

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 2003–2007 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 ninth 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

Crashes at bends

Night time crashes

Nationally

Speed

Alcohol

Failure to give way

Restraints

2007 road trauma

Casualties

North Shore City

Deaths 4

Serious casualties 36

Minor casualties 383

Crashes

North Shore City

Fatal crashes 4

Serious injury crashes 34

Minor injury crashes 307

Non-injury crashes 1155

Overview

Police reported 345 injury crashes and 1,155 non-injury crashes on roads controlled by North Shore City in 2007. In addition there were 102 injury crashes and 427 non-injury crashes on State Highways within the city.

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

Casualties by local road type 2007				
	Fatalities	Serious injuries	Minor injuries	Total
Major urban	0	16	237	253
Minor urban	4	18	122	144
Open road	0	2	12	14
Total	4	36	371	411

Local road serious injury casualty numbers in the city have reduced since a peak in 2005. Minor casualty numbers have been relatively steady over the last four years, the number in 2007 being similar to that recorded in 2005.

Reported non-injury crash numbers have steadily increased in the city from 819 reported in 1998 to 1,155 reported in 2007.

Crash trends in North Shore City				
Year	Fatalities	Serious injuries	Minor injuries	Total
1998	10	35	240	285
1999	7	48	341	396
2000	5	50	306	361
2001	6	41	281	328
2002	5	57	305	367
2003	3	43	300	346
2004	1	61	375	437
2005	3	63	382	448
2006	6	52	423	481
2007	4	36	383	423

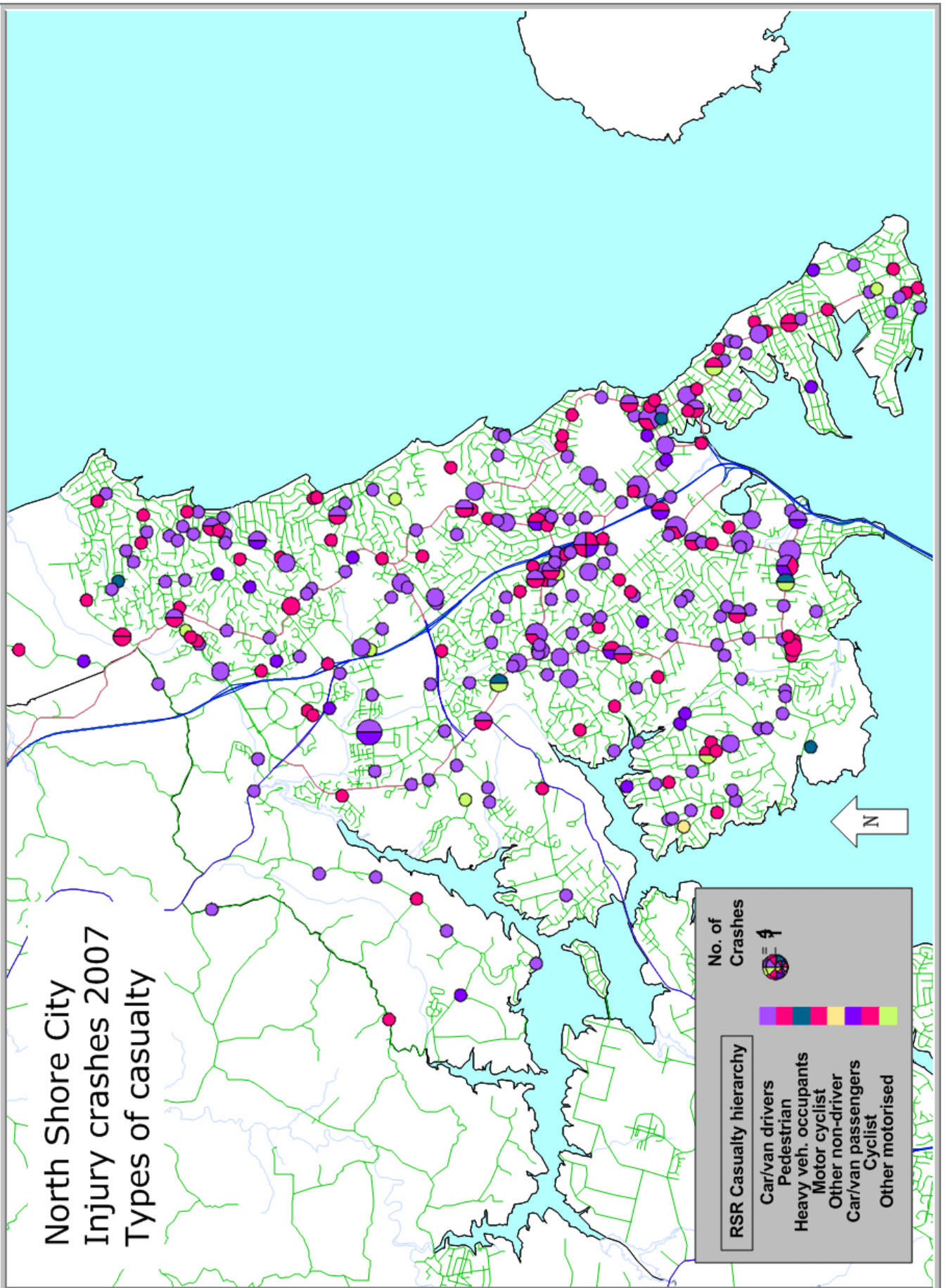
Local road crashes		
Crash type or contributory cause 2003 to 2007	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	18	13
Too fast	20	14
At bends	22	16
At intersections	42	49
Vulnerable road users (1-3 as below)	57	29
1, Pedestrians	25	12
2, Cyclists	18	9
3, Motorcyclists	14	8
Roadside object struck	32	30
Road factors	11	10
Night time	39	33

Further information about 2003 to 2007 injury and non-injury crashes on local roads:

- Worst month August, best January
- Worst day Friday, best Sunday
- 26 percent on wet roads
- 31 percent at night
- 48 percent at intersections
- 58 percent of at fault drivers in injury crashes held a full New Zealand drivers licence
- \$78.3 m social cost of crashes in 2007

Further information about 2003 to 2007 injury and non-injury crashes on State Highways (mainly motorways):

- Worst month November, best January
- Worst day Friday, best Sunday
- 29 percent on wet roads
- 29 percent at night
- 71 percent of at fault drivers in injury crashes held a full New Zealand drivers licence
- 25 percent at intersections
- \$25.7 m social cost of crashes in 2007



Intersections

During the five year period 2003 to 2007 there were a total of 3,512 crashes at local road intersections within North Shore City. Of these crashes, 99 percent occurred in urban areas.

Intersection conflicts resulted in 843 injury crashes and 2669 non-injury crashes. In these 4 people were killed, 106 received serious injuries and 919 received minor injuries.

Crashes at intersections					
	2003	2004	2005	2006	2007
Injury crash	138	165	164	202	174
Non-injury crash	536	511	553	520	549
Total	674	676	717	722	723

Locations with the most crashes			
Intersection name (50 m Radius)	Total crashes 2003 - 2007	Injury crashes 2003 - 2007	Total 2007
Archers Road / Wairau Road	52	15	11
Wairau Road / View Road (East)	65	14	16
Taharoto Road / Shakespeare Road	47	12	2
Taharoto Road / Northcote Road	56	11	13
Anzac Street / Barrys Point Road	42	11	4

Junction type Injury and non-injury crashes 2003–2007		
Junction type	Major urban	Minor urban
Roundabout	231	179
Tee	1,364	727
Cross (X)	422	126
Y	85	41
Other (includes driveways)	195	68

The most common crash type at intersections is when a driver turning right into a side road or driveway hits an oncoming vehicle (17 percent).

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

- Failure to stop and / or give way
- Not checking adequately
- Being inattentive
- Attention being diverted
- Impaired by alcohol
- Following too close

Intersections controlled by traffic signals represented almost a quarter of the injury crashes.

Junction control Injury and non-injury crashes 2003–2007		
Junction control	Injury	Non-injury
Traffic signals	210	657
Nil control	243	802
Give way sign	335	1,047
Stop sign	53	151
Other	2	12

Further information about injury and non-injury crashes at intersections on local roads in North Shore City 2003 to 2007:

- 11 percent injury crashes involved alcohol
- 27 percent wet roads
- 30 percent night time
- Worst month October, best January
- Worst day of week Friday, best Sunday

Further information about injury and non-injury crashes at intersections on State Highways (mainly motorways) in North Shore City 2003 to 2007:

- 0 deaths and 15 serious injuries
- 7 percent injury crashes involved alcohol
- 24 percent wet roads
- 26 percent night time
- Worst month November best January
- 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 with a vehicle 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. 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

Pedestrian injuries feature highly in the overall road injury picture in North Shore City, representing 12 percent of all injuries and 25 percent of fatal and serious injuries.

Pedestrian injuries 2003 to 2007					
Pedestrian injuries	2003	2004	2005	2006	2007
Fatal	0	0	1	1	1
Serious	13	16	10	8	11
Minor	27	37	35	24	27
Total	40	54	46	33	39

Most (52 percent) pedestrian crashes occur on major urban roads. Two thirds of these occurred at mid-block locations and most occur during daylight hours. Thirty two percent of crashes occur between 3pm and 6pm. afternoon.

A high proportion 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. Younger age groups may also 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 enforcement of a lower speed tolerance around schools and greater use of 40 km/h school speed zones 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 between 2003 and 2007 are shown in the table below.

Locations with the most pedestrian crashes	
Location (100 m Radius)	Number of crashes
Taharoto Road & Shea Terrace area	5
Birkenhead Avenue & Hammond Place area	5
Birkenhead Avenue & Mokoia Road area	4
Bently Avenue & Glenfield Road area	4
Link Drive & Target Road area	4

Further information about the 231 injury and non-injury pedestrian crashes on local roads in North Shore City 2003 to 2007:

- The most common type of crash involved a pedestrian crossing the road being hit by a vehicle approaching from the right (38 percent)
- 19 percent of the pedestrian crashes at intersections had traffic signal controls
- Worst month, November
- Worst day of week, Thursday, best Sunday

Further information about pedestrian crashes on State Highways (mainly motorways) in North Shore City 2003 to 2007:

- Number of injury and non-injury pedestrian crashes five

Cyclists

Cyclist vs vehicle injuries represent nine percent of all injuries in North Shore City, however the percentage of serious injuries to cyclists was twice as high at 18 percent. The 2007 injury count is lower than the previous two years.

Cyclist injuries					
	2003	2004	2005	2006	2007
Fatal	0	0	0	0	0
Serious	5	12	10	10	7
Minor	14	19	37	29	19
Total	19	31	47	39	26

Most (72 percent) cycling crashes occurred on major urban roads, the majority of these at intersections (60 percent) and during daylight hours.

In the last two years 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 injury numbers are highest for those in the 10 to 14 and 40-44 year old age groups. The oldest cyclists injured were 76 years old.

Further information about the 192 injury and non-injury cyclist vs vehicle crashes on local roads in North Shore City 2003 to 2007:

- The most common type of crash was when a vehicle turning right out of a side road or driveway hits an oncoming cyclist
- 19 percent of cycle crashes were recorded as non-injury
- Worst month August, best December
- Worst day of the week Wednesday, best Saturday
- Number of crashes involving riding on the footpath, 10
- 73 percent of cyclists injured were male

Further information about the 12 injury and non-injury reported cyclist crashes on State Highways in North Shore City 2003 to 2007:

- 30 percent resulted in serious injuries
- 33 percent at intersections
- 17 percent at night
- 90 percent of the 10 cyclists injured were male

Motorcyclists

Although motorcyclist injuries do not feature highly in the overall local road injury picture in North Shore City, representing eight percent of all injuries, they make up 14 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 2007 motorcyclists accounted for almost 10 percent of road fatalities in New Zealand and by mid 2008 it had reached over 11 percent.

Motorcyclist injuries					
	2003	2004	2005	2006	2007
Fatal	1	1	1	1	0
Serious	8	3	7	11	4
Minor	14	10	23	16	35
Total	23	14	31	28	39

Most motorcycle crashes occur on major urban roads (66 percent), the majority of these at intersections (55 percent) and during daylight hours.

Motorcyclist injuries are highest for those in the 20 to 24 year age group.

Further information about the 181 injury and non-injury motorcyclist crashes on local roads in North Shore City 2003 to 2007:

- The most common type of crash was when a vehicle turning right into a side road or driveway hits an oncoming motorcyclist
- 7 billion riders were injured
- Worst month October, best January
- Worst day of week Friday, best day Sunday
- 88 percent of motorcyclists injured were male

Further information about the 49 injury and non-injury motorcyclist crashes on State Highways (mainly motorways) in North Shore City 2003 to 2007:

- 24 percent at intersections
- 18 percent in the wet
- 87 percent of motorcyclists injured were male

Crashes at bends

In the last five years 16 percent of all local road injury crashes in North Shore City occurred at bends, more importantly they made up 31 percent of the social cost of all fatal and serious injuries.

Total injury crash numbers in the past two years are higher than the previous three years.

Crashes at bends 2003 to 2007				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2003	1	9	40	50
2004	1	12	47	60
2005	1	9	43	53
2006	3	10	64	77
2007	3	7	62	72
Total	9	47	256	312

Most crashes at bends involved a driver losing control of their vehicle and running off the road, especially on right hand bends.

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

The four most common roadside objects struck in bend crashes in North Shore City were fences (242), trees (205), parked vehicles (196) and poles (167) from a total of 1,610 objects struck.

Main characteristics of crashes at bends	
Crash characteristic	Percentage of crashes
Single vehicle	66
Alcohol	33*
Excessive speed for the conditions	47*
Road factors	11
Poor handling	40*
At intersections	45
Wet road	45
Night time	51
* Injury crash percentage only	

A very high percentage of bend crashes occur in the wet and during the hours of darkness.

Alcohol and speed related crashes are also over represented, especially when North Shore city is compared to similar cities.

Bend crashes in dark	
Crash injury type	Percentage of crash type in dark
Fatal	33
Serious	53
Minor	54
Non-injury	50

Further information about the 312 injury crashes on bends (2003 to 2007) on local roads in North Shore City:

- 9 deaths, 55 serious injuries and 366 minor injuries
- 76 percent of at fault drivers were male
- Most common crash type, 'loss of control turning right' (49 percent)
- Most common age group of at fault drivers, 15-19 year olds
- Worst month December, best January
- Worst day of week Friday, best Tuesday
- Worst three hour period midnight to 3pm

Further information about the 32 injury crashes on bends (2003 to 2007) on State Highways (mainly motorway) in North Shore City:

- 1 death, 6 serious injuries and 34 minor injuries
- 69 percent of at fault drivers were male
- Most common crash type, 'loss of control turning left' (48 percent)
- Most common age group of at fault drivers 15-24 year olds
- 9 percent of crashes involved alcohol
- 41 percent of crashes involved excessive speed for the conditions
- Worst month, March
- Worst three hour period, 6pm to 9pm

Night time crashes

The proportion of fatal and serious injury crashes occurring during the hours of darkness on local roads in North Shore City is slightly higher than the New Zealand average.

Between 2003 and 2007 there were a total of 571 night time injury crashes and 1700 non-injury crashes on local roads resulting in 9 fatalities, 96 serious injuries and 635 minor injuries.

Night time crashes on minor urban roads generally increased between 2003 – 2007.

Night time crashes by road type					
Road type	2003	2004	2005	2006	2007
Major urban	226	253	256	274	229
Minor urban	163	186	193	187	210
Open road	5	6	11	6	4

Almost half of the night time crashes (49 percent) occur during the weekend period when traffic volumes are generally less. Approximately a third of the weekend injury bend crashes involved alcohol. It is therefore important that appropriate enforcement resources are allocated during these less congested times.

Night time crashes by day of week		
Worst injury	Weekend (Friday 6pm till Monday 6am)	Weekday (Monday 6am till Friday 6pm)
Fatal	4	5
Injury	282	280
Non-injury	843	857
Total	1,129	1,142

Younger drivers are highly represented in night times crashes on local roads in North Shore City.

Two factors can contribute to this:

- firstly younger people generally drive more at night.
- secondly despite the fact that they see better at night than older drivers and have better glare recovery, they underestimate how difficult it can be to see traffic hazards at night.

Age and gender of at fault drivers

Ages of drivers at fault in night time injury crashes	Male	Female
15- 19	113	34
20 - 24	84	30
25 - 29	42	11
30 - 39	45	26
40 - 49	47	14
50 - 59	21	10
60 - 69	5	6
70+	11	3
Total	368	134

A high proportion of night time crashes occur at intersections (47 percent), of these 31 percent had traffic signal controls. Sites with the highest proportion of night time crashes include:

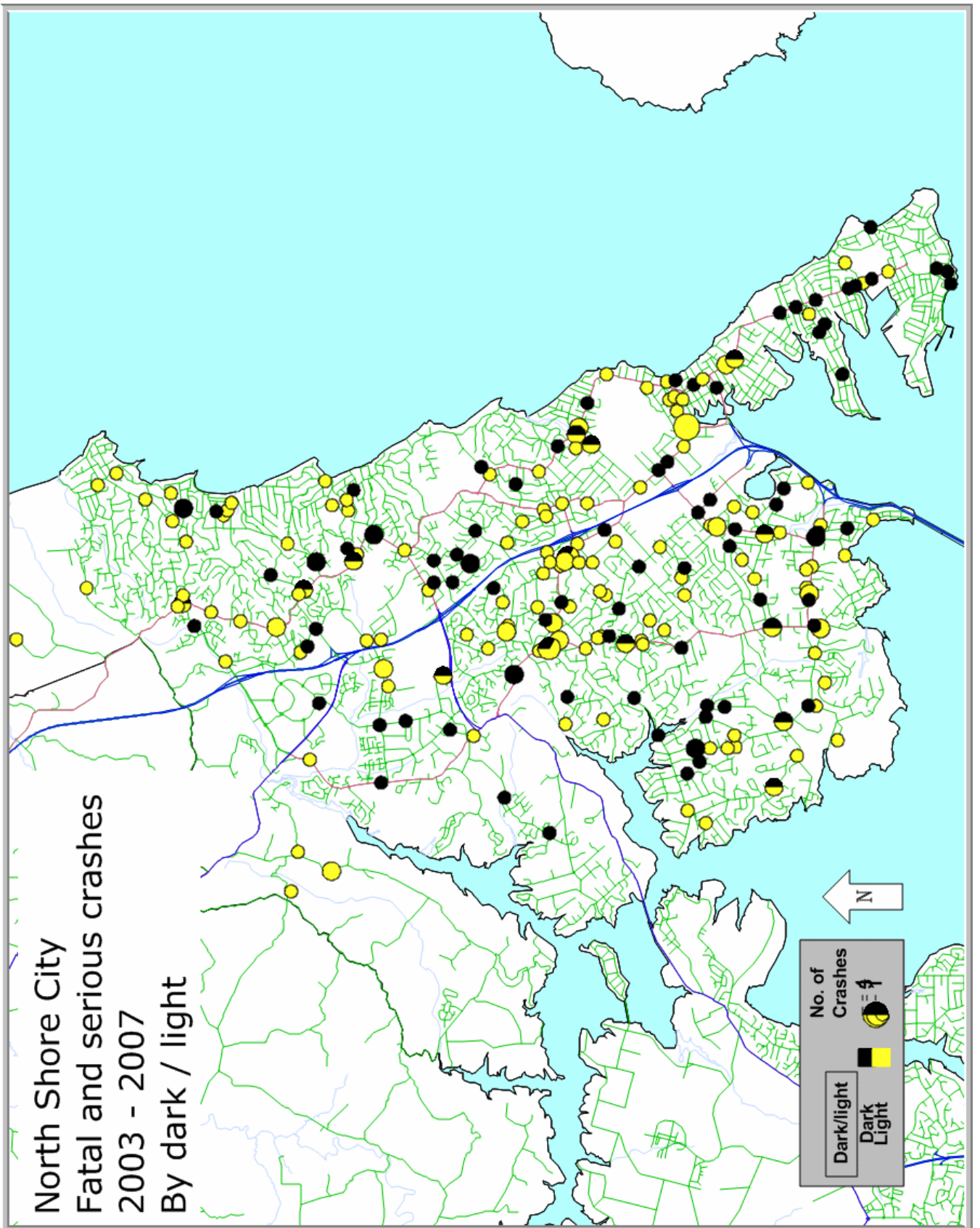
- Beach Rd/Carlisle Rd, 13 crashes (69% dark)
- Mayfield Rd/Chivalry Rd, 19 crashes (68% dark)
- Oteha Valley/Fields Parade, 11 crashes (63% dark)
- Taharoto Rd/Fred Thomas, 31 crashes (58% dark)

Further information about the 2,271 night time injury and non-injury crashes in North Shore City on local roads 2003 to 2007:

- Most common crash type is loss of control turning right.
- 30 percent injury crashes include alcohol
- 34 percent wet road
- 22 percent injury crashes speed related
- Worst month July
- Worst day of week Friday

Further information about the 706 night time injury and non-injury crashes in North Shore City on State Highways (mainly motorway) 2003 to 2007:

- 1 death, 23 serious injuries and 199 minor injuries
- Most common crash type is a driver running into the rear of a queue of traffic.
- 18 percent injury crashes include alcohol
- 34 percent wet road
- 16 percent injury crashes speed related
- Worst month June
- Worst day of week Friday



National issues

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

Speed

'Too fast' was recorded as a factor in 14 percent of injury crashes in the city in the last five years resulting in 6 deaths and 314 other injuries. Speed as a factor in crashes is similar to the New Zealand city average but is not generally reducing in the city.

Seventy-seven percent of speed-related crashes were 'loss of control or head on'. Alcohol and poor handling were the other driver factors often associated with speed related crashes.

At fault male drivers aged less than 24 were the most highly represented in speed-related crashes.

Alcohol

Alcohol was involved in 13 percent of injury crashes in the city in the last five years resulting in 6 deaths and 270 other injuries. The number of injury crashes involving alcohol have gradually increased over the last five years.

Most alcohol related crashes occur during the hours of darkness (53 percent, 9 pm – 3 am).

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

Failure to give way

Failure to give way or stop was reported in 29 percent of all reported injury crashes for the last five years resulting in no deaths but 617 other injuries.

There were 196 crashes at give way signs, 109 at traffic signals, 34 at stop signs and 146 at uncontrolled junctions.

Restraints

The Ministry of Transport conducts surveys of restraint use. The results of these surveys are at a Regional Council, Police District and local body level. The front seat belt wearing rate in North Shore City was 96 percent in 2007.

The results are obtainable from the Ministry of Transport website :

<http://www.transport.govt.nz/safety-belt-statistics-front-seat-200-1/>

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