

briefing notes - road safety issues

North Shore 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 North Shore City.

This report is the eighth road safety report for North Shore 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 North Shore 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 North Shore 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

North Shore City

Intersections

Bends

Vulnerable road users

Roadside hazards

Nationally

Speed

Alcohol

Failure to give way

Restraints

2006 road trauma

Casualties

North Shore City

Deaths 6

Serious casualties 59

Minor casualties 551

Crashes

North Shore City

Fatal crashes 6

Serious injury crashes 55

Minor injury crashes 413

Non-injury crashes 1554

Overview

In 2006 on local roads in North Shore City there were 365 injury crashes and 1150 non-injury crashes, in addition there were 107 injury crashes and 404 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	3	10	13
Urban	6	47	406	459
Total	6	52	416	474

Fatal crash numbers in the city have been fluctuating over the last eight years. Serious crashes on the other hand have generally been increasing since 1997.

Injury crash numbers 1997 to 2006



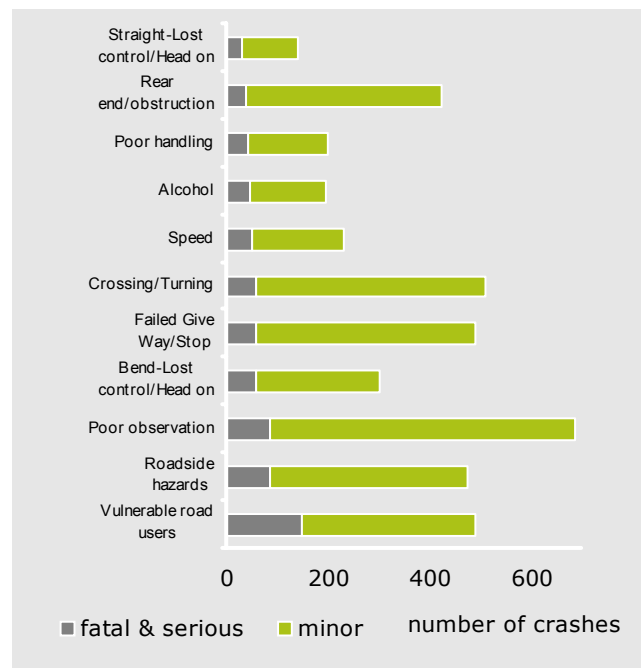
The following chart shows the main characteristics of local road crashes.

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.

Main crash characteristics



Further information about injury and non-injury crashes on local roads in North Shore City 2002 to 2006:

- Worst month March (162), best February (108)
- Worst day Friday (251), best Sunday (170)
- 24 percent on wet roads
- 31 percent at night
- 47 percent at intersections
- Social cost of crashes in 2006 \$88m
- 58 percent of at fault drivers held a full NZ licence

Further information about injury and non-injury crashes on Transit NZ roads in North Shore City 2002 to 2006:

- Worst month November (56), best February (24)
- Worst day Friday (105), best Sunday (35)
- 28 percent wet road
- 28 percent night time
- 29 percent at intersections
- Social cost of crashes in 2006 \$24m
- 72 percent of at fault drivers held a full NZ licence

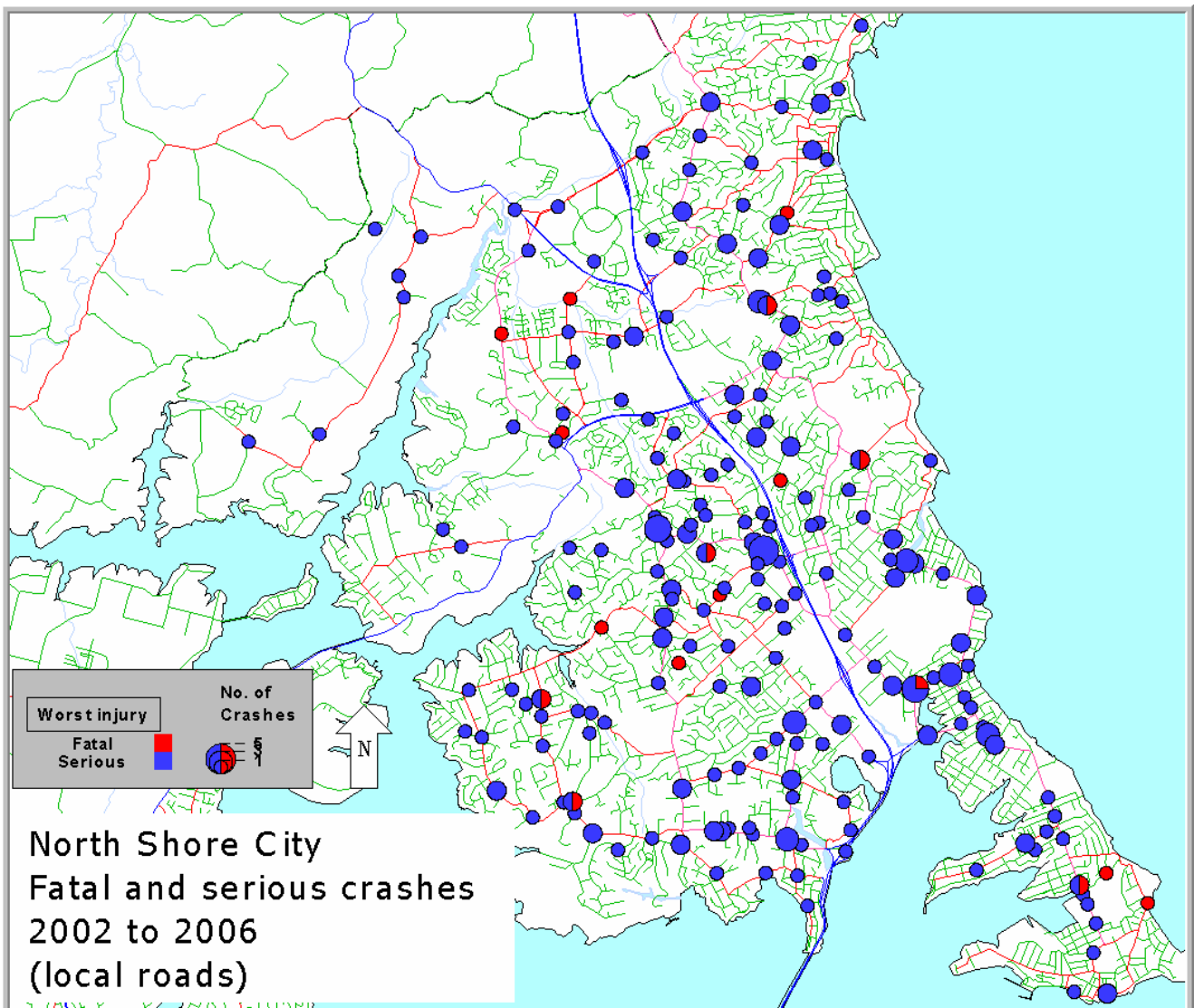
Overview continued

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 North Shore City with as little as 61 percent of at fault drivers in injury crashes being the holder of a full driving licence.

At fault driver licence status	
Driver licence status North Shore City 2006	Percentage of total 'at fault' drivers (NZ 2006 value in brackets)
Full	61.8 (58.4) %
Learner	8.1 (9.5) %
Restricted	18.9 (17.6) %
Never licenced	1.5 (2.2) %
Disqualified	1.3 (1.7) %
Overseas	2.7 (4.2) %
Expired	0.2 (0.5) %
Other / unknown	5.1 (5.6) %



Crashes at bends

Between 2002 and 2006 sixteen percent of all injury crashes in North Shore City occurred at bends. These crashes resulted in 12 fatalities, 72 serious injuries and 387 minor injuries.

Crash numbers have been generally rising over the last five years.

Crashes at bends 2002 to 2006				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2002	4	16	50	70
2003	2	9	45	56
2004	1	15	54	70
2005	1	10	49	60
2006	3	10	67	80
Total	11	60	265	336

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 North Shore City were posts or poles (64), fences (49) and trees (48) from a total of 354 objects struck.

Main characteristics of injury crashes at bends	
Crash characteristic	Percentage of crashes
Single vehicle	68 %
Alcohol	29 %
Excessive speed for the conditions	48 %
Road factors	16 %
Poor handling	40 %
Rural road	9 %
Wet road	40 %
Night time	51 %

At fault driver licence status 2006	
Driver Licence status, bend related injury crashes, at fault drivers in North Shore City	Percentage of total at fault drivers in bend related crashes (New Zealand value in brackets)
Full	45.3 (51.1) %
Learner	12.8 (10.7) %
Restricted	23.9 (17.9) %
Never licenced	2.8 (4.1) %
Disqualified	3.1 (2.8) %
Overseas	3.7 (5.6) %
Expired	0.0 (0.9) %
Other / unknown	8.6 (6.8) %

Further information about injury crashes at bends on local roads in North Shore City 2002 to 2006:

- 9 deaths, 61 serious injuries and 355 minor injuries
- 76 percent of at fault drivers were male
- Most common at fault driver age group 15-19 years
- 30 percent of crashes alcohol involved
- Worst month December (34), best January (17)
- Worst day of week Saturday (56), best Tuesday (27)

Further information about injury crashes on bends on Transit NZ roads in North Shore City 2002 to 2006:

- 3 deaths, 11 serious injuries and 32 minor injuries
- 64 percent of at fault drivers were male
- Most common at fault driver age group 40-44 years
- 17 percent alcohol involved
- Worst month March (8)
- Worst day of week Tuesday (10)

Intersections

During the five year period 2002 to 2006 there were a total of 4143 crashes at intersections within North Shore City. Of these crashes, 94 percent occurred in urban areas, and 85 percent were on local roads. Intersection conflicts resulted in 950 injury crashes and 3193 non-injury crashes. In these four people were killed, 135 received serious injuries and 1058 received minor injuries.

Crashes at Intersections					
	2002	2003	2004	2005	2006
Injury crash	167	171	188	187	237
Non-injury crash	696	632	601	635	629
Total	863	803	789	822	866

Locations with the most crashes			
Intersection name	Total crashes 2002 - 2006	Injury crashes 2002 - 2006	Total 2006
Taharoto / Northcote	55	10	12
Barrys Point / Shakespeare	54	11	11
Taharoto / Shakespeare	52	13	8
Wairau / Archers	45	13	13
Northcote / Sunnybrae	42	10	9

Junction type Injury and Non-injury crashes		
Junction Type	Rural	Urban
Roundabout	10	485
Tee	70	2264
Cross (X)	13	645
Y	132	152
Other (includes driveways)	18	339

The most common crash is one in which 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 can 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 restricted and overseas drivers in crashes.

At fault driver licence status 2006	
Driver Licence status, intersection related injury crashes, at fault drivers in North Shore City	Percentage of total at fault drivers in intersection related crashes (New Zealand value in brackets)
Full	60.1 (60.9) %
Learner	6.8 (9.4) %
Restricted	15.6 (14.8) %
Never licenced	1.6 (2.5) %
Disqualified	1.2 (1.6) %
Overseas	5.8 (3.7) %
Expired	0.6 (0.8) %
Other / unknown	8.4 (6.3) %

Further information about injury crashes at intersections on local roads in North Shore City 2002 to 2006:

- 4 deaths and 116 serious injuries
- 9 percent involved alcohol
- 28 percent wet roads
- 30 percent night time
- Worst month October, best January
- Worst day of week Friday, best Sunday

Further information about injury crashes at intersections on Transit NZ roads in North Shore City 2002 to 2006:

- 19 serious injuries
- 7 percent involved alcohol
- 26 percent wet roads
- 26 percent night time
- Worst month August, best February
- Worst day of week Friday, 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 North Shore City, representing only nine percent of all injuries, they make up 20 percent of fatal and serious injuries.

Pedestrian injuries 2002 to 2006					
Pedestrian injuries	2002	2003	2004	2005	2006
Fatal	0	1	0	1	1
Serious	19	14	15	10	9
Minor	44	29	38	35	27
Total	63	44	53	46	37

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

Almost 44 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 they 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.

Children 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 are shown in the table below.

Roads with the most pedestrian crashes	
Location	Number of pedestrian injury crashes
Taharoto Rd Int. Northcote Rd	4
Sycamore Dr 20m west Sunnynook Rd	3
Mokoia Rd 80m west Birkenhead Ave	3
Glenfield Rd Int. Bentley Ave	3
Glenfield Rd 20m west Kaipatiki Rd	3

Further information about the 232 injury pedestrian crashes on local roads in North Shore 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 November (26)
- Worst day of week Tuesday (47), best Sunday (17)

Further information about injury pedestrian crashes on Transit NZ roads in North Shore City 2002 to 2006:

- Number of pedestrian crashes 6

Cyclists

Cyclist injuries do not feature highly in the overall road injury picture in North Shore City, representing only six percent of all injuries, they make up 12 percent of fatal and serious crashes.

Cyclist injuries					
	2002	2003	2004	2005	2006
Fatal	1	0	0	0	0
Serious	1	5	12	11	11
Minor	19	14	20	37	28
Total	21	19	32	48	39

All (100 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 spread fairly evenly across age groups between 10 and 54 years old.

Further information about the 150 cyclist injury crashes on local roads in North Shore City 2002 to 2006:

- The most common type of crash was a crossing or turning movement, followed by overtaking and then rear end collision.
- 60 percent at intersections
- 18 percent at night
- Worst month August (18), best December (5)
- Worst day of the week Wednesday (32), best Friday/Saturday (14 each)
- Number of crashes involving riding on the footpath 11
- 77 percent of cyclists injured were male

Further information about the 8 cyclist injury crashes on Transit NZ roads in North Shore City 2002 to 2006:

- 50 percent at intersections
- 13 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 North Shore City, representing only five percent of all injuries, they make up 13 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	1	1	1	1
Serious	10	9	3	8	12
Minor	12	17	15	27	23
Total	23	27	19	36	36

Most (98 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 34 years old before tapering off.

Further information about the 117 motorcyclist injury crashes on local roads in North Shore City 2002 to 2006:

- The most common crash type was loss of control, followed by crossing or turning and rear end collision
- 50 percent at intersections
- 38 percent at night
- 21 percent in the wet
- Worst month May (18) best August (4)
- Worst day of week Friday (29) best Sunday (10)
- 77 percent of motorcyclists injured were male

Further information about the 17 motorcyclist injury crashes on Transit NZ roads in North Shore City 2002 to 2006:

- 24 percent at intersections
- 35 percent at night
- 6 percent in the wet
- 89 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 North Shore City, roadside hazards were a factor in 27 percent of injury crashes between 2002 and 2006.

Roadside hazard injury crashes					
	2002	2003	2004	2005	2006
Urban	79	84	117	98	106
Rural	13	17	24	17	24
Total	92	101	141	115	130

Further information about roadside hazard related crashes on local roads in North Shore City 2002 to 2006:

- 12 deaths, 85 serious injuries and 496 minor injuries
- Most common crash type “loss of control at bend (211)”
- 52 percent night time
- 29 percent wet road
- Worst month December, best January

Further information about roadside hazard related crashes on Transit NZ roads in North Shore City 2002 to 2006:

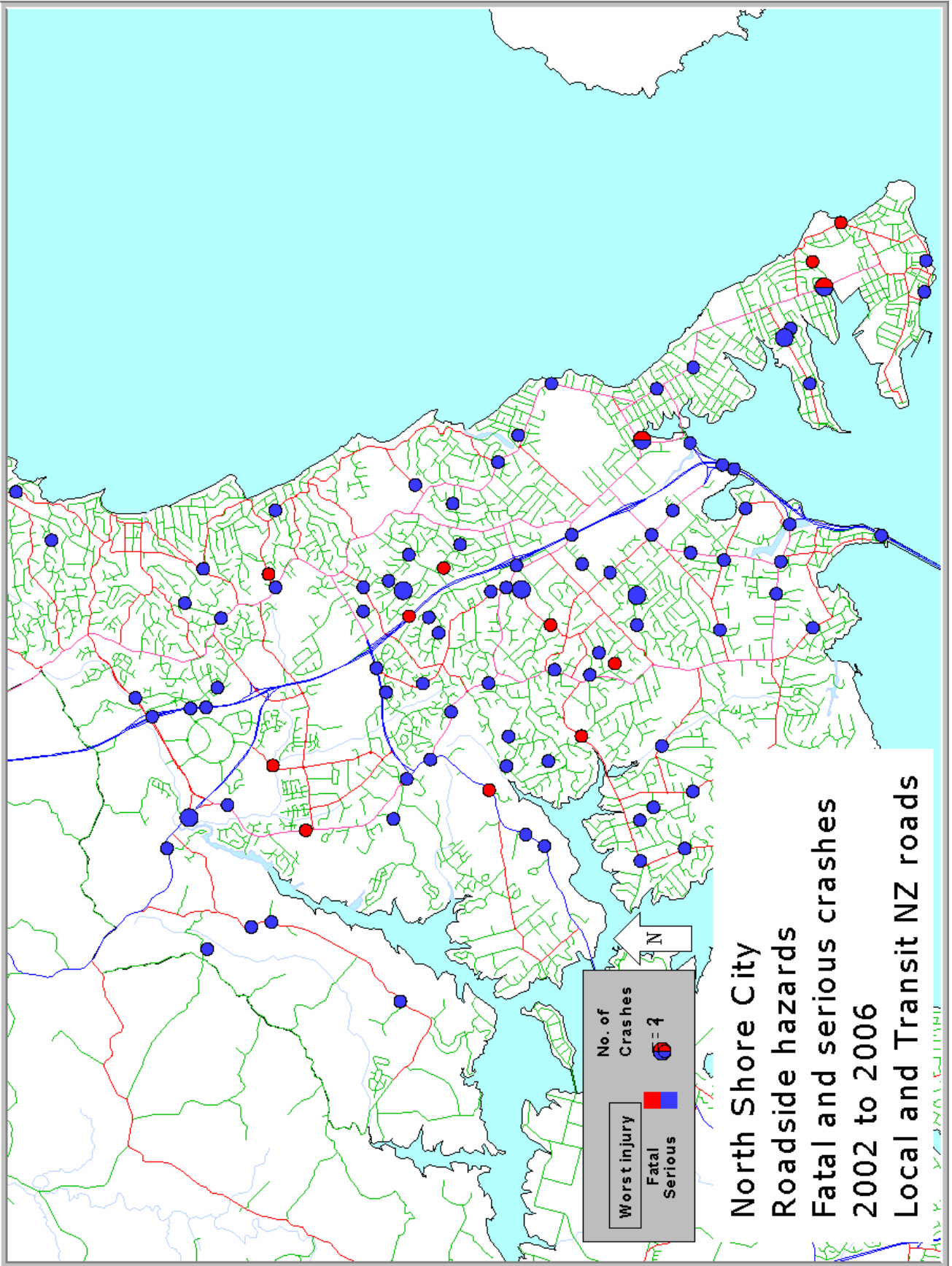
- 2 deaths, 24 serious injuries and 118 minor injuries
- Most common crash type “loss of control on straight (47)”
- 43 percent night time
- 43 percent wet road
- Worst month February, best September

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	2	1
Cliff or bank	34	6
Debris on road	3	3
Ditch	11	8
Fence	85	3
Guard rail	13	53
House or building	21	1
Kerb	51	5
Object thrown at or dropped on vehicle	0	1
Over bank	13	5
Parked vehicle	170	1
Phone box etc	16	2
Post or pole	90	16
Slip or flood	1	0
Stray animal	2	0
Traffic island	2	0
Traffic sign	23	9
Train	28	10
Tree	75	14
Vehicle attended (e.g. broken down)	34	4
Water or river	2	3



National issues

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

Speed

“Too fast” was recorded in 14 percent of injury crashes in the city in the last five years resulting in nine deaths and 421 other injuries.

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

Sixty-five 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 11 percent of injury crashes in the city in the last five years resulting in 10 deaths and 318 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 721 other injuries.

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

Fifty-six 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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