

briefing notes - road safety issues

Northland State Highways

New Zealand Transport Agency has prepared this eleventh road safety report for State Highways in the Northland Region. It is based on reported crash data and trends for the 2005–2009 period.

The intent of this 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.

All the material unless otherwise stated in this report applies only to State Highways.

In March the Government released Safer Journeys the road safety strategy for the next ten years. The two following pages contain brief information about the strategy and a link to find detailed information.

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 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 State Highways

Alcohol

Speed

Crashes at bends

Road factors and roadside objects

National priorities from Road Safety 2020 Safer Journeys

Speed

Alcohol / Drugs

Young Drivers

Roads and Roadsides

Motorcyclists

2009 road trauma

Casualties

Northland State Highways

Deaths

19

Serious casualties

52

Minor casualties

261

Crashes

Northland State Highways

Fatal crashes

17

Serious injury crashes

40

Minor injury crashes

163

Non-injury crashes

431

* not in any specific order of priority

Safer Journeys

For the past decade road safety in New Zealand has been directed by the Road Safety 2010 strategy.

This strategy was introduced in 2003 and aimed to reduce deaths and casualties from road crashes.

In March 2010 the Government released a new strategy, "Safer Journeys", to build on the gains made under the Road Safety to 2010.

Under the new strategy, road safety will be looked at from a system wide approach rather than focusing so strongly on the road user.

The emphasis will be on improving all the parts of the road transport system that impact on safety; the road, the vehicle, travel speeds and the road user.

A number of areas were chosen as the areas of focus under the 2020 strategy.

These areas were assigned a priority, based on research that shows five major areas of concern, six areas of lesser concern, and two areas where continued focus is needed, or concern is emerging.

These divisions are shown in "table 3" opposite. This table is a direct extract from page 12 of the Safer Journeys document which can be found here:

<http://www.transport.govt.nz/saferjourneys/Documents/SaferJourneyStrategy.pdf>

We have made changes to the wording and way data is presented in these briefing notes to reflect and emphasize the connections to the new strategy. In particular we have included more tables showing age distribution as problems with the safety of young drivers as a particular focus of Safer Journeys.

We have prepared a table on the following page which shows the areas of "high concern" under Safer Journeys 2020 strategy.

This table allows some relative comparison of Safer Journeys priorities across the local bodies in the area covered by the Auckland NZTA Office.

Table 3 – Safer Journeys' areas of concern and the Safe System

AREAS OF CONCERN WE WILL ADDRESS	WHERE WE WILL TAKE ACTION ACROSS THE SAFE SYSTEM			
	SAFE ROADS AND ROAD-SIDES	SAFE SPEEDS	SAFE VEHICLES	SAFE ROAD USE
Areas of high concern				
Reducing alcohol/drug impaired driving			✓	✓
Increasing the safety of young drivers	✓	✓	✓	✓
Safe roads and roadsides	✓			
Safe speeds	✓	✓	✓	
Increasing the safety of motorcycling	✓	✓	✓	✓
Areas of medium concern				
Improving the safety of the light vehicle fleet			✓	✓
Safe walking and cycling	✓	✓	✓	✓
Improving the safety of heavy vehicles	✓	✓	✓	✓
Reducing the impact of fatigue	✓	✓	✓	✓
Addressing distraction	✓		✓	✓
Reducing the impact of high risk drivers		✓	✓	✓
Areas of continued and emerging focus				
Increasing the level of restraint use			✓	✓
Increasing the safety of older New Zealanders	✓	✓	✓	✓

For some priorities (eg motorcycling), complementary action will be taken across all four areas of the Safe System. For others (eg reducing the impact of drink driving or safe roads), more effort would be focussed on one or two of the four Safe System areas.

Table source: Ministry of Transport 2020 Safer Journeys

Status of the areas of “high concern” from Safer Journeys 2020 for the Northland and Auckland Regions 2005 to 2009

(table below refers only to fatal and serious crashes except for the “intersection” column for reasons of sample size and includes local roads as well as State Highways)

Safer Journeys area of concern	Reducing alcohol and drug impaired driving	Increase the safety of young drivers	Safer roads and roadsides			Reducing speed related crashes	Increasing the safety of motorcycling
	Percentage of fatal and serious crashes with this factor	Percentage of fatal and serious crashes with at fault drivers aged 24 years or less	Percentage of fatal and serious crashes with an object struck	Number of urban intersections with three or more injury crashes in the last five years	Number of rural intersections with three or more injury crashes in the last five years	Percentage of fatal and serious crashes with this factor	Percentage of fatal and serious crashes involving a motorcyclist
Far North District	31	32	53	3	5	30	13
Kaipara District	28	38	63	3	1	26	13
Whangarei District	29	42	51	19	6	30	15
Rodney District	29	32	53	13	13	24	20
North Shore City	26	36	33	113	2	15	17
Waitakere City	27	34	41	93	6	27	16
Auckland City	24	32	29	345	12	16	19
Manukau City	33	42	40	158	17	29	13
Papakura District	22	34	46	23	4	20	21
Franklin District	25	28	53	8	10	26	18
Northland Region	30	37	54	25	12	29	14
Auckland Region	27	35	37	753	64	22	17
New Zealand	23	34	45	1938	320	23	18

Northland State Highways overview

In 2009 on State Highways in Northland there were 220 injury crashes and 431 non-injury crashes. The table below shows the number of injuries resulting from the 220 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 2009				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	16	46	210	272
Urban	3	6	51	60
Total	19	52	261	332

Over the past decade fatal and serious crashes have shown a slight downwards trend. Minor injury crashes rose sharply in 2003 almost certainly due to improved Police reporting.

Alcohol, speed, fatigue related, crashes at bends, night crashes and crashes involving road factors are all represented either higher in fatal and serious crashes or all injury crashes than on state highways in similar local bodies elsewhere - although generally the differences are not large.

Crash trends on Northland State Highways				
Year	Fatal crashes	Serious crashes	Minor crashes	Total crashes
2000	25	51	88	164
2001	16	51	89	156
2002	18	51	98	167
2003	20	41	198	259
2004	13	58	191	262
2005	13	38	166	217
2006	18	46	190	254
2007	16	63	191	270
2008	18	45	153	216
2009	17	40	163	220

State Highway crash characteristics 2005 to 2009		
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 related	23	16
Speed related	21	21
Crashes at bends	50	47
Road factors	18	20
At night	37	31
Fatigue	17	13

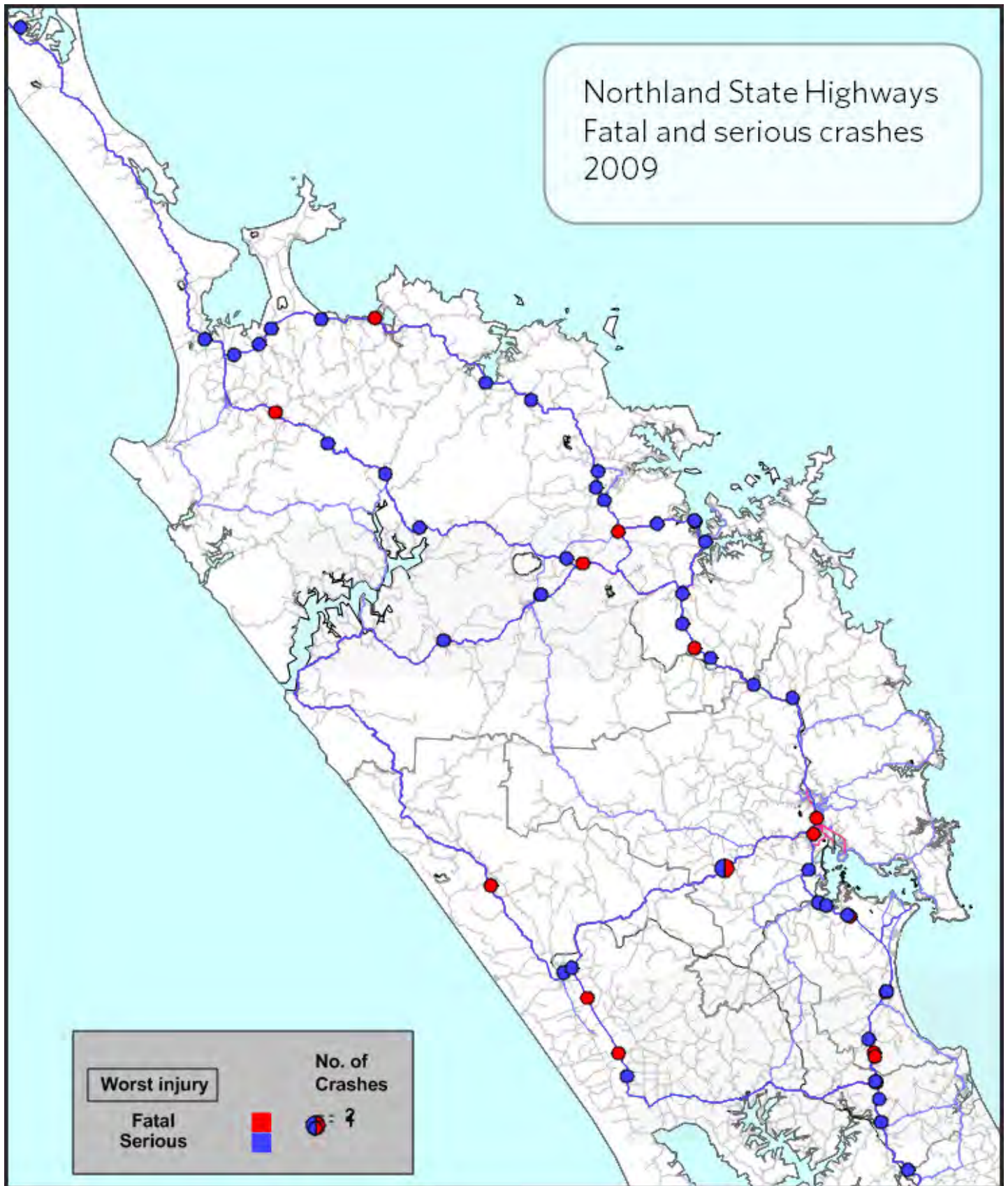
Further information about the 1369 injury and 3149 non-injury crashes on **local** roads in the Northland Region 2005 to 2009:

- 60 deaths, 334 serious injuries and 1491 minor injuries
- Worst month December, best September
- Worst day Friday, best Monday
- 26 percent on wet roads
- 32 percent at night
- 32 percent at intersections
- 2748 roadside objects struck *
- Most represented five year age block in at fault drivers in injury crashes: 15 to 19 years (25 percent of at fault drivers)
- Social cost of crashes in 2009 \$134.3m

Further information about the 1177 injury and 2030 non-injury crashes on **State Highways** in the Northland Region 2005 to 2009:

- 87 deaths, 319 serious injuries and 1365 minor injuries
- Worst month December, best October
- Worst day Friday, best Monday
- 33 percent on wet roads
- 32 percent at night
- 26 percent at intersections
- 2131 roadside objects struck *
- Most represented five year age block in at fault drivers in injury crashes: 15 to 19 and 20 to 24 years (equal)
- Social cost of crashes in 2009 \$137.3m

* It needs to be noted that if a vehicle hits the same type of object more than once it is only counted in CAS once.



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.

On State Highways in Northland alcohol was a factor in 23 percent fatal and serious crashes and 16 percent of injury crashes.

Number of alcohol related injury crashes			
Crash year	Open road	Urban road	Total
2005	23	6	29
2006	39	7	46
2007	35	11	46
2008	29	6	35
2009	26	8	34
Total	152	38	190

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

Age groups of at fault drivers in alcohol related injury crashes 2005 to 2009 and 25 years ago (prior to lowering the drinking age)		
Age group	Percentage drivers in this age group 2005 to 2009	Percentage drivers in this age group 1980 to 1984
15-19	20	17
20-24	22	35
25-29	9	16
30-34	9	9
35-39	12	7
40-44	9	4
45-49	8	5
50-54	5	2
55-59	1	2
60-64	2	3
65-69	3	1
70-74	0	1
75+	1	0

It is interesting to note the changing age patterns of those choosing to drink and crash. There has been a marked shift from being very heavily weighted to young drivers to a much broader age spread. Twenty five years ago 68 percent of at fault drivers were aged under 30, today this is 51 percent.

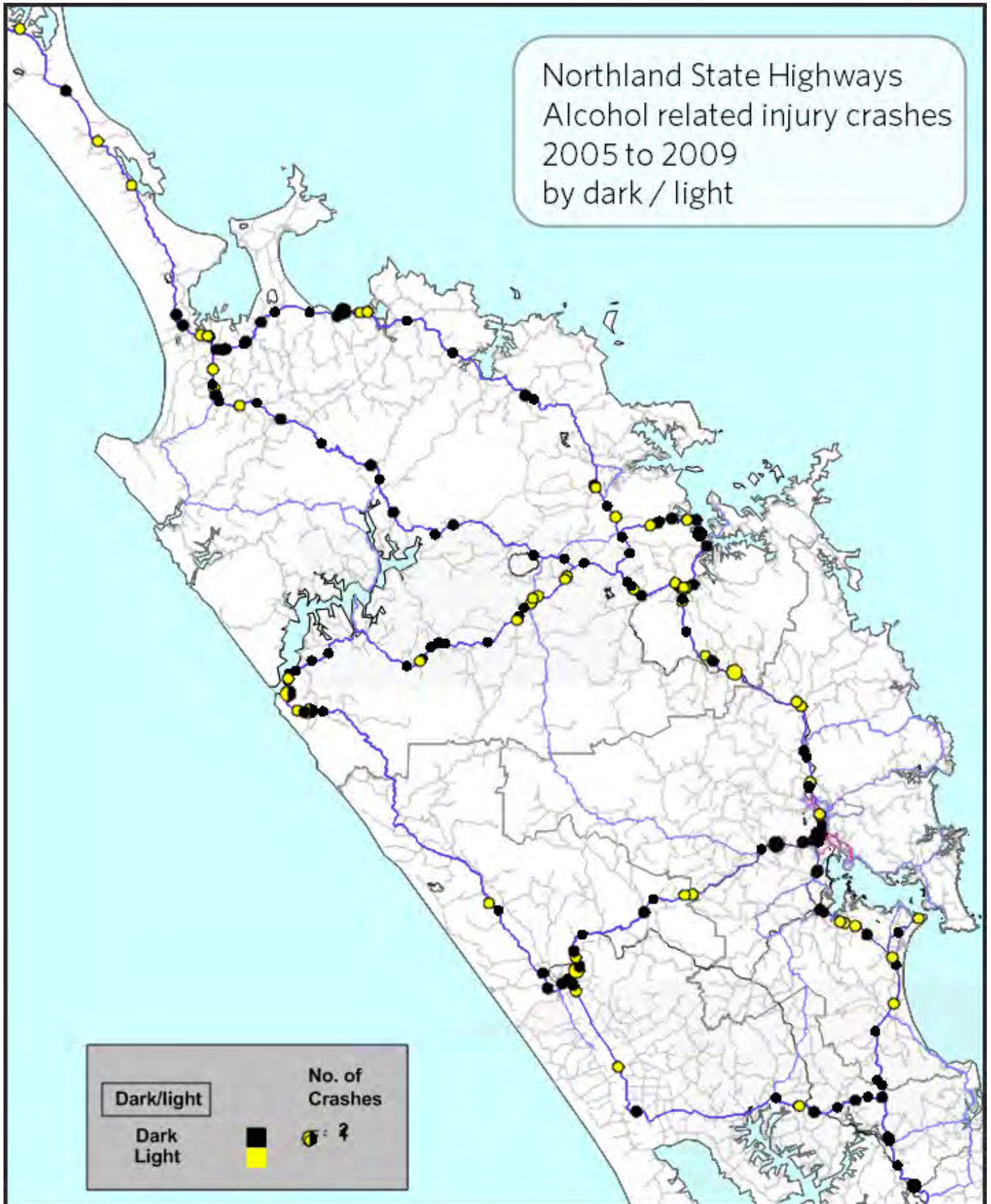
So while young people are targeted for their binge drinking culture, which may manifest in other health and law issues, in Northland, it has not translated into an increased proportion in youth alcohol related crashes. However, note the slight increase in the under 20 group. Although it does need to be noted that the number of alcohol related injury crashes has increased from 174 in five years 25 years ago to the 190 in the last five years.

Further information about the 345 alcohol related injury crashes on **local** roads in the Northland Region 2005 to 2009:

- 27 deaths, 118 serious injuries and 368 minor injuries
- 77 percent of at fault drivers were male
- Most common crash type "lost control at a bend" (244 crashes)
- 41 percent driving too fast for the conditions
- 17 percent at intersections
- 36 percent urban
- 67 percent night time
- Worst three hour time period, 6pm to 9pm
- Worst day Saturday, best Monday
- Number of roadside objects struck, 364

Further information about the 190 alcohol related injury crashes on **State Highways** in the Northland Region 2005 to 2009:

- 24 deaths, 63 serious injuries and 193 minor injuries
- 77 percent of at fault drivers were male
- Most common crash type "lost control at a bend" (114 crashes)
- 39 driving too fast for the conditions
- 14 percent at intersections
- 20 percent urban
- 29 percent night time
- Worst three hour time period, midnight to 3am
- Worst day Saturday, best Monday
- Number of roadside objects struck, 202



Speed

Nationally, speed is one of the major contributing factors to road crashes. Reducing speeds is an important road safety goal for road safety 2020 as it was for 2010.

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.

Between 2005 and 2009 twenty-one percent of injury crashes on Northland State Highways involved travelling too fast for the conditions.

Speed related injury crashes					
	2005	2006	2007	2008	2009
Rural	38	44	46	44	42
Urban	4	8	6	5	7
Total	42	52	52	49	49

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

Certainly getting the message through that the posted 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.

Local bodies and 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 better monitored to make sure that they are reasonable and only in place when hazards exist.

The poor level of speed compliance at road works is almost certainly motorists reaction to decades of poor and often unreasonable posting of temporary limits.

The Police can do their part by using CAS crash data to put special emphasis where there is demonstrated risk. In this way here is a better chance that drivers will accept that the enforcement is not simply "revenue gathering".

The broad motorist acceptance of the lowered tolerance near schools is evidence that connecting enforcement to risk or perceived risk works.

The map on the following page shows the locations of injury speed related crashes in Northland State Highways.

Age and gender of at fault drivers in speed related injury crashes 2005 to 2009 (note that age ranges are not equal)

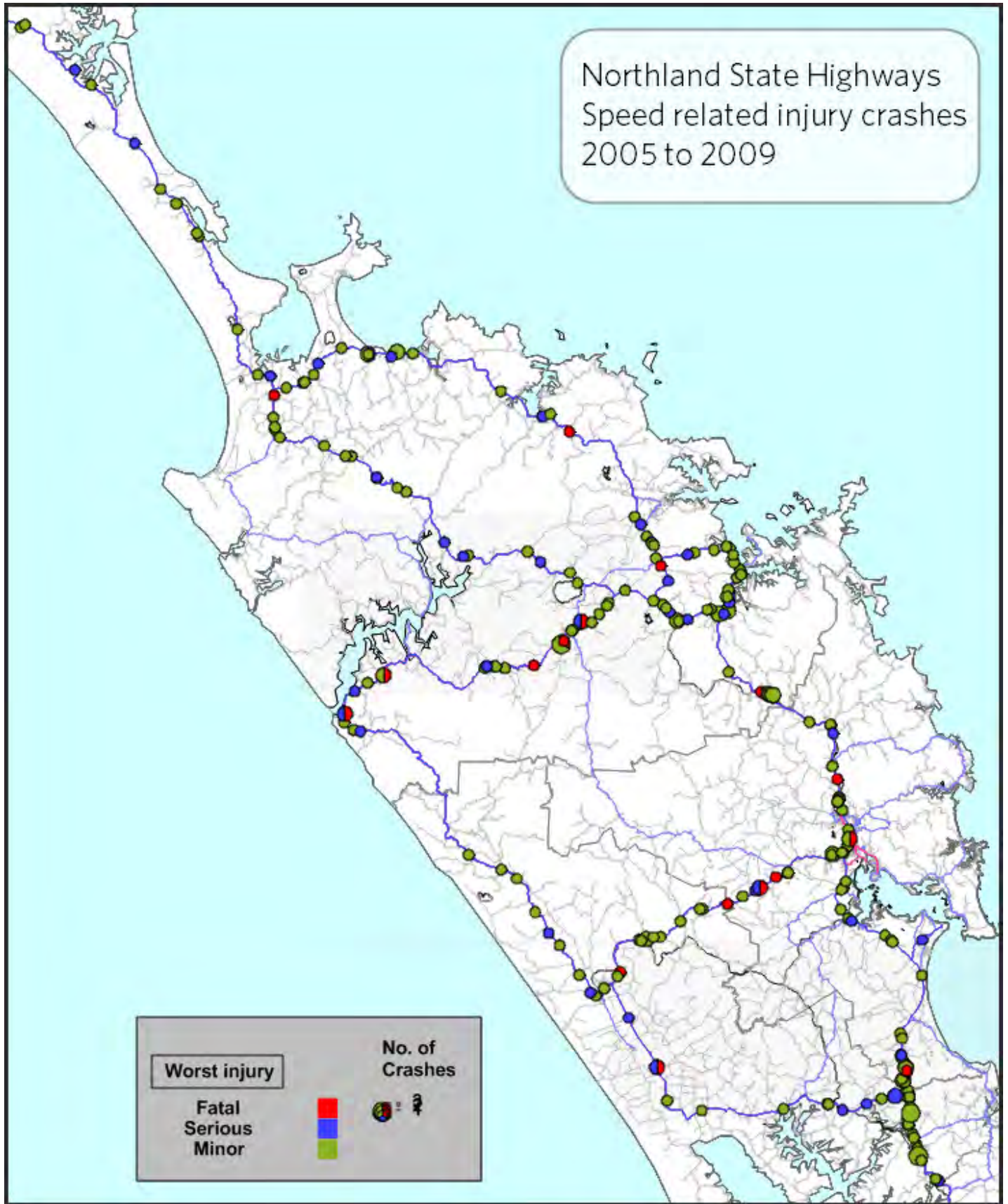
Age group	Male	Female	Total
15-19 years *	41	14	55
20 - 24	34	17	51
25 - 29	11	4	15
30 - 39	37	18	55
40 - 49	30	9	39
50 - 59	8	2	10
60 - 69	8	0	8
70+	5	0	5
Total	174	64	238

Further information about the 378 speed related injury crashes on **local** roads in the Northland Region 2005 to 2009:

- 29 deaths, 126 serious injuries and 440 minor injuries
- Most common crash type, "lost control at a bend" (299 crashes)
- 32 percent wet road
- 44 percent night time
- 38 percent involve alcohol as a contributory cause
- Worst month January, best November
- Worst three hour time period, 6pm to 9pm

Further information about the 244 speed related injury crashes on **State Highways** in the Northland Region 2005 to 2009:

- 22 deaths, 68 serious injuries and 283 minor injuries
- Most common crash type "lost control at a bend" (191 crashes)
- 45 percent wet road
- 45 percent night time
- 30 percent involve alcohol as a contributory cause
- Worst month December, best July
- Worst three hour time period, 3pm to 6pm



Bends

Between 2005 and 2009 half of all fatal and serious crashes on State Highways in Northland were loss of control or head on bends.

Injury crashes at bends 2005 to 2009				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2005	7	17	72	96
2006	8	22	87	117
2007	7	35	97	139
2008	8	24	67	99
2009	10	20	78	108
Total	40	118	401	559

Bend related crashes on State Highways in Northland are showing no real sign of being on the decline with overall numbers remaining relatively static over the last five years.

Young drivers are often at fault in speed related crashes with 34 percent of them being aged 24 and under.

Age groups and gender of at fault drivers in bend related injury crashes 2005 to 2009			
Age group	Female	Male	Total
15 to 19	27	64	91
20 to 24	36	58	94
25 to 29	12	30	42
30 to 34	12	32	44
35 to 39	18	32	50
40 to 44	12	40	52
45 to 49	16	30	46
50 to 54	9	18	27
55 to 59	7	20	27
60 to 64	5	9	14
65 to 69	6	16	22
70 to 74	6	7	13
75+	10	10	20
Total	176	366	542

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 on bends on State Highways in Northland were cliffs and banks (135), ditches (128), fences (95), trees (73) and poles (30) from a total of 561 objects struck.

It is interesting to note in the bullet points below that alcohol and speed seem far more prevalent as contributing factors in crashes on local roads than State Highways. This would suggest drivers see local roads as the soft option in regards to probable enforcement intervention.

Some redistribution of alcohol check points and speed enforcement may be worth considering.

Further information about the 694 injury loss of control or head on crashes on bends on **local** roads in the Northland Region 2005 to 2009:

- 38 deaths, 202 serious injuries and 776 minor injuries
- 71 percent of at fault drivers were male
- Most common crash type “loss of control turning right” (318 crashes)
- 35 percent of crashes involved alcohol
- 43 percent of crashes involved speed too fast for the conditions
- Worst month December, best May
- Worst day Saturday, best Thursday
- Worst three hour time period 6pm to 9pm

Further information about the 559 injury loss of control or head on crashes on bends on **State Highways** in the Northland Region 2005 to 2009:

- 45 deaths, 170 serious injuries and 629 minor injuries
- 67 percent of at fault drivers were male
- Most common crash type “loss of control turning right” (243 crashes)
- 20 percent of crashes involved alcohol
- 34 percent of crashes involved speed too fast for the conditions
- Worst month January, best July
- Worst day Saturday, best Monday and Wednesday
- Worst three hour time period, 3pm to 6pm

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.

Safer Journeys places "Safer Roads and Roadside" as one of the five areas of "High concern".

Between 2005 and 2009 in Northland Region "road factors" were a contributing factor in 18 percent of fatal and serious crashes and 20 percent of injury State Highway crashes.

Additionally between 2005 and 2009 fifty-two percent of all fatal and serious crashes and 54 percent of injury crashes involved roadside hazards being struck.

Road factor related injury crashes					
	2005	2006	2007	2008	2009
Rural	27	43	53	52	43
Urban	2	4	3	2	3
Total	29	47	56	54	46

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. It needs to be noted that if a vehicle hits the same type of object more than once it is only counted in CAS once.

Types of road factors in injury crashes		
Road factor type 2005 to 2009	Local roads	State Highways
Slippery road*	128	166
Road surface in poor condition	105	65
Road obstructed	10	8
Visibility limited	44	25
Signs or signals (needed or faulty)	5	6
Markings (needed or faulty)	3	0
Street lighting	3	1

* 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".

Most common types of hazard struck All State Highway injury crashes in Northland 2005 to 2009

Type of hazard	Number of times hazard struck
Ditch	210
Cliff or bank	183
Fence	142
Post or pole	43
Tree	95
Guard rail	32

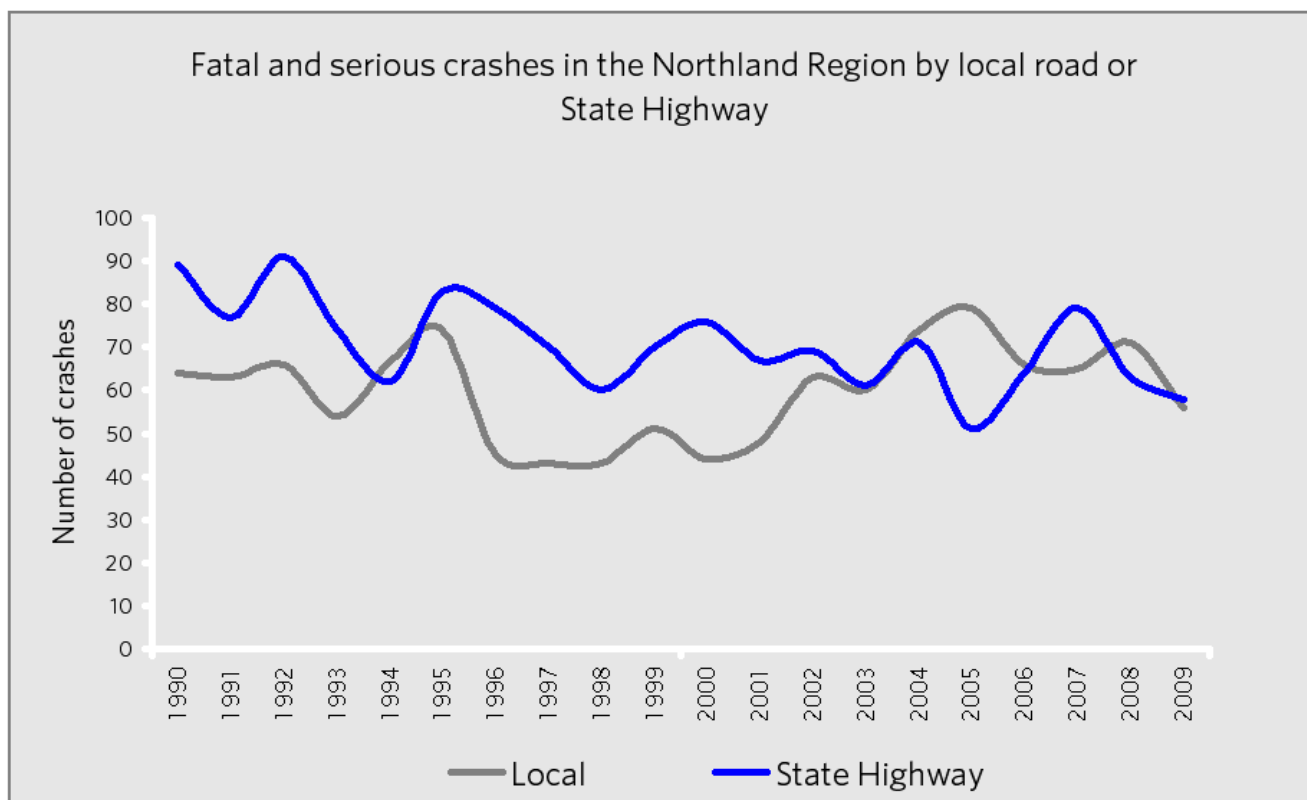
Further information about the 253 road factor related injury crashes on **local** roads in the Northland Region 2005 to 2009:

- 10 deaths, 62 serious injuries and 280 minor injuries
- Most common crash type "loss of control at a bend" (174 crashes)
- 14 percent at intersections
- 41 percent wet road
- 28 percent night time
- Most common at fault driver age group: 15 to 19 years (23 percent of at fault drivers)
- Worst month January, best September

Further information about the 232 road factor related injury crashes on **State Highways** in the Northland Region 2005 to 2009:

- 16 deaths, 54 serious injuries and 286 minor injuries
- Most common crash type "loss of control at a bend" (154 crashes)
- 7 percent at intersections
- 63 percent wet road
- 27 percent night time
- Most common at fault driver age group: 15 to 19 years (15 percent of at fault drivers)
- Worst month December, best May

Looking back—the last two decades ...



Contacts

New Zealand Transport Agency

Manager Performance Information (Northern)
Chris Hewitt

Senior Traffic and Safety Engineer : Highways and Network Operations
Brian Rainford

Private Bag 106 602
Auckland

Phone 09 969 9801

Senior Programme Advisor (Education — Northland)
Paul Scott
Phone 09 470 2389

Auckland Media Manager
Ewart Barnsley
Phone 09 368 2142

www.nzta.govt.nz

Road Safety Co-ordinator (Far North)

Kiri Sloane
PO Box 200, Kaitaia
Phone 09 408 1380

Road Safety Co-ordinator (Whangarei / Kaipara)

Gillian Archer
PO Box 1124, Whangarei
Phone 0274 938703

New Zealand Police

Inspector Clifford Paxton
Road Policing Manager
Private Bag 9016, Whangarei
Phone 09 430 4500

Mid/Far North Area Controller
Inspector Chris Scahill
PO Box 31, Kerikeri
Phone 09 407 4850

Whangarei / Kaipara Area Controller
Inspector Paul Dimery
PO Box 9016, Whangarei
Phone 09 430 4500

Highways North
Incident reporting
0800 111 655