 2002-2006.

Note that the same hazard can be struck more than once in the same crash and that each crash can result in many different hazards being struck.

As a result the number of hazards shown in this table will be greater than the number of crashes.

Types of hazard struck		
Number of times hazard struck 2002 to 2006	Local road	State Highway
Bridge ends	5	1
Cliff or bank	71	7
Ditch	49	8
Fence	112	16
Guard rail	8	25
House or building	25	2
Kerb	29	3
Over bank	28	2
Parked vehicle	133	7
Phone box etc	13	1
Post or pole	140	19
Slip or flood	1	0
Stray animal	1	1
Traffic island	28	1
Traffic sign	24	7
Tree	110	10
Vehicle attended (e.g. broken down)	33	1
Water or river	4	0



National issues

This section contains some brief information on the key national road safety issues as measured in Waitakere City. They may have been covered elsewhere in this document or not be a specific issue.

Speed

“Too fast” was recorded in 18 percent of injury crashes in the city in the last five years resulting in 17 deaths and 535 other injuries.

Speed as a factor in crashes is not reducing in the city.

Seventy-two percent of speed-related crashes were “loss of control”. Alcohol and poor handling were the other driver factors often associated with speed.

At fault male drivers aged less than 30 were the most highly represented in speed-related crashes.

Alcohol

Alcohol was involved in 17 percent of injury crashes in the city in the last five years resulting in 21 deaths and 489 other injuries. The number of injury crashes involving alcohol is not decreasing.

Most alcohol crashes were in urban areas of the city.

Speed and poor handling were the other factors often associated with alcohol.

Failure to give way

Failure to give way or stop was reported in 26 percent of all reported injury crashes for the last five years resulting in one death and 732 other injuries.

Ninety-six percent of crashes were in urban areas of the city.

Fifty-four percent of at fault drivers were male.

Restraints

The Ministry of Transport conducts surveys of restraint use. The results of these surveys are at a regional level, and may not be fully appropriate to a Local Authority. The results are obtainable from the Ministry of Transport website.

<http://www.transport.govt.nz/belts-index/>

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