



# *briefing notes - road safety issues*

## *Auckland City*

Land Transport New Zealand has prepared this road safety issues report. It is based on reported crash data and trends for the 2002–2006 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 eighth road safety report for Auckland City. All the material unless otherwise stated in this report applies to both local roads and to Transit New Zealand (Transit NZ) roads.

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 to delve deeper into the highlighted issues.

### Major road safety issues

#### Auckland City

Intersections

Alcohol

Vulnerable road users

Roadside hazards

#### Nationally

Speed

Alcohol

Failure to give way

Restraints

### 2006 road trauma

#### Casualties

#### Auckland City

Deaths 18

Serious casualties 166

Minor casualties 1291

#### Crashes

#### Auckland City

Fatal crashes 16

Serious injury crashes 137

Minor injury crashes 1013

Non-injury crashes 4251

## Overview

In 2006 on local roads in Auckland City there were 910 injury crashes and 3130 non-injury crashes. In addition there were 253 injury crashes and 1121 non-injury crashes on Transit NZ roads both as reported by the New Zealand Police.

The table below shows the number of injuries resulting from 2006 crashes by rural or urban areas for local roads (rural is defined as an area with a speed limit of 80km/h or more).

Local road casualties 2006				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	0	2	12	14
Urban	12	132	968	1112
Total	12	134	980	1126

Fatal and serious crash numbers in the city have been generally trending downwards since a ten year high in 2002.

### Injury crash numbers 1997 to 2006



The following chart shows the main characteristics of local road crashes.

These are prioritised by the number of fatal and serious crashes and the main issues discussed in this report are based on this.

Note that some of these are similar or overlap, for instance failure to give way or stop is a factor in most turning or crossing crashes.

Likewise most crashes involving poor observation are turning and crossing crashes, generally at intersections.

### Main crash characteristics



Further information about 2006 injury and non-injury crashes on local roads in Auckland City:

- Worst month March (371), best January (286)
- Worst day Friday (673), best Sunday (475)
- 22 percent on wet roads
- 33 percent at night
- 57 percent at intersections
- Social cost of crashes in 2006 \$216m
- 60 percent of at fault drivers held a full NZ licence

Further information about 2006 injury and non-injury crashes on Transit NZ roads in Auckland City:

- Worst month May (143), best September (91)
- Worst day Friday (289), best Sunday (109)
- 25 percent wet road
- 30 percent night time
- 22 percent at intersections
- Social cost of crashes in 2006 \$820m
- 64 percent of at fault drivers held a full NZ licence

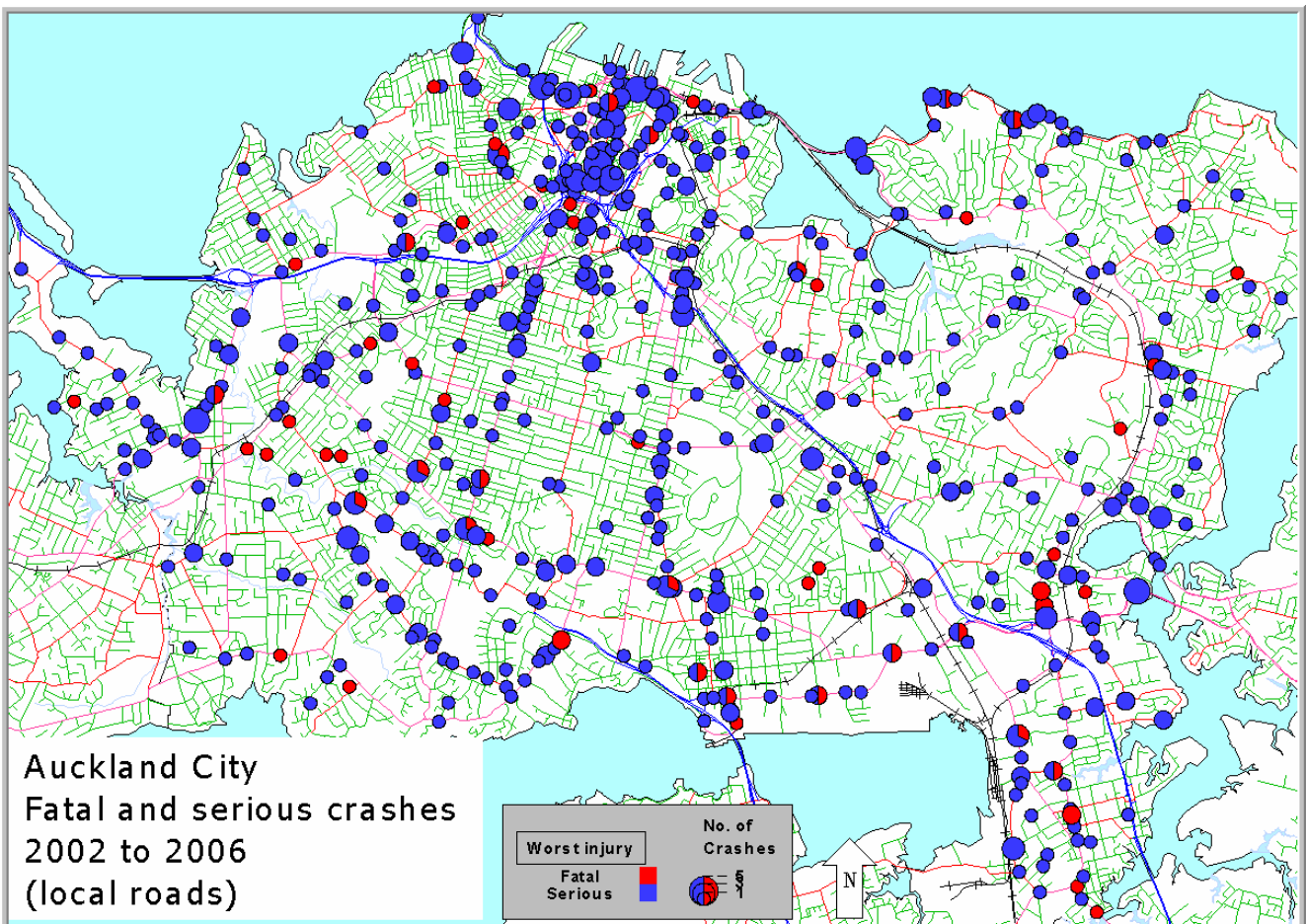
## Overview continued

It has been observed nationally that there is a growing group of drivers who have not been exiting the graduated licence system and who are choosing to stay on restricted licences.

This is making it increasingly difficult to distinguish drivers who are truly inexperienced from those that should have moved to a full licence. As a consequence it is more difficult to target educational material.

This is certainly true in Auckland City with as little as 60 percent of at fault drivers in injury crashes being the holder of a full driving licence.

At fault driver licence status	
Driver licence status Auckland City local roads 2006	Percentage of total 'at fault' drivers (NZ 2006 value in brackets)
Full	59.8 (58.4) %
Learner	10.6 (9.5) %
Restricted	14.7 (17.6) %
Never licenced	3.2 (2.2) %
Disqualified	2.0 (1.7) %
Overseas	3.0 (4.2) %
Expired	0.8 (0.5) %
Other / unknown	5.5 (5.6) %



## 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 three times more likely to be involved in a 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 sober drivers 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 2006, alcohol-affected drivers contributed to 31 percent of all fatal crashes and 15 percent of all injury crashes.

In Auckland City, alcohol was a factor in 16 percent of injury crashes in 2006, an increase of five percent from 2005, and increasing against the national trend which remains fairly constant at 14 or 15 percent.

There were 703 alcohol-related injury crashes reported in the last five years.

Alcohol related crashes			
Crash year	Open road	Urban road	Total
2002	18	110	128
2003	13	119	132
2004	24	104	128
2005	23	107	130
2006	31	154	185
Total	109	594	703

The key crash location of alcohol related crashes occurring between 2002 to 2006 are shown in the map on the following page.

From the beginning of 2007 Land Transport NZ has been adding driver factor codes to all non-injury crashes added to the crash system for the northern region.

This will allow the Police and other agencies to target all alcohol related crashes more quickly and easily and with even more geographic accuracy than ever before.

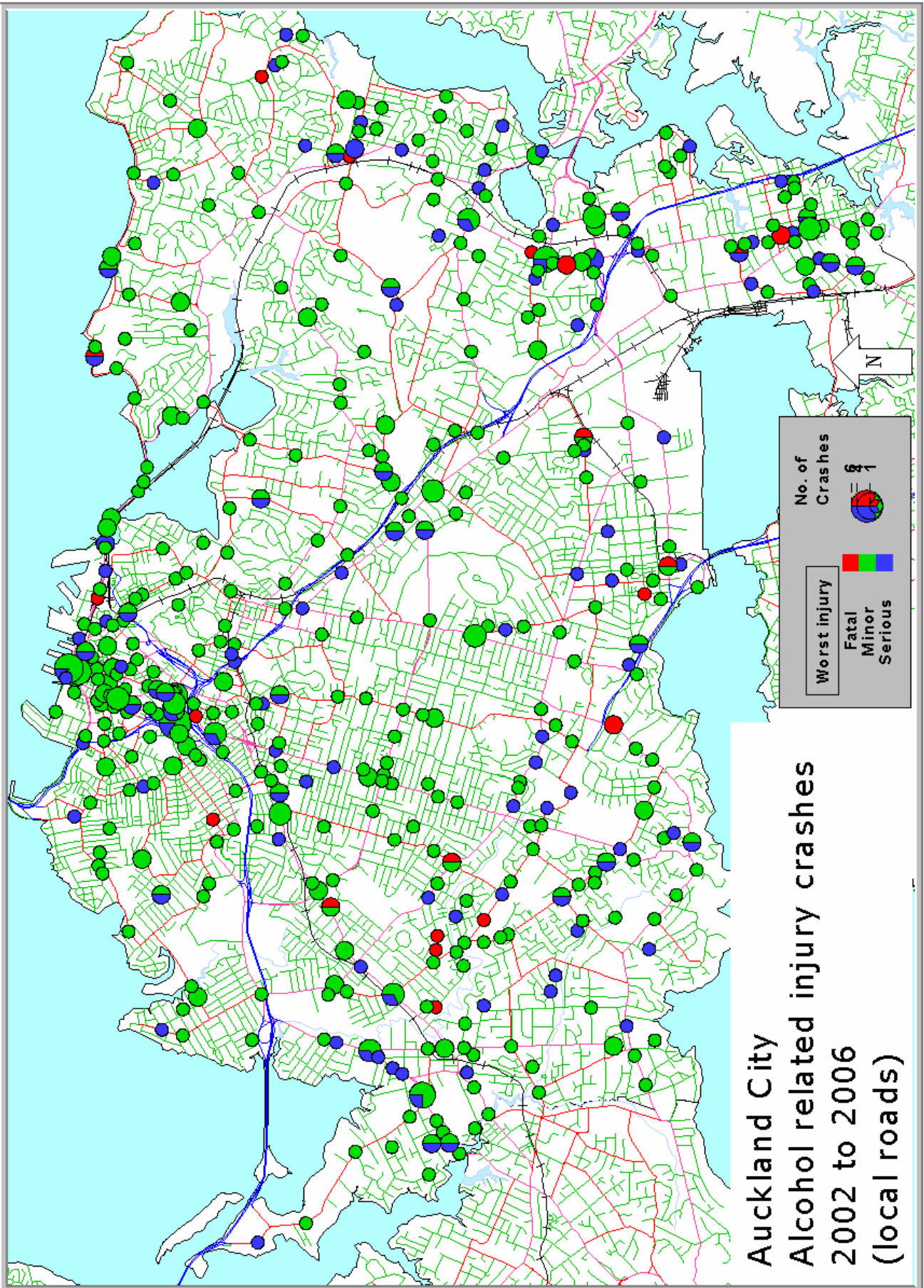
At fault driver licence status	
Driver Licence status, alcohol related injury crashes, at fault drivers. Auckland City 2006	Percentage of total at fault drivers in alcohol related injury crashes (New Zealand 2006 value in brackets)
Full	44.4 (41.6) %
Learner	19.4 (15.8) %
Restricted	16.7 (20.8) %
Never Licenced	5.6 (4.6) %
Disqualified	6.7 (6.2) %
Overseas	2.2 (1.0) %
Expired	1.1 (1.4) %
Other / unknown	3.9 (8.2) %

Further information about the 583 alcohol related injury crashes on local roads in Auckland City 2002 to 2006:

- 30 deaths, 168 serious injuries and 653 minor injuries
- 80 percent of at fault drivers were male
- 42 percent at intersections
- 98 percent urban
- 28 percent wet road
- 80 percent night time
- Worst month July (66), best January (30)
- Worst day of week Saturday (146), best Monday (37)

Further facts about the 120 alcohol related injury crashes in Auckland City on Transit NZ (mainly motorway) roads 2002 to 2006:

- 6 deaths, 35 serious injuries and 140 minor injuries
- 80 percent of at fault drivers were male
- 29 percent at intersections
- 17 percent urban
- 40 percent wet road
- 79 percent night time
- Worst month December (14), best January (5)
- Worst day of week Saturday (29), best Wednesday (7)



## Intersections

During the five year period 2002 to 2006 there were a total of 14,861 crashes at intersections within Auckland City. Of these crashes, 95 percent occurred in urban areas, and 89 percent were on local roads.

Intersections conflicts resulted in 2721 injury crashes and 12,140 non-injury crashes.

In these 37 people were killed, 392 received serious injuries and 2985 received minor injuries.

Crashes at Intersections					
	2002	2003	2004	2005	2006
Injury crash	500	591	523	565	542
Non-injury crash	3085	2615	2195	2185	2060
Total	3585	3206	2718	2750	2602

Locations with the most crashes			
Intersection name	Total crashes 2002 - 2006	Injury crashes 2002 - 2006	Total 2006
Queen / Karangahape	83	14	13
Remuera / Ladies Mile	81	10	8
Queen / Victoria W	80	10	7
Panmure Roundabout/Lagoon	80	4	13
Hayr/Carr	78	4	13

Junction type Injury and Non-injury crashes		
Junction Type	Rural	Urban
Roundabout	8	1223
Tee	22	7095
Cross (X)	19	4007
Y	638	437
Other (includes driveways )	101	1293

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

Intersections can present drivers with one of their biggest driving challenges, particularly for less experienced drivers.

The table below which shows the licence class of at-fault drivers.

At fault driver licence status 2006	
Driver Licence status, intersection related injury crashes, at fault drivers in Auckland City	Percentage of total at fault drivers in intersection related crashes (New Zealand value in brackets)
Full	58.2 (60.9) %
Learner	10.7 (9.4) %
Restricted	13.5 (14.8) %
Never licenced	2.5 (2.5) %
Disqualified	1.5 (1.6) %
Overseas	4.8 (3.7) %
Expired	1.0 (0.8) %
Other / unknown	7.8 (6.3) %

Further information about injury crashes at intersections on local roads in Auckland City 2002 to 2006:

- 29 deaths and 354 serious injuries
- 10 percent involved alcohol
- 24 percent wet roads
- 31 percent night time
- Worst month May, best January
- Worst day of week Friday, best Sunday

Further information about injury crashes at intersections on Transit NZ roads in Auckland City 2002 to 2006:

- 8 deaths and 38 serious injuries
- 13 percent involved alcohol
- 26 percent wet roads
- 33 percent night time
- Worst month May, best January
- Worst day of week Friday, best Monday

## Vulnerable road users (Pedestrians, Cyclists and Motorcyclists)

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

In February 2005, the Government launched 'Getting there – on foot, by cycle' its strategy to advance walking and cycling in New Zealand transport. This strategy aims to improve the environment for walking and cycling and at the same time improve safety, as well as increase the choices available for walking and cycling as day-to-day transport options.

Land Transport NZ expects local authorities to take a proactive approach to this subject. This should include the development of a walking and cycling strategy and submitting appropriate projects for funding to progress that strategy.

It is vitally important to recognise that promotion alone of walking and cycling will not be effective at increasing mode share unless these activities can be made safer.

### Pedestrians

Pedestrian injuries feature highly in the overall road injury picture in Auckland City, representing 13 percent of all injuries and they make up 23 percent of fatal and serious injuries.

Pedestrian injuries 2002 to 2006					
Pedestrian injuries	2002	2003	2004	2005	2006
Fatal	7	7	6	3	5
Serious	52	31	28	38	38
Minor	132	168	135	135	128
Total	191	206	169	176	171

Most (99 percent) pedestrian crashes occur on urban roads. These are split fairly evenly between intersections and mid-block locations and mostly during daylight hours. There is strong crash bias toward the afternoon.

A high proportion of injuries in pedestrian crashes involve young people up to the age of 24 years old –making them the most at-risk group.

This may be because they walk more than other age groups. However many of them may not be mature enough to make the correct road crossing decisions. For example young children have difficulty in judging the speed and distance of approaching vehicles.

Children are also easily distracted and unable to focus on multiple events at a time, so when they want to cross a road their attention can be easily distracted by say, a friend shouting out from across the street, a dog coming towards them or a noisy car passing by. Road designers and motorists alike need to understand that children do not think like "mini adults" when they are walking and playing near the road. The road environment needs to be made as safe as possible to mitigate against the unpredictable actions that children take.

The recent decision by Police to enforce a lower speed tolerance around schools is a strong step in creating a safer lower speed environment for young pedestrians.

Pedestrian crashes are concentrated on arterial and collector roads.

The top five locations 2002 to 2006 are shown in the table below.

Locations with the most pedestrian crashes	
Location	Number of pedestrian injury crashes
Queen St Int. City Rd	8
Albert St Int. Victoria St West	6
Queen St Int. Karangahape Rd	6
Queen St Int. Turner St	6
Symonds St Int. Karangahape Rd	6

Further information about the 867 injury pedestrian crashes on local roads in Auckland City 2002 to 2006:

- The most common type of crash involved a pedestrian crossing the road being hit by a vehicle approaching from the right (43 percent)
- The second most common type of crash was crossing the road and being hit by a vehicle approaching from the left (25 percent)
- Worst month May (98)
- Worst day of week Friday (147), best Sunday (79)

Further information about injury pedestrian crashes on Transit NZ roads in Auckland City 2002 to 2006:

- Number of pedestrian crashes 18

## Cyclists

Cyclist injuries do not feature highly in the overall road injury picture in Auckland City, representing only seven percent of all injuries. However they make up eight percent of fatal and serious injuries.

Cyclist injuries					
	2002	2003	2004	2005	2006
Fatal	0	1	0	0	0
Serious	22	14	14	14	6
Minor	88	83	72	96	80
Total	110	98	86	110	86

Most (99.6 percent) cycling crashes occurred on urban roads, the majority of these at intersections and during daylight hours.

Last year (2006) more cycles than cars were imported into New Zealand. In recent years the increase in cycle numbers on many roads in New Zealand has become quite noticeable.

Cyclist injuries are spread fairly evenly across age groups between 10 and 49 years old.

Further information about the 468 reported cyclist injury crashes on local roads in Auckland City 2002 to 2006:

- The most common type of crash was a crossing or turning movement
- 62 percent at intersections
- 14 percent at night
- Worst month February (52), best September (28)
- Worst day of the week Thursday (89), best Sunday (41)
- Number of crashes involving riding on the footpath 31
- 80 percent of cyclists injured were male

Further information about the 9 reported cyclist injury crashes on Transit NZ roads in Auckland City 2002 to 2006:

- 89 percent at intersections
- 44 percent at night
- 89 percent of cyclists injured were male

## Motorcyclists

Although motorcyclist injuries do not feature highly in the overall road injury picture in Auckland City, representing only seven percent of all injuries, they make up 12 percent of fatal and serious injuries.

Nationally motorcycling fatalities dropped from a high of 20 percent of all fatalities in 1988 to just six percent in 2003. Since then there has been a significant increase in motorcycle registrations and this has reversed the downward trend.

In 2006 motorcyclists accounted for 9.5 percent of road fatalities in New Zealand.

Motorcyclist injuries					
	2002	2003	2004	2005	2006
Fatal	2	1	1	2	1
Serious	13	18	20	21	35
Minor	60	76	61	89	81
Total	75	95	82	112	117

Most (89 percent) motorcycle crashes occur on urban roads, the majority of these away from intersections (mid-block) and during daylight hours.

Motorcycling injuries are spread fairly evenly between age groups 15 to 44 years old, with a peak in the 20 to 24 age group.

Further information about the 395 motorcyclist injury crashes on local roads in Auckland City 2002 to 2006:

- The most common crash type was crossing or turning
- 59 percent at intersections
- 25 percent at night
- 17 percent in the wet
- Worst month March (48), best January (14)
- Worst day of week Thursday (81), best Sunday (26)
- 81 percent of motorcyclists injured were male

Further information about the 64 motorcyclist injury crashes on Transit NZ roads in Auckland City 2002 to 2006:

- 28 percent at intersections
- 19 percent at night
- 16 percent in the wet
- 89 percent of motorcyclists injured were male



## Roadside hazards

A safe road environment incorporates numerous design principles, appropriate geometric design standards, good delineation under all conditions, adequate surface skid resistance and a roadside free of unforgiving hazards. It should also serve the safety needs of all vehicles and road users.

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.

Nationally, road side objects (small and large) are struck in almost 40 percent of all injury crashes.

In Auckland City, roadside hazards were a factor in 25 percent of injury crashes between 2002 and 2006.

Roadside hazard injury crashes					
	2002	2003	2004	2005	2006
Urban	175	227	207	232	228
Rural	64	74	65	64	73
Total	239	301	272	296	301

Further information about roadside hazard related crashes on local roads in Auckland City 2002 to 2006:

- 28 deaths, 217 serious injuries and 1137 minor injuries
- Most common crash type "loss of control at bend" (394)
- 51 percent night time
- 28 percent wet road
- Worst month July, best January

Further information about roadside hazard related crashes on Transit NZ roads in Auckland City 2002 to 2006:

- 8 deaths, 73 serious injuries and 403 minor injuries
- Most common crash type "loss of control at straight" (113)
- 50 percent night time
- 38 percent wet road
- Worst month May and July, best January

The following table shows the number of various road side hazards involved in injury crashes for Auckland Region during the period 2002-2006.

Note that the same hazard can be struck more than once in the same crash and that each crash can result in many different hazards being struck.

As a result the number of hazards shown in this table will be greater than the number of crashes.

Types of hazard struck		
Number of times hazard struck 2002 to 2006	Local road	Transit NZ road
Bridge ends	13	5
Cliff or bank	67	28
Debris on road	0	3
Ditch	8	3
Fence	144	10
Guard rail	60	256
House or building	67	5
Kerb	62	6
Object thrown at or dropped on vehicle	0	4
Over bank	23	3
Parked vehicle	376	6
Phone box etc	31	0
Post or pole	206	33
Road works	1	1
Slip or flood	1	1
Stray animal	0	1
Traffic island	53	19
Traffic sign	67	20
Tree	149	19
Vehicle attended (e.g. broken down)	118	12
Water or river	5	2

## National issues

This section contains some brief information on the key national road safety issues as measured in Auckland City. They may have been covered elsewhere in this document or not be a specific issue.

### Speed

“Too fast” was recorded in 11 percent of injury crashes in the city in the last five years resulting in 42 deaths and 879 other injuries.

Speed as a factor in crashes is not reducing in the city.

Fifty-nine percent of speed-related crashes were “loss of control”. Alcohol and poor handling were the other driver factors often associated with speed.

At fault male drivers aged less than 30 were the most highly represented in speed-related crashes.

### Alcohol

Alcohol was involved in 12 percent of injury crashes in the city in the last five years resulting in 36 deaths and 996 other injuries. The number of injury crashes involving alcohol is not decreasing.

Most alcohol crashes were in urban areas of the city.

Speed and poor handling were the other factors often associated with alcohol.

### Failure to give way

Failure to give way or stop was reported in 27 percent of all reported injury crashes for the last five years resulting in 11 deaths and 1970 other injuries.

Ninety-nine percent of crashes were in urban areas of the city.

Sixty-one percent of at fault drivers were male.

### Restraints

The Ministry of Transport conducts surveys of restraint use. The results of these surveys are at a regional level, and may not be fully appropriate to a Local Authority. The results are obtainable from the Ministry of Transport website.

<http://www.transport.govt.nz/belts-index/>

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