



briefing notes - road safety issues

Auckland City

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 in Auckland City.

This report is the tenth road safety report for Auckland City. All the material unless otherwise stated in this report applies only to local roads. Local roads are all non State Highway roads in the city.

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 when Auckland City is compared to similar local bodies or those with high social cost (high numbers of fatal and serious crashes mainly).

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

We encourage Auckland City to use its 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 City

Intersections

Vulnerable road users

Alcohol

Night time crashes

Nationally *

Speed

Alcohol

Failure to give way

Restraints

2008 road trauma

Casualties

Auckland City

| | |
|--------------------|-----|
| Deaths | 7 |
| Serious casualties | 133 |
| Minor casualties | 948 |

Crashes

Auckland City

| | |
|------------------------|------|
| Fatal crashes | 7 |
| Serious injury crashes | 116 |
| Minor injury crashes | 755 |
| Non-injury crashes | 3765 |

* not in any specific order of importance

Overview

In 2008 on local roads in Auckland City there were 878 injury crashes and 2887 non-injury crashes. In addition there were 276 injury crashes and 938 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 878 injury crashes by rural or urban areas for local roads (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 | 0 | 1 | 19 | 20 |
| Urban | 7 | 132 | 929 | 1068 |
| Total | 7 | 133 | 948 | 1088 |

Crash numbers in the city rose in the first half of the last decade but have been relatively stable around the 900 mark in the second half. This is consistent with the vehicle kilometres driven in the city. In the 2003 / 2004 financial year there were approximately 2793 million vehicle kilometres driven on local roads in the city and in the 2007 / 2008 year 2,765 million.

As may be anticipated, the number of crashes at intersections in the city are high and they are present in slightly higher numbers than might be expected when Auckland City is compared to other major cities in New Zealand. The same is true for pedestrian crashes, crashes involving alcohol and crashes at night.

| Crash trends in Auckland City | | | | |
|-------------------------------|---------------|-----------------|---------------|---------------|
| Year | Fatal Crashes | Serious Crashes | Minor Crashes | Total Crashes |
| 1999 | 13 | 117 | 612 | 742 |
| 2000 | 10 | 135 | 542 | 687 |
| 2001 | 9 | 138 | 530 | 677 |
| 2002 | 12 | 152 | 604 | 768 |
| 2003 | 20 | 109 | 821 | 950 |
| 2004 | 13 | 119 | 719 | 851 |
| 2005 | 9 | 123 | 805 | 937 |
| 2006 | 12 | 117 | 795 | 924 |
| 2007 | 4 | 108 | 769 | 881 |
| 2008 | 7 | 116 | 755 | 878 |

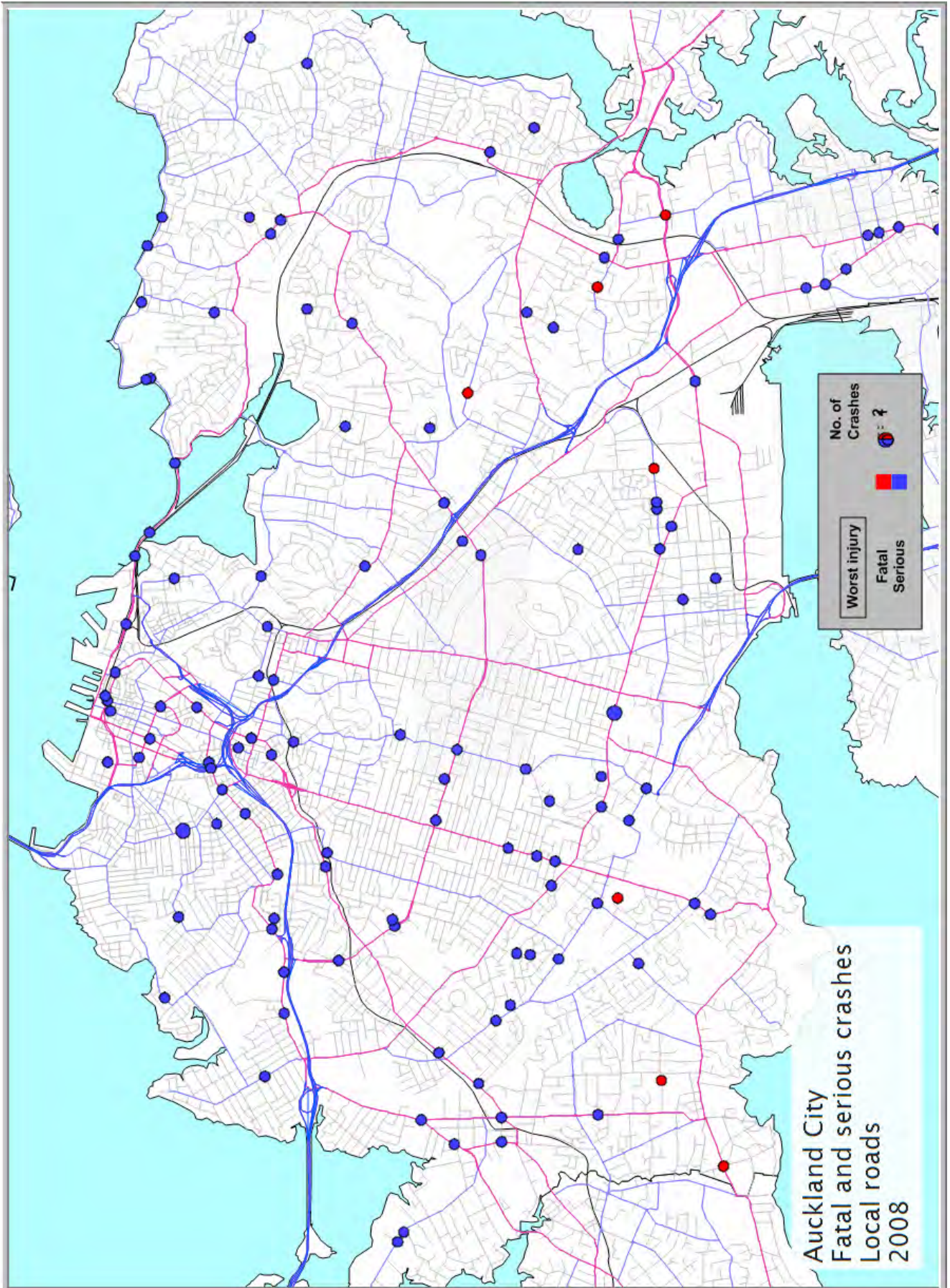
| Local road crashes | | |
|---|---|--|
| Crash type or contributory cause 2004 to 2008 | Percentage fatal and serious crashes of this type or contributory cause | Percentage all injury crashes of this type or contributory cause |
| Alcohol | 23 | 13 |
| Too fast | 16 | 10 |
| At intersections | 49 | 56 |
| Pedestrians | 26 | 15 |
| Cyclists | 9 | 10 |
| Motorcyclists | 18 | 10 |
| Night time | 42 | 33 |

Further information about the 4471 injury and 16,053 non-injury crashes on **local** roads in Auckland City 2004 to 2008:

- Worst month May, best January
- Worst day Friday, best Sunday
- 22 percent on wet roads
- 32 percent at night
- 57 percent at intersections
- 6878 roadside objects struck
- 20 to 24 years was the most represented five year age group in at fault drivers in the city representing 20 percent of all at fault drivers (injury crashes)
- Social cost of crashes in 2008 \$678.7m

Further information about the 1328 injury and 5299 non-injury crashes on **State Highways** in Auckland City 2004 to 2008:

- Worst month June, best January
- Worst day Friday, best Sunday
- 26 percent on wet roads
- 29 percent at night
- 20 percent at intersections
- 1494 roadside objects struck
- 20 to 24 years was the most represented five year age group in at fault drivers in the city representing 18 percent of all at fault drivers (injury crashes)
- Social cost of crashes in 2008 \$228.6m



Intersections

During the five year period 2004 to 2008 within Auckland City there were a total of 11,728 crashes at intersections, 2497 of these were injury crashes and 9227 non-injury.

| Crashes at Intersections | | | | | |
|--------------------------|------|------|------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| Injury crash | 463 | 506 | 506 | 503 | 519 |
| Non-injury crash | 1967 | 1938 | 1824 | 1797 | 1701 |
| Total | 2430 | 2444 | 2330 | 2300 | 2220 |

In the city there are 312 intersection sites which have had three or more injury crashes in the last five years, including 84 sites with six or more injury crashes in the past five years. The top five of these are listed below. High traffic flows can be linked to high numbers of crashes but as can be seen in the table below this effect is far from consistent. Although it is hoped that the ten sites chosen for red light cameras will have some impact on crash numbers at those sites and perhaps a shadow effect at other signalised junctions there is much that needs to be done elsewhere.

| Locations with the most injury crashes 2004 to 2008 | | |
|--|--------------|------|
| Intersection name (AADT traffic volume in brackets) | 2004 to 2008 | 2008 |
| Great North Rd (14,745) / Bullock Track (8917) | 21 | 3 |
| Ash St (43,531) / Rosebank Rd (24,627) | 14 | 3 |
| Queen St (23,136) / City Rd (5258) | 14 | 0 |
| Tamaki Dr (35,122) / Ngapipi Rd (16,563) | 13 | 4 |
| Selwyn Rd (8577) / Arthur St (6032) | 11 | 3 |

| Junction control Injury and non-injury crashes | | | | |
|--|-----------------|-------------|----------|------|
| Junction control | Traffic signals | Nil / other | Give Way | Stop |
| Number of crashes | 792 | 657 | 528 | 520 |

The most common crash type at intersections is when a driver turns right and is hit by a vehicle approaching from the opposite direction on the same road (468 crashes)

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

- Failure to stop and give way (1250 crashes)
- Not checking properly (1220 crashes)

| Junction type (injury crashes) | | |
|--------------------------------|-------|-------|
| Junction Type | Rural | Urban |
| Roundabout | 0 | 102 |
| Tee | 4 | 1375 |
| Cross (X) | 4 | 737 |
| Y | 2 | 85 |
| Other (includes driveways) | 1 | 187 |

Further information about the 2497 injury crashes at intersections on **local** roads in Auckland City 2004 to 2008:

- 20 deaths, 323 serious injuries and 2764 minor injuries
- 23 percent wet roads
- 32 percent night time
- Worst month May, best September
- Worst day Friday, best Sunday
- Worst three hour time period, 3pm till 6pm

Further information about the 253 injury crashes at intersections on **State Highways** in Auckland City 2004 to 2008:

- 6 deaths, 29 serious injuries and 307 minor injuries
- 28 percent wet roads
- 40 percent night time
- Worst months February and April (equal), best January
- Worst day Sunday, best Tuesday
- Worst three hour timeperiod, midday till 3pm

Vulnerable road users

(Pedestrians, Cyclists and Motorcyclists)

Vulnerable road users are those who have little physical protection in the event of a crash and are more susceptible to severe injuries.

Pedestrians

Pedestrian crashes feature highly in the overall crash numbers in Auckland City, representing 26 percent of fatal and serious crashes and 15 percent of all injury crashes in the last five years.

| Injuries to pedestrians 2004 to 2008 | | | | | |
|--------------------------------------|------|------|------|------|------|
| Pedestrian injuries | 2004 | 2005 | 2006 | 2007 | 2008 |
| Fatal | 5 | 3 | 4 | 3 | 0 |
| Serious | 28 | 38 | 35 | 20 | 33 |
| Minor | 131 | 133 | 122 | 87 | 101 |
| Total | 164 | 174 | 161 | 110 | 134 |

The most common type of pedestrian crash is when a pedestrian is crossing the road and is hit by a vehicle approaching from their right (318 crashes).

| Locations with six or more injury pedestrian crashes 2004 to 2008 | |
|---|-------------------|
| Location | Number of crashes |
| Queen St / City Rd | 12 |
| Karangahape Rd / Queen St | 7 |
| Victoria St West / Elliot St | 6 |
| Albert St / Wyndham St | 6 |
| Fanshawe St 100m east Halsey St | 6 |
| Dominion Rd / Valley Rd | 6 |
| Queen St / Shortland St | 6 |

There are 61 sites in the city with three or more pedestrian crashes in the last five years.

Ages and gender of pedestrian casualties (note some pedestrian ages are unknown)

| Age group | Female | Male | Total |
|-------------|--------|------|-------|
| 0 to 4 | 4 | 11 | 16 |
| 5 to 9 | 23 | 33 | 56 |
| 10 to 14 | 30 | 36 | 66 |
| 15 to 19 | 37 | 42 | 80 |
| 20 to 24 | 56 | 38 | 94 |
| 25 to 29 | 39 | 24 | 63 |
| 30 to 34 | 18 | 21 | 39 |
| 35 to 39 | 23 | 17 | 43 |
| 40 to 44 | 16 | 19 | 35 |
| 45 to 49 | 11 | 15 | 26 |
| 50 to 54 | 16 | 16 | 32 |
| 55 to 59 | 15 | 12 | 27 |
| 60 to 64 | 16 | 10 | 26 |
| 65 to 69 | 17 | 10 | 27 |
| 70 to 74 | 15 | 10 | 25 |
| 75 and over | 20 | 13 | 33 |

Further information about the 726 injury pedestrian crashes on **local** roads in Auckland City 2004 to 2008:

- 49 percent at intersections
- 29 percent at night
- Worst month May, best January
- Worst day Thursday, best Sunday

Additionally there were 8 injury pedestrian crashes on **State Highways** in Auckland City 2004 to 2008.

Cyclists

Although cyclist injuries do not feature highly in the overall crash numbers in Auckland City, representing only 10 percent of all injuries, they also made up 9 percent of fatal and serious injuries in the last five years.

The number of cyclists being injured in crashes in Auckland City is relatively stable at around 100 injuries per year.

| Cyclist injuries | | | | | |
|------------------|------|------|------|------|------|
| Cyclist injuries | 2004 | 2005 | 2006 | 2007 | 2008 |
| Fatal | 0 | 0 | 0 | 0 | 1 |
| Serious | 14 | 14 | 5 | 12 | 18 |
| Minor | 70 | 93 | 79 | 84 | 78 |
| Total | 84 | 107 | 84 | 96 | 97 |

There are 18 sites in Auckland City with three or more injury crashes involving cyclists over the last five years.

Sites with five or more crashes are shown in the table below.

Tamaki Drive features in all sites in the list below as well as two others in the “three or more” list. Although Tamaki Drive may have many more cyclists than other roads in the city it needs continued attention.

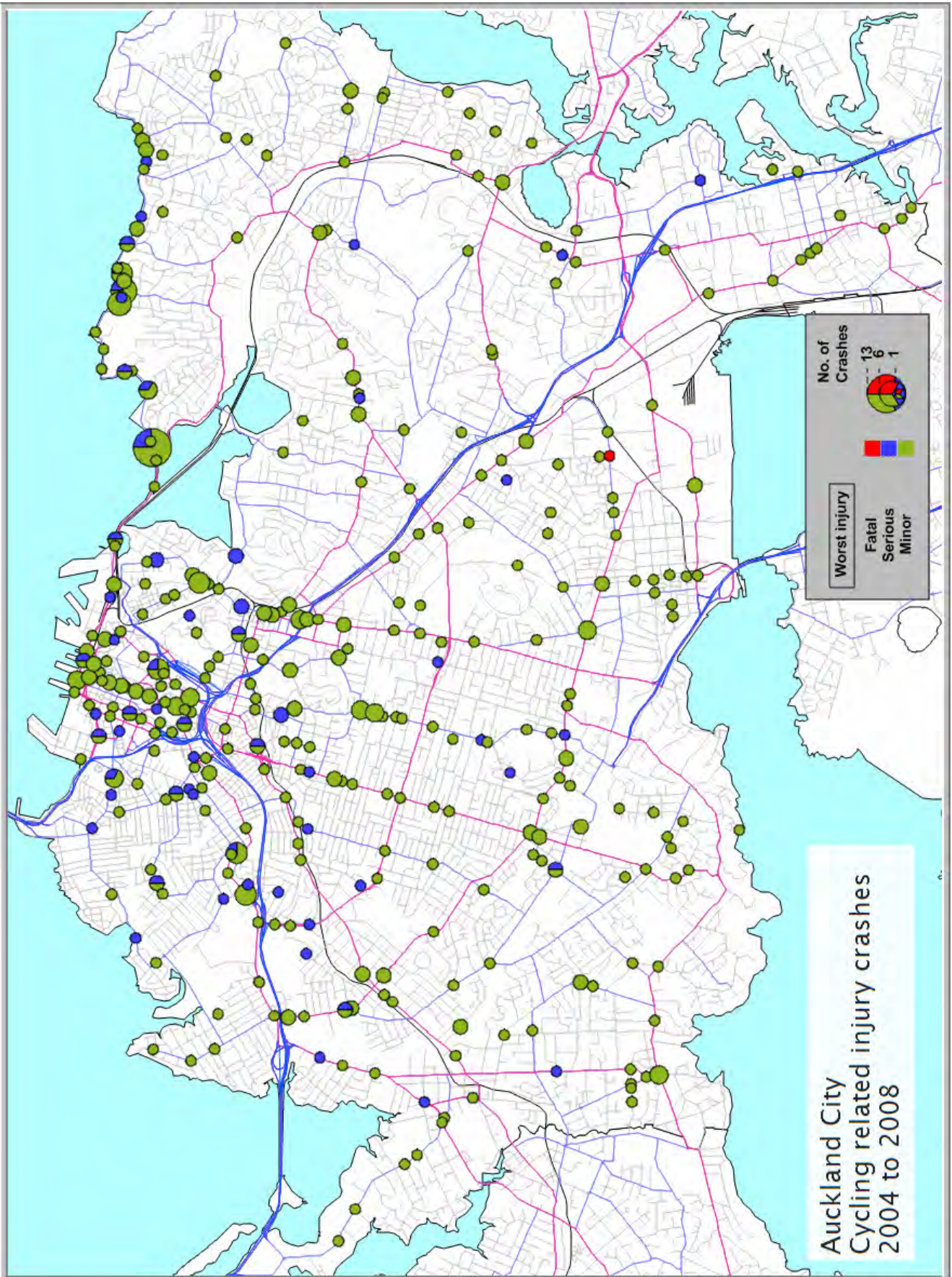
| Locations with five or more injury cyclist crashes in the last five years | |
|---|-------------------|
| Location | Number of crashes |
| Tamaki Drive / Ngapipi Dr | 13 |
| Tamaki Drive / Patterson Ave | 6 |
| Tamaki Drive / Atkin Ave | 5 |

The following page has a map of cyclist related injury crashes in the city illustrating the worst injury in the crash.

| Age and gender of cyclist casualties (note some cyclist ages are unknown) | | | |
|--|--------|------|-------|
| Ages | Female | Male | Total |
| 0 to 4 | 0 | 2 | 2 |
| 5 to 9 | 1 | 8 | 9 |
| 10 to 14 | 6 | 32 | 38 |
| 15 to 19 | 7 | 33 | 40 |
| 20 to 24 | 9 | 33 | 42 |
| 25 to 29 | 21 | 36 | 57 |
| 30 to 34 | 20 | 41 | 61 |
| 35 to 39 | 10 | 44 | 54 |
| 40 to 44 | 6 | 38 | 44 |
| 45 to 49 | 3 | 30 | 33 |
| 50 to 54 | 4 | 18 | 22 |
| 55 to 59 | 2 | 13 | 15 |
| 60 to 64 | 1 | 7 | 8 |
| 65 to 69 | 0 | 9 | 9 |
| 70 to 74 | 0 | 6 | 6 |
| 75 and over | 0 | 4 | 4 |

Further information about the 458 injury cyclist crashes on **local** roads in Auckland City 2004 to 2008:

- 60 percent at intersections
- 14 percent at night
- Worst month March, best December and July (equal)
- Worst day Thursday, best Sunday
- 39 percent at tee junctions and 6 percent at roundabouts



Motorcyclists

Nationally motorcycling fatalities dropped from 20 percent of all fatalities in 1988, to just six percent in 2003.

There has been a rise in registrations of both mopeds and motorcycles in New Zealand, perhaps in response to rising fuel prices.

Registration information can be found on the Ministry of Transport web site, see: <http://www.transport.govt.nz/research/QuarterlyVehicleFleetStatistics/>

In 2008 motorcyclists accounted for 14 percent of road fatalities in New Zealand.

Motorcyclist injuries do feature highly in the overall crash statistics in Auckland City, representing 18 percent of all fatal and serious injuries and 10 percent of injury crashes overall.

In the City there has been a rise in the number of motorcycle injuries in the last five years, especially minor injuries.

| Motorcyclist injuries | | | | | |
|-----------------------|------|------|------|------|------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| Fatal | 1 | 1 | 1 | 0 | 2 |
| Serious | 20 | 18 | 30 | 22 | 17 |
| Minor | 55 | 69 | 71 | 61 | 95 |
| Total | 76 | 88 | 102 | 83 | 114 |

There has also been an apparent rise in the sales of smaller scooters and mopeds which is in turn reflected in the crash data—as below .

| Motorcycle crashes split by motorcycle and moped | | | | | |
|--|------|------|------|------|------|
| Vehicle type | 2004 | 2005 | 2006 | 2007 | 2008 |
| Motorcycle | 19 | 16 | 35 | 24 | 32 |
| Moped | 52 | 68 | 68 | 58 | 86 |
| Total | 135 | 157 | 193 | 160 | 222 |

Casualty ages are spread well through the age ranges in a distribution that is very different to that seen even 10 years ago.

Between 1994 and 1998 eighty-one percent of motorcyclist casualties were aged between 15 and 34, however between 2004 and 2008, regionally this share had dropped to 57 percent .

| Age and gender of motorcycle casualties | | | |
|---|--------|------|-------|
| Ages | Female | Male | Total |
| 10 to 14 | 0 | 2 | 2 |
| 15 to 19 | 11 | 29 | 40 |
| 20 to 24 | 23 | 84 | 107 |
| 25 to 29 | 17 | 60 | 77 |
| 30 to 34 | 14 | 54 | 68 |
| 35 to 39 | 7 | 42 | 49 |
| 40 to 44 | 7 | 38 | 45 |
| 45 to 49 | 4 | 31 | 35 |
| 50 to 54 | 4 | 9 | 13 |
| 55 to 59 | 3 | 8 | 11 |
| 60 to 64 | 0 | 6 | 6 |
| 65 to 69 | 0 | 2 | 2 |
| 70 and over | 1 | 0 | 1 |

Further information about the 457 injury motorcyclist crashes on **local** roads in Auckland City 2004 to 2008:

- 5 motorcyclists died, 110 received serious injuries and 386 minor injuries
- 15 percent were in the wet
- 24 percent at night
- Worst month August, best December
- Worst day Thursday, best Saturday

Further information about the 84 injury motorcyclist crashes on **State Highways** in Auckland City 2004 to 2008:

- 1 motorcyclist died, 14 received serious injuries and 76 minor injuries
- 14 percent were in the wet
- 23 percent at night
- Worst months February and March (equal), best August and September (equal)
- Worst day Friday, best Monday

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).

In Auckland City, alcohol was a factor in 23 percent of fatal and serious crashes and 13 percent of all injury crashes.

| Number of alcohol related injury crashes | | | |
|--|-----------|------------|-------|
| Crash year | Open road | Urban road | Total |
| 2004 | 2 | 101 | 103 |
| 2005 | 3 | 103 | 106 |
| 2006 | 4 | 153 | 157 |
| 2007 | 6 | 103 | 109 |
| 2008 | 1 | 126 | 127 |
| Total | 16 | 586 | 602 |

(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 2007 there were 264 non-injury alcohol related crashes and in 2008 262 were reported by the Police in Auckland City.

There are 12 locations in the city with three or more alcohol related injury crashes in the last five years.

The following table list those with four or more

Alcohol related crashes by location (four or more alcohol related injury crashes in the last five years)

| Location | Number of crashes |
|-------------------------------|-------------------|
| Queen St / Karangahape Rd | 5 |
| Mt Wellington HW / Penrose Rd | 4 |
| Ash Street / Rosebank Rd | 4 |
| Tamaki Dr 25m E Selwyn Ave | 4 |

Further information about the 602 alcohol related injury crashes in Auckland City on **local** roads 2004 to 2008:

- 25 deaths, 180 serious injuries and 654 minor injuries
- Most common crash type "loss of control at a bend" (202 crashes)
- 77 percent night time
- 20 to 24 years was the most represented five year age group in at fault drivers representing 21 percent of all at fault drivers
- 42 percent of at fault drivers had a full drivers licence
- Worst three hour time period 9pm till midnight
- Worst month October, best March
- Worst day Saturday, best Monday

Further information about the 141 alcohol related injury crashes in Auckland City on **State Highways** 2004 to 2008:

- 6 deaths, 30 serious injuries and 182 minor injuries
- Most common crash type "loss of control at a bend" (43 crashes)
- 77 percent night time
- 20 to 24 years was the most represented five year age group in at fault drivers representing 21 percent of all at fault drivers
- 47 percent of at fault drivers had a full drivers licence
- Worst three hour time period Midnight till 3pm
- Worst day Sunday, best Monday

Night time crashes

Between 2004 and 2008 there were a total of 1463 night time injury crashes on local roads. In these 30 people died, 295 received serious injuries and 1622 minor injuries.

The proportion of fatal and serious injury crashes occurring during the hours of darkness on local roads in Auckland City is a little higher than the New Zealand average for similar cities.

| Night time crashes - local roads | | | | | |
|----------------------------------|------------|------------|------------|------------|------------|
| Road type | 2004 | 2005 | 2006 | 2007 | 2008 |
| Open road | 8 | 2 | 6 | 9 | 4 |
| Urban road | 279 | 291 | 333 | 264 | 267 |
| Total | 287 | 293 | 339 | 273 | 271 |

In the city a high proportion of fatal night time crashes occur at the weekends rather than during the week as shown in the table below.

| Night time crashes | | |
|--------------------|---------------------------------------|---------------------------------------|
| Worst injury | Weekend (Friday 6pm to Monday 6am) | Weekday (Monday 6am to Friday 6pm) |
| Fatal | 14 | 13 |
| Injury | 650 | 786 |
| Total | 664 | 799 |

There are six locations in the city with seven or more night time injury crashes. The table below shows those with eight or more. The map on the next page shows the locations of fatal and serious night time crashes

| Locations with eight or more injury night time crashes 2004 to 2008 | |
|---|----------------------|
| Intersection name (Within a radius of 50m) | Total Injury crashes |
| Karangahape Rd / Queen St | 10 |
| Customs St West / Lower Albert St | 8 |
| Remuera Rd / Ladies Mile | 8 |

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

| Ages of drivers | Male | Female | Total |
|-----------------|------------|------------|-------------|
| 15- 19 * | 177 | 61 | 238 |
| 20 - 24 | 229 | 68 | 297 |
| 25 - 29 | 134 | 50 | 184 |
| 30 - 39 | 165 | 63 | 228 |
| 40 - 49 | 131 | 47 | 178 |
| 50 - 59 | 70 | 28 | 98 |
| 60 - 69 | 24 | 8 | 32 |
| 70+ | 14 | 7 | 21 |
| Total | 944 | 332 | 1276 |

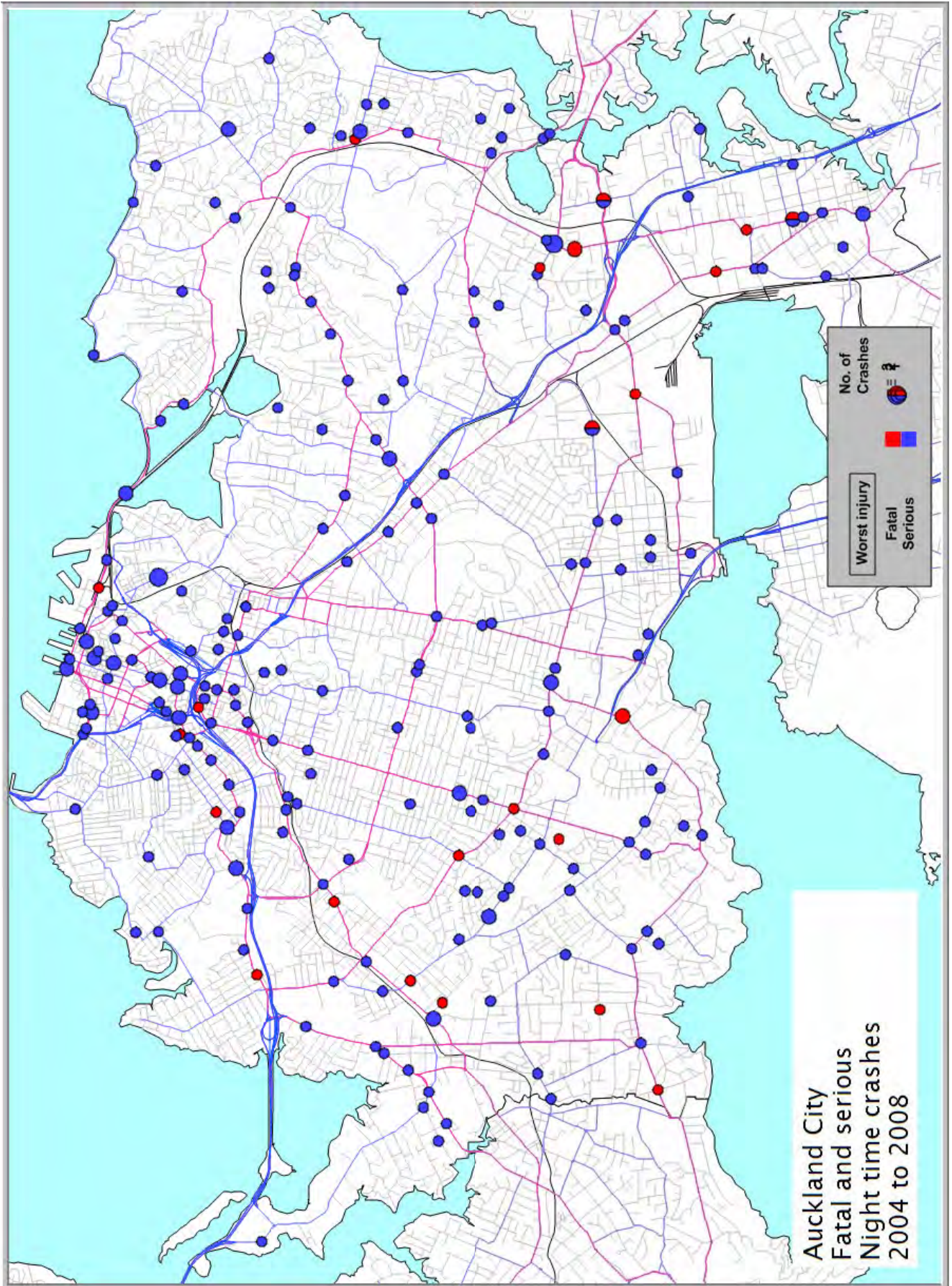
(* note age ranges are not equal)

Further information about the 1463 injury night time crashes in Auckland City on **local** roads 2004 to 2008:

- 55 percent at intersections
- 32 percent include alcohol as a factor
- 32 percent wet road
- 16 percent injury crashes speed related
- Worst day Friday, best Tuesday

Further information about the 454 night time injury crashes in Auckland City on **State Highways** 2004 to 2008:

- 22 percent at intersections
- 24 percent include alcohol as a factor
- 39 percent wet road
- 16 percent injury crashes speed related
- Worst day Friday, best Monday



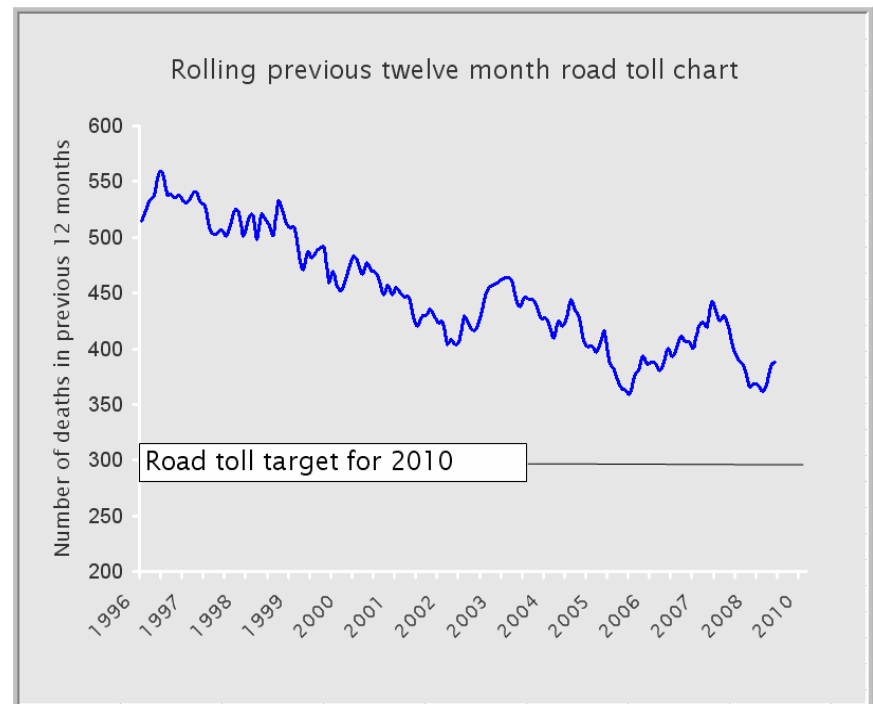
The next ten years—moving beyond Road Safety 2010

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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