Christchurch City
Road Safety Report
2004 to 2008

Performance Information
NZ Transport Agency
PO Box 13364
Level 5 BNZ House 129 Hereford St
CHRISTCHURCH

Ph. (03)964 2866
Fax. (03)964 2855

Web: www.nzta.govt.nz

NZ TRANSPORT AGENCY
WAKA KOTAHI

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Introduction and general information

The New Zealand Transport Agency provides information on road safety to its stakeholders and the public. It also has responsibility for promoting safety and sustainability in land transport, among a variety of other functions. This road safety report is an example of information supplied by the New Zealand Transport Agency.

This report helps identify road safety issues in Christchurch City area ('the city') by presenting tables or graphs of:

- numbers and trends in reported crashes and casualties
- characteristics and types of crashes and casualties
- factors contributing to crashes
- locations with bad crash records
- characteristics of crashes on council authority roads

The information is intended to assist road controlling authorities, the New Zealand Police and others in evaluating the safety performance of the road network in Christchurch City. Comparison with other cities, districts or regions elsewhere in the country is included. Researchers, students, and organisations with an interest in road safety will also find the information useful.

Source of crash information

This report uses data from the New Zealand Transport Agency's crash database. This database includes all crashes involving injury and non–injury for which Police reports have been completed and forwarded to the New Zealand Transport Agency. Mostly five-year data (2004 to 2008) has been used, but 10-year data (1999 to 2008) has been used to analyse trends.

Council authority peer groups

Traffic crash patterns and features for an area can depend on the traffic and roading characteristics of that area. The most useful comparisons are made with other areas or authorities with similar characteristics, rather than with the whole country. The data for the city is compared with a peer group of similar council authorities (Group A) along with data for all New Zealand.

The peer group used for comparison with Christchurch City is Group A which consists of major urban areas with some rural areas on the outskirts. (Population over 100000 and/or rural crashes less than 30 percent). Council authorities included in this group are listed in Figure 1.4.

Definitions of urban and rural

Data has been separated for urban and rural (open) roads through this report because each has a distinctly different pattern of crashes. In this report urban roads are defined as all those with a speed limit of 70 km/h or less, however it should be noted that some locations which have been speed limit zoned might be more appropriately defined as rural but are included in urban zones.

Definition of statistically significant

A number of graphs include a comparison between the road controlling authority, all New Zealand and a similar peer group. These graphs can include an indication as to whether the difference is statistically significant. For the purposes of this report statistically significant means that a difference of this size is unlikely to be due to chance. Significance is noted at the 5% level ($P < 0.05$), this means that the observed result would occur by chance in only 1 in 20 similar situations.

Road user compliance data

The Ministry of Transport collects information on road user compliance with traffic law. This information includes speed surveys, occupant restraint use surveys and cycle helmet use surveys. Information about these surveys is available on Ministry of Transport web site.

The appropriate web addresses are as follows:

Speed Surveys	http://www.transport.govt.nz/research/SpeedSurveys/
Safety belts	http://www.transport.govt.nz/research/safetybeltstatistics/
Cycle helmets	http://www.transport.govt.nz/research/cyclehelmets2009/

The information is also distributed quarterly in the Ministry of Transport publication Road safety progress.

The Ministry of Transport also conducts public attitude surveys. These have been undertaken annually since 1994. They evaluate attitudes to road safety issues, primarily alcohol-impaired driving and speed. Surveys are carried out in May and June of each year by trained interviewers who conduct interviews with respondents in their homes. The sample is chosen to be representative of the New Zealand adult population, and includes men and women aged 15 and over from towns, cities and rural areas throughout New Zealand.

The results of these surveys are available from:

http://www.transport.govt.nz/research/PublicAttitudestoRoadSafety-Survey/

General explanatory notes

1. Crash and casualty information in this report generally includes data for both council roads and state highways. Some tables and charts can separate this information, however figures 8.1–8.26 provide information for council roads only.

2. Crash and casualty rates are based on 2008 populations estimates updated from the 2006 census, traffic flows from the year 2008, and the average of five year crash data (2004–2008).

3. Traffic flows are based on Road Asset Maintenance and Management (RAMM) data from December 2008. As different road controlling authorities update flow data in RAMM at different times some data will be more up to date than other data, hence caution should be exercised when comparing traffic flow based crash rates in one authority with those of other authorities particularly as the traffic flow data (VKT) used in the calculations can not be considered definitive. Comparisons should be considered as indicative only.

4. With four to five categories of road for each council authority, some categories will only have short lengths of road. This may cause significant variation in the calculated crash and casualty rates.

5. The crash numbers include all those within the road controlling authority. The crash numbers used in the crash rate section can, however, vary slightly from the remainder of the document as only 'on road' crashes can be used. These are crashes on roads that have traffic volume information recorded. Crashes that occurred in car parks, reserves, beaches etc. are excluded.

6. The severity of a crash is determined as the most severely injured casualty in the crash. Injury severity is classified as fatal, serious, or minor as follows:

   Fatal: Injuries that result in death within 30 days of a crash.

   Serious: Fractures, concussion, internal injuries, crushing, severe cuts and lacerations, severe general shock necessitating medical treatment, and any injury involving removal to and detention in hospital.

   Minor: Injuries which are not serious but which require first aid, or cause discomfort or pain to the person injured, eg sprains and bruises.

7. Ethnicity of road users involved in crashes can now be recorded on traffic crash reports, although some reports may not include this data. Figures 3.25 and 3.26 shows the ethnicity of casualties, where known. Ethnicity is divided into five different groups. Only data for 2004 to 2008 is available. The graph includes all casualties irrespective of culpability.
   NOTE: Ethnicity data should be treated with caution as the data can be considered subjective and incomplete.

8. For the licence status grouping in Figures 3.27 and 3.28 the 'no/wrong licence' group includes drivers who have never held a licence or have an expired or wrong class licence. This graph includes all drivers irrespective of injury or culpability.

9. See appendix for detailed descriptions of:
   - crash movement types and crash movement groupings (for Figures 4.1–4.4)
   - grouping of factors contributing to crashes (for Figures 5.1–5.14)

10. Blackspot sites listed in Figures 9.1 and 9.3 are listed by the total cost of crashes at the site and are listed regardless of any remedial treatments. Site were initially selected on the basis of 3 reported crashes and then the sites listed were limited to those with a higher number of injury crashes and over a defined social cost, which is indicated on each figure.

11. Alarm crash sites in section 9 as Figures 9.4 to 9.6 are crash sites that have shown a statistically significant increase (at the 95 percent level of confidence) in reported crashes in 2008 compared with the previous five years (2003 to 2007). The sites are initially selected on the basis of 3 or more reported crashes at the sites. Sites are listed regardless of any recent remedial treatments and they may already be under investigation for treatment.

Crash Rates and Costs

Crash reporting rates

The ratio of 'reported serious injuries' can be assessed by comparing seriously injured casualty numbers from Police crash reports to hospital admissions, given that a serious injury is generally one requiring hospital attention.

Figure 1.1 below indicates the serious injury reporting rate for each region.

Figure 1.1 Reporting rate serious injuries to hospital admissions

Region	2004	2005	2006	2007	2008
Northland	34%	30%	28%	34%	31%
Auckland	22%	17%	19%	16%	16%
Waikato	51%	40%	38%	49%	46%
Bay of Plenty	28%	32%	37%	38%	27%
Gisborne	28%	31%	26%	29%	26%
Hawkes Bay	73%	80%	75%	59%	60%
Taranaki	66%	55%	65%	77%	41%
Manawatu-Wanganui	50%	38%	34%	35%	34%
Wellington	61%	68%	61%	73%	64%
Nelson-Marlborough	63%	44%	52%	54%	49%
West Coast	43%	53%	55%	59%	53%
Canterbury	37%	47%	42%	50%	45%
Otago	107%	99%	85%	77%	53%
Southland	74%	78%	103%	73%	53%
New Zealand	39%	36%	35%	37%	**34%**

This is the ratio of the number of persons with serious injuries in reported crashes divided by the number of persons admitted to hospital with serious injuries.

These variations in reporting rates need to be considered when viewing the trends in crashes and casualties shown in this report.

Note: These values should be considered indicative only.

Figure 1.2 Crashes per 100 million vehicle kilometres travelled

	Council roads		State Highways	
	Urban	Rural	Urban	Rural
Christchurch City	36	22	21	13
Group A	37	26	37	14
All NZ	35	27	30	16

Figure 1.3 Casualties per 100 million vehicle kilometres travelled

	Council roads		State Highways	
	Urban	Rural	Urban	Rural
Christchurch City	44	31	27	17
Group A	46	37	50	19
All NZ	45	39	42	25

Figure 1.4 Peer group crash and casualty rates

Group A

City or District	Crashes per 10,000 Population (5 year average)	Crashes per 100 million vehicle kilometres travelled: Council roads Urban	Council roads Rural	State Highways Urban	State Highways Rural	Casualties per 10,000 Population (5 year average)	Casualties per 100 million vehicle kilometres travelled: Council roads Urban	Council roads Rural	State Highways Urban	State Highways Rural	2008 Population	% of rural crashes
Auckland	26	32	16	90	14	33	39	26	123	19	438100	21
Christchurch	25	36	22	21	13	31	44	31	27	17	368900	10
Dunedin	40	84	67	60	20	58	119	96	87	32	122900	24
Hamilton	23	43	21	41	18	29	54	25	52	24	138500	10
Hutt	20	30	50	21	8	25	37	71	24	11	101600	23
Manukau	17	30	24	56	11	24	39	36	80	17	362000	22
North Shore	20	36	17	151	11	25	45	23	193	15	223000	19
Tauranga	15	21	17	19	8	20	26	27	27	13	110500	15
Waitakere	20	36	22	29	18	27	47	30	37	23	201400	14
Wellington	23	48	28	52	10	27	55	28	71	14	192800	15
Group A	23	36	27	35	13	29	45	38	47	18	2259700	17
All New Zealand	132	35	27	30	16	36	44	39	41	24	4267970	41

Group A : Major urban areas with some rural areas on the outskirts. (Population > 97500 and/or rural crashes less than 30 percent).
Crashes and casualties per 100 million VKT are based on five years of reported injury on-road crash data (2004-2008) and December (2005) VKT.
Crashes and casualties per 10,000 population are based on five year average crash data (2004-2008) and Statistics NZ 2008 population estimates.

Figure 1.5 Crashes per 100 million vehicle-kilometres travelled - urban council roads

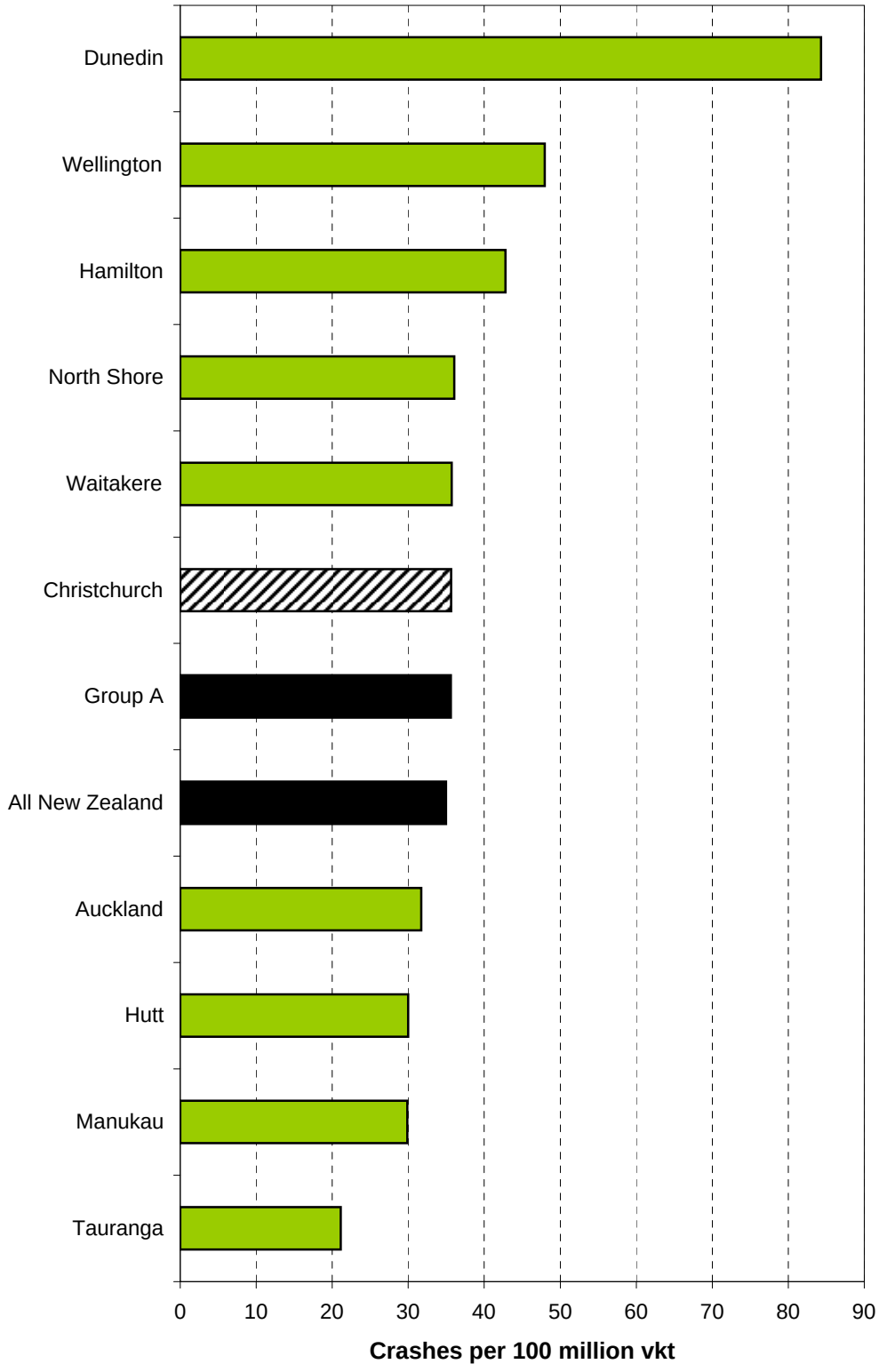


Figure 1.6 Crashes per 100 million vehicle-kilometres travelled - rural council roads

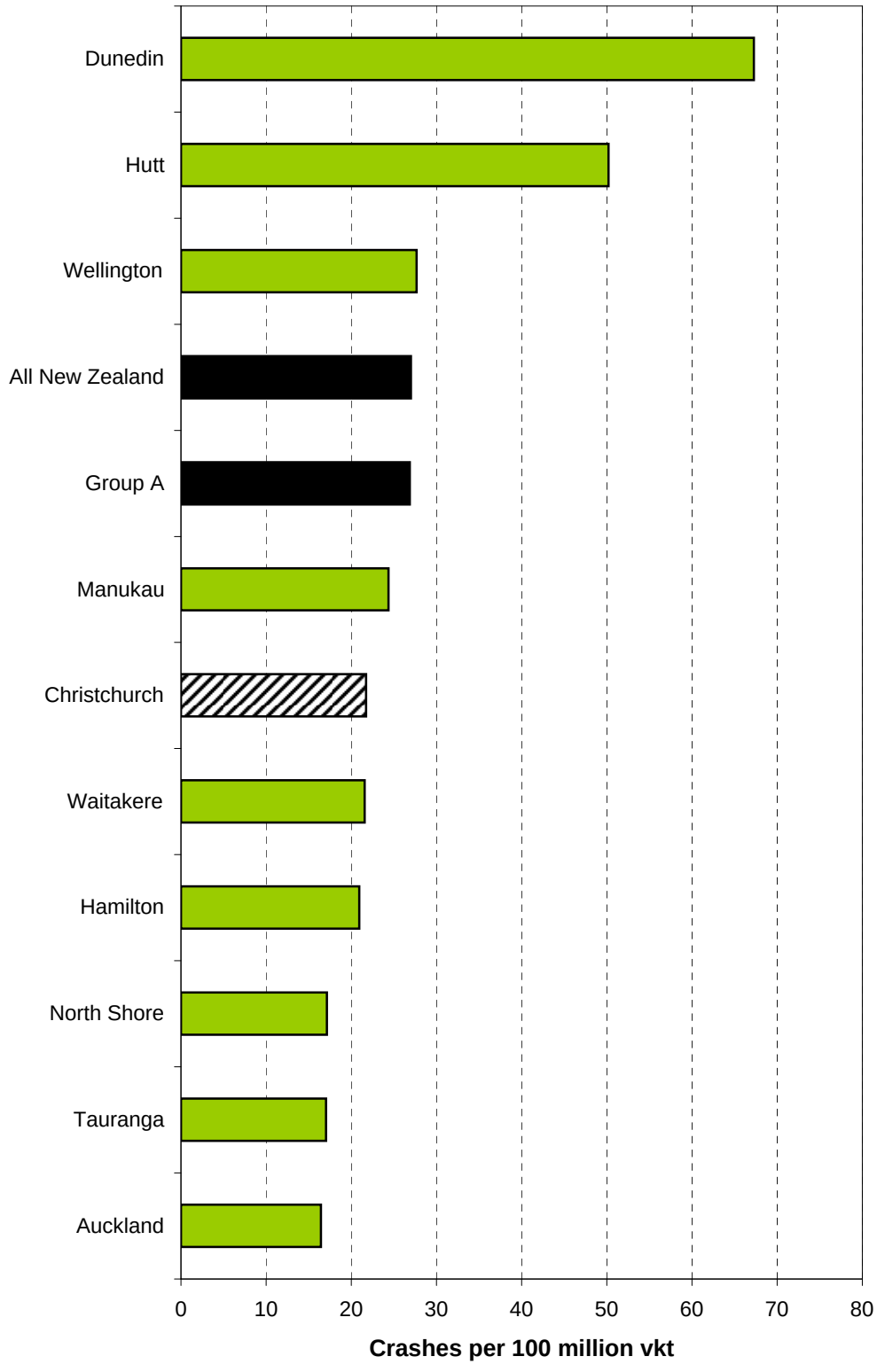


Figure 1.7 Crashes per 100 million vehicle kilometres travelled - urban state highways

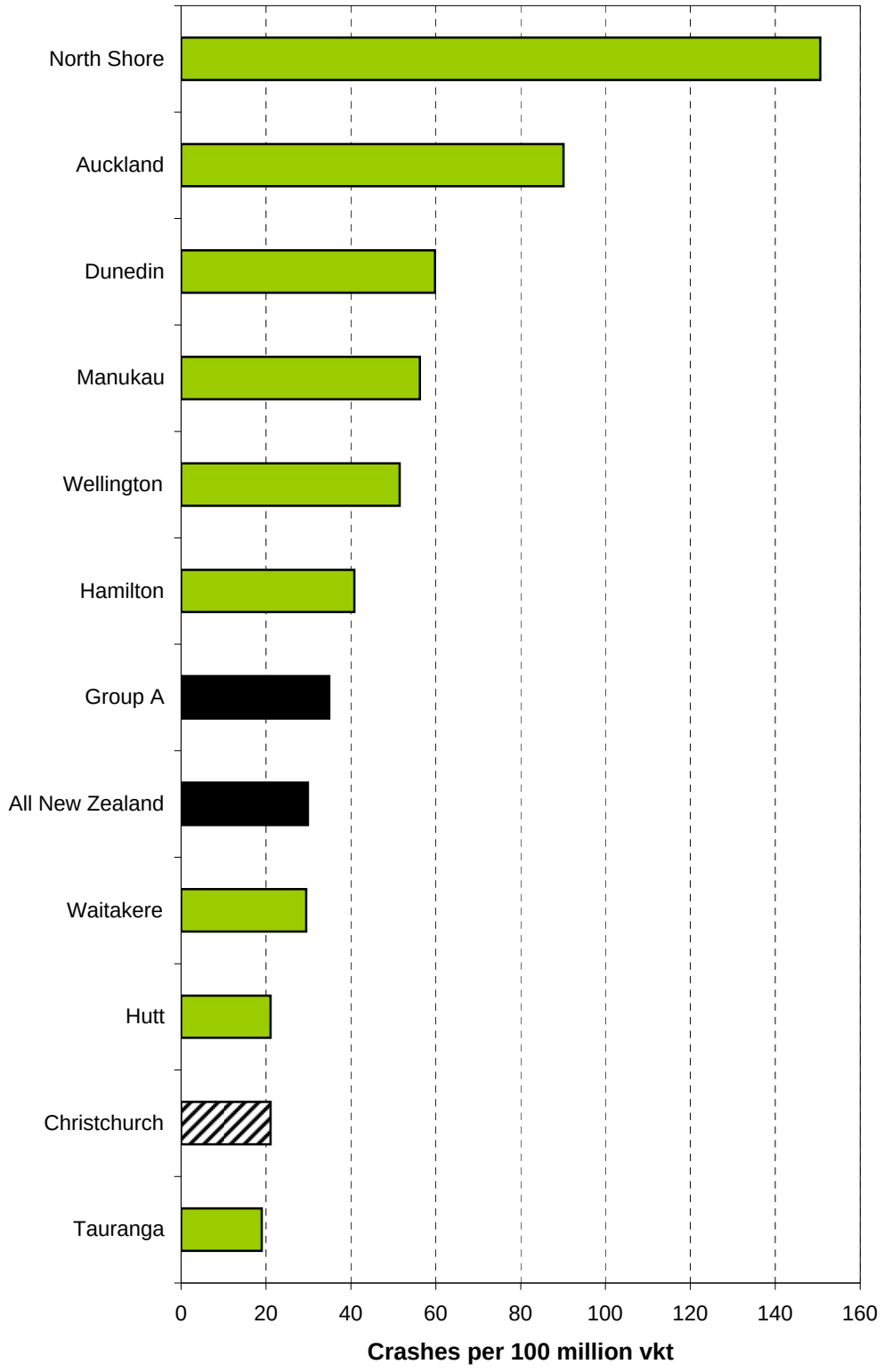


Figure 1.8 Crashes per 100 million vehicle-kilometres travelled - rural state highways

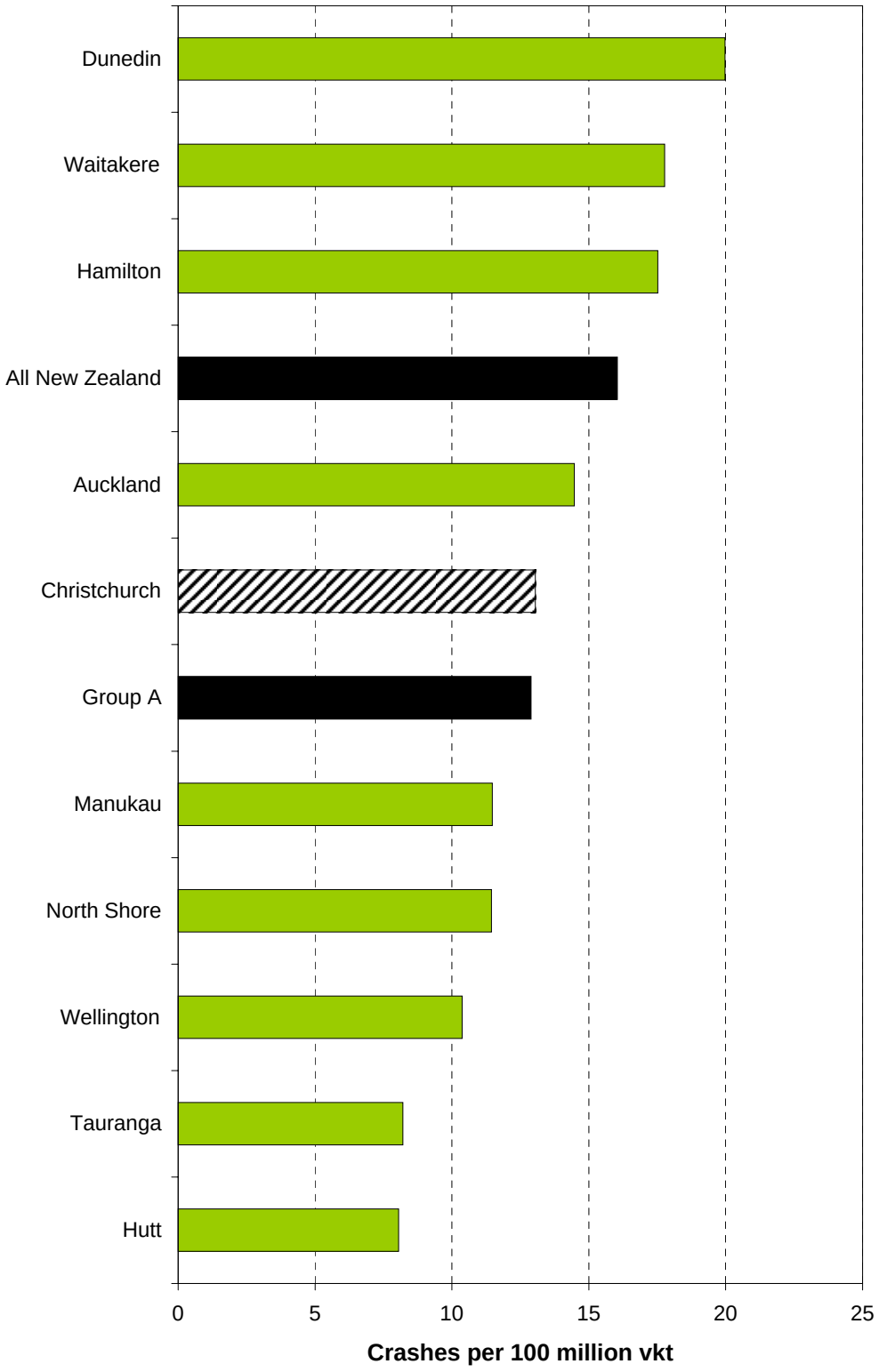


Figure 1.9 Crashes per 10,000 people
Christchurch City

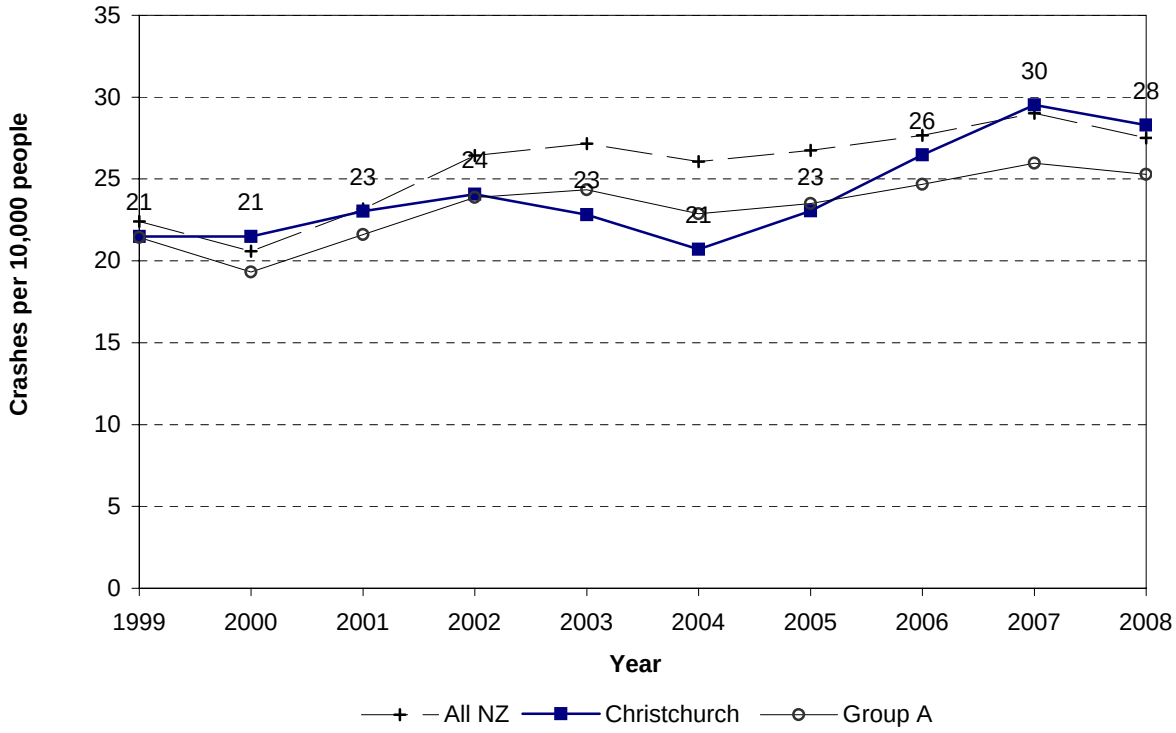


Figure 1.10 Casualties per 10,000 people
Christchurch City

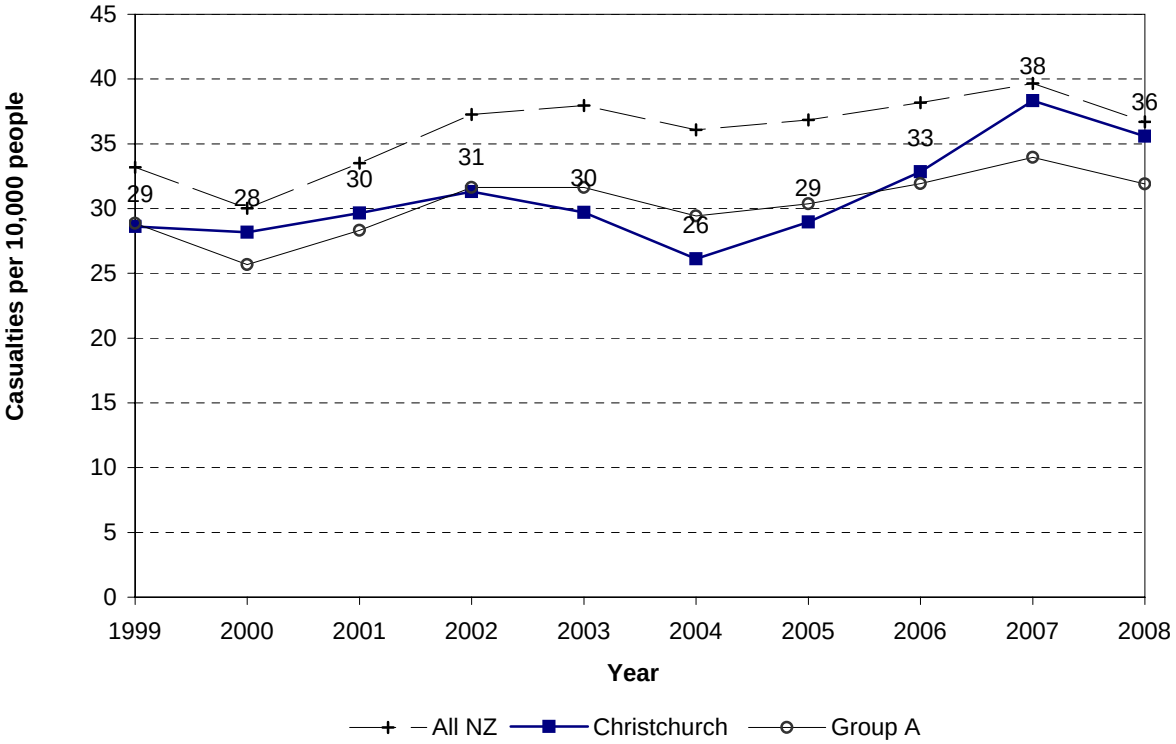


Figure 1.11 Social cost of crashes in Christchurch City in 2008

		Christchurch City	New Zealand
Council roads	urban rural	$222.81 $33.20	$1,636.63 $962.97
State Highways	urban rural	$31.62 $20.67	$303.03 $1,390.98
Total		**$308.30**	**$4,293.62**

Note: Crash costs are in $ millions

The social costs of a road crash and the associated injuries include a number of different elements:

- Loss of life and life quality
- Loss of output due to temporary incapacitation
- Medical costs
- Legal costs
- Property damage costs

The average value of a loss of life due to a road crash is estimated by the amount of money the New Zealand population would be willing to pay for a safety improvement that would result in the expected avoidance of one premature death. This is the willingness to pay based value of statistical life or VOSL. The VOSL was established at $2 million in 1991. This has been indexed to the average hourly earnings (ordinary time) to express the value in current dollars. The updated VOSL is $3.35 million (in June 2008 dollars). Based on several international and New Zealand studies on VOSL, the average loss of life quality for permanent impairments due to a serious and a minor injury were estimated to be 10% and 0.4% of the VOSL respectively.

Crash rates can vary due to reporting rates. These are adjusted on a regional basis in this report by comparing with hospitalisation rates.

The other social cost components are estimated based on a number of studies conducted during the early to mid-1990s and are updated for price changes by indexing to an appropriate price index.

For a detail discussion on this, please refer to 'The social cost of road crashes and injuries: June 2008 update', available at the Ministry of Transport's website:
http://www.transport.govt.nz/assets/NewPDFs/NewFolder/Social-Cost-June-2008-update-final.pdf

The average social cost per reported crash (in June 2008 dollars) are estimated at:

Rural fatal crash	$4,199,000
Rural serious crash	$776,000
Rural minor crash	$90,000
Urban fatal crash	$3,635,000
Urban serious crash	$659,000
Urban minor crash	$81,000

These values include an allowance for non-reported injury crashes, and the totals in Fig. 1.11 also include an allowance for non–injury crashes.

Crash Counts

Figure 2.1: Crash numbers and severity 2004 to 2008 - whole City

	2004	2005	2006	2007	2008	Total	%	Group A
Fatal crashes	10	14	10	12	16	**62**	1%	1%
Serious crashes	125	160	159	205	201	**850**	19%	15%
Minor crashes	585	640	777	851	818	**3671**	80%	84%
Total injury crashes	**720**	**814**	**946**	**1068**	**1035**	**4583**	**100%**	**100%**
Non-injury crashes	1489	1710	1982	2025	1721	8927		

Figure 2.2: Crash numbers and severity 2004 to 2008 - urban roads

	2004	2005	2006	2007	2008	Total	%	Group A
Fatal crashes	7	11	9	11	10	48	1%	1%
Serious crashes	107	131	137	181	178	734	18%	15%
Minor crashes	535	563	717	787	762	3364	81%	84%
Total injury crashes	**649**	**705**	**863**	**979**	**950**	**4146**	**100%**	**100%**
Non-injury crashes	1395	1582	1816	1884	1580	8257		

Figure 2.3: Crash numbers and severity 2004 to 2008 - rural roads

	2004	2005	2006	2007	2008	Total	%	Group A
Fatal crashes	3	3	1	1	6	14	3%	2%
Serious crashes	18	29	22	24	23	116	27%	14%
Minor crashes	50	77	60	64	56	307	70%	84%
Total injury crashes	**71**	**109**	**83**	**89**	**85**	**437**	**100%**	**100%**
Non-injury crashes	94	128	166	141	141	670		

Figure 2.4: Casualty numbers and severity 2004 to 2008 - whole City

	2004	2005	2006	2007	2008	Total	%	Group A
Fatal casualties	11	15	10	13	16	65	1%	1%
Serious casualties	141	178	168	223	218	928	16%	13%
Minor casualties	756	830	995	1151	1067	4799	83%	86%
Total casualties	**908**	**1023**	**1173**	**1387**	**1301**	**5792**	**100%**	**100%**

Figure 2.5: Casualty numbers and severity 2004 to 2008 - urban roads

	2004	2005	2006	2007	2008	Total	%	Group A
Fatal casualties	7	12	9	12	10	50	1%	1%
Serious casualties	119	145	145	194	188	791	15%	13%
Minor casualties	686	724	909	1057	982	4358	84%	86%
Total casualties	**812**	**881**	**1063**	**1263**	**1180**	**5199**	**100%**	**100%**

Figure 2.6: Casualty numbers and severity 2004 to 2008 - rural roads

	2004	2005	2006	2007	2008	Total	%	Group A
Fatal casualties	4	3	1	1	6	15	3%	2%
Serious casualties	22	33	23	29	30	137	23%	13%
Minor casualties	70	106	86	94	85	441	74%	85%
Total casualties	**96**	**142**	**110**	**124**	**121**	**593**	**100%**	**100%**

Figure 2.7 Number of injury crashes
Christchurch City all roads (urban & rural)

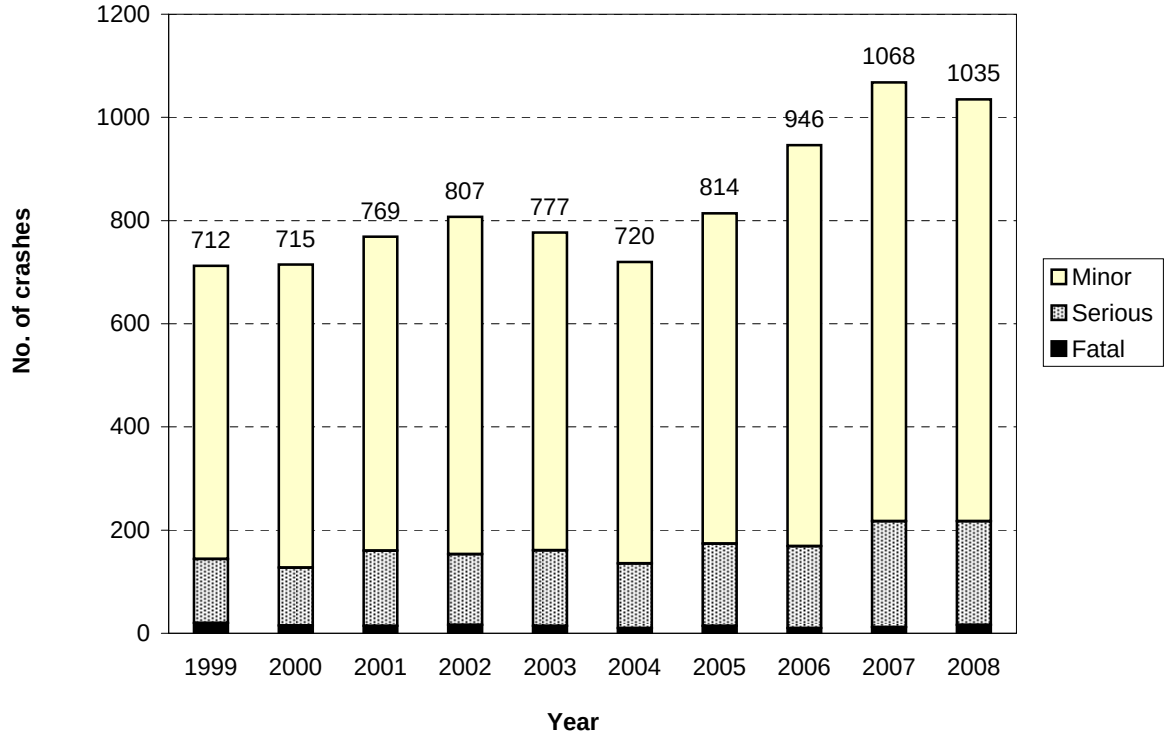


Figure 2.8 Number of casualties
Christchurch City all roads (urban & rural)

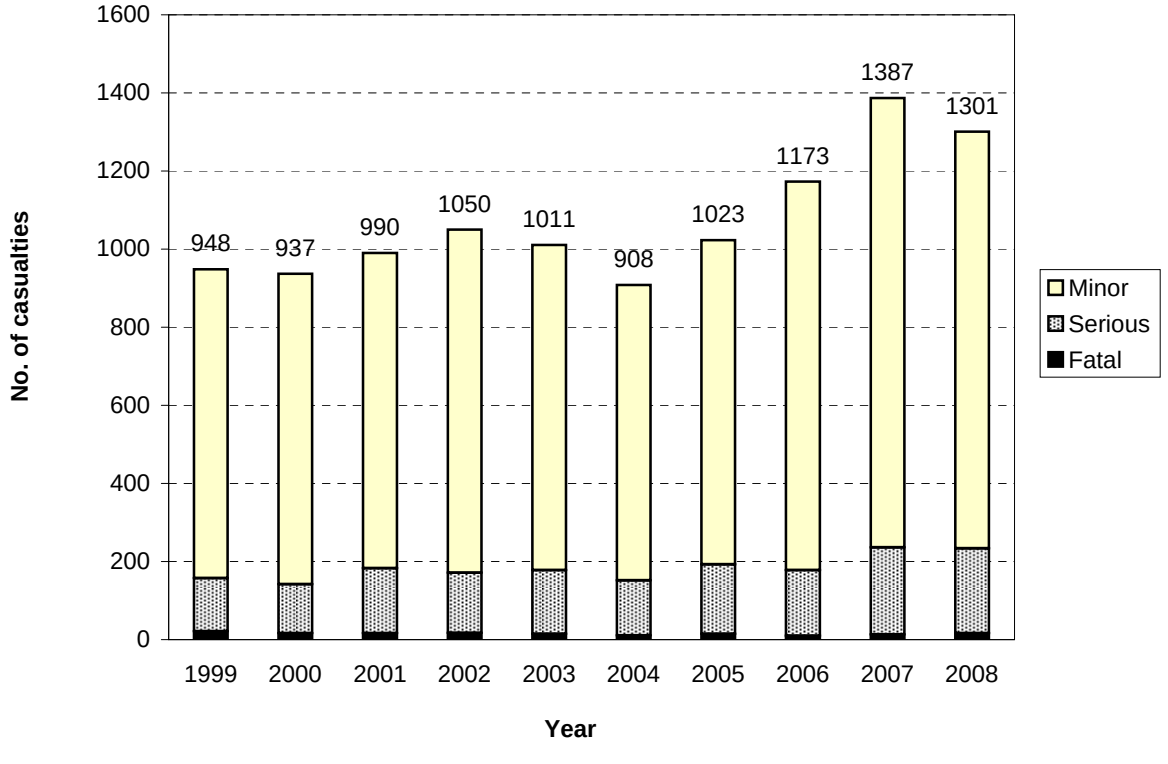


Figure 2.9 Number of injury crashes
Christchurch City - urban

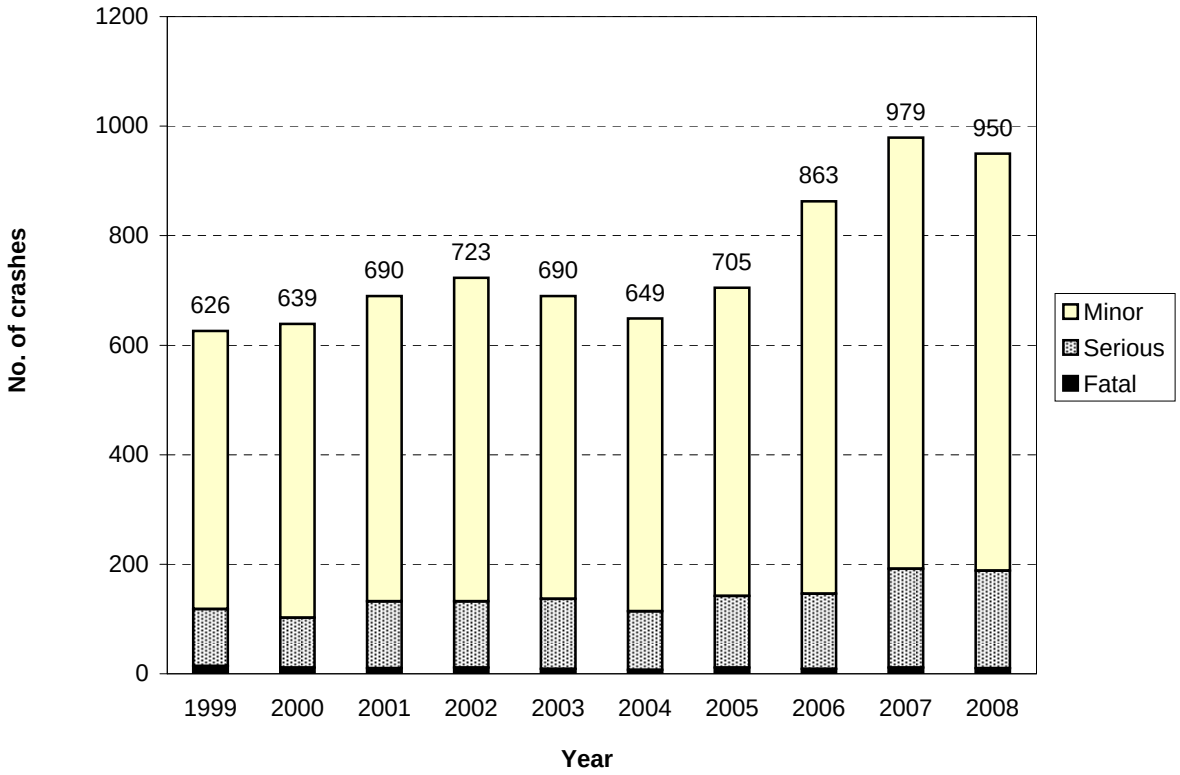


Figure 2.10 Number of casualties
Christchurch City - urban

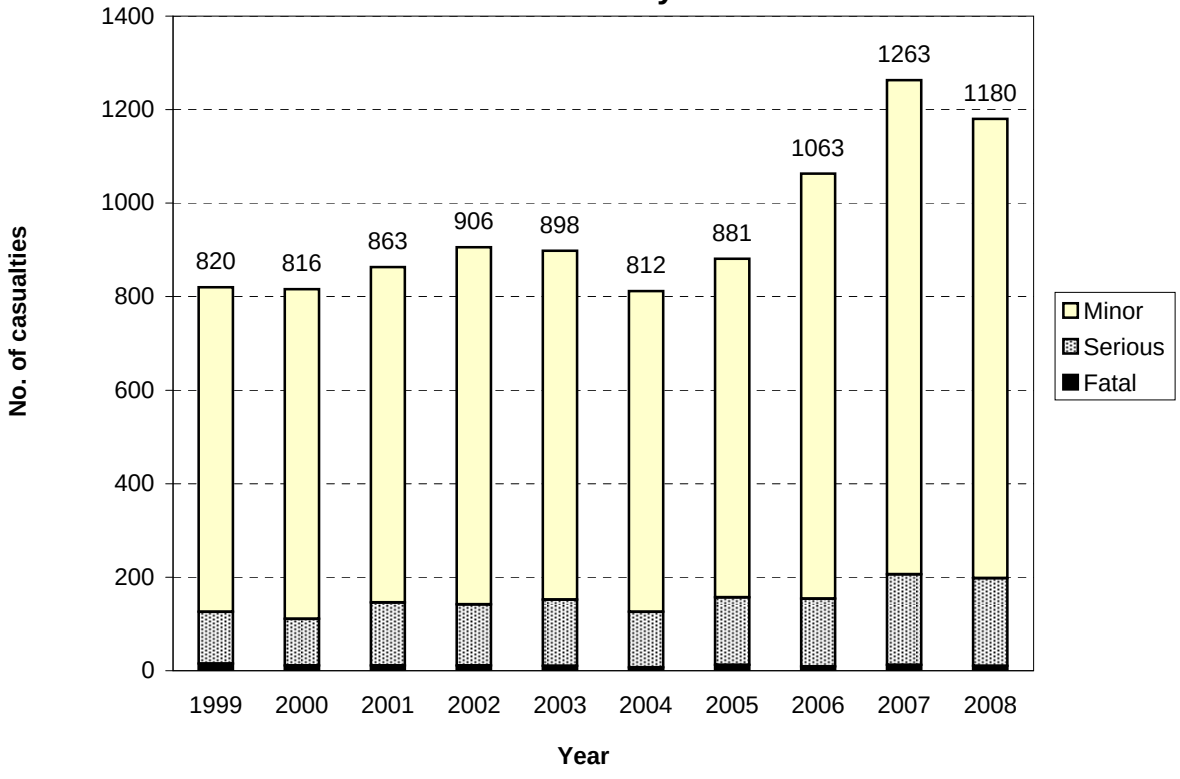


Figure 2.11 Number of injury crashes
Christchurch City - rural

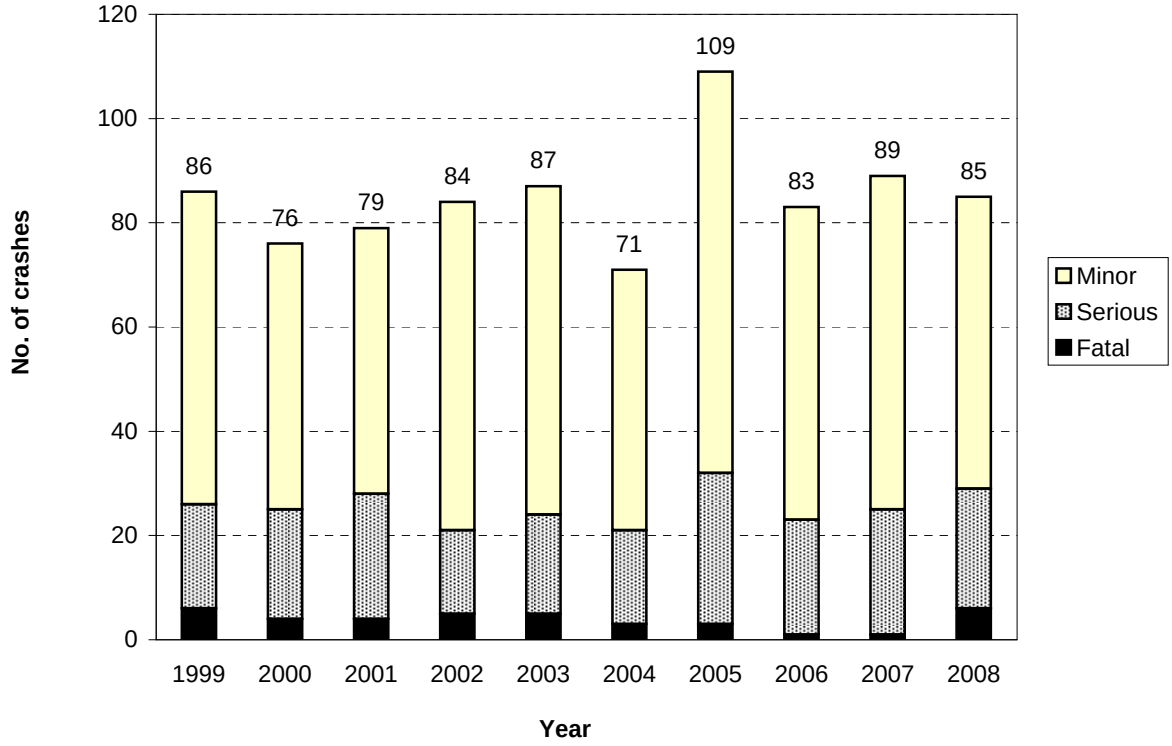


Figure 2.12 Number of casualties
Christchurch City - rural

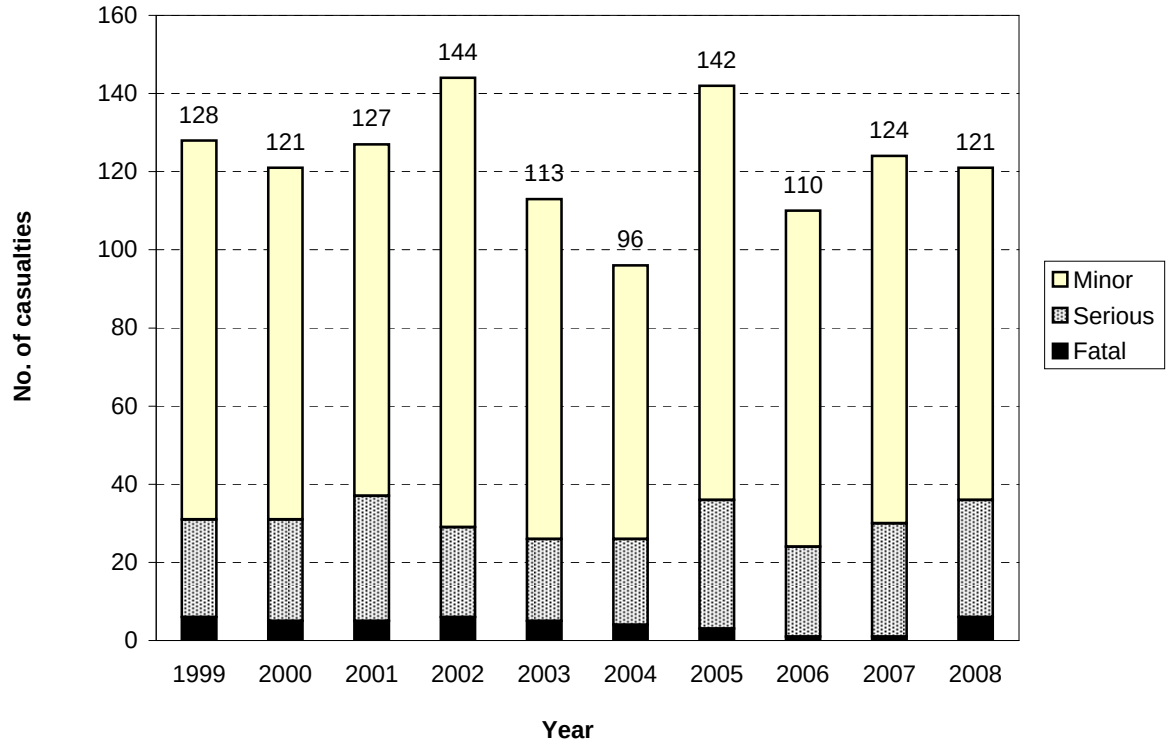
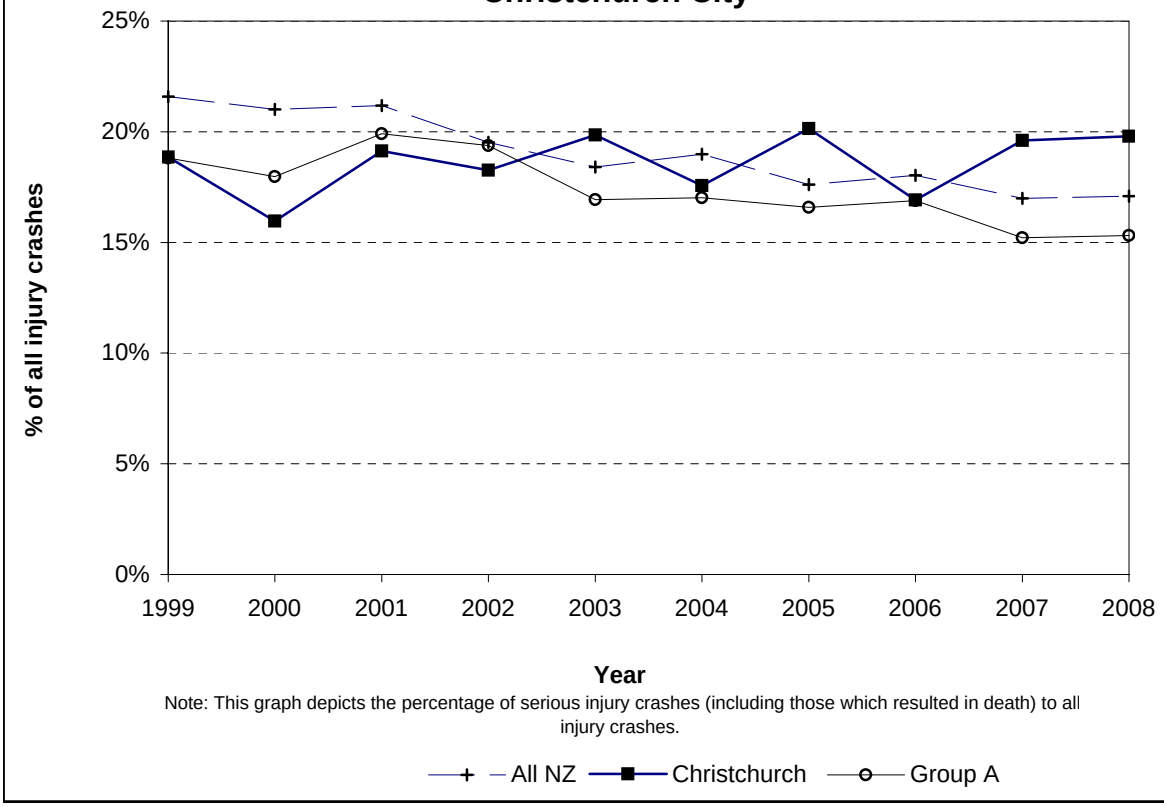
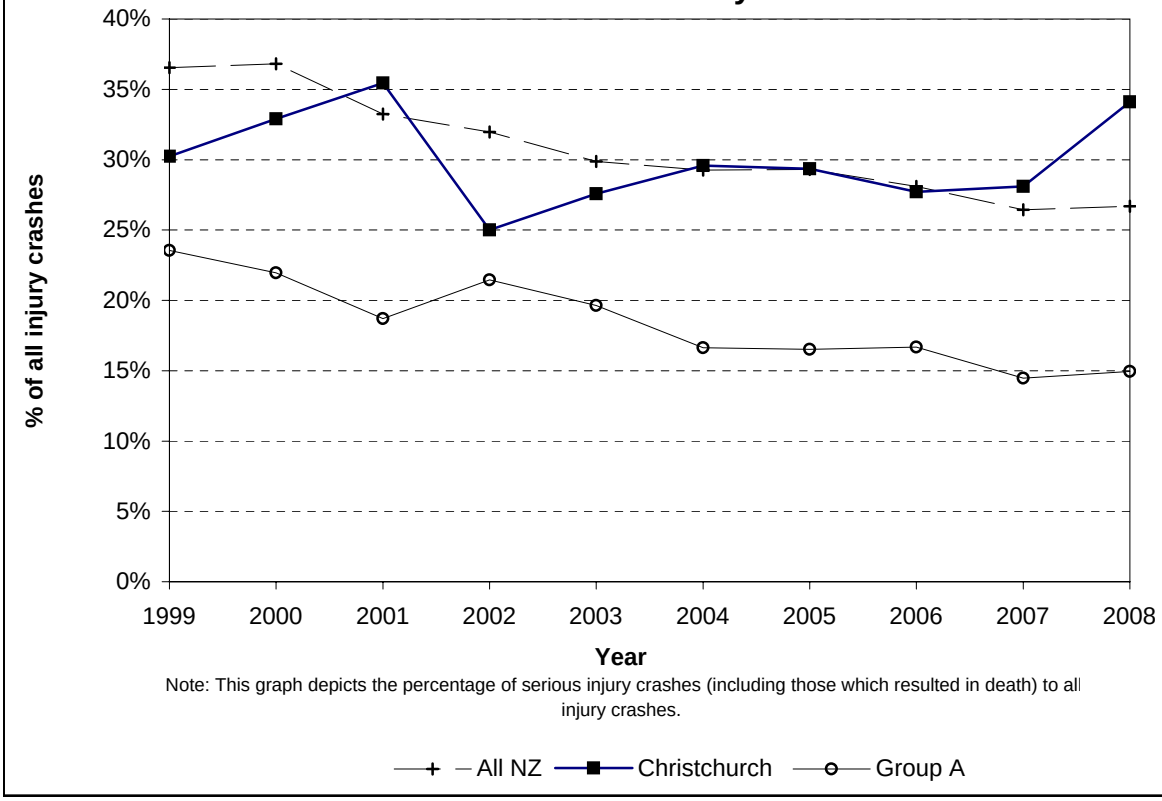


Figure 2.13 Severity ratio - urban Christchurch City



Note: This graph depicts the percentage of serious injury crashes (including those which resulted in death) to all injury crashes.

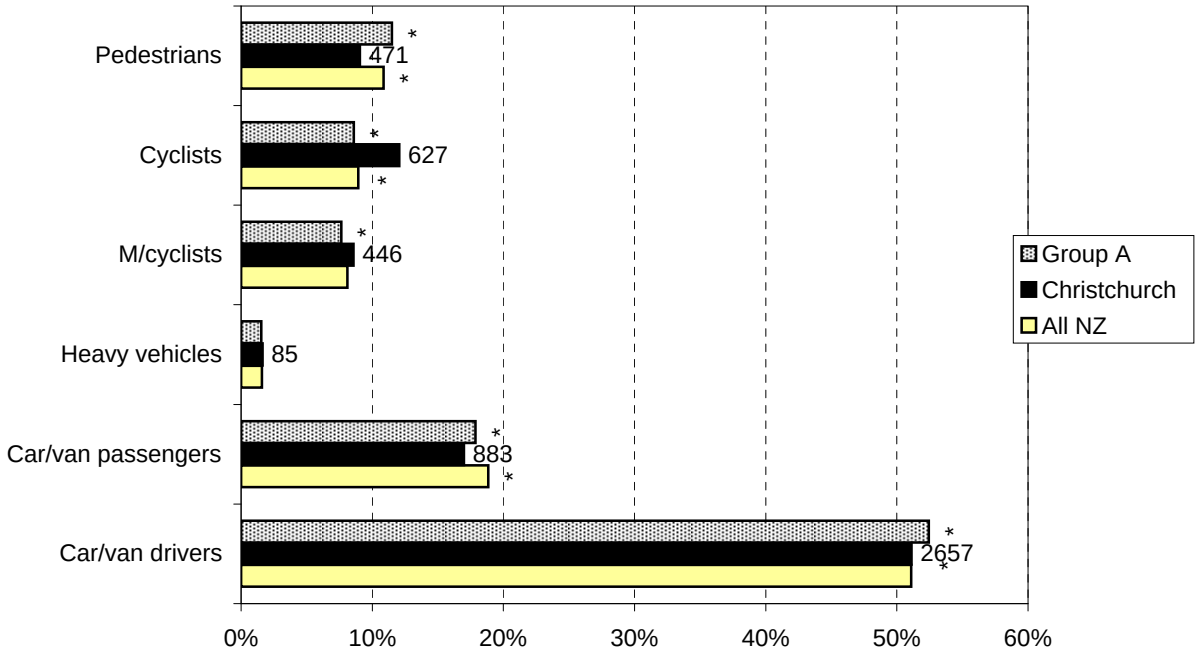
Figure 2.14 Severity ratio - rural Christchurch City



Note: This graph depicts the percentage of serious injury crashes (including those which resulted in death) to all injury crashes.

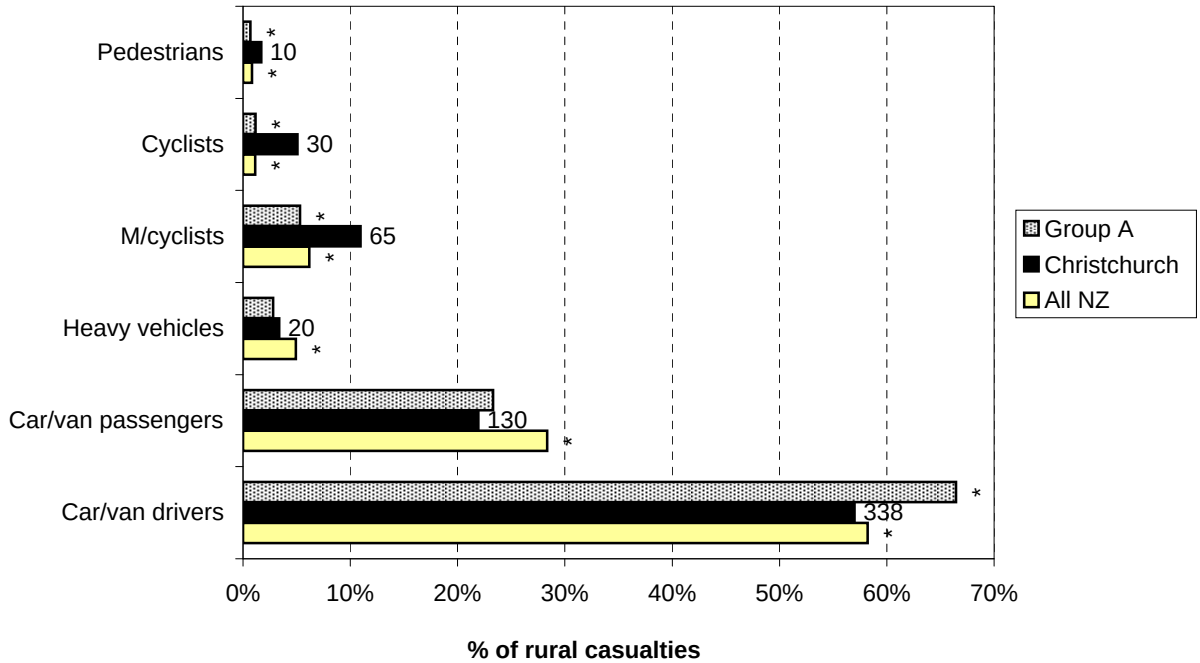
Road User Statistics

Figure 3.1 Road user casualties - urban Christchurch City (2004-2008)



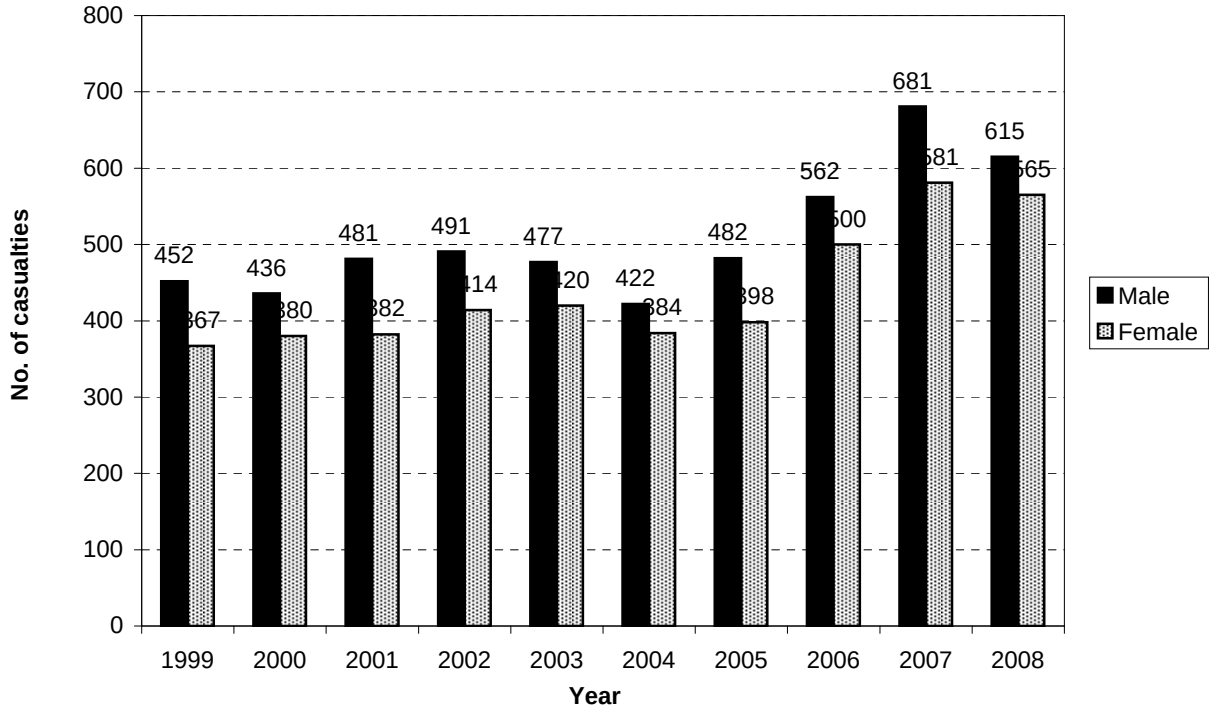
Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.2 Road user casualties - rural Christchurch City (2004-2008)



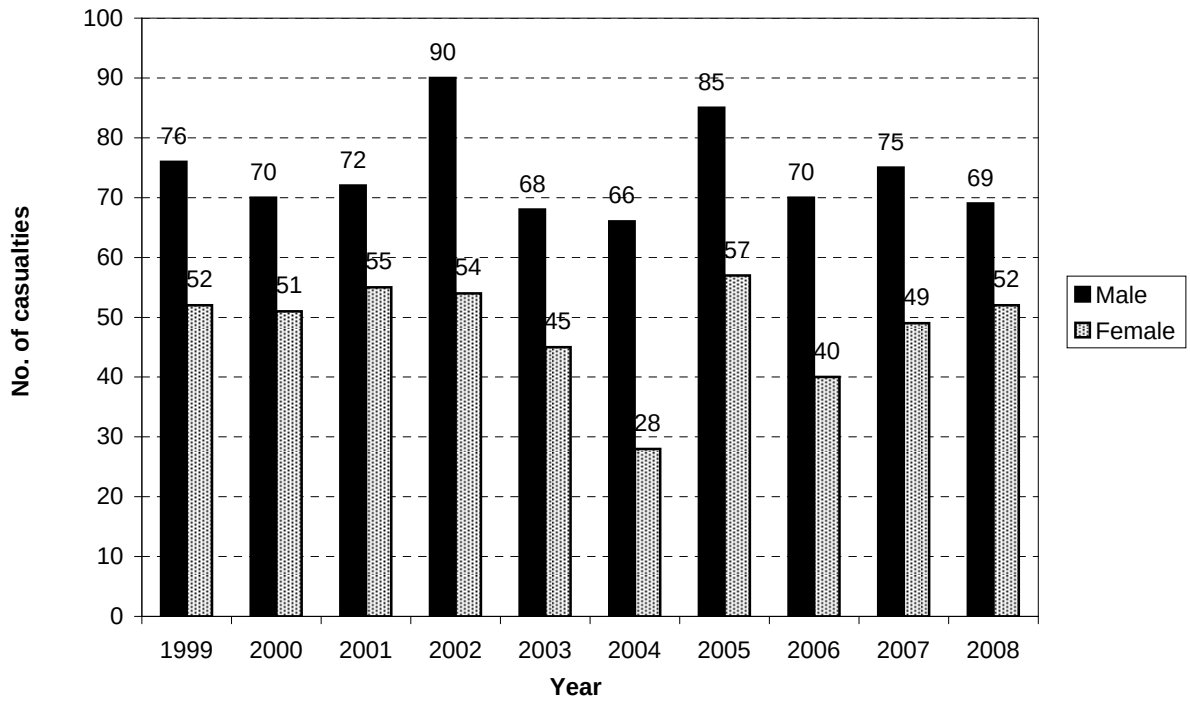
Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.3 Male/female casualties - urban Christchurch City



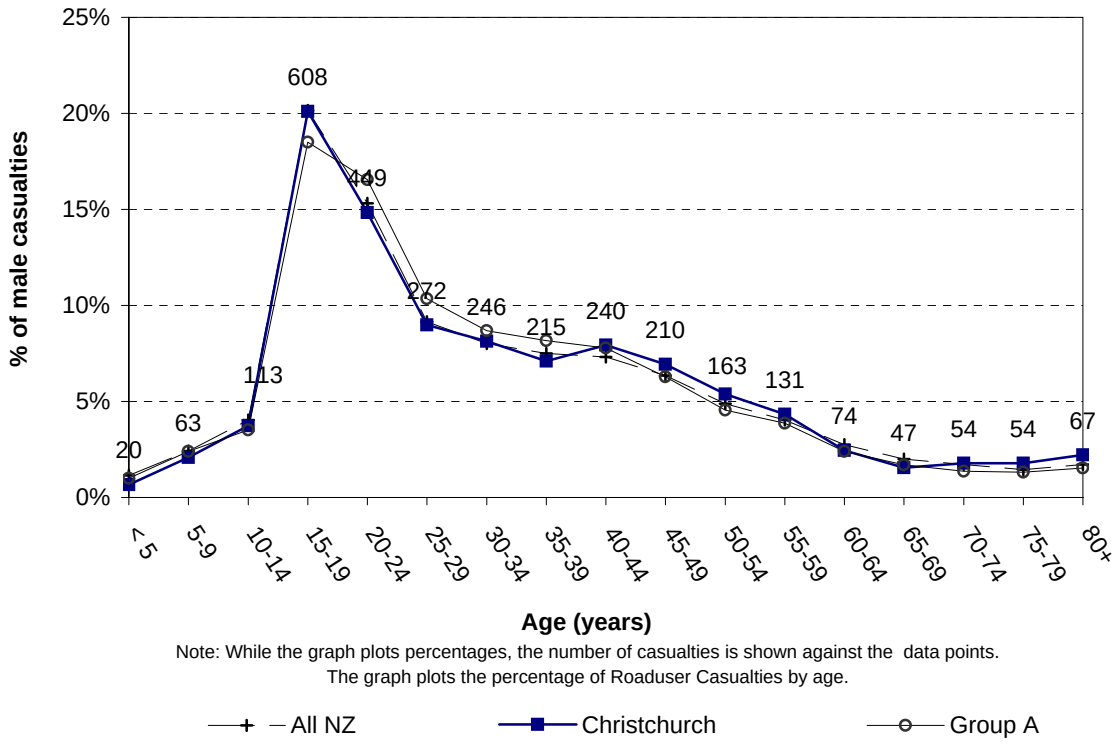
Note: This graph shows the number of male and female roadusers injured

Figure 3.4 Male/female casualties - rural Christchurch City



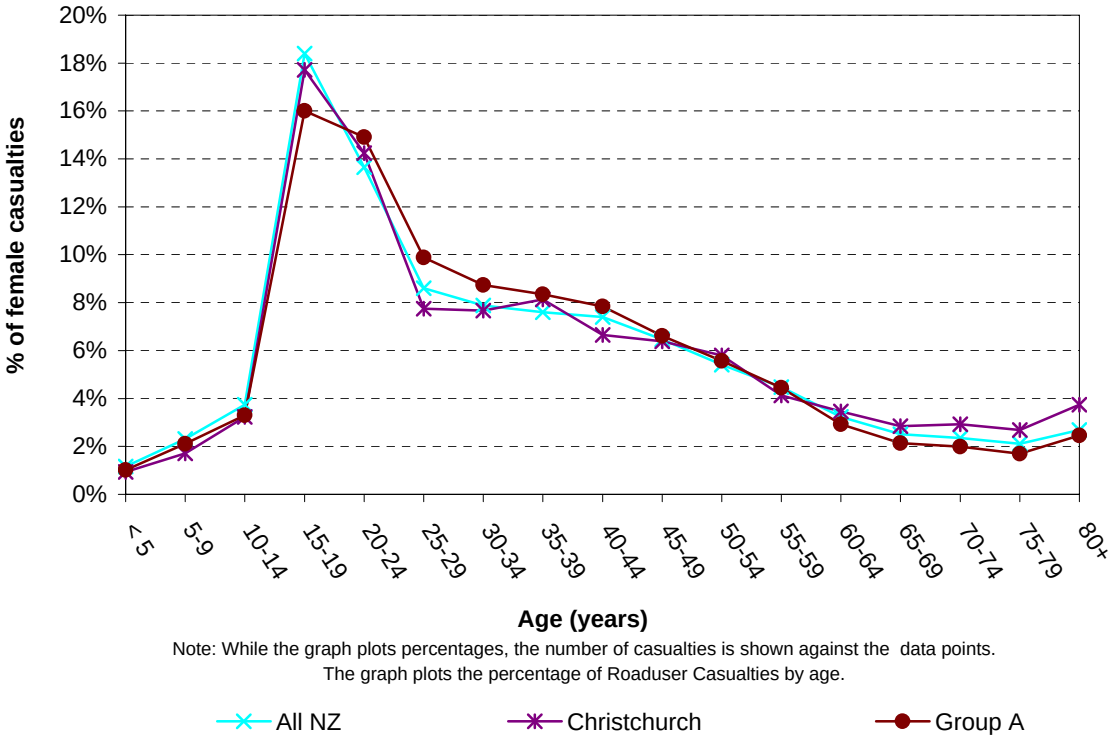
Note: This graph shows the number of male and female roadusers injured

Figure 3.5 Male casualties by age
Christchurch City (2004-2008)



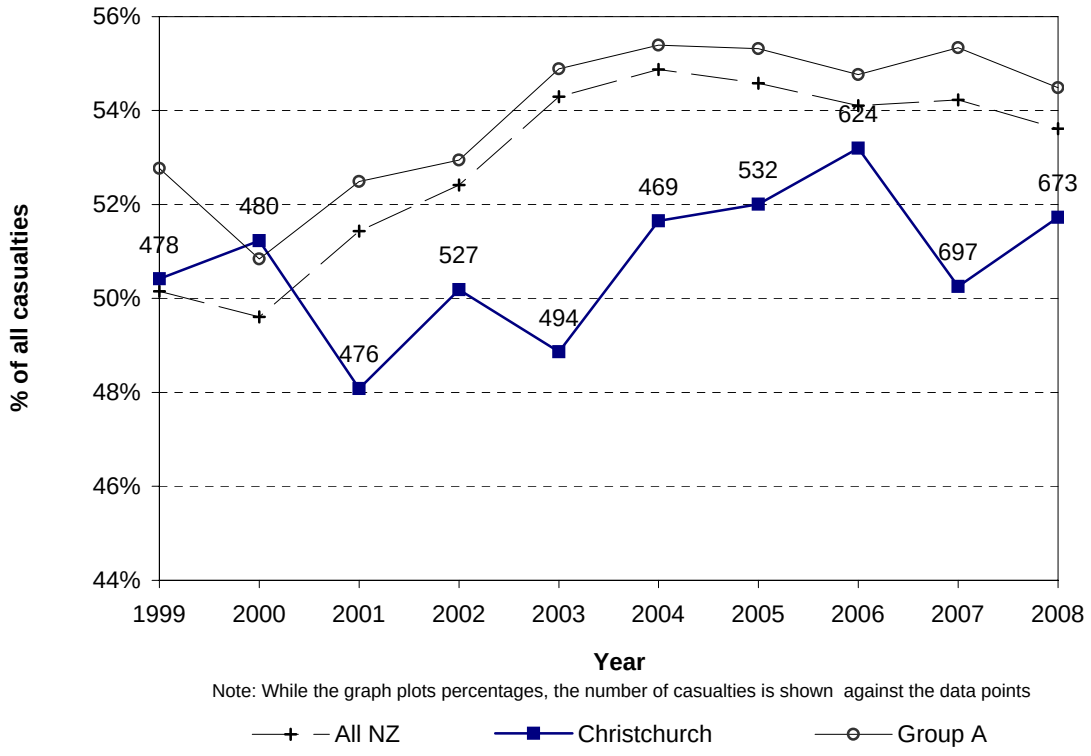
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The graph plots the percentage of Roaduser Casualties by age.

Figure 3.6 Female casualties by age
Christchurch City (2004-2008)



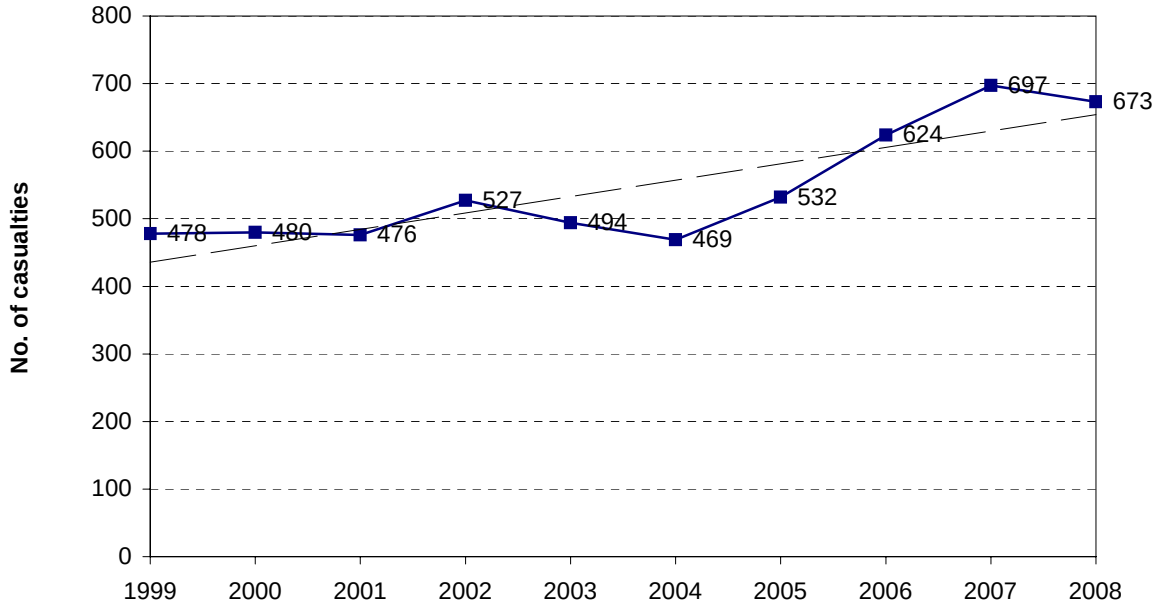
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The graph plots the percentage of Roaduser Casualties by age.

Figure 3.7 Car/van driver casualties
Christchurch City



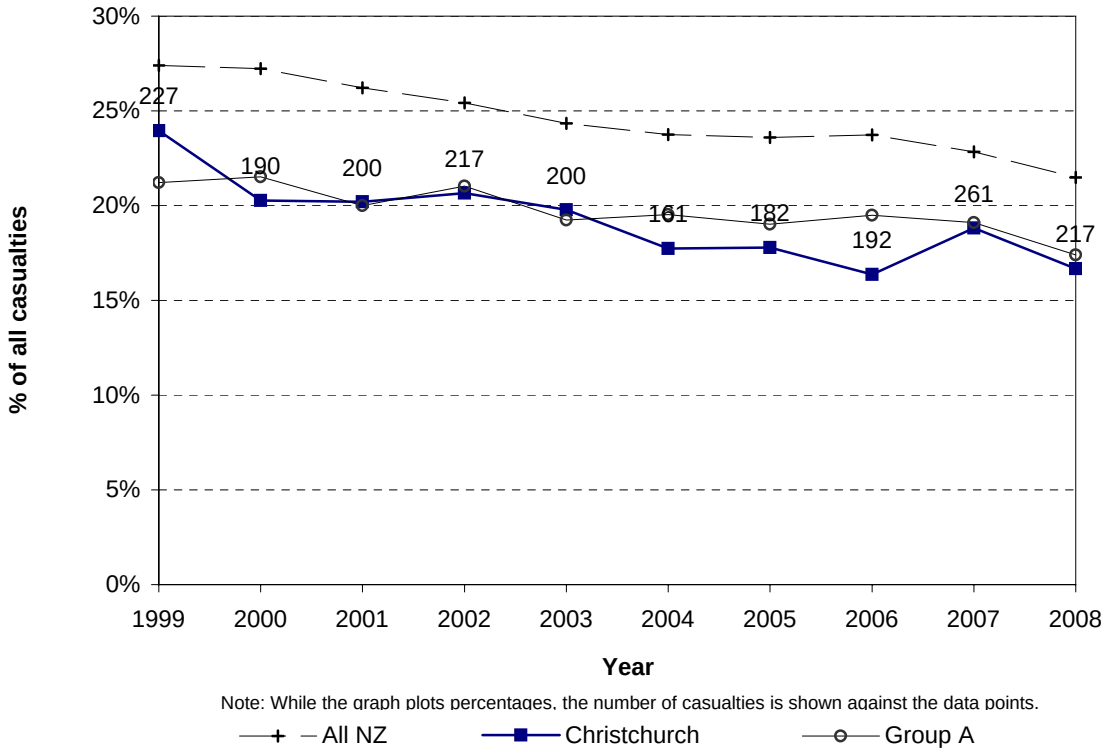
Note: While the graph plots percentages, the number of casualties is shown against the data points

Figure 3.8 Car/van driver casualties
Christchurch City



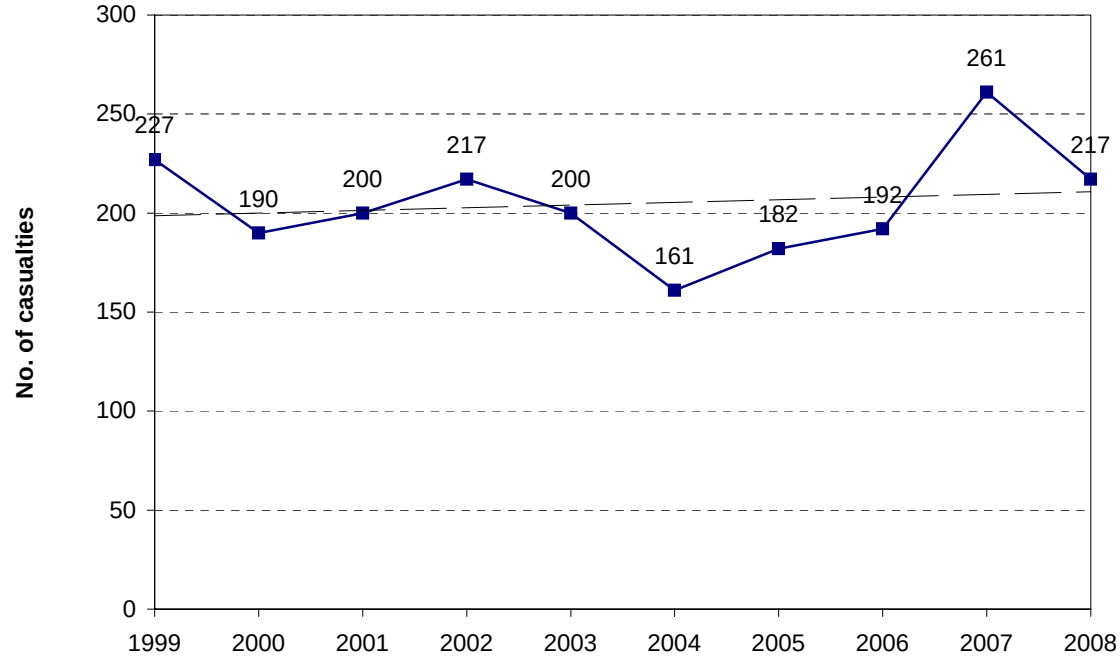
Note: Dotted line represents the ten year trend line

Figure 3.9 Car/van passenger casualties Christchurch City



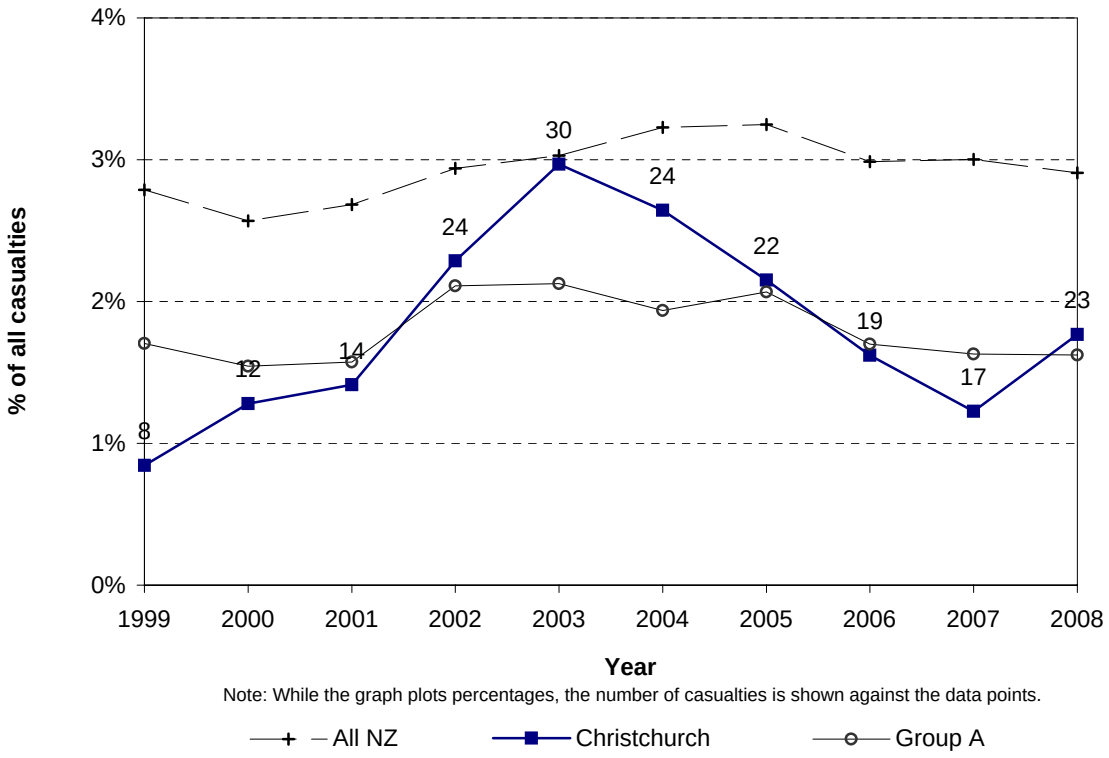
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.10 Car/van passenger casualties Christchurch City



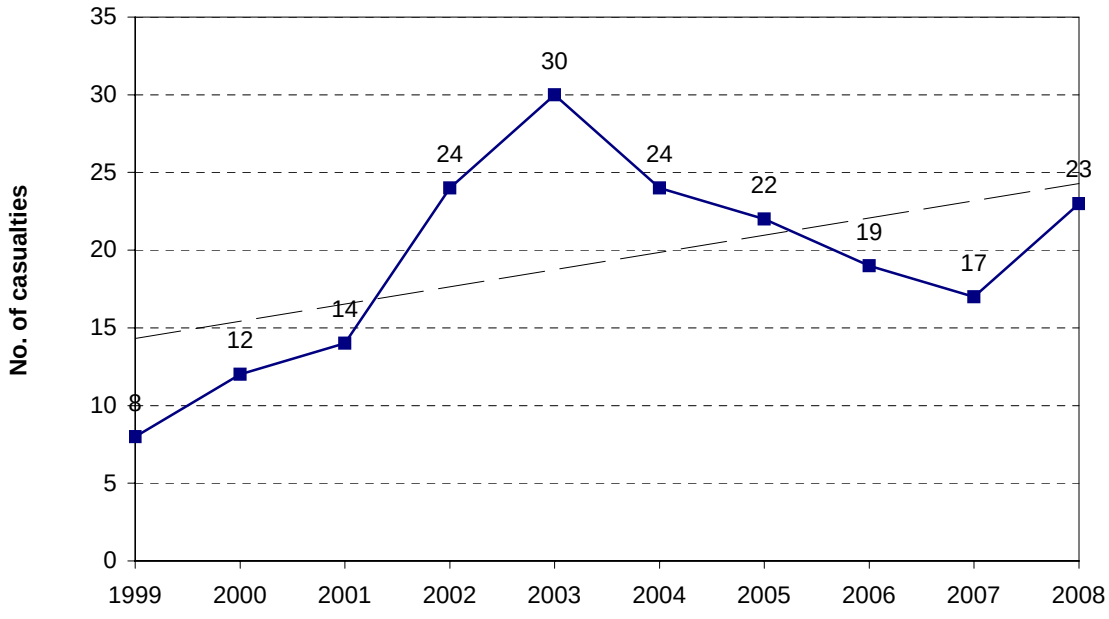
Note: Dotted line represents the ten year trend line

Figure 3.11 Heavy vehicle casualties
Christchurch City



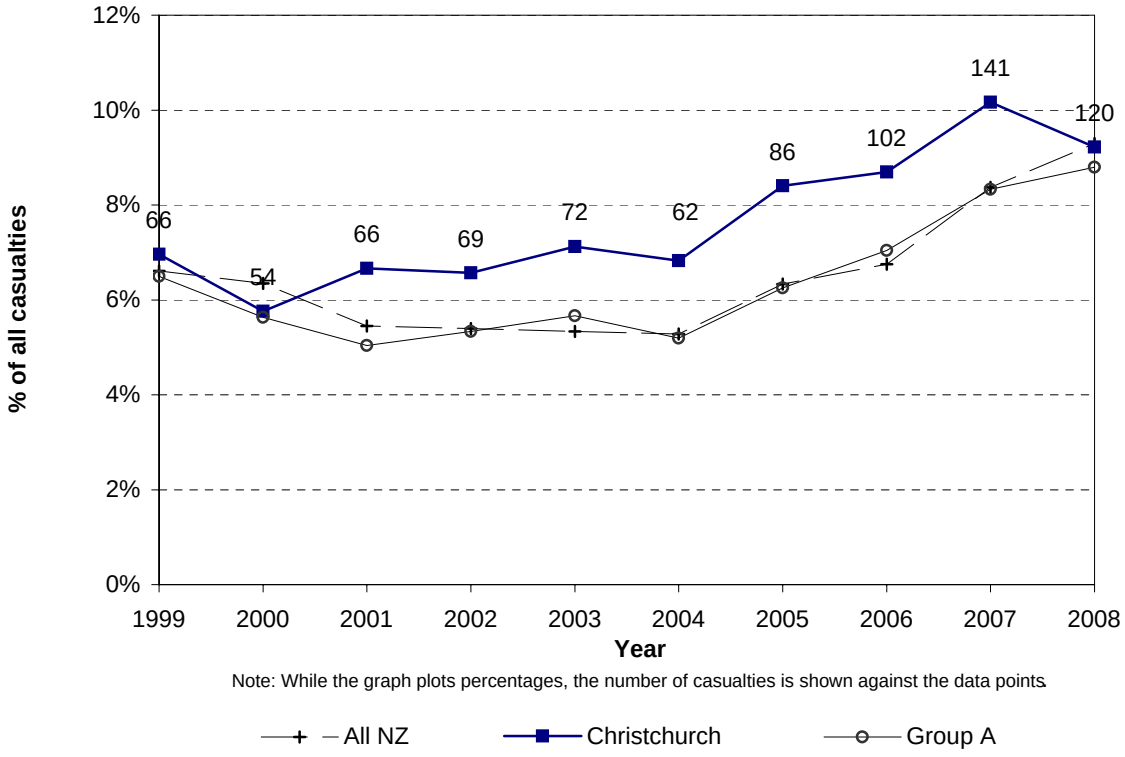
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.12 Heavy vehicle casualties
Christchurch City



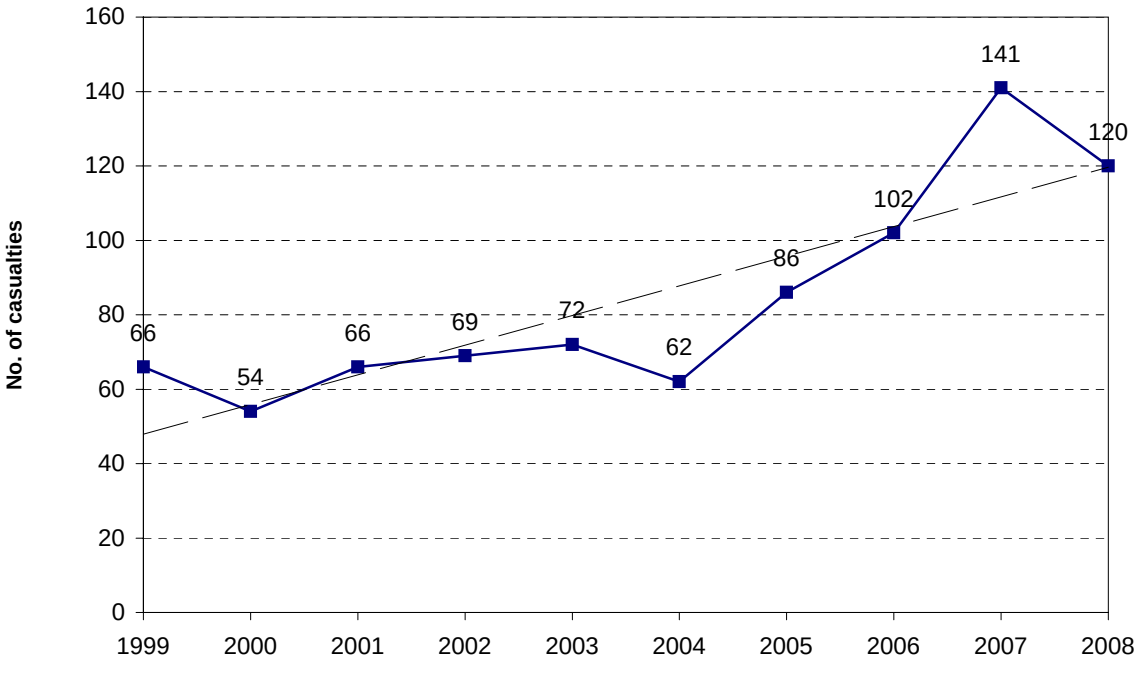
Note: Dotted line represents the ten year trend line

Figure 3.13 Motorcyclist casualties Christchurch City



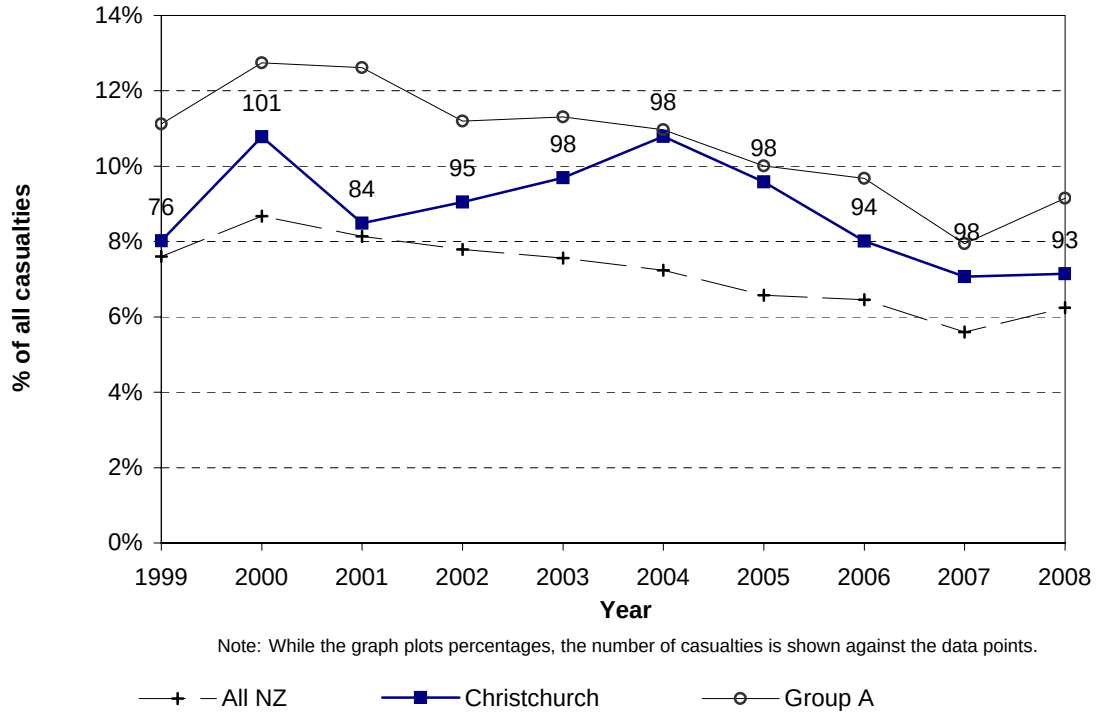
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.14 Motorcyclist casualties Christchurch City



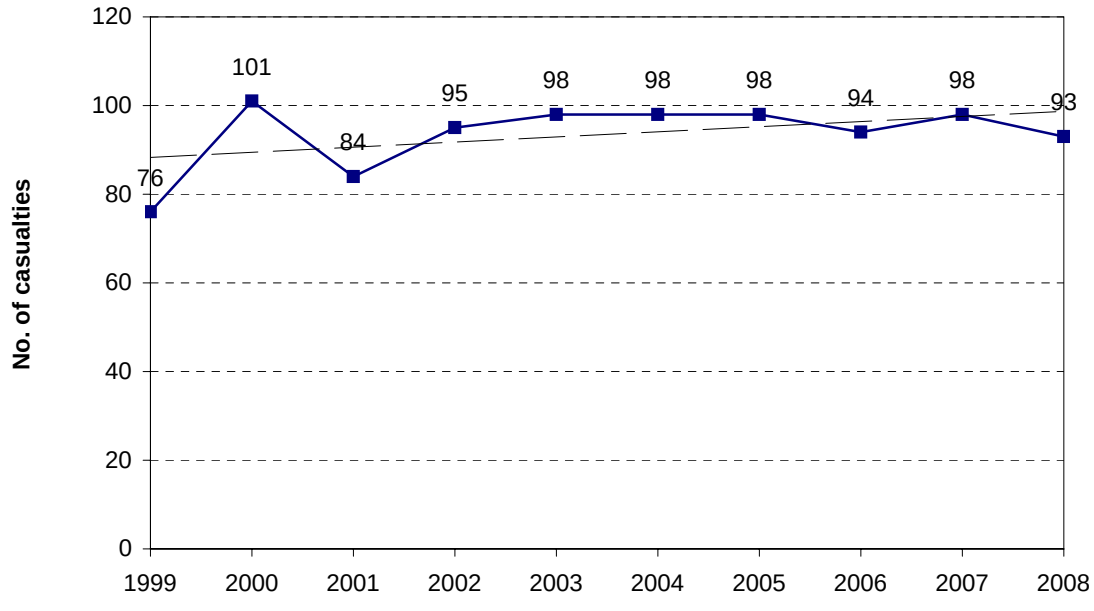
Note: Dotted line represents the ten year trend line

Figure 3.15 Pedestrian casualties Christchurch City



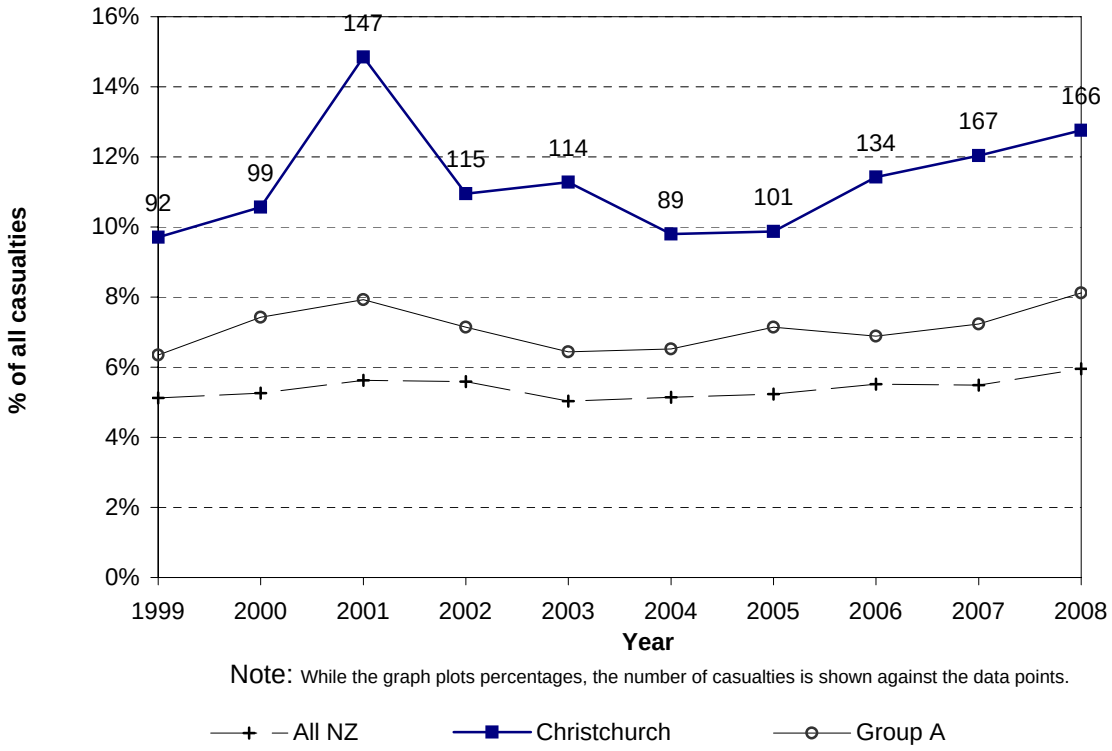
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.16 Pedestrian casualties Christchurch City



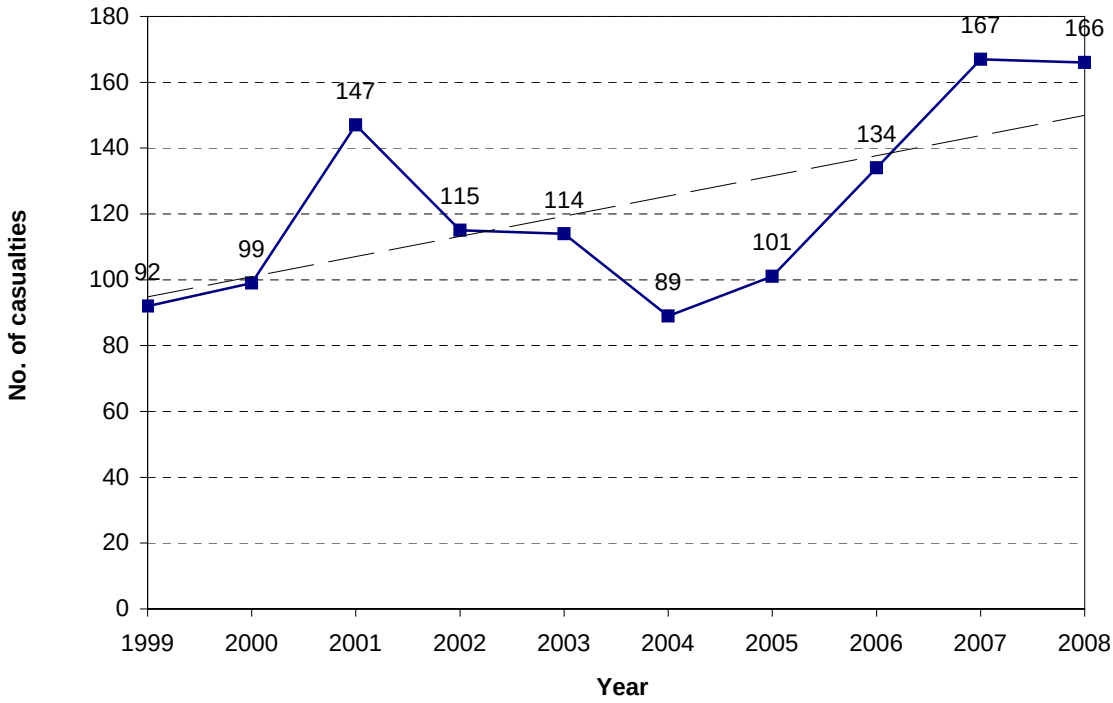
Note: Dottedline represents the ten year trend line

Figure 3.17 Cyclist casualties
Christchurch City



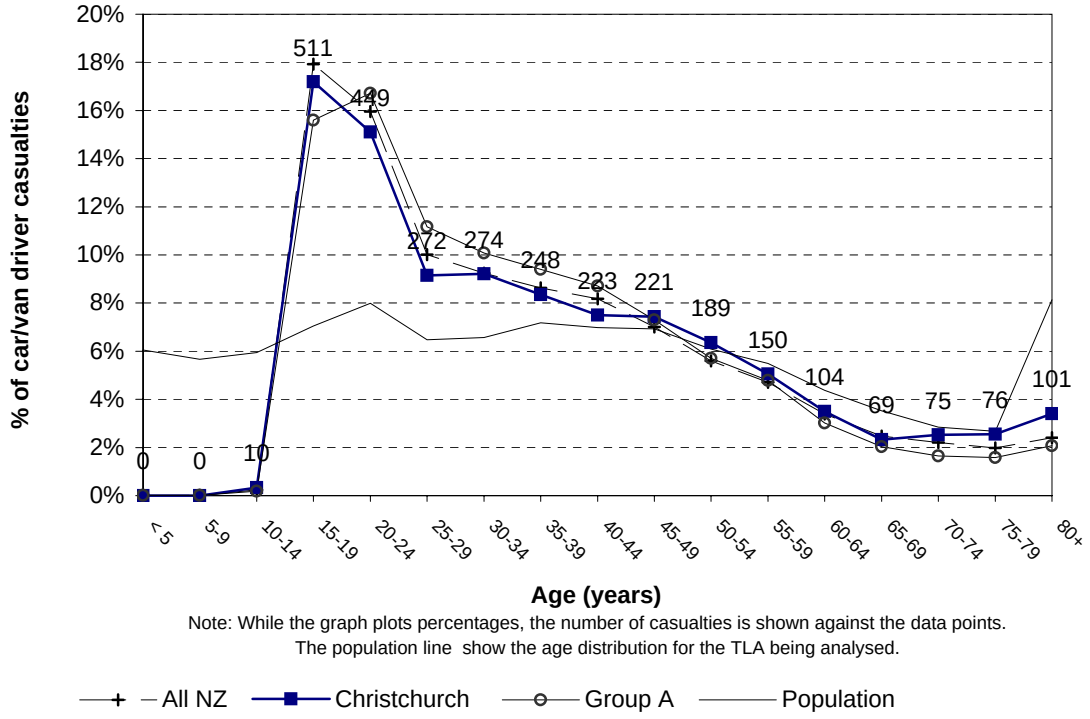
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.18 Cyclist casualties
Christchurch City



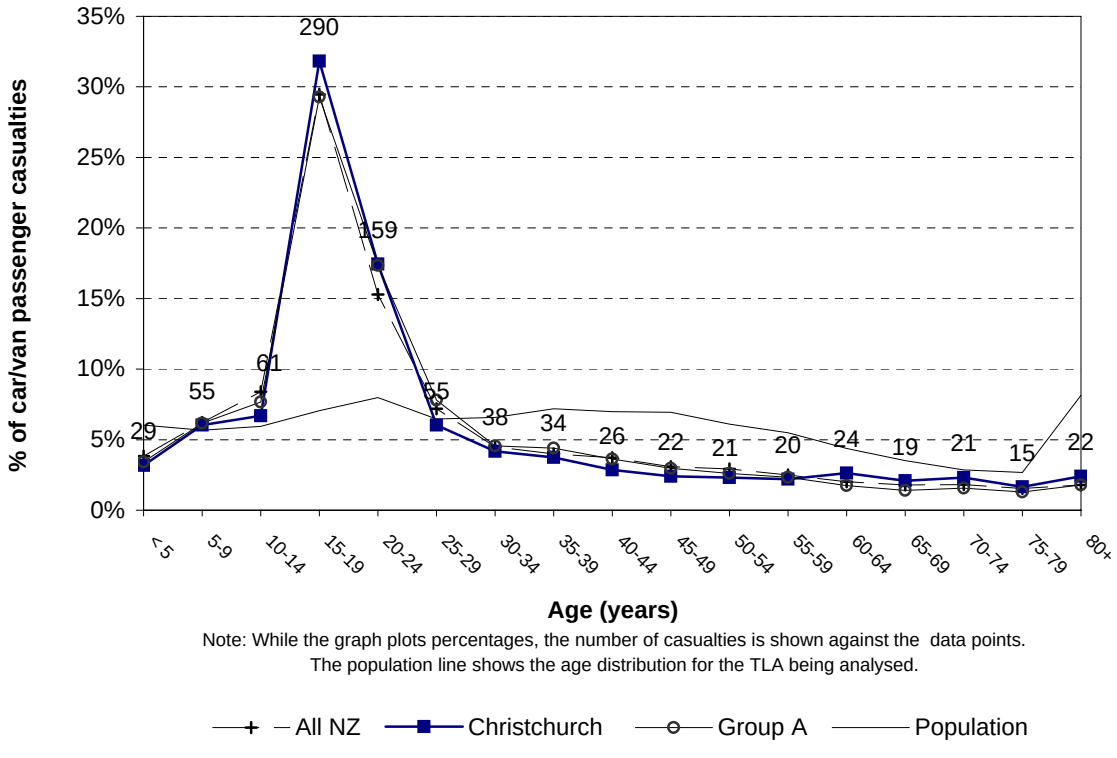
Note: Dotted line represents the ten year trend line

Figure 3.19 Car/van driver casualty age Christchurch City (2004-2008)



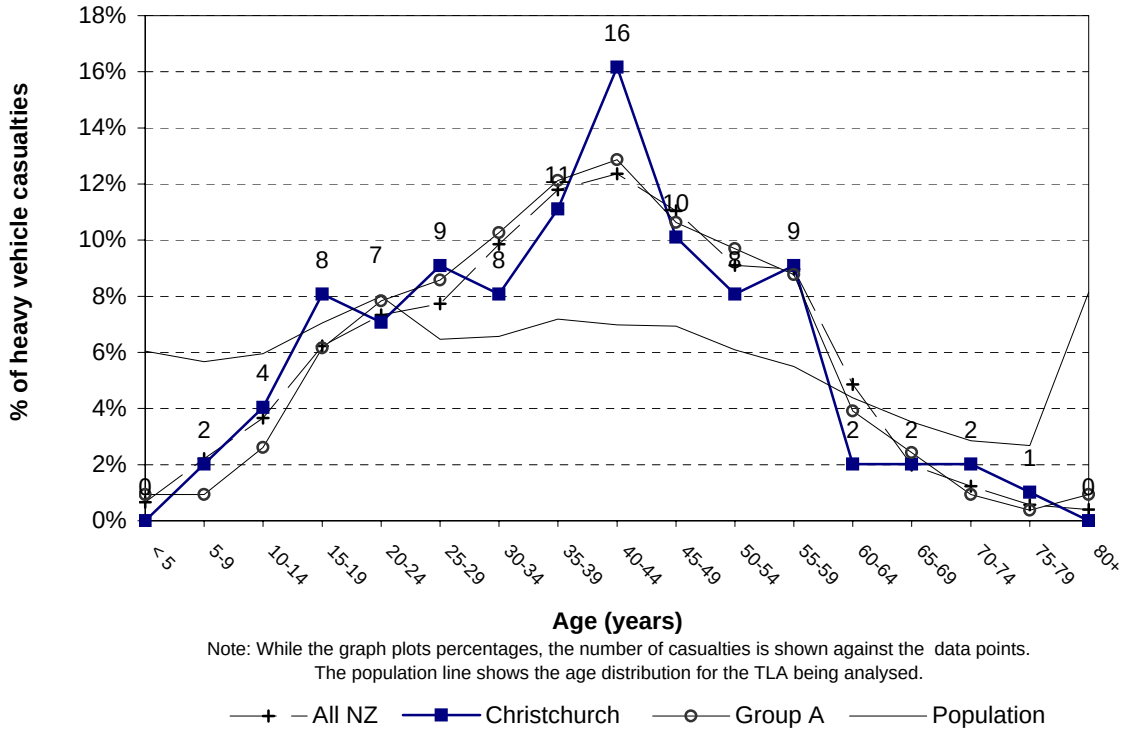
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line show the age distribution for the TLA being analysed.

Figure 3.20 Car/van passenger casualty age Christchurch City (2004-2008)



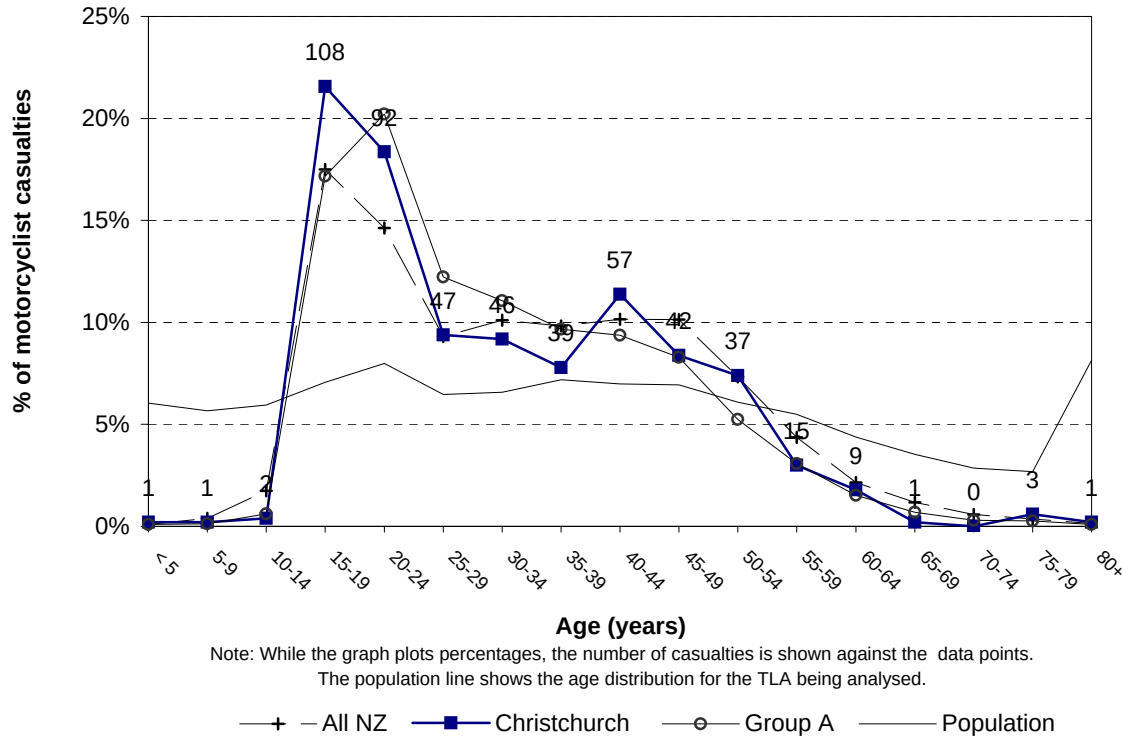
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.21 Heavy vehicle casualty age Christchurch City (2004-2008)



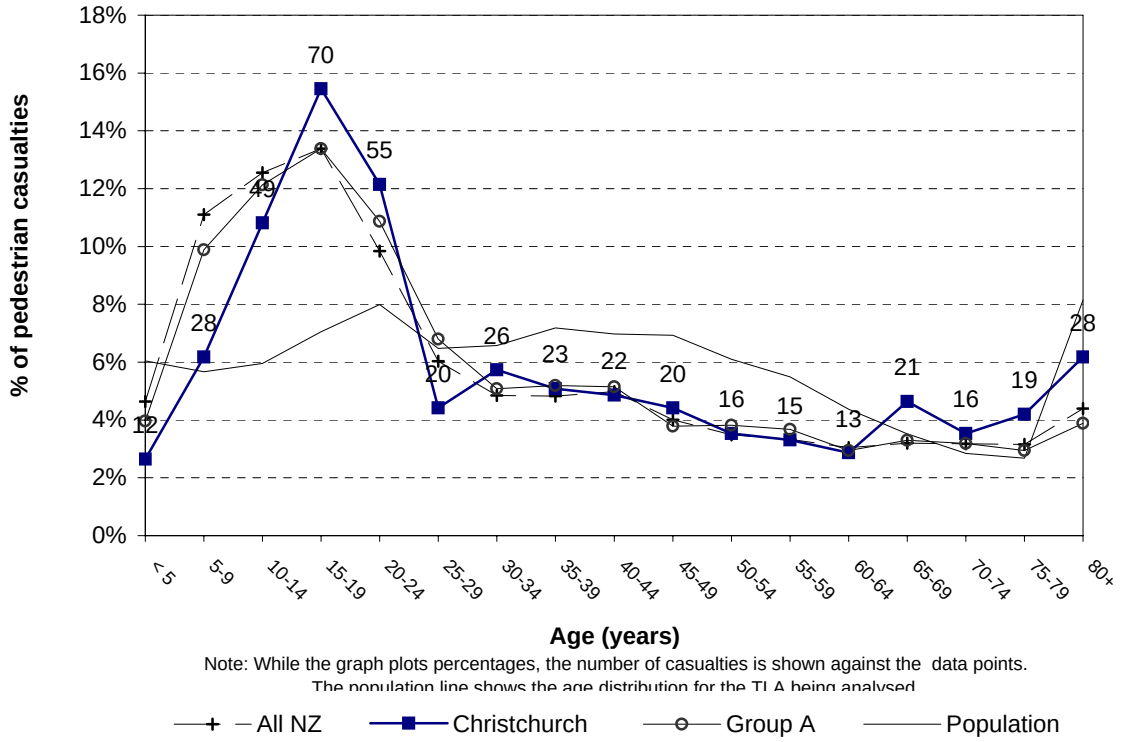
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.22 Motorcyclist casualty age Christchurch City (2004-2008)



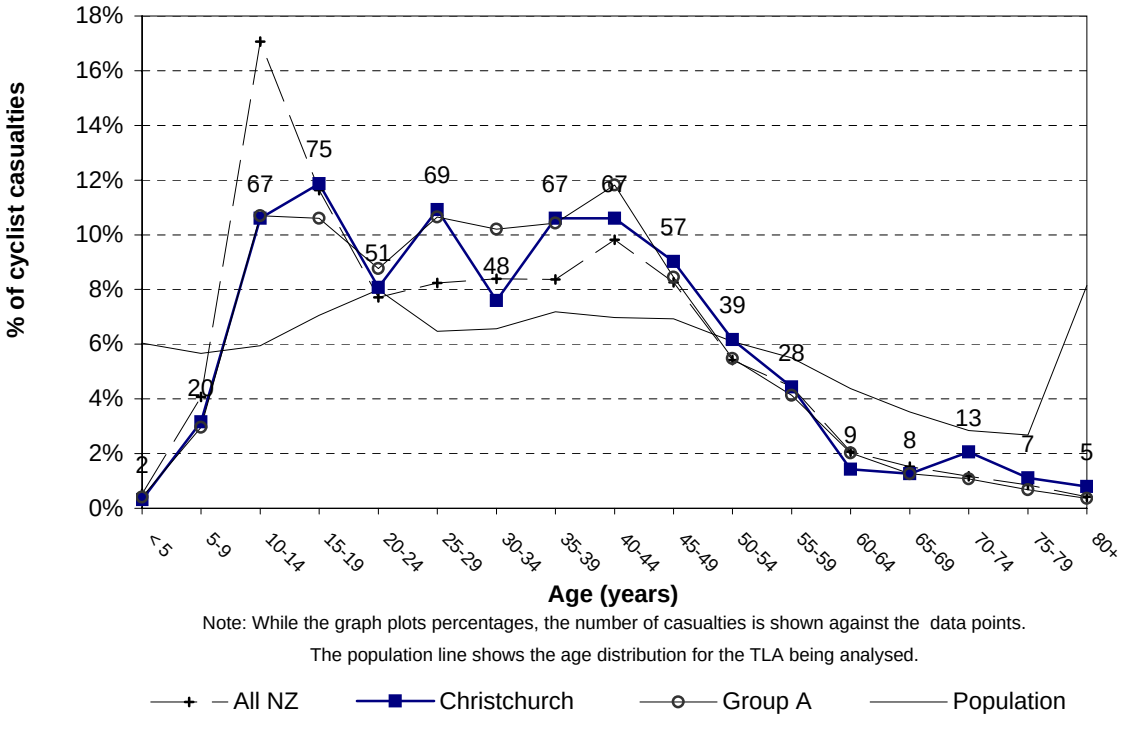
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.23 Pedestrian casualty age
Christchurch City (2004-2008)



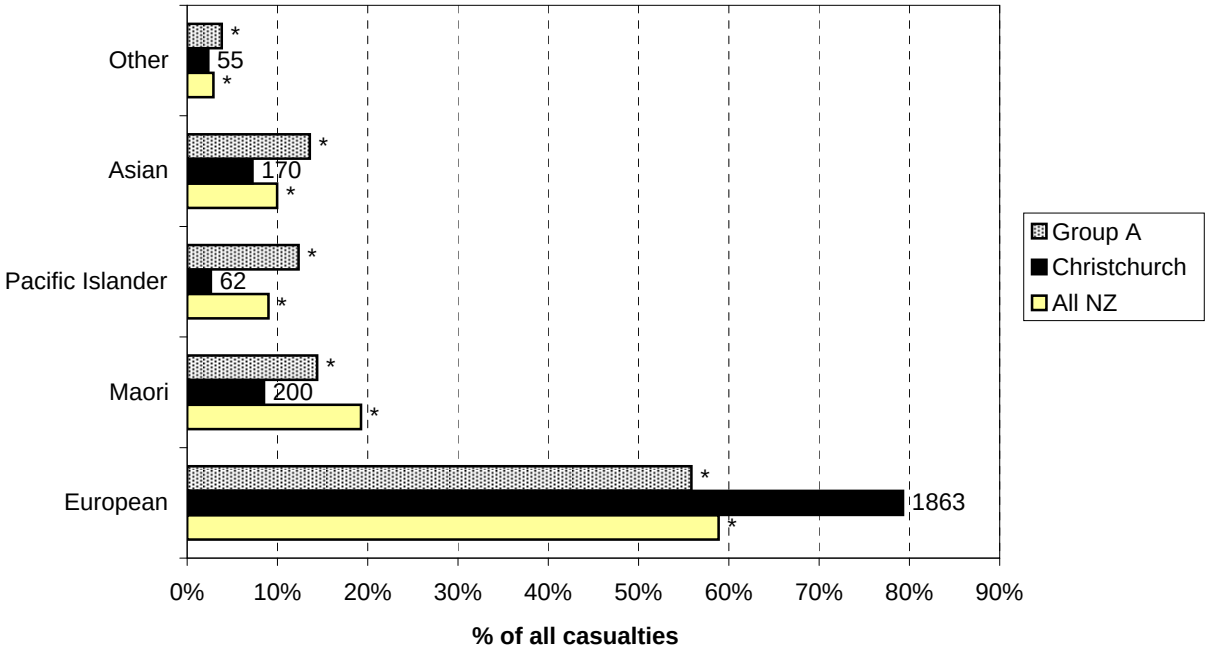
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed

Figure 3.24 Cyclist casualty age
Christchurch City (2004-2008)



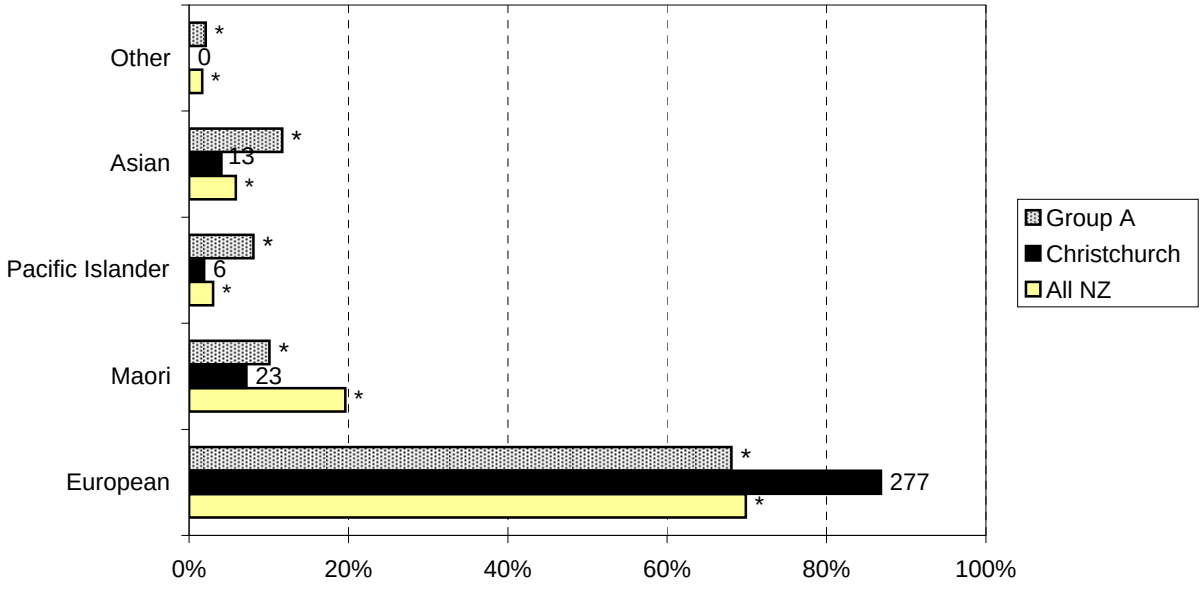
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.25 Casualty ethnicity - urban Christchurch City (2004-2008)



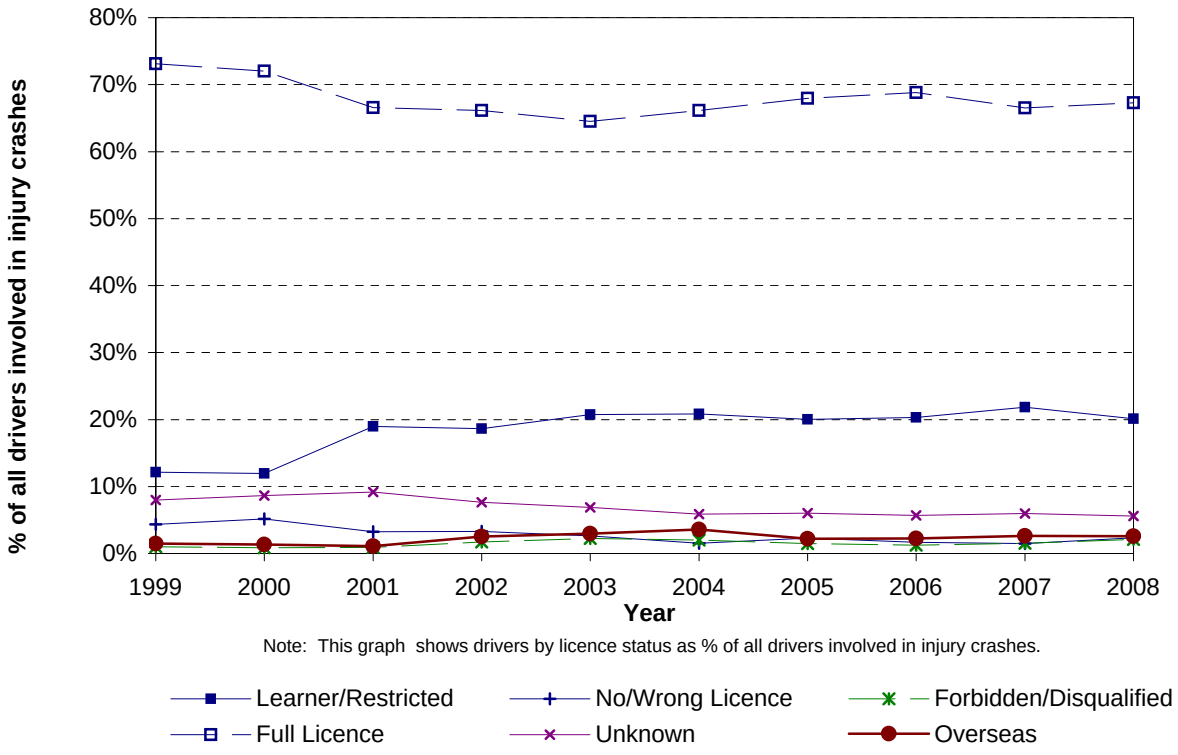
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.26 Casualty ethnicity - rural Christchurch City (2004-2008)



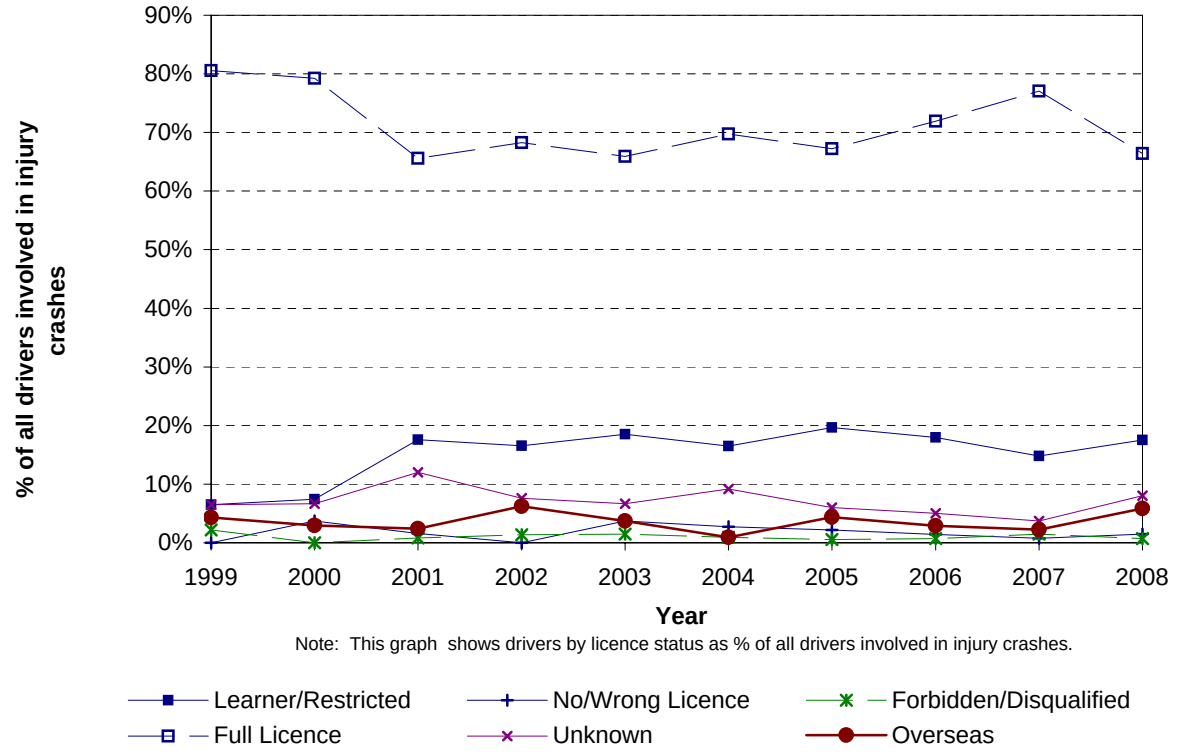
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.27 Licence status - urban Christchurch City



Note: This graph shows drivers by licence status as % of all drivers involved in injury crashes.

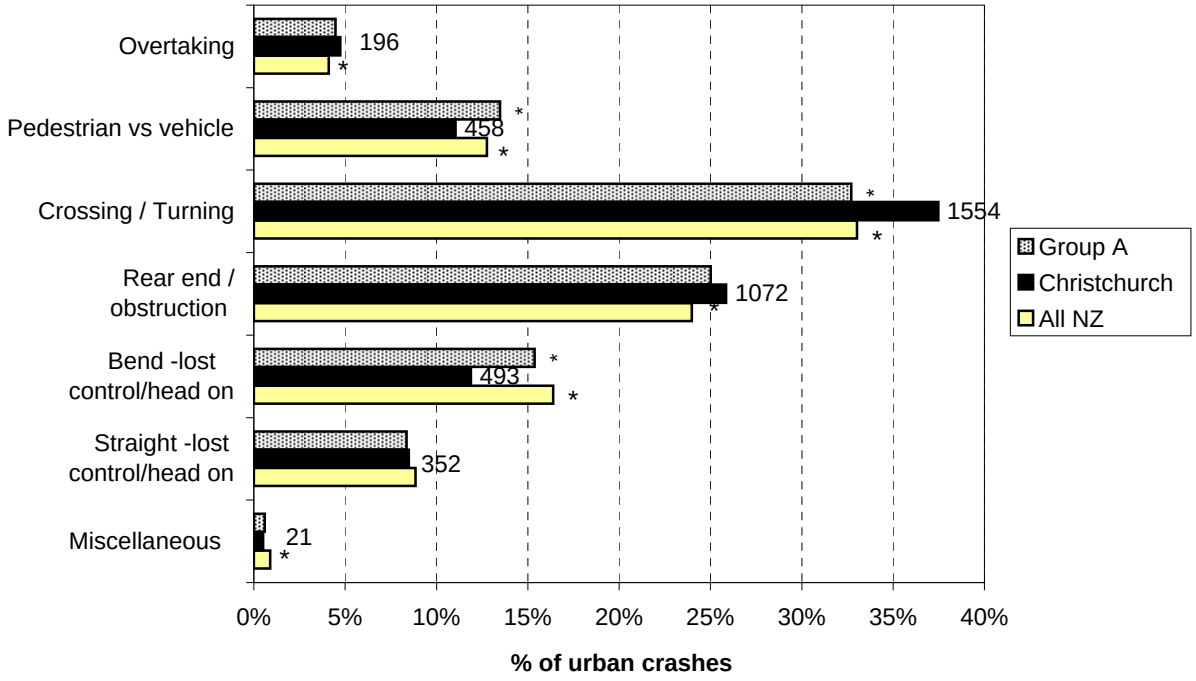
Figure 3.28 Licence status - rural Christchurch City



Note: This graph shows drivers by licence status as % of all drivers involved in injury crashes.

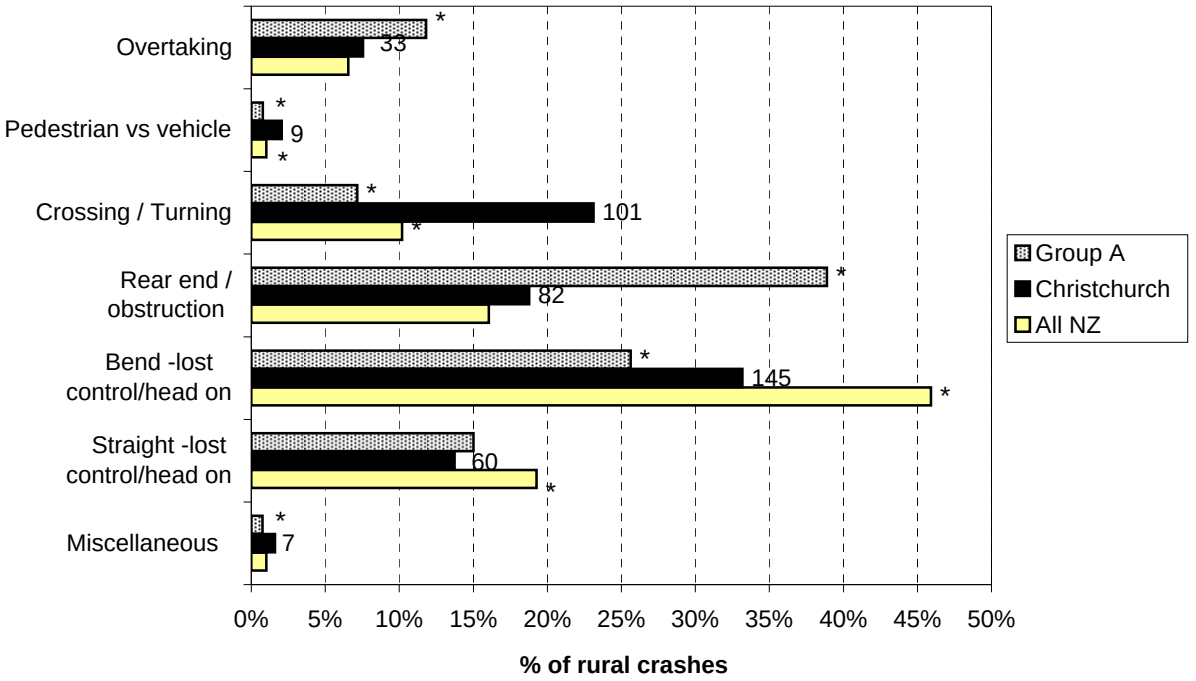
Crash Type Statistics

Figure 4.1 Crash movement type - urban Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 4.2 Crash movement type - rural Christchurch City roads (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 4.3 Crash movement type - trends
Christchurch City - urban roads

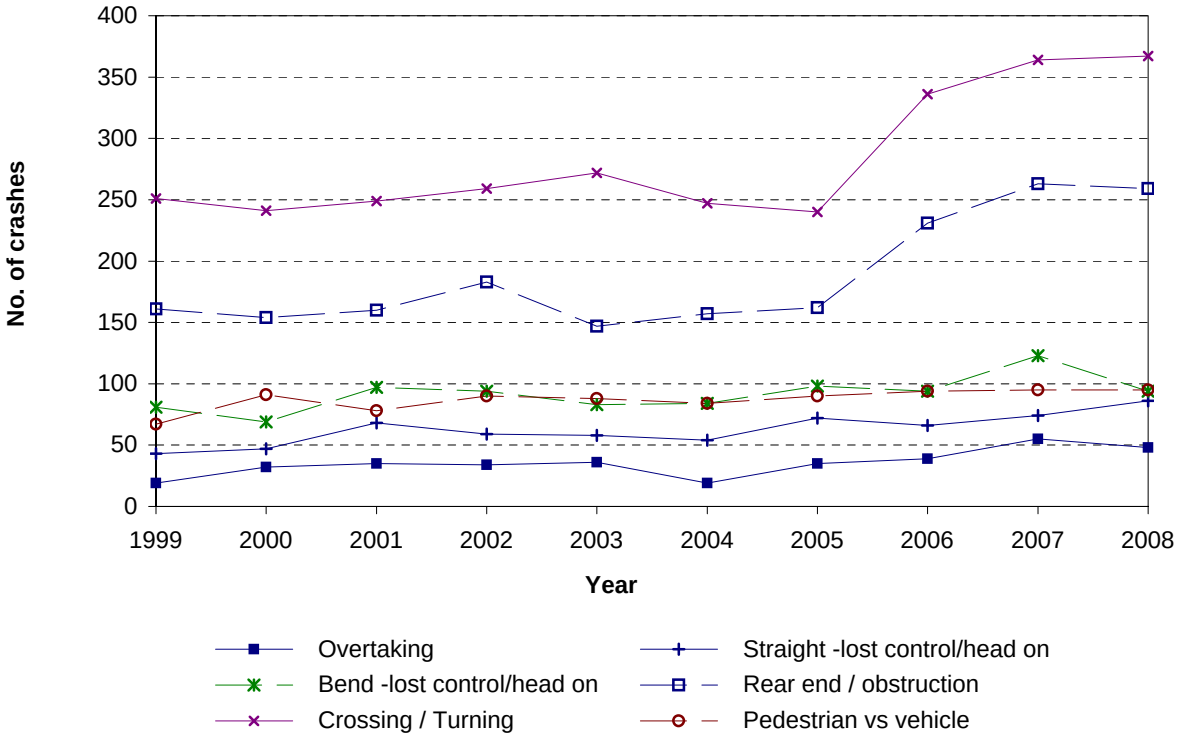


Figure 4.4 Crash movement type - trends
Christchurch City - rural roads

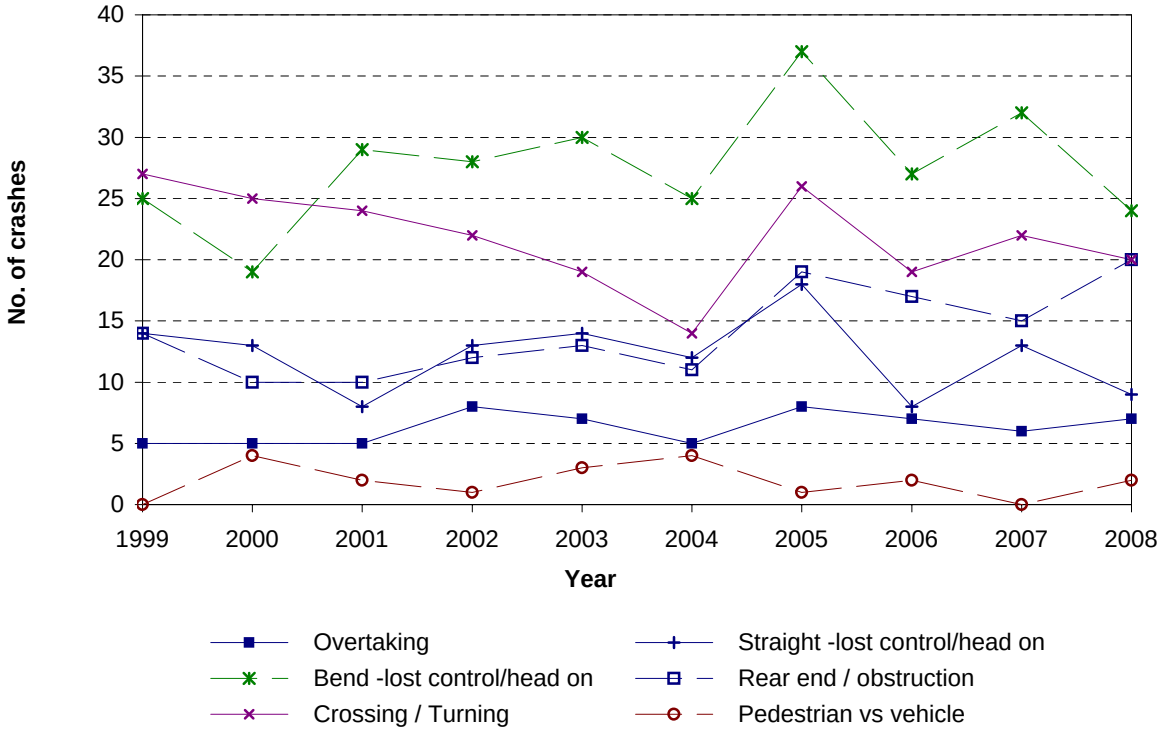
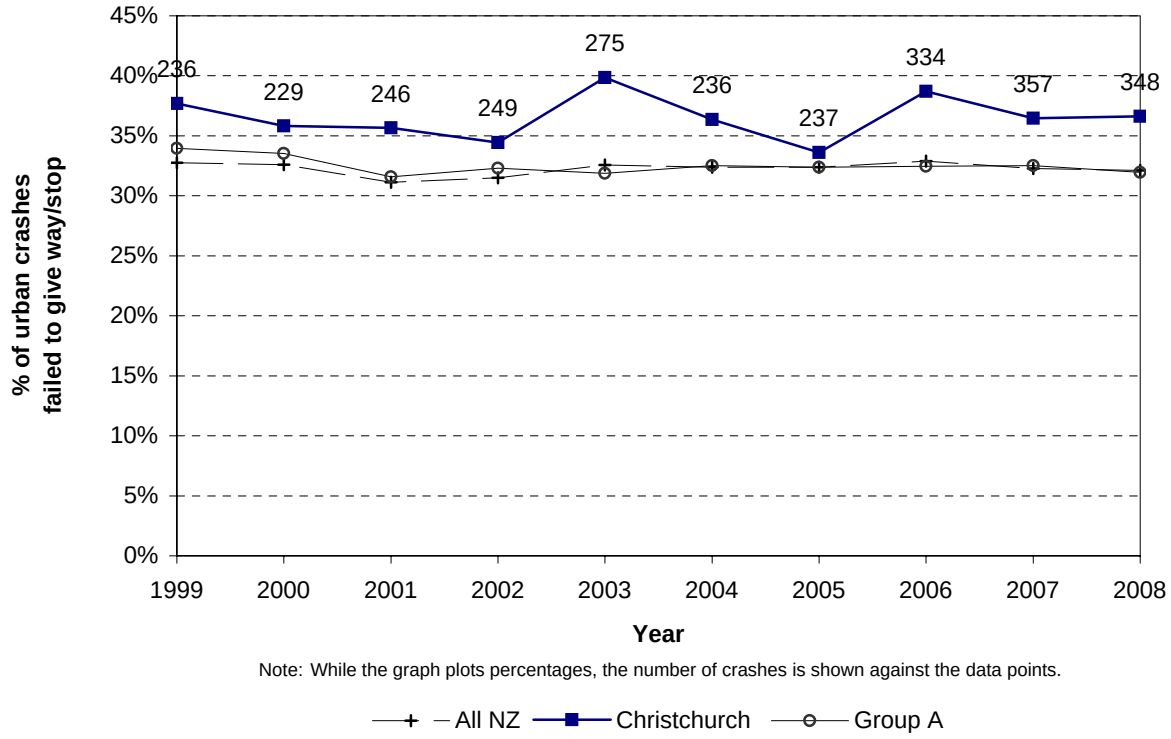
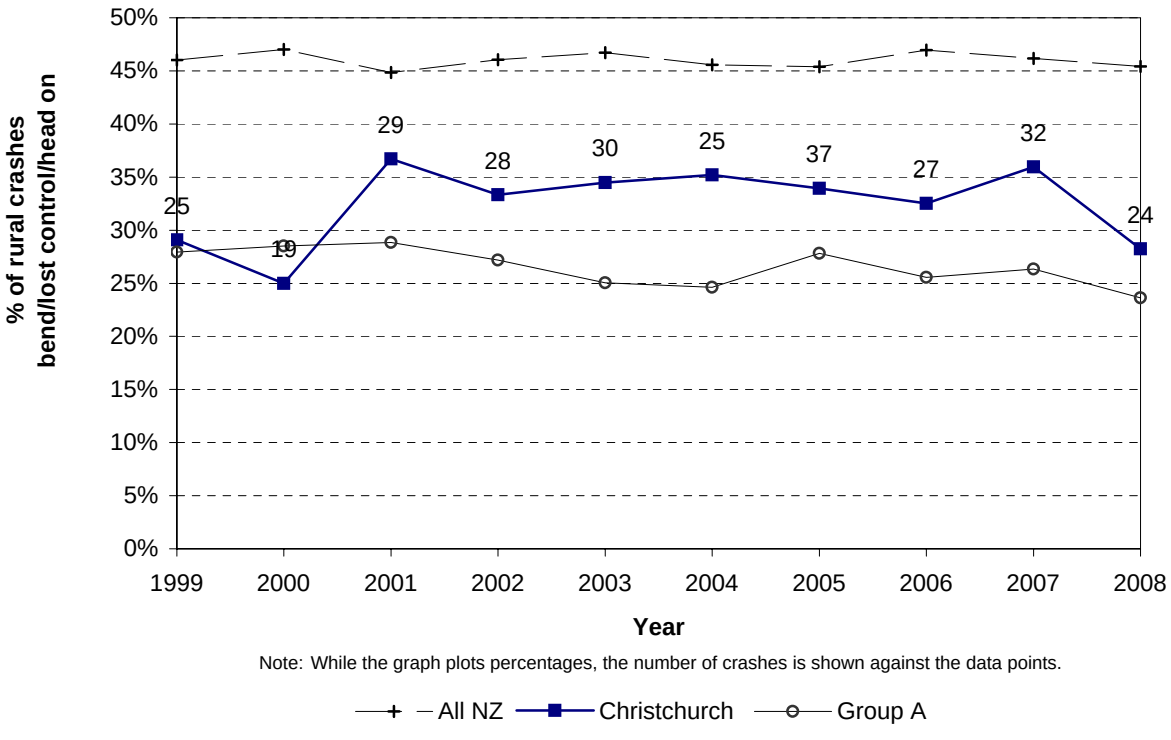


Figure 4.5 Failed to give way / stop
Christchurch City - urban roads



Note: While the graph plots percentages, the number of crashes is shown against the data points.

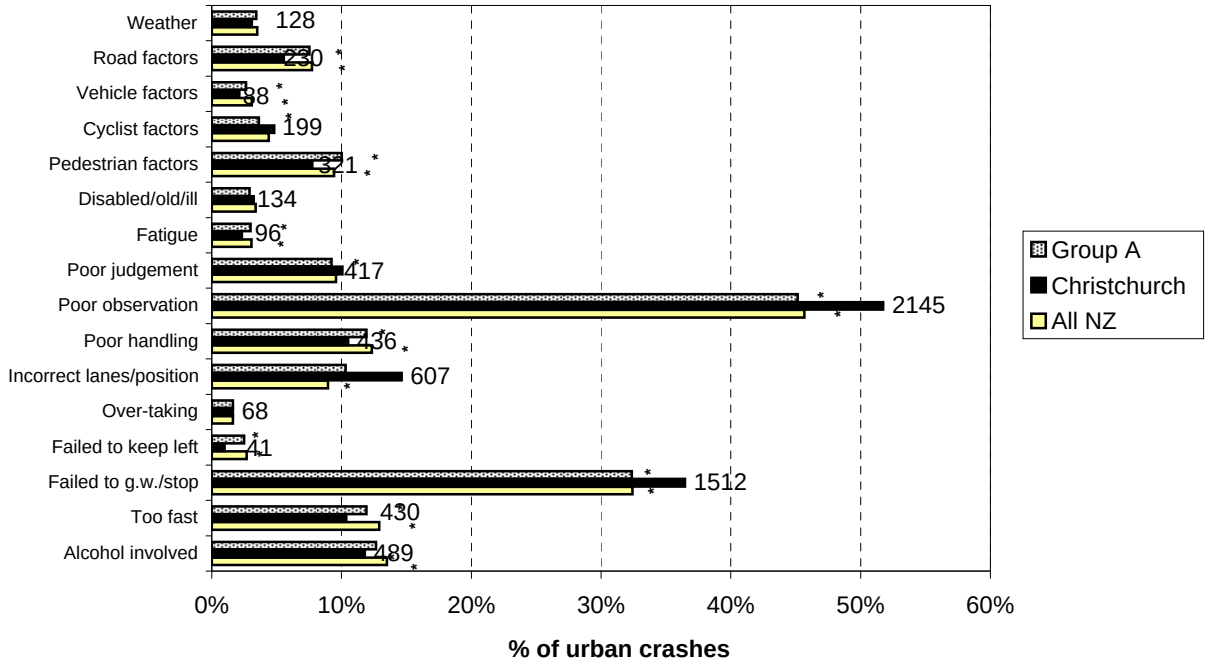
Figure 4.6 Bend - lost control / head - on
Christchurch City - rural roads



Note: While the graph plots percentages, the number of crashes is shown against the data points.

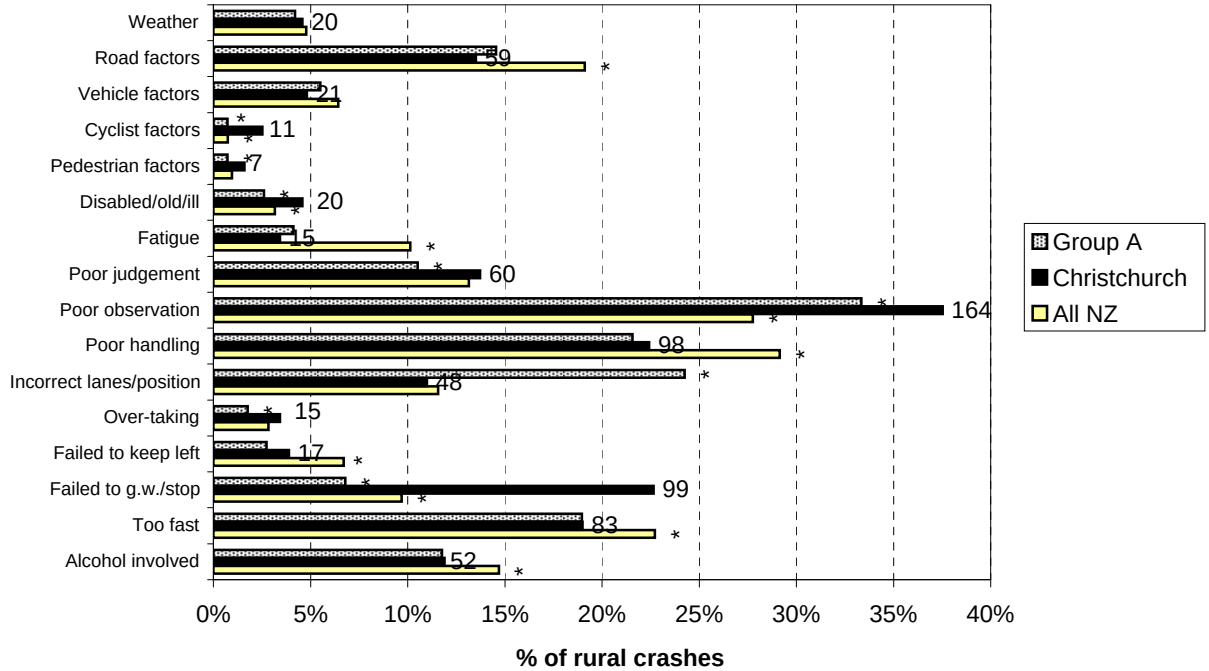
Crash Factor Statistics

Figure 5.1 Contributing factors - urban Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 5.2 Contributing factors - rural Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 5.3 Contributing factor trends
Christchurch City - urban roads

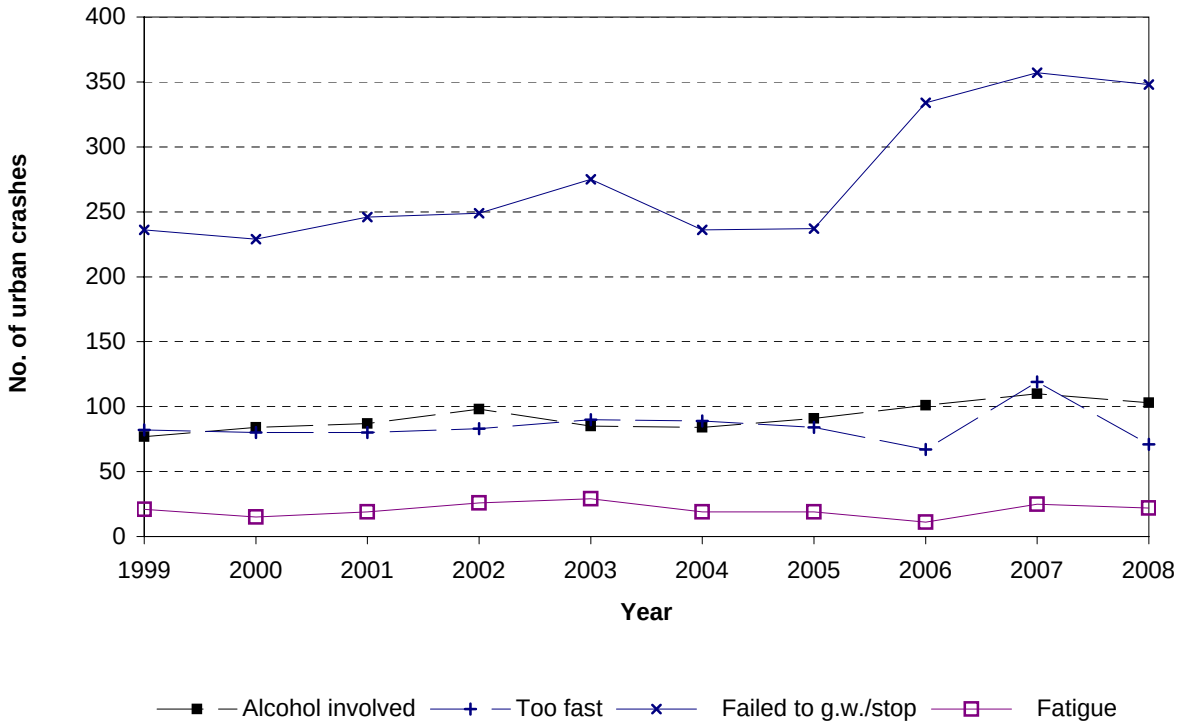


Figure 5.4 Contributing factor trends
Christchurch City - urban roads

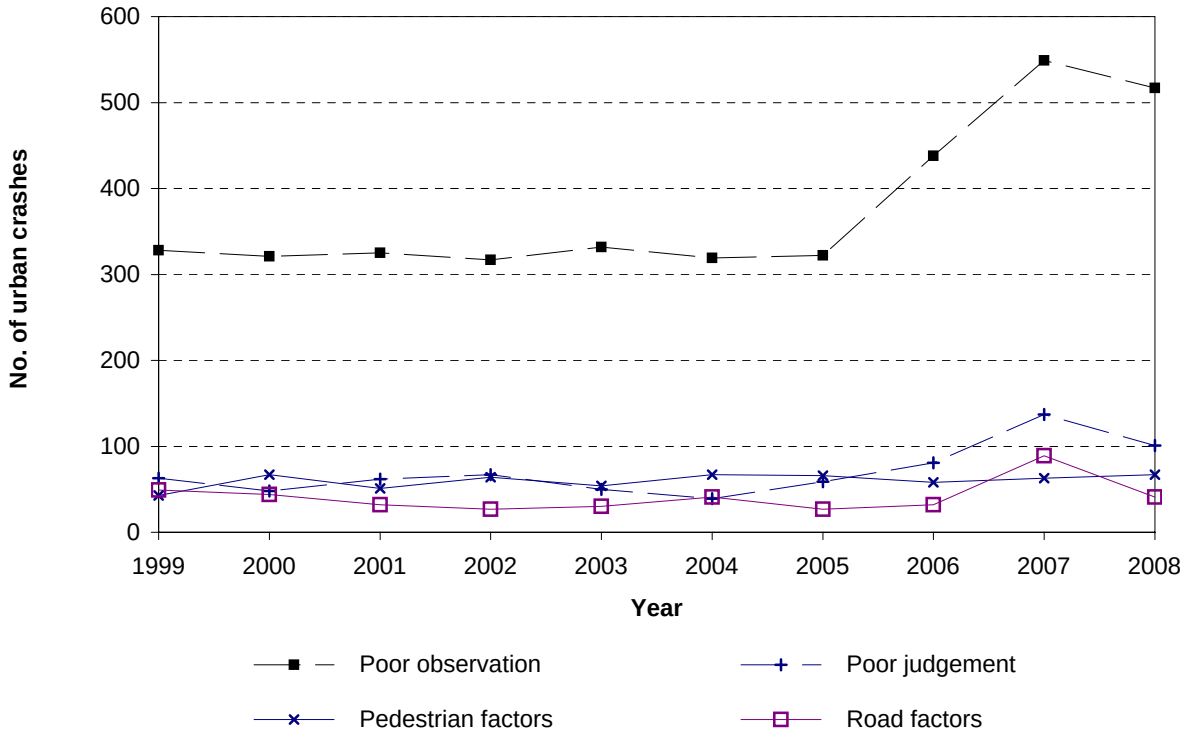


Figure 5.5 Contributing factor trends
Christchurch City - urban roads

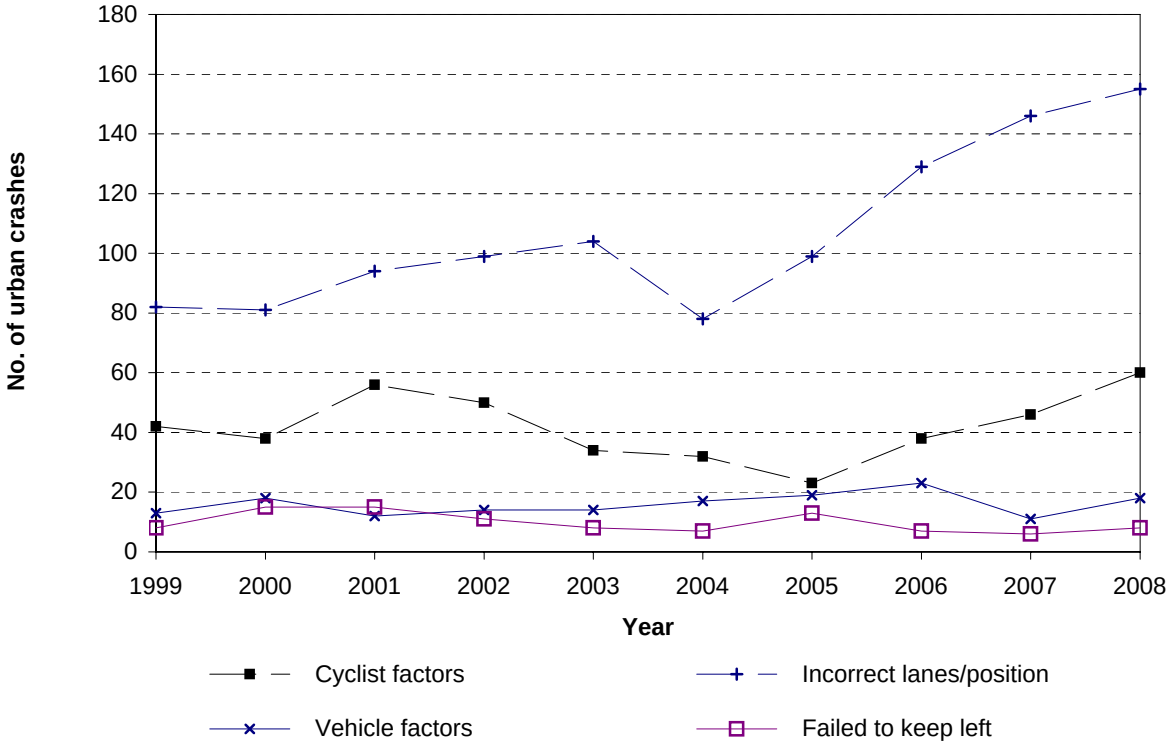


Figure 5.6 Contributing factor trends
Christchurch City - urban roads

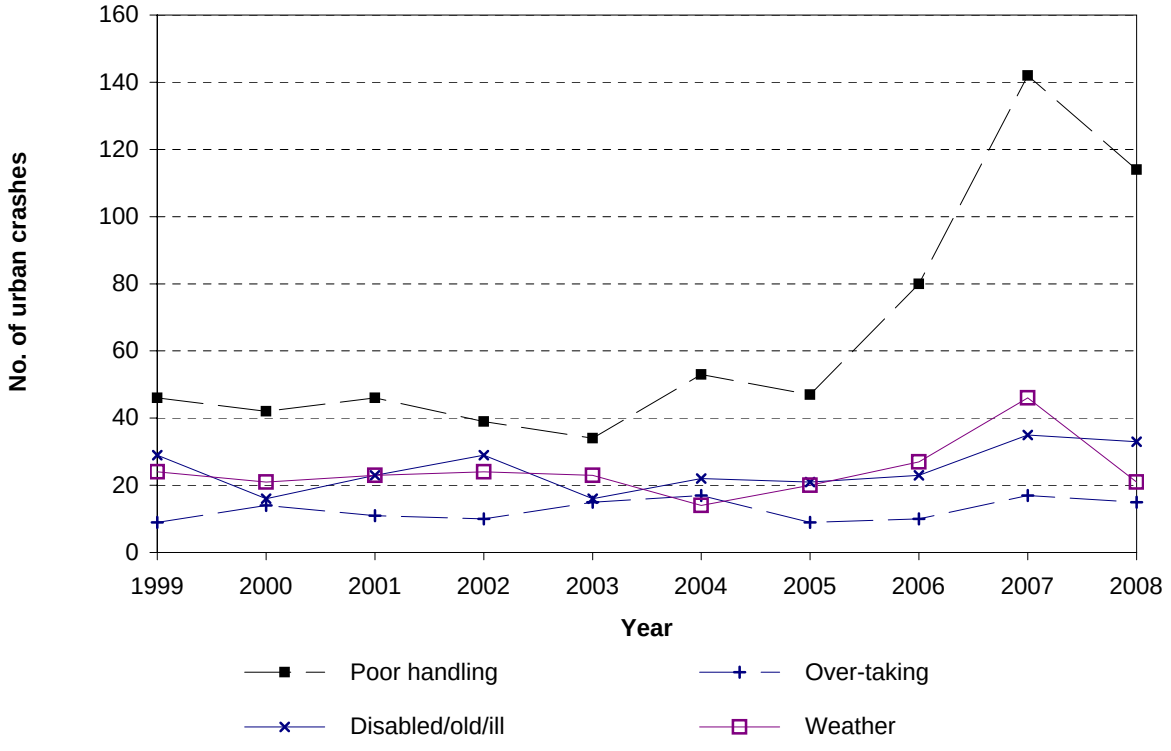
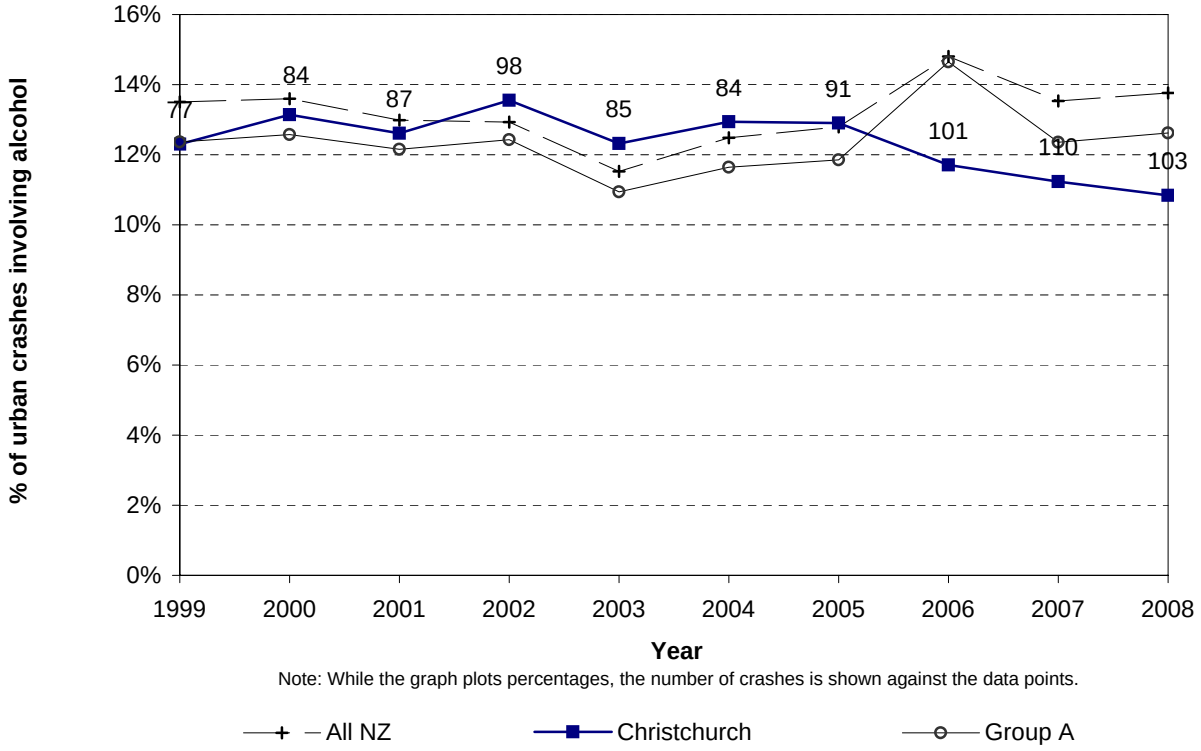
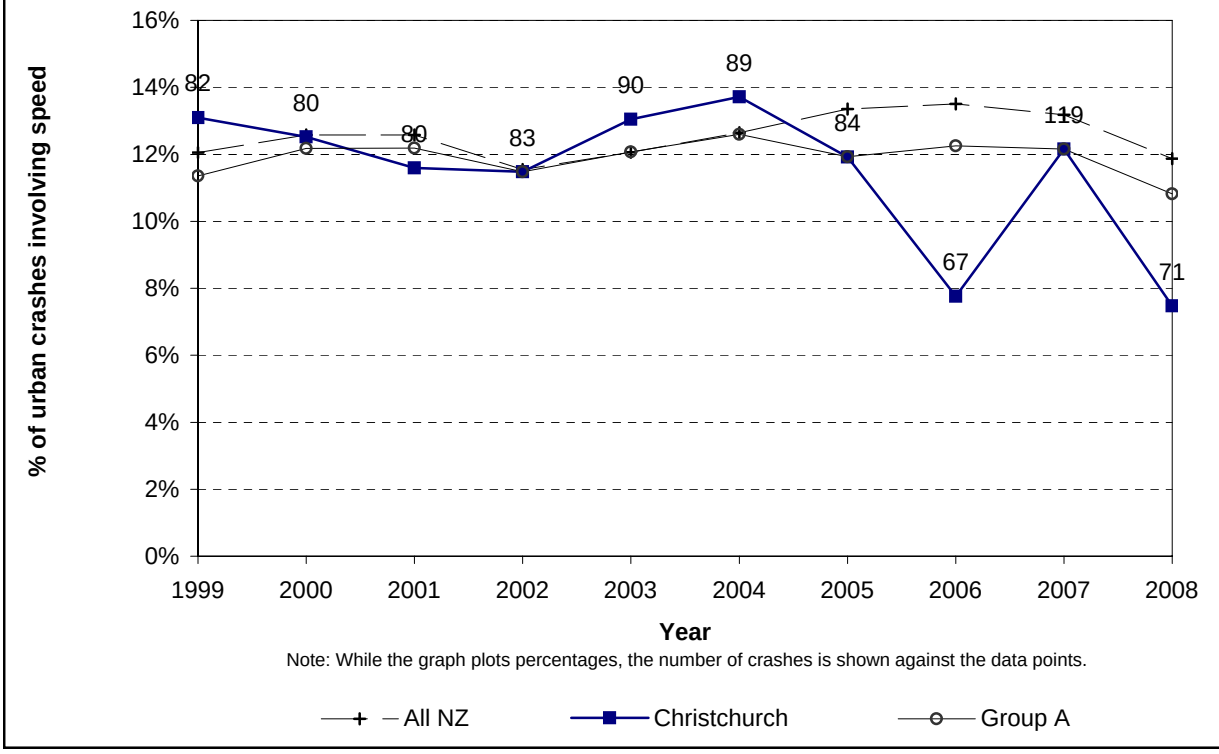


Figure 5.7 Alcohol involved trend
Christchurch City - urban roads



Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 5.8 Speed involved trend
Christchurch City - urban roads



Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 5.9 Contributing factor trends
Christchurch City - rural roads

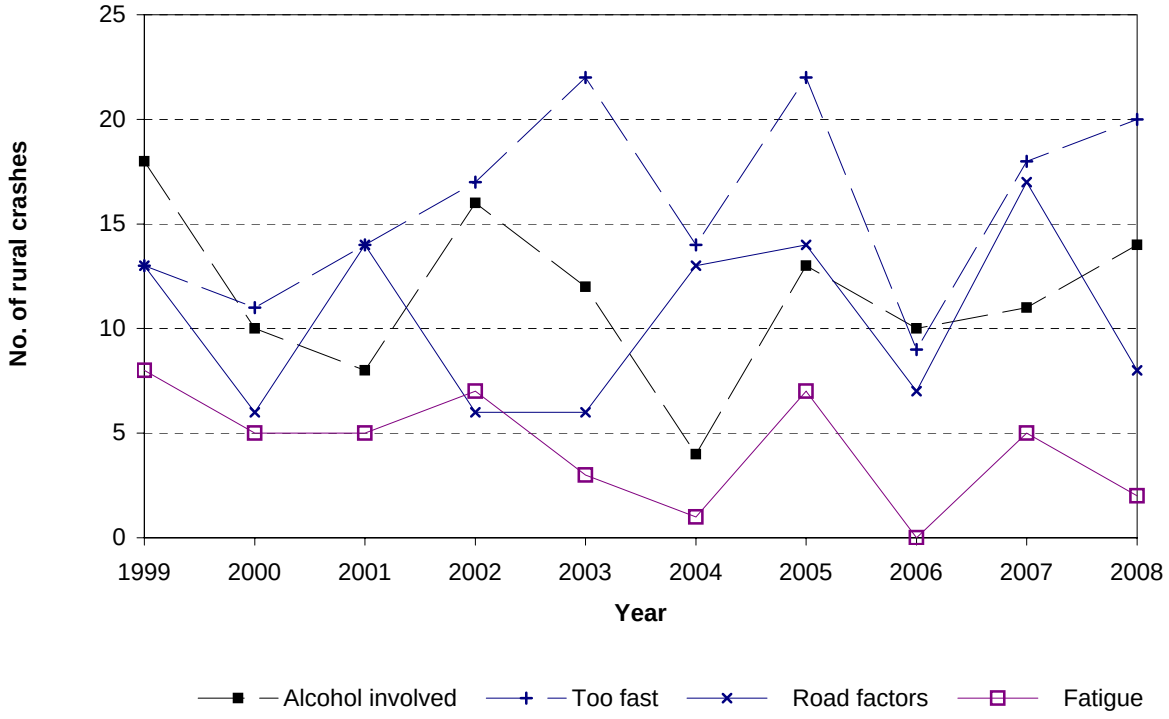


Figure 5.10 Contributing factor trends
Christchurch City - rural roads

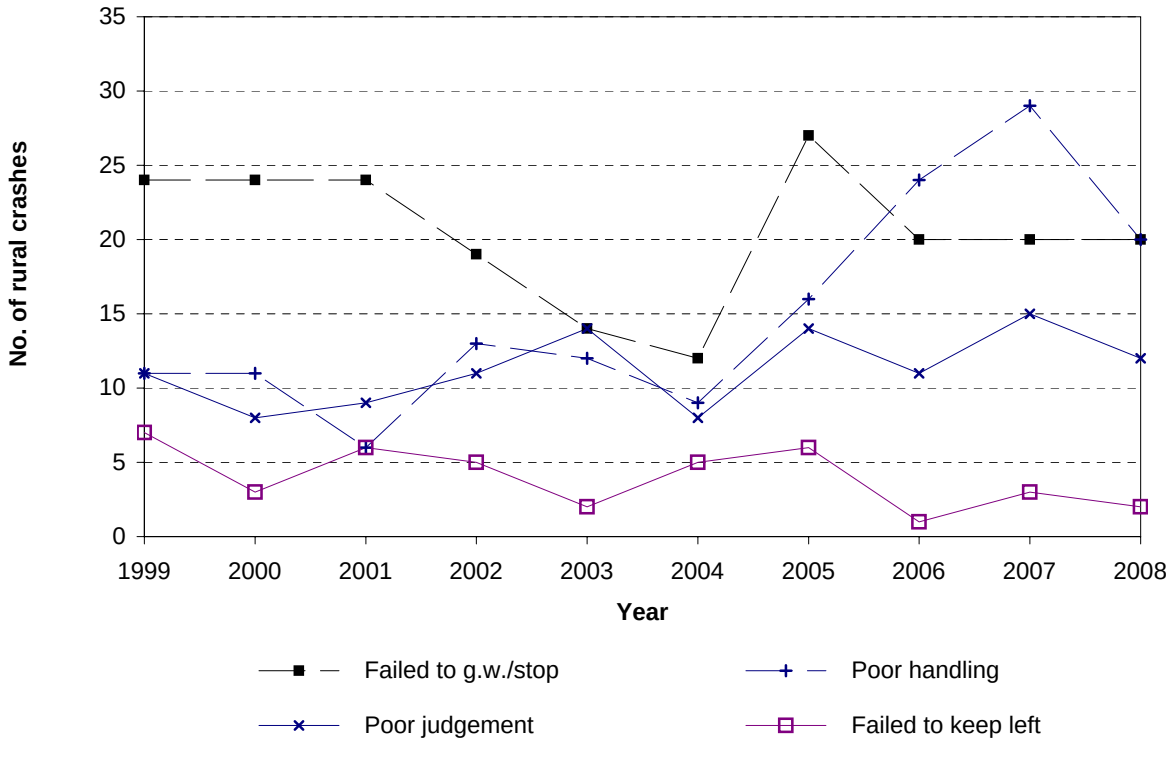


Figure 5.11 Contributing factor trends
Christchurch City - rural roads

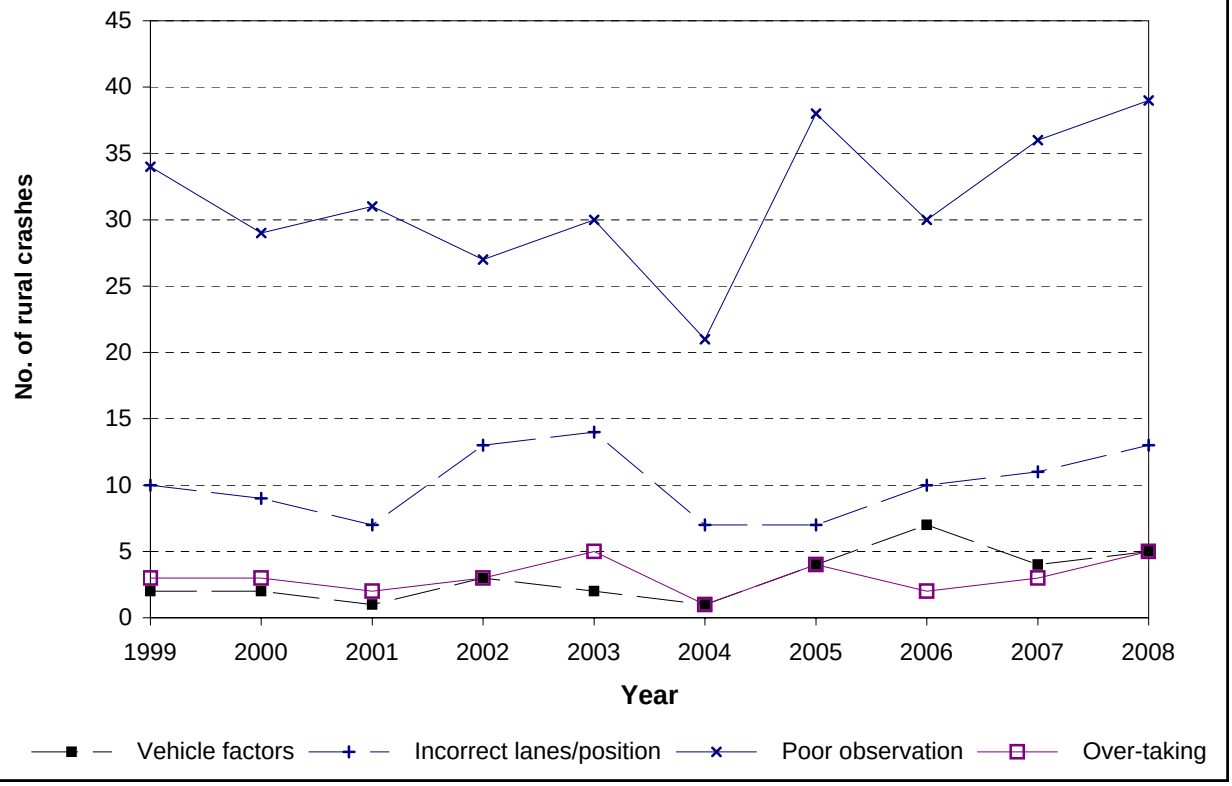


Figure 5.12 Contributing factor trends
Christchurch City - rural roads

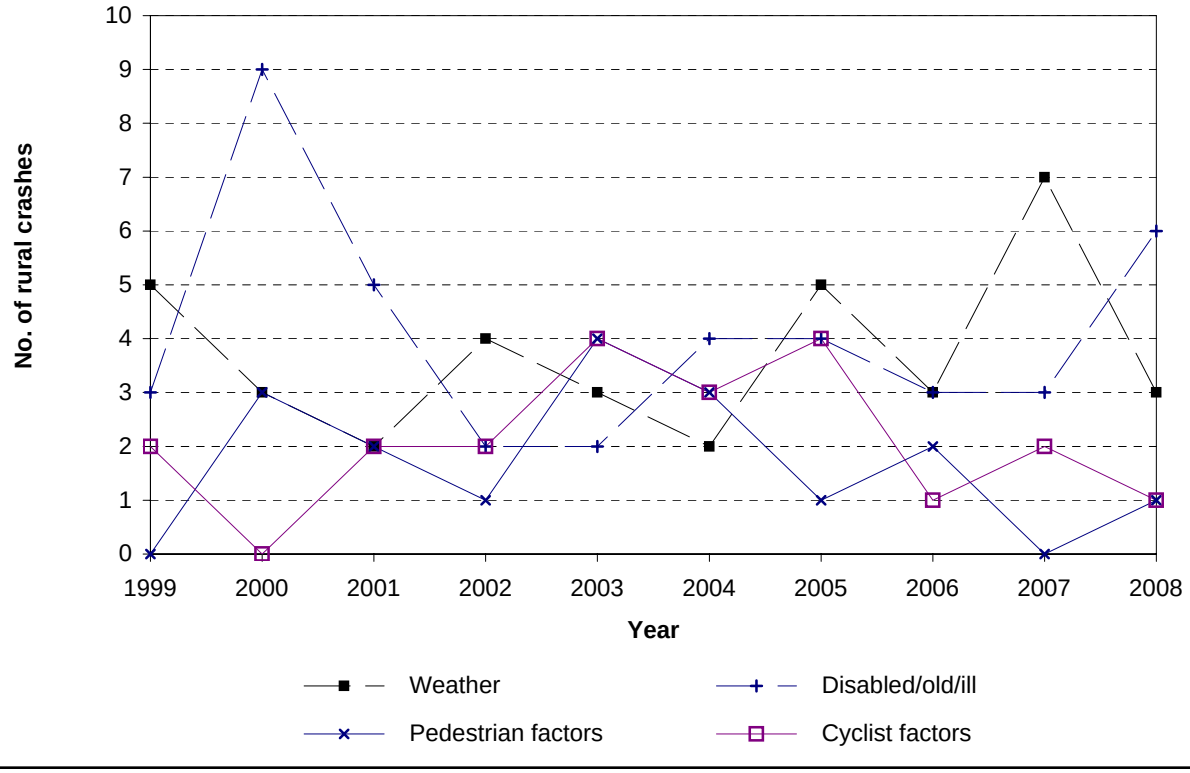
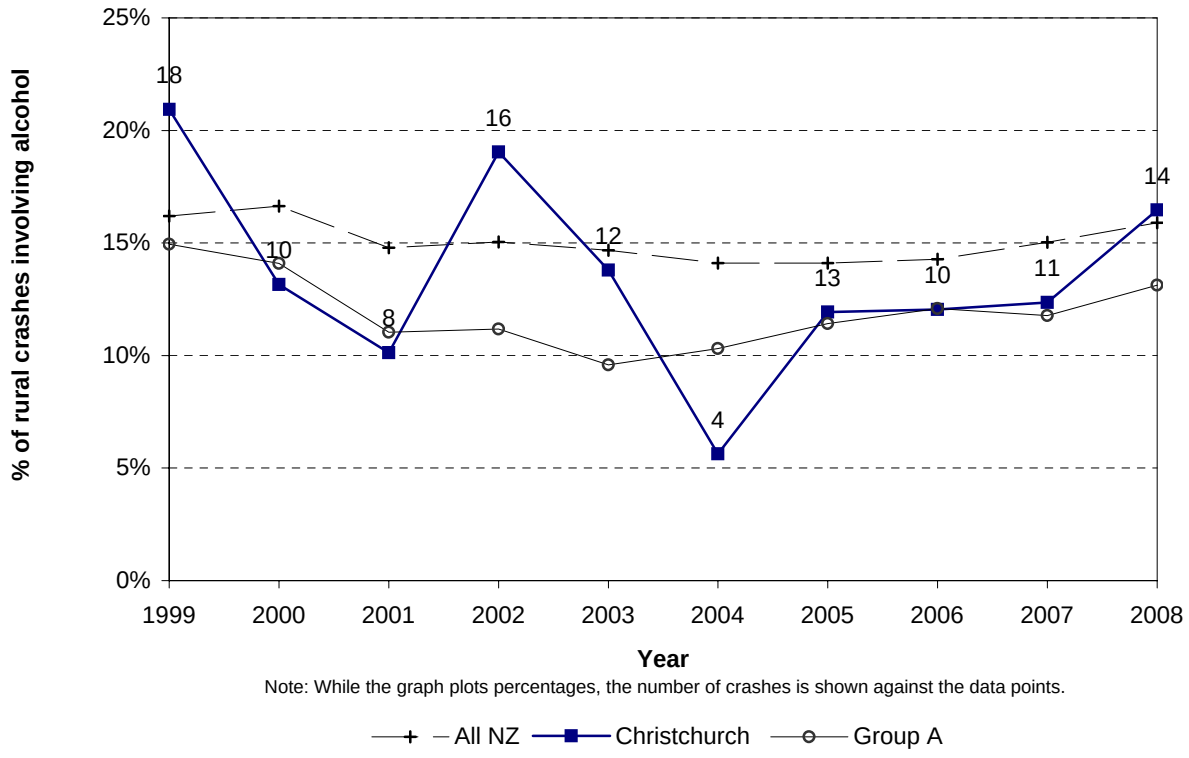
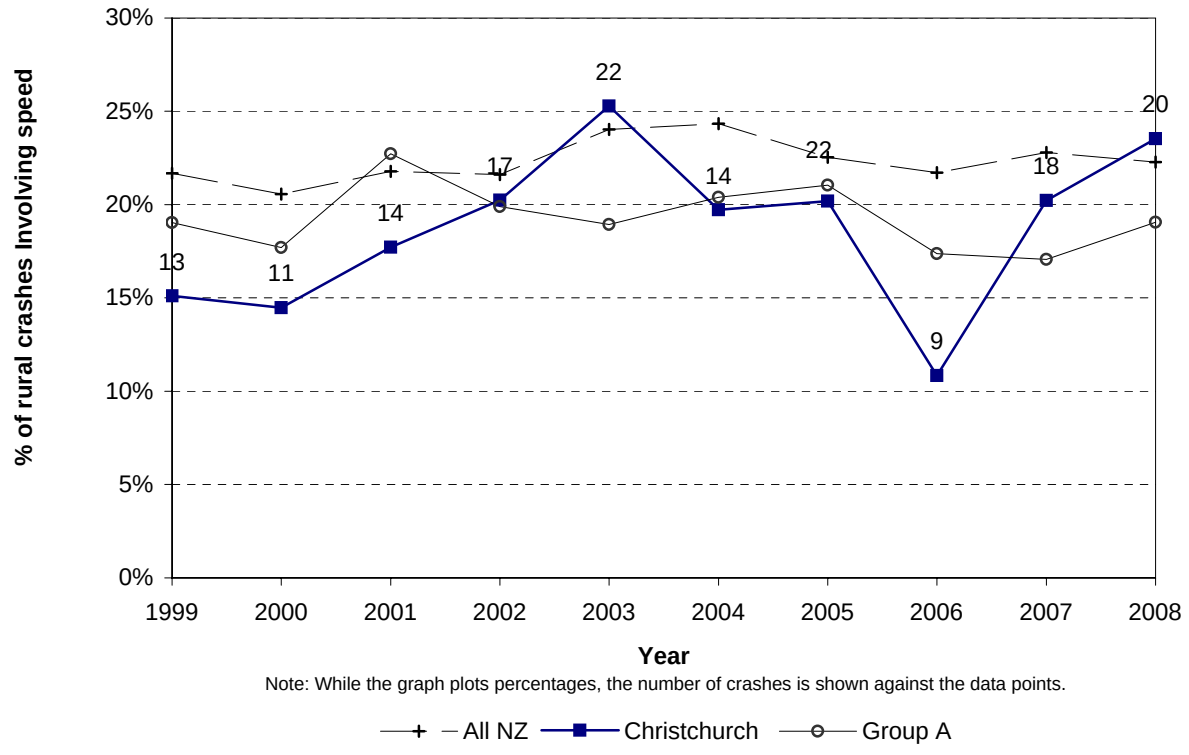


Figure 5.13 Alcohol involved trend
Christchurch City - rural roads



Note: While the graph plots percentages, the number of crashes is shown against the data points.

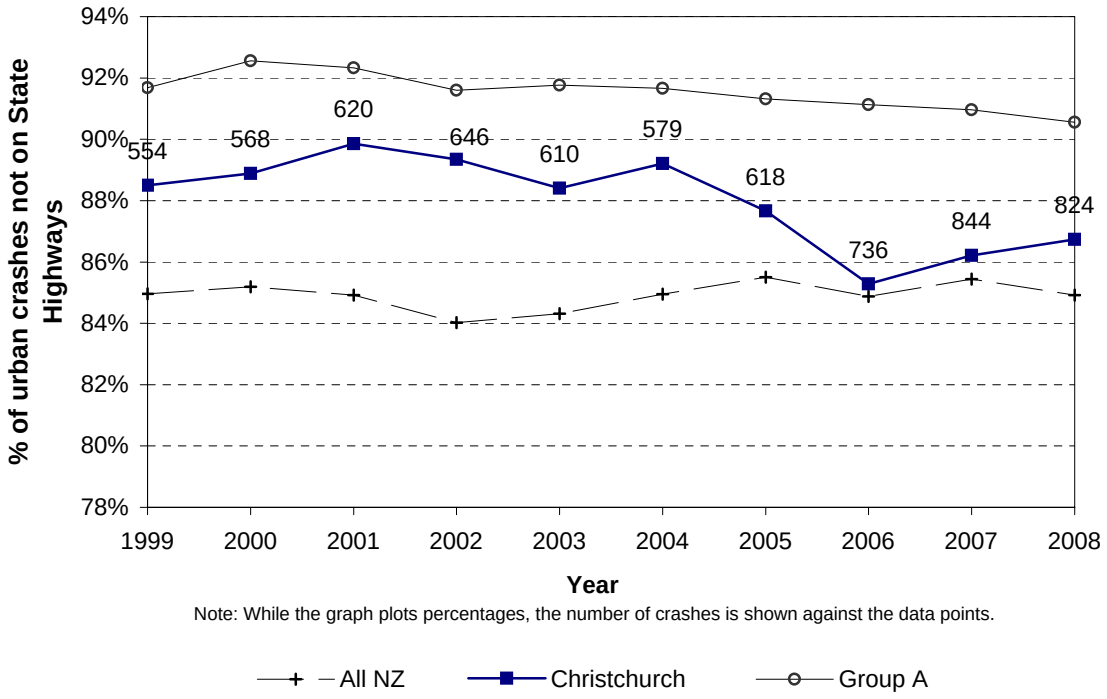
Figure 5.14 Speed involved trend
Christchurch City - rural roads



Note: While the graph plots percentages, the number of crashes is shown against the data points.

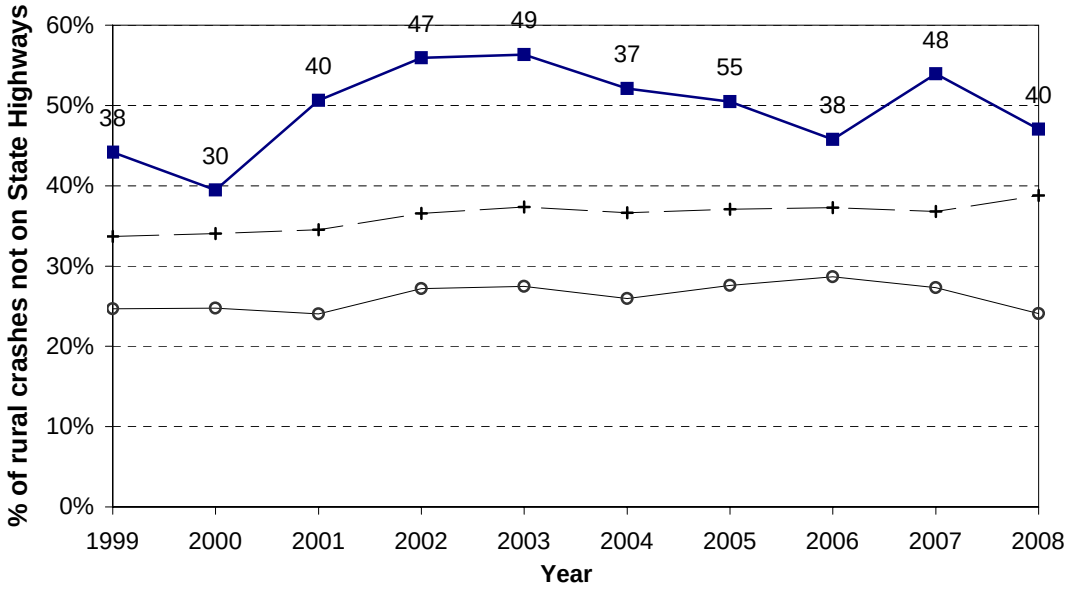
Environmental Statistics

Figure 6.1 Crashes not on state highways
Christchurch City - urban roads



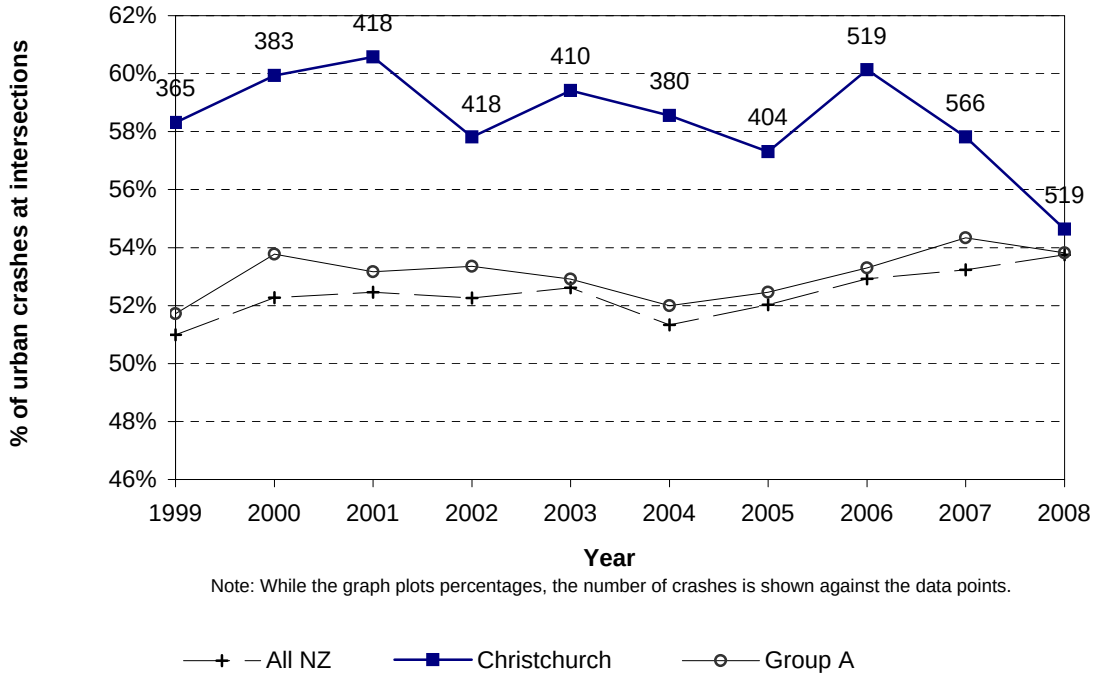
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.2 Crashes not on state highways
Christchurch City - rural roads



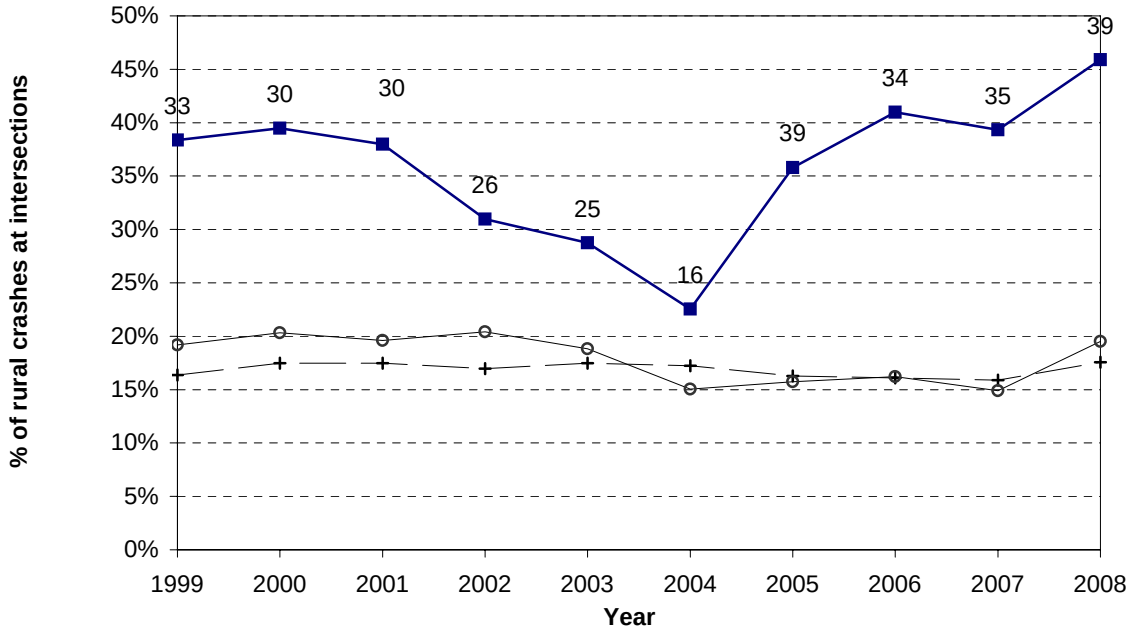
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.3 Intersection crashes
Christchurch City - urban roads



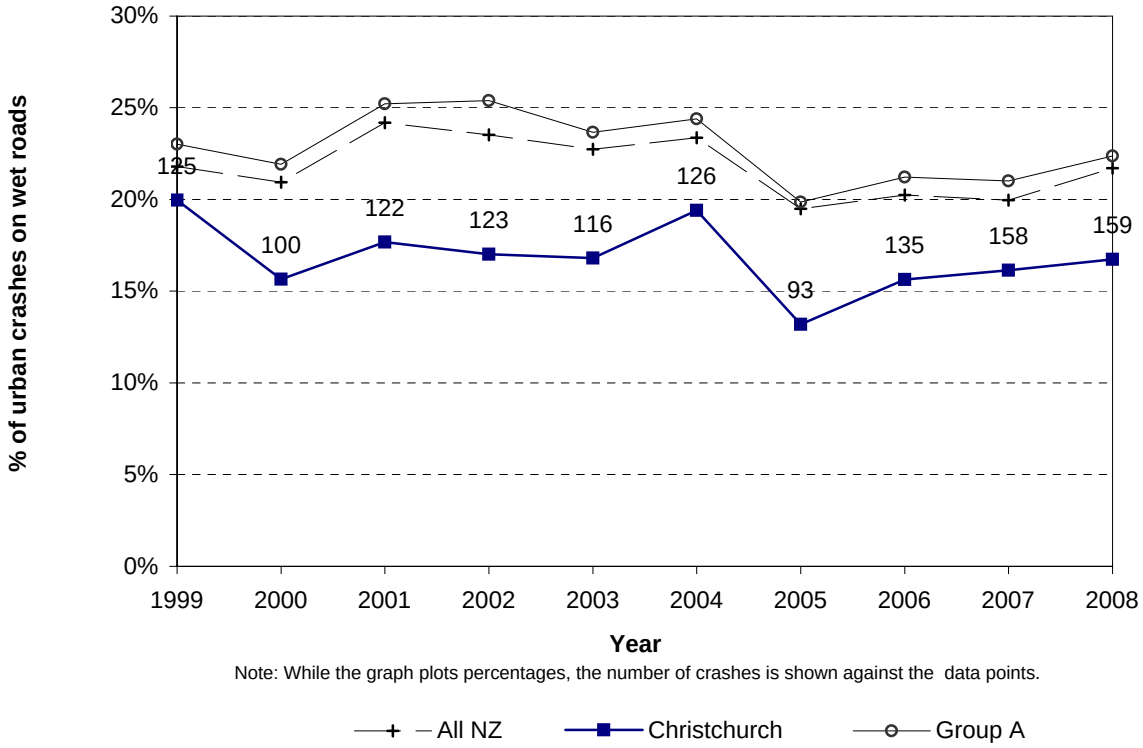
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.4 Intersection crashes
Christchurch City - rural roads



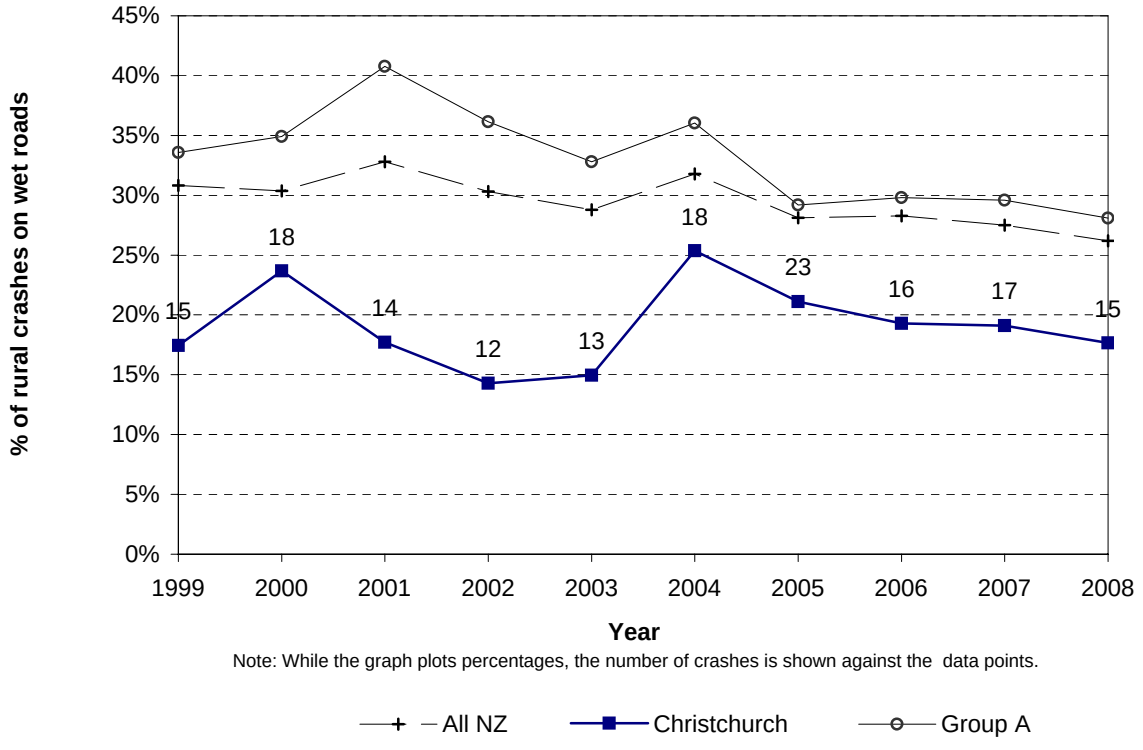
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.5 Wet road crashes
Christchurch City - urban roads



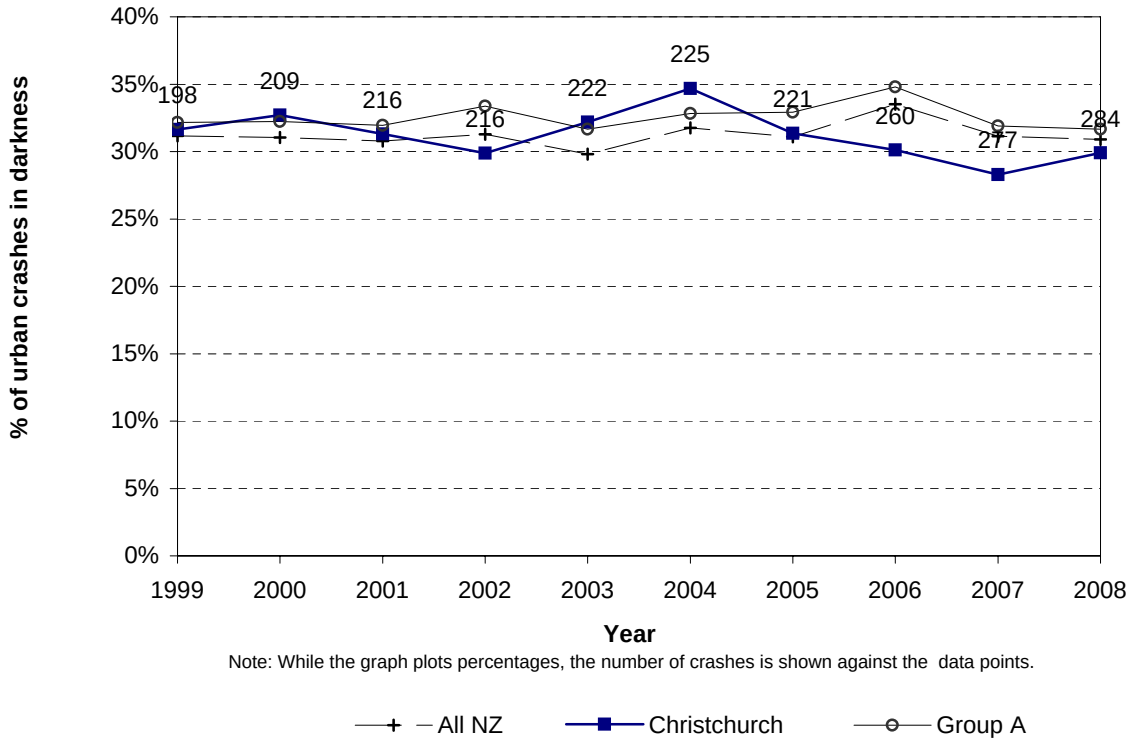
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.6 Wet road crashes
Christchurch City - rural roads



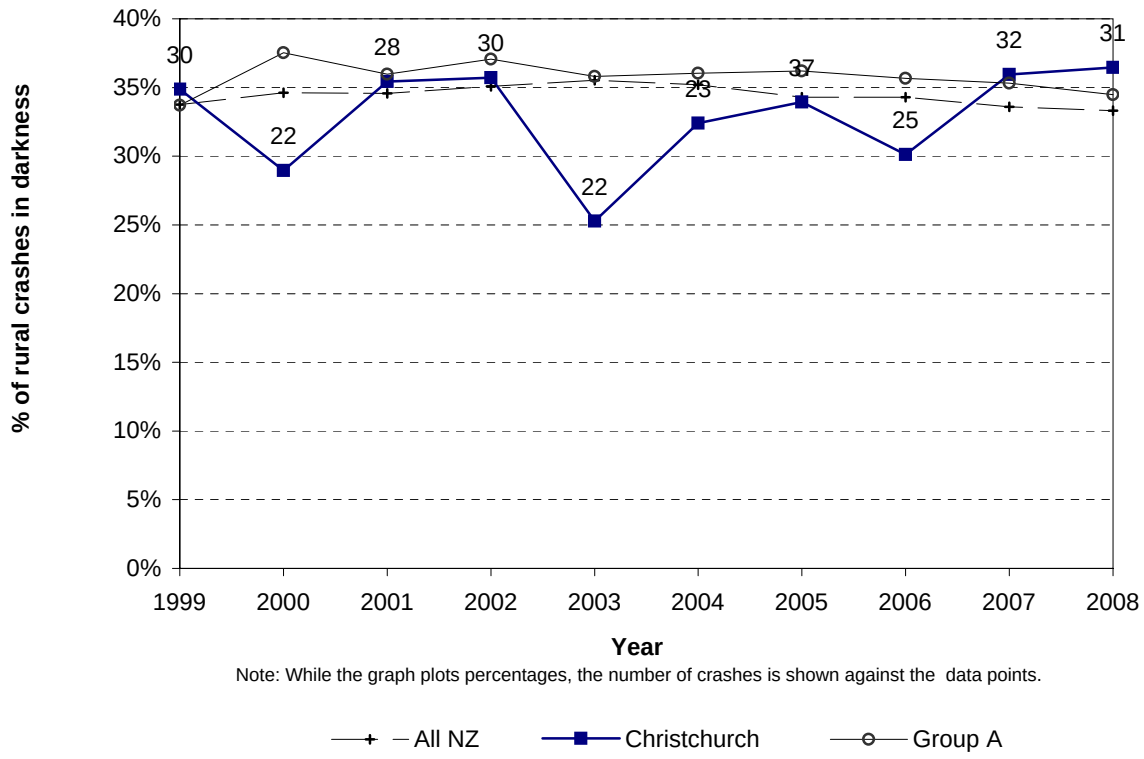
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.7 Crashes in darkness
Christchurch City - urban roads



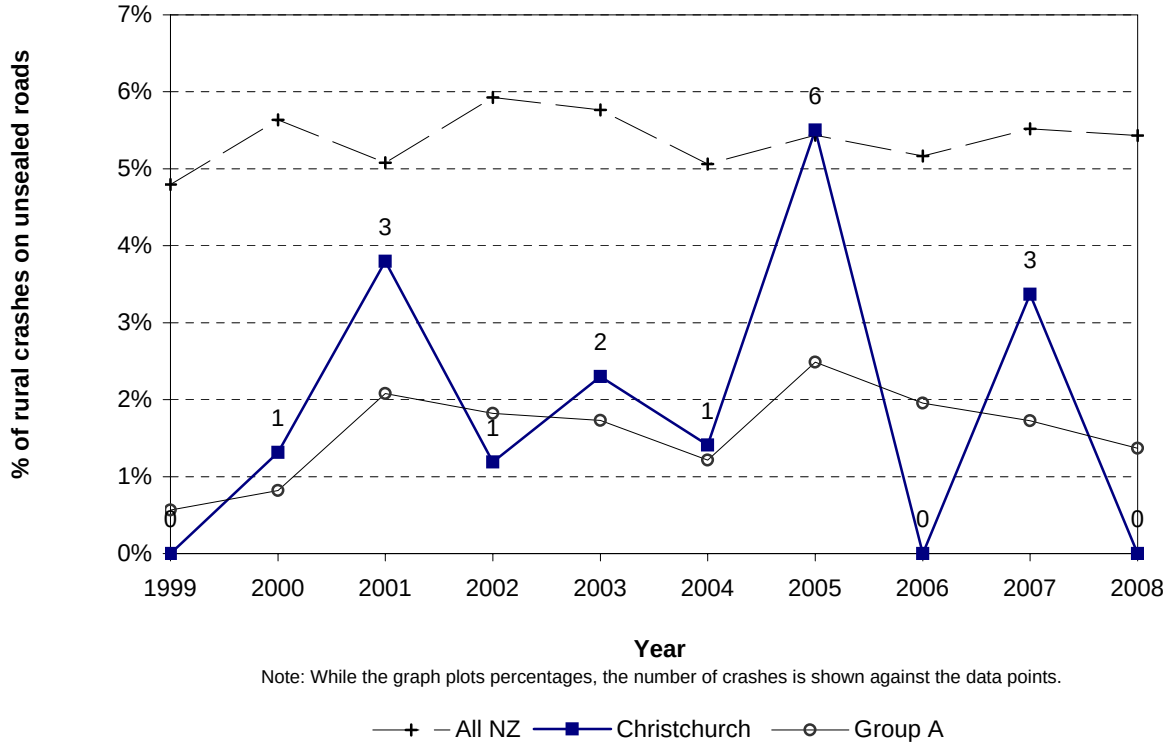
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.8 Crashes in darkness
Christchurch City - rural roads



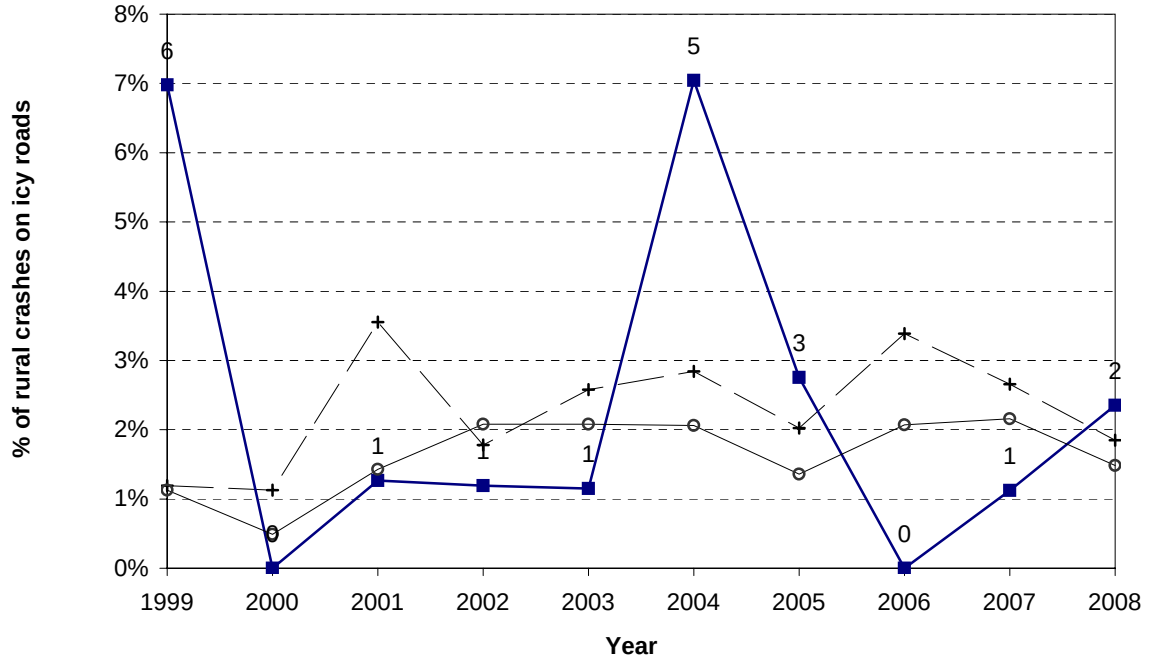
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.9 Unsealed road crashes
Christchurch City - rural roads



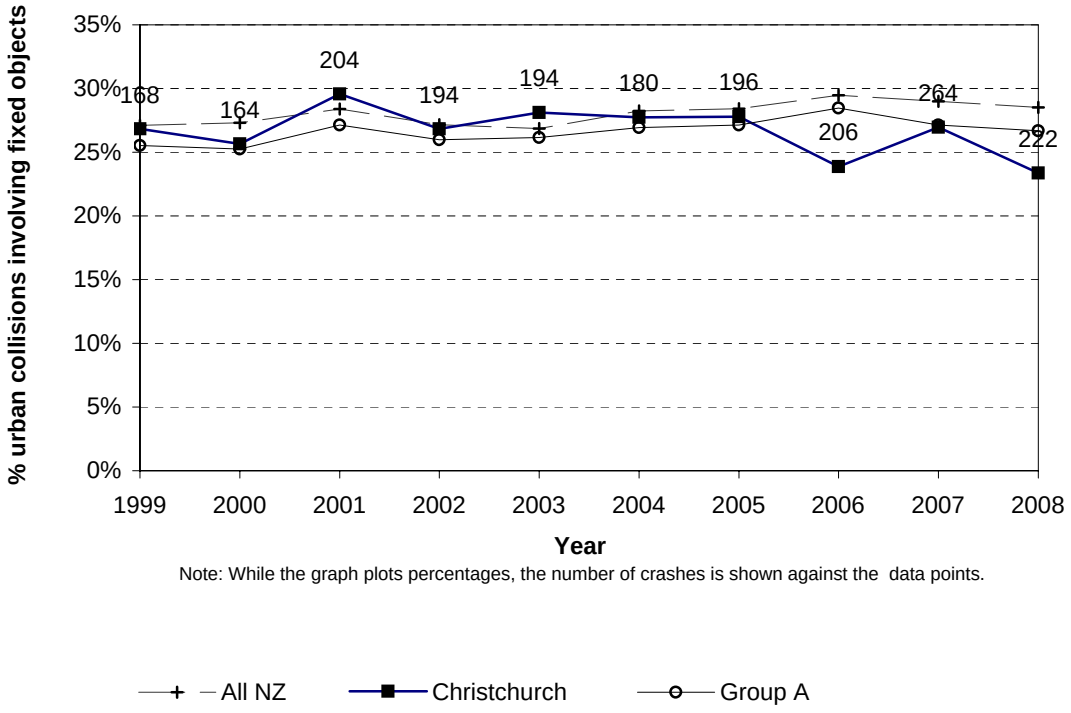
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.10 Icy road crashes
Christchurch City - rural roads



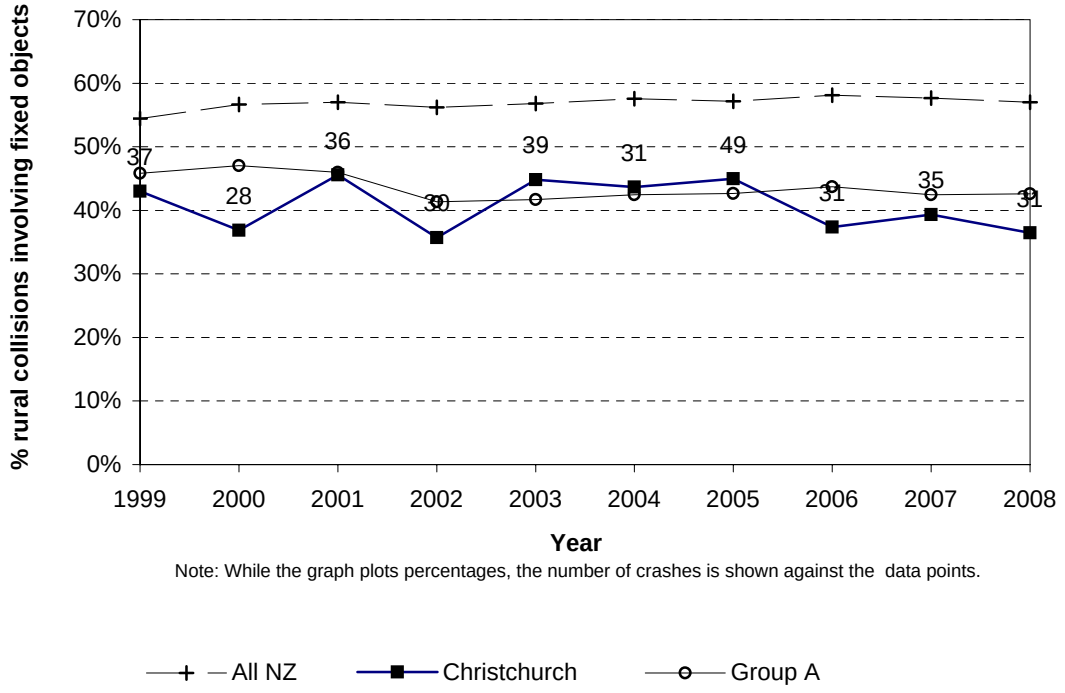
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.11 Collisions with objects
Christchurch City - urban roads



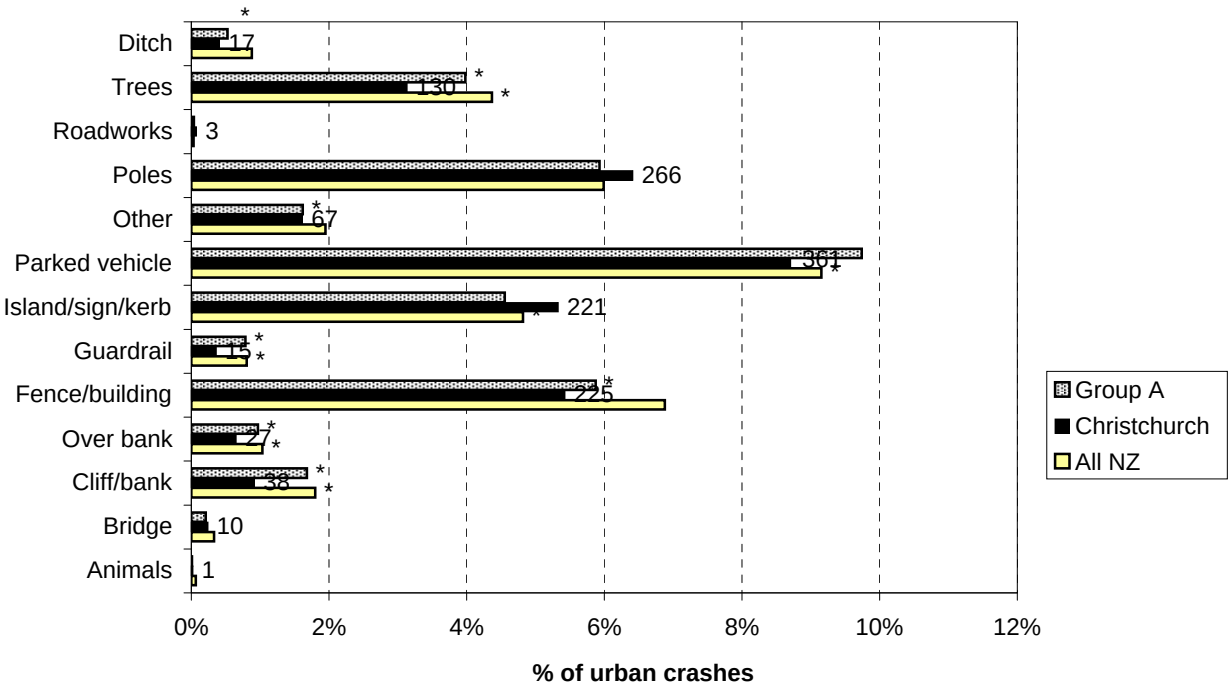
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.12 Collisions with objects
Christchurch City - rural roads



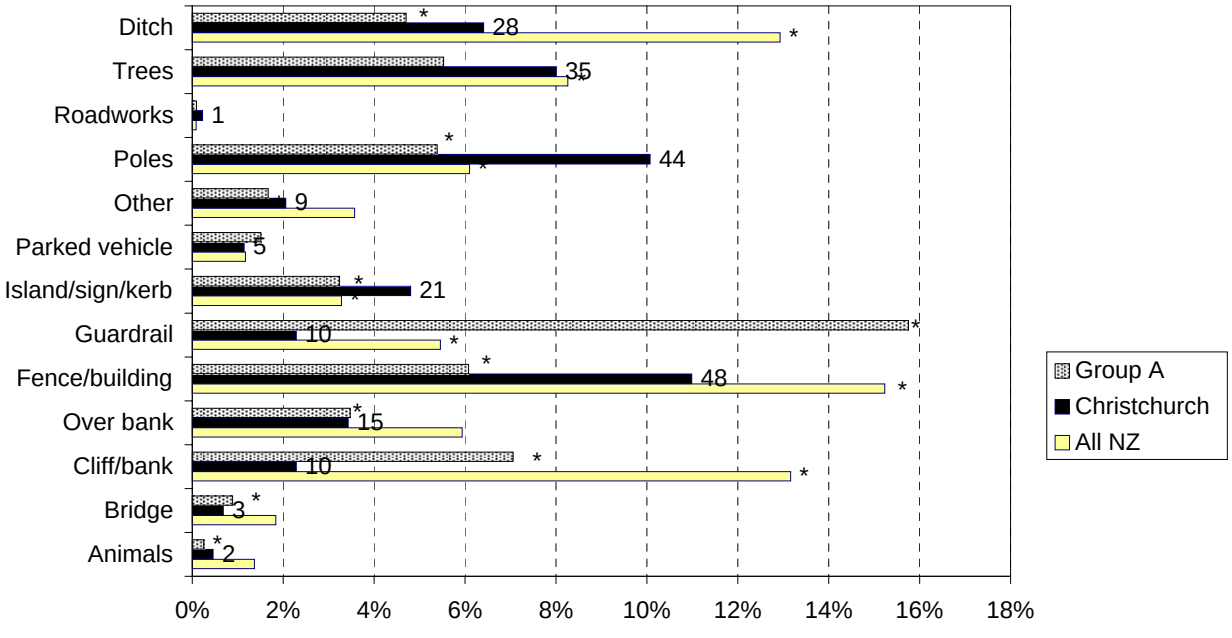
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.13 Objects struck - urban Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 6.14 Objects struck - rural Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Date and Time Statistics

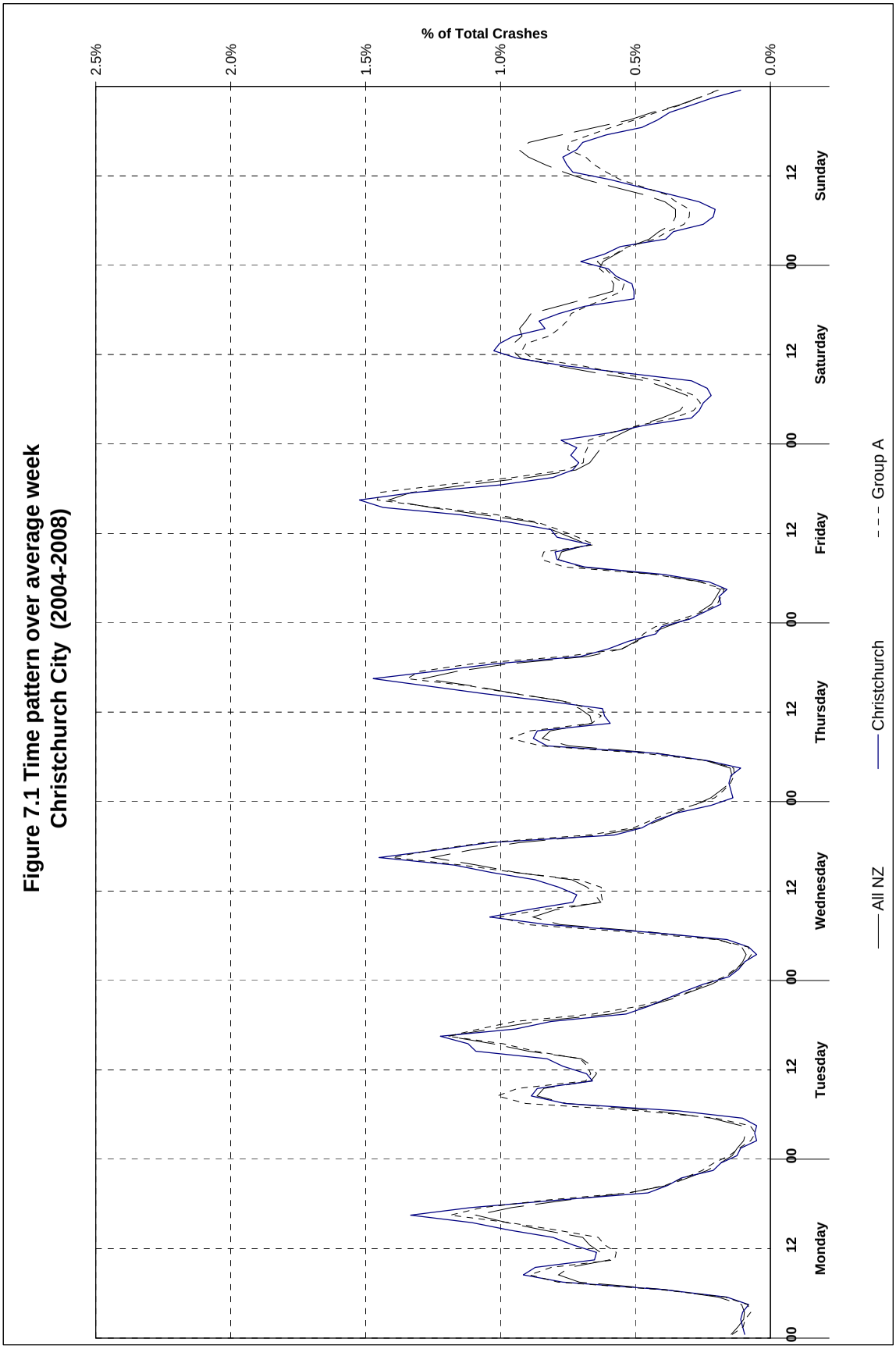
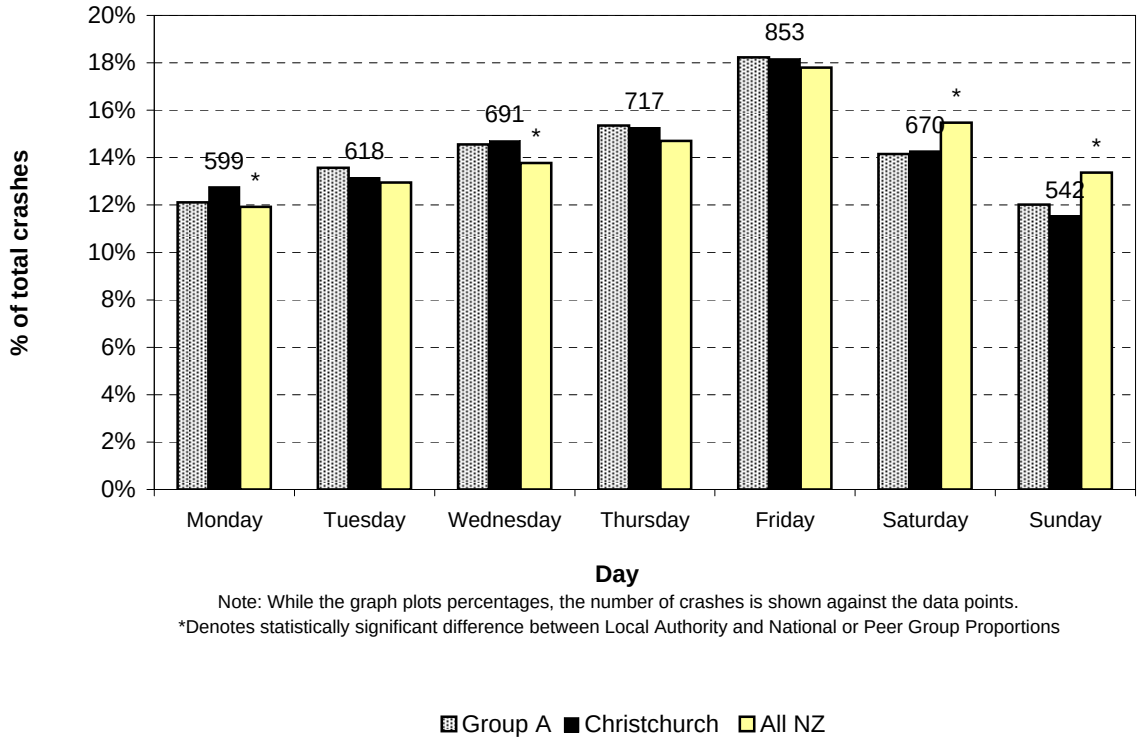


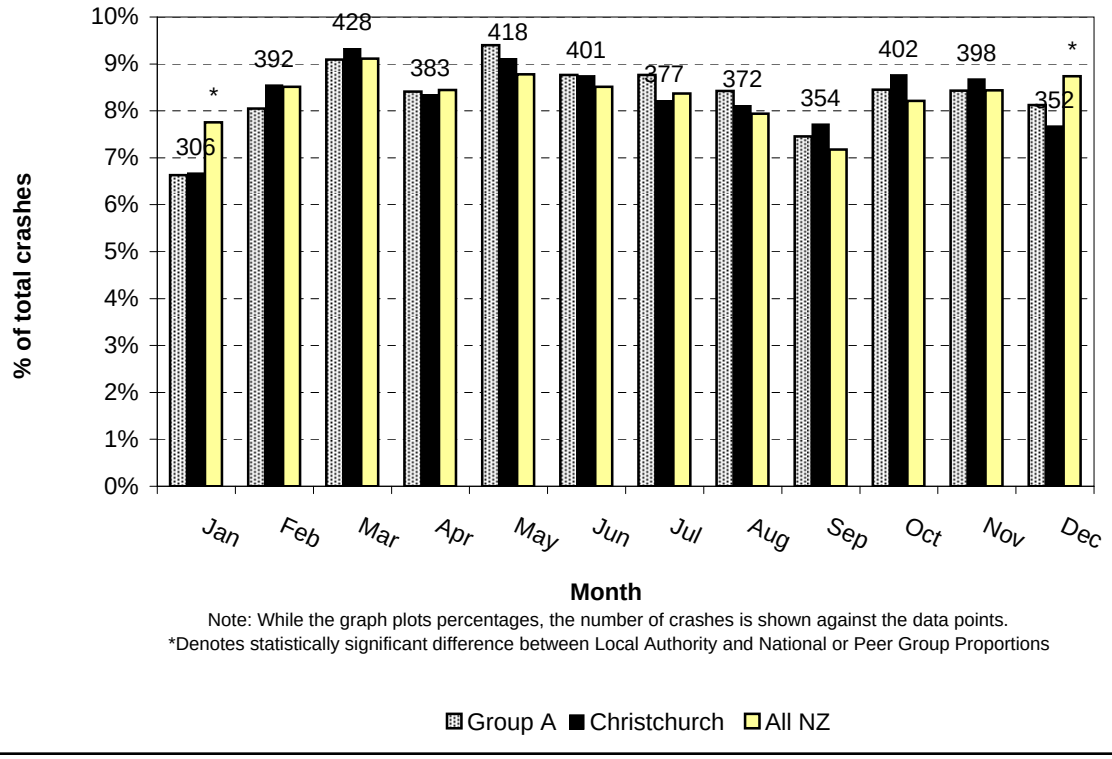
Figure 7.1 Time pattern over average week Christchurch City (2004-2008)

Figure 7.2 Day of week (6 a.m. to 6 a.m.)
Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 7.3 Month of year
Christchurch City (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Local Road Statistics

Figure 8.1 Number of injury crashes
Christchurch City - council roads (urban & rural)

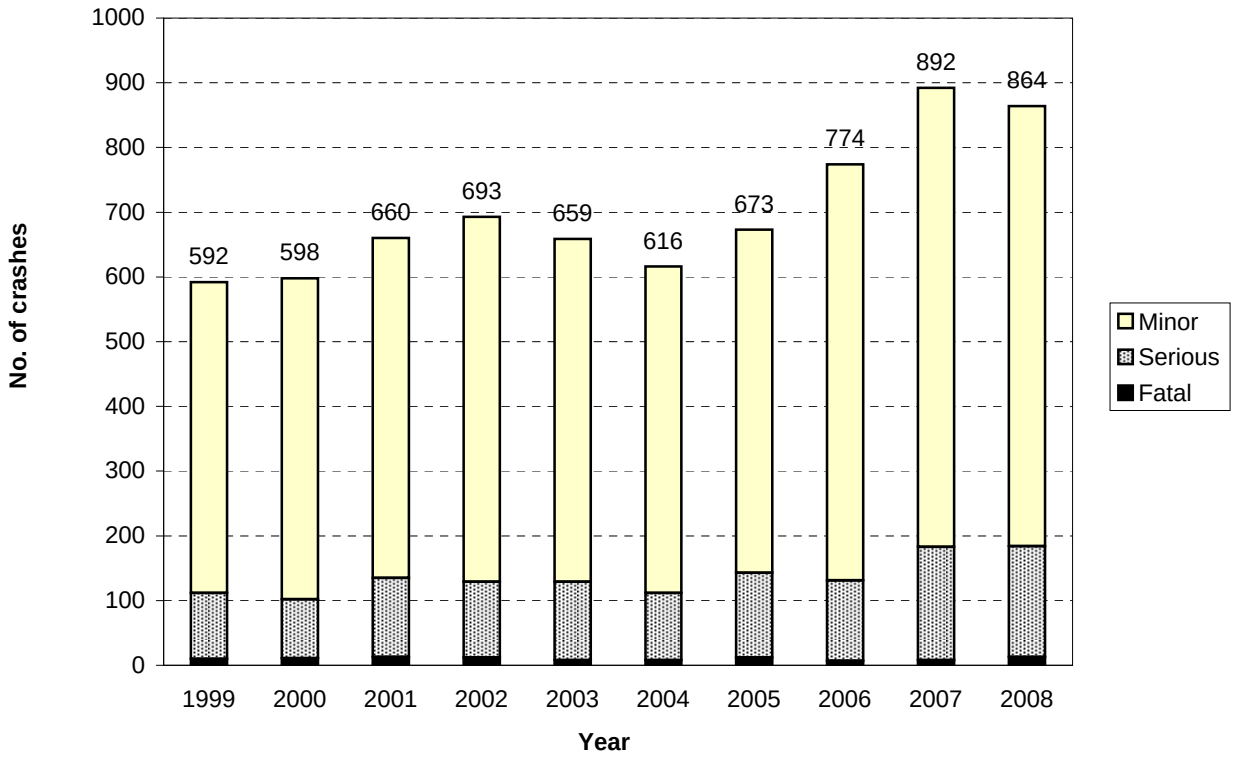


Figure 8.2 Number of casualties
Christchurch City - council roads (urban & rural)

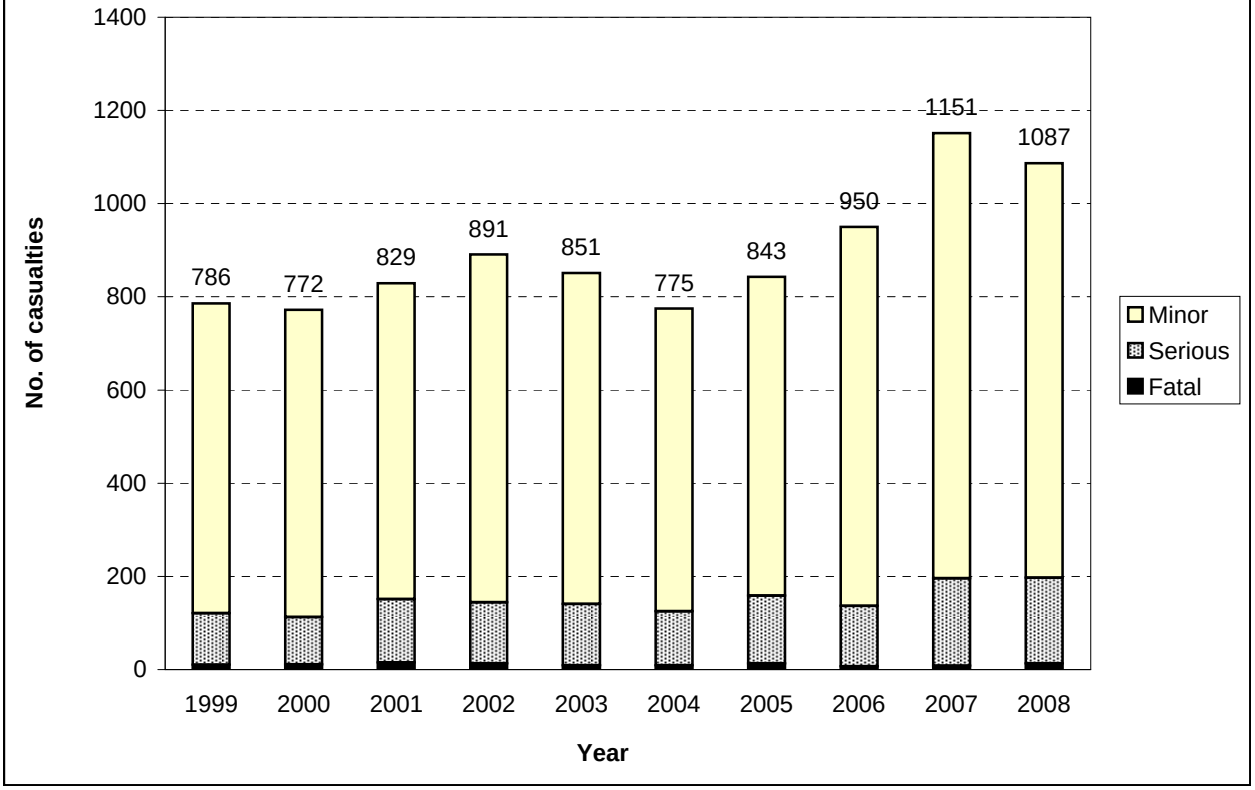


Figure 8.3 Number of injury crashes
Christchurch City - urban council roads

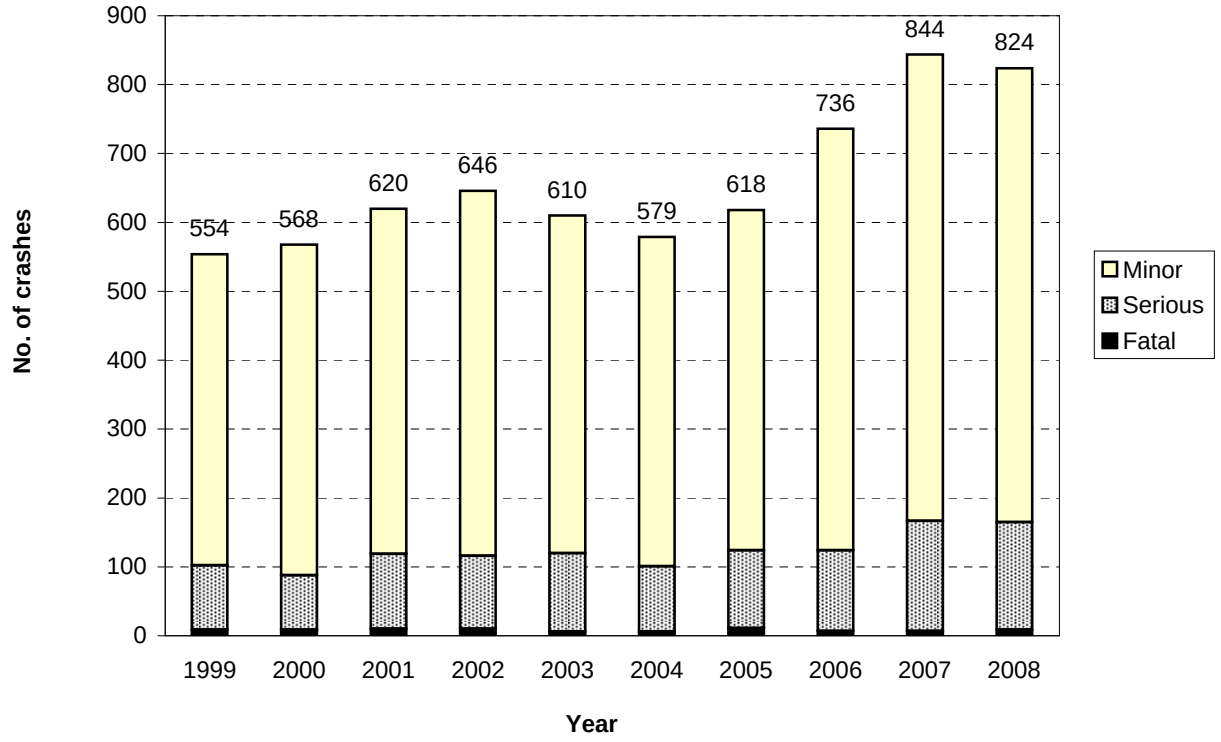


Figure 8.4 Number of casualties
Christchurch City - urban council roads

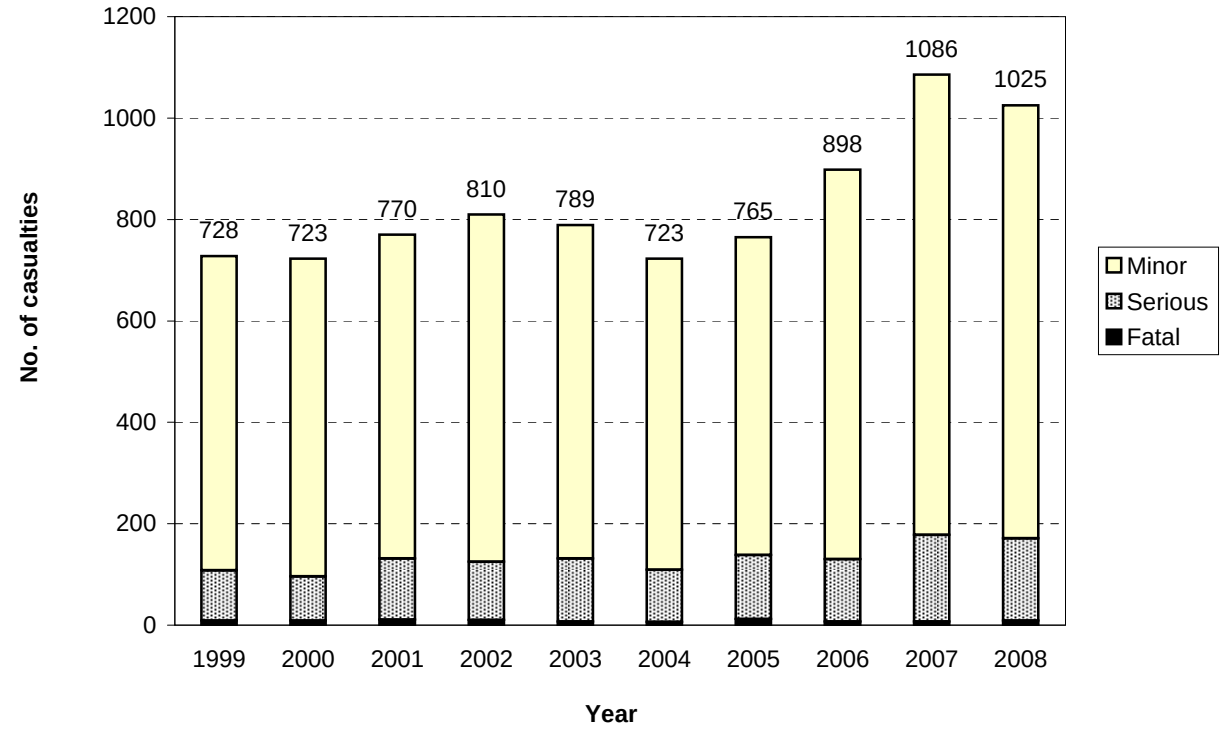


Figure 8.5 Number of injury crashes
Christchurch City - rural council roads

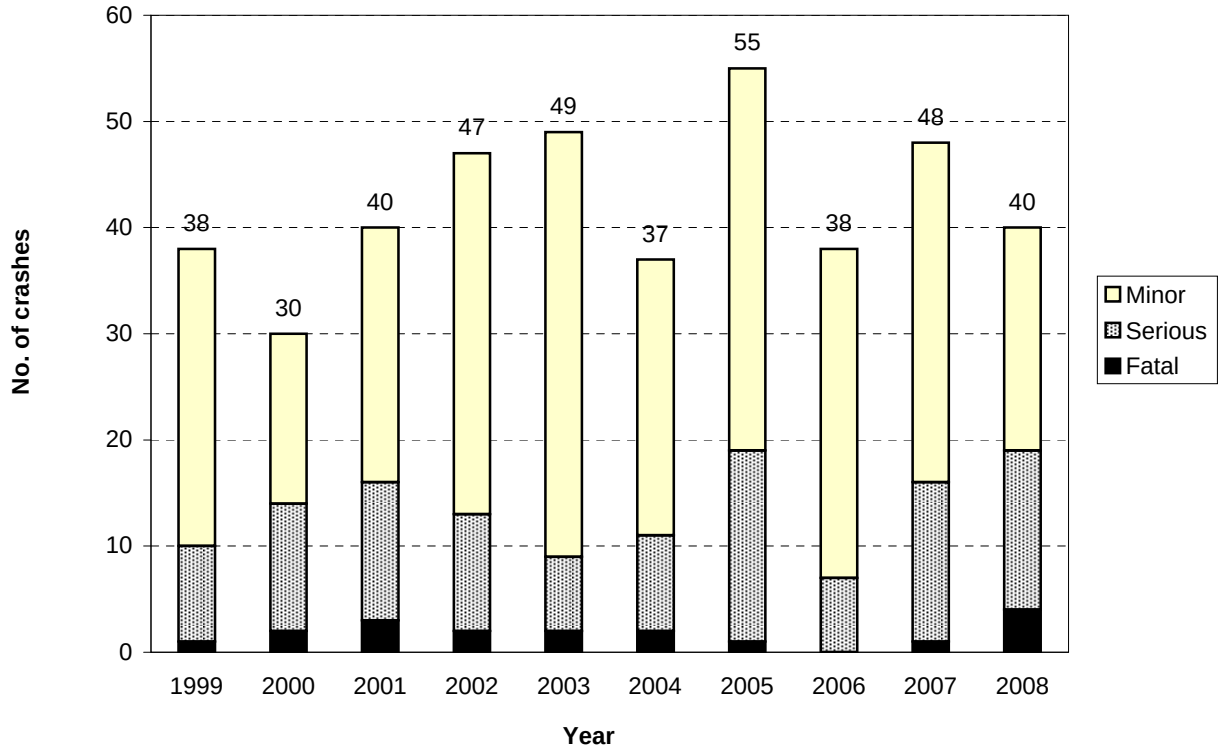


Figure 8.6 Number of casualties
Christchurch City - rural council roads

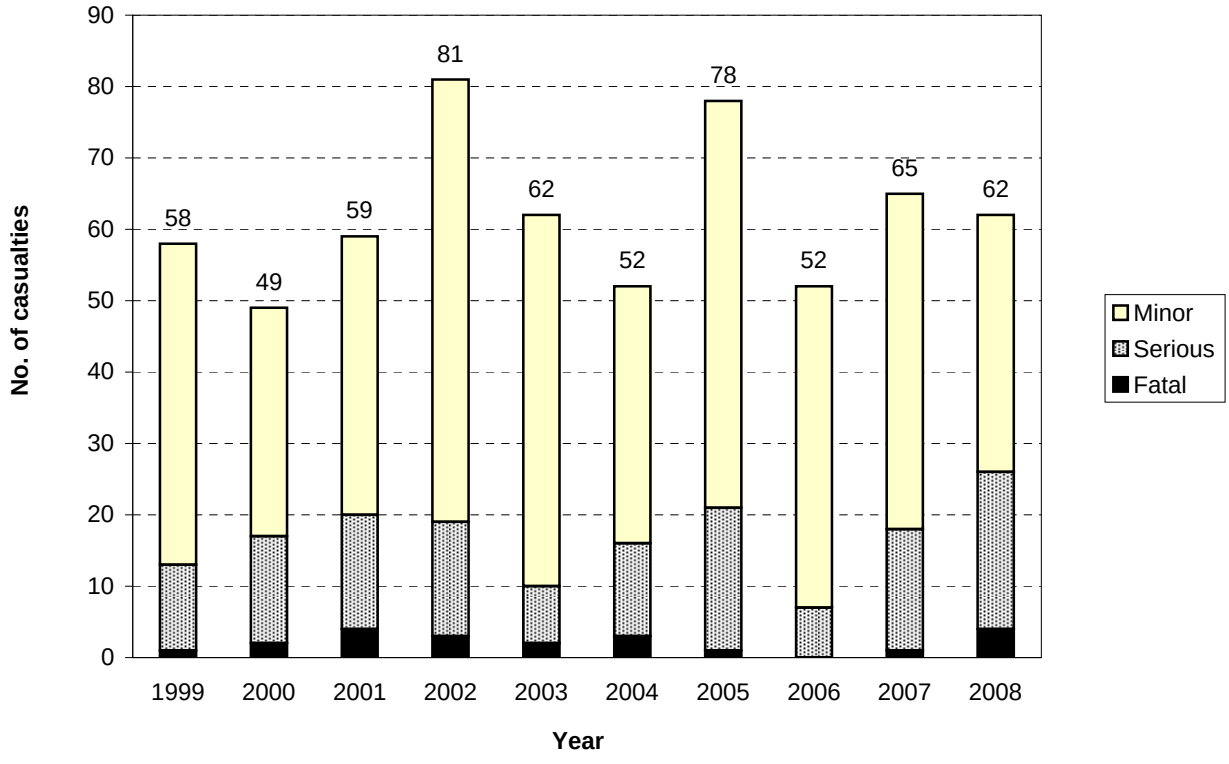
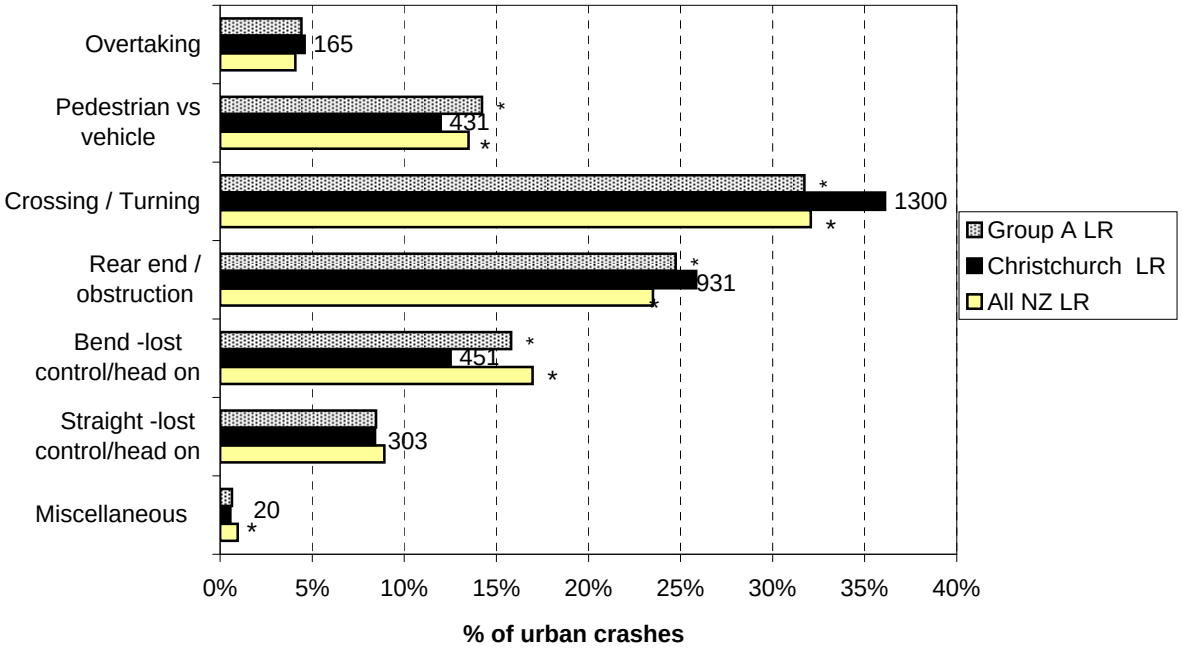
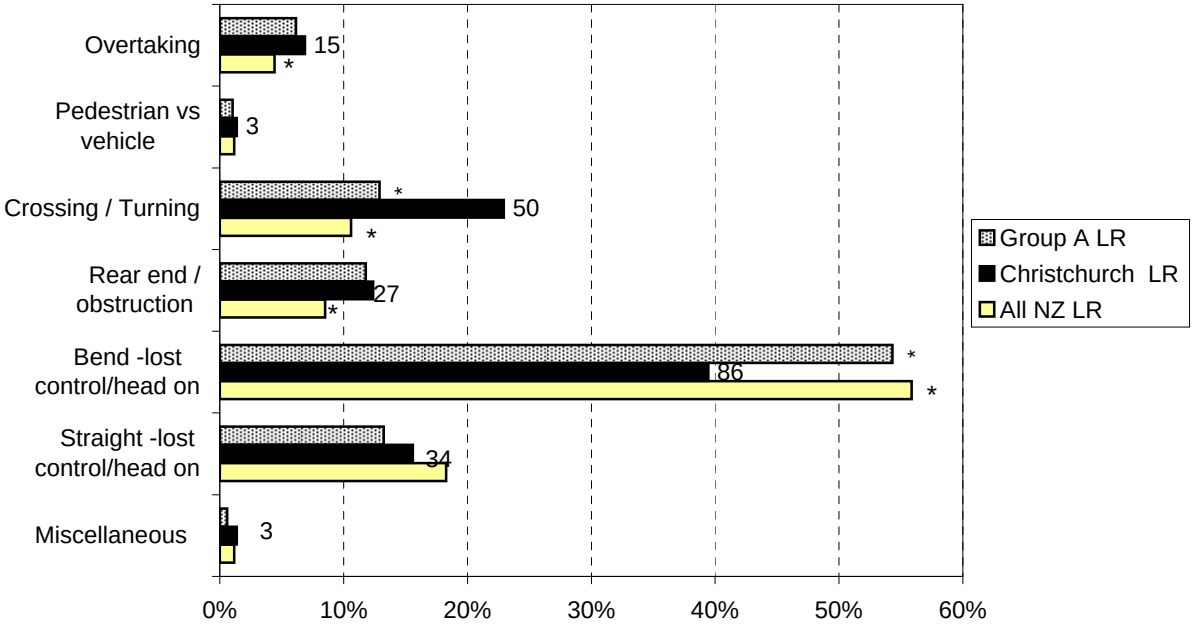


Figure 8.7 Crash movement type - urban Christchurch City council roads (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 8.8 Crash movement type - rural Christchurch City council roads (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 8.9 Crash movement type - Trends
Christchurch City - urban council roads

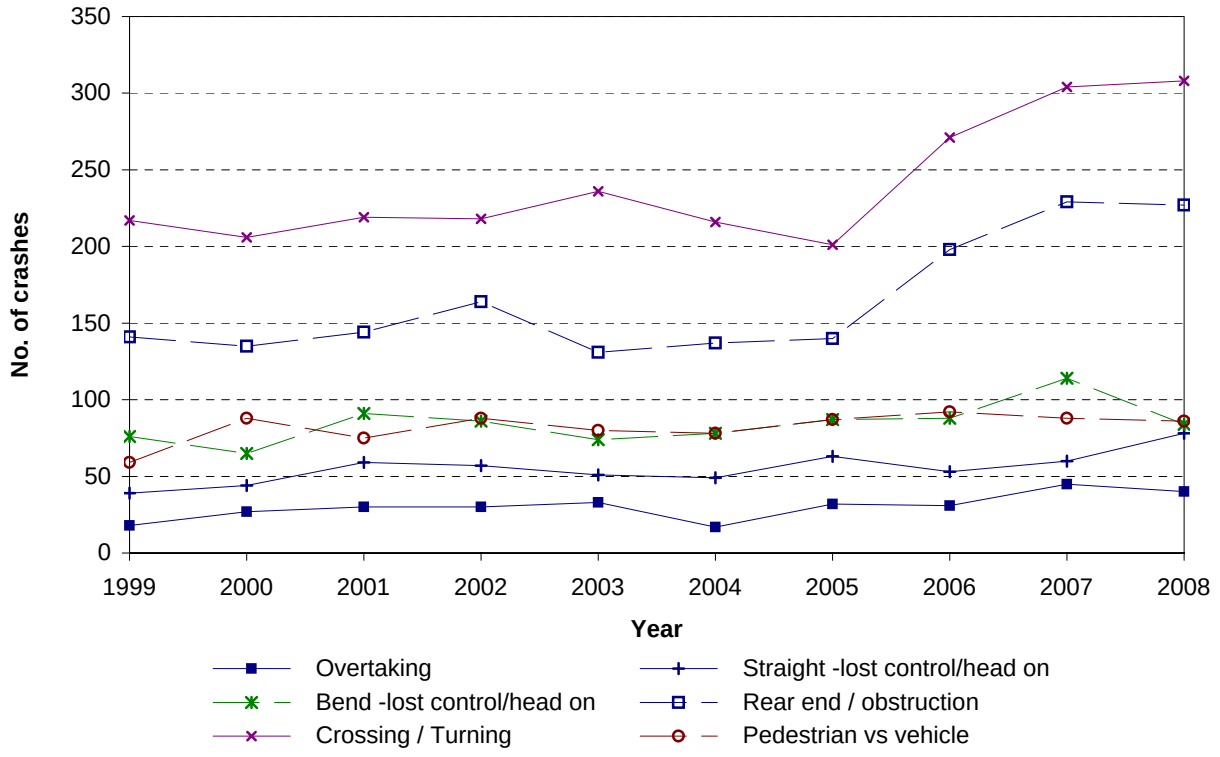


Figure 8.10 Crash movement type - Trends
Christchurch City - rural council roads

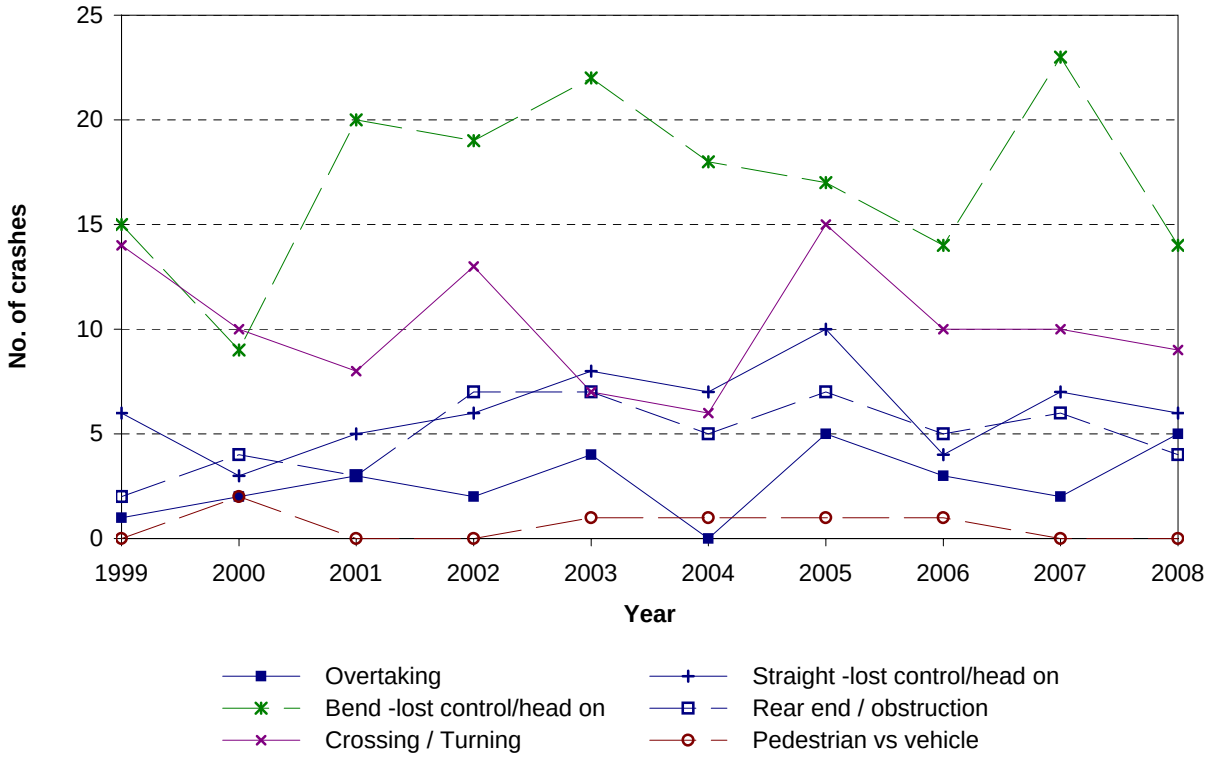
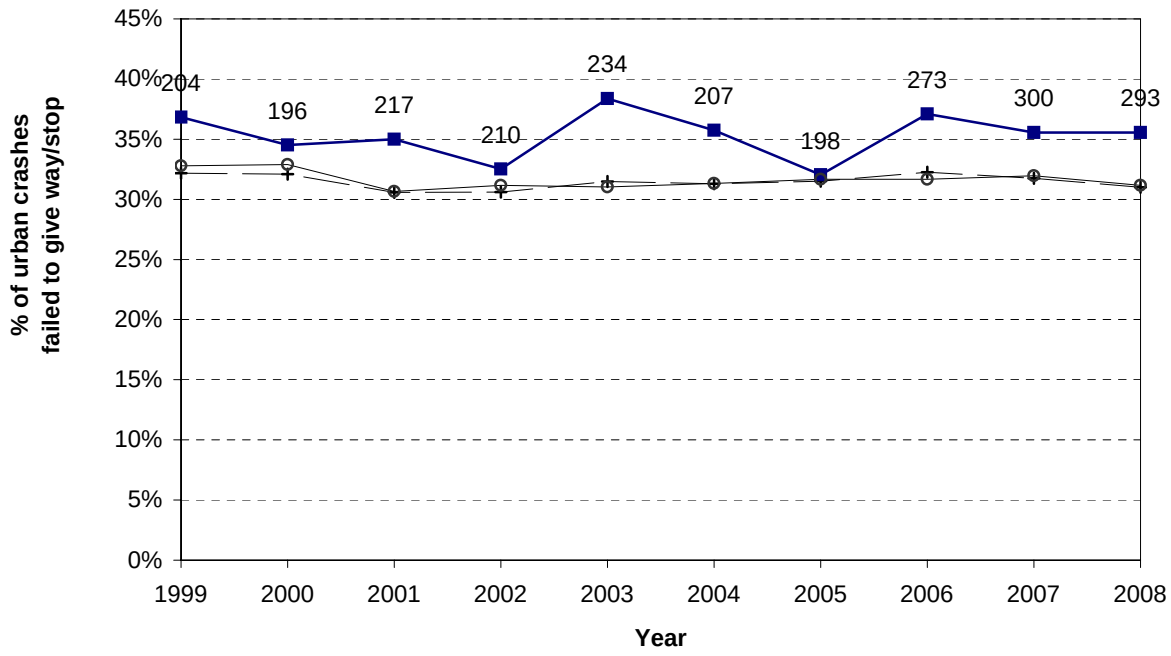
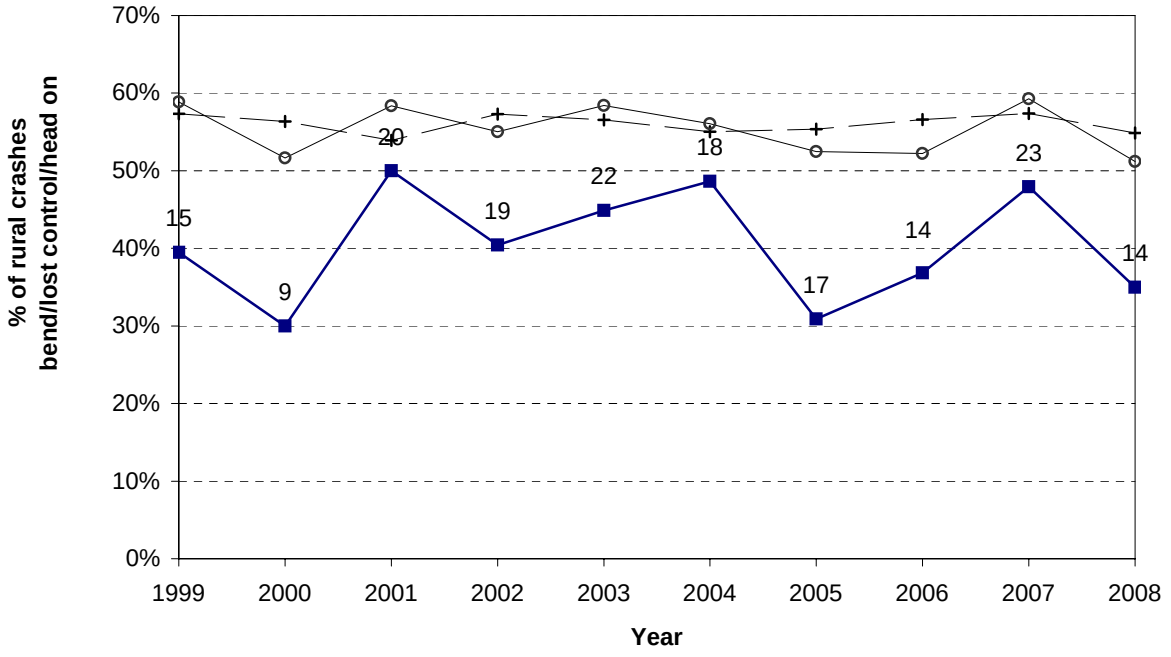


Figure 8.11 Failed to give way/stop
Christchurch City - urban council roads



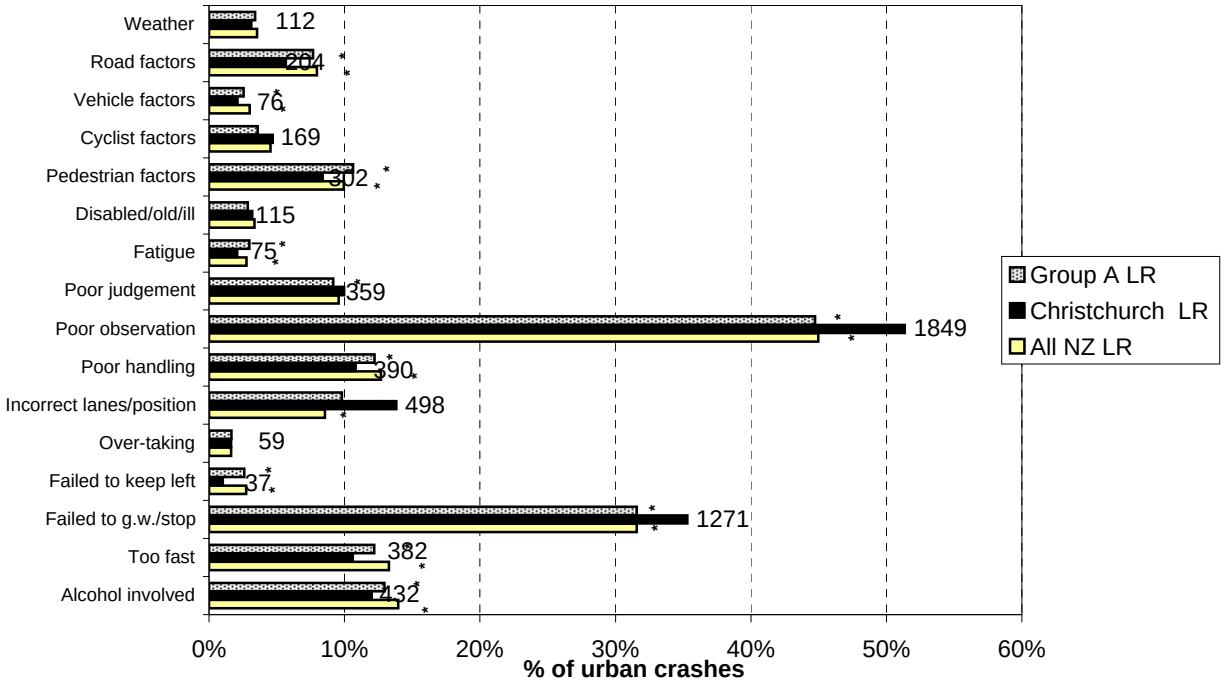
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.12 Bend - lost control / head - on
Christchurch City - rural council roads



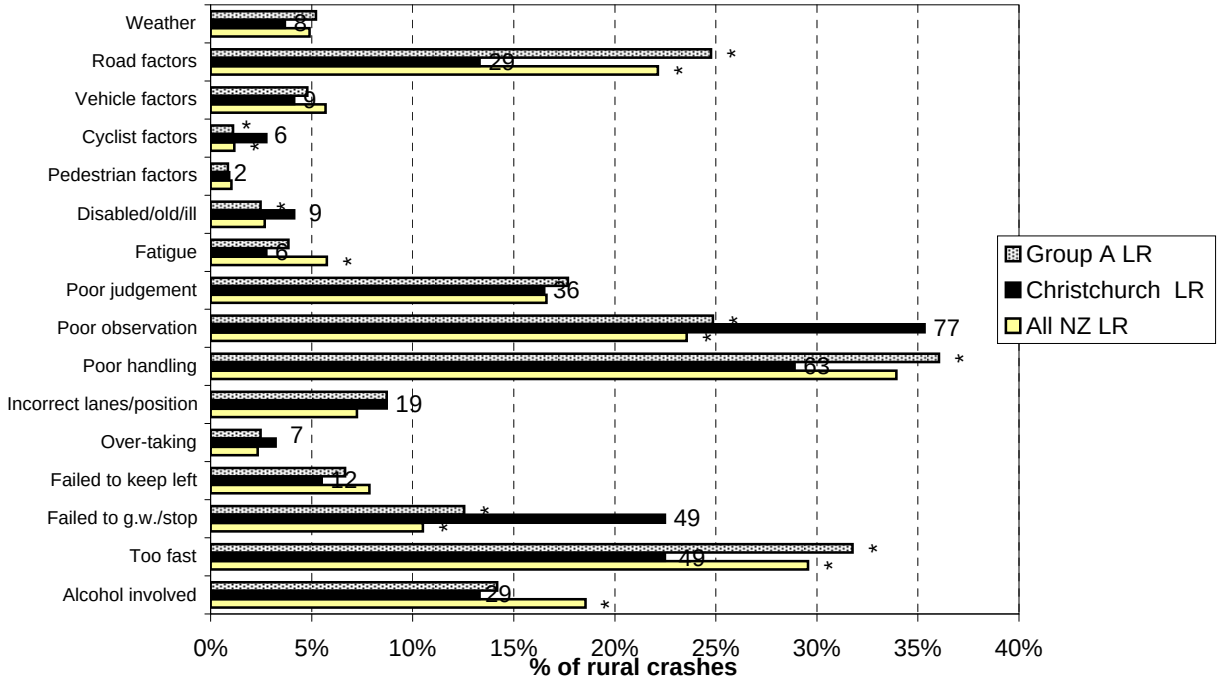
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.13 Contributing factors - urban Christchurch City council roads (2004-2008)



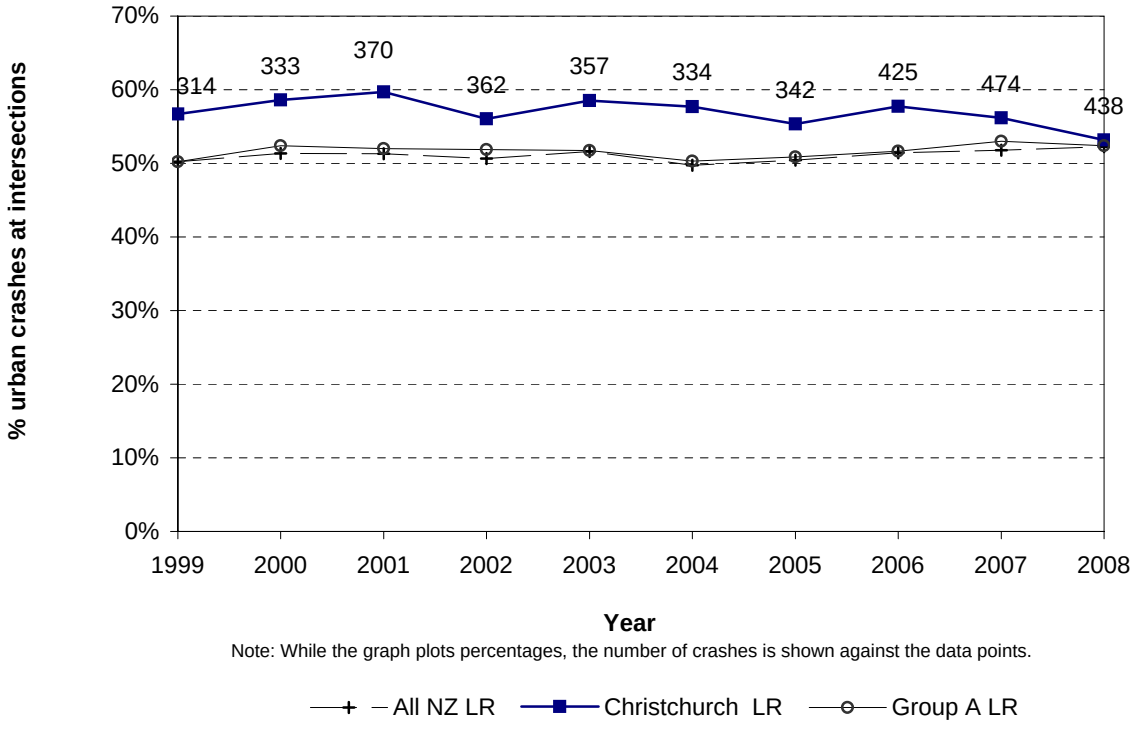
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 8.14 Contributing factors - rural Christchurch City council roads (2004-2008)



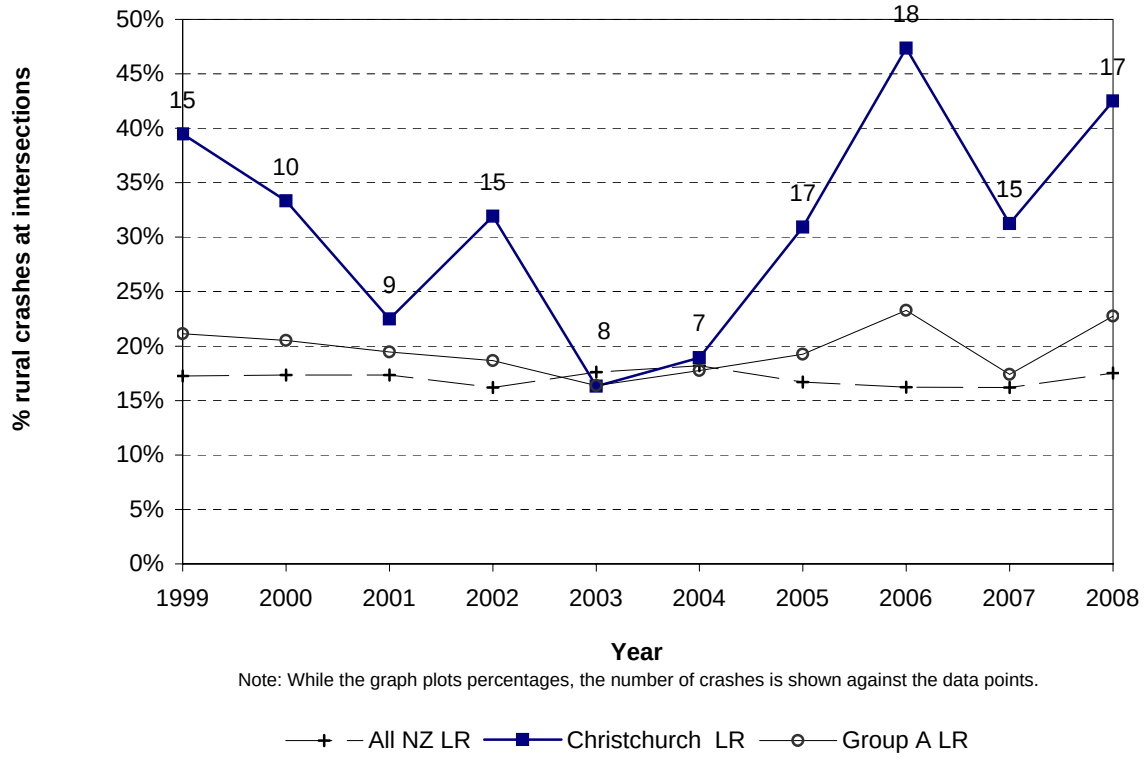
Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 8.15 Intersection crashes
Christchurch City - urban council roads



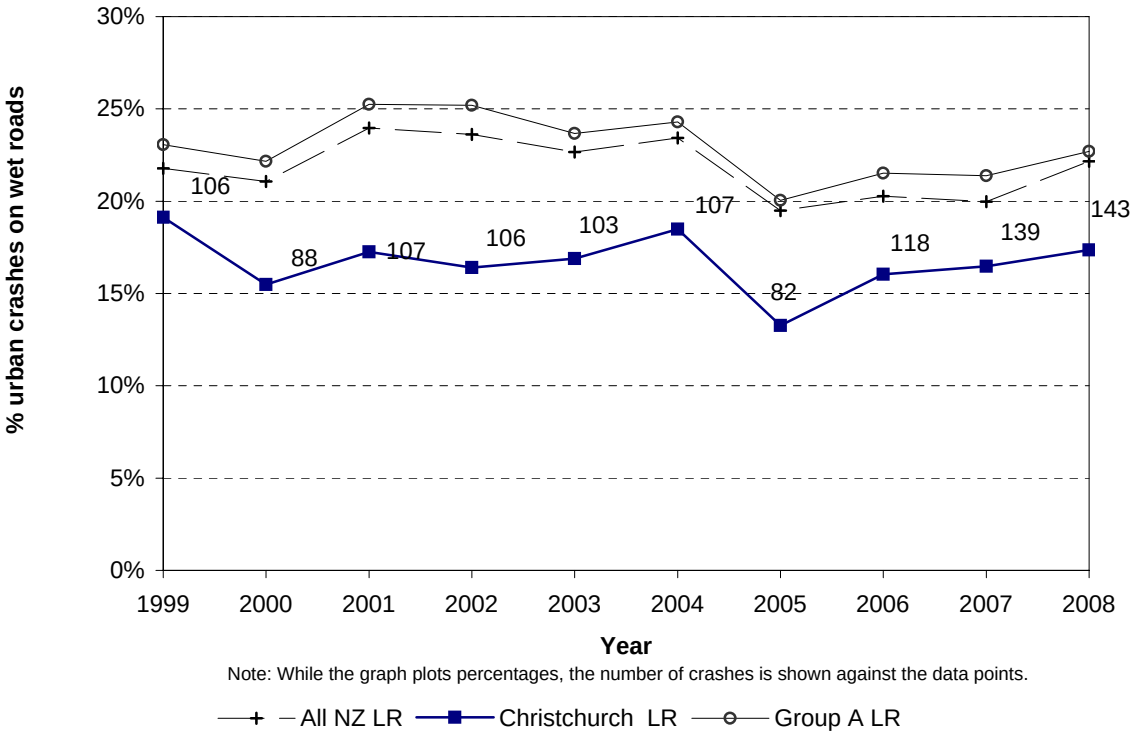
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.16 Intersection crashes
Christchurch City - rural council roads



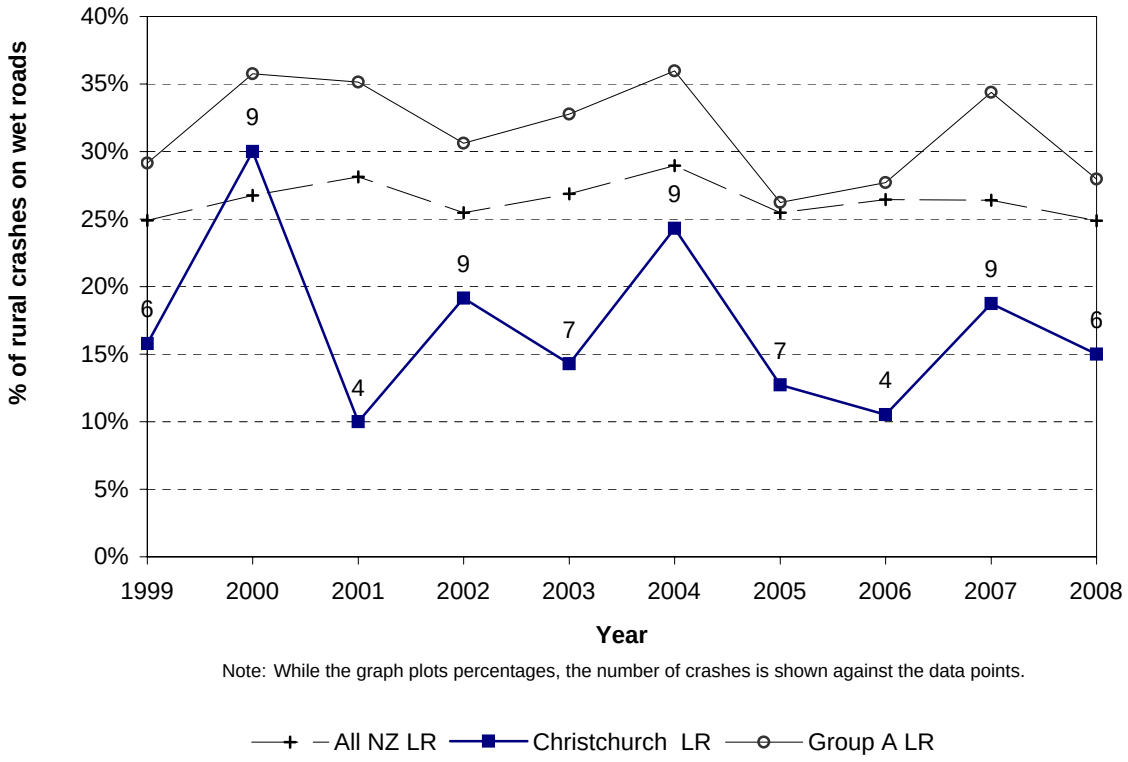
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.17 Wet road crashes
Christchurch City - urban council roads



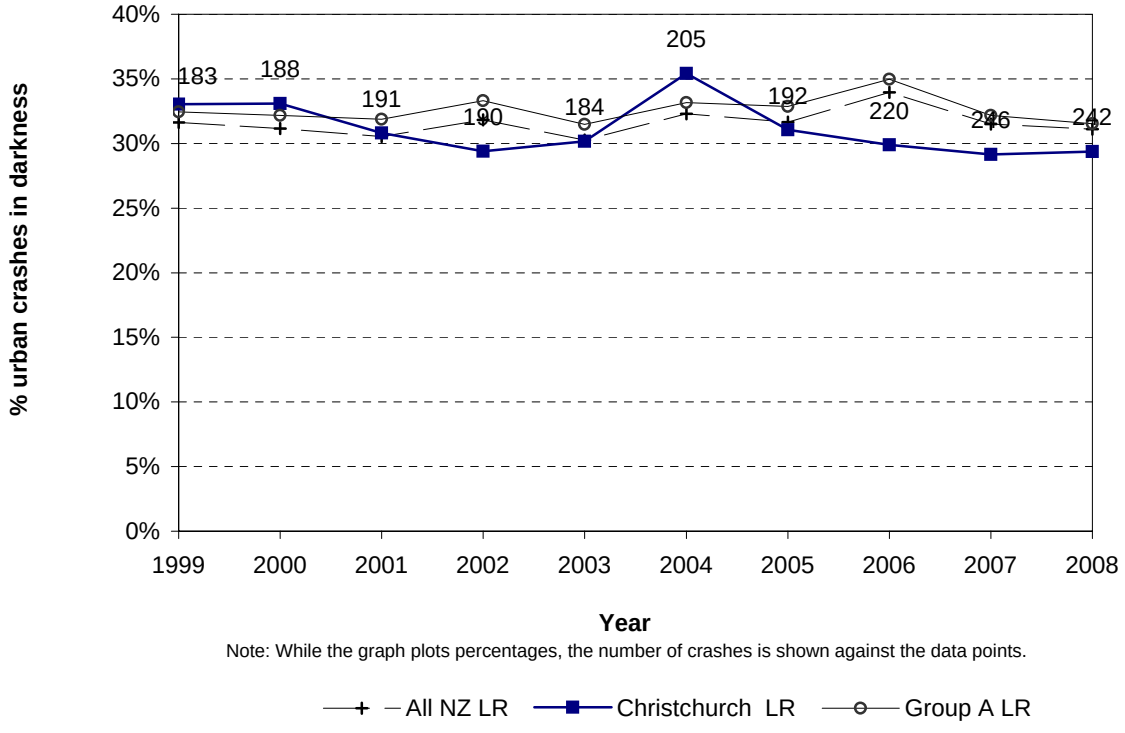
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.18 Wet road crashes
Christchurch City - rural council roads



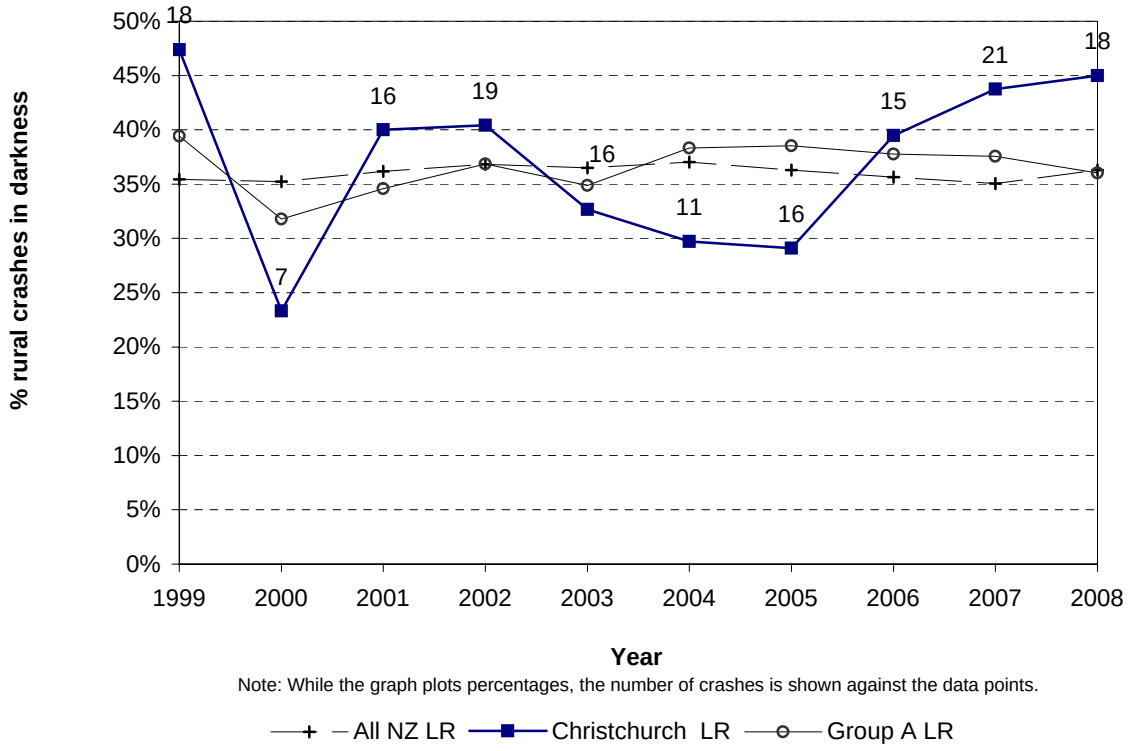
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.19 Crashes in darkness
Christchurch City - urban council roads



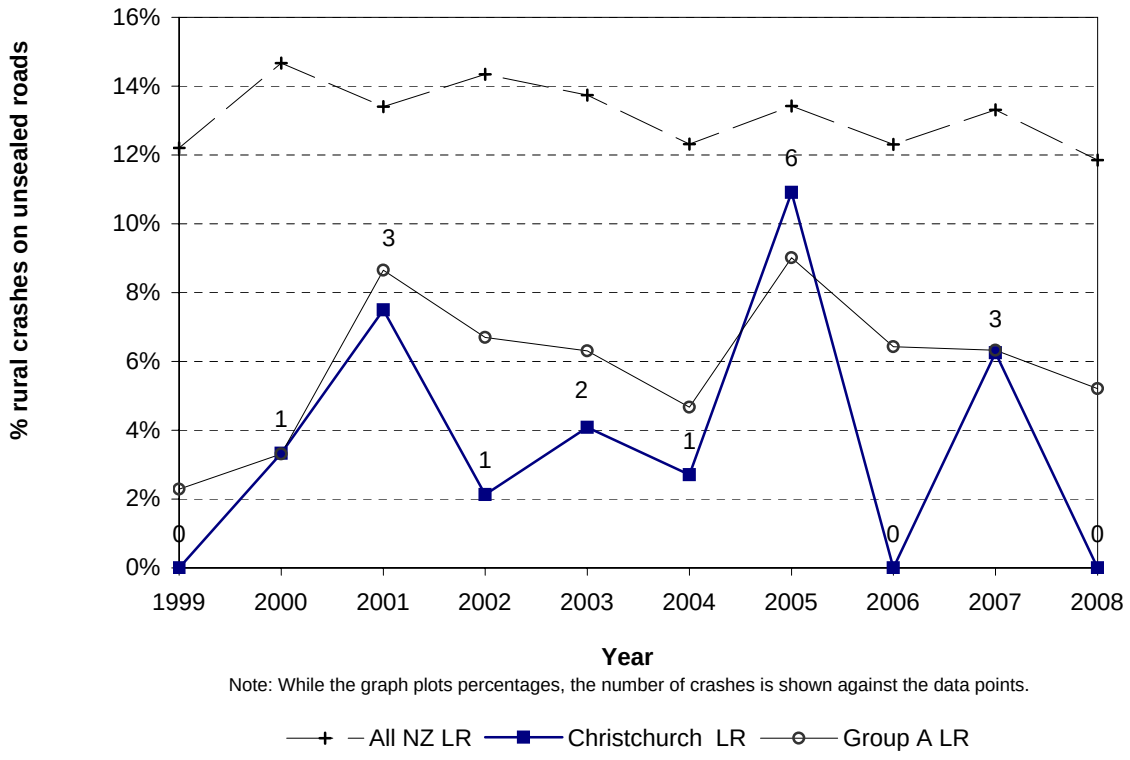
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.20 Crashes in darkness
Christchurch City - rural council roads



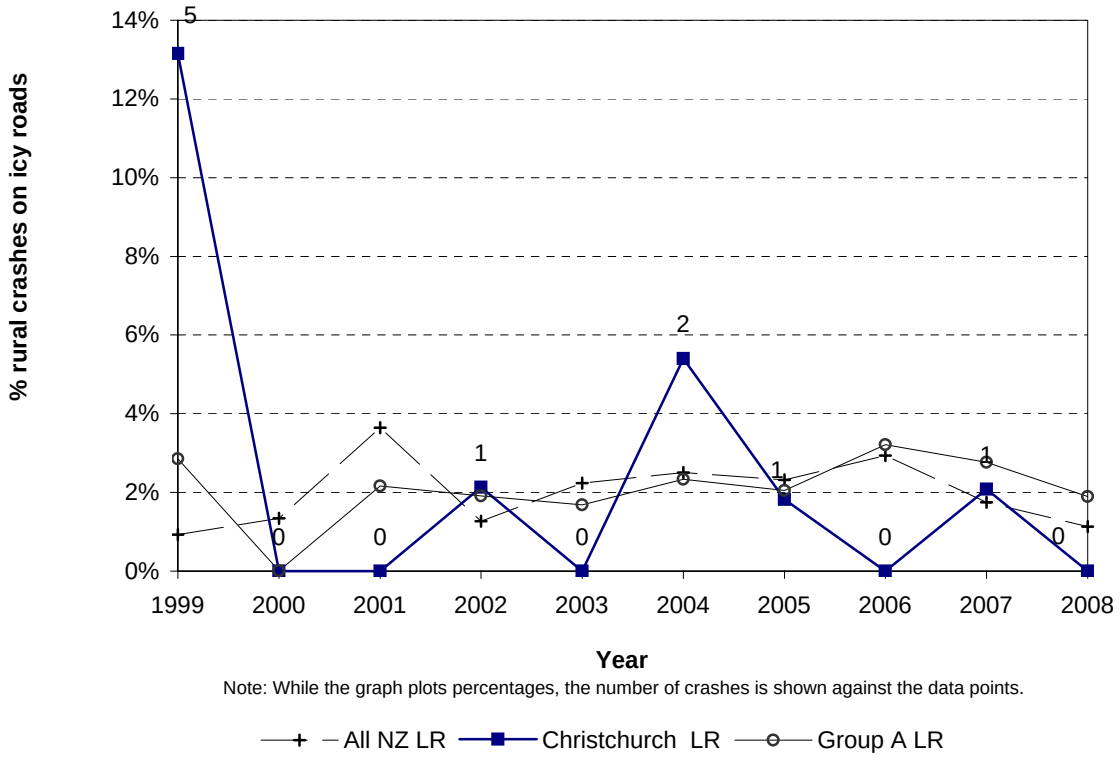
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.21 Crashes on unsealed roads
Christchurch City - rural council roads



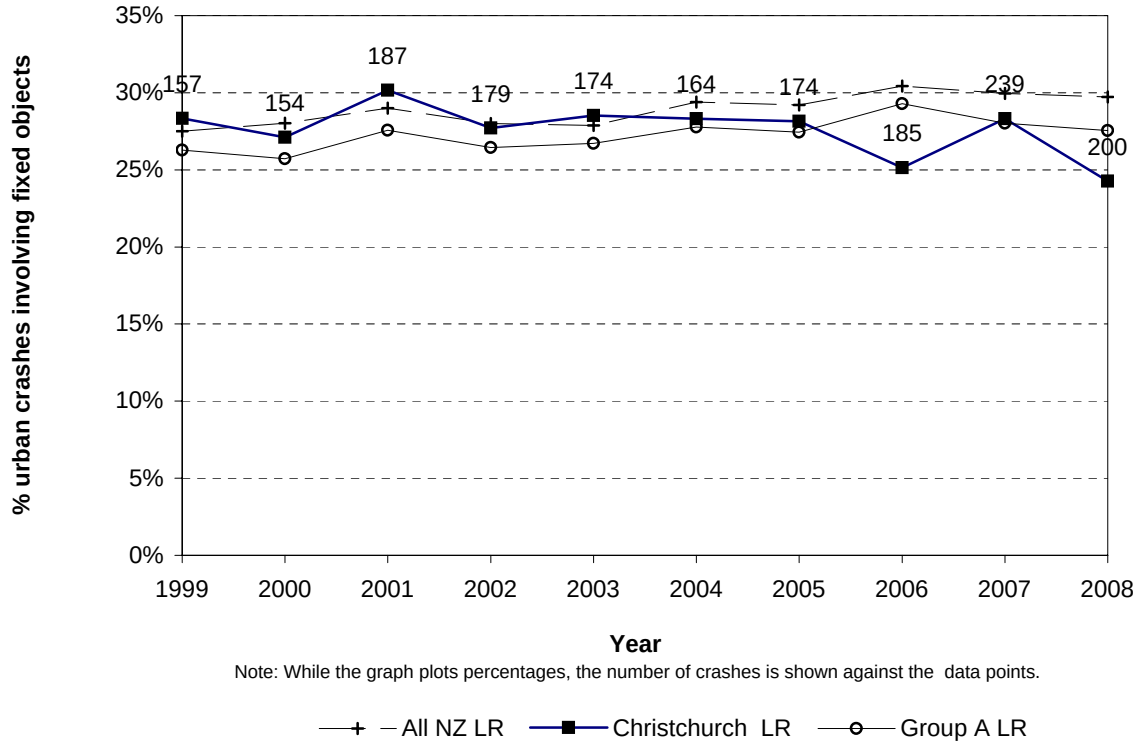
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.22 Icy road crashes
Christchurch City - rural council roads



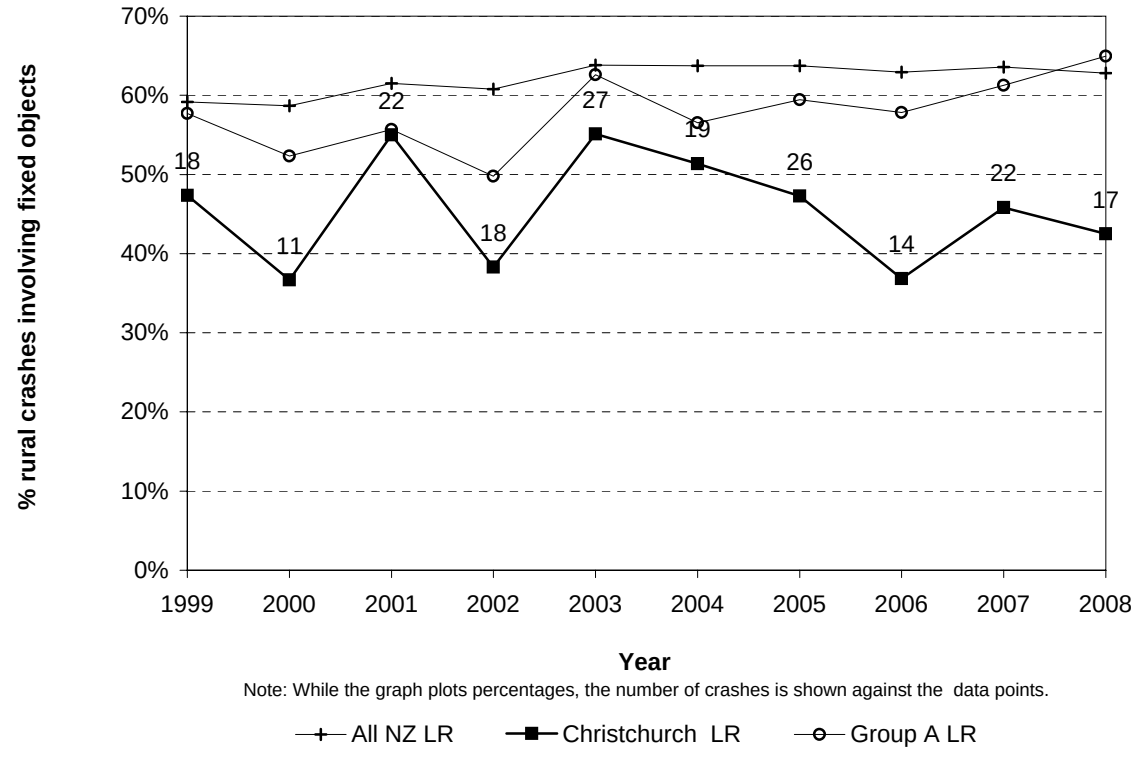
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.23 Collisions with objects
Christchurch City - urban council roads



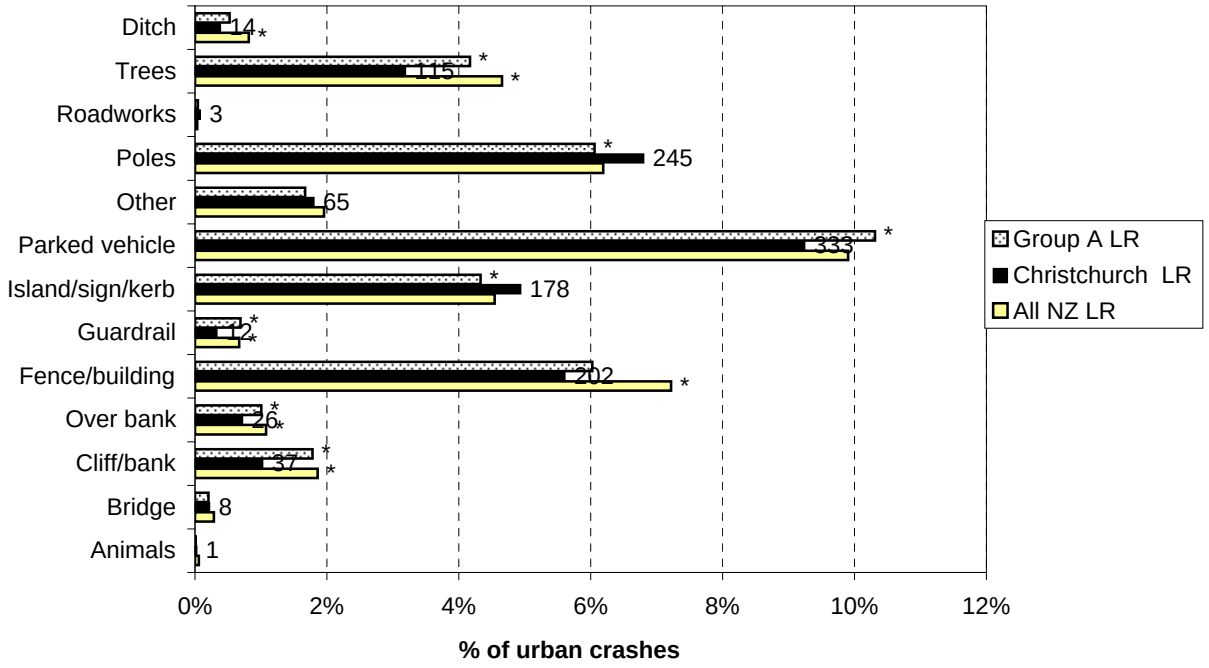
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.24 Collisions with objects
Christchurch City - rural council roads



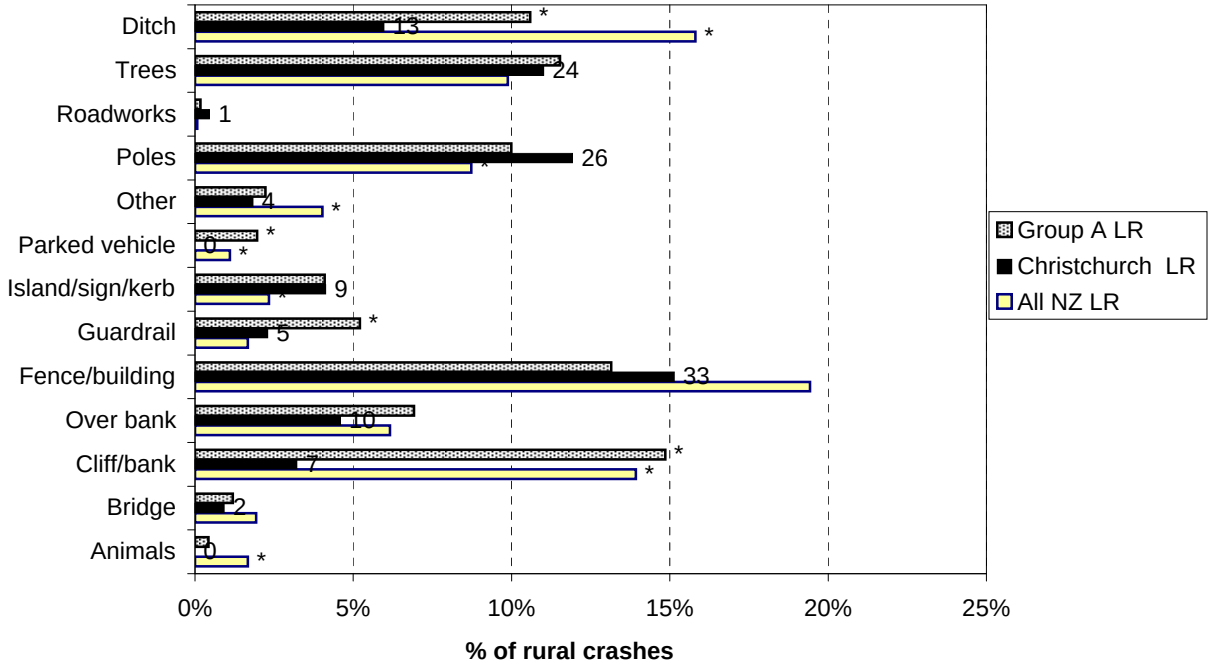
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 8.25 Objects struck - urban Christchurch City council roads (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 8.26 Objects struck - rural Christchurch City council roads (2004-2008)



Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Crash Location Statistics

Table 9.1: Council Roads Black Spot List Urban (Injury and Non-Injury Crashes)

Site Radius = 30 metres

Sites with 5 or more injury crashes or more than $1500000 in social costs

CRASH ROAD			SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SAWYERS ARMS ROAD	I		GARDINERS ROAD	8	3	6	2	2	21	11	14	19	$6,200,479
CLARENCE ST	I		PEVEREL ST	5		2	2	2	11	6	9	9	$4,617,478
FERRY ROAD	I		WILSONS ROAD	4	6	5	5	7	27	18	26	33	$4,584,589
BERWICK ST	I		FORFAR ST		2	3	1	1	7	3	14	43	$3,996,470
WATERLOO ROAD		30 W	SMARTS ROAD	1		1		1	3		67	33	$3,949,120
HEREFORD ST	I		MANCHESTER ST	8	1	5	8	7	29	16	21	45	$3,922,777
TILFORD ST	I		LINWOOD AVENUE		1	1	1		3				$3,881,180
COLOMBO ST	I		LICHFIELD ST	7	4	6	7	6	30	20	7	37	$3,853,771
MOORHOUSE AVENUE	I		GASSON ST	8	3	5	5	11	32	23	19	53	$3,794,522
LINWOOD AVENUE	I		ALDWINS ROAD	8	5	16	10	9	48	34	15	40	$3,719,584
DYERS PASS ROAD	I		SUMMIT ROAD	1	1	1	1		4	3	50	50	$3,658,629
MADRAS ST	I		ARMAGH ST	2	1	4	2	2	11	6	36	36	$3,643,961
RICCARTON ROAD	I		WAINUI ST	1	1	2	1	1	6	1	17	50	$3,563,584
MAIN NORTH ROAD	I		CRANFORD ST	2	4	2	5	5	18	15	28	61	$3,542,835
IDRIS ROAD	I		JEFFREYS ROAD	1	1	4	1	1	8	4	13	25	$3,542,134
STANMORE ROAD	I		ARMAGH ST S		3	3	1	2	9	5	22	22	$3,487,697
PAGES ROAD	I		KEARNEYS ROAD	3	1	4	1	1	10	7	70	30	$3,448,934
MILTON ST	I		SIMEON ST	2		1	1	4	8	4		25	$3,435,739
BRIDGE ST	I		PINE AVENUE	1		1		1	3	1		33	$3,354,604
LINCOLN ROAD		100 S	DOMAIN TERRACE	2			1		3	1	33		$3,353,948
WAINONI ROAD	I		AVONSIDE DRIVE			1	2	4	7	5	14	43	$3,313,159
GILBERTHORPES ROAD	I		BUCHANANS ROAD		2		1		3			67	$3,302,400
CHESTER ST EAST	I		CHESTER ST	1	1		1	1	4	2	50	50	$3,264,251
FENDALTON ROAD	I		JACKSONS ROAD		1	1		1	3	1		100	$3,248,824
CRANFORD ST		500 S	FRASER ST	2		1			3	2		67	$3,193,935
BARBADOES ST	I		LICHFIELD ST	2	3	4	5	5	19	8	5	32	$3,154,354
BEALEY AVENUE	I		FITZGERALD AVENUE	5	6	5	7	5	28	17	25	46	$2,718,850
MOORHOUSE AVENUE	I		PILGRIM PLACE	10	7	8	12	8	45	28	29	40	$2,711,686
MADRAS ST	I		KILMORE ST	1	3	4	3	4	15	10	7	33	$2,672,117
MANCHESTER ST	I		SALISBURY ST	7	4	10	5	6	32	22	16	50	$2,669,160
STRAVEN ROAD	I		RICCARTON ROAD	9	9	6	9	4	37	23	11	41	$2,481,341
FITZGERALD AVENUE	I		CASHEL ST	4	3	8	8	5	28	11	43	54	$2,479,507
CASHEL ST	I		MANCHESTER ST	5	3	4	3	1	16	7	6	63	$2,456,656
VICTORIA ST	I		BEALEY AVENUE	1	6	3	5	4	19	11	11	53	$2,356,158
HUMPHREYS DRIVE	I		FERRY ROAD	2	3	4	5	4	18	10	11	28	$2,340,157
HEREFORD ST	I		COLOMBO ST	2	5	7	2	6	22	16	9	32	$2,334,523
FITZGERALD AVENUE	I		GLOUCESTER ST	5	11	6	6	7	35	23	26	29	$2,321,996
MONTREAL ST	I		OXFORD TERRACE	4	2	5	4	5	20	14	20	35	$2,263,942
COLOMBO ST	I		KILMORE ST	4	1	1	5	2	13	5	8	38	$2,259,821
FERRY ROAD	I		OLLIVIERS ROAD	3	2		5	2	12	5	25	17	$2,248,600
MONTREAL ST	I		MOORHOUSE AVENUE	5	4	5	7	8	29	19	3	21	$2,119,818
WORCESTER ST	I		FITZGERALD AVENUE	8	3	6	1	7	25	16	16	32	$2,080,371
WAINONI ROAD	I		PANNELL AVENUE	1	1	3	1	2	8	2	25	13	$2,072,291
MOORHOUSE AVENUE	I		DURHAM ST	6	5	3	10	10	34	27	9	24	$2,000,273
WALTHAM ROAD	I		MOORHOUSE AVENUE	5	5	4	7	7	28	21	29	50	$1,962,907
FERRY ROAD	I		ENSORS ROAD	5	5	5	9	4	28	20	11	39	$1,958,701
ST ASAPH ST	I		COLOMBO ST	3	3	5	6	3	20	12	25	40	$1,927,131
FERRY ROAD	I		RADLEY ST	2	5	3	3	6	19	9	11	32	$1,922,453
FITZGERALD AVENUE	I		HEREFORD ST	7	6	8	6	6	33	19	36	30	$1,876,805
ANTIGUA ST	I		TUAM ST	4	2	2	5	4	17	8	6	18	$1,873,976

Table 9.1: Council Roads Black Spot List Urban (Injury and Non-Injury Crashes)

Site Radius = 30 metres

Sites with 5 or more injury crashes or more than $1500000 in social costs

CRASH ROAD		SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
MEMORIAL AVENUE	I	GRAHAMS ROAD	4	5	1	2	5	17	8	12	24	$1,836,095
BARRINGTON ST	I	LINCOLN ROAD	4	8	9	6	12	39	27	28	38	$1,809,560
GREERS ROAD	I	CLYDE ROAD	5		2	2	3	12	4	17	33	$1,702,839
MARSHLAND ROAD	I	LAKE TERRACE ROAD	3	5	3	3	2	16	10	13	38	$1,697,737
LINWOOD AVENUE	I	GLOUCESTER ST	1	3	6	4	4	18	13	28	44	$1,697,625
FITZGERALD AVENUE	I	TUAM ST	3	3	4	5	5	20	15	25	15	$1,669,343
RICCARTON ROAD	I	WAIMAIRI ROAD	1	2	2	3	4	12	5	8	8	$1,649,877
WAIRAKEI ROAD	I	GRAHAMS ROAD	4	1		6	4	15	9	40	40	$1,642,584
VICTORIA ST	I	MONTREAL ST	2	2	1	6		11	5	27	55	$1,616,786
GREERS ROAD	I	MEMORIAL AVENUE	3	1	4	3	2	13	8	8	46	$1,615,976
MAIDSTONE ROAD	I	WAIMAIRI ROAD	4	3	4	2	3	16	11	19	38	$1,605,009
MOORHOUSE AVENUE	I	SELWYN ST	8	4	6	6	2	26	15	8	31	$1,604,229
FENDALTON ROAD	I	STRAVEN ROAD	2		1	5	7	15	10	20	53	$1,589,705
MANCHESTER ST	I	BEALEY AVENUE	9	9	13	12	12	55	42	24	71	$1,577,485
PARK TERRACE	I	HARPER AVENUE	4	3	3	2	3	15	11		40	$1,573,230
HILLS ROAD	I	EDGEWARE ROAD	1	3	1	4	1	10	4	40	50	$1,564,134
BARRINGTON ST	I	STOURBRIDGE ST		5	2	1	1	9	4			$1,532,272
BLENHEIM ROAD	I	ANNEX ROAD	1	2	1	1	4	9	4		22	$1,531,657
BARBADOES ST	I	PURCHAS ST	2	2	1	2	2	9	4	11	44	$1,531,043
PAGES ROAD	I	CUFFS ROAD	3		2	5	1	11	7	18	64	$1,530,930
WAIRAKEI ROAD	I	KENDAL AVENUE	1	2	2	3		8	4	38	50	$1,521,175
BEALEY AVENUE	I	COLOMBO ST	4	5	4	5	6	24	14	29	38	$1,519,797
SPARKS ROAD	I	HENDERSONS ROAD	2	2		1	1	6	4	17	33	$1,506,489
ST ASAPH ST	I	FITZGERALD AVENUE	5	5	1	2	3	16	14	6		$1,502,021
MAIN NORTH ROAD	I	GRASSMERE ST		1	1	3	3	8	3	13	38	$1,478,431
FITZGERALD AVENUE	I	KILMORE ST	6	10	5	2	3	26	17	27	35	$1,476,886
HILLS ROAD	I	SHIRLEY ROAD	12	1	3	4	5	25	15	28	28	$1,474,203
BEALEY AVENUE	I	BARBADOES ST	9	4	3	3	5	24	15	13	25	$1,464,211
BEALEY AVENUE	I	MADRAS ST	5	4	8	3	3	23	13	35	26	$1,444,536
AVONSIDE DRIVE	I	STANMORE ROAD	3	6	1	4	4	18	7	11	33	$1,419,662
RICCARTON ROAD	I	MAIN SOUTH ROAD	1	2	7	3	7	20	10	5	30	$1,397,680
RICCARTON ROAD	I	MATIPO ST	3	7	4	6	2	22	14	14	36	$1,360,370
NEW BRIGHTON ROAD	I	MARSHLAND ROAD	9	6	9	7	3	34	19	21	29	$1,347,618
HAREWOOD ROAD	I	WOOLDRIDGE ROAD	3	3	2	5		13	5	15	15	$1,341,557
BARBADOES ST	I	WORCESTER ST	7	6	5	3	1	22	14	9	45	$1,320,561
MANCHESTER ST	I	KILMORE ST	5	4	2	6	5	22	15	14	32	$1,304,292
COLOMBO ST	I	MOORHOUSE SLIP SOUTH	7	3	4	6	8	28	23	18	43	$1,293,027
BARBADOES ST	I	GLOUCESTER ST	5	1	3	5	9	23	16	9	22	$1,284,546
HAREWOOD ROAD	I	GREERS ROAD	4	4	6	5	4	23	16	22	22	$1,283,848
COLOMBO ST	I	SANDYFORD ST	1	4	3	7	1	16	7	6	44	$1,280,425
MEMORIAL AVENUE	I	CLYDE ROAD	3	2	8	5	4	22	15	5	50	$1,268,462
BARBADOES ST	I	HEREFORD ST	4	3	3	5	6	21	14	5	38	$1,251,640
GLOUCESTER ST	I	STANMORE ROAD	3	3	3	5	3	17	10	6	29	$1,246,441
MOORHOUSE AVENUE	I	DEANS AVENUE	3	1	3	6	9	22	16	27	32	$1,215,542
BARBADOES ST	I	TUAM ST	3	4	3	5	1	16	9	6	13	$1,210,415
WORCESTER ST	I	STANMORE ROAD	3	3	4	3	1	14	7	21	29	$1,198,887
BUCKLEYS ROAD	I	KERRS ROAD	2	4	3	8	4	21	15	19	29	$1,198,761
RICCARTON AVENUE	I	HAGLEY AVENUE	3	3	6	6	2	20	14	15	40	$1,182,636
FITZGERALD AVENUE	I	ARMAGH ST	3	4	2	2	3	14	7	7	43	$1,176,976
DILWORTH ST	I	CLARENCE ST	2	2	4	3	1	12	4	25	25	$1,161,899
RUSSELL ST	I	BUCKLEYS ROAD	4	4	2	9	3	22	17	14	32	$1,160,530

Table 9.1: Council Roads Black Spot List Urban (Injury and Non-Injury Crashes)

Site Radius = 30 metres

Sites with 5 or more injury crashes or more than $1500000 in social costs

CRASH ROAD		SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
RATTRAY ST	I	RICCARTON ROAD	2	3	4	5	2	16	10	19	38	$1,156,880
BREEZES ROAD	I	PAGES ROAD	3	4	4	4	4	19	14	11	37	$1,150,816
MIDDLETON ROAD	I	RICCARTON ROAD	10	5	10	7	6	38	28	21	26	$1,140,956
TUAM ST	I	DURHAM ST	4	4	2	3	5	18	13	22	56	$1,096,195
HEATON ST	I	STROWAN ROAD	3	3	2	2	1	11	4	18	9	$1,091,541
NEW BRIGHTON ROAD	I	AVONDALE ROAD	5	2	3	2	2	14	9	21	43	$1,090,422
LINCOLN ROAD	A	BERNARD ST	1	1	2	5	5	14	8	7	21	$1,086,914
ORCHARD ROAD	I	WAIRAKEI ROAD	1	4	3	5	1	14	8	7	7	$1,086,831
MANCHESTER ST	I	ST ASAPH ST	2	4	5	10	3	24	11	8	54	$1,081,721
RICCARTON AVENUE	I	DEANS AVENUE	5	12	12	8	7	44	37	18	32	$1,078,983
MANCHESTER ST	I	ARMAGH ST	2	1	3	6	3	15	10	27	13	$1,049,380
WAINONI ROAD	I	BREEZES ROAD	2	2	6	1	3	14	9		14	$1,033,911
BLENHEIM ROAD	I	MIDDLETON ROAD	1	4	2	5	2	14	9	21	21	$1,033,213
RICCARTON ROAD	I	KONINI ST		3	1	4	3	11	6	18	9	$1,023,500
WHITELEIGH AVENUE	I	CLARENCE ST	4	2	5	12	7	30	20	20	27	$1,015,567
WIGRAM ROAD	I	DUNBARS ROAD	2				3	5			20	$1,013,320
LINCOLN ROAD	I	MOORHOUSE AVENUE	2	6	9	8	8	33	24	18	33	$1,011,472
CENTAURUS ROAD	I	AYNSLEY TERRACE	1	1	3	2	2	9	4	11	33	$991,415
ILAM ROAD	I	CREYKE ROAD		3	1		4	8	2		50	$991,067
BARBADOES ST	I	FERRY ROAD	3		2	1	2	8	2	38	13	$990,411
MADRAS ST	I	LICHFIELD ST	6	3	5	5	6	25	14	16	36	$989,340
WAINUI ST	I	PEVEREL ST	4	1			2	7	2	43	29	$978,575
CASHEL ST	I	OLLIVIERS ROAD			2		5	7	1	14	43	$974,984
MANCHESTER ST	I	BEDFORD ROW	1	2	2	1	4	10	5	20	30	$969,617
ARMAGH ST	I	DURHAM ST	1	3		2	2	8	3		13	$937,409
ST ASAPH ST	I	HAGLEY AVENUE	2			1	4	7	2		14	$921,407
MANCHESTER ST	I	GLOUCESTER ST	4	6	6	7	5	28	21	18	46	$822,506
BLENHEIM ROAD	I	MATIPO ST	7	3	8	5	5	28	22	11	36	$769,053
MOORHOUSE AVENUE	I	ANTIGUA ST	5	7	3	6	1	22	15		14	$727,316
MADRAS ST	I	CASHEL ST	4	5	3	6	6	24	18	38	38	$705,948
LINWOOD AVENUE	I	WOODHAM ROAD	3	5	6	1	2	17	9	18	35	$699,982
COLOMBO ST	I	TUAM ST	4	4	3	5	7	23	17	17	65	$690,562
LYTTELTON ST	I	LINCOLN ROAD	1	3	5	5	2	16	8	25	19	$685,252
HEREFORD ST	I	CAMBRIDGE TERRACE	1	3	5	5	4	18	11	22	28	$663,802
MANCHESTER ST	I	PETERBOROUGH ST	4	5	6	8	1	24	19	13	63	$651,757
TUAM ST	I	MANCHESTER ST	4	1	4	6	5	20	14	15	45	$641,122
ST ASAPH ST	I	DURHAM ST	3	3	5	4	4	19	13	26	47	$625,612
PAGES ROAD	I	SEAVIEW ROAD		6	4	9	3	22	17	18	32	$621,517
SHERBORNE ST	I	BEALEY AVENUE	5	3	7	4	3	22	17	36	27	$619,057
MADRAS ST	I	GLOUCESTER ST	2	2	3	3	5	15	8	27	53	$614,936
BEALEY AVENUE	I	DURHAM ST	2	2	5	7	2	18	12	28	11	$610,882
FITZGERALD AVENUE	I	FERRY ROAD	6	4	1	5	5	21	16	19	48	$602,235
BLENHEIM ROAD	I	HANSONS LANE	4	1	3	3	3	14	7	36	29	$598,852
RICCARTON ROAD	I	HANSONS LANE	6	2	3	2	4	17	11	12	24	$591,559
MAIN NORTH ROAD	I	MARY ST	2	2	4	4	5	17	12	24	35	$540,566
RICCARTON ROAD	I	PICTON AVENUE	4	2	4	4	3	17	12	6	41	$539,295
MILTON ST	I	BARRINGTON ST		4		3	2	9	2	11	44	$519,746
DURHAM ST	I	SALISBURY ST	2	3	4	2	4	15	10	27	40	$508,398
GREERS ROAD	I	WAIRAKEI ROAD	5	3	3	2	2	15	10	13	53	$507,086
BRIGGS ROAD	I	AKAROA ST		1	3	4	3	11	5	45	45	$498,379
STANMORE ROAD	I	SWANNS ROAD	2	2	3	2	4	13	8	15	15	$475,616
LINWOOD AVENUE	I	WORCESTER ST	1	1	1	2	4	9	3	11	78	$465,514

Table 9.1: Council Roads Black Spot List Urban (Injury and Non-Injury Crashes)

Site Radius = 30 metres

Sites with 5 or more injury crashes or more than $1500000 in social costs

CRASH ROAD		SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
KILMORE ST	I	VICTORIA ST	2	5	2	2	1	12	7	17	42	$460,721
BYRON ST	I	GASSON ST	3	3	1	2	2	11	6	18	36	$443,449
COLOMBO ST	I	ELGIN ST	2		2	2	4	10	5		30	$427,406
OXFORD TERRACE	I	HEREFORD ST	4	2	3		1	10	5	10	70	$427,365
HAREWOOD ROAD	I	HIGHSTED ROAD		2	1	2	1	6		17	33	$417,960
BARBADOES ST	I	CASHEL ST	1	2		2	4	9	4	22	56	$411,979
MCBRATNEYS ROAD	I	GAYHURST ROAD	3			3	2	8	3	38	50	$396,551
WHITELEIGH AVENUE	I	TROUP DRIVE	2	2	1	1	2	8	3	13		$396,510

Table 9.2: Council Roads Black Spot List Rural (Injury and Non-Injury Crashes)

Site Radius = 250 metres

Sites with 3 or more injury crashes or more than $1500000 in social costs

CRASH ROAD			SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
MARSHLAND ROAD	I		LOWER STYX ROAD	3	5	3	4	4	19	8	21	21	$5,490,561
MAIN NORTH ROAD		300 S	CHANEYS OFF RAMP		2	1		2	5	2	20	80	$5,087,261
MARSHLAND ROAD		1000 N	BELFAST ROAD	1			1	1	3		33	33	$4,319,840
GARDINERS ROAD	I		STYX MILL ROAD			2	1	1	4	2	50	100	$4,306,281
LOWER STYX ROAD	I		DUNLOPS ROAD			1	1	1	3	2		100	$4,221,021
MARSHLAND ROAD		300 N	TURNERS ROAD	2			1		3	1	33	33	$4,130,818
MARSHLAND ROAD	I		PRESTONS ROAD	2	3	4	6	3	18	11	28	50	$2,443,002
MAIN NORTH ROAD	I		MARSHLAND ROAD	2	4	8	1	3	18	13	28	39	$2,300,941
HALSWELL JUNCTION ROA	I		WHINCOPS ROAD	2	2	4	2		10	7	40	60	$1,948,877
MARSHLAND ROAD	I		BELFAST ROAD	1	3		1	2	7	3	43	14	$1,887,758
PRESTONS ROAD	I		HILLS ROAD	1	2			1	4	2			$1,748,401
SH 74	I		MARSHLAND ROAD	1	1	4	2	5	13	10	8	46	$1,321,801
MARSHLAND ROAD	I		MAIREHAU ROAD		2	2	2	3	9	5	22	33	$1,223,362
MAIN NORTH ROAD	I		EMPIRE ROAD	1	1	2	1		5			80	$1,124,060
CASHMERE ROAD	I		SUTHERLANDS ROAD	1	1			1	3			67	$953,540
HALSWELL JUNCTION ROA	I		WILMERS ROAD	1		2	4	3	10	5	30	40	$615,842
POUND ROAD	I		BUCHANANS ROAD	1	2	4	1	2	10	6	40	30	$569,703
POUND ROAD	I		RYANS ROAD	1	2	2	1	2	8	5	13	38	$449,162
MARSHLAND ROAD	I		GUTHRIES ROAD	2		3	2	1	8	5			$448,262
DYERS PASS ROAD		800 S	SUMMIT ROAD	2	1	1	1	1	6	2	50	83	$418,695

Table 9.3: State Highway Urban and Rural Black Spot List (Injury and Non-Injury Crashes)

Urban Site Radius = 30 metres
Rural Site Radius = 250 metres

Sites with 3 or more injury crashes or more than $1500000 in social costs

CRASH ROAD			SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SH 73	I		SH 75	6	7	7	6	5	31	19	32	39	$9,322,078
SH 74	I		MAIN NORTH ROAD	8	6	19	10	9	52	34	6	37	$6,824,862
SH 73 WEST COAST	I		HASKETTS ROAD	2	0	1	4	2	9	2	33	33	$6,743,541
SH 1S RUSSLEY	I		AVONHEAD ROAD	1	0	0	3	5	9	5	11	11	$5,354,142
SH 75	I		GEBBIES PASS ROAD	0	0	2	1	2	5	1	20	40	$5,131,360
SH 75		2000 E	SUMMIT ROAD	1	1	1	1	1	5	2	0	40	$5,087,261
SH 74 TUNNEL	I		SCRUTTONS ON EBD	4	4	4	1	0	13	6	0	38	$4,772,565
SH 1S RUSSLEY	I		DINTON ST	0	3	2	0	4	9	6	11	33	$4,535,207
SH 74 DYERS	I		LINWOOD AVENUE	5	3	5	5	3	21	10	5	52	$3,585,789
SH 74 MAIN NORTH	I		FARQUHARS EAST	1	0	1	1	0	3	1	0	0	$3,248,824
SH 73A		50 W	CURLETTS ROAD	0	0	2	2	0	4	3	25	25	$3,211,331
SH 73 YALDHURST	I		CUTTS ROAD	3	0	0	1	0	4	3	25	75	$3,209,363
ANZAC DRIVE	I		PAGES ROAD	6	0	10	6	5	27	14	11	33	$3,202,188
MEMORIAL AVENUE	I		SH 1S RUSSLEY	3	1	5	7	3	19	13	21	21	$2,909,402
SH 73A MAIN SOUTH		20 S	EPSOM ROAD	5	8	5	7	4	29	23	24	17	$2,466,231
SH 1S MAIN SOUTH	I		HALSWELL JUNCTION ROA	1	4	8	2	2	17	8	18	24	$2,450,347
SH 73 BROUGHAM	I		COLOMBO ST	8	7	10	7	10	42	30	29	48	$2,396,209
SH 73 WEST COAST	I		BUCHANANS ROAD	1	3	4	6	0	14	7	14	36	$2,292,820
SH 1S RUSSLEY	I		RYANS ROAD	0	2	4	5	3	14	8	14	14	$2,197,724
SH 1S MAIN SOUTH	I		PARKER ST	5	6	6	3	4	24	15	25	25	$2,044,262
MARSHLAND ROAD	I		SH 74	4	0	11	5	7	27	19	22	15	$2,007,152
SH 1S	I		MEMORIAL AVENUE	6	4	8	9	4	31	24	16	26	$1,959,637
SH 74 ANZAC	I		WAINONI ROAD	0	3	1	8	5	17	7	6	18	$1,891,025
SH 73 CURLETTS	I		YALDHURST ROAD	7	2	2	6	3	20	12	30	55	$1,828,145
SH 1S	I		JOHNS ROAD	2	5	2	5	2	16	7	0	63	$1,820,626
SH 73		500 W	BARRINGTON ST	0	1	1	3	1	6	2	67	50	$1,802,381
SH 74		460 S	HOROTANE OBR	0	1	0	0	3	4	1	25	100	$1,721,940
SH 73 BROUGHAM ST	I		BURLINGTON ST	4	7	3	6	10	30	17	13	33	$1,717,768
SH 73 YALDHURST		300 E	POUND ROAD	0	1	2	1	0	4	2	25	75	$1,674,001
SH 1S CARMEN	I		WATERLOO ROAD	2	10	0	2	4	18	14	0	39	$1,660,427
SH 75	I		PUAHA ROAD	0	0	1	1	1	3	0	0	0	$1,639,540
SH 73 CURLETTS	I		BLENHEIM ROAD	5	4	9	9	8	35	25	17	46	$1,636,228
SH 1S MAIN SOUTH	I		GOULDING AVENUE	2	2	4	3	2	13	9	23	54	$1,563,015
SH 73 BROUGHAM	I		WALTHAM ROAD	6	2	9	4	6	27	16	19	33	$1,561,874
SH 1S YALDHURST	I		RUSSLEY ROAD	5	7	5	6	2	25	18	8	40	$1,537,842
SH 73 YALDHURST	I		AVONHEAD ROAD	2	1	1	3	1	8	5	50	50	$1,407,806
SH 74A PALINURUS	I		FERRY ROAD	4	3	4	2	5	18	9	22	33	$1,348,422
SH 74	I		INNES ROAD	1	3	0	1	6	11	7	27	36	$1,343,984
CARMEN ROAD	I		BUCHANANS ROAD	4	2	7	7	6	26	21	12	27	$1,283,427
SELWYN ST	I		SH 73	6	4	3	1	5	19	11	5	32	$1,272,392
SH 73 CURLETTS	I		LUNNS ROAD	1	1	4	4	4	14	9	50	43	$1,258,864
SH 74	I		BREEZES ROAD	2	5	3	2	2	14	10	43	29	$1,158,750
SH 73 JERROLD N	I		BARRINGTON ST	3	3	2	5	2	15	9	7	40	$1,140,099
SH 73 CURLETTS	I		PARKHOUSE ROAD	4	3	3	3	3	16	13	25	44	$1,090,439
SH 75 HALSWELL	I		HOON HAY ROAD	2	4	7	3	2	18	14	28	33	$1,081,197
SH 75		4100 E	SUMMIT ROAD	0	0	2	2	1	5	1	40	20	$1,070,240
SH 75	I		FRENCH PEAK ROAD	1	3	0	0	0	4	1	0	0	$1,036,841
SH 74 MAIN NORTH	I		STYX MILL ROAD	1	2	6	1	1	11	6	9	27	$1,023,541
SH 1S JOHNS	I		HAREWOOD ROAD	1	6	6	1	3	17	10	29	41	$965,493
SH 74 ANZAC	I		NEW BRIGHTON ROAD	5	2	1	5	0	13	9	23	38	$962,282

Table 9.3: State Highway Urban and Rural Black Spot List (Injury and Non-Injury Crashes)

Urban Site Radius = 30 metres
Rural Site Radius = 250 metres

Sites with 3 or more injury crashes or more than $1500000 in social costs

CRASH ROAD			SIDE ROAD	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SH 74 ANZAC	I		TRAVIS ROAD	3	2	1	3	3	12	9	25	25	$951,759
BURWOOD ROAD	I		SH 74 TRAVIS	0	5	0	4	3	12	9	17	50	$949,847
SH 75		200 S	PRICES VALLEY ROAD	0	0	0	3	0	3	0	0	33	$947,660
ENSORS ROAD	I		SH 73	2	4	3	4	0	13	10	15	31	$947,202
SH 74 TRAVIS	I		BASSETT ST	0	4	1	5	0	10	6	20	20	$915,958
SH 1S JOHNS	I		LAGAN ST	0	3	1	1	0	5	2	60	80	$911,062
SH 73 YALDHURST	I		WITHELLS ROAD	2	2	4	2	3	13	10	23	23	$909,362
SH 73A MAIN SOUTH	I		SYMES ROAD	4	0	2	2	1	9	6	0	22	$844,454
SH 74	I		MARSHLAND ROAD	1	4	3	5	2	15	9	7	27	$830,252
SH 1S MAIN SOUTH	I		KIRK ROAD	1	6	2	5	1	15	6	7	27	$824,247
SH 1S CARMEN	A		TIRANGI ST	0	1	2	1	2	6	3	0	0	$798,171
SH 75	I		TANKERVILLE ROAD	1	1	0	1	3	6	3	0	67	$798,130
SH 75 HALSWELL	I		DUNBARS ROAD	1	1	4	0	0	6	3	0	17	$797,474
SHANDS ROAD	I		SH 1S	4	3	5	4	9	25	18	16	36	$774,420
SH 73	I		POUND ROAD	5	2	4	5	3	19	13	21	21	$767,130
WAIRAKEI ROAD	I		SH 1S	1	2	2	3	4	12	6	8	25	$735,482
SH 1S MAIN SOUTH		200 W	PARKER ST	3	4	3	3	0	13	7	15	23	$717,321
MAIN SOUTH ROAD	I		SH 73 CURLETTS	7	3	6	6	5	27	22	11	41	$697,466
SH 73 BROUGHAM	I		OPAWA ROAD	3	3	4	7	3	20	13	15	20	$694,616
SH 74	I		MARSHLAND ROAD	4	2	2	1	2	11	6	27	64	$660,017
SH 73A	I		BLENHEIM ROAD	1	2	5	7	5	20	14	10	5	$642,393
SH 74	I		PHILPOTTS ROAD	1	5	0	3	4	13	10	23	31	$616,571
SH 1S JOHNS	I		MCLEANS ISLAND ROAD	2	3	2	2	3	12	9	8	8	$598,518
SH 1S	I		BARTERS ROAD	3	4	5	1	2	15	11	33	27	$522,670
SH 73		150 W	BARRINGTON ST	0	1	3	2	4	10	6	20	30	$521,998
SH 73 YALDHURST	I		RACECOURSE ROAD	1	2	4	2	3	12	6	8	8	$513,724
SH 73 BROUGHAM	I		MONTREAL ST	1	4	6	4	2	17	13	18	12	$486,948
SH 73	I		KIRK ROAD	1	4	1	1	2	9	6	22	11	$485,381
SH 74 MAIN NORTH	I		PRESTONS ROAD	1	3	1	3	1	9	3	22	44	$466,170
SH 73 CURLETTS		100 S	LUNNS ROAD	2	2	3	0	1	8	4	38	25	$455,490
SH 73 BROUGHAM	I		STRICKLAND ST	1	3	0	8	3	15	11	7	27	$454,822
SH 75 HALSWELL		100 N	AIDANFIELD DRIVE	1	2	1	1	1	6	2	50	33	$402,521
SH 74 MAIN NORTH	I		RADCLIFFE ROAD	0	1	2	3	2	8	3	13	38	$396,510
SH 73 OPAWA	I		CURRIES ROAD	1	1	4	1	2	9	5	11	22	$358,402
SH 74 MAIN NORTH	I		STURROCKS ROAD	2	1	1	0	3	7	3	29	14	$326,194
SH 74A GARLANDS	I		SH 73	3	2	0	2	3	10	7	20	20	$320,171
SH 74 MAIN NORTH	I		MOMORANGI CRESCENT	1	3	2	2	1	9	6	44	0	$305,358
SH 73		200 W	SELWYN ST	1	1	2	1	0	5	1	40	60	$294,724
SH 1S	I		DICKEYS ROAD	0	2	2	2	0	6	3	17	33	$262,350
SH 1S MAIN NORTH	I		BELFAST ROAD	0	2	0	1	0	3	0	33	33	$208,980

Table 9.4 : Urban Council Road Crash Sites with a Significant Increase in Crashes in 2008 (Injury and Non-Injury Crashes)

Site Radius = 30 metres

CRASH ROAD			SIDE ROAD	2003	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %
BARRINGTON ST	I		LINCOLN ROAD	6	4	8	9	6	12	45	32	31	40
MOORHOUSE AVENUE	I		DURHAM ST	6	6	5	3	10	10	40	30	8	20
MOORHOUSE AVENUE	I		GASSON ST	5	8	3	5	5	11	37	27	19	54
MOORHOUSE AVENUE	I		DEANS AVENUE	5	3	1	3	6	9	27	19	30	37
BARBADOES ST	I		GLOUCESTER ST	2	5	1	3	5	9	25	18	8	20
TUAM ST	I		COLOMBO ST	1	4	4	3	5	7	24	17	17	63
FERRY ROAD	I		RADLEY ST	1	2	5	3	3	6	20	10	10	35
BARBADOES ST	I		KILMORE ST	3	1	2	4	4	6	20	17	25	35
FENDALTON ROAD	I		STRAVEN ROAD	2	2		1	5	7	17	12	18	47
STRAVEN ROAD	I		KILMARNOCK ST	2	4	3	2		5	16	11	19	31
GASSON ST	I		WORDSWORTH ST	1	5	2		1	6	15	11	20	
MAIN NORTH ROAD	I		SAWYERS ARMS ROAD	2		2	2	2	6	14	10	14	14
LYTTELTON ST	I		SPARKS ROAD	1	1	1	2	2	4	11	6	36	36
PARKHOUSE ROAD	I		TREFFERS ROAD	3	2			2	4	11	7		9
COLOMBO ST	I		ELGIN ST	1	2		2	2	4	11	6		36
FERRY ROAD		40 E	BORDESLEY ST		4	1		2	4	11	7	9	
MAIDSTONE ROAD	I		ILAM ROAD	2		3	1		4	10	2		50
MATIPO ST	I		PEVEREL ST	2		1	1	2	4	10	8	10	10
MILTON ST	I		SIMEON ST	1	2		1	1	4	9	5		22
WAINONI ROAD	I		AVONSIDE DRIVE	2			1	2	4	9	7	11	33
BEALEY AVENUE	I		MONTREAL ST	2			1	1	5	9	4	22	33
LINWOOD AVENUE	I		WORCESTER ST		1	1	1	2	4	9	3	11	78
PURCHAS ST	I		COLOMBO ST	1	1		3		4	9	6	11	33
RICCARTON ROAD	I		NEWNHAM TERRACE	1			1	3	4	9	7	11	22
ENSORS ROAD	I		SULLIVAN AVENUE		1	1	1	1	4	8	6	13	25
NORTHCOTE ROAD	I		NORTHFIELD ROAD				2	2	4	8	7		38
CASHEL ST	I		OLLIVIERS ROAD				2		5	7	1	14	43
ST ASAPH ST	I		HAGLEY AVENUE		2			1	4	7	2		14
LINCOLN ROAD	I		HARMAN ST	1	1		2		3	7	4	14	43
LINCOLN ROAD	I		TORRENS ROAD			2		1	4	7	5		29
BARBADOES ST	I		EDGEWARE ROAD	2	1			1	3	7	4	29	29
MATIPO ST		40 N	MAXWELL ST		1	1	1		4	7	5	71	
FERRY ROAD	I		RYAN ST	1				3	3	7	5	14	14
LATIMER SQUARE	I		HEREFORD ST	2		1		1	3	7	5	29	57
TUAM ST	I		STANMORE ROAD				4		3	7	7		43
CASHMERE ROAD	I		FAIRVIEW ST	2	1				3	6	3	33	17
KERRS ROAD	I		WILDWOOD AVENUE			1		2	3	6	4		50
MAIN NORTH ROAD	I		HALLIWELL AVENUE			1	1	1	3	6	4		
ROLLESTON AVENUE	I		WORCESTER ST	1			1	1	3	6	4		17
KENDAL AVENUE	I		MEMORIAL AVENUE	1	1		1		3	6	4		50
MAIN NORTH ROAD		50 N	CRANFORD ST	1	2				3	6	4	17	17
WAIMAIRI ROAD	I		GRAHAMS ROAD		1	1			4	6	5	17	33
WIGRAM ROAD	I		DUNBARS ROAD		2				3	5			20
INNES ROAD	I		HILLS ROAD		1	1			3	5	1		
PAGES ROAD	I		SH 74 ANZAC		1			1	3	5	3		20
TANNER ST	I		MAUNSELL ST		1		1		3	5	4	20	40
HAWTHORNE ST	I		WATFORD ST			1			3	4	1		
STRAVEN ROAD		100 S	FENDALTON ROAD					1	3	4	1		
RURU ROAD	I		HAY ST					1	3	4	2		50
SHAW AVENUE	I		SEAVIEW ROAD	1					3	4	3		25
BURWOOD ROAD	I		ROTHESAY ROAD					1	2	3	1		
TUAM ST	I		OLLIVIERS ROAD					1	2	3	1	33	100

Table 9.4 : Urban Council Road Crash Sites with a Significant Increase in Crashes in 2008 (Injury and Non-Injury Crashes)

Site Radius = 30 metres

CRASH ROAD				SIDE ROAD	2003	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %
COLOMBO ST		50	S	KILMORE ST						3	3	1	33	100
CASHEL ST		30	W	PERCY ST					1	2	3	2	33	
HAREWOOD ROAD	I			COTSWOLD AVENUE				1		2	3	2	33	33
WAIRAKEI ROAD	I			TORQUAY PLACE			1			2	3			
INNES ROAD		150	E	MAHARS ROAD					1	2	3	1		
ROSSALL ST	I			MERIVALE LANE			1			2	3	1	33	33
INNES ROAD		140	W	CRANFORD ST			1			2	3	1		33
AVONSIDE DRIVE	I			HANMER ST	1					2	3	1		33
COLOMBO ST	I			MOLLETT ST	1					2	3	1		67
BROCKENHURST ST	I			HAMPSHIRE ST		1				2	3	2		
DYERS PASS ROAD		300	S	CENTAURUS ROAD						3	3	2	33	67
GRESFORD ST	I			HILLS ROAD				1		2	3	2	33	67
OXFORD TERRACE		70	N	HEREFORD ST				1		2	3	2		33
PORT HILLS ROAD		100	N	DALGARVEN PLACE			1			2	3	2		100
ROWCLIFFE CRESCENT		50	S	DUNARNAN ST				1		2	3	2	33	
VEITCHES ROAD	I			NORTHFIELD ROAD					1	2	3	2		33
GREERS ROAD		80	N	LANGDONS ROAD			1			2	3	2	33	33
NEW BRIGHTON ROAD	I			BAKER ST			1			2	3	2	33	100
WAIRAKEI ROAD		200	W	GREERS ROAD			1			2	3	2	33	
FERRY ROAD		200	W	SETTLERS CRESCENT W		1				2	3	2	33	67
DYERS PASS ROAD		500	N	HACKTHORNE ROAD					1	2	3	3		33
MOORHOUSE AVENUE		150	W	LINCOLN ROAD					1	2	3	3		33
NORTHCOTE ROAD		50	E	UXBRIDGE ST				1		2	3	3	33	33
RACECOURSE ROAD	I			SH 73					1	2	3	3		
SANDWICH ROAD	I			NORWOOD ST				1		2	3	3	67	67
HUXLEY ST		60	E	COLOMBO ST			1			2	3	3		67
FERRY ROAD	I			ST ASAPH ST	1					2	3	3		67

Table 9.4a : Rural Council Road Crash Sites with a Significant Increase in Crashes in 2008 (Injury and Non-Injury Crashes)

Site Radius = 250 metres

CRASH ROAD		SIDE ROAD	2003	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %
SH 74	I	MARSHLAND ROAD		1	1	4	2	5	13	10	8	46
AWATEA ROAD	I	WIGRAM ROAD			2	1	1	3	7	5	29	57
PRESTONS ROAD	I	WALTERS ROAD			1		1	3	5	3		60
SPENCERVILLE ROAD	I	TURNERS ROAD						3	3	2		

Table 9.5 : State Highway Crash Sites with a Significant Increase in Crashes in 2008 (Injury and Non-Injury Crashes)

Urban Site Radius = 30 metres
Rural Site Radius = 250 metres

CRASH ROAD			SIDE ROAD	2003	2004	2005	2006	2007	2008	TOTAL	Non-Injury	Wet Crash %	Dark Crash %
SH 73 BROUGHAM	I		BURLINGTON ST	3	4	7	3	6	10	33	20	12	36
SH 1S MAIN SOUTH	I		SHANDS ROAD	8	4	3	5	4	9	33	24	21	42
SH 74	I		INNES ROAD	5	1	3	0	1	6	16	10	31	44
SH 74	I		GRIMSEYS ROAD	3	3	0	4	1	5	16	14	19	56
SH 73A MAIN SOUTH	I		SPRINGS ROAD	0	3	0	4	2	6	15	13	33	40
SH 73 BROUGHAM	I		DURHAM ST	4	2	3	0	0	5	14	12	7	21
SH 1S RUSSLEY	I		AVONHEAD ROAD	1	1	0	0	3	5	10	6	10	10
SH 1S RUSSLEY	I		DINTON ST	1	0	3	2	0	4	10	7	10	30
SH 1S		200 N	DICKEYS ROAD	1	0	1	1	2	4	9	8	33	44
SH 75	I		TANKERVILLE ROAD	1	1	1	0	1	3	7	3	0	57
SH 1S MAIN SOUTH		100 W	PARKER ST	0	1	1	0	2	3	7	6	57	14
SH 74		460 S	HOROTANE OBR	0	0	1	0	0	3	4	1	25	100
SH 1S		400 W	FOREMANS ROAD	0	0	0	1	0	2	3	2	0	33
KAITUNA VALLEY ROAD	I		SH 75	0	0	0	1	0	2	3	1	67	0
CHANEYS ON RAMP		300 N	MAIN NORTH ROAD	0	0	1	0	0	2	3	2	33	33
SH 73A		40 W	GARVINS ROAD	0	0	1	0	0	2	3	1	0	67

appendix

- Groupings of crash types
- Grouping of contributing factors

Explanatory notes for the appendix

1. Each traffic crash report has a diagram and a description of what happened. These are used to classify the movements the vehicles were making when they crashed eg ‘collided with parked vehicle’, or ‘lost control while overtaking’. In this report, crash types are grouped into seven categories. The following page shows the types of crashes which are included in each group.

2. Traffic crash reports also include information on why the crash occurred, or on factors contributing to the crash. In this report the hundreds of contributing factor codes used by New Zealand Transport Agency have been condensed into 16 groups for practical reasons. Lists of the factor groups used in this report, and of all the contributing factors used by New Zealand Transport Agency, are shown on the following pages.

3. Note that in the year 2000 there were some minor changes to the contributing factor groups. The most significant change was that ‘inattention’ was grouped with ‘inadequate check’ to form ‘poor observation’. This allowed a more accurate assessment of ‘fatigue’ as a contributing factor, as it now has its own grouping.

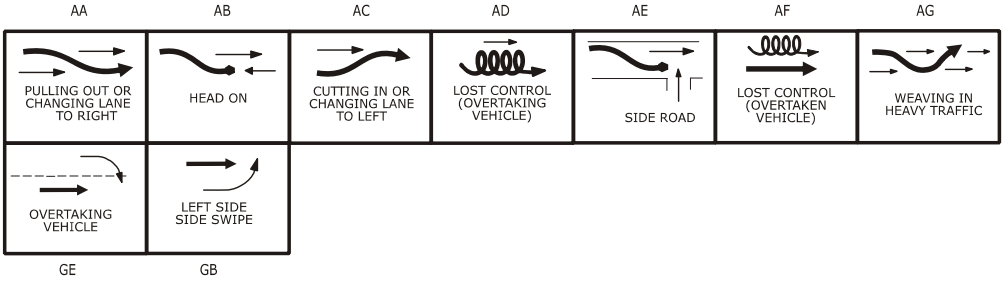
4. The factor group ‘poor handling’ includes factor codes that were only introduced in 1998. This could explain why there may have been a sudden change at this time.

5. The coding of the factors contributing to a crash is subjective. Therefore analysis using contributing factor groups needs to be interpreted with caution. Also, to effectively target safety or enforcement campaigns more analysis of the specific contributing factors involved may be needed.

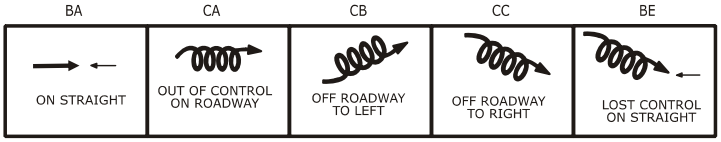
6. It should be noted that a traffic crash generally has more than one contributing factor. Therefore, adding the number of crashes on graphs showing the number of crashes with a given factor or factor group will be greater than the total number of crashes in the city or district.

Groupings of crash types

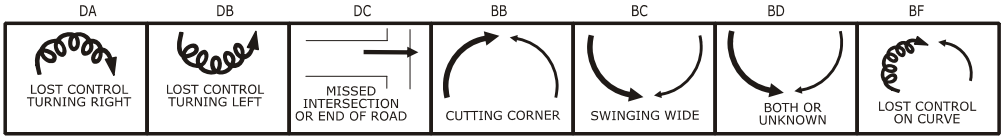
Overtaking



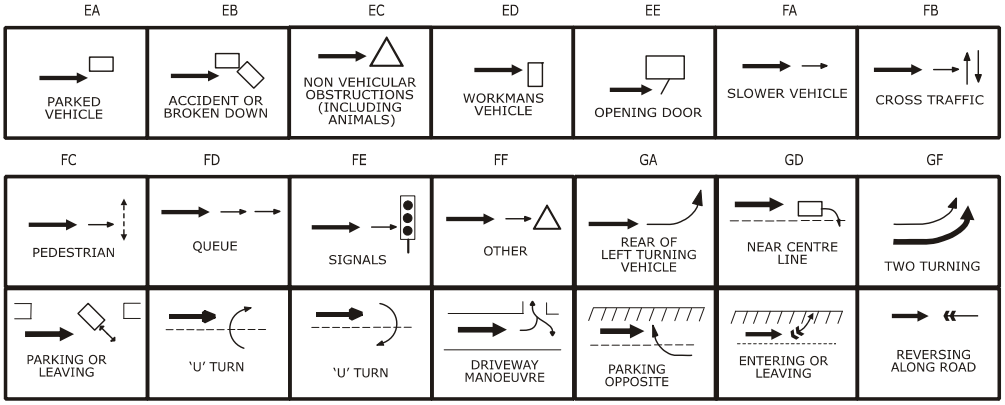
Straight - Lost control / Head on



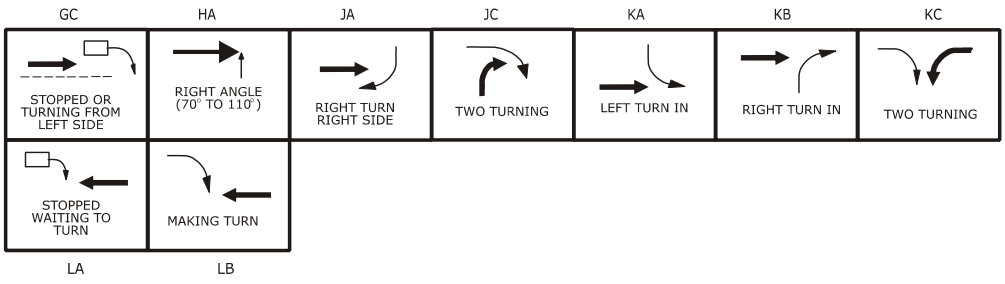
Bend - Lost control / Head on



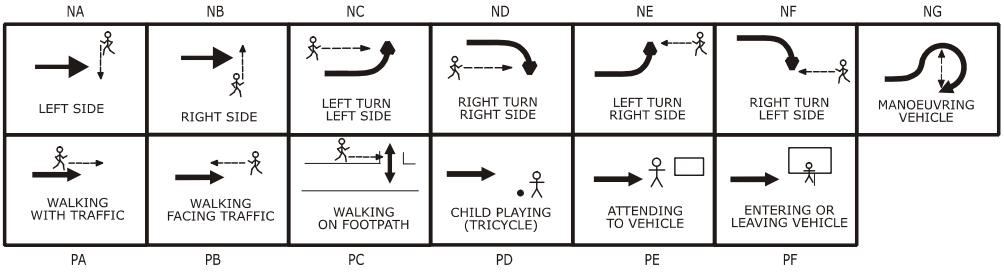
Rear end / Obstruction



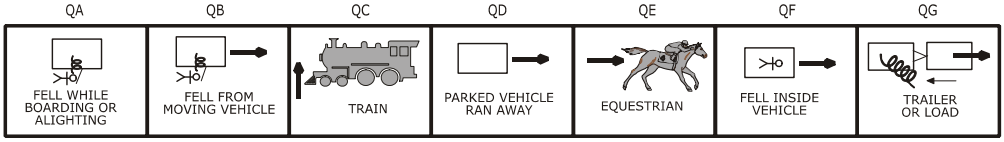
Crossing / Turning



Pedestrian vs Vehicle



Miscellaneous



Groupings of contributing factors

Factor group	Factor codes included
Alcohol involved	100 – 101 103 – 109
Too fast	110 – 119 430 – 432
Failed to give way or stop	300 – 314 320 – 328
Failed to keep left	120 – 128 205
Overtaking	150 – 161
Incorrect lanes or position	129 170 – 183 200 – 204 206 – 209 440 – 448
Poor handling	130 – 134 137 – 149 420 – 429
Poor observation	330 – 360 370 – 379
Poor judgement	380 – 387 400 – 407
Fatigue	410 – 415
Disabled, old age or illness	500 – 507
Pedestrian factors	700 – 731
Cyclist factors	Any factor coded against a cyclist
Vehicle factors	136, 600 – 699
Road factors	135, 800 – 899
Weather	900 – 909

Note:

The following factor codes are not included as they do not fit adequately into any of the above groupings: 102, 106, 190–198, 433, 434, 510–534 and 910–999.

FACTORS PROBABLY CONTRIBUTING TO CRASHES

DRIVER CONTROL

100 **Alcohol or drugs**
- 101 Alcohol suspected
- 102 Alcohol test below limit
- 103 Alcohol test above limit or test refused
- 104 Alcohol test result unknown
- 105 Visibly intoxicated non-driver (pedestrian / cyclist / passenger)
- 106 Dead driver not suspected, tested negative (MOT only)
- 107
- 108 Drugs suspected
- 109 Drugs proven

110 **Too fast for conditions**
- 111 Cornering
- 112 On straight
- 113 To give way at intersection
- 114 Approaching railway crossing
- 115 When passing stationary school bus
- 116 At temporary speed limit
- 117 At crash or emergency

120 **Failed to keep left**
- 121 Swung wide on bend
- 122 Swung wide at intersection
- 123 Cutting corner on bend
- 124 Cutting corner at intersection
- 125 On straight section
- 126 Vehicle crossed raised median
- 127 Driving or riding abreast (cyclists more than 2 abreast)
- 128 Wandering or wobbling
- 129 Too far left / right

130 **Lost control**
- 131 When turning
- 132 Under heavy braking
- 133 Under heavy acceleration
- 134 While returning to seal from unsealed shoulder
- 135 Due to road conditions (requires road series code)
- 136 Due to vehicle fault (requires vehicle series code)
- 137 Avoiding another vehicle, pedestrian, party or obstacle on roadway
- 138 On unsealed road
- 139 End of seal

140 **Failed to signal in time**
- 141 When moving to left, pulling over to left
- 142 When turning left
- 143 When pulling out or moving to the right
- 144 When turning right
- 145 Incorrect Signal

150 **Overtaking**
- 151 Overtaking line of traffic or queue
- 152 Deliberately in the face of oncoming traffic
- 153 Failed to notice oncoming traffic
- 154 Misjudged speed or distance of oncoming traffic
- 155 At no passing line
- 156 With insufficient visibility
- 157 At an intersection without due care
- 158 On left without due care
- 159 Cut in after overtaking
- 160 Vehicle signalling right turn
- 161 Without care at a pedestrian crossing

170 **Wrong lane or turned from wrong position**
- 171 Turned right from incorrect lane
- 172 Turned left from incorrect lane
- 173 Travelled straight ahead from turning lane or flush median
- 174 Turned right from left side of road
- 175 Turned left from near centre line
- 176 Turned into incorrect lane
- 177 Weaving or cut in on multi-lane roads
- 178 Moved left to avoid slow vehicle

180 **In line of traffic**
- 181 Following too closely
- 182 Travelling unreasonably slowly
- 183 Motorist crowded cyclist

190 **Sudden action**
- 191 Braked
- 192 Turned left
- 193 Turned right
- 194 Swerved to avoid pedestrian
- 195 Swerved to avoid animal
- 196 Swerved to avoid crash or broken down vehicle
- 197 Swerved to avoid vehicle
- 198 Swerved to avoid object or for unknown reason

200 **Forbidden movements**
- 201 Wrong way in one way street, motorway or roundabout
- 202 When turning or U turning contrary to a sign
- 203 Contrary to “in” or “out” only driveway sign
- 204 Driving or riding on footpath
- 205 On incorrect side of island or median
- 206 Contrary to “no entry” sign
- 207 In Car Park
- 208 Motor vehicle in cycle lane
- 209 Bus / Transit lane

VEHICLE CONFLICTS

300 **Failed to give way**
- 301 At Stop sign
- 302 At Give Way sign
- 303 When turning to non-turning traffic
- 304 When deemed turning by markings, not geometry
- 305 When turning left, to opposing right turning traffic
- 306 To pedestrian on a crossing
- 307 When turning at signals to pedestrians
- 308 When entering roadway from driveway
- 309 To traffic approaching or crossing from the right
- 310 Failed to give way at one lane bridge / road
- 311 Failed to give way to pedestrian on footpath or verge
- 312 Entering roadway not from driveway or intersection
- 313 To emergency vehicle
- 314 Driver waved through

320 **Did not stop**
- 321 At stop sign
- 322 At steady red light
- 323 At steady red arrow
- 324 At steady amber light
- 325 At steady amber arrow
- 326 At flashing red lights (Rail Xing, Fire Stn etc)
- 327 For police or flag-person
- 328 For school patrol / kea crossing

330 **Inattentive: failed to notice**
- 331 Car slowing, stopping or stopped in front
- 332 Bend in road
- 333 Indication of vehicle in front
- 334 Traffic lights
- 335 Intersection or its Stop / Give Way control
- 336 Other regulatory sign / markings
- 337 Warning sign
- 338 Direction, information signs / markings
- 339 Road-works signs
- 340 Lane use arrows / markings?
- 341 Obstructions on Roadway

350 **Attention diverted by:**
- 351 Passengers
- 352 Scenery or persons outside vehicle
- 353 Other traffic
- 354 Animal or insect in vehicle
- 355 Trying to find intersection, house number, destination
- 356 Advertising or signs
- 357 Emotionally upset
- 358 Cigarette, radio, glove box etc, obj under drivers feet/pedals etc
- 359 Cell phone / navigation device or any communications device
- 360 Driver dazzled

370 **Did not see or look for another party until too late**
- 371 Behind when reversing / manoeuvring
- 372 Behind when changing lanes position or direction (includes U-turns)
- 373 Behind when pulling out from parked position
- 374 Behind when opening door or leaving vehicle
- 375 When required to give way to traffic from another direction
- 376 When required to give way to pedestrians.
- 377 When visibility obstructed by other vehicles
- 378 When visibility limited by roadside features
- 379 When first in queue on receiving green light

380 **Misjudged speed, distance, size or position of:**
- 381 Other vehicle coming from behind or alongside
- 382 Other vehicle coming from another direction with right of way
- 383 Pedestrian movement or intention
- 384 Towed vehicle, or while towing a vehicle
- 385 Size or position of fixed object or obstacle
- 386 Of own vehicle
- 387 Misjudged intentions of another party

GENERAL DRIVER

400 **Inexperience**
- 401 In driving in fast, complex or heavy traffic
- 402 New driver showed inexperience
- 403 Driving strange vehicle
- 404 Overseas driver fails to adjust to local conditions
- 405 Driver under instruction
- 406 At towing trailer / other vehicle
- 407 Driver over-reacted
- 408 Unsupervised cyclist

410 **Fatigue (drowsy, tired, fell asleep)**
- 411 Long trip
- 412 Lack of sleep
- 413 Exhaust fumes
- 414 Worked long hours before driving
- 415 Exceeded driving hours

420 **Incorrect use of vehicle controls**
- 421 Started in gear
- 422 Stalled engine
- 423 Wrong pedal
- 424 Footrest, stand
- 425 Ignition turned off (steering locked)
- 426 Lights not switched on
- 427 Foot slipped
- 428 Parking brake not fully applied
- 429 Trailer coupling or safety chain not secured

430 **Showing off**
- 431 Racing
- 432 Playing chicken
- 433 Wheel spins / wheelies / doughnuts etc
- 434 Intimidating driving

440 **Parked or stopped**
- 441 Inadequately lit at night: (not lit by street lights or park lights off)
- 442 At point of limited visibility
- 443 Not as close as practicable to side of road
- 444 On incorrect side of road
- 445 Double parked
- 446 In 'No Stopping' area
- 447 Not clear of rail crossing
- 448 In cycle or Transit lane

GENERAL PERSON

500 **Illness and disability**
- 501 Illness with no warning e.g. heart attack, unexpected epilepsy)
- 502 Physically disabled
- 503 Defective vision
- 504 Medical illness (not sudden) flu, diabetes
- 505 Mental illness (depression, psychosis)
- 506 Suicidal (but not successful)
- 507 Impaired ability due to old age

510 **Intentional or criminal**
- 511 Deliberate homicide (only if succeeded)
- 512 Intentional collision
- 513 Committed suicide (only if succeeded)
- 514 Evading enforcement
- 515 Object deliberately thrown at or dropped on vehicle / shot at
- 516 Object thrown from vehicle
- 517 Stolen vehicle

520 **Driver or passenger, boarding, leaving , in vehicle**
- 521 Boarding moving vehicle
- 522 Intentionally leaving moving vehicle
- 523 Riding in insecure position
- 524 Interfered with driver
- 525 Opened door inadvertently
- 526 Overloaded vehicle (with passengers)
- 527 Child playing in parked vehicle

530 **Miscellaneous person**
- 531 Casualty drowned
- 532 Casualty thrown from vehicle
- 533 Equestrian not keeping to verge
- 534 Cyclist or M/cyclist wearing dark clothing

VEHICLES

600 **Lights and reflectors at fault or dirty**
- 601 Dazzling headlights
- 602 Headlights inadequate or no headlights
- 603 Headlights failed suddenly
- 604 Brake-lights or indicators faulty or not fitted
- 605 Tail-lights inadequate or no tail-lights
- 606 Reflectors inadequate or no reflectors
- 607 Lights or reflectors obscured

610 **Brakes**
- 611 Parking brake failed
- 612 Parking brake defective
- 613 Service brake failed
- 614 Service brake defective
- 615 Jack-knifed

620 **Steering**
- 621 Defective
- 622 Failed suddenly

630 **Tyres**
- 631 Puncture or blowout
- 632 Worn tread on tyre
- 633 Incorrect tyre type
- 634 Mixed treads / space savers

640 **Windscreen or mirror**
- 641 Shattered windscreen
- 642 Windscreen or rear window dirty
- 643 Rear vision mirror not adjusted correctly
- 644 No rear vision mirror
- 645 Windscreen or rear window misted/frosted
- 646 Inadequate or no sun-visors
- 647 Inadequate or no windscreen wipers
- 648 Cycle / Motorcycle visor, glasses, goggles or screen

650 **Mechanical**
- 651 Engine failure
- 652 Transmission failure (including chains and gears)
- 653 Accelerator or throttle jammed

660 **Body or chassis**
- 661 Body, chassis or frame (cycle, m/c) failure
- 662 Suspension failure
- 663 Failure of door catch or door not shut
- 664 Inadequate mudguards
- 665 Inadequate tow coupling
- 666 Inadequate or no safety chain
- 667 Bonnet catch failed
- 668 Wheel off
- 669 Broken axle
- 670 Inconspicuous colour
- 671 Blind spot
- 672 Seat belt / restraint failed
- 673 Air-bag failed to inflate (fully)

680 **Load**
- 681 Load interferes with driver
- 682 Not well secured or load moved
- 683 Over-hanging
- 684 Load obscured vision
- 685 Excess dimensions not adequately indicated
- 686 Over dimension vehicle or load
- 687 Load too heavy
- 688 Towed vehicle or trailer too heavy or incompatible

690 **Miscellaneous vehicle**
- 691 Emergency Vehicle attending emergency
- 692 Vehicle caught fire
- 693 Being towed
- 694 Air-bag contributed to crash or injury
- 695 Seatbelt / restraint absent or unusable
- 696 Dangerous goods

PEDESTRIANS

700 **Walking along road**
- 701 Not keeping to footpath
- 702 Not keeping to side of road
- 703 Not facing oncoming traffic
- 704 Not on outside of blind curve
- 705 Wheeled ped inconsiderate or dangerous on footpath

710 **Crossing road**
- 711 Walking heedless of traffic
- 712 Stepping out from behind vehicles
- 713 Running heedless of traffic
- 714 Failed to use pedestrian crossing when one within 20 metres
- 715 Waiting on roadway for moving traffic
- 716 Confused by traffic or stepped back
- 717 Suddenly stepped onto pedestrian crossing
- 718 Not complying with traffic signals or school patrols
- 719 Misjudged speed and / or distance of vehicle

720 **Miscellaneous**
- 721 Pushing, working on or unloading vehicle
- 722 Playing on road or unnecessarily on road
- 723 Working on road
- 724 Wearing dark clothing
- 725 Vision obscured by umbrella or clothing
- 726 Child escaped from supervision
- 727 Unsupervised child
- 728 Sitting / lying on road
- 729 Pedestrian from school bus
- 730 Pedestrian behind reversing / manoeuvring vehicle
- 731 Overseas pedestrian

ROAD

800 **Slippery**
- 801 Rain
- 802 Frost or ice
- 803 Snow or hail
- 804 Loose material on seal
- 805 Mud
- 806 Oil / Diesel / Fuel
- 807 Painted markings
- 808 Recently graded
- 809 Surface bleeding / defective

810 **Surface**
- 811 Potholed
- 812 Uneven
- 813 Deep loose metal
- 814 High crown
- 815 Curve not well banked
- 816 Edge badly defined or gave way
- 817 Under construction or maintenance
- 818 Unusually narrow
- 819 Broken glass

820 **Obstructed**
- 821 Fallen tree or branch
- 822 Slip or subsidence
- 823 Flood waters, large puddles, ford
- 824 Road works not adequately lighted
- 825 Road works not adequately signposted
- 826 Roadside object fell on vehicle
- 827 Object flicked up by vehicle

830 **Visibility limited**
- 831 Curve
- 832 Crest
- 833 Building
- 834 Trees
- 835 Hedge or fence
- 836 Scrub or long grass
- 837 Bank
- 838 Temporary obstruction, dust or smoke
- 839 Parked vehicle

840 **Signs and signals**
- 841 Damaged, removed or malfunction
- 842 Badly located
- 843 Ineffective or inadequate
- 844 Necessary
- 845 Signals turned off

850 **Markings**
- 851 Faded
- 852 Difficult to see under weather conditions
- 853 Markings necessary
- 854 Not visible due to geometry or vehicles
- 855 Old markings not adequately removed

860 **Street lighting**
- 861 Failed
- 862 Inadequate
- 863 Glare on wet road
- 864 Pedestrian crossing not adequately lighted

870 **Raised islands and roundabouts**
- 871 Traffic island(s) difficult to see
- 872 Traffic island(s) Ineffective, badly located or designed
- 873 Cyclist squeeze point

MISCELLANEOUS

900 **Weather**
- 901 Heavy rain
- 902 Dazzling sun
- 903 Strong wind
- 904 Fog or mist
- 905 Snow, sleet or hail

910 **Animals**
- 911 Household pet rushed out or playing
- 912 Farm animal straying
- 913 Farm animal attended, but inadequate warning or unexpected
- 914 Farm animal attended, but out of control
- 915 Wild animal

920 **Entering or leaving land use**
- 921 Roadside stall
- 922 Service station
- 923 Specialised liquor outlet
- 924 Take away foods
- 925 Shopping complex
- 926 Car parking building / area
- 927 Other commercial
- 928 Industrial site
- 929 Private house / farm
- 930 Other non-commercial
- 931 Mobile shop or vendor

999 **Unknown**