

briefing notes - road safety issues

Auckland Motorways

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 the Auckland Motorways.

This report is the tenth road safety report for the Auckland Motorways. All the material unless otherwise stated in this report applies to the area patrolled by the Police Motorway unit. Information about crashes on State Highways outside this area can be found in the separate “Auckland State Highways” 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 and those with high social cost (high numbers of fatal and serious crashes mainly).

We have included a brief overview of crashes on the Motorway.

We encourage Auckland Motorway Police Intel 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 *

Auckland Motorways

Rear End

Alcohol

Night

2008 road trauma

Casualties

Auckland Motorways

Deaths

5

Serious casualties

25

Minor casualties

623

Nationally *

Speed

Alcohol

Failure to give way

Restraints

Crashes

Fatal crashes

5

Serious injury crashes

23

Minor injury crashes

493

Non-injury crashes

1806

* not in any particular order of importance

Overview

In 2008 on Auckland Motorways (those managed by the NZ Police Motorway Patrol), there were 521 injury crashes and 1806 non-injury crashes. The table below shows the number of injuries resulting from the 521 injury crashes by rural or urban (mainly ramps) 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	5	22	515	542
Urban	0	3	108	111
Total	5	25	623	653

Over the last decade, fatal and serious crashes on the motorway have been trending down while crashes involving minor injury have been steadily increasing. During the same period non-injury crashes have been very stable at around 2000 a year.

Given the traffic volumes and the sheer scale of the Auckland Motorway network comparisons are difficult. Never-the-less when Auckland motorway fatal and serious crashes were compared with other NZ motorways “rear-end”, “alcohol” and “night time” crashes were found on Auckland motorways to be represented in higher proportions. The first and the last of these possibly being connected with traffic volumes and peak traffic extending into darkness at either end of the day.

These three crash types were also represented more highly than the all NZ average for fatal and serious crashes.

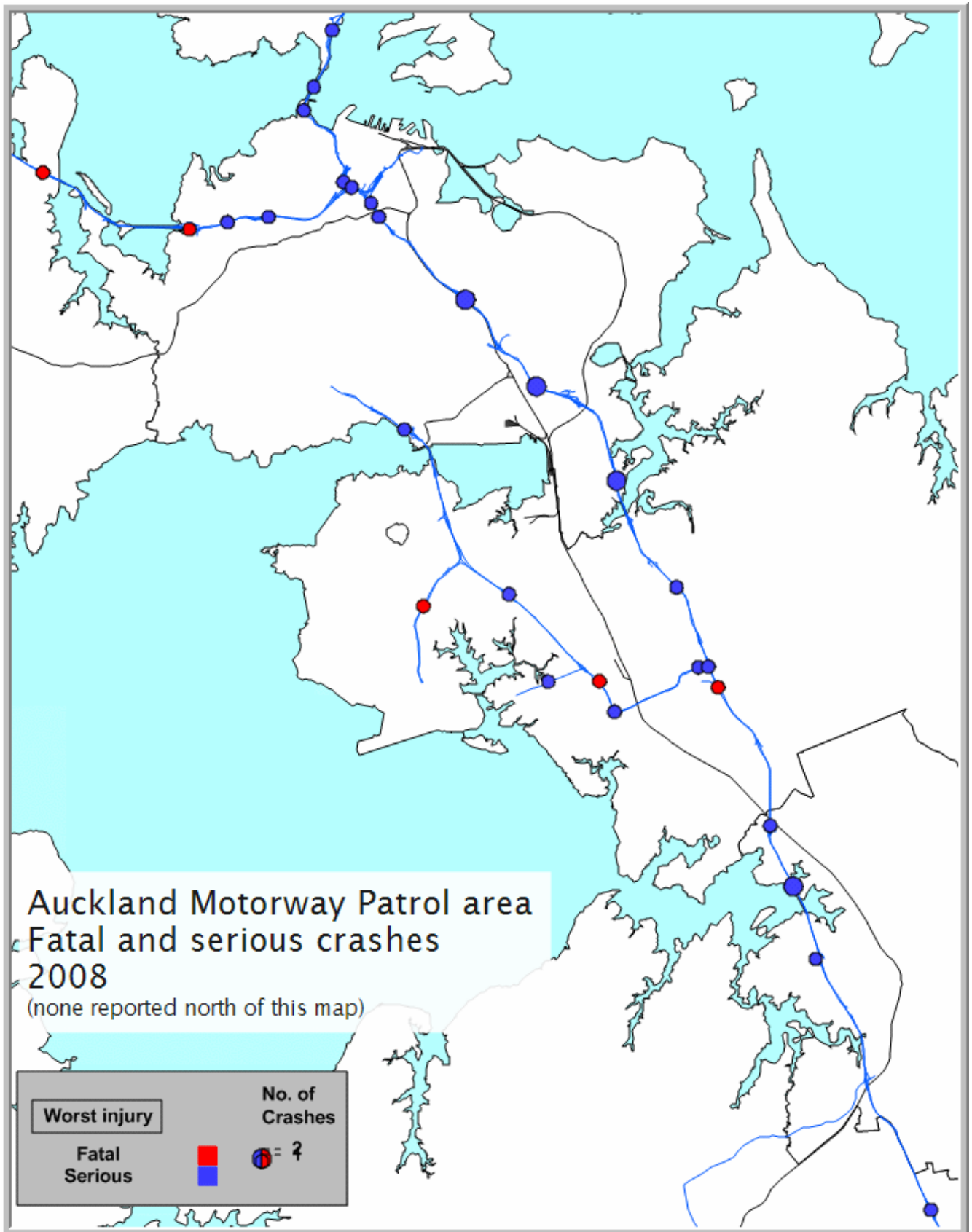
Crash trends Auckland Motorways				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1999	12	56	325	393
2000	8	29	307	344
2001	5	36	406	447
2002	6	59	363	428
2003	7	43	460	510
2004	8	36	475	519
2005	4	40	506	550
2006	9	39	443	491
2007	4	35	471	510
2008	5	23	493	521

Crash characteristics 2004 to 2008		
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	32	12
Too fast	17	12
At bends	17	8
Motorcyclists	12	6
Rear end	20	53
Night time	53	35

Further information about the 2004 to 2008 injury and non-injury crashes on Auckland Motorways:

- Most common crash type “rear end or hitting an obstruction” (7084 crashes)
- Worst month May, best January
- Worst day Friday, best Sunday
- 27 percent on wet roads
- 30 percent at night
- 23 percent at intersections
- 3314 roadside objects struck
- 65 percent of at fault drivers held a full drivers licence
- Social cost of crashes in 2008 \$141m*

*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.



Rear End Crashes

Between 2004 and 2008, 53 percent of all injury crashes on Auckland Motorways involved rear end collisions.

These crashes resulted in 2 fatalities, 49 serious injuries and 1792 minor injuries.

There were also 5720 non-injury rear end crashes which are steady at around 1144 per year.

Rear End collisions 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	0	6	274	280
2005	1	13	280	293
2006	1	10	238	249
2007	0	7	263	270
2008	0	3	268	271
Total	2	39	1323	1364

Most rear end crashes involve a driver following too closely with 40 percent of all injury rear end crashes including this factor. Twenty-one percent of all injury crashes involve the driver failing to notice a vehicle slowing or stopped in front.

Locations with 17 or more injury rear end crashes 2004 to 2008	
Location name (Within a radius of 100m)	Total Injury crashes
State Highway 1, 50m South of Penrose Road Overbridge	26
State Highway 1, 200m South of Penrose Road Overbridge	22
Intersection of Northcote Off Ramp Northbound and Northcote Road	18
Intersection of State Highway 1 and Khyber Pass Road Off Ramp Northbound	18
Intersection of State Highway 1 and Curran Street On Ramp Northbound	17

Age and gender of at fault drivers 2004 to 2008

Age of drivers	Male	Female	Total
15- 19 years *	119	65	184
20 - 24	150	117	267
25 - 29	135	55	190
30 - 39	192	104	296
40 - 49	197	69	266
50 - 59	119	45	164
60 - 69	58	20	78
70+	37	16	53
Total	1007	491	1498

*note - age ranges are not equal

Further information about the 1364 rear end injury crashes on Auckland Motorways 2004 to 2008:

- 2 deaths, 49 serious injuries and 1792 minor injuries
- 5 percent involved alcohol
- 9 percent involved “too fast for the conditions”
- 26 percent at night
- 27 percent in the wet
- 1 percent involved fatigue
- 72 percent of at fault drivers held a “full” licence
- 67 percent of at fault drivers were male
- Most common cause of crashes, “following too closely”
- Worst month May, best September
- Worst day Friday, best Sunday
- Worst three hour time period 3pm till 6pm

Night time crashes

Between 2004 and 2008, there were a total of 916 night time injury crashes on Auckland Motorways.

These resulted in 28 fatalities, 111 serious injuries and 1144 minor injuries.

The proportion of fatal and serious injury crashes occurring during the hours of darkness on the Auckland Motorways is higher than the New Zealand average for other motorways and the all of New Zealand average.

Night time Injury crashes					
Road type	2004	2005	2006	2007	2008
Open road	142	151	151	158	155
Urban road	32	33	30	21	43
Total	174	184	181	179	198

There are 32 sites with six or more injury crashes at night (within a 100m radius) including 21 with seven or more, 12 with nine or more and six with 11 or more.

Locations with 11 or more injury night time crashes 2004 to 2008	
Location name (Within a radius of 100m)	Total Injury crashes
Intersection of Gillies Avenue and Gillies Avenue On Ramp Northbound	15
Intersection of St Lukes Road and St Lukes Road On Ramp Westbound	12
Intersection of State Highway 1 and Wellesley Street Off Ramp Northbound	11
State Highway 1N 100m South of Penrose Road Overbridge	11
Intersection of Northcote Road On Ramp Northbound and Northcote Road	11
Intersection of Newton Road and Newton On Ramp Westbound	11

Night time Injury crashes by weekend or weekday 2004 to 2008

Worst injury in crash	Weekend (6pm Friday to 6am Monday)	Weekday (6am Monday to 6pm Friday)
Fatal	12	12
Injury	397	495
Total	409	507

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

Age of drivers	Male	Female
15- 19 years *	115	52
20 - 24	134	68
25 - 29	86	29
30 - 39	119	67
40 - 49	95	30
50 - 59	47	21
60 - 69	23	8
70+	14	6
Total	633	281

*Note age ranges are not equal

Further information about the 916 injury night time injury crashes on Auckland Motorways 2004 to 2008:

- Most common crash type "rear end in a queue"
- Most common crash cause, a vehicle following too closely
- 25 percent injury crashes include alcohol
- 36 percent wet road
- 18 percent crashes speed related
- 56 percent of at fault drivers held a "full" licence
- Worst month June and best February
- Worst day Friday, best Monday
- Worst three hour time period 6pm till 9pm
- 504 objects were struck

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 34 percent of all fatal crashes (the same as 2007) and 15 percent of all injury crashes (the same as 2007).

On Auckland Motorways between 2004 and 2008 alcohol was a factor in 32 percent of fatal and serious crashes (the all New Zealand average for fatal and serious crashes is 22 percent). Additionally 12 percent of injury crashes involved alcohol.

Number of alcohol related injury crashes			
Crash year	Open road	Urban road	Total
2004	42	13	55
2005	43	11	54
2006	57	9	66
2007	49	10	59
2008	52	13	65
Total	243	56	299

Open road is classified as any area with a speed limit of 80km/hr or more and in the case of the Motorway Patrol areas "urban" is mainly interchanges, ramps and Wiri Station Road.

The locations of alcohol related injury crashes occurring between 2004 and 2008 are shown on the **three** maps on the following pages.

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.

There were 110 non-injury alcohol related crashes on the motorway in 2007 and 97 in 2008.

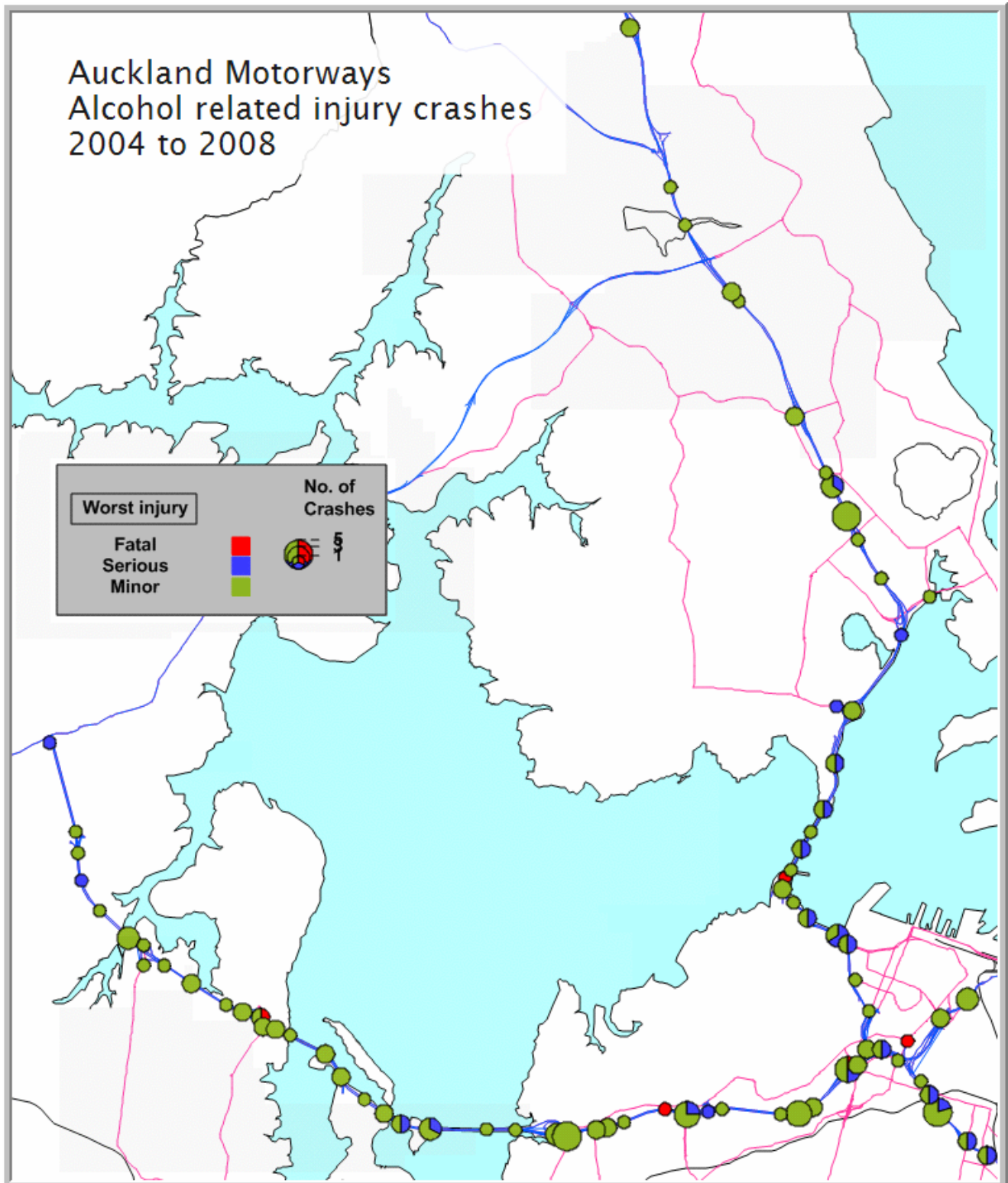
There are 13 locations in the motorway patrol area with four or more injury alcohol related crashes in the last five years. Those with five or more injury crashes are shown on the table below.

Locations with five or more alcohol related injury crashes 2004 to 2008	
Location (within 100m radius)	Number of crashes
Massey Rd / Massey Off Ramp Northbound	5
Gt North Rd/ Waterview On Ramp Westbound	5
SH 1N / Khyber Pass Off Ramp Northbound	5
SH 20 at the Queenstown Over-bridge	5

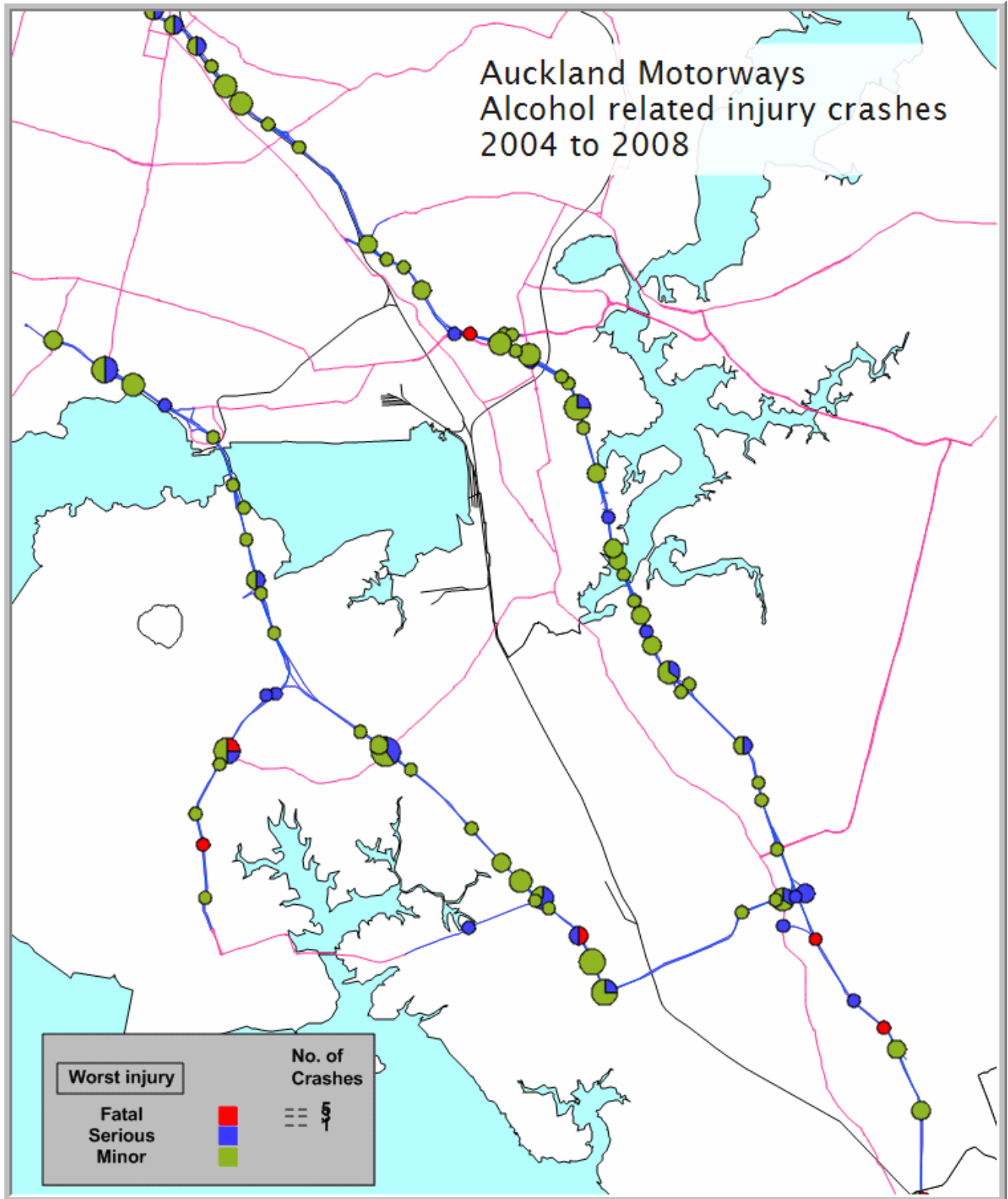
Further information about the 299 alcohol related injury crashes on Auckland Motorways 2004 to 2008:

- 14 deaths, 72 serious injuries and 385 minor injuries
- 77 percent of at fault drivers were male
- Most common crash type "loss of control turning right"
- 27 percent at intersections
- 19 percent urban
- 31 percent wet road
- 76 percent night time
- 44 percent of at fault drivers held a "full" licence
- Worst three hour time period midnight till 3pm
- Worst month December, best May
- Worst day Sunday, best Monday

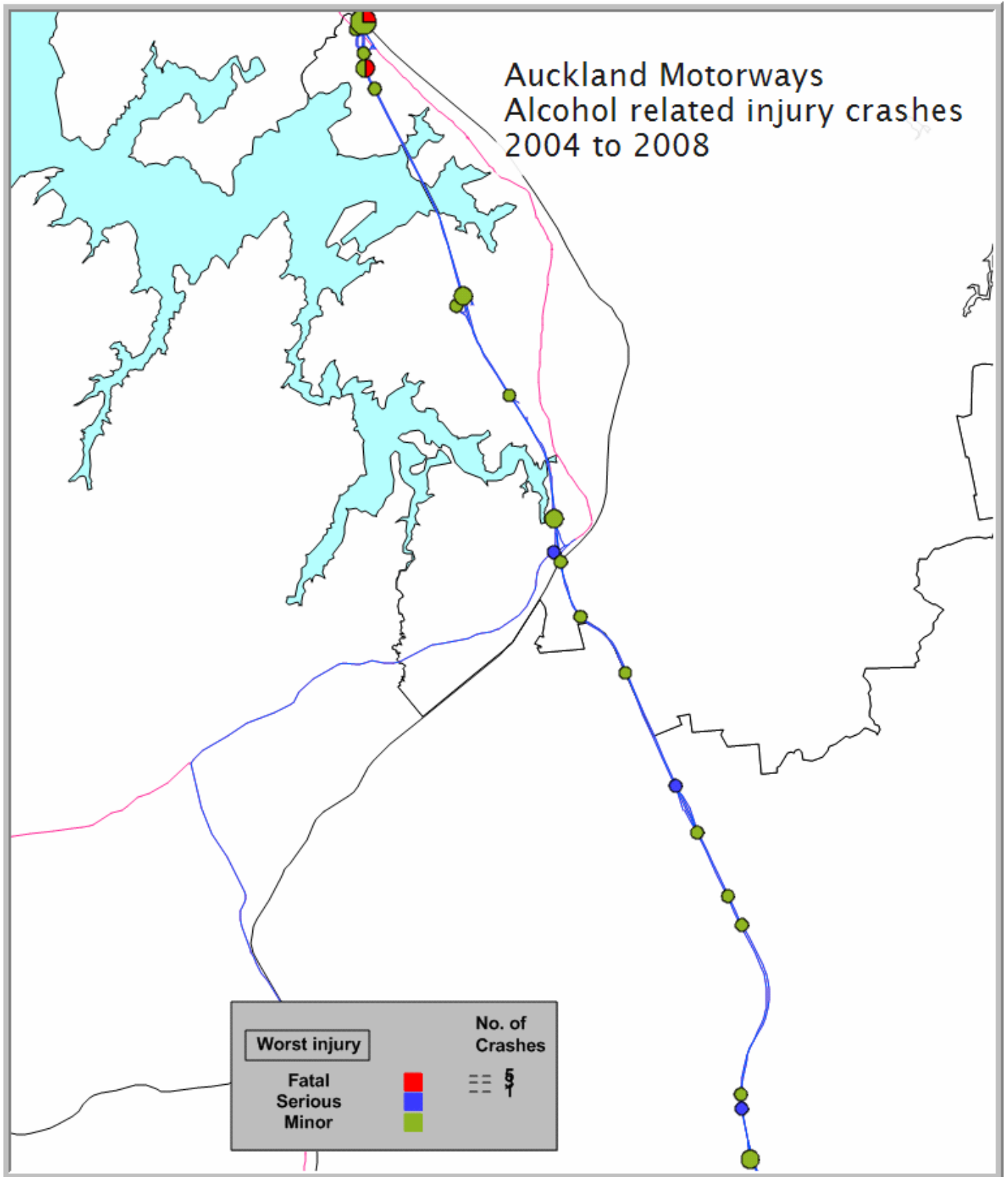
Northern, Western and Central Motorways



South-western and Southern Motorways



Southern Motorway



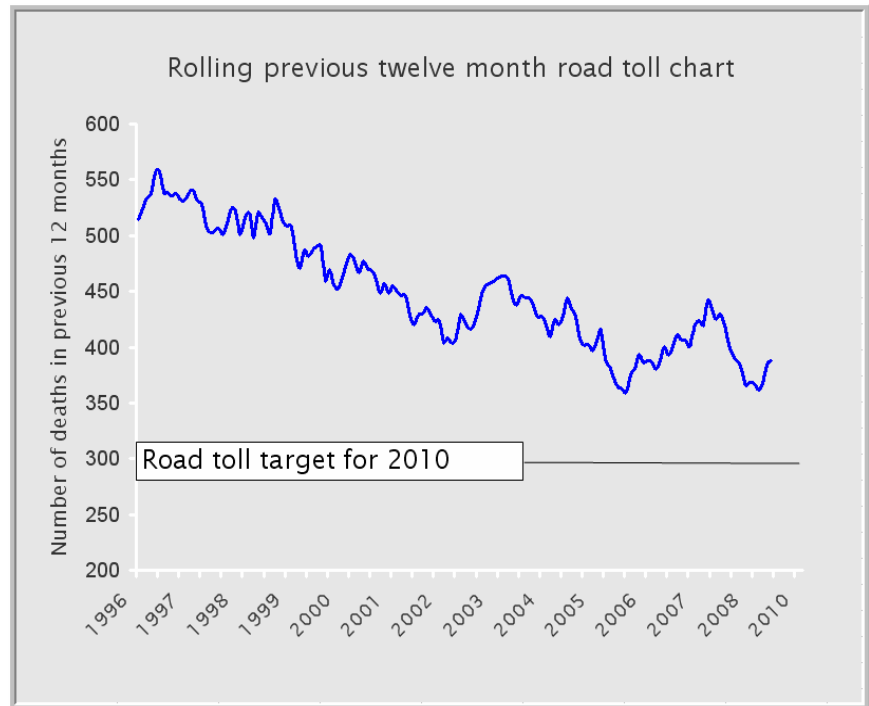
The next ten years—moving beyond Road Safety 2010

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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