



# briefing notes - road safety issues

## North Shore City

New Zealand Transport Agency has prepared this road safety issues report. It is based on reported crash data and trends for the 2004–2008 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 tenth road safety report for North Shore City. All the material unless otherwise stated in this report applies only to local roads. Local roads are all non State Highway roads in the city.

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 (CAS) to delve deeper into the highlighted issues. All data and maps in this note are from CAS.

### Major road safety issues \*

#### North Shore City

Intersections

Vulnerable road users

Speed

Alcohol

#### Nationally \*

Speed

Alcohol

Failure to give way

Restraints

### 2008 road trauma

#### Casualties

#### North Shore City

Deaths	4
Serious casualties	29
Minor casualties	347

#### Crashes

#### North Shore City

Fatal crashes	3
Serious injury crashes	27
Minor injury crashes	289
Non-injury crashes	1088

\* not in any specific order of priority

## Overview

In 2008 on local roads in North Shore City there were 319 injury crashes and 1088 non-injury crashes. In addition there were 91 injury crashes and 337 non-injury crashes on State Highways both as reported by the New Zealand Police. The table below shows the number of injuries resulting from the 319 injury crashes by rural or urban areas for local roads (rural is defined as an area with a speed limit of 80km/h or more).

Casualties by urban / rural 2008				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	0	0	12	12
Urban	4	28	335	367
Total	4	28	347	369

In the table below it can be seen that over the last decade crash numbers in the various injury categories have fluctuated. Even though crash numbers in 2008 were the lowest in the last five years they were still higher than any year in the first five years of the decade. However to put this in context, traffic volumes on local roads in the city have risen substantially from 760 million vehicle kilometres travelled in 2003/4 to 1047 million in 2007/8. When the list of safety matters which are significant for North Shore City (in the table opposite) is compared to the same issues in similar cities, North Shore City is very much on or just below the "average" found elsewhere.

Crash trends in North Shore City				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1999	5	44	255	304
2000	4	43	225	272
2001	7	36	219	262
2002	6	56	242	304
2003	4	40	244	288
2004	1	56	309	366
2005	3	61	304	368
2006	6	50	321	377
2007	4	36	312	352
2008	3	27	289	319

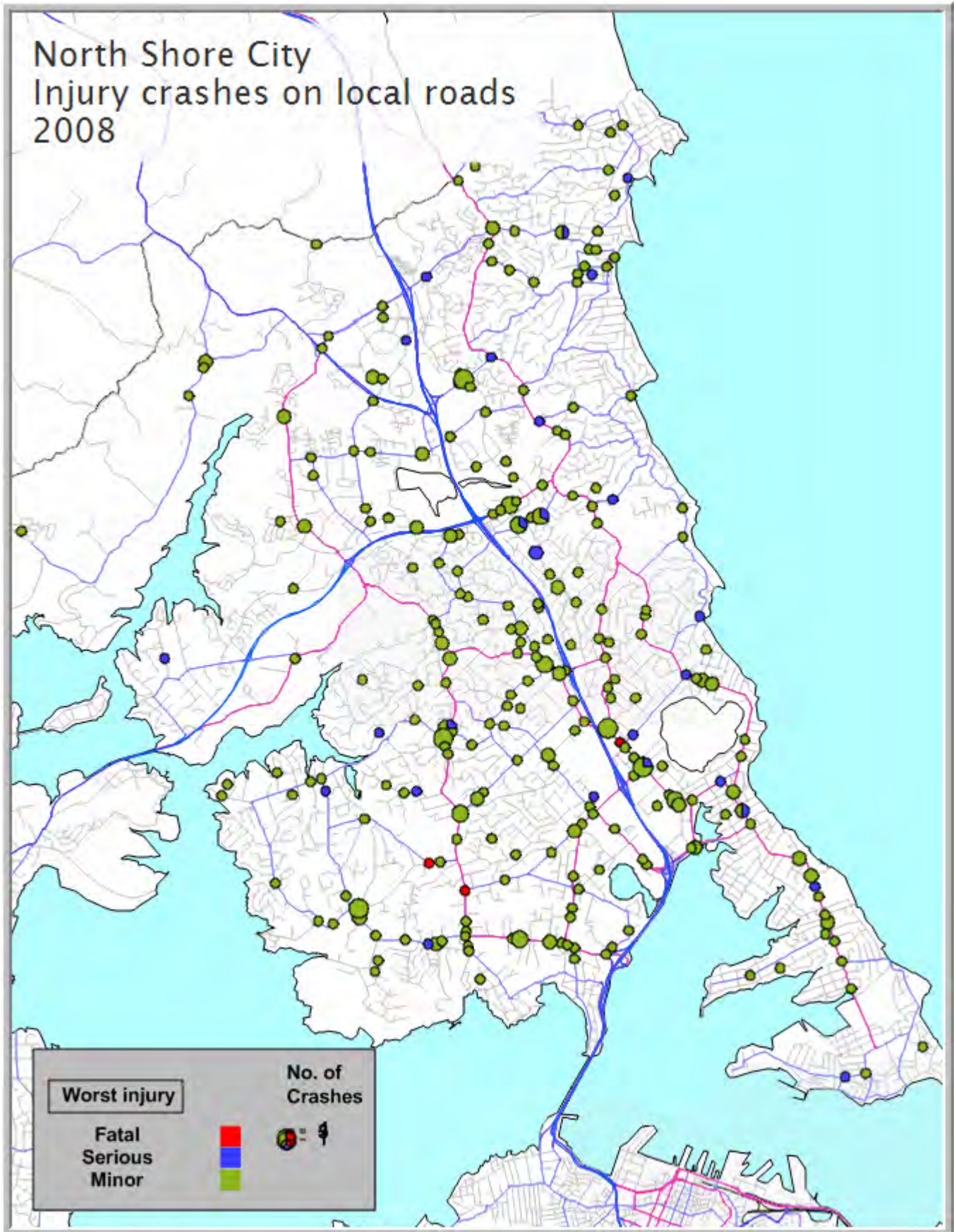
Crash characteristics - local roads		
Crash type or contributory cause 2004 to 2008	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	21	13
Too fast	17	12
At bends	22	19
At intersections	43	49
Pedestrians	19	10
Cyclists	17	10
Motorcyclists	14	8
Night time	38	33

Further information about the 1782 injury and 5719 non-injury crashes on **local** roads in North Shore City 2004 to 2008:

- Worst month August, best January
- Worst day Friday, best Sunday
- 25 percent on wet roads
- 31 percent at night
- 47 percent at intersections
- 3240 roadside objects struck
- 15 to 19 years was the most commonly reported five year age group of at fault drivers in injury crashes (21 percent)
- Social cost of crashes in 2008 \$70.0 m

Further information about the 469 injury and 1886 non-injury crashes on **State Highways** in North Shore City 2004 to 2008:

- Worst month July, best February
- Worst day Friday, best Sunday
- 26 percent on wet roads
- 27 percent at night
- 24 percent at intersections
- 518 roadside objects struck
- 20 to 24 years was the most commonly reported five year age group of at fault drivers in injury crashes (20 percent)
- Social cost of crashes in 2008 \$21.3m



## Intersections

During the five year period 2004 to 2008 within North Shore City there were a total of 3545 crashes at intersections, 867 of these were injury crashes and 2678 non-injury.

Crashes at Intersections					
	2004	2005	2006	2007	2008
Injury crash	167	168	204	174	157
Non-injury crash	514	556	530	558	520
Total	681	721	734	732	677

Locations with the most injury crashes are shown in the table below. There are 101 intersections in the city with three or more injury crashes in the last five years. Within this list there are 65 with four or more and 25 with six or more.

The threshold for what might be considered a black spot worthy of investigation is three injury crashes in the last five years.

Locations with the most injury crashes 2004 to 2008		
Intersection name (Within a radius of 50m)	Injury crashes 2004 - 2008	Total Injury crashes 2008
Wairau Rd / Archers Rd	15	0
Wairau Rd / View Rd E	12	1
Taharoto Rd / Northcote Rd	11	2
Shakespeare Rd / Taharoto Rd	10	1
Glenfield Rd / James St North	9	2

Junction control at intersections Injury and non-injury crashes				
Junction control	Traffic signals	Nil	Give Way	Stop
Number of crashes	911	971	1436	212

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

- Failure to stop and give way (46 percent of injury crashes)
- Not checking properly (46 percent of injury crashes)
- General errors of judgement (9 percent of injury crashes)

Junction type Injury and Non-injury crashes		
Junction Type	Rural	Urban
Roundabout	2	487
Tee	15	2131
Cross (X)	7	535
Y	3	122
Other (includes driveways)	1	242

Further information about the 867 injury crashes at intersections on **local** roads in North Shore City 2004 to 2008:

- 5 deaths, 106 serious injuries and 955 minor injuries
- 33 percent night time
- 15 to 19 years was the most commonly reported five year age group of at fault drivers in injury crashes (20 percent)
- Worst month August, best January
- Worst day Friday, best Sunday
- Worst three hour time period 3pm till 6pm

Further information about the 106 injury crashes at intersections on **State Highways** in North Shore City 2004 to 2008:

- No deaths, 6 serious injuries and 127 minor injuries
- 26 percent night time
- 15 to 19 and 20 to 24 years (equal) were the most commonly reported five year age group of at fault drivers in injury crashes (14 percent each)
- Worst month April, best September
- Worst days Thursday and Friday (equal), best Monday
- Worst three hour time period 3pm till 6pm

## Vulnerable road users

### (Pedestrians, Cyclists and Motorcyclists)

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

### Pedestrians

Pedestrian crashes feature highly in the overall crash numbers in North Shore City, representing 10 percent of all injury crashes and 19 percent of fatal and serious injury crashes in the last five years.

Pedestrian injuries 2004 to 2008					
Pedestrian injuries	2004	2005	2006	2007	2008
Fatal	0	1	1	1	1
Serious	16	10	8	11	11
Minor	37	35	25	27	37
Total	53	46	34	39	49

The most common type of pedestrian crash is when a pedestrian is crossing the road and is hit by a vehicle approaching from their right.

There are ten locations in the city with three or more pedestrian injury crashes in the last five years.

Sites with three or more crashes in the last five years and at least one in 2008 are in the table below

Locations with three or more injury pedestrian crashes in the last five years - including at least one crash in 2008	
Location	Number of crashes
Bentley Ave / Glenfield Rd	4
Lake Rd / The Strand	3
Mokoia Rd / Highbury Bypass	3
Hammond Pl / Birkenhead Ave	3
Forrest Hill Rd / Tristram Ave	3

### Ages of pedestrian casualties

Age band	Female	Male	Total
0 to 4	3	4	7
5 to 9	9	12	21
10 to 14	14	16	30
15 to 19	12	21	33
20 to 24	7	9	16
25 to 29	2	3	5
30 to 34	2	2	4
35 to 39	5	6	11
40 to 44	6	3	9
45 to 49	6	7	13
50 to 54	3	4	7
55 to 59	8	3	11
60 to 64	4	0	4
65 to 69	4	3	7
70 to 74	3	3	6
75 and over	11	9	20

Further information about the 216 injury pedestrian crashes on **local roads** and **State Highways** in North Shore City 2004 to 2008:

- 36 percent at intersections
- 22 percent at night
- Worst month May, best December
- Worst day of week Thursday, best Sunday
- 214 crashes on local roads, 2 on State Highways
- Pedestrians themselves contributed wholly or in part to 58 percent of the crashes
- Most common driver fault "poor observation—not checking properly" (22 percent of crashes)
- Road factors 11 percent of crashes, most commonly visibility issues

## Cyclists

Cyclists do feature strongly in the overall crash numbers in North Shore City, representing 10 percent of all injuries and 17 percent of fatal and serious injuries in the last five years.

There were 166 injury crashes involving cyclists between 2004 and 2008.

Cyclist injuries					
Cyclist injuries	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Serious	12	10	10	7	4
Minor	19	35	28	20	22
Total	31	45	38	27	26

The two most common types of crashes that cyclists have in North Shore City are:

- when a vehicle on the same road turns right directly in front of the cyclist or
- when a cyclist is hit by a vehicle turning right out of a side road or driveway

Cycling crashes are largely spread over the City but two locations stand out with three injury crashes at each over the last five years. These two locations are:

- at or near the intersection of Wairau Road and Ellice Road
- at or near the intersection of Glenfield Rd and James Street (north end)

An interesting initiative in the North Shore has been the addition of cycle crashes to Google Maps. Search in Google Maps for “North Shore cycle crashes”.

In the last 20 years there has been a significant shift in the age distribution of cyclists being injured on the North Shore as illustrated in the following table. There is now a much broader spread of ages amongst cyclists but with far fewer in the lower age brackets.

This would suggest that far fewer of today’s children are learning to ride bicycles, in turn, over time, it may make it harder to attract new adult participants to this form of transport.

### Age and gender of cyclist casualties 2004 to 2008 and 1984 to 1989 (20 years ago)

Ages	Female 2004 to 2008	Male 2004 to 2008	Total 2004 to 2008	20 years ago
0 to 4	0	0	0	0
5 to 9	0	3	3	16
10 to 14	5	16	21	67
15 to 19	2	11	13	74
20 to 24	3	8	11	28
25 to 29	7	9	16	17
30 to 34	3	13	16	11
35 to 39	2	15	17	7
40 to 44	9	11	20	6
45 to 49	3	11	14	2
50 to 54	6	7	13	1
55 to 59	3	5	8	1
60 to 64	2	6	8	0
65 to 69	0	0	0	0
70 to 74	0	0	0	0
75 and over	0	2	2	0

Further information about the 166 injury cyclist crashes on local roads in North Shore City 2004 to 2008:

- 54 percent at intersections
- 19 percent at night
- Worst month August, best December
- Worst day Wednesday, best Sunday
- Worst three hour time period 6am till 9am

## Motorcyclists

Nationally motorcycling fatalities dropped from 20 percent of all fatalities in 1988, to just six percent in 2003.

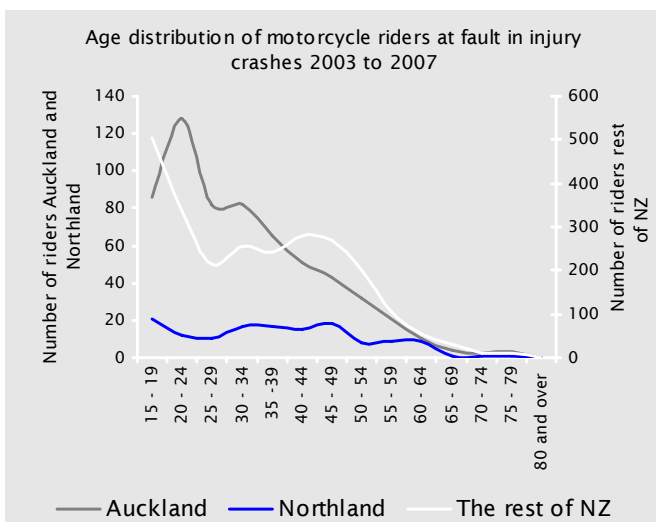
Since then there has been an increase in motorcycle registrations and this has reversed the downward trend. In 2008 motorcyclists accounted for just under 14 percent of road fatalities in New Zealand.

Motorcyclist injuries do not feature highly in the overall crash statistics in North Shore City, representing only 8 percent of all injuries. They do however, make up 14 percent of fatal and serious injuries.

Motorcyclist injuries					
	2004	2005	2006	2007	2008
Fatal	1	1	1	0	1
Serious	3	8	12	4	4
Minor	11	24	19	38	31
Total	15	33	32	42	36

Nationally there is a perception that many “baby boomers” are returning to motorcycling. The chart below which was compiled last year, initially suggests that this may be true for all of New Zealand.

However the Ministry of Transport's NZ Household Travel Survey (NZHTS) indicates that riders in the 35+ age bracket tend to travel much longer distances each year than their younger counterparts which may go some way to explain the national “bump” in the 45-50 age bracket. Unfortunately the NZHTS does not have a sample size at a local body level to validate if this is the case in the North Shore which also has a spread out age distribution of injured riders and pillions.



Age and gender of motorcycle casualties (includes pillions)			
Ages	Female	Male	Total
5 to 9	0	1	1
10 to 14	1	1	1
15 to 19	3	23	26
20 to 24	6	35	41
25 to 29	3	12	15
30 to 34	2	13	15
35 to 39	0	10	10
40 to 44	2	13	15
45 to 49	1	10	11
50 to 54	1	11	12
55 to 59	1	4	5
60 to 64	1	0	1
65 to 69	0	3	3

Further information about the 156 injury motorcyclist crashes on **local** roads in North Shore City 2004 to 2008:

- 24 percent were in the wet
- 31 percent at night
- 55 percent at intersections
- Worst month October, best January
- Worst day Friday, best Sunday

Further information about the 36 injury motorcyclist crashes on **State highways** in North Shore City 2004 to 2008:

- No motorcyclists died, 3 received serious injuries and 34 minor injuries
- 14 percent were in the wet
- 25 percent at night
- Worst month September, best March and May (equal)
- Worst day Tuesday, best Sunday and Wednesday (equal)

## Speed

Nationally, speed is one of the major contributing factors to road crashes. Reducing speeds is an important road safety goal. Excessive speed increases the likelihood of a crash occurring by reducing the time available for drivers to respond to situations and it leads to more serious injuries. Research has shown that a one km/h reduction in mean speed can produce a three percent reduction in injury crashes.

Between 2004 and 2008 17 percent of fatal and serious crashes and 12 percent of injury crashes in North Shore City involved travelling too fast for the conditions. These crashes resulted in six fatalities, 44 serious injuries and 264 minor injuries.

Speed related crashes					
Speed related crashes	2004	2005	2006	2007	2008
Rural	3	2	3	2	4
Urban	47	39	51	42	29
Total	50	41	54	44	33

The ages of at fault drivers in speed related crashes are shown in the table below. Seventy-seven percent of at fault drivers are aged under 30 and male drivers account for 80 percent of at fault drivers in these crashes.

Age and gender of at fault drivers in speed related injury crashes			
Driver age	Male	Female	Total
15-19 years *	72	13	85
20 - 24	52	8	60
25 - 29	20	4	24
30 - 39	21	8	29
40 - 49	11	5	16
50 - 59	1	3	4
60 - 69	0	2	2
70+	0	0	0
<b>Total</b>	<b>177</b>	<b>43</b>	<b>220</b>

\*note age ranges are not equal

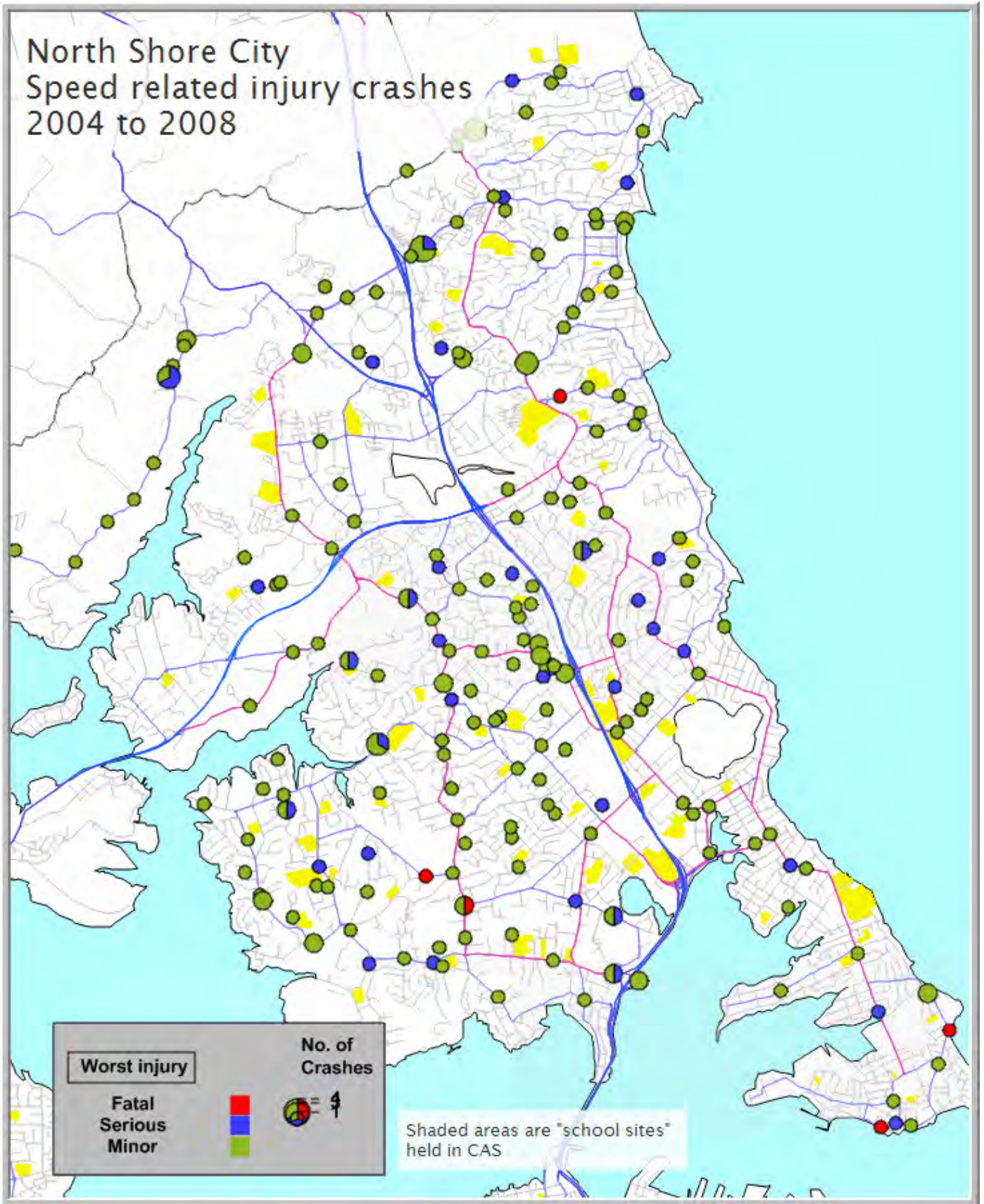
Further information about the 222 speed related injury crashes on **local** roads in North Shore City 2004 to 2008:

- 6 deaths, 44 serious injuries and 264 minor injuries
- Most common crash type “Lost control on a bend”
- 37 percent wet road
- 56 percent night time
- 33 percent involved alcohol as a factor
- Worst month September, best January
- 43 percent of at fault drivers held a full licence
- Worst days Friday and Saturday (equal)
- Worst three hour time period, midnight till 3am
- 17 percent of crashes included a road related factor

Further information about the 54 speed related injury crashes on **State Highways** in North Shore City 2004 to 2008:

- No deaths, 10 serious injuries and 65 minor injuries
- Most common crash type “Rear end”
- 48 percent wet road
- 50 percent night time
- 48 percent of at fault drivers are aged under 25
- 9 percent involved alcohol
- 65 percent of at fault drivers held a full licence
- Worst months July and August (equal), best February and March (equal)
- Worst day Friday, best Tuesday
- Worst three hour time period 3pm till 6pm





## Alcohol

Alcohol affects the way people drive. 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 (80mg of alcohol per 100ml of blood) is sixteen times more likely to be involved in a fatal crash than a sober driver.

Contrary to popular opinion, people with high blood alcohol levels are more likely to be injured or killed in a crash than a sober driver in the same crash, and if injured, they are also more likely to encounter complications in their recovery.

In New Zealand for the 12 months to December 2008, alcohol-affected drivers contributed to 34 percent of all fatal crashes (the same as 2007) and 15 percent of all injury crashes (the same as 2007).

In North Shore City, alcohol was a factor in 21 percent of fatal and serious crashes and 13 percent of all injury crashes.

Number of alcohol related injury crashes			
Crash year	Open road	Urban road	Total
2004	1	38	39
2005	1	43	44
2006	1	55	56
2007	1	55	56
2008	2	37	39
Total	6	228	234

(Open road is classified as any area with a speed limit of 80km/hr or more).

The key crash locations of alcohol related crashes occurring between 2004 and 2008 are shown on the map on the following page.

From the beginning of 2007 NZTA has been adding driver factor codes to all non-injury crashes for the northern district.

This will allow the Police and other agencies to target alcohol related crashes more quickly and with even more geographic accuracy than ever before.

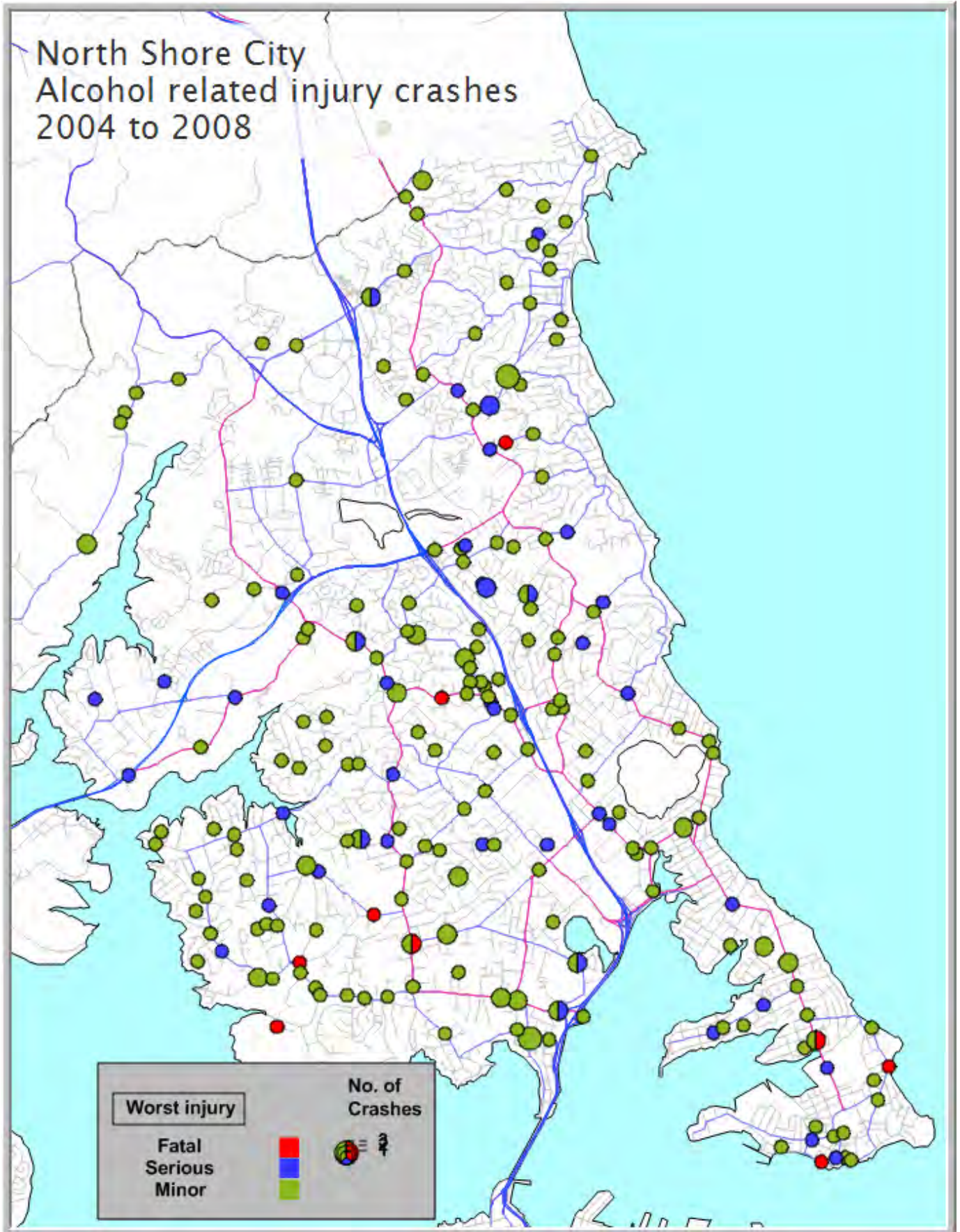
In 2008 there were 115 non-injury alcohol related crashes reported by the Police in North Shore City.

Further information about the 224 alcohol related injury crashes on **local** roads in North Shore City 2004 to 2008:

- 10 deaths, 49 serious injuries and 255 minor injuries
- 83 percent of at fault drivers were male
- Most common crash type “loss of control at a bend”
- 39 percent at intersections
- 77 percent night time
- 32 percent involved speed
- 20 to 24 years was the most commonly reported five year age group of at fault drivers in injury crashes
- 48 percent of at fault drivers held a full drivers licence
- Worst three hour time period, midnight till 3am
- Worst month November, best January
- Worst day Saturday, best Monday

Further information about the 33 alcohol related injury crashes on **State Highways** in North Shore City 2004 to 2008:

- No deaths, 13 serious injuries and 38 minor injuries
- 70 percent of at fault drivers were male
- Most common crash type “loss of control on a straight”
- 24 percent at intersections
- 79 percent night time
- 15 percent involved speed
- 20 to 24 years was the most commonly reported five year age group of at fault drivers in injury crashes
- 62 percent of at fault drivers held a full drivers licence
- Worst three hour time period 9pm till midnight
- Worst day Saturday, best Tuesday



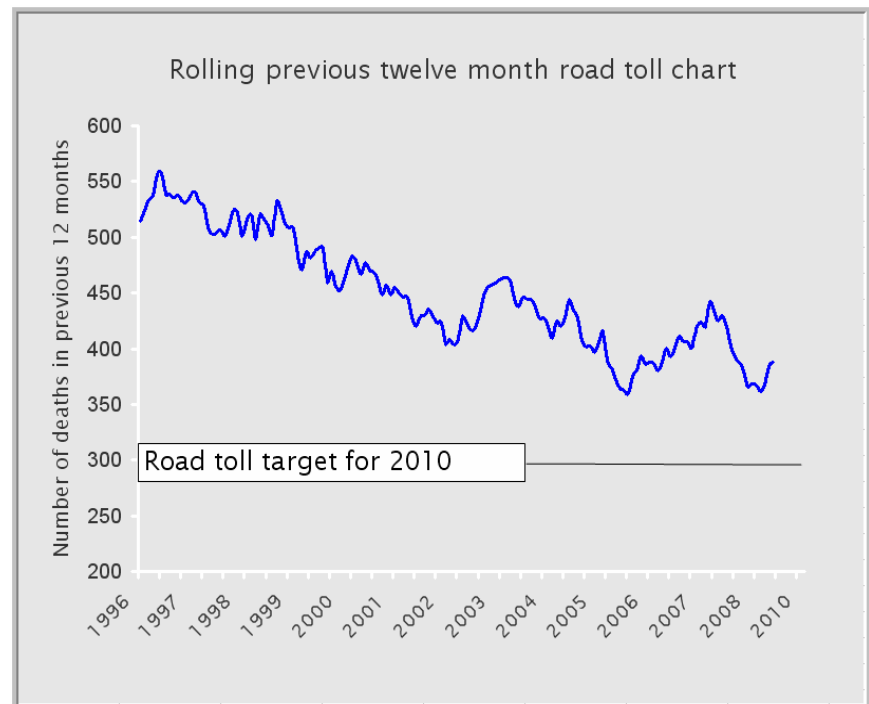
## The next ten years—moving beyond Road Safety 2010

In August this year the Ministry of Transport will embark on a nationwide road safety consultation programme as it moves to formulate priorities for the next ten years.

Information will be published on their web site and we would encourage any person or group with an interest in road safety to watch the site carefully for developments. Follow this link:

<http://www.transport.govt.nz/ourwork/Land/landsafety/SaferJourneys-RoadSafetyStrategyto2020/>

The chart on the right illustrates the progress made during the life of the Road Safety 2010 strategy. Although progress has been made it would seem highly unlikely that the target of 300 or fewer fatalities will be met.



### Restraints

The Ministry of Transport (MoT) conducts surveys of restraint use. Results are available for front, rear and child restraints although not all at a local authority level.

See the MoT website: <http://www.transport.govt.nz/research/safetybeltstatistics/>

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