

# briefing notes - road safety issues

## Auckland State Highways

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 on State Highways in the Auckland region.

This report is the tenth road safety report for State Highways in the Auckland Region. All the material unless otherwise stated in this report applies only to State Highways. It also applies only to those parts of the State Highway network not patrolled by the NZ Police Motorways team. Crashes on these roads, which are very different in nature, can be found in the “Auckland Motorways” report.

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 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 *		2008 road trauma	
Auckland State Highways		Casualties	Auckland State Highways
Bends		Deaths	8
Night		Serious casualties	44
Intersections		Minor casualties	231
Speed			
Nationally *		Crashes	Auckland State Highways
Speed		Fatal crashes	8
Alcohol		Serious injury crashes	27
Failure to give way		Minor injury crashes	150
Restraints		Non-injury crashes	316

\* not in any specific order of priority

## Overview

In 2008, on Auckland State Highways (excluding the Police Motorway patrol area), there were 185 injury crashes and 316 non-injury crashes as reported by the New Zealand Police.

The table below shows the number of injuries resulting from the 185 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	7	41	174	222
Urban	1	3	57	61
Total	8	44	231	283

Crash numbers in 2008 were the highest reported in the past ten years which is a reflection of minor injuries increasing in the past four years.

As might be expected most crashes occur in rural areas. Between 2004 and 2008, 73 percent of all injury crashes on the Auckland State Highway network (excluding the Motorways) occurred in areas with a speed limit of 80km/hr or more.

Intersection crashes occur in much higher proportions than the average for rural highways in NZ; while crashes involving speed or at night are slightly above the average. Bend crashes are included in this note because although they occur in slightly lower proportions than elsewhere, they are still highly represented in fatal and serious crashes in particular.

Auckland State Highways				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1999	8	42	96	146
2000	11	32	68	111
2001	12	32	92	136
2002	6	42	91	139
2003	10	22	118	150
2004	9	39	91	139
2005	12	25	100	137
2006	10	35	120	165
2007	6	28	135	169
2008	8	27	150	185

## 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	22	13
Too fast	22	16
At bends	42	32
At intersections	23	32
Motorcyclists	16	9
Road factors	13	12
Night time	34	30

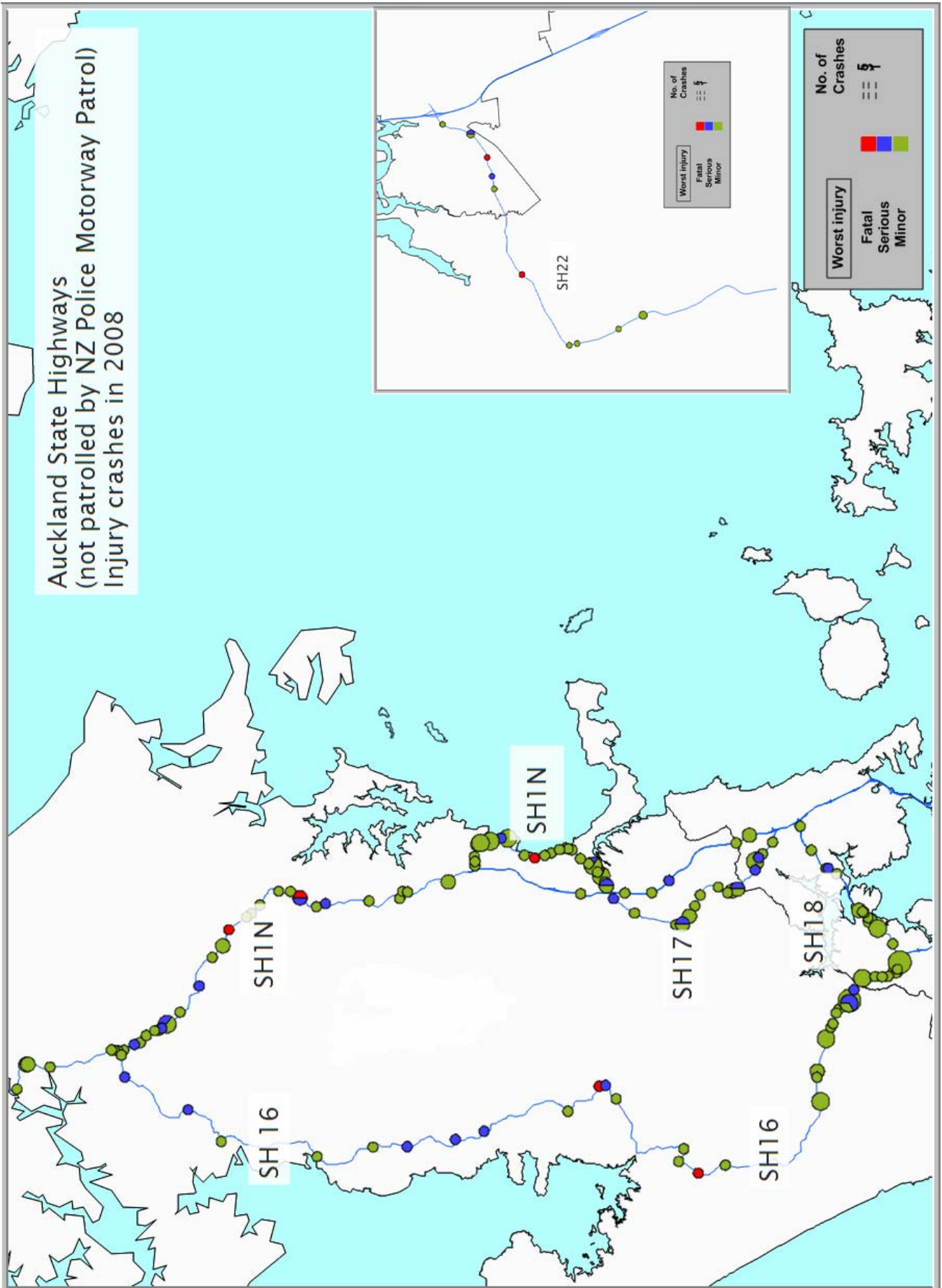
Social cost measures the total cost of road crashes to the nation, including loss of life and life quality, loss of productivity, medical, legal, court and property damage costs.

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

State Highway	Number of fatal and serious crashes	Social cost (\$)(m)
SH 1N	66	154
SH 16	55	90
SH 17	45	54
SH 22	24	46
SH 18	9	14

Further information about 2004 to 2008 injury and non-injury crashes on Auckland State Highways:

- Worst month December, best May
- Worst day Friday, best Tuesday
- 31 percent on wet roads
- 29 percent at night
- 33 percent at intersections
- 1234 roadside objects struck



## Bend - loss of control or head on

Between 2004 and 2008, 32 percent of all injury crashes and 42 percent of fatal and serious crashes on Auckland State Highways were loss of control or head on bends. These crashes resulted in 32 fatalities, 94 serious injuries and 278 minor injuries.

Crashes at bends 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	5	15	25	45
2005	6	10	35	51
2006	6	12	36	54
2007	1	13	32	46
2008	6	9	40	55
<b>Total</b>	<b>24</b>	<b>59</b>	<b>168</b>	<b>251</b>

After drivers lose control of their vehicles, they 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 Auckland State Highways were cliffs or banks (52), ditches (43), fences (33), trees (31) and posts or poles (10) from a total of 247 objects struck.

Injury crashes at bends					
State Highway	2004	2005	2006	2007	2008
SH 1N	21	24	21	17	24
SH 16	11	10	19	11	10
SH 17	6	4	8	10	15
SH 22	4	8	3	4	4
SH 18	3	4	2	2	3

## Age and gender of at fault drivers in injury crashes

Ages of drivers	Male	Female
15- 19 years *	35	16
20 - 24	27	10
25 - 29	24	7
30 - 39	29	12
40 - 49	31	8
50 - 59	17	8
60 - 69	8	4
70+	4	4
<b>Total</b>	<b>175</b>	<b>69</b>

\*Note - age ranges are not equal

Further information about the 251 injury loss of control or head on crashes on bends on Auckland State Highways 2004 to 2008:

- 32 deaths, 94 serious injuries and 278 minor injuries
- 72 percent of at fault drivers were male
- Most common crash type “loss of control turning right”
- 67 percent were single vehicle
- 26 percent of involved alcohol
- 33 percent involved speed too fast for the conditions
- 20 percent included a road factor
- 87 percent were rural
- 46 percent happened in the wet
- 41 percent at night
- 13 percent of crashes involved fatigue
- Worst month September, best May
- Worst day Sunday, best Wednesday
- Worst three hour time period 3pm to 6pm

## Night time crashes

Between 2004 and 2008, there were a total of 235 night time injury crashes on Auckland State Highways. These resulted in 23 fatalities, 71 serious injuries and 248 minor injuries.

Night time crashes — urban / rural					
Road type	2004	2005	2006	2007	2008
Rural road	33	36	32	42	40
Urban road	11	9	15	12	5
Total	44	45	47	54	45

Night time injury crashes — by highway number					
State Highway	2004	2005	2006	2007	2008
SH 1N	15	16	13	16	17
SH 16	8	12	13	12	12
SH 17	8	11	12	15	8
SH 22	7	5	3	6	5
SH 18	5	1	6	5	3

There are 14 locations (within a 100m grouping) with three injury crashes in the last five years.

Of this fourteen three had injury crashes in 2008 with one of these having two crashes in the same location.

These sites were:

- SH16 / Muriwai Rd (Waimauku)
- SH16 / Fernhill Dr (Westgate - 2 injury crashes in 2008)
- SH1N 400m South Valerie Close (near Warkworth)

## Age and gender of at fault drivers in injury crashes at night

Ages of drivers at fault in night time crashes	Male	Female
15 - 19 years*	36	17
20 - 24	32	3
25 - 29	17	5
30 - 39	28	8
40 - 49	32	11
50 - 59	11	1
60 - 69	8	4
70+	6	2
Total	170	51

\* Note - age ranges are not equal

Further information about the 235 injury night time crashes on Auckland State Highways 2004 to 2008:

- 23 deaths, 71 serious injuries and 248 minor injuries
- 77 percent of at fault drivers were male
- Most common crash types is "loss of control turning right"
- 30 percent included alcohol
- 39 percent wet road
- 20 percent speed related
- 78 percent of night time crashes occurred on rural state highways
- 70 percent of injury crashes occurred during weekdays
- 169 objects were struck
- Worst month June, best January
- Worst day Friday, best Tuesday
- Worst three hour time period 6pm to 9pm

## Intersections

During the five year period 2004 to 2008 on Auckland State Highways, there were a total of 798 crashes at intersections, 254 of these were injury crashes and 544 non-injury.

Crashes at Intersections					
	2004	2005	2006	2007	2008
Injury crash	45	33	65	42	69
Non-injury crash	103	106	107	118	110
Total	148	139	172	160	179

On the State Highway network not patrolled by NZ Police motorway patrol, there are 29 intersection locations with 3 or more injury crashes in the last five years. This includes 19 locations with 4 or more, seven locations with six or more and three locations with ten or more.

Locations with seven or more injury crashes 2004 to 2008		
Intersection name	2004 to 2008	2008
SH 16 / Taupaki Rd	18	5
SH 17 / Tavern Rd	10	3
SH 17 / Wainui Rd	10	1
SH 17 / Coatesville Riverhead Hw	8	1
SH 16 / Brigham Creek Rd	7	3

The sites with three or more injury crashes are shown on the map on the following page.

The most common crash type at intersections is when a driver turns right and is hit by a vehicle approaching from the right.

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

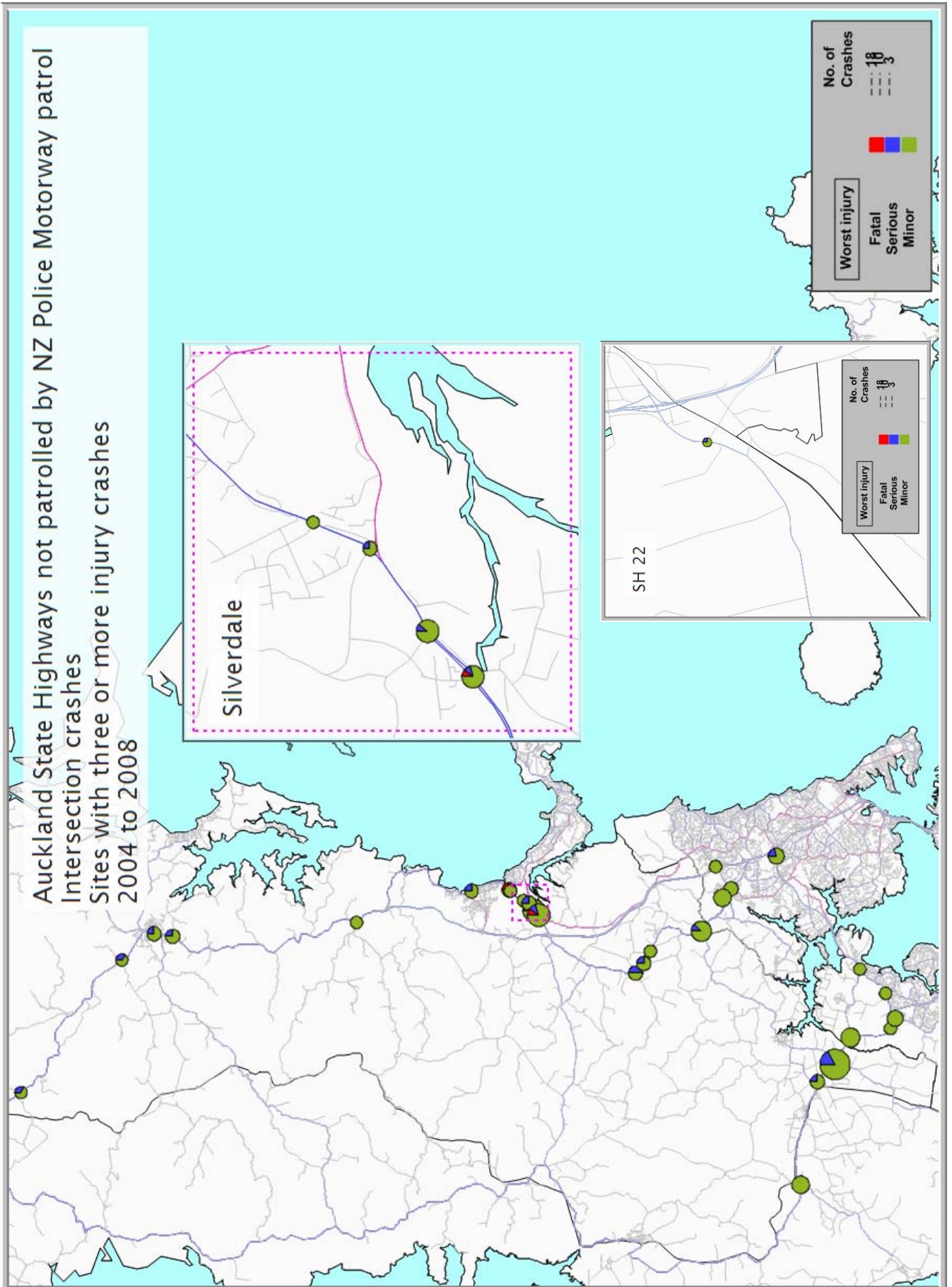
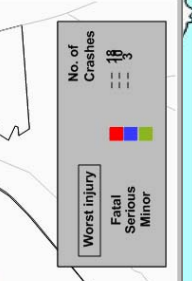
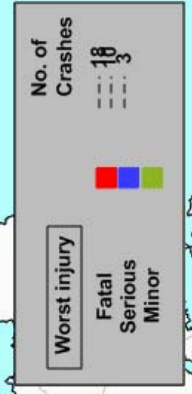
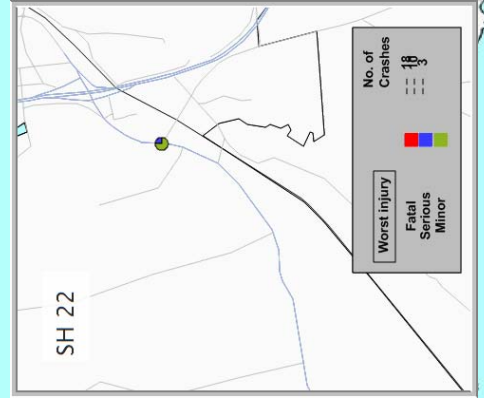
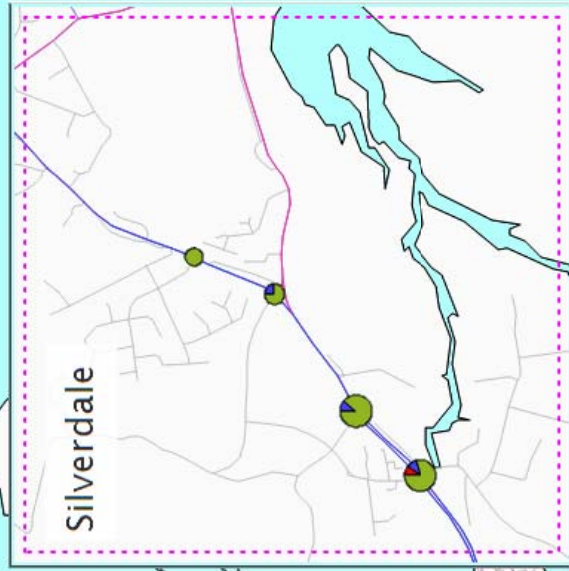
- Failure to stop and give way
- Not checking properly
- General errors of judgement

Junction type Injury and Non-injury crashes		
Junction Type	Rural	Urban
Roundabout	18	14
Tee	277	260
Cross (X)	100	48
Y	26	13
Other (includes driveways)	18	24

Further information about the 254 injury crashes at intersections on Auckland State Highways 2004 to 2008:

- 3 deaths, 54 serious injuries and 304 minor injuries
- 24 percent wet roads
- 23 percent night time
- 61 percent of at fault drivers were male
- 62 percent of at fault drivers held a full licence
- 61 percent of crashes occurred at rural intersections
- Worst month October, best September
- Worst day Tuesday and Thursday (equal), best Monday and Sunday (equal)
- Worst time three hour period 3pm till 6pm

Auckland State Highways not patrolled by NZ Police Motorway patrol  
Intersection crashes  
Sites with three or more injury crashes  
2004 to 2008



## 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, 16 percent of injury crashes on Auckland State Highways involved travelling too fast for the conditions.

Speed related injury crashes					
Speed related crashes	2004	2005	2006	2007	2008
Rural	19	25	23	18	23
Urban	3	2	7	3	1
Total	22	27	30	21	24

There are seven highway locations that have three or more speed related injury crashes in the last five years (inside a 100m radius).

There are two sites with four or more crashes and these are:

- SH 18 / Caribbean Drive (Albany)
- SH 1N 500m south of Kraack Rd (Dome Valley)

Speed related injury crashes by highway number 2004 to 2008		
State Highway	Injury crashes 2004 -2008	Total injury crashes 2008
SH 1N	59	9
SH 16	24	6
SH 17	20	4
SH 22	11	3
SH 18	9	2

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.

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

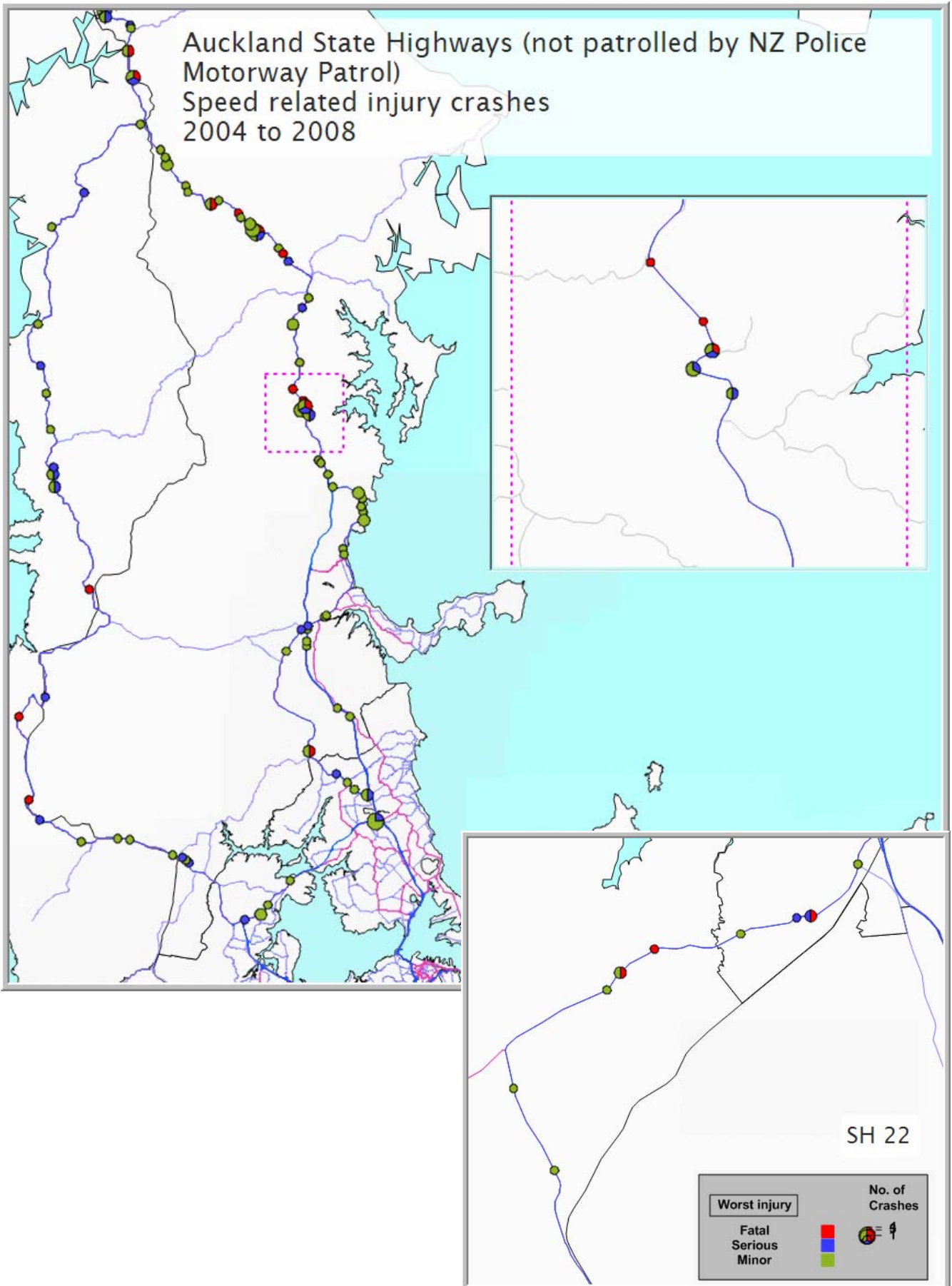
Temporary speed limits at road works in particular need to be monitored to make sure that they are reasonable and only in place when hazards exist.

The map on the following page shows the locations of injury speed related crashes.

Further information about the 124 speed related injury crashes on Auckland State Highways 2004 to 2008:

- 26 deaths, 58 serious injuries and 139 minor injuries
- Most common crash type “Lost control on bend”
- 17 percent involved alcohol
- 85 percent mid-block
- 44 percent wet road
- 37 percent night time
- 87 percent occurred on rural State Highways
- Worst month February and April (equal), best July
- Worst day Sunday, best Tuesday and Wednesday (equal)
- Worst three hour time period 3pm till 6pm





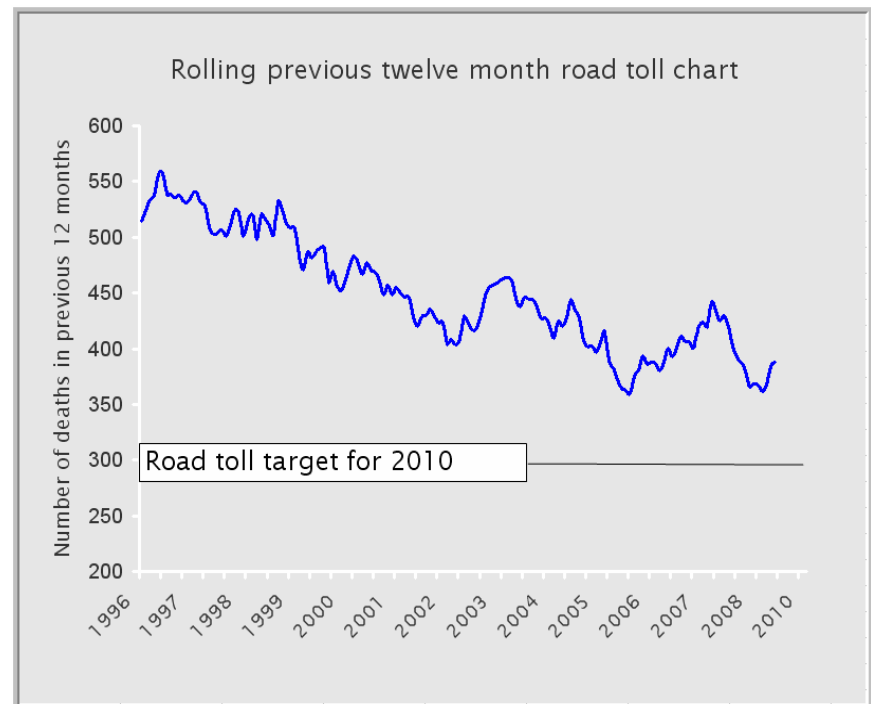
## The next ten years—moving beyond Road Safety 2010

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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