

# *briefing notes - road safety issues*

## *Northland Region*

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 the Northland Region.

This report is the ninth road safety report for the Northland Region. All the material unless otherwise stated in this report applies to both State Highways and local 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 or those with high social cost (high numbers of fatal and serious crashes mainly).

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

We encourage Northland Regional Council staff to use their 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

#### Northland Region

Bends

Loss of control – Straights

Alcohol

Road Factors

#### Nationally

Speed

Alcohol

Failure to give way

Restraints

### 2007 road trauma

#### Casualties

#### Northland Region

Deaths 30

Serious casualties 148

Minor casualties 611

#### Crashes

#### Northland Region

Fatal crashes 28

Serious injury crashes 112

Minor injury crashes 396

Non-injury crashes 1051

## Overview

In 2007 on local roads in Northland Region there were 275 injury crashes and 640 non-injury crashes. In addition there were 261 injury crashes and 411 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 536 crashes by rural or urban areas (rural is defined as an area with a speed limit of 80km/h or more).

Casualties by injury type 2007				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	23	110	450	583
Urban	7	38	161	206
Total	30	148	611	789

Fatalities in Northland have shown a modest downward trend over the last decade. Serious injuries have remained almost constant over the decade while minor injuries have almost doubled.

This pattern is found on both local roads and State Highways in the region and reflects a probable improvement in the crash reporting rate.

This lift in Police performance coincides with the time that the Land Transport Safety Authority established an office in Whangarei with the aim of lifting the profile of road safety in the north.

Improvements to the crash reporting rate can have a very significant impact on the effective targeting of crash black spots.

Crash trends in Northland Region				
Year	Fatalities	Serious injuries	Minor injuries	Total
1998	39	113	325	477
1999	35	129	340	504
2000	46	116	326	488
2001	27	130	312	469
2002	36	125	360	521
2003	33	119	592	744
2004	30	153	576	759
2005	23	133	552	708
2006	30	129	595	754
2007	30	148	611	790

Crash types and contributory causes 2003 to 2007		
Crash type or contributory cause	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	30	21
Too fast	32	25
At bends	53	49
At intersections	15	22
Pedestrian related	8	6
Road factors	16	19
Lost control—head on straights	17	15
Night time	38	34
Fatigue	9	8
Poor handling	24	23

Further information about the 1352 injury and 3116 non-injury crashes on local roads (2003 to 2007):

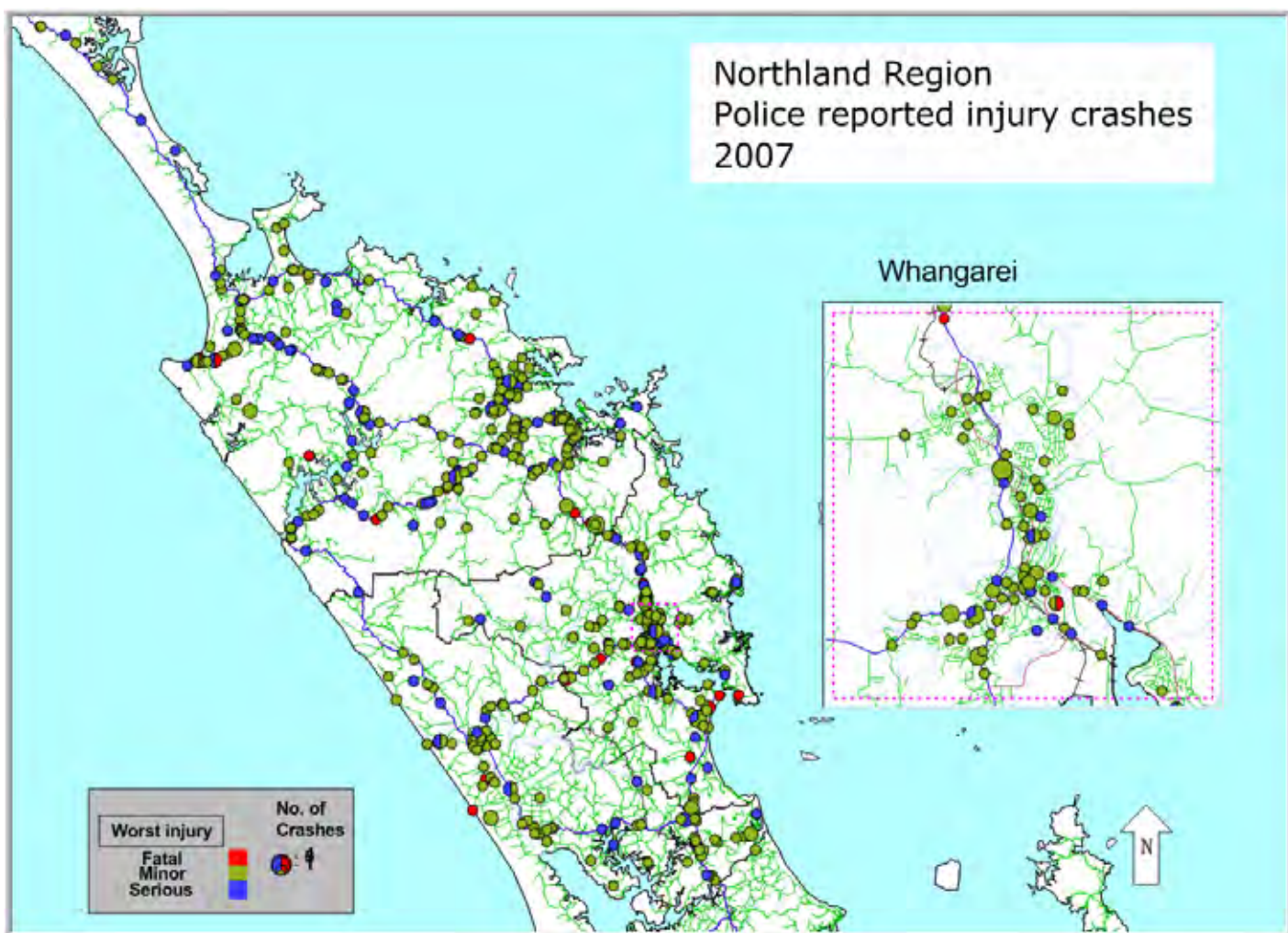
- Worst month December, best March
- Worst day Friday, best Sunday
- 27 percent on wet roads
- 31 percent at night
- 2614 number of roadside objects struck
- 51 percent of at fault drivers (injury crashes) held a full NZ drivers licence
- Social cost of crashes in 2007 \$127.3m

Further information about the 1252 injury and 1971 non-injury crashes on State Highways 2003 to 2007:

- Worst month December, best July
- Worst day Friday, best Monday
- 32 percent on wet roads
- 32 percent at night
- 2157 number of roadside objects struck
- 59 percent of at fault drivers (injury crashes) held a full NZ drivers licence
- Social cost of crashes in 2007 \$146.8m

### Road Safety Issues for roads in the Northland region

Local body	Bends – lost control / head on	Road factors	Speed	Alcohol	Straights - loss of control / head on
Far North District	✓	✓	✓	✓	
Kaipara District	✓			✓	✓
Whangarei District	✓	✓		✓	✓
Northland State Highways	✓	✓	✓	✓	
Northland Region	✓	✓		✓	✓



## Crashes at bends

Between 2003 and 2007 forty-nine percent of all injury crashes in Northland occurred at bends. These 1286 crashes resulted in 79 fatalities, 379 serious injuries and 1475 minor injuries.

Crash numbers have been fluctuating with a rise in 2007 over all previous years.

Crashes at bends 2003 to 2007				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2003	11	48	174	233
2004	15	62	195	272
2005	12	58	156	226
2006	17	52	207	276
2007	13	65	201	279
Total	68	285	933	1286

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 most common roadside hazards struck in bend related injury crashes in Northland (2003 to 2007) were cliffs or banks (295), trees (194), fences (229), posts or poles (74) and ditches (261) from a total of 1303 objects struck.

Main characteristics of injury crashes at bends (2003 to 2007)	
Crash characteristic	Percentage of crashes
Single vehicle	77
Alcohol	28
Excessive speed for the conditions	39
Road factors	26
Poor handling	37
Rural road	85
Wet road	35
Night time	39

Further information about the 687 injury crashes at bends (2003 to 2007) on local roads in Northland :

- 31 deaths, 191 serious injuries and 778 minor injuries
- 72 percent of at fault drivers were male
- Most common crash type "loss of control turning right "
- Most common at fault driver age group 15 -19 years (27 percent of all at fault drivers)
- 34 percent of crashes involved alcohol
- 42 percent of crashes involved speed too fast for the conditions
- Worst month December, best May
- Worst day of week Saturday, best Tuesday and Thursday (equal)
- Worst time period 3pm till 6pm

Further information about the 599 injury crashes at bends (2003 to 2007) on State Highways in Northland:

- 48 deaths, 188 serious injuries and 697 minor injuries
- 68 percent of at fault drivers were male
- Most common crash type "loss of control turning right"
- Most common at fault driver age group 15—19 years (19 percent of at fault drivers)
- 22 percent of crashes involved alcohol
- 36 percent of crashes involved speed too fast for the conditions
- Worst month December, best September
- Worst day of week Saturday, best Monday
- Worst time period 3pm to 6pm

## Straight road –loss of control or head on

Between 2003 and 2007 fifteen percent of all injury crashes in Northland involved loss of control or head on crashes on straight roads.

Seventeen percent of fatal and serious crashes in the region were of this type.

These 146 crashes resulted in 11 fatalities, 45 serious injuries and 150 minor injuries.

### Loss of control injury crashes – straight roads 2003 to 2007

Crash year	Fatal crashes	Serious crashes	Minor crashes
2003	6	2	19
2004	0	9	17
2005	2	11	23
2006	3	6	18
2007	0	8	22
Total	11	36	99

Most of these crashes occurred when a driver loses control of their vehicle and either runs off the road or collides 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 most common roadside hazards struck in injury crashes in Northland (2003 to 2007) were ditches (46), fences (34), poles or posts (22) and trees (8) from a total of 196 objects struck.

### Main characteristics of injury loss of control crashes— straight roads (2003 to 2007)

Crash characteristic	Percentage of crashes
Single vehicle	73
Alcohol	23
Excessive speed for the conditions	21
Road factors	14
Poor handling	16
Rural road	71
Wet road	28
Night time	39

Further information about the 66 injury loss of control crashes on straights (2003 to 2007) on local roads in Whangarei District:

- 4 deaths, 21 serious injuries and 65 minor injuries
- 40 percent of at fault drivers were female
- Most common crash type "off road to left"
- Most common at fault driver age group 15 to 19 years
- 32 percent of crashes involved alcohol
- 30 percent of crashes involved speed
- 12 percent involved "road factors"
- 12 percent involved fatigue
- 24 percent involved ditches as a struck object
- 33 percent in the wet
- 41 percent at night
- Worst month May and August (equal), best October
- Worst day of week Saturday, best Tuesday
- Worst time period 3pm to 6pm

Further information about the 80 injury loss of control crashes on straights (2003 to 2007) on State Highways in Northland :

- 7 deaths, 24 serious injuries and 85 minor injuries
- 28 percent of at fault drivers were female
- Most common crash type "off road to left"
- Most common at fault driver age group 20 to 24 years
- 16 percent of crashes involved alcohol
- 13 percent of crashes involved speed
- 16 percent involved "road factors"
- 41 percent involved fatigue
- 38 percent involved ditches as a struck object
- 24 percent in the wet
- 38 percent at night
- Worst month December, best May and August (equal)
- Worst day of week Sunday, best Monday
- Worst time period 3pm to 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 three times more likely to be involved in a 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 sober drivers 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 2007, alcohol-affected drivers contributed to 33 percent of all fatal crashes (a slight increase on 2006) and 15 percent of all injury crashes (the same as 2006).

There were 8005 alcohol-related injury crashes reported in New Zealand in the last five years.

In Northland, alcohol was a factor in 21 percent of injury crashes in 2007.

Number of alcohol related injury crashes			
Crash year	Open road	Urban road	Total
2003	74	30	104
2004	77	30	107
2005	69	33	102
2006	82	36	118
2007	75	38	113
Total	377	167	544

(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 2003 and 2007 are shown on the map on the following page.

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

In 2007 there were 124 non-injury alcohol related crashes reported by the Police in the Northland region.

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

Further information about the 336 alcohol related injury crashes in the Northland region on local roads 2003 to 2007:

- 22 deaths, 122 serious injuries and 346 minor injuries
- 78 percent of at fault drivers were male
- Most common crash type “loss of control turning right”
- 17 percent at intersections
- 38 percent urban
- 26 percent wet road
- 68 percent night time
- Worst time period 6pm till 9pm
- Worst months February, best May
- Worst day of week Saturday, best Tuesday

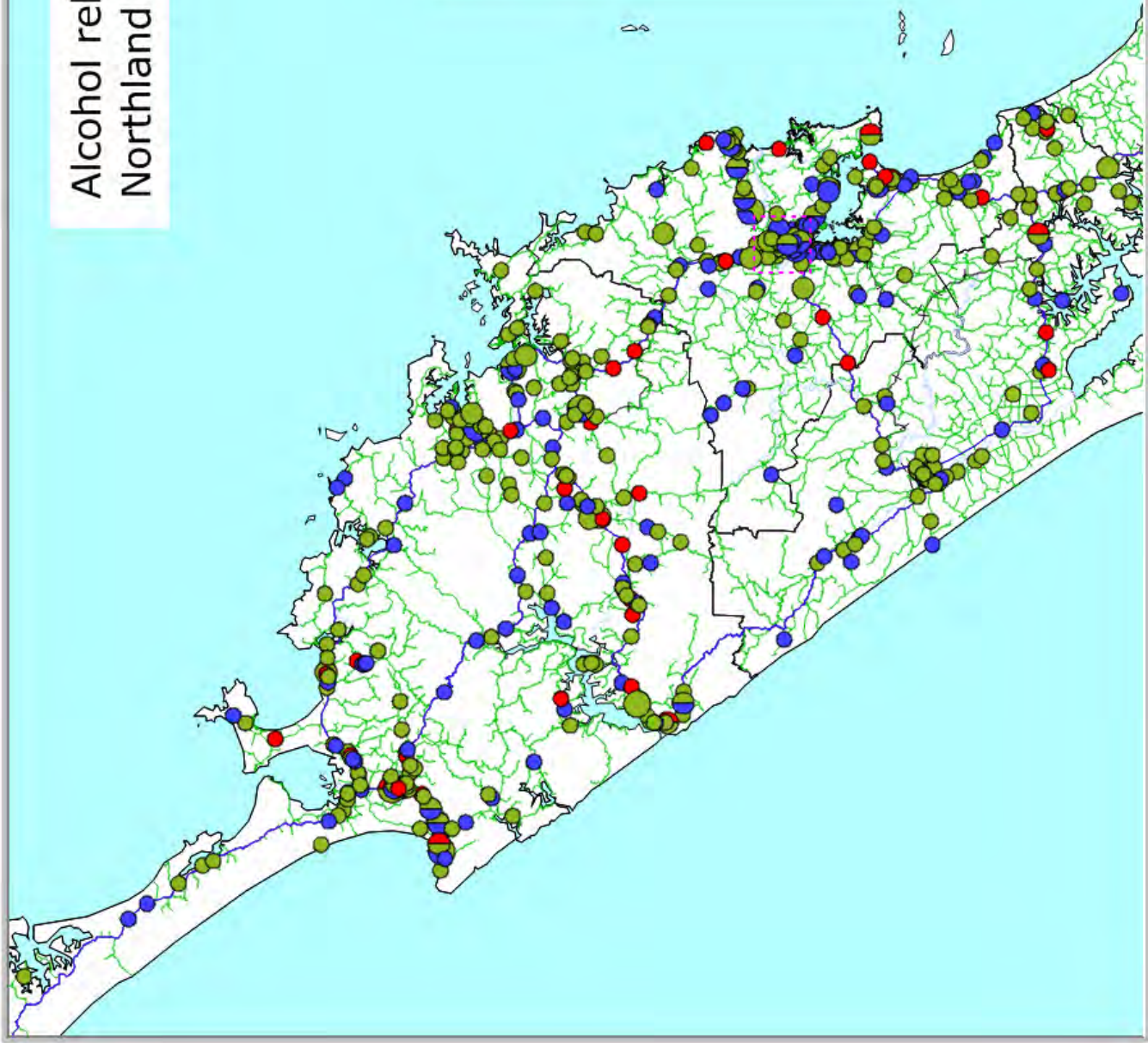
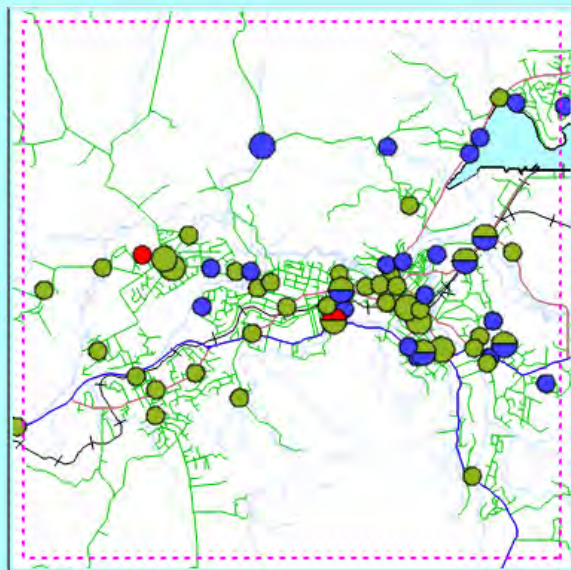
Further information about the 208 alcohol related injury crashes in Northland on State Highways 2003 to 2007:

- 31 deaths, 76 serious injuries and 220 minor injuries
- 82 percent of at fault drivers were male
- Most common crash type “loss of control turning right ”
- 13 percent at intersections
- 19 percent urban
- 28 percent wet road
- 72 percent night time
- Worst time period 9pm till midnight
- Worst month February, best March, June and August (equal)
- Worst day of week Saturday and Sunday (equal), best Tuesday



Alcohol related injury crashes  
Northland 2003 to 2007

Whangarei



## Road Factors

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.

Road factors that contribute to crashes include those that affect the way a driver reacts to the driving conditions, such as

- a slippery road surface
- obstructions on the road, such as slips
- limited visibility
- signs, signals and/or road markings being damaged or in poor condition.

Nationally, road factors were a contributing factor in 14 percent of injury crashes in 2007 (a rise on 2006), with slippery road surfaces being the key factor.

In 2007 in Northland, "road factors" were a contributing factor in 18 percent of all crashes and 22 percent of injury crashes.

There were 495 road factor related injury crashes reported in the last five years.

Road factors have been predominantly a rural issue in Northland as illustrated in the table below.

Road factor related injury crashes					
Road type	2003	2004	2005	2006	2007
Urban	22	14	9	16	22
Rural	79	97	54	84	98
Total	101	111	63	100	120

Most common crash types in road factor related injury crashes	
Crash type (2003 to 2007)	Number of crashes
Bend lost control / head on	335
Straight roads lost control / head on	13
Crossing turning (mainly intersections)	7

Road factors in injury crashes		
Number of occasions Police reported this factor 2003 to 2007	Local road	State Highways
Slippery road	101	166
Road surface in poor condition	118	66
Road obstructed	7	7
Visibility limited	54	27
Signs or signals (needed or faulty)	5	7
Markings (needed or faulty)	5	0
Street lighting	5	2

Further information about the 256 road factor related injury crashes in Northland on local roads (2003 to 2007):

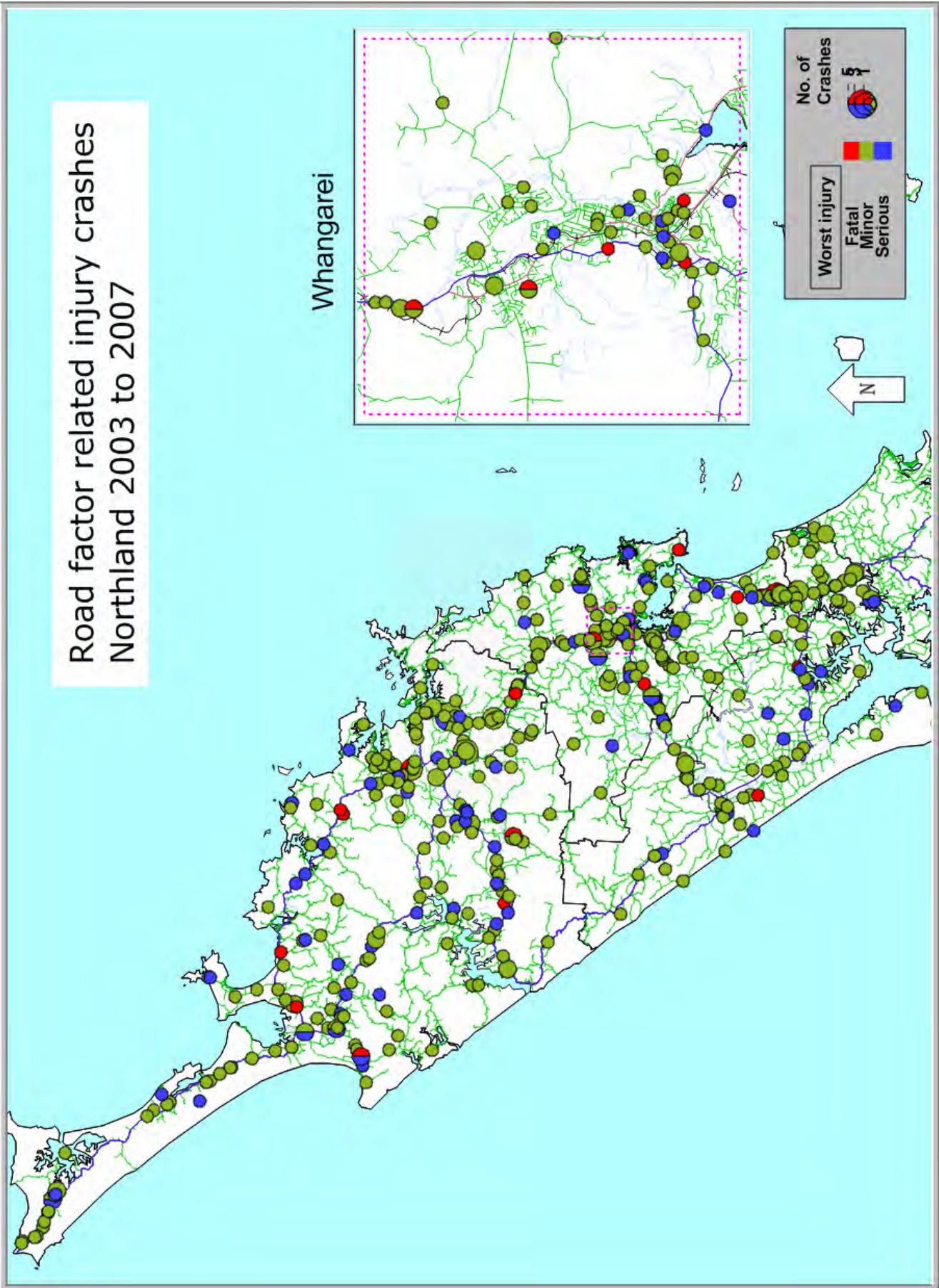
- 10 deaths, 50 serious injuries and 315 minor injuries
- Most common crash type, loss of control at bends (68 percent)
- 16 percent at intersections
- 24 percent urban
- 41 percent wet road
- 28 percent night time
- Worst month January, best September
- Most common individual factors "road slippery due to rain" (71), then "road surface - deep loose metal" (59)

Further information about the 239 road factor related injury crashes in Northland on State Highways (2003 to 2007):

- 15 deaths, 53 serious injuries and 308 minor injuries
- Most common crash type, loss of control at bend (67 percent)
- 8 percent at intersections
- 9 percent urban
- 67 percent wet road
- 28 percent night time
- Worst month December, best March
- Most common individual factors "road slippery due to rain" (115), then "road surface - under construction or maintenance" (32)



Road factor related injury crashes  
Northland 2003 to 2007



## National issues

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

### Speed

"Too fast" was recorded in 25 percent of injury crashes in the last five years resulting in 64 deaths and 946 other injuries.

Speed as a factor in crashes has not reduced significantly between 2003 and 2007.

Seventy-eight percent of speed-related crashes were "loss of control – at bends".

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 21 percent of injury crashes in the region in the last five years resulting in 53 deaths and 764 other injuries. The number of injury crashes involving alcohol is not decreasing.

Most alcohol crashes were in rural areas.

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 12 percent of all reported injury crashes for the last five years resulting in 10 deaths and 458 other injuries.

Sixty-one percent of crashes were in urban areas of the region.

### 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.

According to these surveys the seat belt wearing rates in Northland are among the highest in New Zealand with Far North District 99 percent, Kaipara District 99 percent and Whangarei District 98 percent

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

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