



# briefing notes - road safety issues

## Northland State Highways

New Zealand Transport Agency (NZTA) 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 on State Highways in the Northland Region.

This report is the tenth road safety report for State Highways in the Northland Region. All the material unless otherwise stated in this report applies only to State Highways.

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. However, this rolling five year analysis is very useful for identifying trends.

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 encourage Network Managers and operational staff to use their 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 State Highways

Bends

Road factors and roadside hazards

Speed

Alcohol

#### Nationally \*

Speed

Alcohol

Failure to give way

Restraints

### 2008 road trauma

Casualties	Northland State Highways
Deaths	18
Serious casualties	61
Minor casualties	233

Crashes	Northland State Highways
Fatal crashes	18
Serious injury crashes	45
Minor injury crashes	151
Non-injury crashes	424

\* not in any specific order of priority

## Overview

In 2008 on State Highways in Northland there were 214 injury crashes and 424 non-injury crashes as reported by the New Zealand Police.

The table below shows the number of injuries resulting from the 214 injury crashes by rural or urban areas (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	17	54	195	266
Urban	1	7	38	46
Total	18	61	233	312

Between 2002 and 2003 there was a large rise in the numbers of minor injury crashes being reported on State Highways in Northland.

There was not however a corresponding large rise in serious crashes, the most likely reason being a lifting of the reporting rate in Northland.

Fatal crashes rose a little in 2008 while serious and minor crashes fell, it is hoped this is not a reversal of previous reporting rate trends

Northland State Highways				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1999	22	48	93	163
2000	25	51	88	164
2001	16	51	89	156
2002	18	50	98	166
2003	20	41	198	259
2004	13	58	190	261
2005	13	38	167	218
2006	18	46	190	254
2007	16	63	192	271
2008	18	45	151	214

## Key crash characteristics

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	24	16
Too fast	26	21
At bends	53	49
Roadside object hit	53	55
Road factors	18	20
Night time	38	33

## Injury and non-injury crashes by State Highway number 2004 to 2008

	Rural	Urban	Total
SH 10	337	63	400
SH 11	145	56	201
SH 12	363	178	541
SH 14	160	96	256
SH 15A	10	2	12
SH 1N	1338	461	1799

Further information about the 1218 injury and 1991 non-injury crashes on State Highways in Northland 2004 to 2008:

- Worst month December, best July
- Worst day Friday, best Monday
- 33 percent on wet roads
- 32 percent at night
- 25 percent at intersections
- 2142 roadside objects struck
- Social cost of crashes in 2008 \$142.4m



## Bend - loss of control or head on

Between 2004 and 2008 forty-nine percent of all injury crashes on Northland State Highways were loss of control or head on bends. These crashes resulted in 50 fatalities, 194 serious injuries and 667 minor injuries.

Injury crashes at bends 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	10	35	94	139
2005	7	17	72	96
2006	8	22	87	117
2007	7	35	98	140
2008	8	24	66	98
Total	40	133	417	590

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 loss of control or head on crashes on bends on Northland State Highways were cliffs or banks (152), trees (86), fences (105), posts or poles (31) and ditches (138) from a total of 618 objects struck.

Main characteristics of injury lost control or head on crashes at bends	
Crash characteristic	Percentage of crashes
Single vehicle	79
Alcohol	22
Excessive speed for the conditions	35
Road factors	27
Poor handling	42
Rural road	92
Wet road	41
Night time	38

### Injury bend crashes by State Highway 2004 to 2008

	2004	2005	2006	2007	2008
SH 10	18	11	18	12	15
SH 11	11	4	9	18	9
SH 12	21	18	21	35	16
SH 14	9	11	14	16	8
SH 15A	0	0	0	0	0
SH 1N	80	52	55	59	50

Further information about the 590 injury loss of control or head on crashes on bends on State Highways in Northland 2004 to 2008:

- 68 percent of at fault drivers were male
- Most common crash type “loss of control turning right” (272 crashes)
- Most common at fault driver age group 15 to 19 years (18 percent of at fault drivers)
- Worst month January, best June
- Worst day Saturday, best Monday
- Worst three hour time period 3pm to 6pm

## 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 twenty-one percent of injury crashes on Northland State Highways involved travelling too fast for the conditions.

These crashes resulted in 32 fatalities, 91 serious injuries and 290 minor injuries.

### Speed related injury crashes

Speed related crashes	2004	2005	2006	2007	2008
Rural	59	36	40	44	41
Urban	9	6	12	8	7
Total	68	42	52	52	48

Speed related crashes in CAS are not necessarily crashes where the driver was exceeding the prevailing speed limit (although that may be the case) but where in the opinion of the officer reporting the crash the driver was travelling too fast for the prevailing conditions.

Certainly getting the message through that the prevailing speed limit is a maximum, but not necessarily a safe speed for every bend, crest, dip or isolated development (or driver) is the key to lowering the injury rate.

State Highway managers can do their part by making sure limits are reasonable, comply with the Speed limits Rule and are adequately signposted.

Temporary speed limits at road works in particular need to be monitored to make sure that they are reasonable and only in place when hazards exist.

The main the causes contributing to speed related crashes on State Highways in Northland were:

- Handling errors (46 percent of crashes)
- Alcohol (31 percent of crashes)
- General errors of judgement (14 percent of crashes)
- Being aged 15 to 24 (47 percent of all at fault drivers)

### Age and gender of drivers in speed related injury crashes 2004 to 2008

Drivers at fault in speed related injury crashes	Male	Female	Total
15-19 years *	45	15	60
20 - 24	40	20	60
25 - 29	16	3	19
30 - 39	35	20	55
40 - 49	34	8	42
50 - 59	8	4	12
60 - 69	5	0	5
70+	4	0	4
<b>Total</b>	<b>187</b>	<b>70</b>	<b>257</b>

\* note age ranges are not equal

### Speed related injury crashes by State Highway number

	2004	2005	2006	2007	2008
SH 10	6	4	6	5	8
SH 11	5	4	5	5	3
SH 12	14	8	15	11	10
SH 14	10	4	3	5	4
SH 15A	0	0	0	0	1
SH 1N	33	22	23	26	27

Further information about speed related injury crashes on Northland State Highways 2004 to 2008:

- Most common crash type "Lost control on bend" (209 crashes)
- 45 percent wet road
- 50 percent night time
- Worst month December, best May and August (equal)
- Worst day Friday, best Monday
- Worst three hour time period 9pm till midnight
- 73 percent of at fault drivers were male
- 45 percent of at fault drivers held a full licence

## 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 20 percent of non motorway State Highway fatal and serious crashes and 13 percent of injury crashes.

On Northland State Highways, alcohol was a factor in 24 percent of fatal and serious crashes and 16 percent of all injury crashes.

### Number of alcohol related injury crashes

Crash year	Open road	Urban road	Total
2004	35	5	40
2005	23	6	29
2006	38	8	46
2007	34	12	46
2008	27	7	34
Total	157	38	195

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

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 38 non-injury alcohol related crashes reported by the Police on the Northland State Highways.

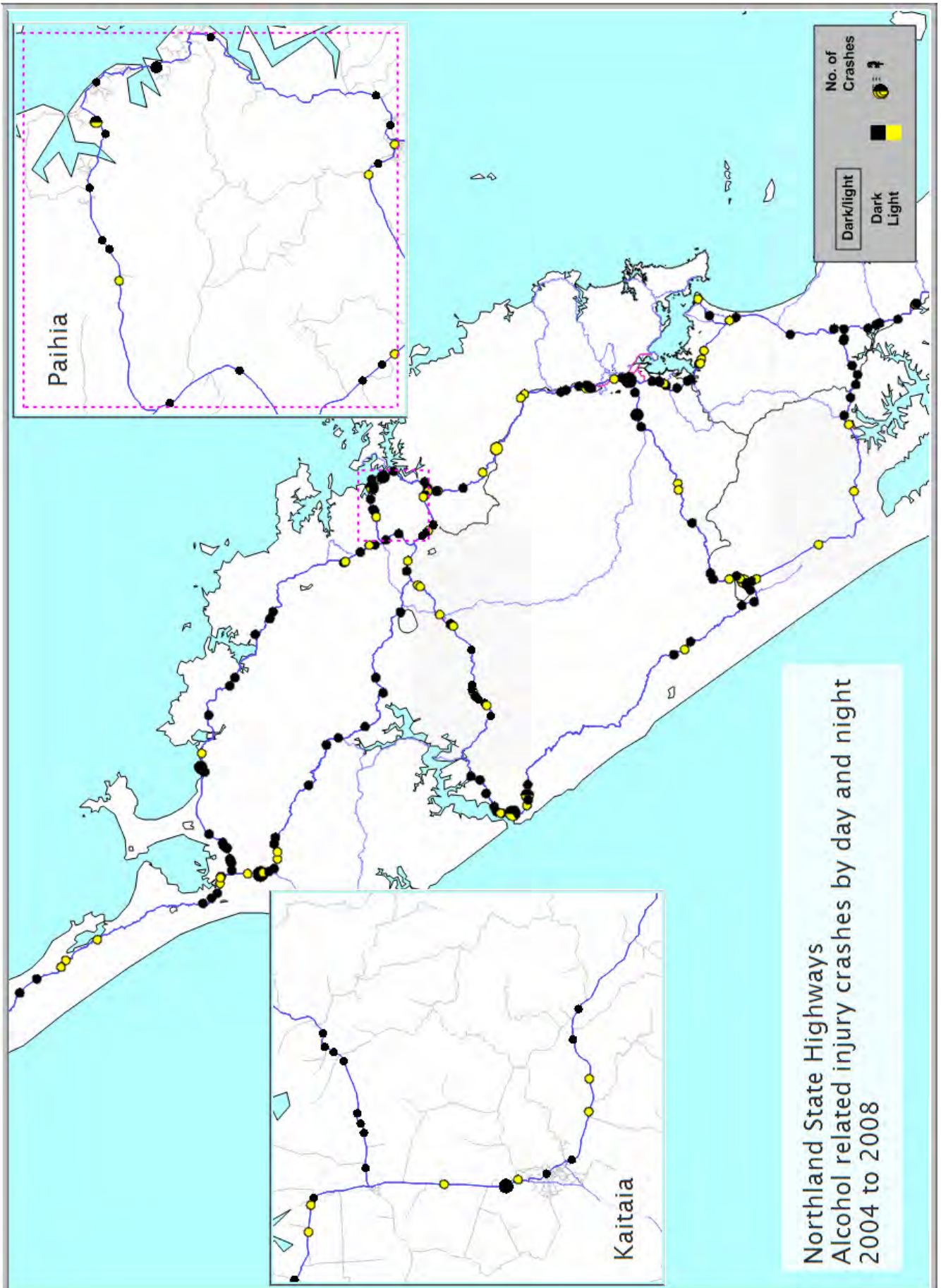
### Alcohol related injury crashes by State Highway number 2004 to 2008

	2004	2005	2006	2007	2008
SH 10	8	5	7	3	6
SH 11	2	3	1	5	2
SH 12	8	7	17	13	6
SH 14	3	1	1	6	4
SH 15A	0	0	0	1	1
SH 1N	19	13	20	18	15

The map on the following page illustrates the locations of the crashes in the table above divided into day time and night time.

Further information about the 195 alcohol related injury crashes on Northland State Highways 2004 to 2008:

- 29 deaths, 75 serious injuries and 188 minor injuries
- 79 percent of at fault drivers were male
- Most common crash type “loss of control at a bend” (128 crashes)
- 12 percent at intersections
- 42 percent speed related
- 26 percent wet road
- 72 percent night time
- Worst three hour time period 9pm till midnight
- Worst month February, best March
- Worst day Saturday, best Monday and Tuesday (equal)
- 216 objects struck
- Most common five year at fault driver age range 15 to 19 and 20 to 24 (equal)



## Road Factors - including roadside hazards

A safe road environment includes appropriate geometric design standards, good delineation, adequate surface skid resistance and a roadside free of unforgiving hazards.

In 2008 on Northland State Highways, “road factors” were a contributing factor in 18 percent of fatal and serious crashes and 20 percent of injury crashes.

Additionally on Northland State Highways between 2004 and 2008 fifty-three percent of all fatal and serious crashes and 55 percent of injury crashes involved a roadside hazard being struck.

Road factor related injury crashes					
Road type	2004	2005	2006	2007	2008
Rural	61	26	41	50	47
Urban	1	3	6	6	6
Total	62	29	47	56	53

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.

In the injury crashes on Northland State Highways where a roadside hazard was struck 37 people died, 185 received serious injuries and 744 minor injuries.

Most common types of hazard struck (Injury crashes on Northland State Highways)	
Type of hazard 2004 to 2008	Number of times hazard struck
Ditch	223
Cliff or bank	201
Fence	158
Tree	106
Post or pole	49

### Types of road factors in injury crashes

CAS factor groups 2004 to 2008	Number of occasions reported
Slippery road *	179
Road surface in poor condition	71
Road obstructed	6
Visibility limited	26
Signs or signals (needed or faulty)	6
Markings (needed or faulty)	0
Street lighting	0

\* Note that NZTA does not assume that a road that is “wet” is necessarily “slippery”. This factor is only added to CAS if the attending Police Officer specifically mentions a “slippery road”.

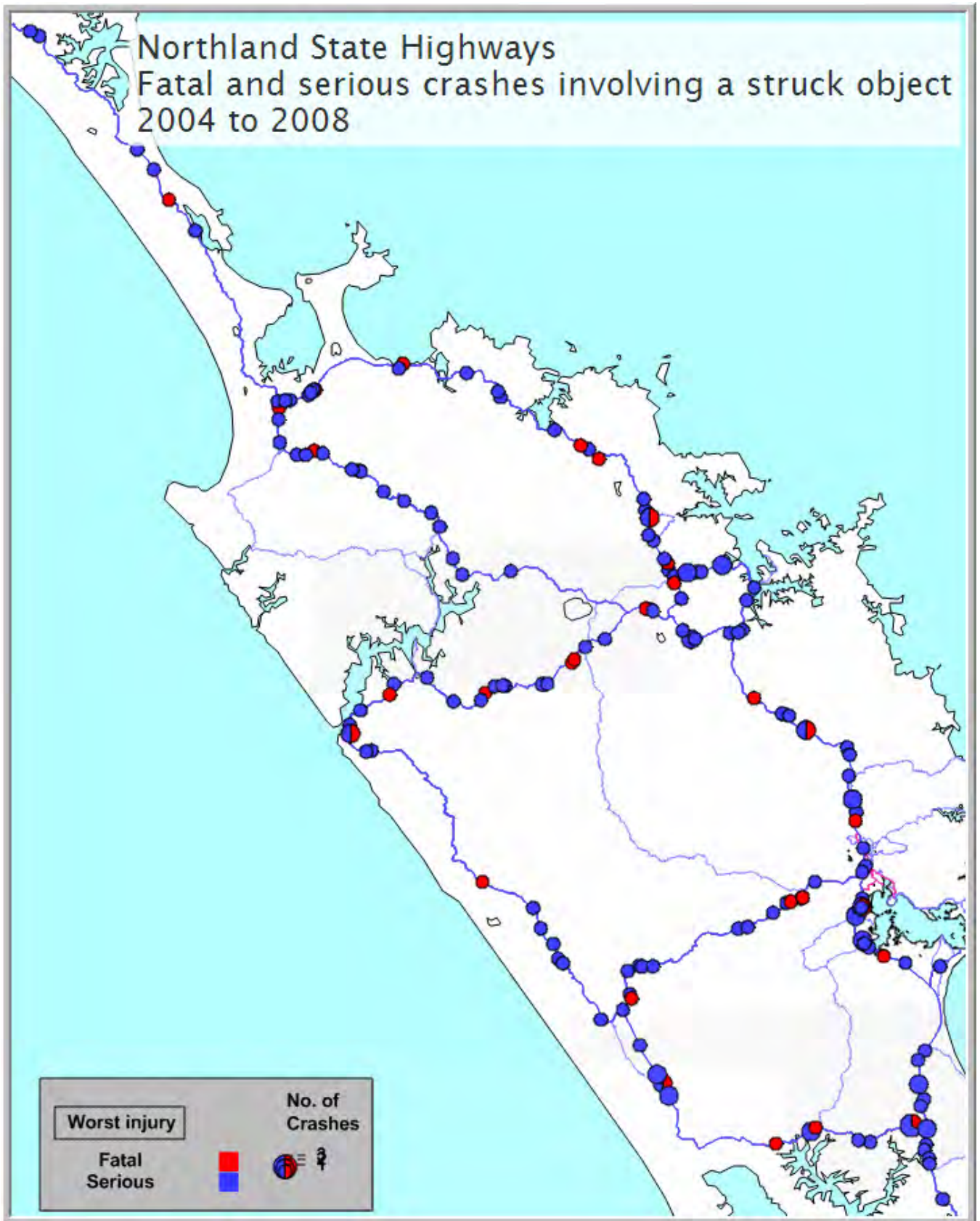
### Object and road factor crashes by State Highway number 2004 to 2008

Highway number	Number of road factor crashes	Number of objects hit
SH 10	24	81
SH 11	20	45
SH 12	38	135
SH 14	23	61
SH 15A	1	2
SH 1N	141	347

Further information about the 247 road factor related injury crashes on Northland State Highways (2004 to 2008):

- 14 deaths, 60 serious injuries and 316 minor injuries
- Most common crash type, loss of control at bends (162 crashes)
- 7 percent at intersections
- 66 percent wet road
- 30 percent night time
- Worst month December, best July
- Most common five year at fault driver age range 15 to 19 (16 percent of at fault drivers)





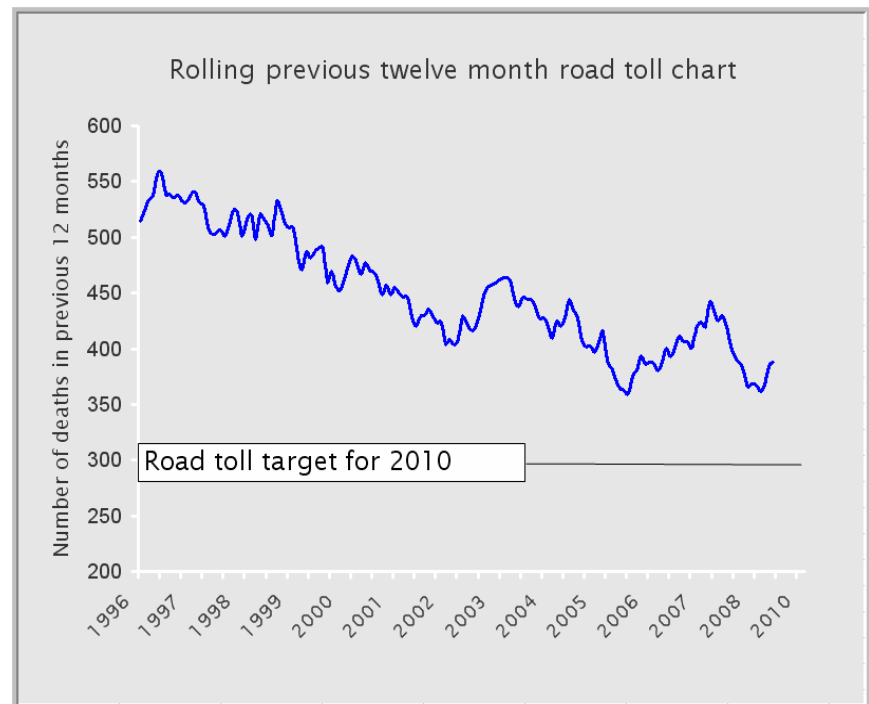
## The next ten years—moving beyond Road Safety 2010

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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