



New Zealand Government

briefing notes - road safety issues

Auckland Region

Land Transport New Zealand has prepared this road safety issues report. It is based on reported crash data and trends for the 2003–2007 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 Regional Council area.

This report is the ninth road safety report for Auckland Region. All the material unless otherwise stated in this report applies only to local roads. Local roads are all non State Highway roads in the region. Information about State Highways can be found in the separate "Auckland State Highways" and "Auckland Motorways" reports .

In each new report one year's data is added to a five year block and the oldest year dropped so it is unlikely that the core issues would change radically from report to report.

The issues chosen for this report are based on crashes with the highest numbers of fatal and serious injuries as shown in the local road crashes table in the overview section of this report. Many of the issues shown in this table have overlapping characteristics — for instance night time crashes have significant alcohol and speed components to them and roughly a third involve crashing at a bend.

Local authorities are encouraged to use their free access to the Ministry of Transport's Crash Analysis System (CAS) to delve deeper into all of the issues highlighted in the overview table and not just the four reported on in the body of this briefing note. All crash data and maps in this report are from CAS.

Major road safety issues		2007 road trauma	
Auckland Region		Casualties	Auckland Region
Intersections		Deaths	40
Vulnerable road users		Serious casualties	377
Roadside Hazards		Minor casualties	2788
Night time crashes			
Nationally		Crashes	Auckland Region
Speed		Fatal crashes	38
Alcohol		Serious injury crashes	308
Failure to give way		Minor injury crashes	2160
Restraints		Non-injury crashes	8195

Overview

Police reported 2506 injury crashes and 8195 non-injury crashes occurring on local roads in the Auckland Region in 2007. In addition there were 689 injury crashes and 2329 non-injury crashes on State Highways within the region.

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

Casualties by local road type 2007				
	Fatal	Serious	Minor	Total
Major urban	12	164	1576	1752
Minor urban	10	137	843	990
Open road	17	74	330	421
Un-known	1	2	39	42
Total	40	377	2788	3205

In 2007 there were significantly fewer fatal and serious injuries from crashes occurring on the regions local roads.

Over the time period shown in the table below, there is a downward trend in fatal and serious injuries since 2002 (despite the odd fluctuation) and a slight upward trend overall in minor injuries.

Crash trends in Auckland Region				
Year	Fatalities	Serious injuries	Minor injuries	Total
1998	74	384	2215	2673
1999	58	418	2330	2806
2000	42	420	2011	2473
2001	45	447	2033	2525
2002	63	492	2386	2941
2003	60	441	2683	3184
2004	62	435	2585	3082
2005	52	391	2675	3118
2006	57	495	2892	3444
2007	40	377	2788	3205

Local road crashes		
Crash type or contributory cause 2003 to 2007	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	24	16
Too fast	22	15
At bends	27	21
At intersections	40	48
Vulnerable road users (1-3 as below)	44	29
1, Pedestrians	22	14
2, Cyclists	8	7
3, Motorcyclists	14	8
Roadside object struck	36	32
Failure to give way	23	30
Night time	42	35

Further information about 2003 to 2007 injury crashes on local roads:

- Worst month May, best January
- Worst day Friday, best Sunday
- 25 percent on wet roads
- 89 percent on urban roads
- 26 percent involve a single vehicle
- 55 percent of at fault drivers in crashes held a full New Zealand drivers licence
- \$671.6m social cost of crashes in 2007

Further information about 2003 to 2007 injury crashes on State Highways:

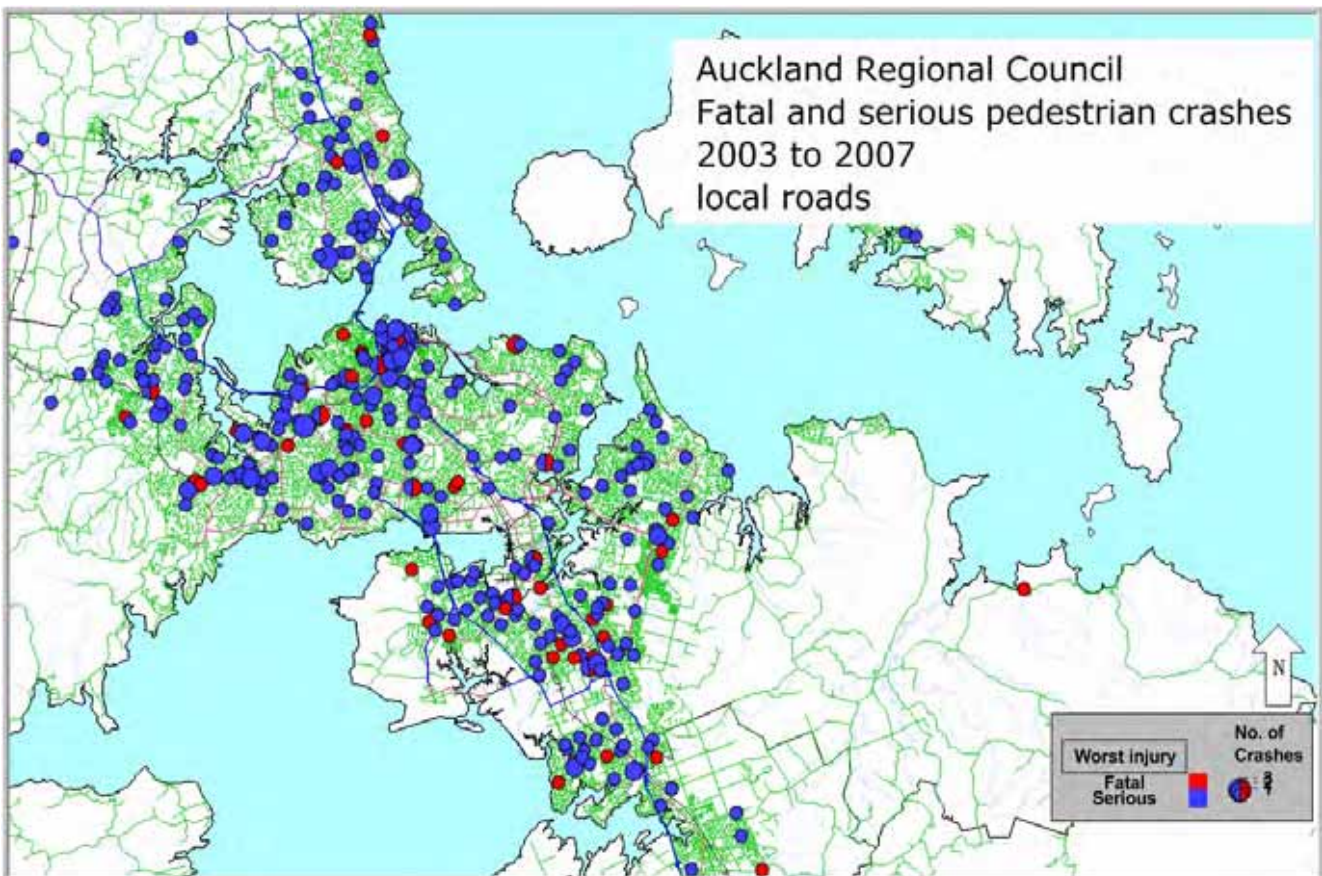
- Worst month June, best January
- Worst day Friday, best Sunday
- 30 percent on wet roads
- 81 percent on rural roads
- 34 percent at night
- 22 percent involve a single vehicle
- 65 percent of at fault drivers in crashes held a full New Zealand drivers licence
- \$218.5 m social cost of crashes in 2007

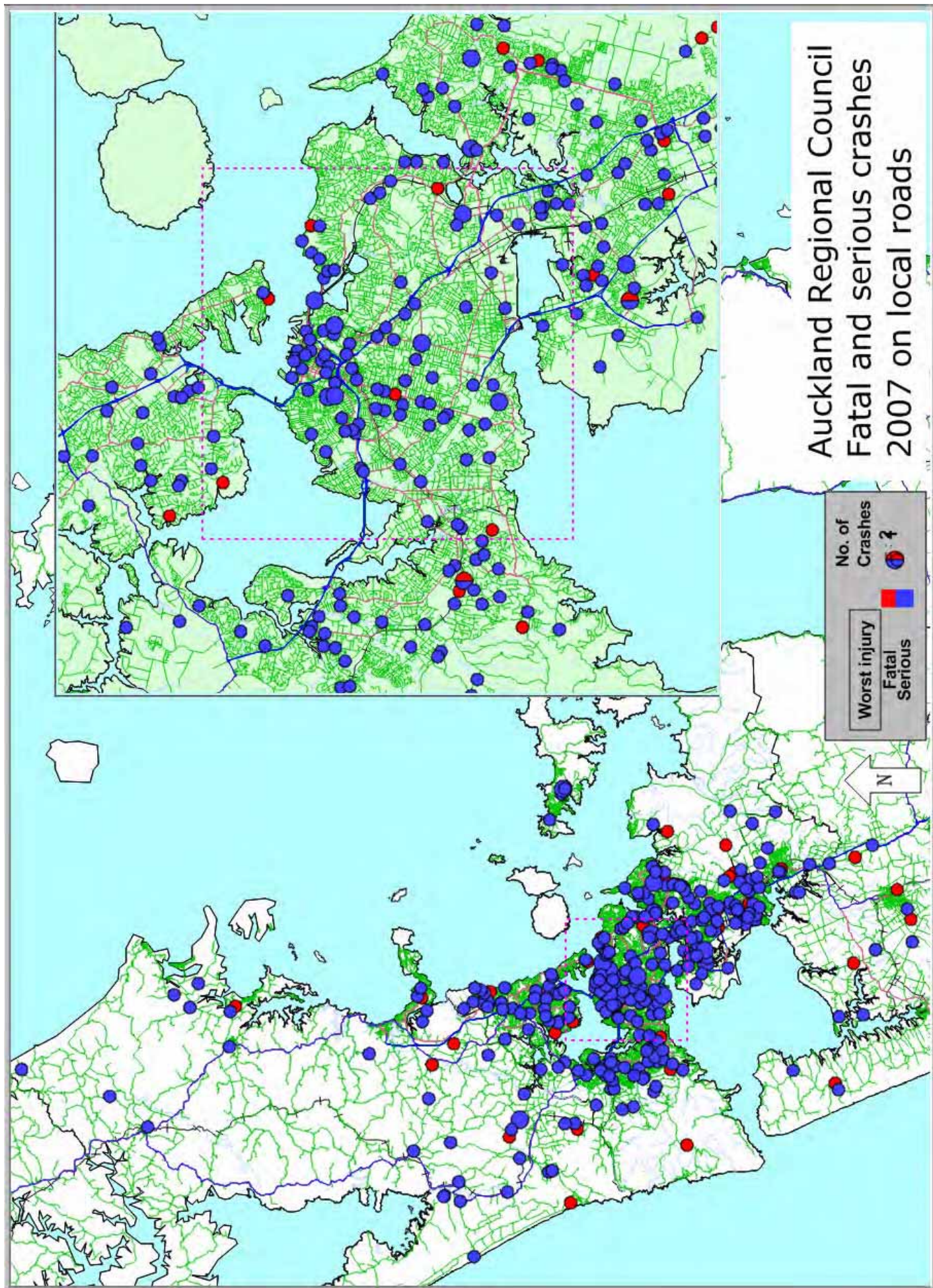
Road Safety Issues for the Auckland Region

Local body	Bends	Roadside hazards	Vulnerable road users	Speed	Intersections	Alcohol	Night
Auckland Region		✓	✓		✓		✓
Rodney District	✓		✓	✓		✓	
North Shore City	✓		✓		✓		✓
Waitakere City	✓		✓		✓		✓
Auckland City	✓		✓		✓		✓
Manukau City	✓		✓		✓	✓	
Papakura District				✓	✓		✓
Franklin District	✓					✓	✓

Road Safety Issues for State Highways in the Auckland Region

	Bends	Rear end	Speed	Alcohol	Night
Auckland State Highways	✓		✓		✓
Auckland Motorways		✓		✓	✓





Intersections

During the five year period 2003 to 2007 there were a total of 5907 injury crashes at local road intersections within Auckland Region. Of these crashes, 95 percent occurred in urban areas.

In these 69 people were killed, 860 received serious injuries and 6722 received minor injuries.

Injury crashes at intersections					
	2003	2004	2005	2006	2007
Fatal crashes	19	10	13	15	10
Serious crashes	148	146	149	178	127
Minor Crashes	1000	968	969	1076	1079
Total	1167	1124	1131	1269	1216

Intersections with the highest social cost from injury crashes 2003-2007

Intersection name (50 m Radius)	Local body	Social cost (\$M)	Injury Crashes
Paterson/Tamaki	Auckland City	6.9	6
Murphys/Flat Bush Sch	Manukau City	5.6	5
Great North/Bullock Trk	Auckland City	5.3	19
Glenbrook/Kingseat	Franklin District	5.2	11
Waiku/Attewell	Franklin District	4.9	7

Junction type Injury crashes 2003-2007

Junction type	Major urban	Minor urban
Roundabout	234	107
Tee	2274	994
Cross (X)	945	466
Y	120	55
Other (includes driveways)	261	99

The most common types of injury crashes at intersections are :

- crossing/turning movements (50 percent)
- rear end/obstruction (16 percent)
- loss of control at bends (13 percent)
- crashes with pedestrians (11 percent).

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

- Failure to stop and/or give way (49 percent)
- Poor observation (47 percent)
- Alcohol impairment (13 percent)
- Excessive speed (11 percent)
- Poor judgement (9 percent)
- Poor handling (9 percent)

Junction control

Injury crashes 2003-2007

Junction control	Number of crashes
Traffic signals	1547
Nil control	1842
Give way sign	1673
Stop sign	845

Further information about injury crashes at intersections on local roads in Auckland Region 2003 to 2007:

- 25 percent on wet roads
- 34 percent at night
- 14 percent involve a single vehicle
- Worst month July, best January
- Worst day of week Friday, best Sunday

Further information about injury crashes at intersections on State Highways in the Auckland Region 2003 to 2007:

- 16 deaths and 139 serious injuries
- 12 percent of crashes involved alcohol
- 27 percent wet roads
- 34 percent night time
- Worst month March, 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 with a vehicle 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. 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.

There has also been a rise in motorcycle numbers in the last few years.

This is partially in response to rising fuel costs but also to a growing number of empty nest "baby boomers" purchasing motorcycles that are more powerful than anything they owned in the 1970's.

Combined, pedestrians, cyclists and motorcyclist made up 44 percent of all fatal and serious crashes on local roads in the Auckland Region.

Pedestrians

Pedestrian injuries feature prominently in the overall road injury picture in Auckland Region, representing 12 percent of all injuries and 19 percent of fatal and serious injuries.

Pedestrian injuries 2003 to 2007					
Pedestrian injuries	2003	2004	2005	2006	2007
Fatal	14	11	8	11	12
Serious	96	81	76	94	65
Minor	341	298	274	278	231
Total	451	390	358	383	308

The vast majority of pedestrian crashes (95 percent) occur on roads with a speed limit of 50km/hr or less. Almost two thirds (62 percent) are on major urban roads, just over a third are on minor urban roads with the remainder on open roads.

A high proportion of injuries in pedestrian crashes involves young people up to the age of 19 years old – making them the most at-risk group. This may be because they walk more than other age groups.

Younger age groups may also 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.

Local authorities in the Auckland Region are encouraged to continue implementing their programmes of measures to address safety outside of schools and other places pedestrians congregate .

Further information about the 1715 injury pedestrian crashes on local roads in Auckland Region 2003 to 2007:

- 40 percent occurred at intersections
- Worst month May, best January
- Worst day of week Thursday, best Sunday
- 100 crashes involving vehicles failing to give way at a pedestrian crossing
- 6 crashes at school patrols
- 157 crashes involving unsupervised children

Further information about the 50 injury pedestrian crashes on State Highways in Auckland Region 2003 to 2007:

- 8 fatalities, 21 serious injuries, 30 minor injuries
- 40 percent at intersections
- Worst day Friday, best Monday
- 46 percent in rural areas
- 52 percent at night

Cyclists

Cyclist versus vehicle injuries represent six percent of all injuries on local roads in Auckland Region and seven percent of fatal and serious injuries.

There is no clear trend in injury numbers over the past five years.

Cyclist injuries					
Crash	2003	2004	2005	2006	2007
Fatal	1	0	1	2	0
Serious	32	41	32	28	29
Minor	151	134	188	160	154
Total	184	175	221	190	183

Just over two thirds (67 percent) of cycling crashes occurred on major urban roads, 30 percent on minor urban roads and the remaining three percent on rural roads.

Most crashes (58 percent) occurred at intersections and during daylight hours (84 percent).

In the last two years 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.

The majority of injuries are spread between cyclists aged from 10 to 44 years old.

The oldest cyclist injured was 89 years of age.

Further information about the 908 injury cyclist versus vehicle crashes on local roads in Auckland Region 2003 to 2007:

- The most common type of crash involved a vehicle turning right into a side road or driveway hitting an oncoming cyclist
- Worst month March, best December
- Worst day of the week Tuesday, best Sunday
- 53 percent of crashes involved a driver failing to give way or stop for a cyclist
- 78 percent of cyclists injured were male

Further information about the 45 injury cyclist crashes on State Highways in Auckland Region 2003 to 2007:

- 0 fatalities, 10 serious injuries, 40 minor injuries
- 56 percent at intersections
- 73 percent during daylight
- 73 percent of injuries to males

Motorcyclists

Although motorcycles do not feature highly in the overall local road injury picture in the Auckland Region, representing just seven percent of all injuries, they make up 13 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 2007 motorcyclists accounted for just under 10 percent of road fatalities in New Zealand and by mid 2008 this had reached over 11 percent.

Injuries to motorcyclists					
	2003	2004	2005	2006	2007
Fatal	9	6	9	6	2
Serious	50	46	48	76	55
Minor	123	113	152	178	202
Total	182	165	209	260	259

The overall number of injuries has been rising steadily over the past five years although 2007 saw a reduction in the number of fatal and serious injuries from a peak in 2006.

Further information about the 966 motorcycle injury crashes on local roads in the Auckland Region 2003 to 2007:

- 51 percent occurred at intersections
- 12 percent on rural roads
- Worst four hour period 4pm to 8pm
- Worst month May, best September
- Worst day of week Friday, best Sunday
- 83 percent of motorcyclists injured were male

Further information about the 199 motorcycle injury crashes on State Highways in the Auckland Region 2003 to 2007:

- 6 fatalities, 57 serious injuries, 166 minor injuries
- 34 percent at intersections
- 74 percent on rural roads
- Worst day of week Tuesday and Saturday, best Monday
- Most common crash movement overtaking (29 percent)
- 86 percent of motorcycle injuries to males

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.

In the Auckland Region, roadside hazards were a factor in 32 percent of injury crashes and 36 percent of fatal and serious crashes between 2003 and 2007.

Roadside hazard injury crashes					
	2003	2004	2005	2006	2007
Urban	567	622	592	710	633
Rural	164	138	159	172	173
Total	731	760	751	882	806

Further information about roadside hazard related injury crashes on local roads in the Auckland Region 2003 to 2007:

- 137 deaths, 777 serious injuries and 4217 minor injuries
- Most common crash type "loss of control at bend" (47 percent)
- 51 percent night time
- 30 percent wet road
- Worst month July, best February

Further information about roadside hazard related injury crashes on State Highways in the Auckland Region 2003 to 2007:

- 50 deaths, 215 serious injuries and 1241 minor injuries
- Most common crash type "loss of control on straight" (34 percent)
- 47 percent night time
- 34 percent wet road
- Worst month December, best January

The following table shows the number of various road side hazards involved in injury crashes in the Auckland Region during the period 2003-2007.

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 2003 to 2007	Local road	State Highway
Bridge ends	48	13
Cliff or bank	396	116
Debris on road	6	14
Ditch	273	88
Fence	794	93
Guard rail	123	512
House or building	159	12
Kerb	245	26
Object thrown at or dropped on vehicle	3	10
Over bank	120	28
Parked vehicle	897	31
Phone box etc	78	4
Post or pole	840	133
Slip or flood	6	2
Stray animal	13	9
Traffic island	165	44
Traffic sign	187	61
Train	5	0
Tree	678	123
Vehicle attended (e.g. broken down)	250	35
Water or river	24	5

Night time crashes

Between 2003 and 2007 there were a total of 4321 night time injury crashes on local roads resulting in 138 fatalities, 893 serious injuries and 4818 minor injuries.

The total number of injury crashes at night has generally been increasing over the past five years with the exception of 2007 which saw a sharp drop including a significant drop in the number of fatal and serious crashes.

This trend is apparent in the table below for crashes on major urban roads, however it is not reflected on minor urban or open roads which have smaller numbers of crashes.

Night time crashes by road type					
Road type	2003	2004	2005	2006	2007
Major urban	462	449	478	525	450
Minor urban	229	277	240	315	291
Open road	111	108	106	118	110

Almost half of the night time crashes (48 percent) occur during the weekend period when traffic volumes are generally lighter.

Of these a high proportion (43 percent) involve alcohol impaired drivers.

It is therefore important that appropriate Police enforcement resources are allocated to these less congested times during the weekend.

Night time crashes by weekend or weekday		
Worst injury	Weekend (Friday 6pm to Monday 6am)	Weekday (Monday 6am to Friday 6pm)
Fatal or serious	403	446
Minor	1679	1793
Total	2082	2239

Younger drivers particularly males are highly represented in night times crashes on local roads in Auckland Region.

Drivers between the ages of 15 and 24 years are at fault in 46 percent of all night time crashes.

Age and gender of at fault drivers

Ages of drivers at fault in night time injury crashes	Male	Female
15- 19	658	243
20 - 24	644	210
25 - 29	345	120
30 - 39	483	183
40 - 49	381	136
50 - 59	183	74
60 - 69	77	24
70+	43	16
Total	2814	1006

The predominant crash movement types are loss of control at bends (30 percent) followed by crossing/turning movements (24 percent), rear end crashes (18 percent), loss of control on straights (14 percent) and pedestrian crashes (10 percent).

Further information about the 4321 night time injury crashes in the Auckland Region on local roads 2003 to 2007:

- 34 percent of crashes involve alcohol
- 32 percent wet road
- 23 percent are speed related
- 48 percent at intersections
- 41 percent single vehicle
- Worst month July, best January
- Worst day of week, Saturday, best Monday and Tuesday

Further information about the 1168 night time injury crashes in the Auckland Region on State Highways 2003 to 2007:

- 54 deaths, 229 serious injuries and 1393 minor injuries
- 25 percent of crashes involve alcohol
- 38 percent wet road
- 26 percent at intersections
- 23 percent are speed related
- 33 percent single vehicle
- Worst month June, best January
- Worst day of week Friday, best Monday

National issues

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

Speed

'Too fast' was recorded as a factor in 15 percent of injury crashes in the region in the last five years resulting in 127 deaths and 2666 other injures. Speed as a factor in crashes dropped significantly in 2007 after several years trending upwards.

Sixty-three percent of speed-related crashes were 'loss of control or head on'. Alcohol and poor handling were the other driver factors often associated with speed related crashes.

At fault male drivers aged less than 24 were the most highly represented in speed-related crashes.

Alcohol

Alcohol was involved in 16 percent of injury crashes in the region in the last five years resulting in 109 deaths and 2653 other injuries. Alcohol as a factor in crashes dropped significantly in 2007 after several years trending upwards

Most alcohol related crashes occur during the hours of darkness (76 percent).

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

Failure to give way

Failure to give way or stop was reported in 30 percent of all reported injury crashes for the last five years resulting in 38 deaths and 4814 other injuries.

Women drivers were at fault in 42 percent of these crashes.

Restraints

The Ministry of Transport conducts surveys of restraint use. The results of these surveys are at a Regional Council, Police District and local body level. The front seat belt wearing rate in Auckland Region was 96 percent in 2007.

The results are obtainable from the Ministry of Transport website :

<http://www.transport.govt.nz/safety-belt-statistics-front-seat-200-1/>

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