

Heavy Motor Vehicles

Road Safety Report 2005 to 2009



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June 2010

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Introduction and general information

This road safety report is an example of information supplied by the NZ Transport Agency to assist with implementing the *Safer Journeys* road safety strategy. *Safer Journeys* contains a long-term, multi-agency commitment to achieving a safe road system, which is increasingly free of death and serious injury in New Zealand, and which refuses to accept that any road death is inevitable.

The NZ Transport Agency also has responsibility for promoting safety and sustainability in land transport, among a variety of other functions.

This report helps identify road safety issues associated with heavy motor vehicles 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
- characteristics of crashes on council authority roads

In this report Heavy Motor Vehicles are those vehicles which are defined as trucks and hence does not include buses or coaches.

The information is intended to assist road controlling authorities, the New Zealand Police and others in evaluating the safety performance of Heavy Motor Vehicles on the road network.

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 NZ Transport Agency's crash database. This database includes all crashes involving injury for which Police reports have been completed and forwarded to the NZ Transport Agency. Mostly five-year data (2005 to 2009) has been used, but 10-year data (2000 to 2009) has been used to analyse trends.

The Heavy Motor Vehicle data was selected on the basis of the crashes involving a heavy motor vehicle that was not parked and does not include buses and coaches.

Non-injury data is not readily accessible as information about the drivers is not currently entered into the database.

Comparison 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. For Heavy Motor Vehicles the data is compared with all crashes (inclusive of heavy motor vehicle) and with all crashes specifically on the state highways (on the assumption that a significant proportion of heavy motor vehicle activity will be on the state highway network).

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 2009 populations estimates updated from the 2006 census, traffic flows from the year 2009, and the average of five year crash data (2005–2009).

3. Traffic flows are based on Road Asset Maintenance and Management (RAMM) data from December 2009. 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 2005 to 2009 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 group 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 for the specific road users listed in Figures 9.1 are listed by the total number of crashes at the sites in the period 2005 to 2009 inclusive. Sites were defined by selecting both injury and non-injury crashes that involved the specific road users and then grouping them based on an urban site radius of 30 metres and a rural site radius of 250 metres. Only sites with 5 or more reported crashes have been listed.

11. Figures 9.2 are roads/routes within a local authority which have large numbers of the specific road users involved in crashes on them. The numbers are determined by aggregating the sites as defined by the first named road of the sites (down to sites with only 1 crash) in the list that gives the blackspots in Figures 9.1. No account is taken of the length of the road or whether the named road is contiguous within the named authority. Roads/routes are listed for those with more than 5 reported crashes in the period 2005 to 2009.

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	2005	2006	2007	2008	2009
Northland	30%	28%	34%	38%	27%
Auckland	17%	20%	16%	18%	18%
Waikato	40%	38%	50%	47%	40%
Bay of Plenty	32%	37%	38%	29%	27%
Gisborne	32%	26%	31%	28%	27%
Hawkes Bay	80%	75%	59%	68%	42%
Taranaki	55%	65%	79%	41%	36%
Manawatu-Wanganui	38%	34%	35%	36%	31%
Wellington	68%	61%	74%	55%	48%
Nelson-Marlborough	44%	52%	54%	50%	39%
West Coast	53%	55%	59%	53%	54%
Canterbury	47%	42%	49%	45%	43%
Otago	99%	85%	77%	69%	39%
Southland	78%	103%	73%	53%	39%
New Zealand	36%	35%	37%	35%	33%

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
Heavy Motor Vehicles	n/a	n/a	n/a	n/a
All NZ SH	n/a	n/a	28	17
All NZ	37	29	27	17

Figure 1.3 Casualties per 100 million vehicle kilometres travelled

	Council roads		State Highways	
	Urban	Rural	Urban	Rural
Heavy Motor Vehicles	n/a	n/a	n/a	n/a
All NZ SH	n/a	n/a	38	26
All NZ	46	42	36	26

NB: The values in these tables relate to all vehicles as details about distances for heavy motor vehicle is not available.

Figure 1.4 Peer group crash and casualty rates

Regions

Region name	Crashes per					Casualties per					2009 Population	% of rural crashes
	10,000 Population (5 year average)	100 million vehicle kilometres travelled				10,000 Population (5 year average)	100 million vehicle kilometres travelled					
		Council roads		State Highways			Council roads		State Highways			
		Urban	Rural	Urban	Rural		Urban	Rural	Urban	Rural		
Auckland	23	33	29	40	14	30	42	41	53	19	1436500	28
Bay of Plenty	21	28	29	17	17	30	35	43	24	27	272300	48
Gisborne	27	31	21	28	28	38	41	31	38	44	46200	47
Hawkes Bay	32	46	30	37	24	44	57	45	48	38	153400	47
Manawatu Wanganui	27	39	25	31	18	38	47	37	42	28	230200	54
Nelson Marlborough	25	39	23	22	20	33	47	35	27	29	136800	52
Southland	44	71	32	57	24	67	102	50	77	39	93500	50
Greater Wellington	22	41	37	32	14	28	49	50	43	20	478600	27
Canterbury	25	41	22	24	14	33	51	31	31	21	559200	30
Chathams	72	n/a	n/a	n/a	n/a	91	n/a	n/a	n/a	n/a	640	n/a
Northland	31	34	34	20	22	46	43	49	32	39	155800	71
Otago	42	73	43	47	21	62	103	65	65	33	205400	45
Taranaki	28	45	31	30	22	39	58	45	38	33	108100	53
Waikato	30	40	29	22	19	42	50	39	31	30	406500	58
West Coast	38	35	24	20	22	55	48	34	30	33	32600	77
All New Zealand	26	38	29	28	17	36	48	42	38	26	4331000	41

Note: In this table, also in Figures 1.5 to 1.9, the values are for ALL CRASHES as heavy motor vehicle VKTs have not been determined.

N/A : Denotes that data for vehicle kilometres travelled (VKT) is not available or inappropriate for some categories.

Crashes and casualties per 100 million VKT are based on five years of reported injury on-road crash data (2005-2009) and December 2009 VKT estimates.

Crashes and casualties per 10,000 population are based on five year average crash data (2005-2009) and Statistics NZ 2009 population estimates.

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

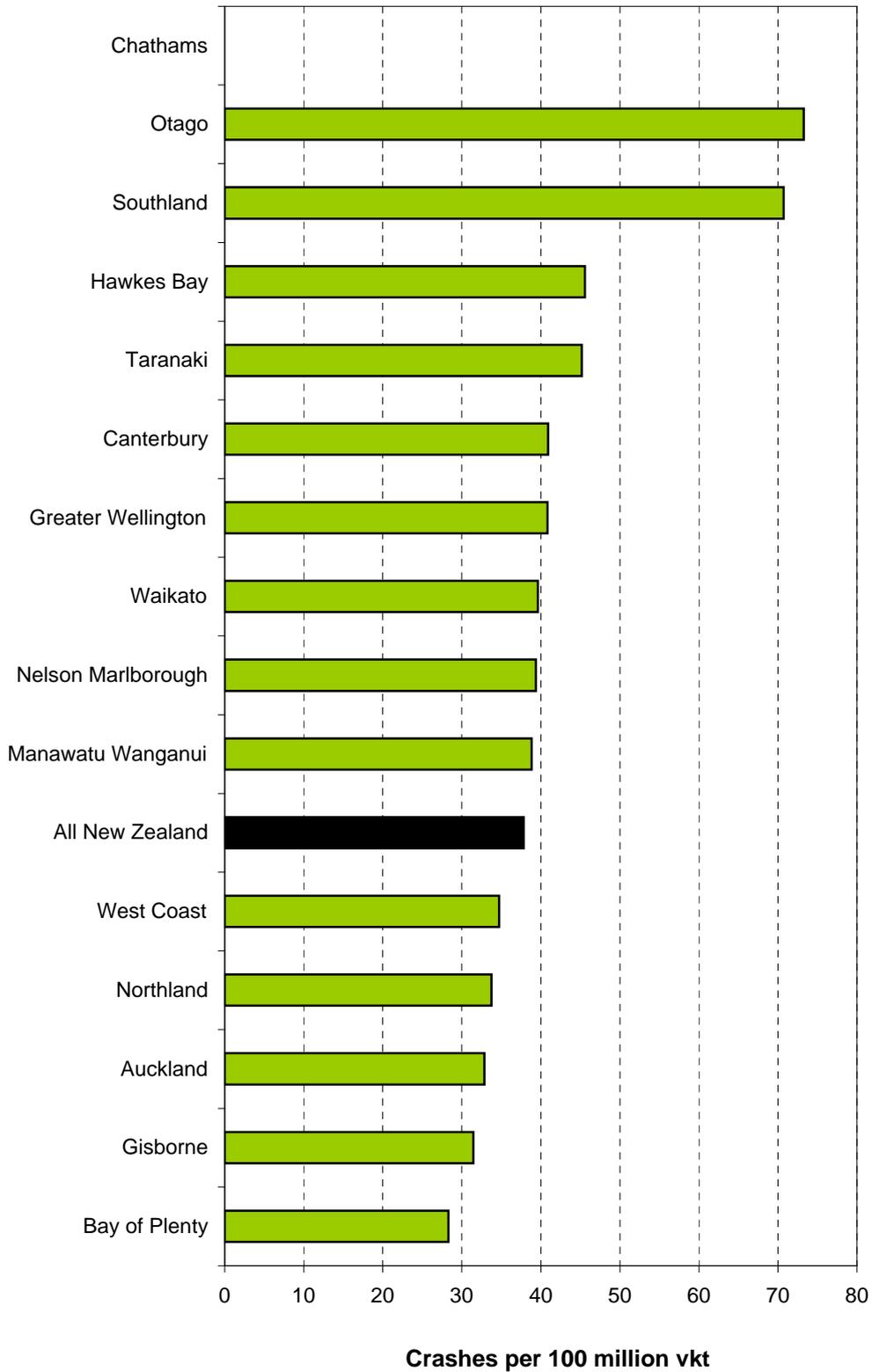


Figure 1.6 Crashes per 100 million vehicle-kilometres travelled - rural council roads

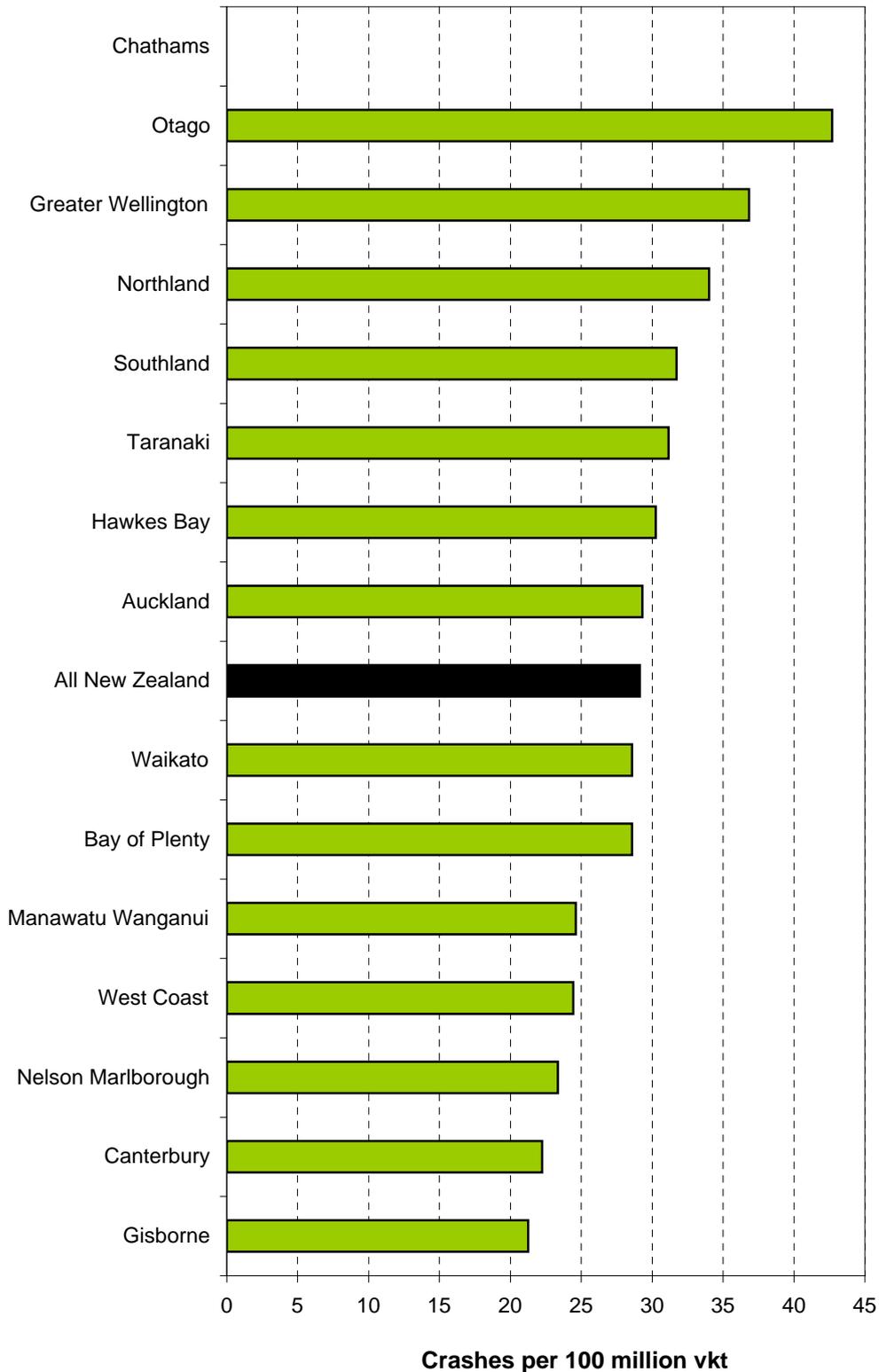
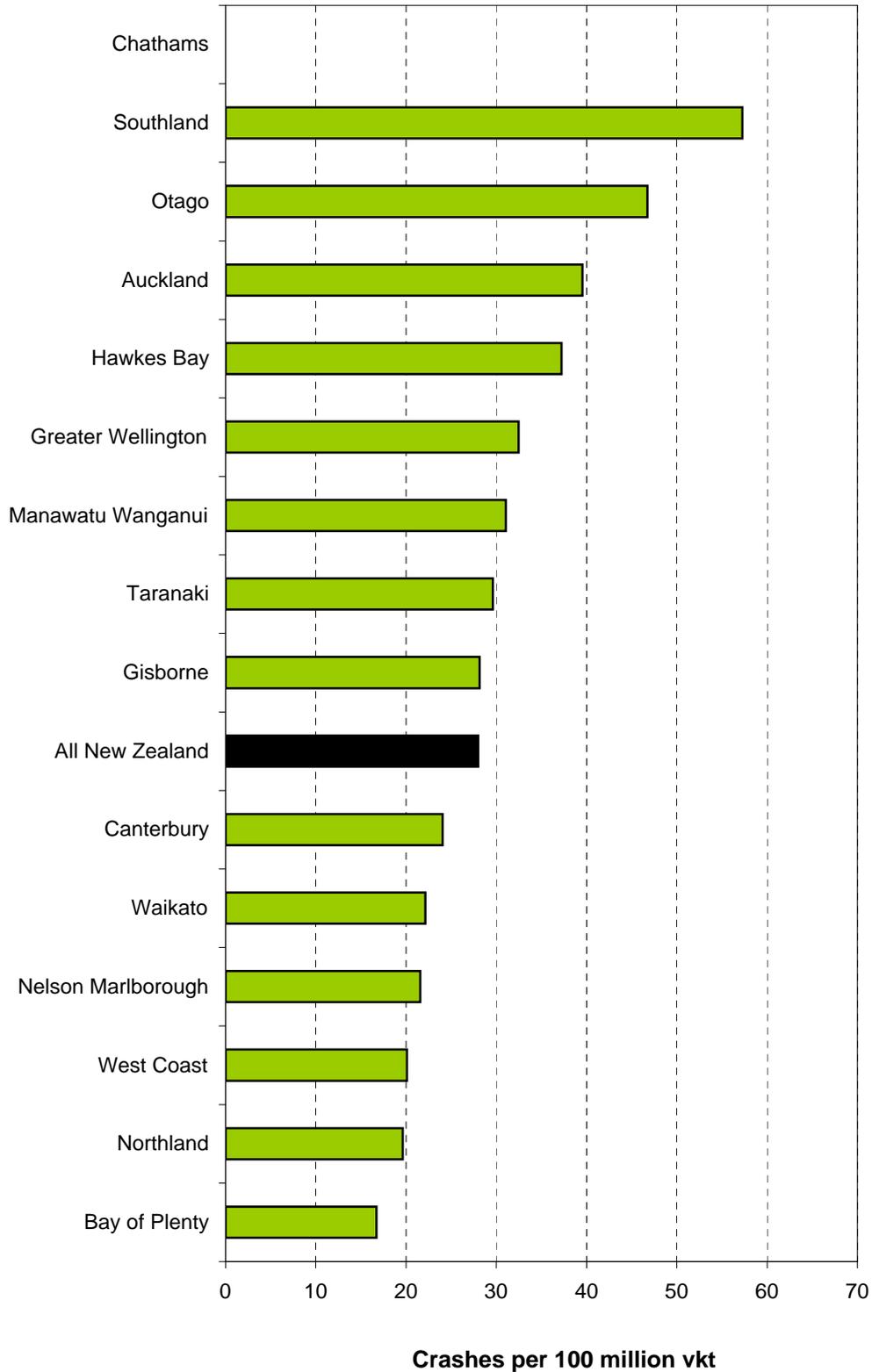
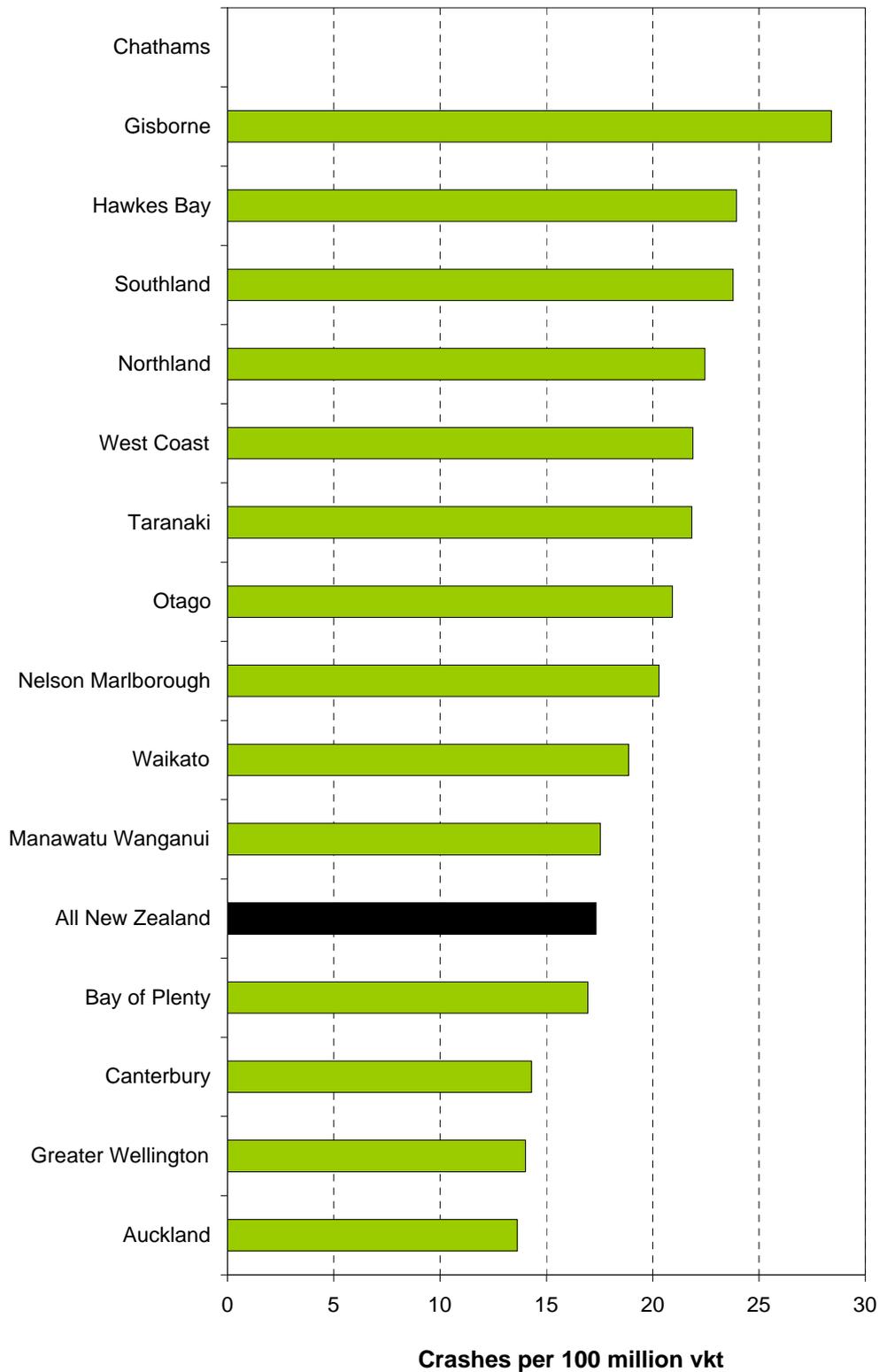


Figure 1.7 Crashes per 100 million vehicle kilometres travelled - urban state highways



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



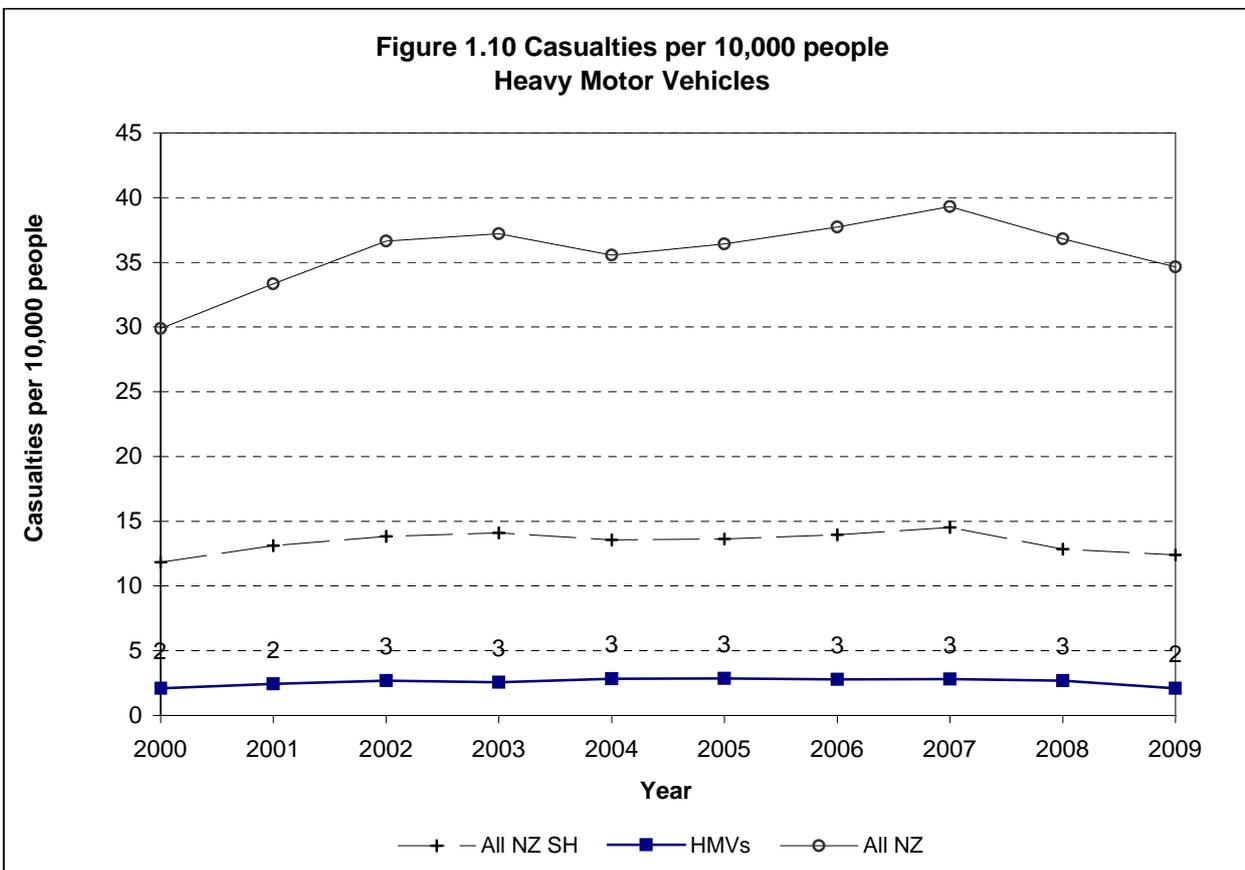
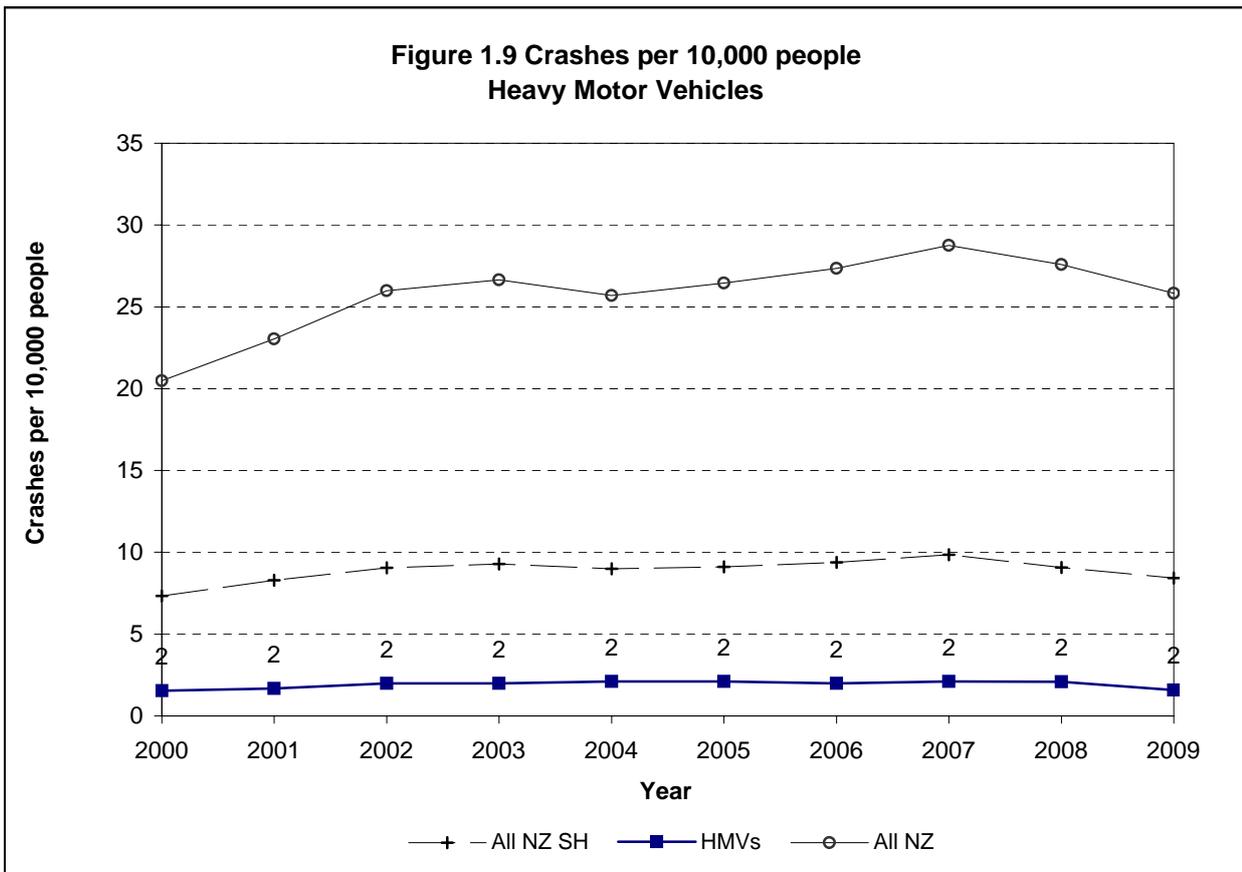


Figure 1.11 Social cost of crashes in Heavy Motor Vehicles in 2009

		Heavy Motor Vehicles	New Zealand
Council roads	urban	\$70.84	\$1,607.40
	rural	\$52.55	\$909.43
State Highways	urban	\$31.65	\$299.76
	rural	\$246.25	\$1,487.35
Total		\$401.30	\$4,303.94

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 \$3.5 million (in June 2009 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 2009 update', available at the Ministry of Transport's website:

<http://www.transport.govt.nz/assets/NewPDFs/NewFolder/Social-Cost-June-2009-update-final.pdf>

The average social cost per reported crash (in June 2009 dollars) are estimated at:

Rural fatal crash	\$4,260,000
Rural serious crash	\$820,000
Rural minor crash	\$91,000
Urban fatal crash	\$3,775,000
Urban serious crash	\$699,000
Urban minor crash	\$82,000

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 2005 to 2009 - whole Region

	2005	2006	2007	2008	2009	Total	%	All NZ
Fatal crashes	73	73	65	52	48	311	7%	3%
Serious crashes	196	171	195	181	134	877	21%	18%
Minor crashes	605	586	630	654	499	2974	71%	79%
Total injury crashes	874	830	890	887	681	4162	100%	100%
Non-injury crashes	2290	2327	2350	2310	2012	11289		

Figure 2.2: Crash numbers and severity 2005 to 2009 - urban roads

	2005	2006	2007	2008	2009	Total	%	All NZ
Fatal crashes	10	17	17	14	9	67	4%	1%
Serious crashes	55	67	63	64	35	284	18%	16%
Minor crashes	255	230	257	281	226	1249	78%	83%
Total injury crashes	320	314	337	359	270	1600	100%	100%
Non-injury crashes	1396	1382	1402	1406	1226	6812		

Figure 2.3: Crash numbers and severity 2005 to 2009 - rural roads

	2005	2006	2007	2008	2009	Total	%	All NZ
Fatal crashes	63	56	48	38	39	244	10%	5%
Serious crashes	141	104	132	117	99	593	23%	22%
Minor crashes	350	356	373	373	273	1725	67%	72%
Total injury crashes	554	516	553	528	411	2562	100%	100%
Non-injury crashes	894	945	948	904	786	4477		

Figure 2.4: Casualty numbers and severity 2005 to 2009 - whole Region

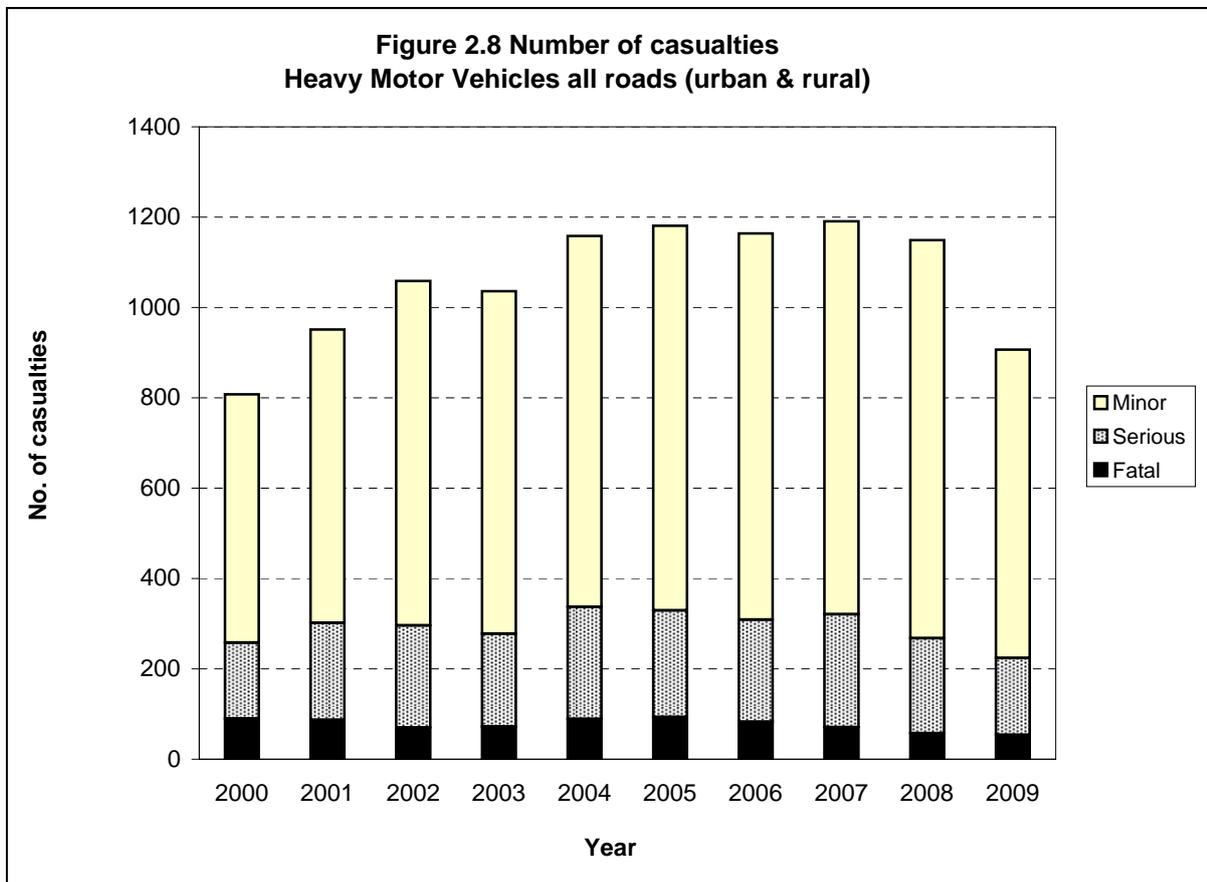
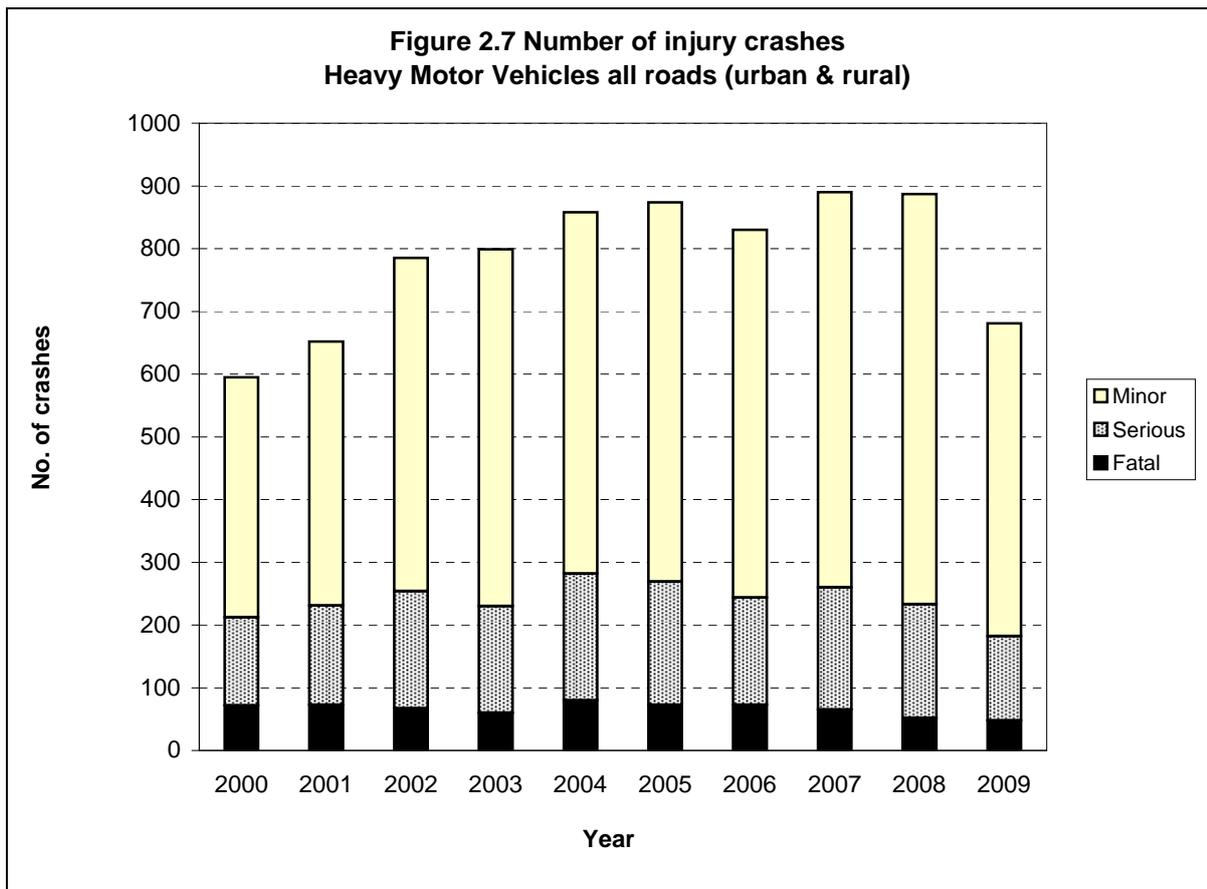
	2005	2006	2007	2008	2009	Total	%	All NZ
Fatal casualties	93	83	71	57	54	358	6%	3%
Serious casualties	236	226	250	211	170	1093	20%	17%
Minor casualties	852	855	870	881	683	4141	74%	81%
Total casualties	1181	1164	1191	1149	907	5592	100%	100%

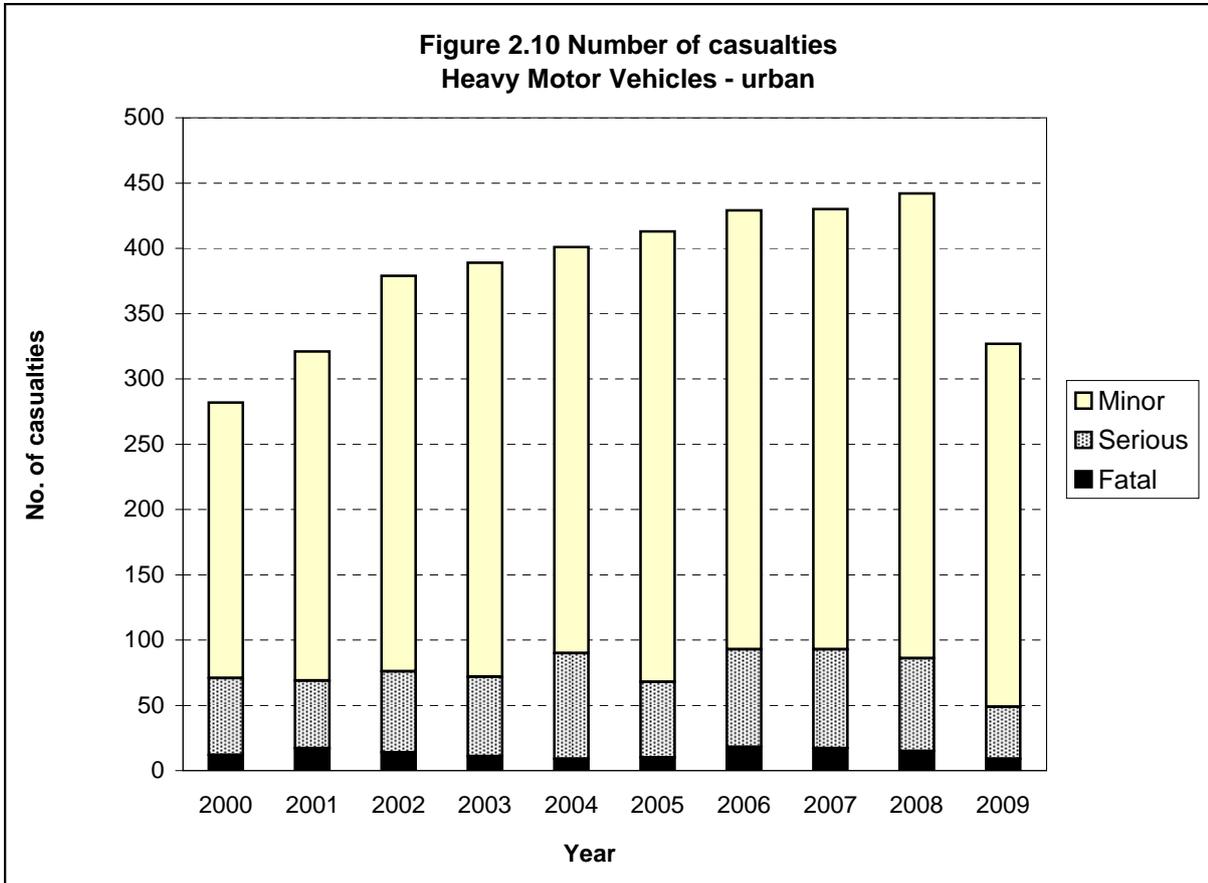
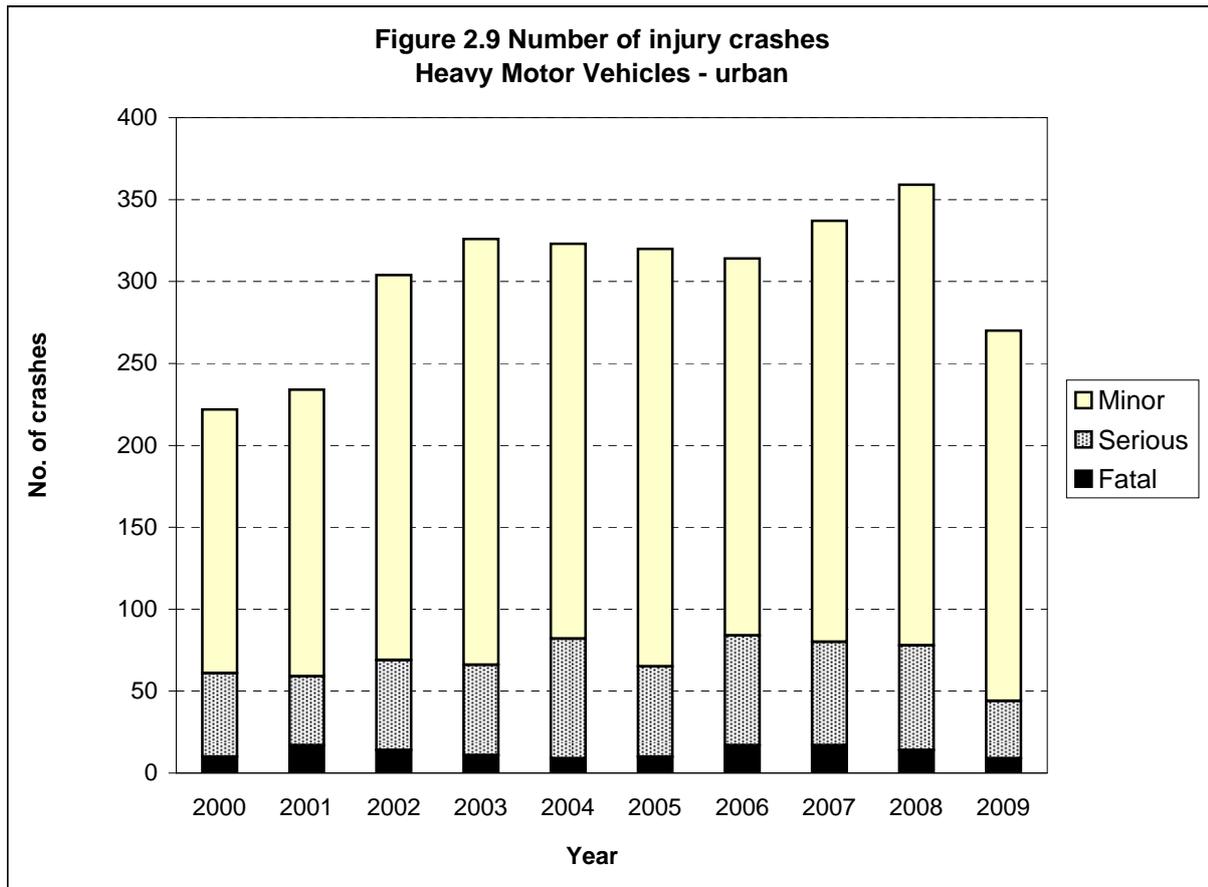
Figure 2.5: Casualty numbers and severity 2005 to 2009 - urban roads

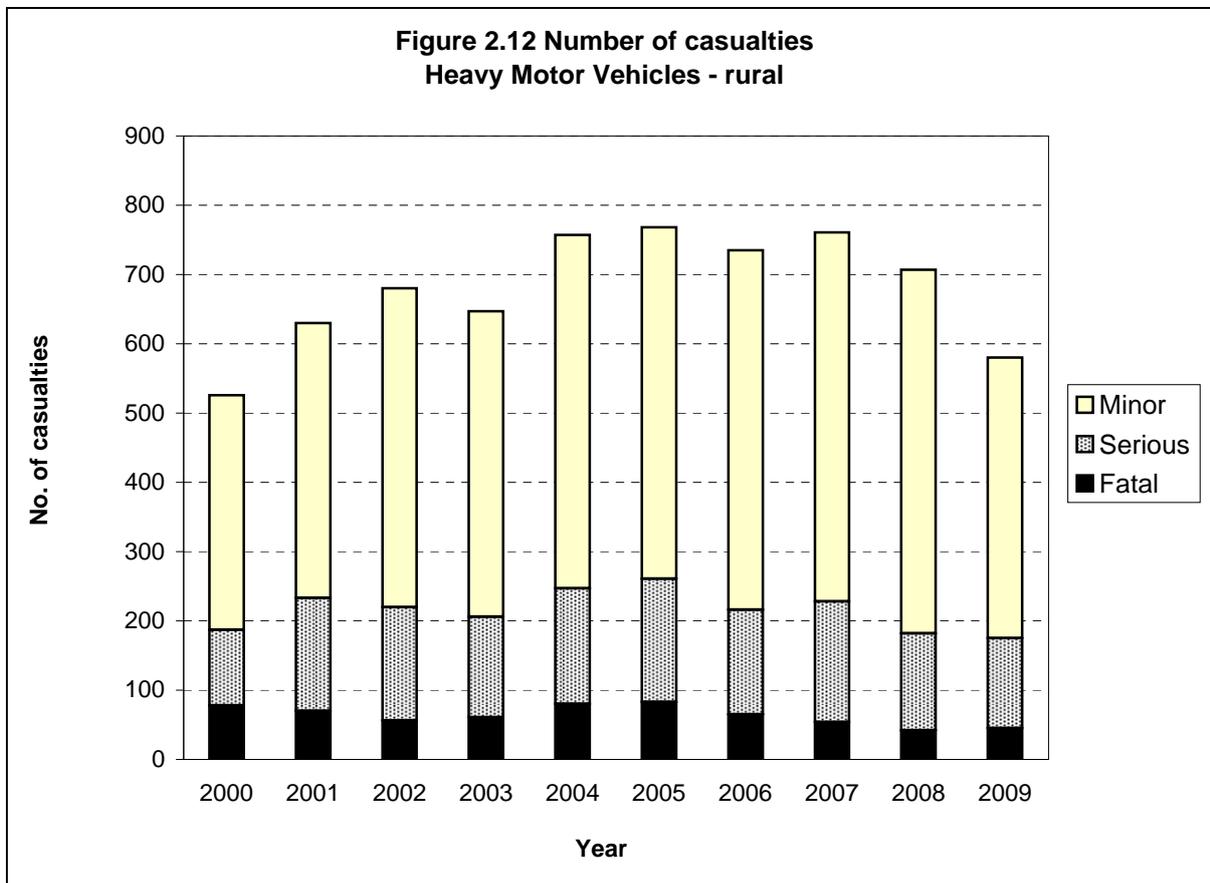
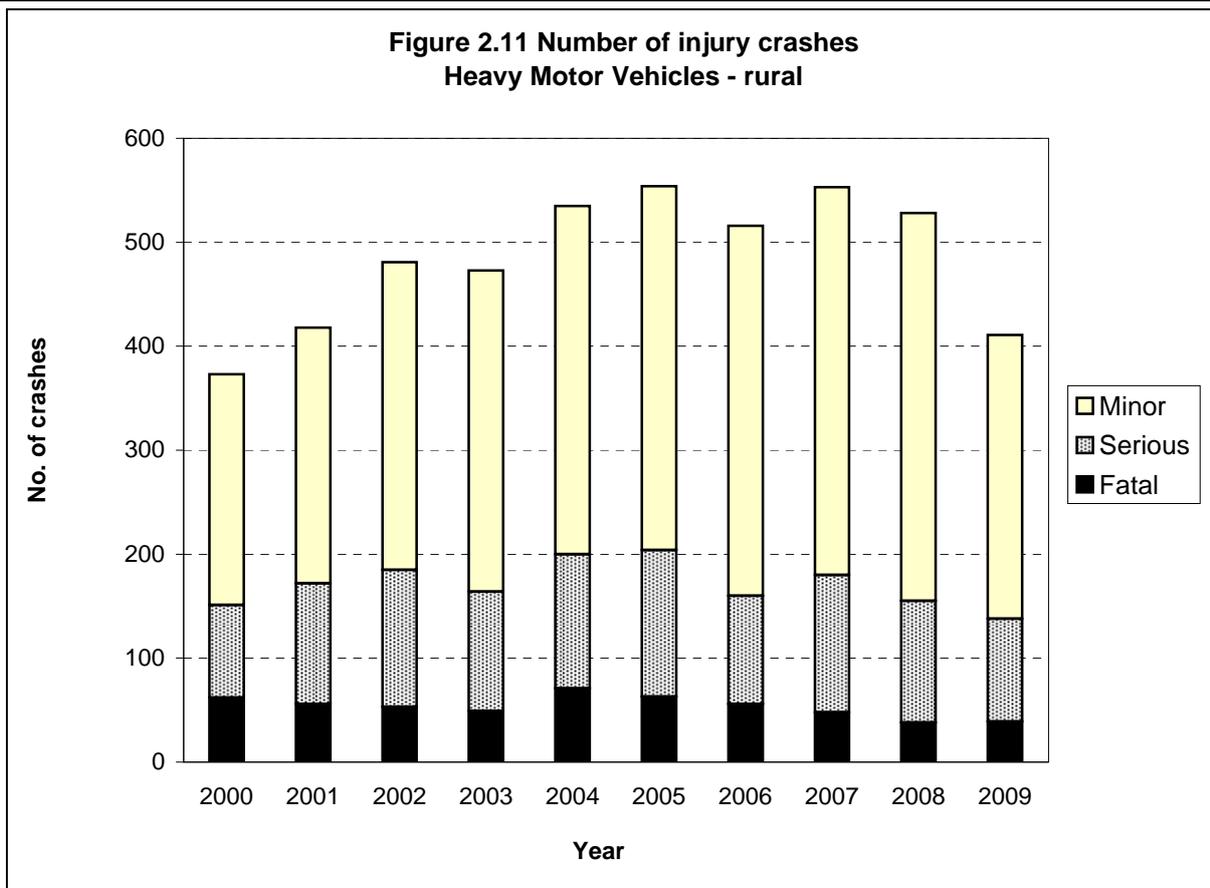
	2005	2006	2007	2008	2009	Total	%	All NZ
Fatal casualties	10	18	17	15	9	69	3%	1%
Serious casualties	58	75	76	71	40	320	16%	14%
Minor casualties	345	336	337	356	278	1652	81%	85%
Total casualties	413	429	430	442	327	2041	100%	100%

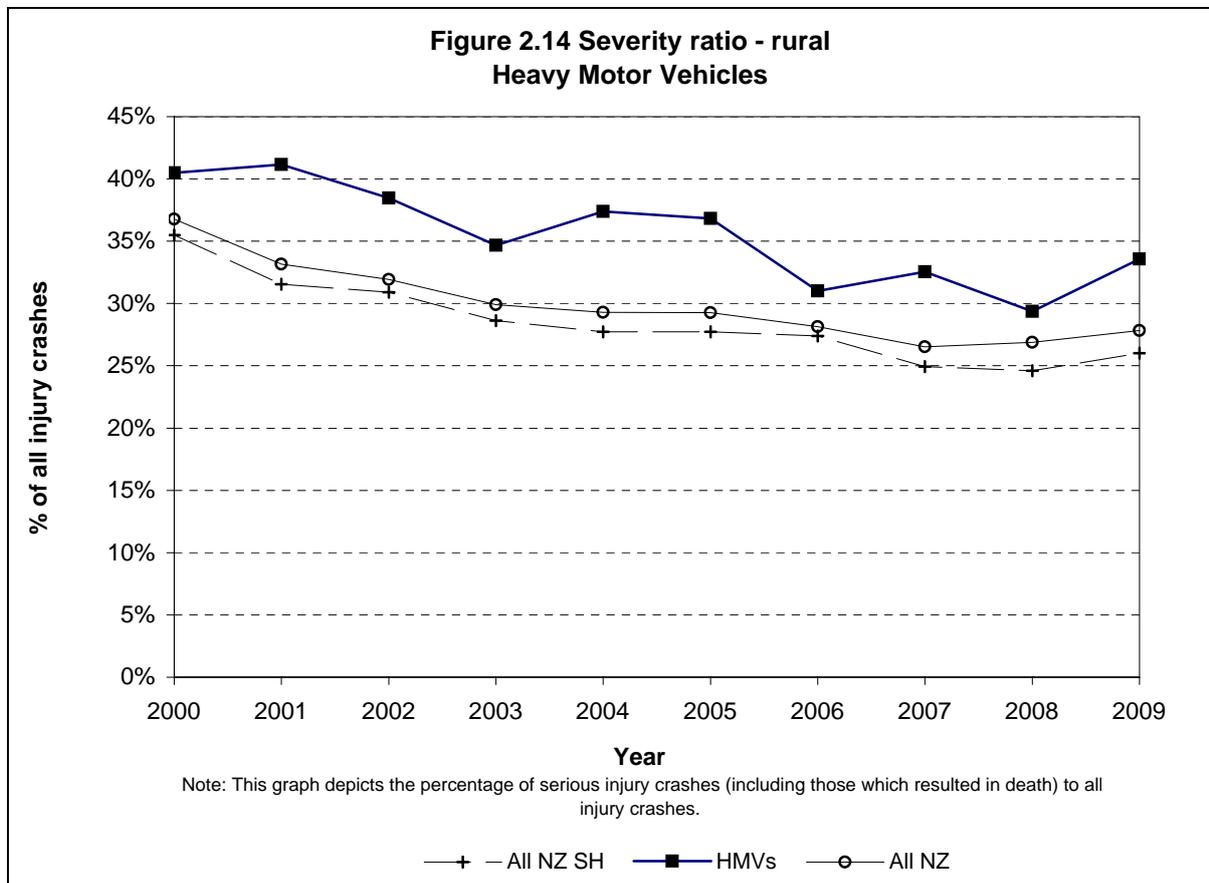
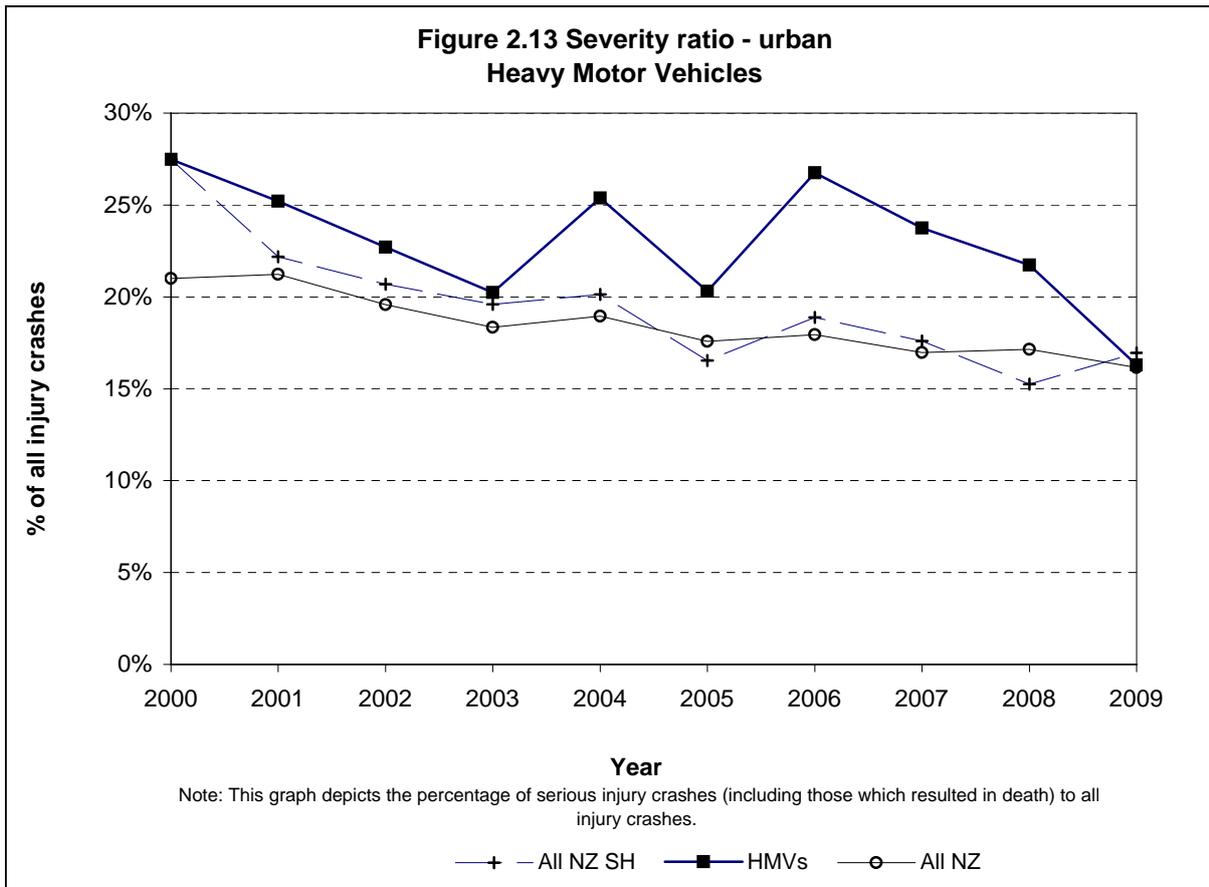
Figure 2.6: Casualty numbers and severity 2005 to 2009 - rural roads

	2005	2006	2007	2008	2009	Total	%	All NZ
Fatal casualties	83	65	54	42	45	289	8%	4%
Serious casualties	178	151	174	140	130	773	22%	20%
Minor casualties	507	519	533	525	405	2489	70%	76%
Total casualties	768	735	761	707	580	3551	100%	100%



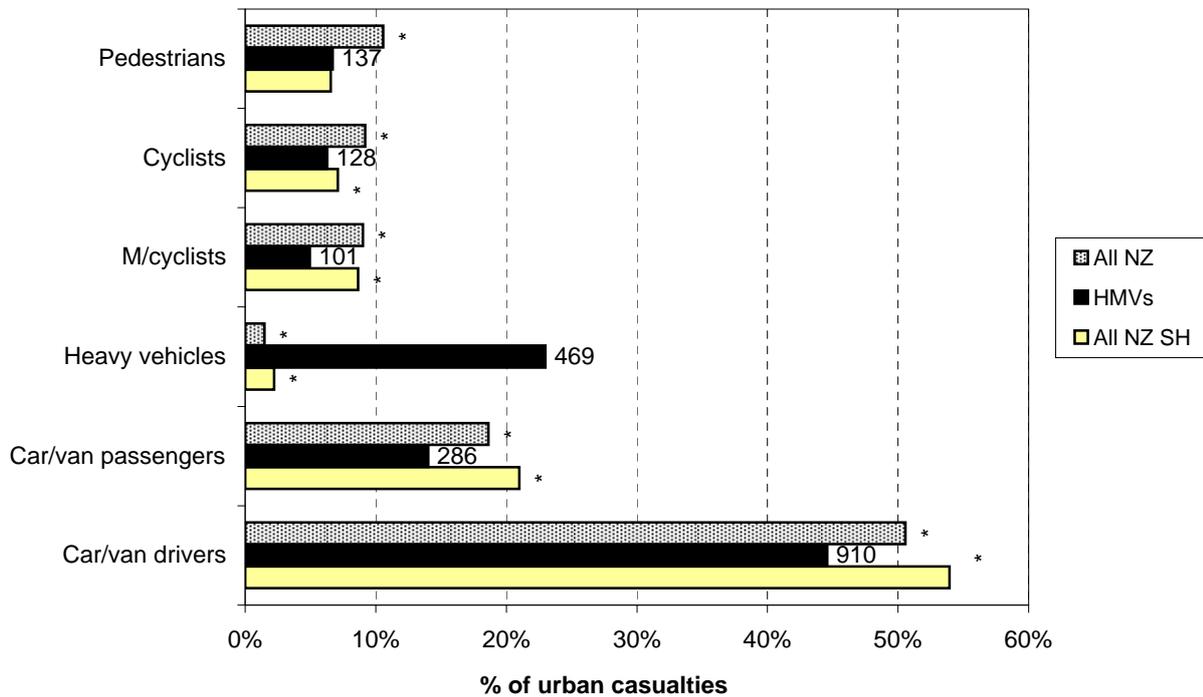






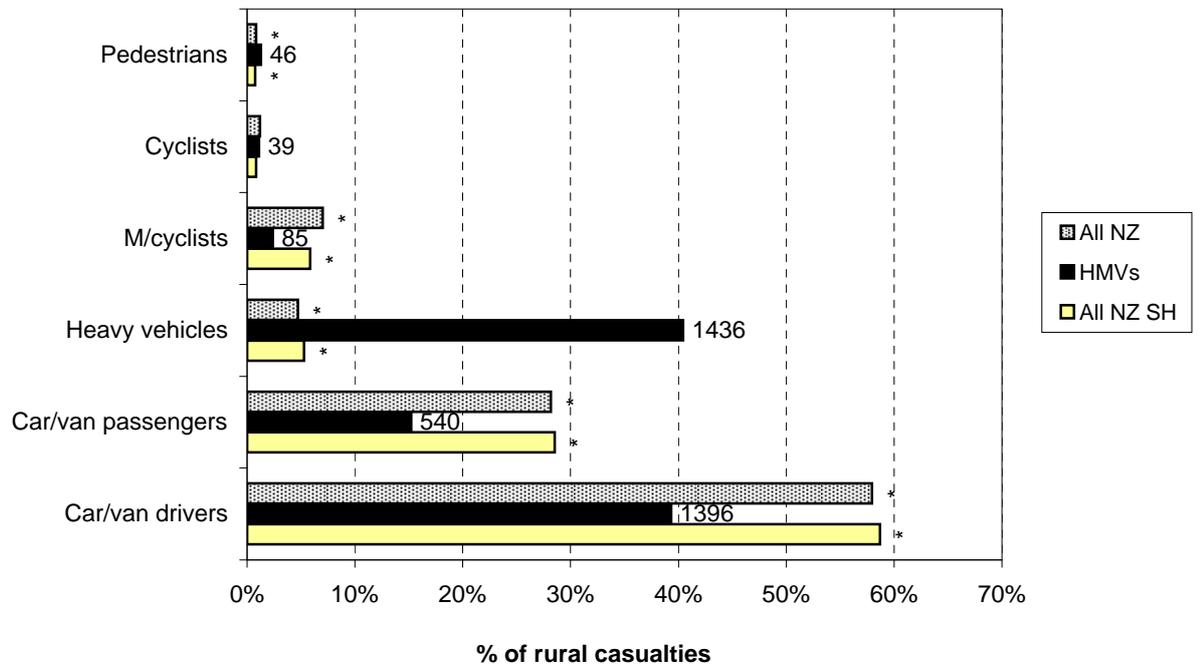
Road User Statistics

**Figure 3.1 Road user casualties - urban
Heavy Motor Vehicles (2005-2009)**



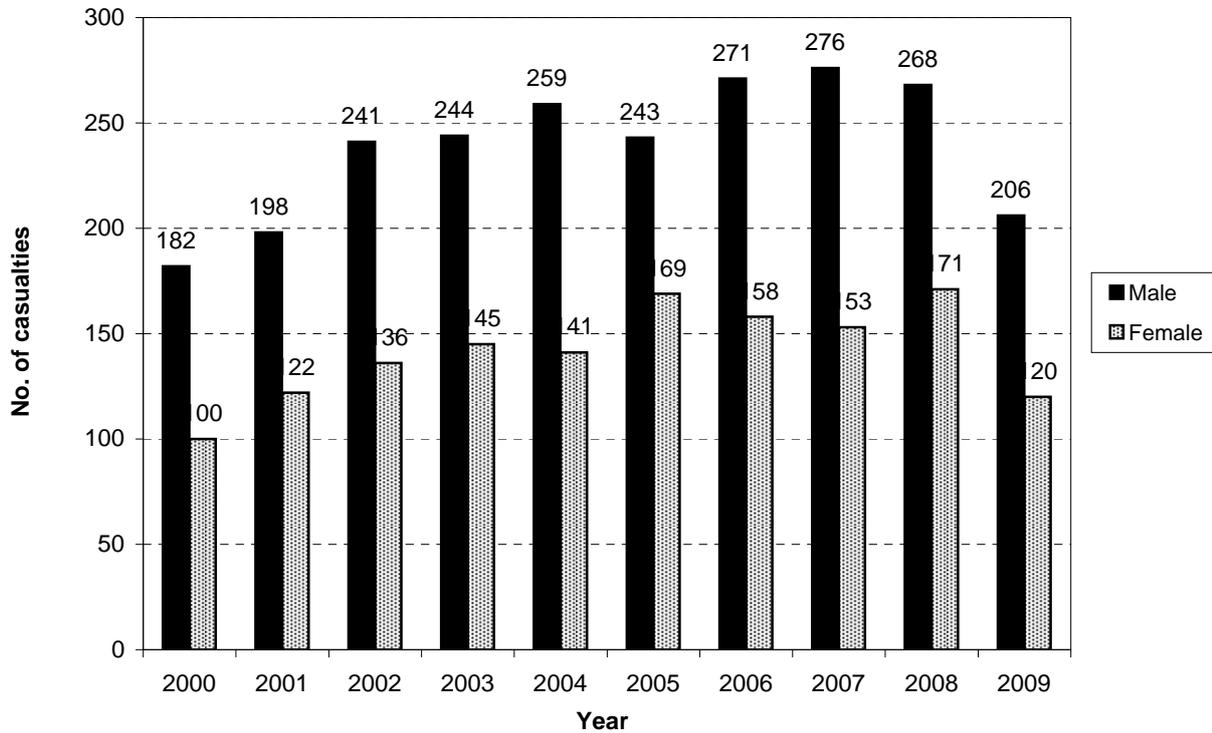
Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

**Figure 3.2 Road user casualties - rural
Heavy Motor Vehicles (2005-2009)**



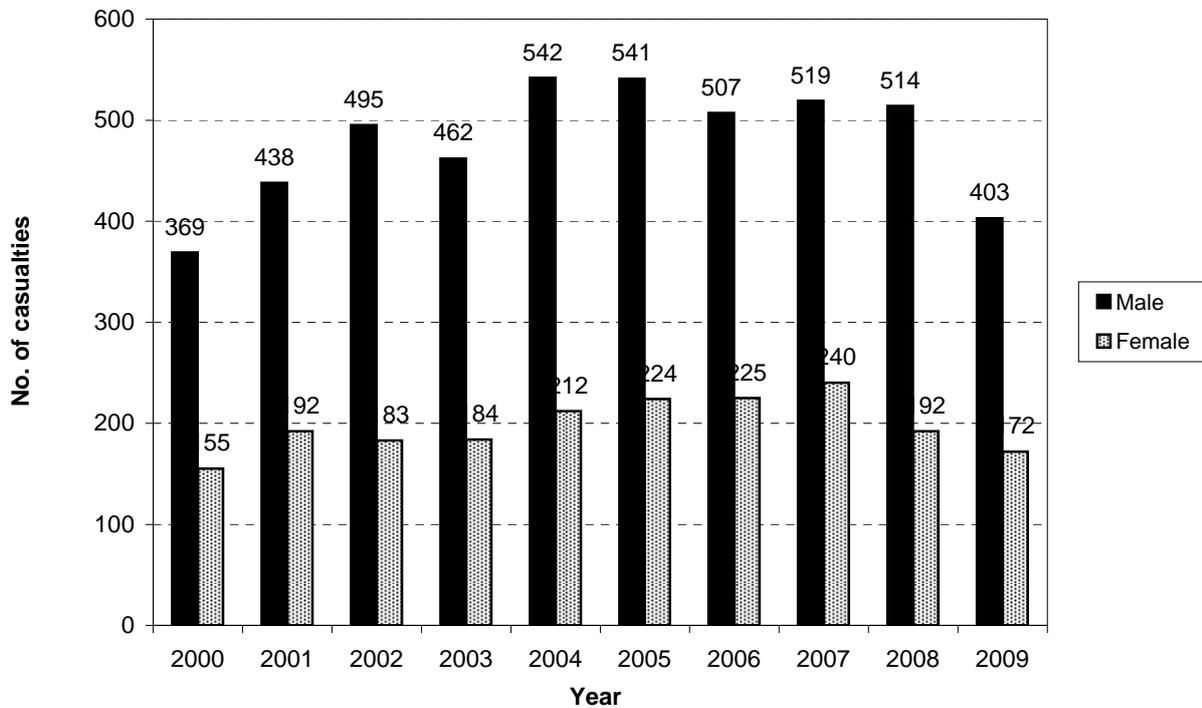
Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

**Figure 3.3 Male/female casualties - urban
Heavy Motor Vehicles**



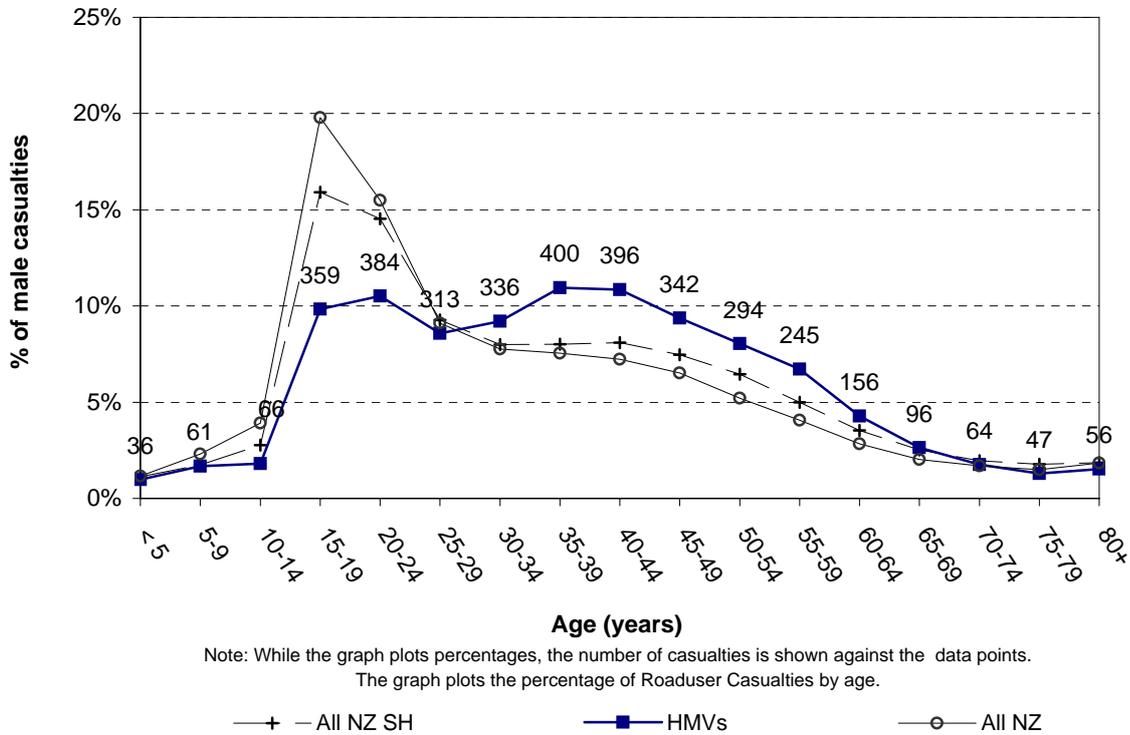
Note: This graph shows the number of male and female roadusers injured

**Figure 3.4 Male/female casualties - rural
Heavy Motor Vehicles**

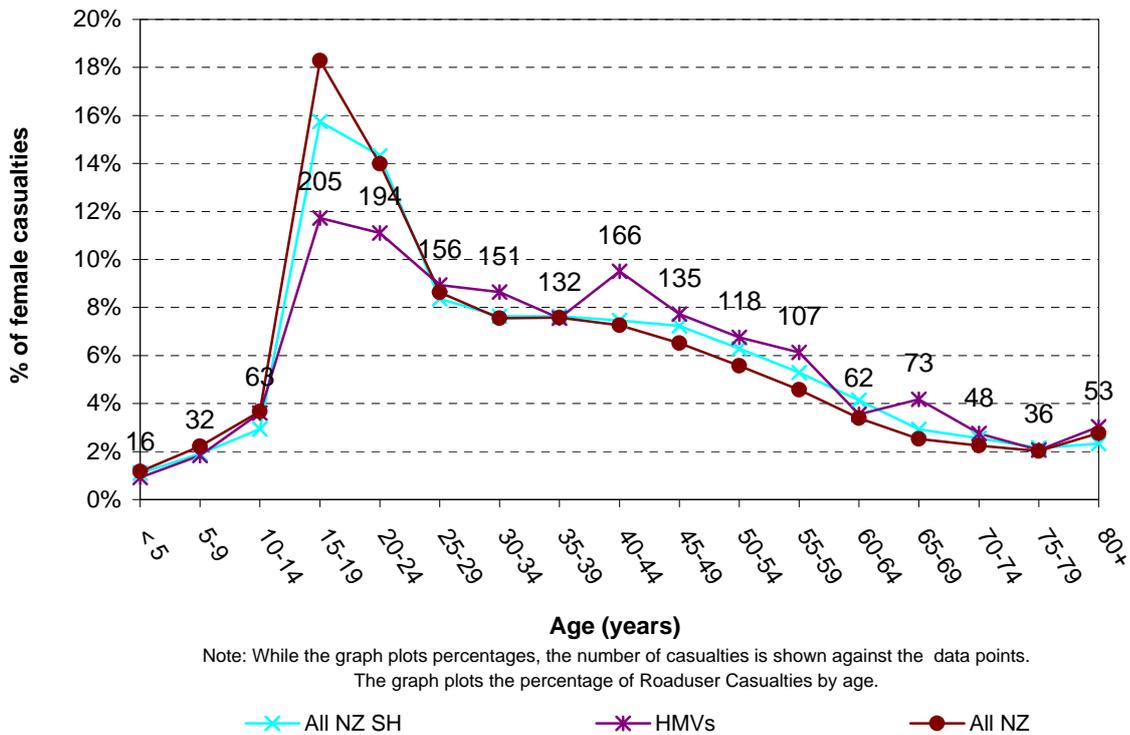


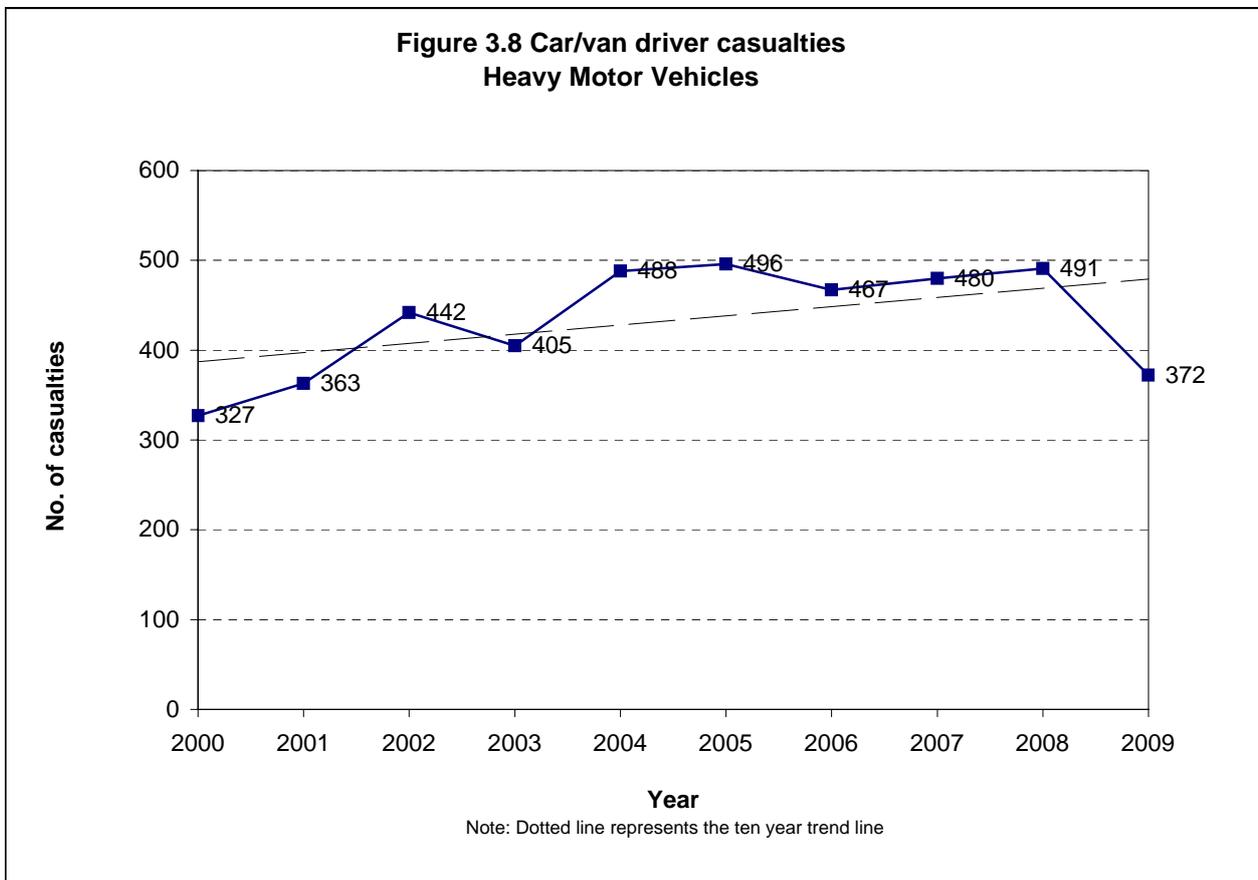
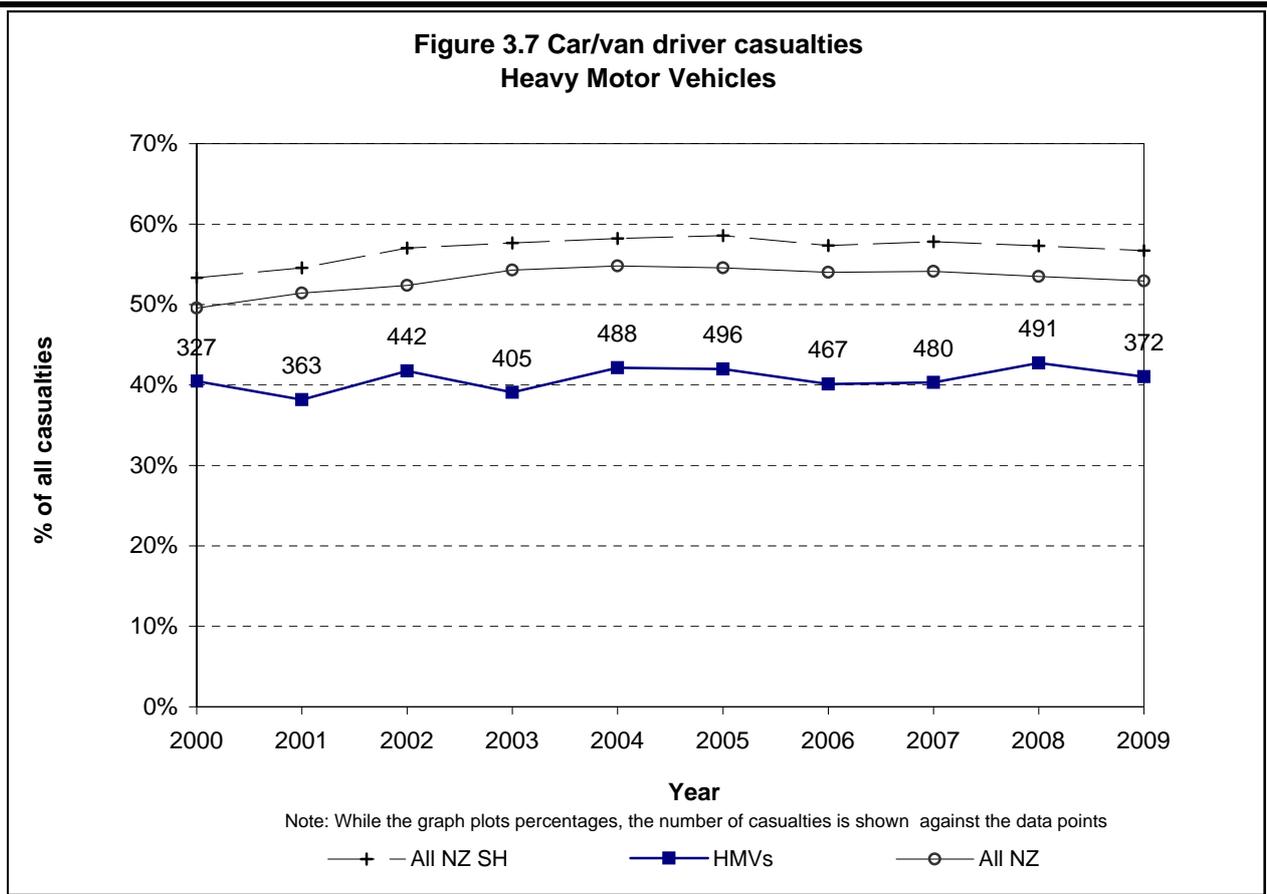
Note: This graph shows the number of male and female roadusers injured

**Figure 3.5 Male casualties by age
Heavy Motor Vehicles (2005-2009)**

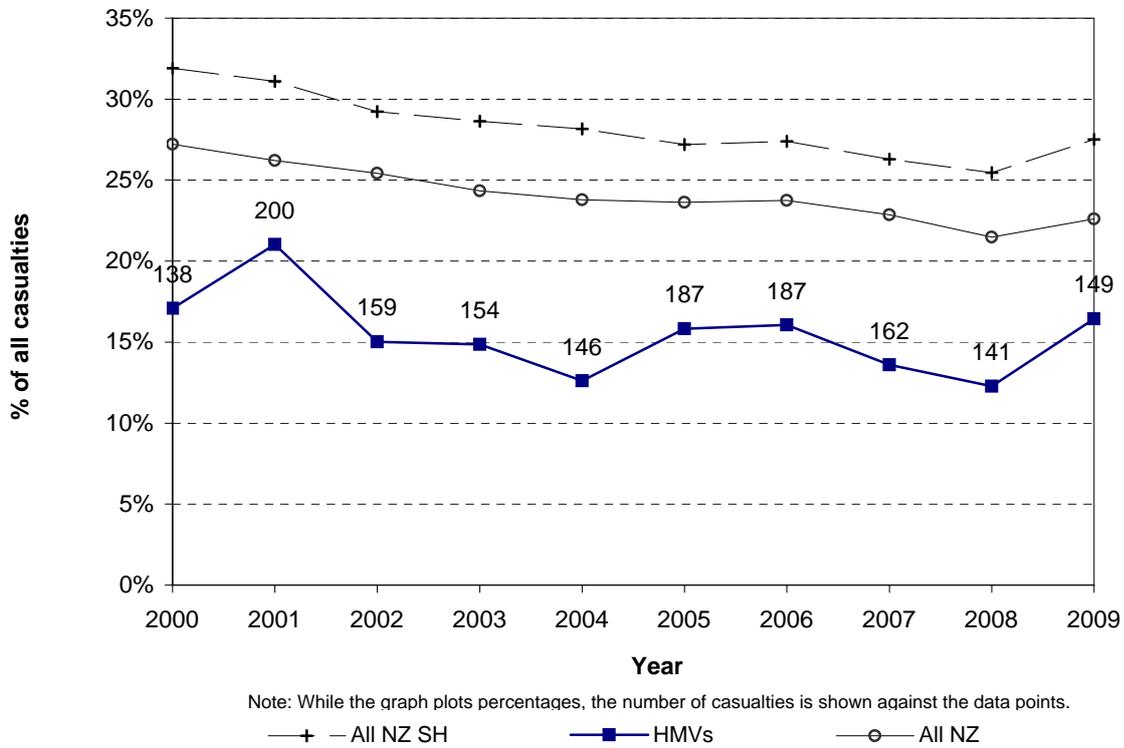


**Figure 3.6 Female casualties by age
Heavy Motor Vehicles (2005-2009)**





**Figure 3.9 Car/van passenger casualties
Heavy Motor Vehicles**



**Figure 3.10 Car/van passenger casualties
Heavy Motor Vehicles**

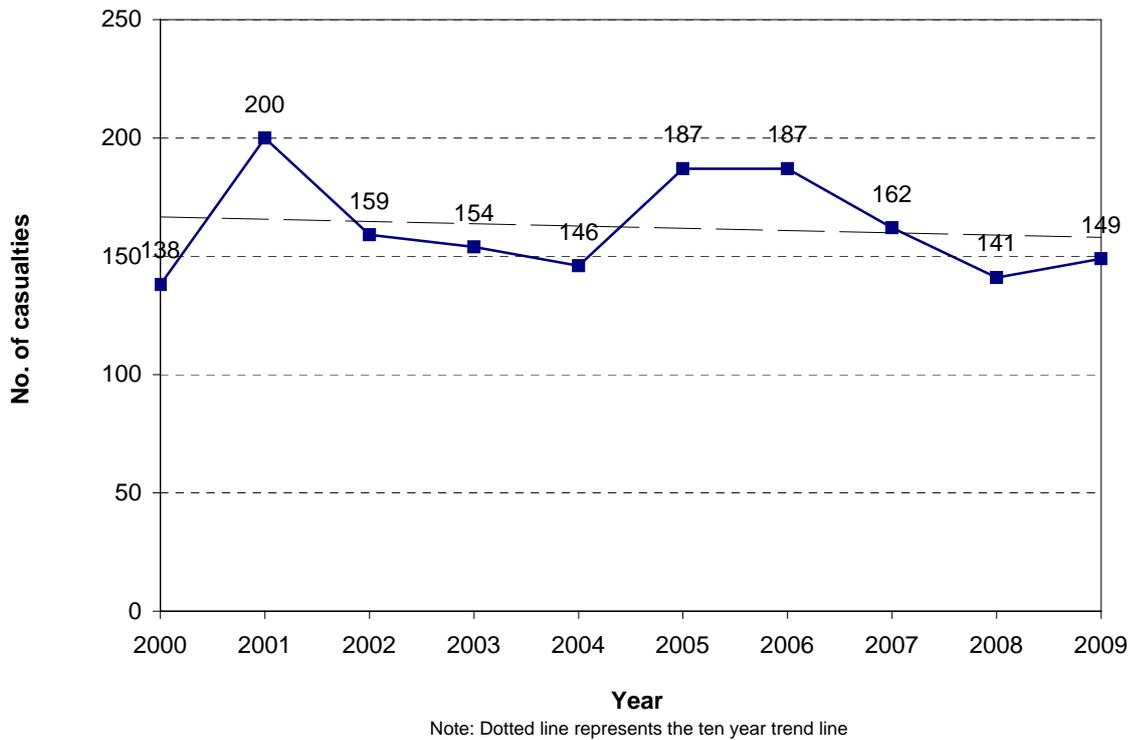


Figure 3.11 Heavy vehicle casualties
Heavy Motor Vehicles

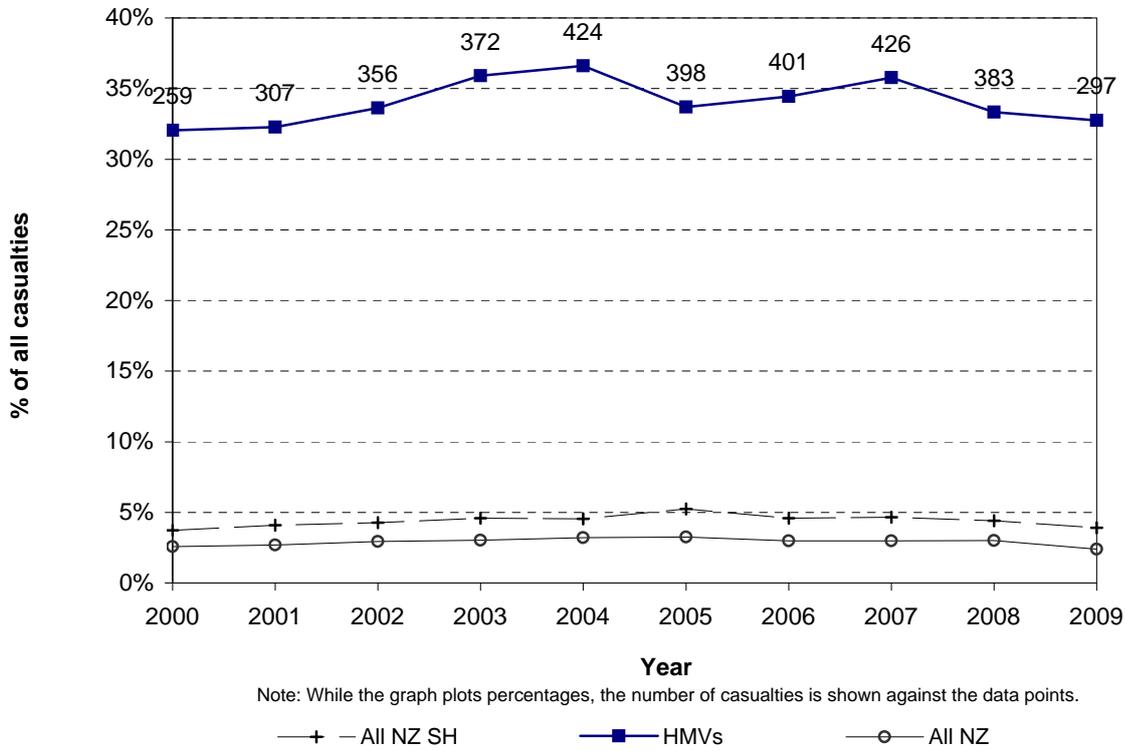


Figure 3.12 Heavy vehicle casualties
Heavy Motor Vehicles

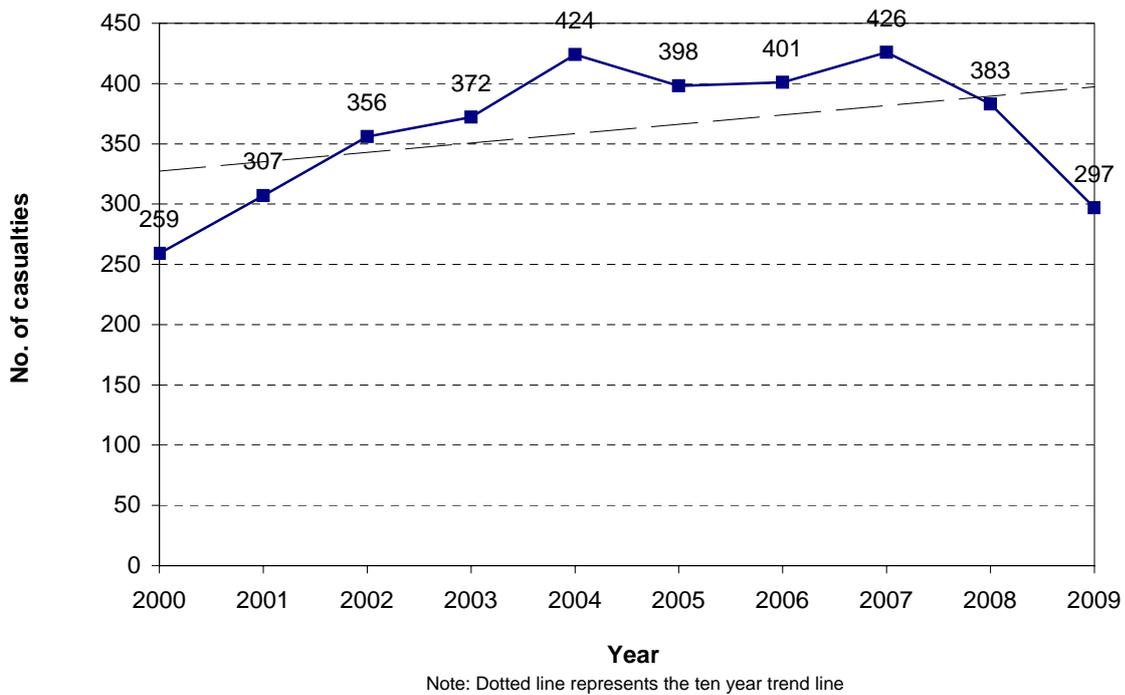


Figure 3.13 Motorcyclist casualties
Heavy Motor Vehicles

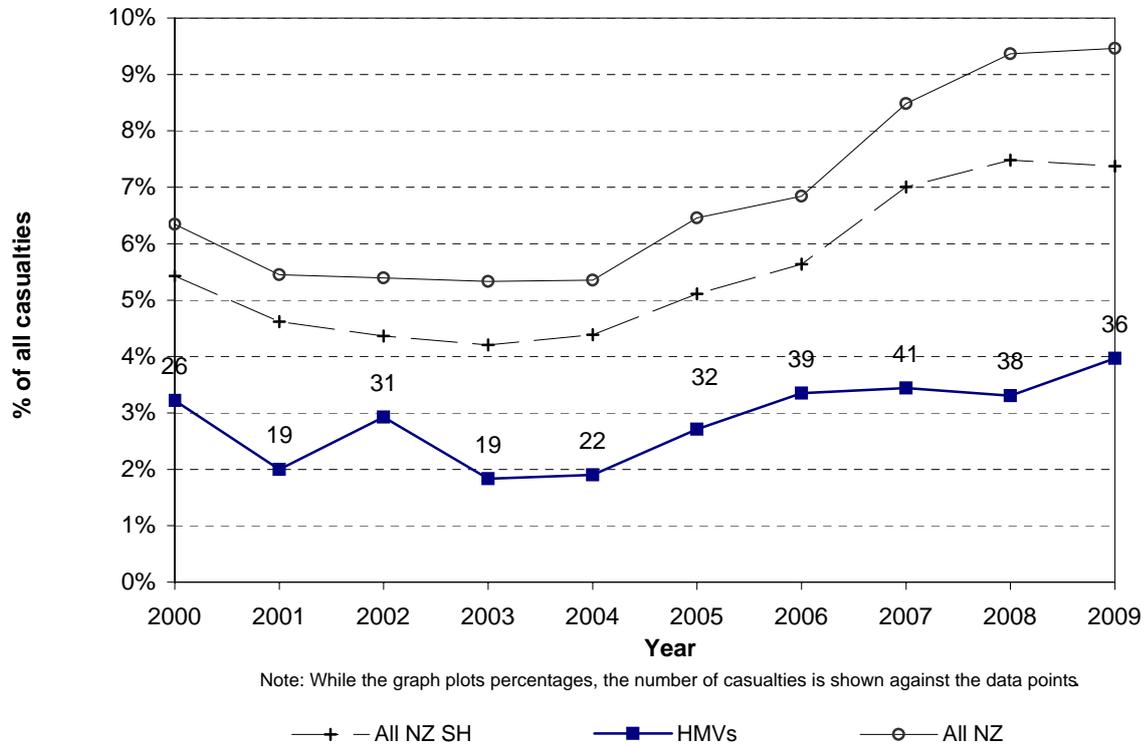


Figure 3.14 Motorcyclist casualties
Heavy Motor Vehicles

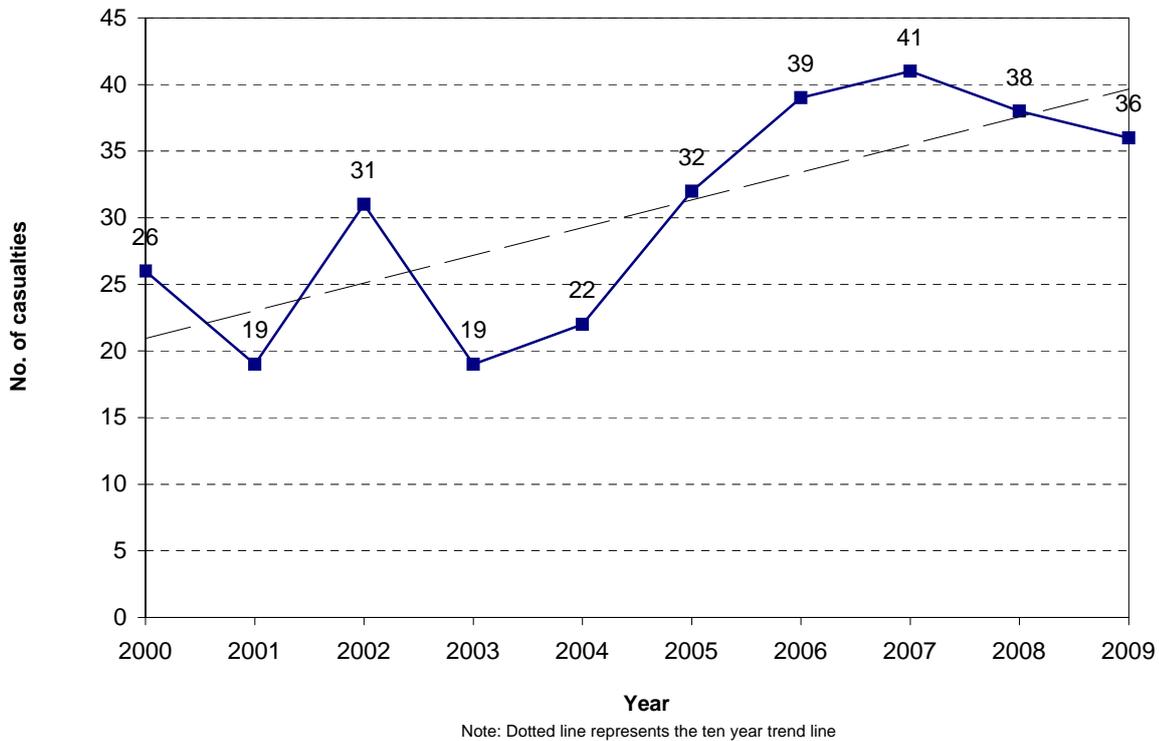


Figure 3.15 Pedestrian casualties
Heavy Motor Vehicles

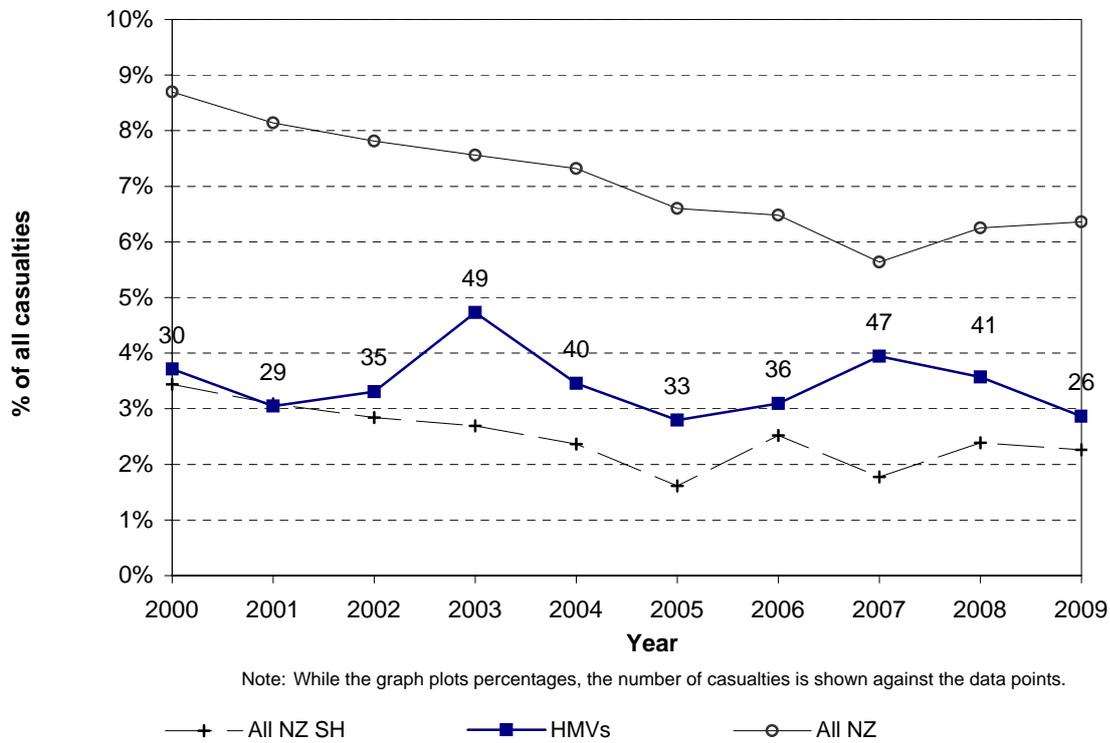


Figure 3.16 Pedestrian casualties
Heavy Motor Vehicles

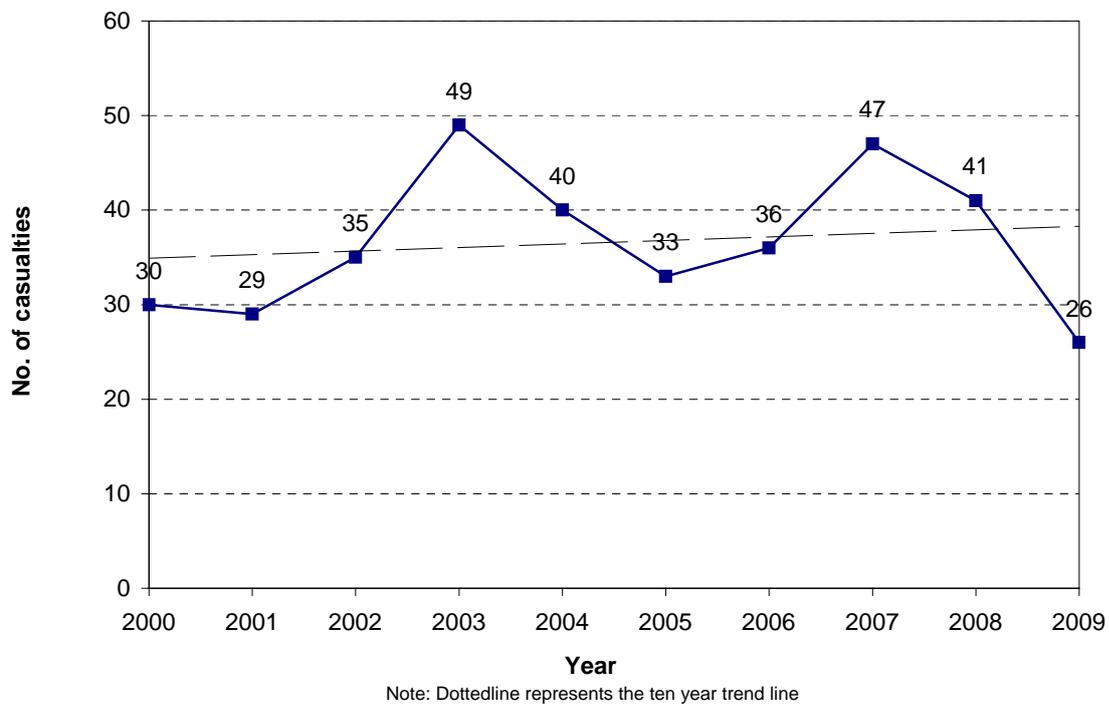


Figure 3.17 Cyclist casualties
Heavy Motor Vehicles

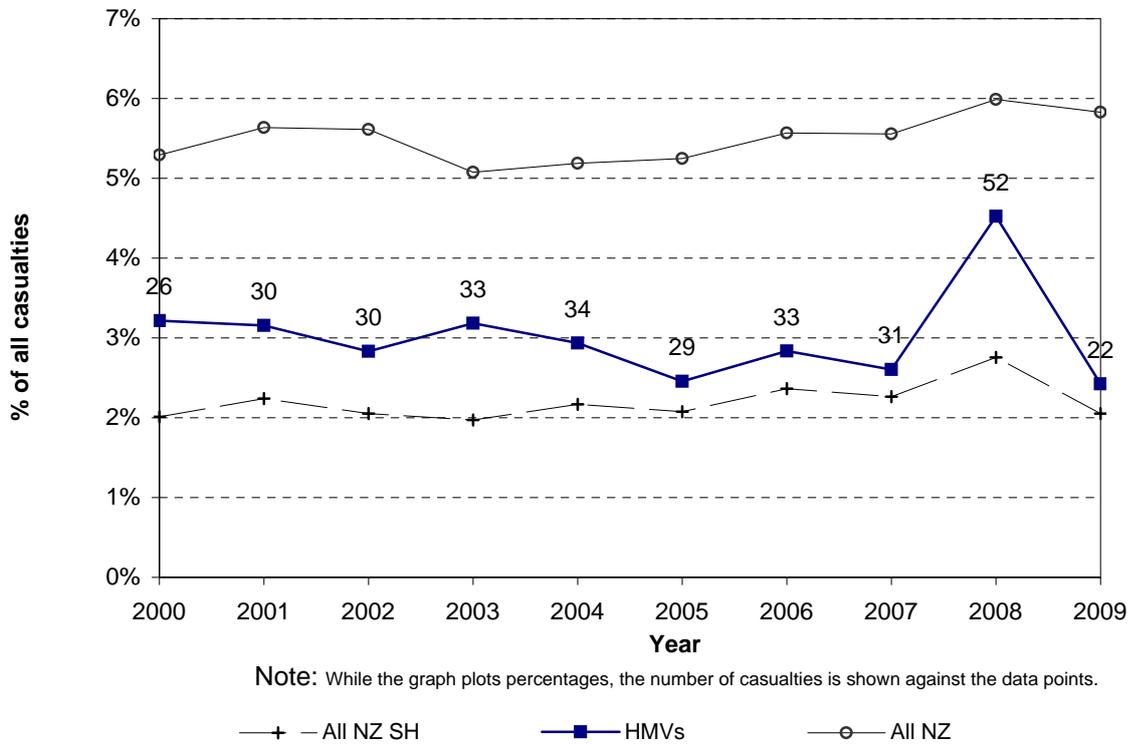


Figure 3.18 Cyclist casualties
Heavy Motor Vehicles

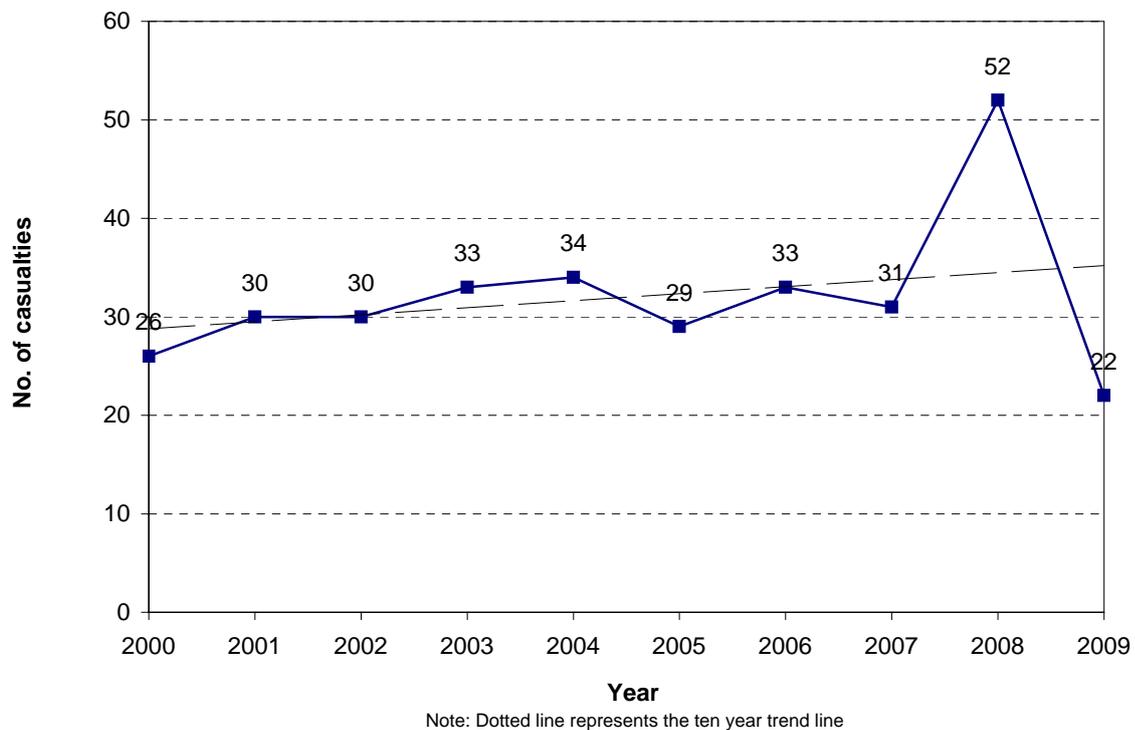


Figure 3.19 Car/van driver casualty age
Heavy Motor Vehicles (2005-2009)

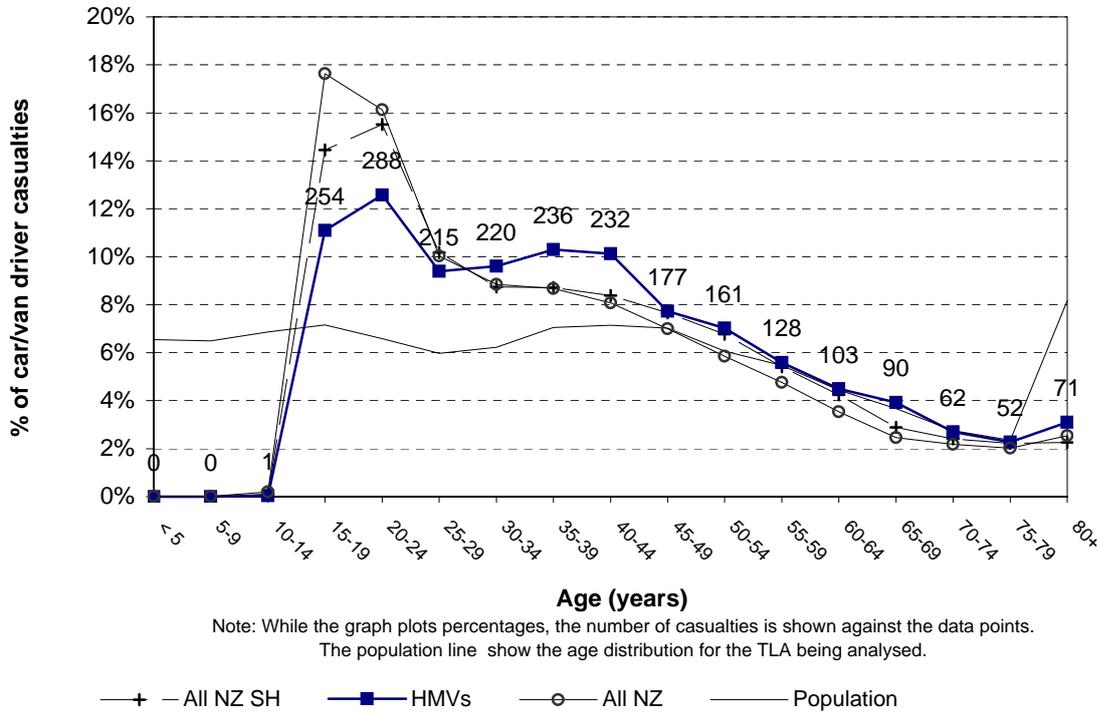


Figure 3.20 Car/van passenger casualty age
Heavy Motor Vehicles (2005-2009)

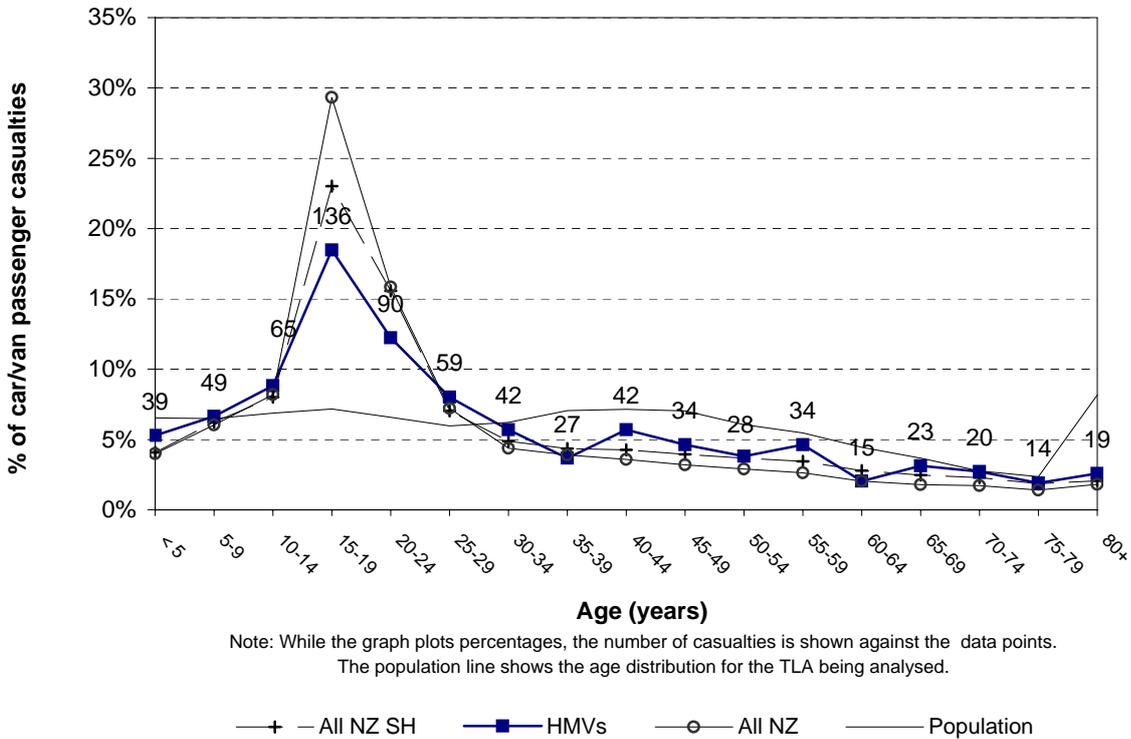


Figure 3.21 Heavy vehicle casualty age
Heavy Motor Vehicles (2005-2009)

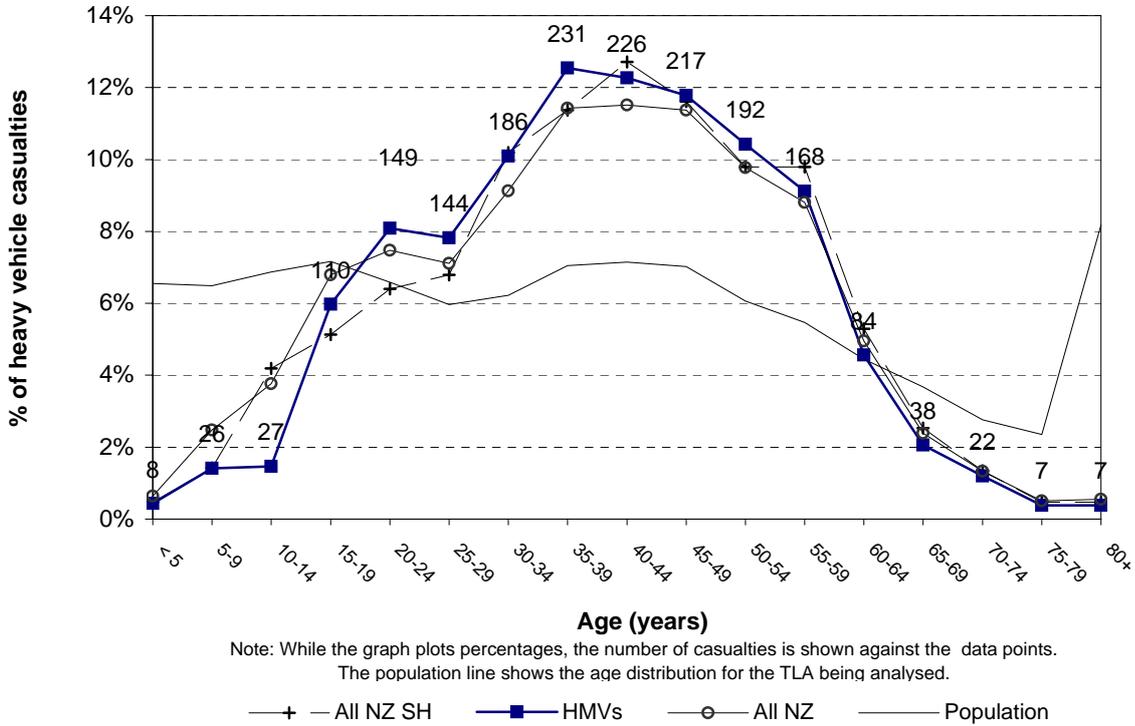


Figure 3.22 Motorcyclist casualty age
Heavy Motor Vehicles (2005-2009)

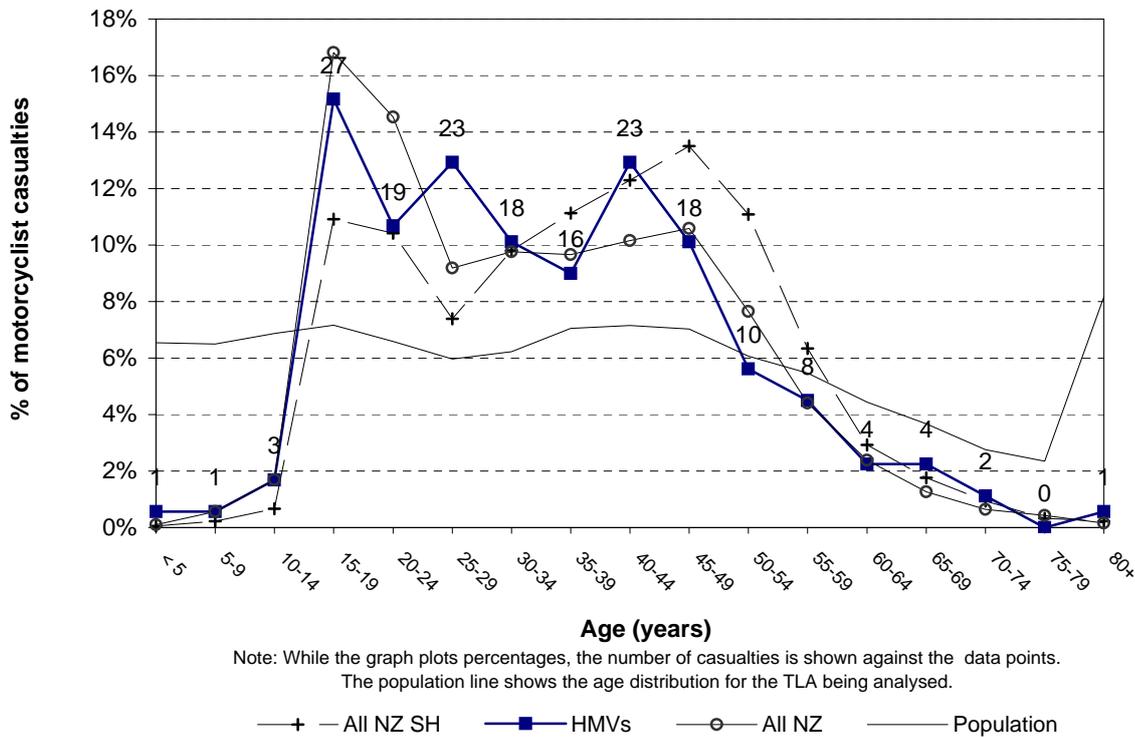


Figure 3.23 Pedestrian casualty age
Heavy Motor Vehicles (2005-2009)

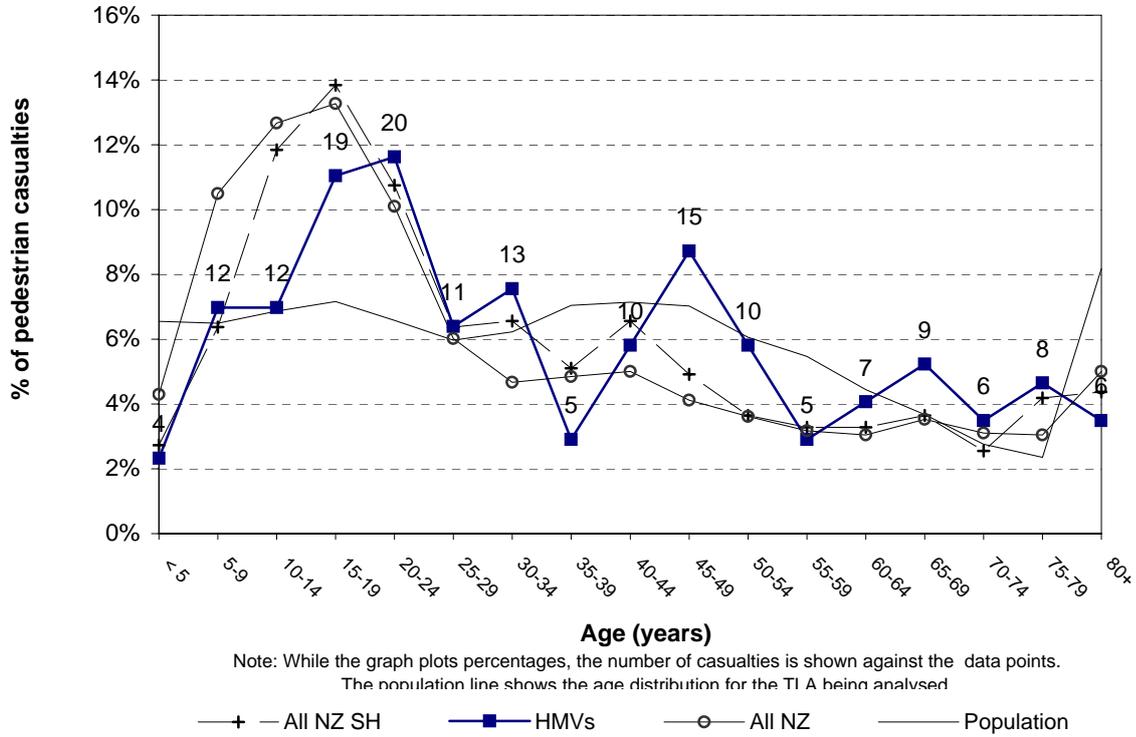
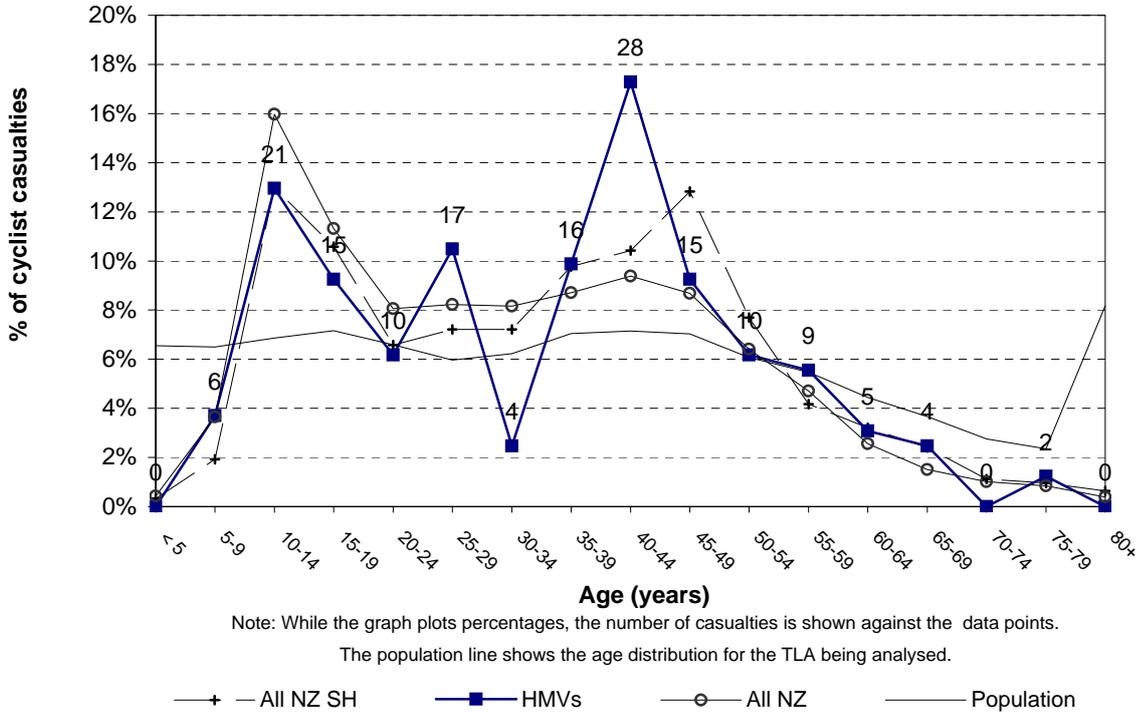
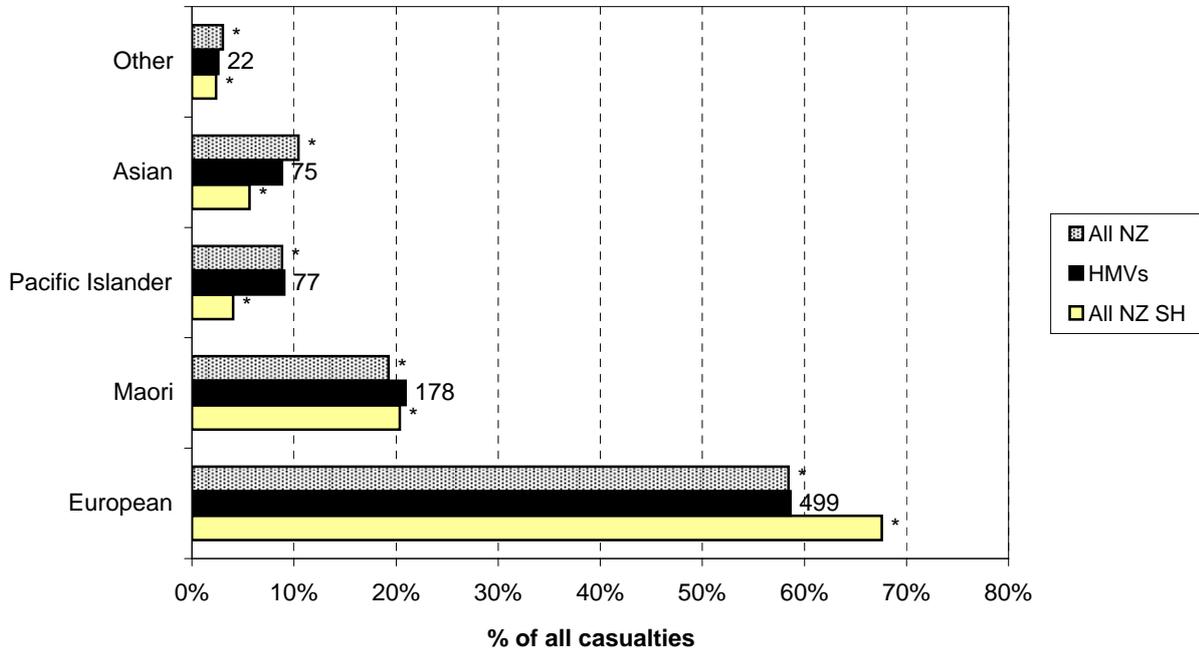


Figure 3.24 Cyclist casualty age
Heavy Motor Vehicles (2005-2009)

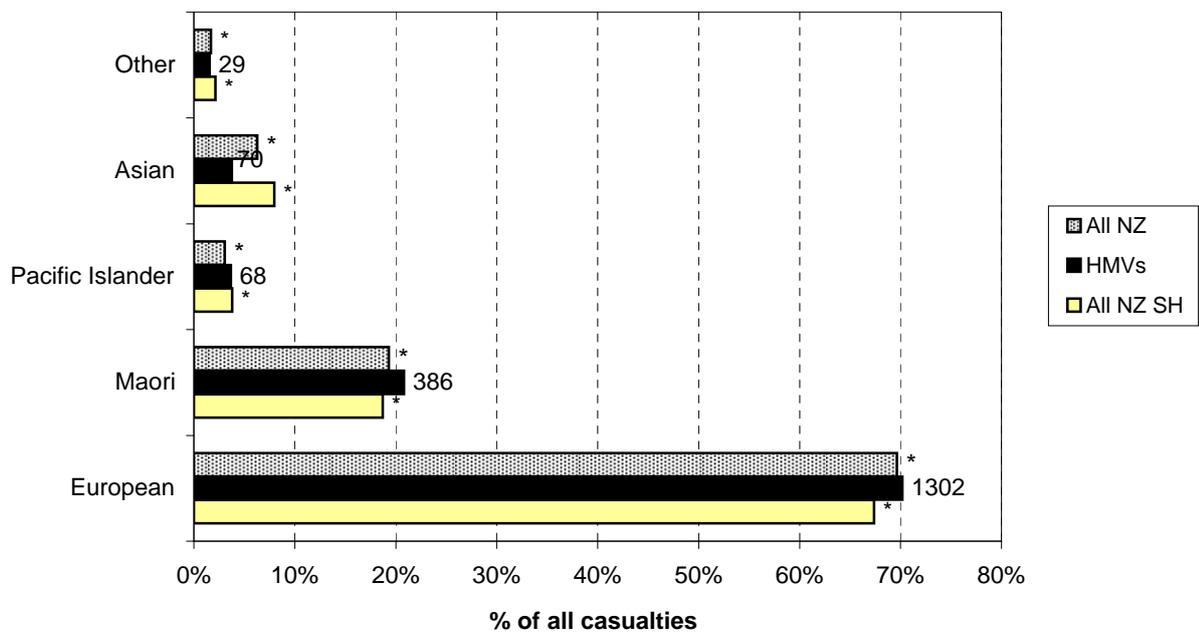


**Figure 3.25 Casualty ethnicity - urban
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles

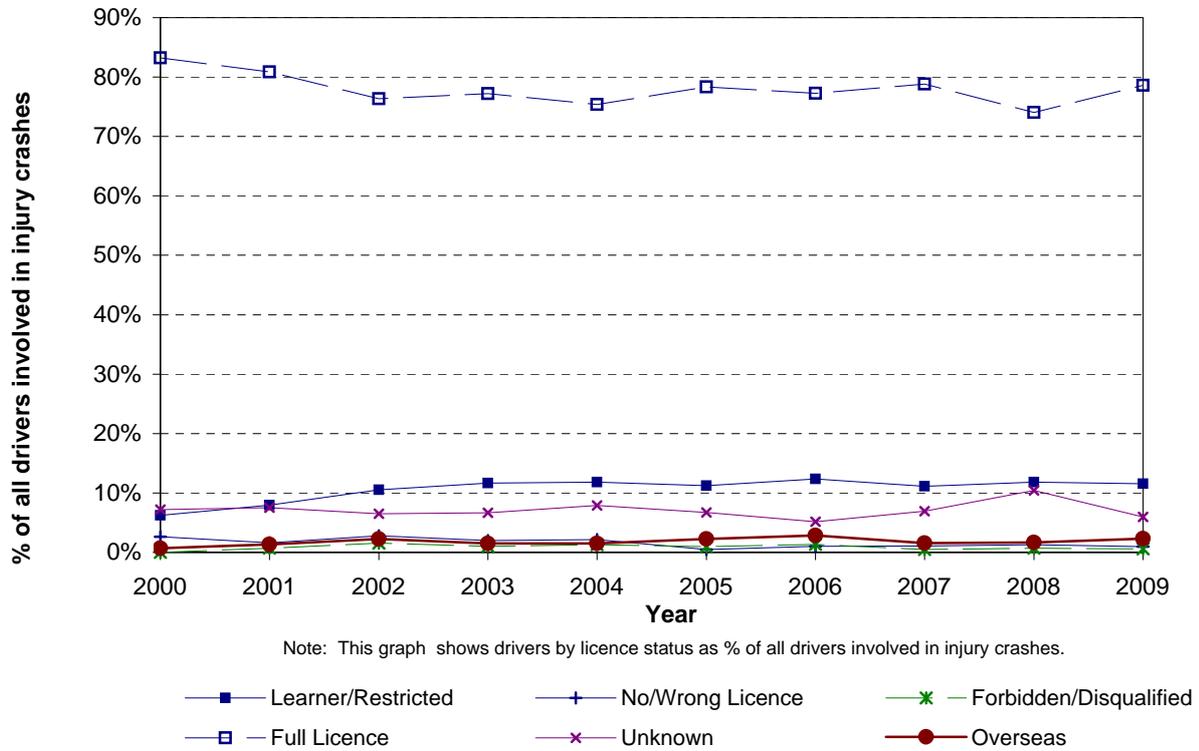
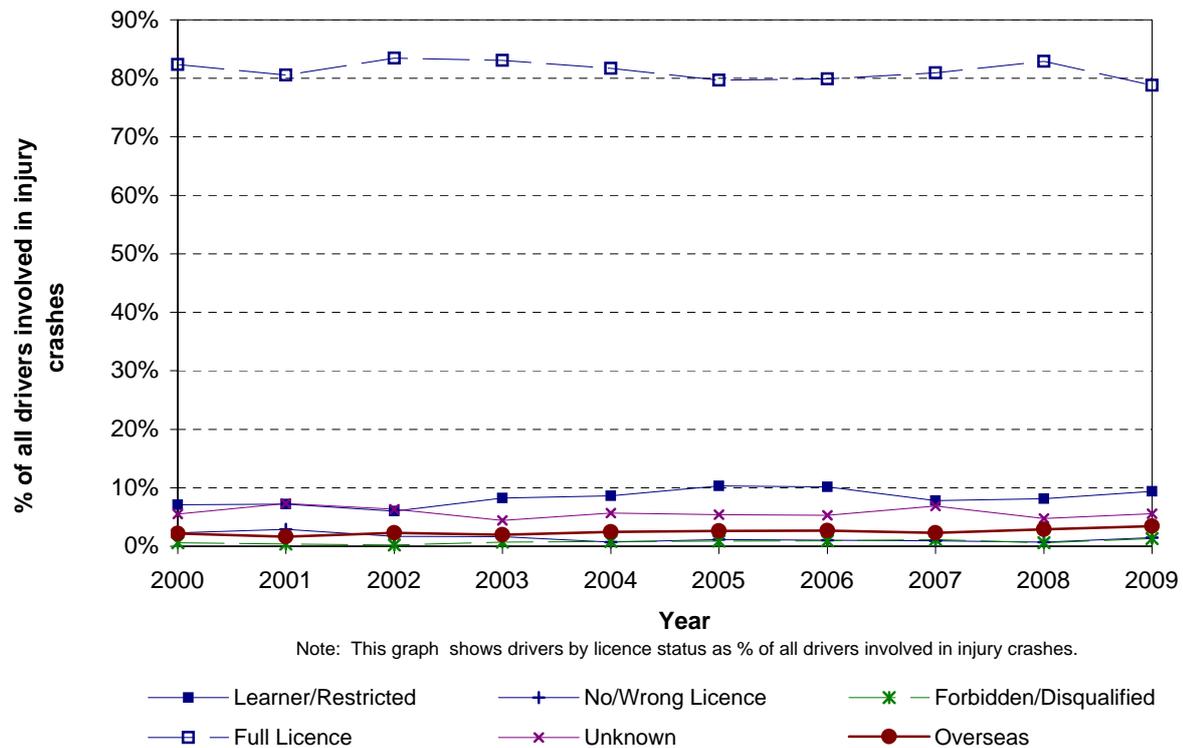
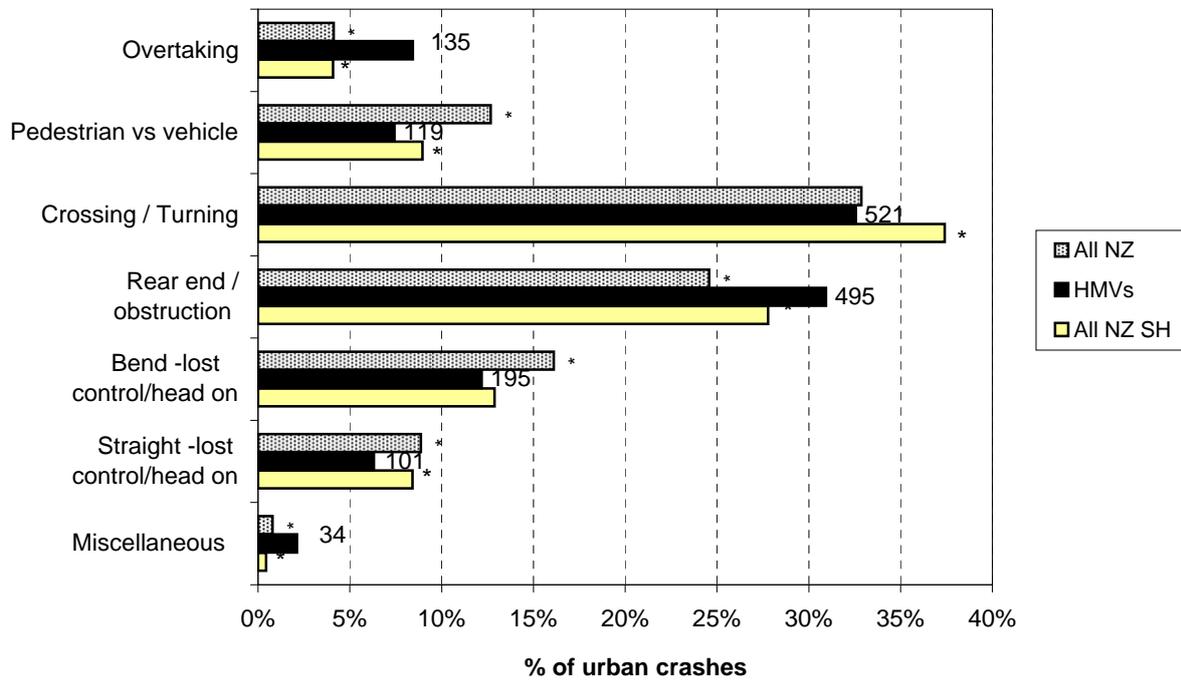


Figure 3.28 Licence status - rural
Heavy Motor Vehicles



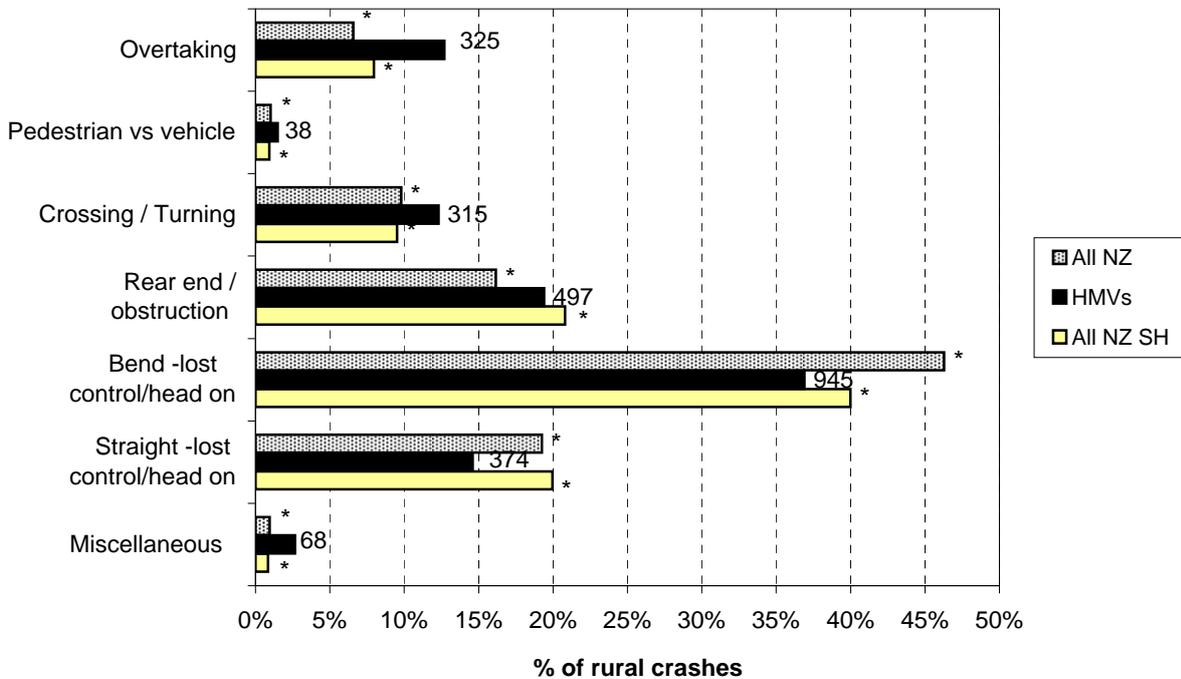
Crash Type Statistics

**Figure 4.1 Crash movement type - urban
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles roads (2005-2009)**



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
Heavy Motor Vehicles - urban roads

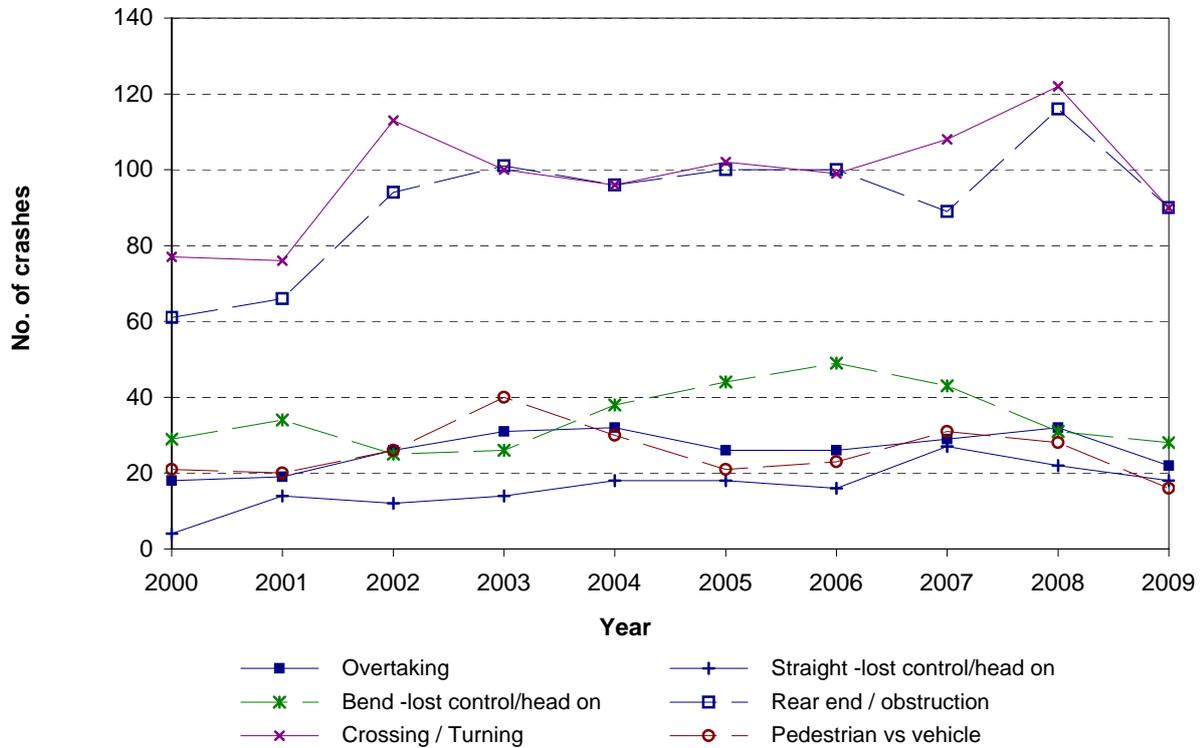
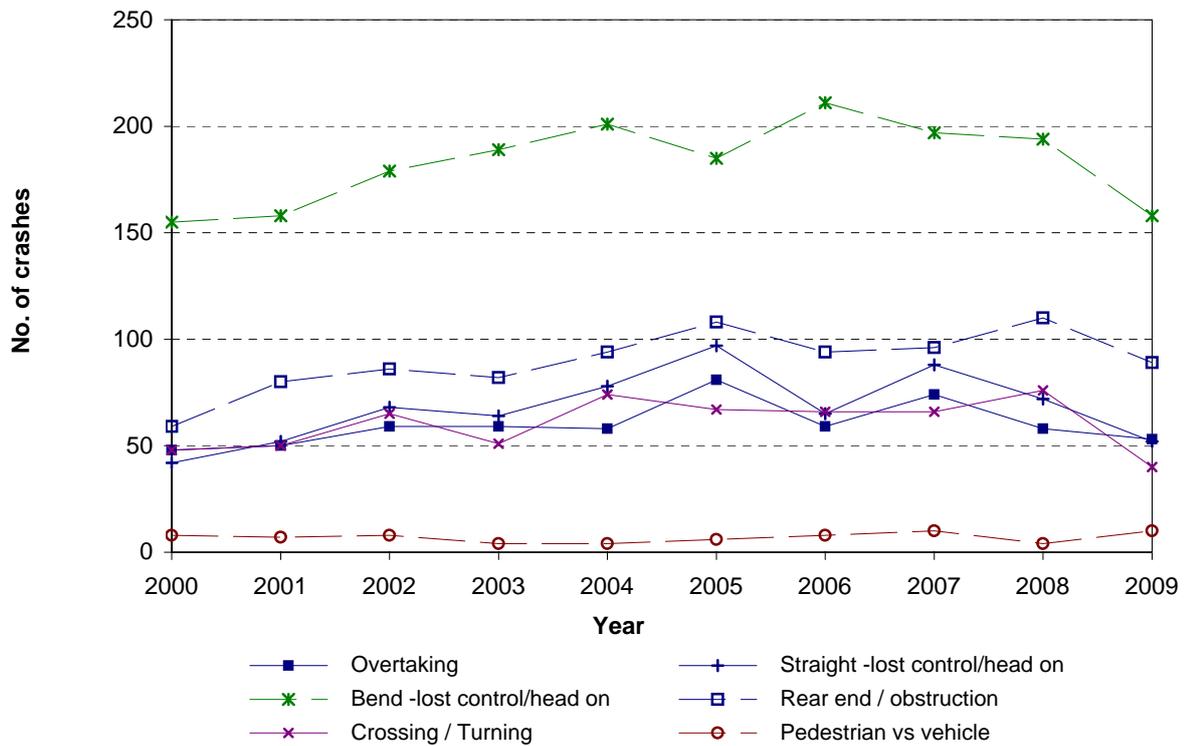
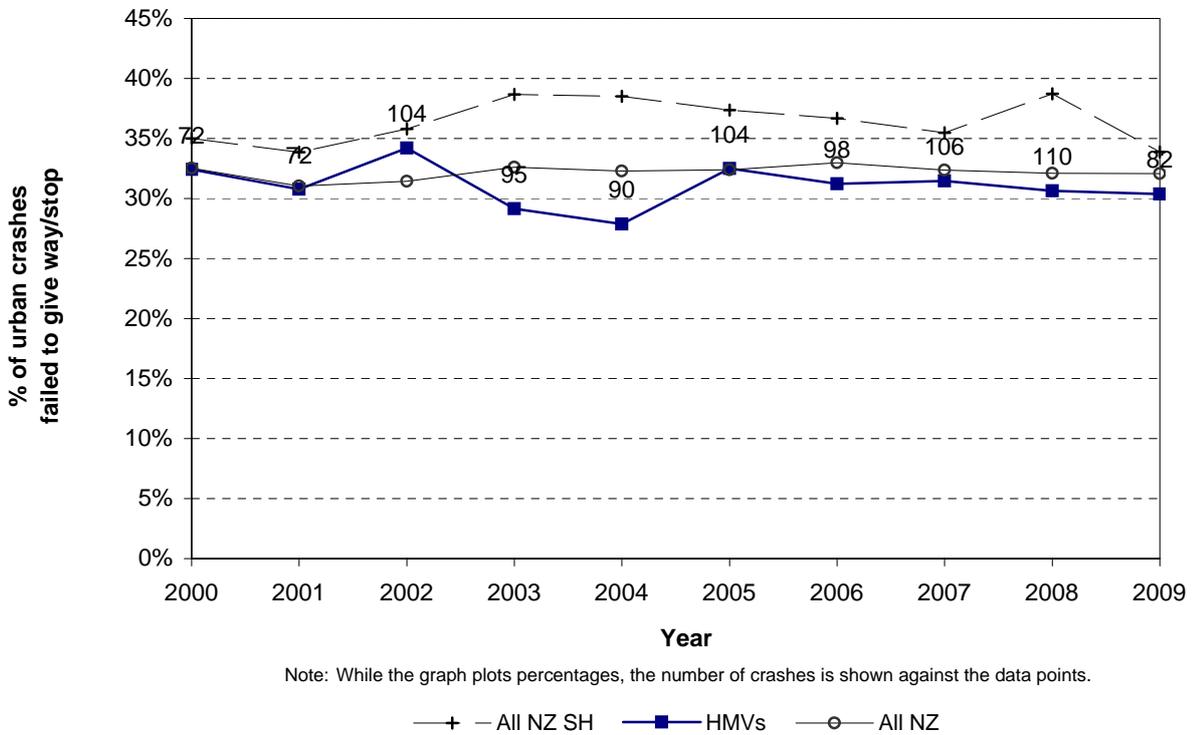


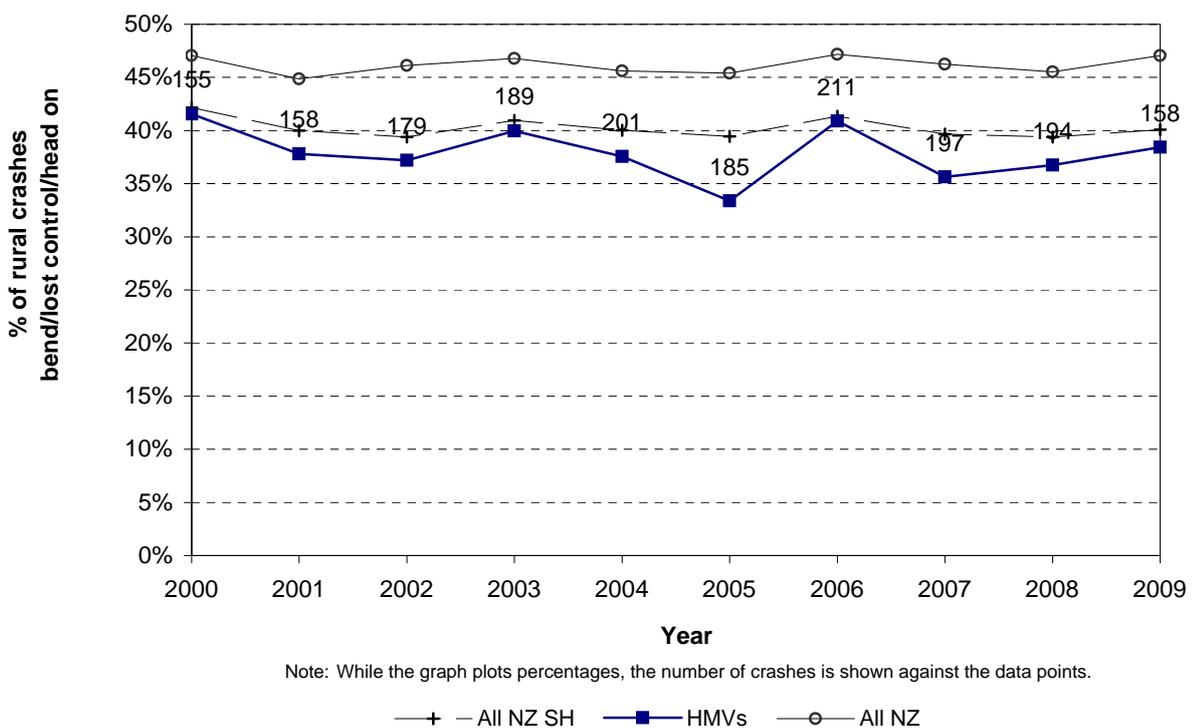
Figure 4.4 Crash movement type - trends
Heavy Motor Vehicles - rural roads



**Figure 4.5 Failed to give way / stop
Heavy Motor Vehicles - urban roads**

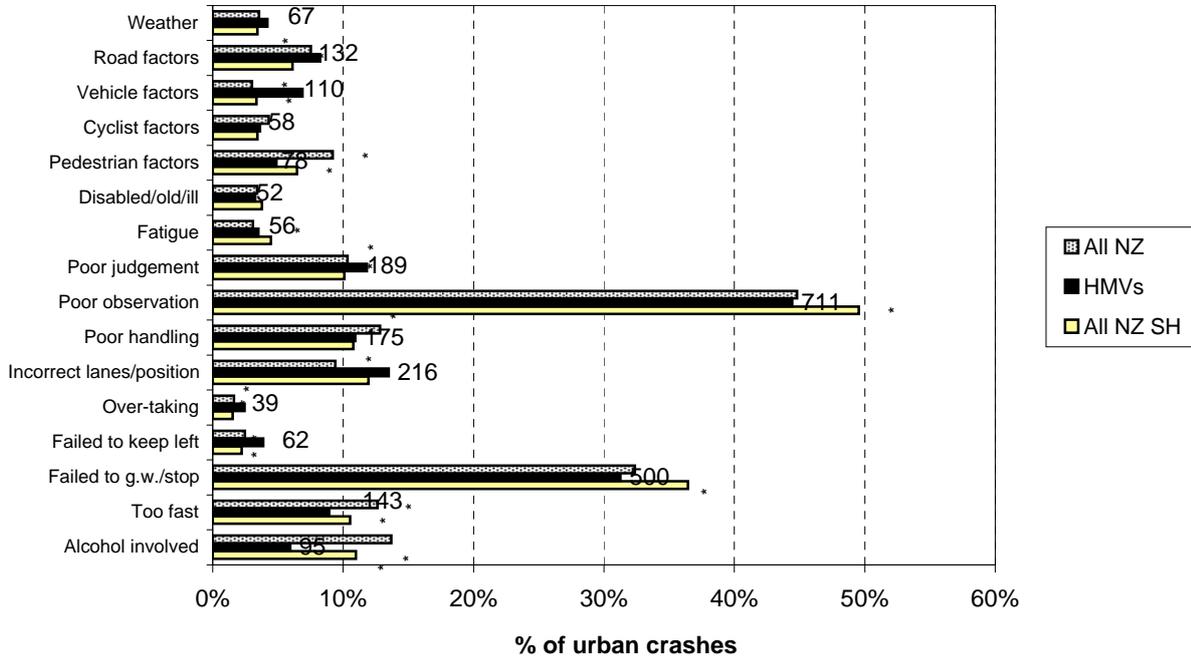


**Figure 4.6 Bend - lost control / head - on
Heavy Motor Vehicles - rural roads**



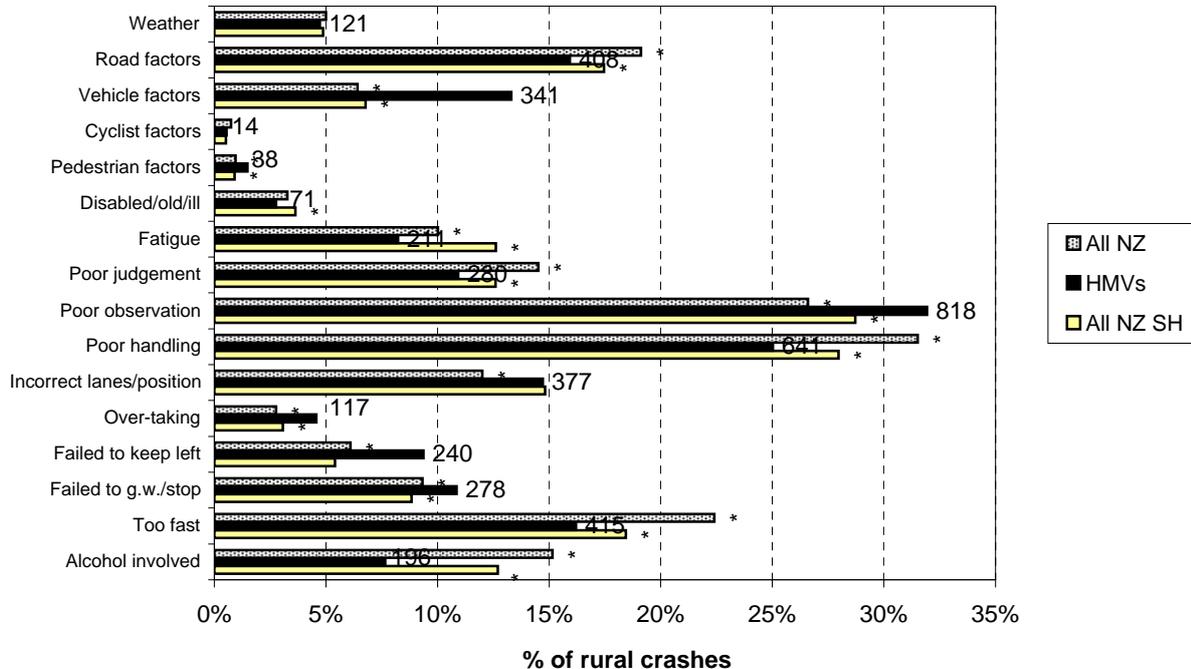
Crash Factor Statistics

**Figure 5.1 Contributing factors - urban
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles - urban roads

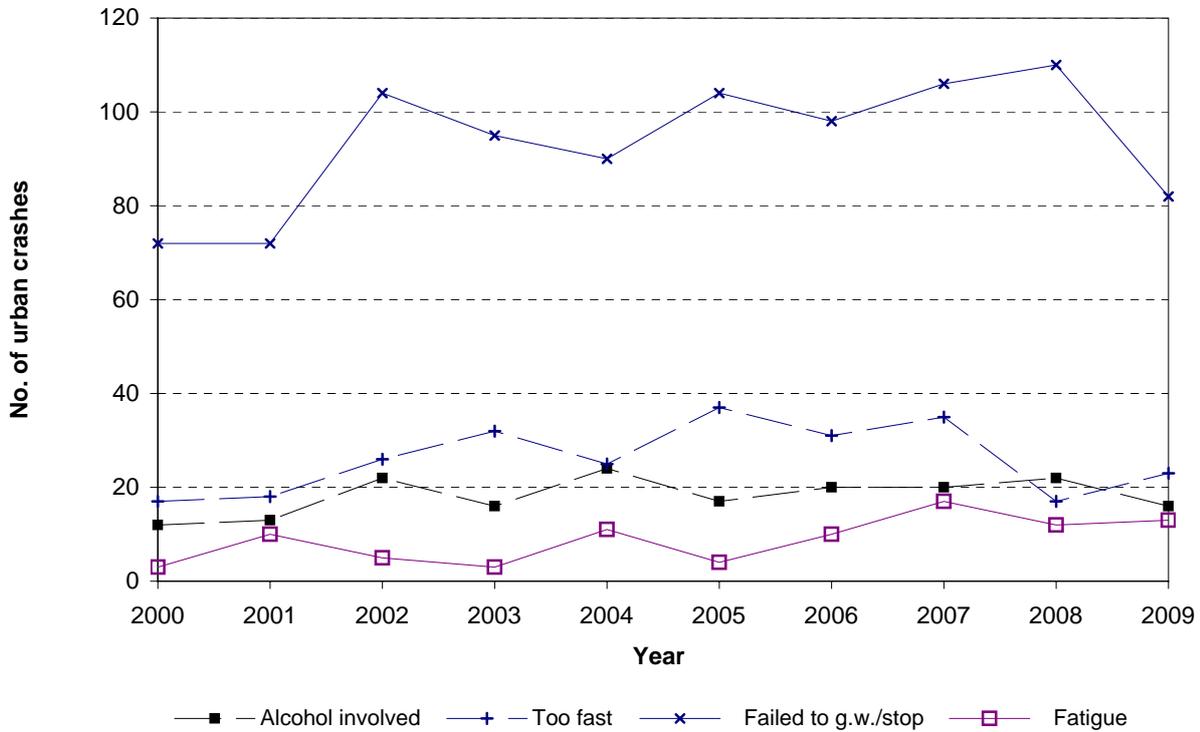
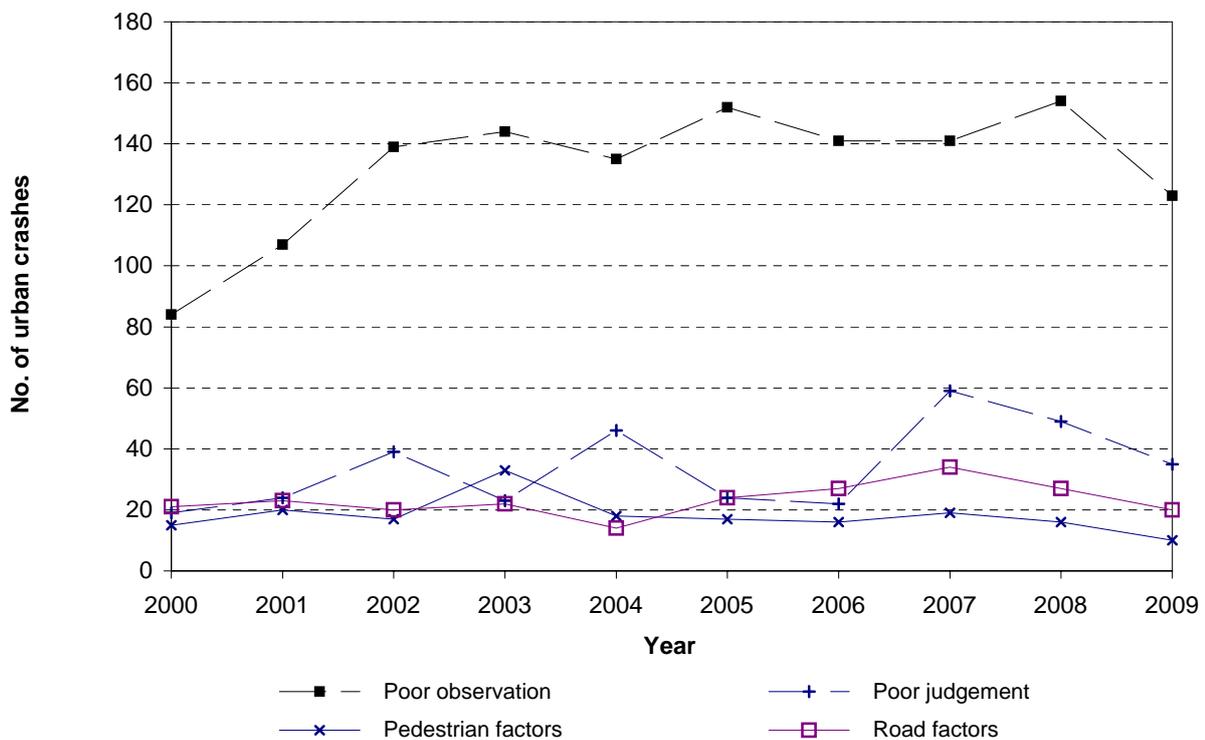
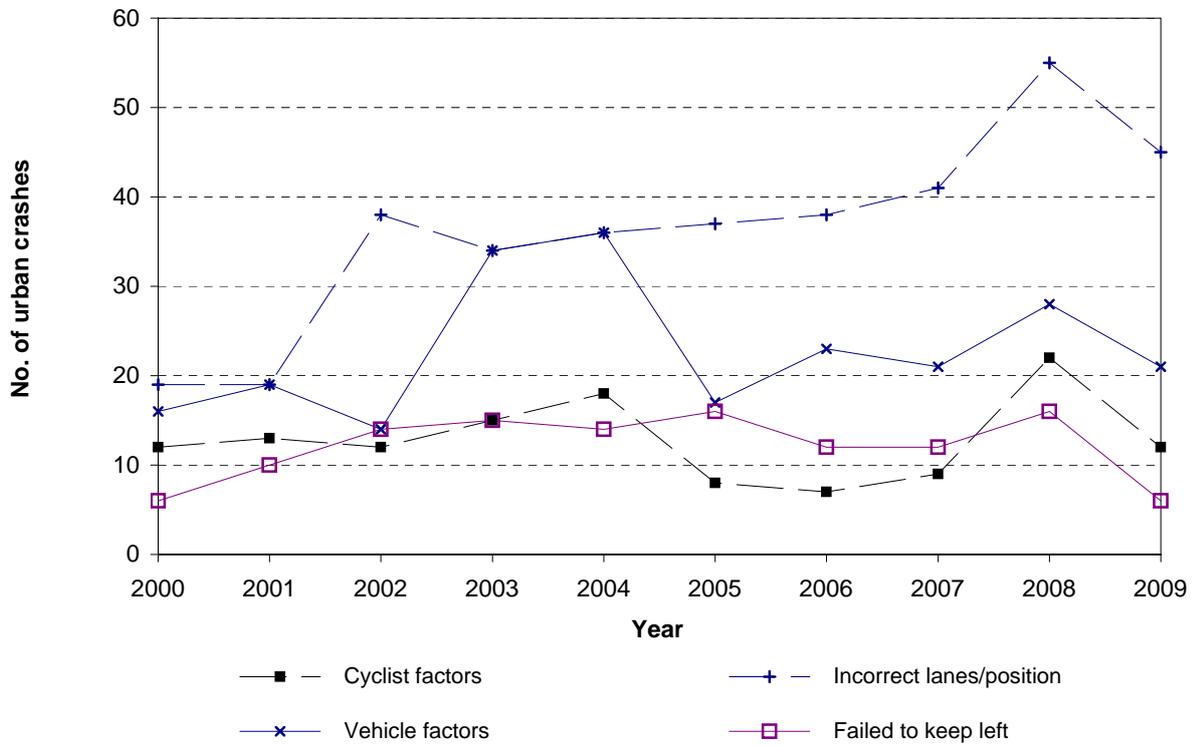


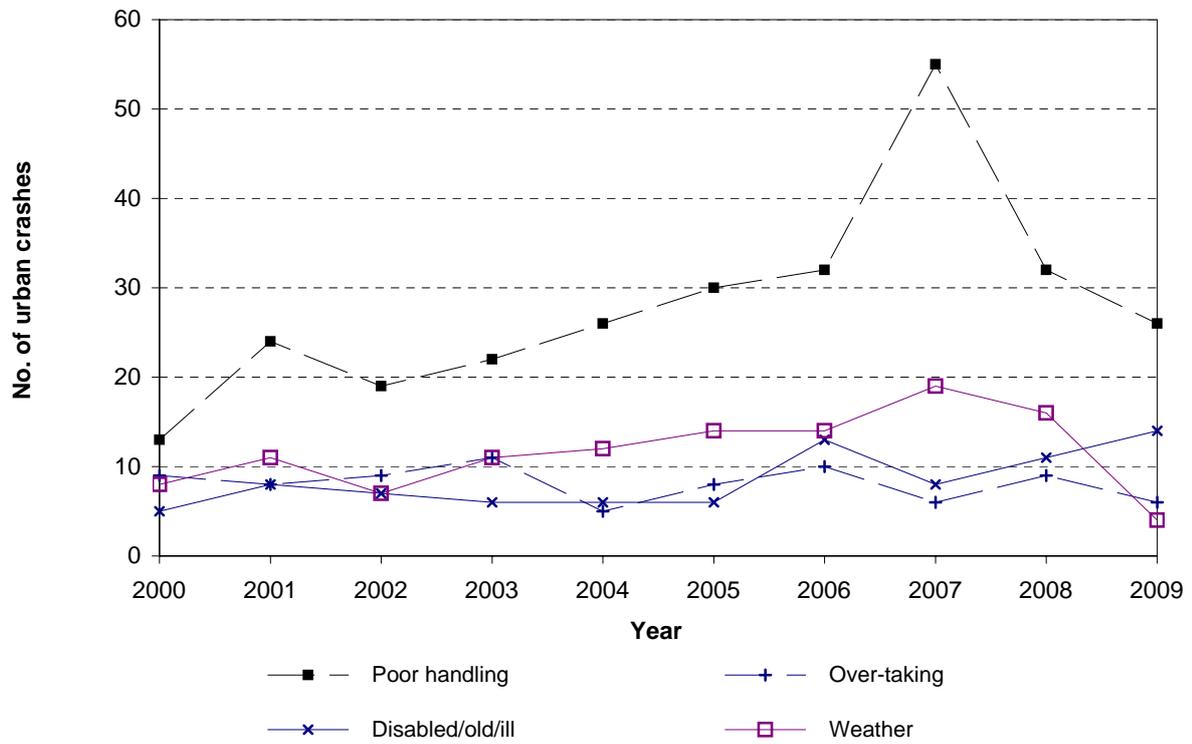
Figure 5.4 Contributing factor trends
Heavy Motor Vehicles - urban roads



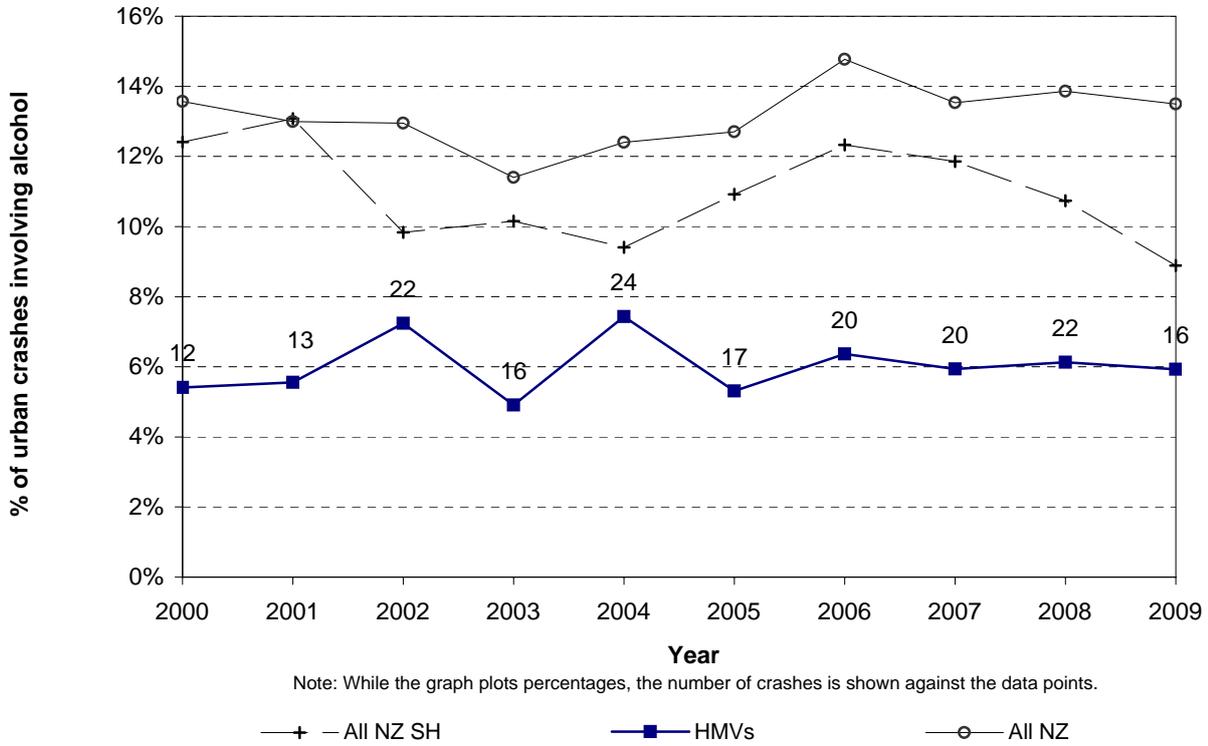
**Figure 5.5 Contributing factor trends
Heavy Motor Vehicles - urban roads**



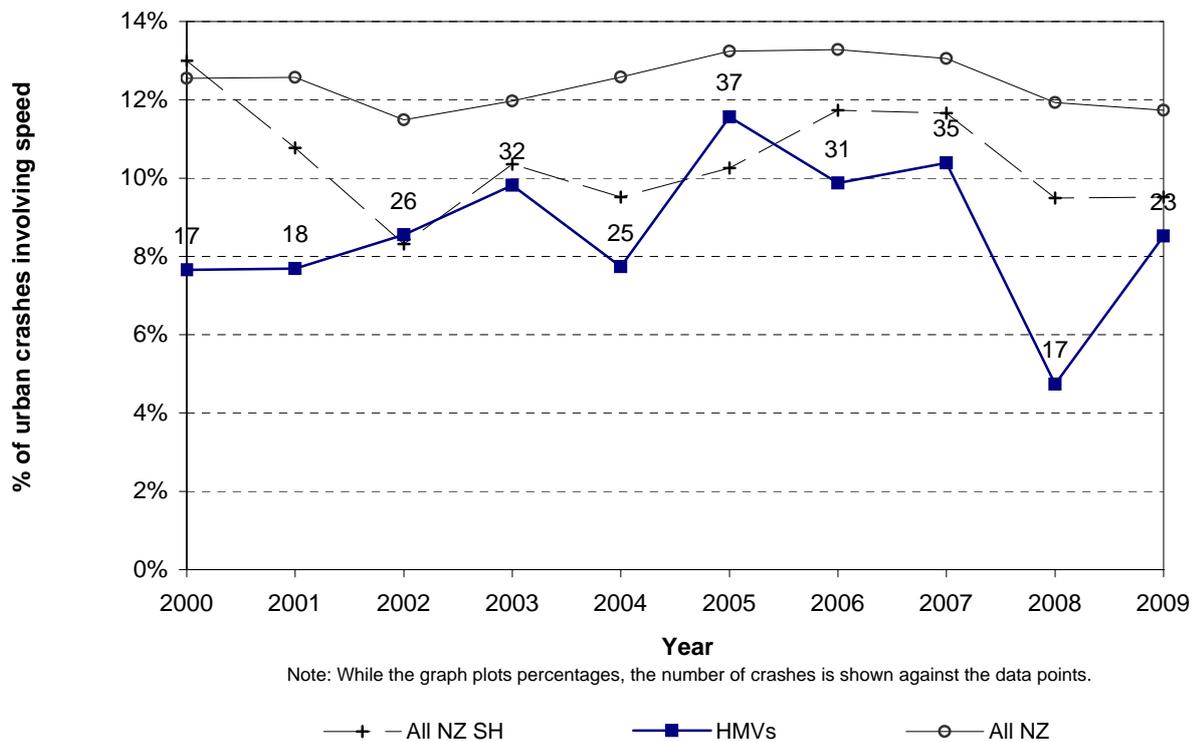
**Figure 5.6 Contributing factor trends
Heavy Motor Vehicles - urban roads**



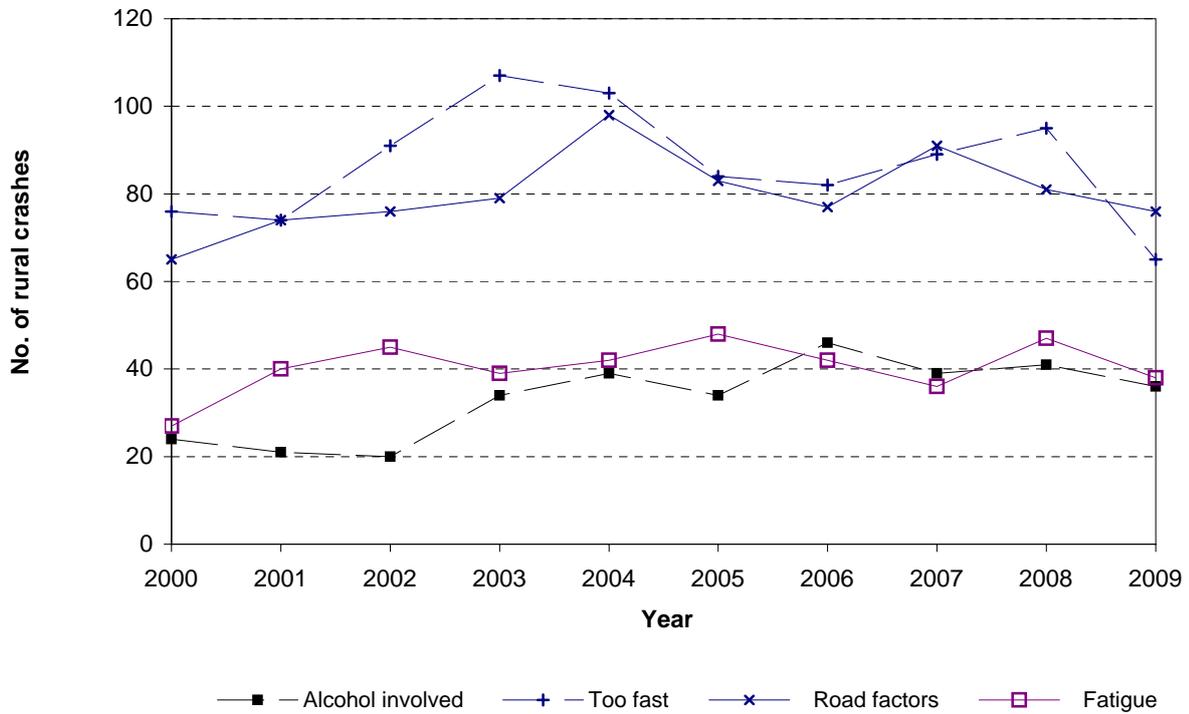
**Figure 5.7 Alcohol involved trend
Heavy Motor Vehicles - urban roads**



**Figure 5.8 Speed involved trend
Heavy Motor Vehicles - urban roads**



**Figure 5.9 Contributing factor trends
Heavy Motor Vehicles - rural roads**



**Figure 5.10 Contributing factor trends
Heavy Motor Vehicles - rural roads**

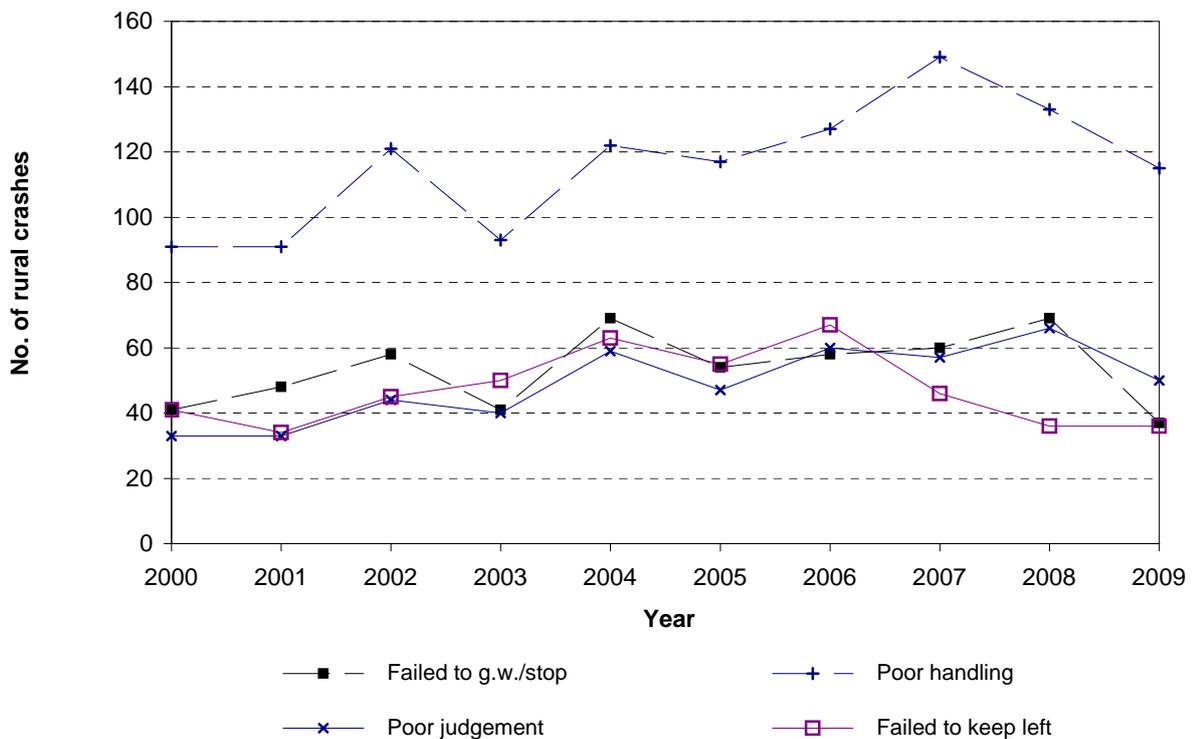


Figure 5.11 Contributing factor trends
Heavy Motor Vehicles - rural roads

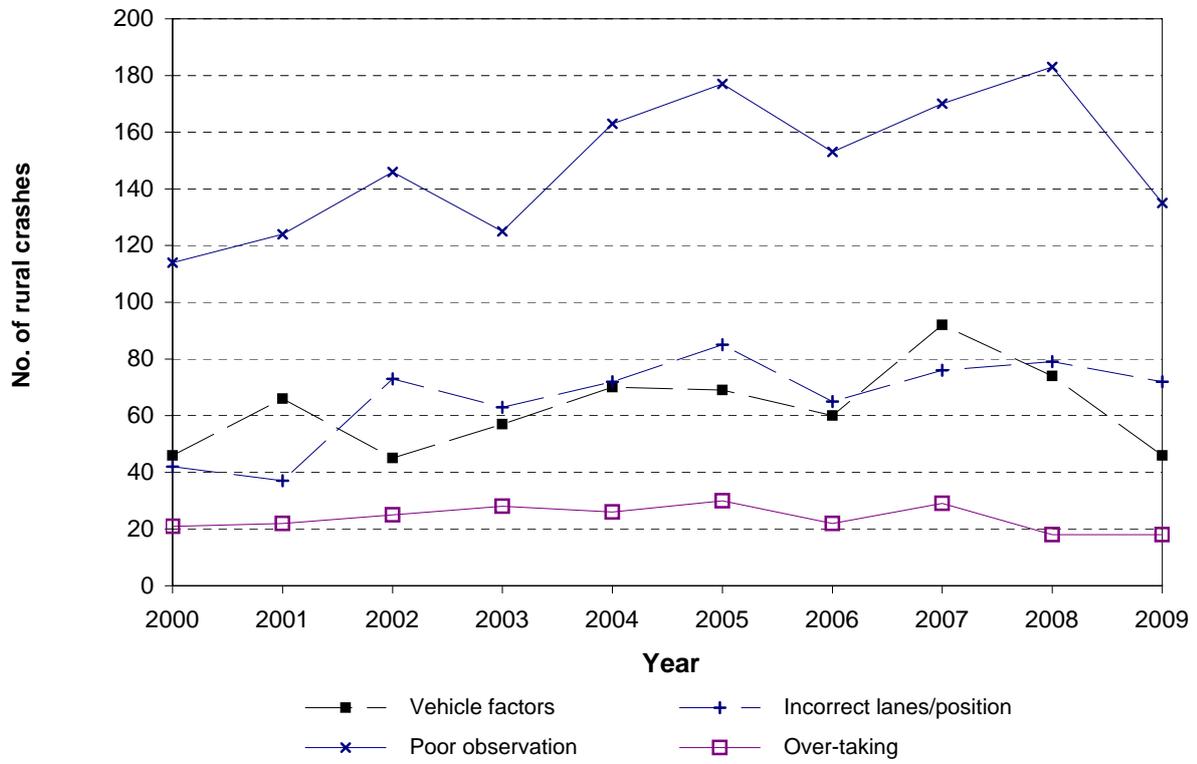
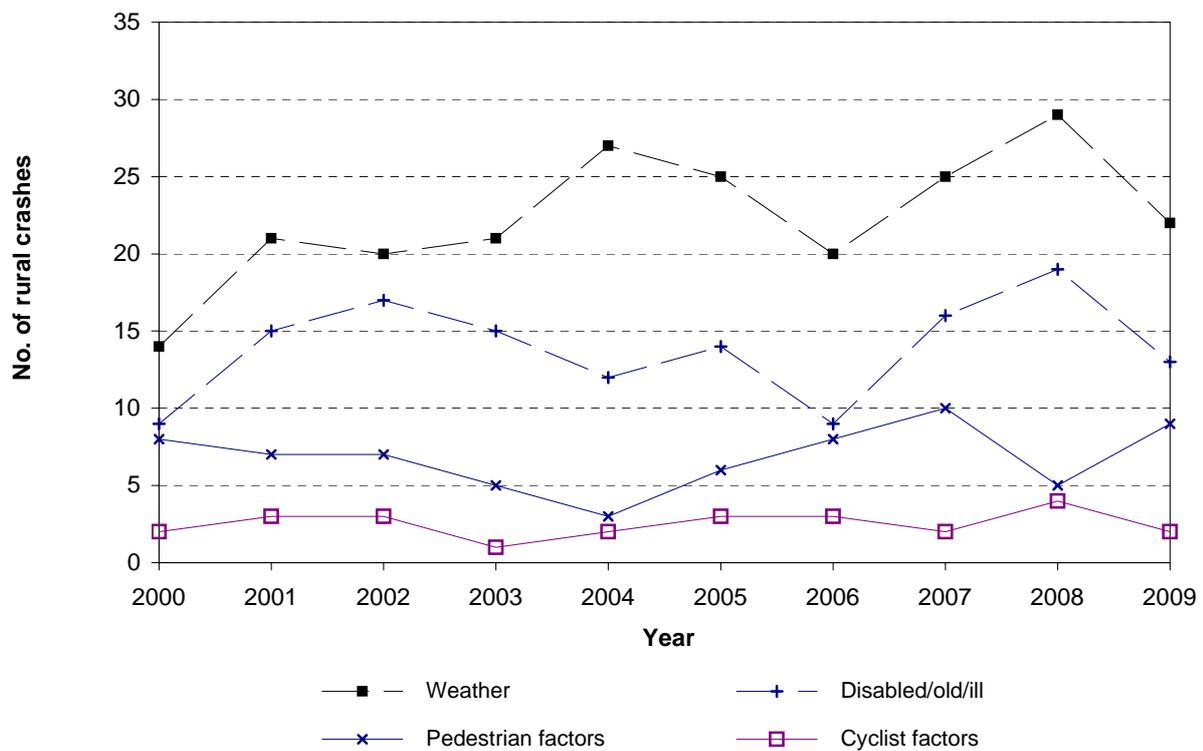
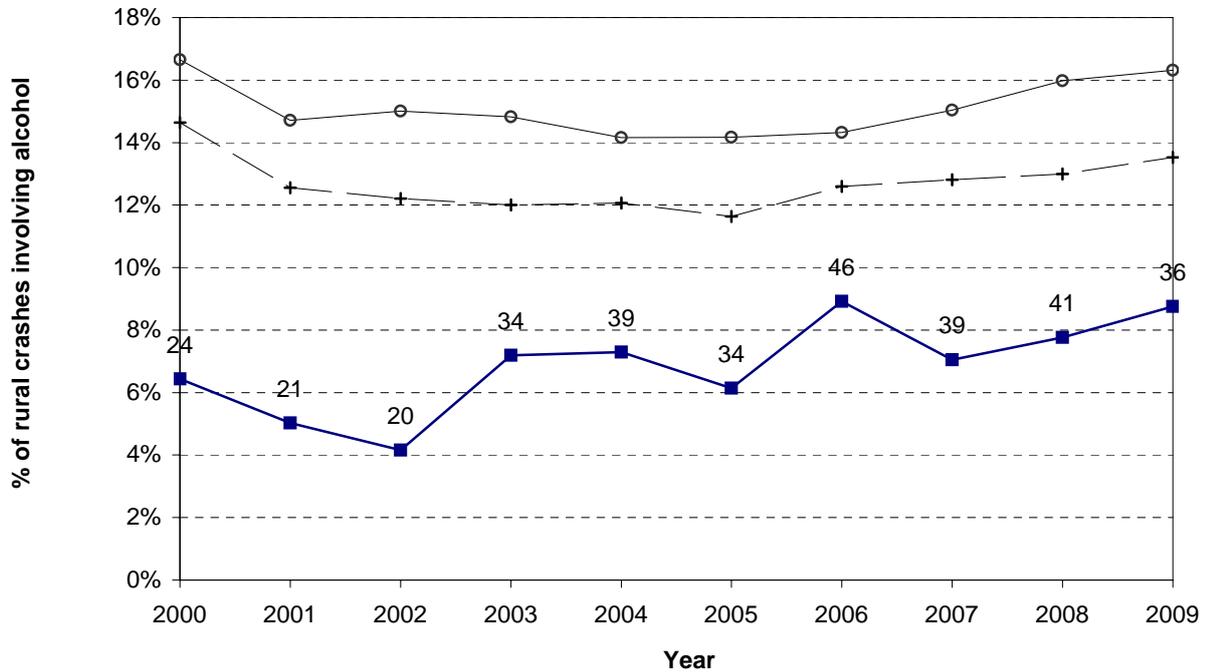


Figure 5.12 Contributing factor trends
Heavy Motor Vehicles - rural roads



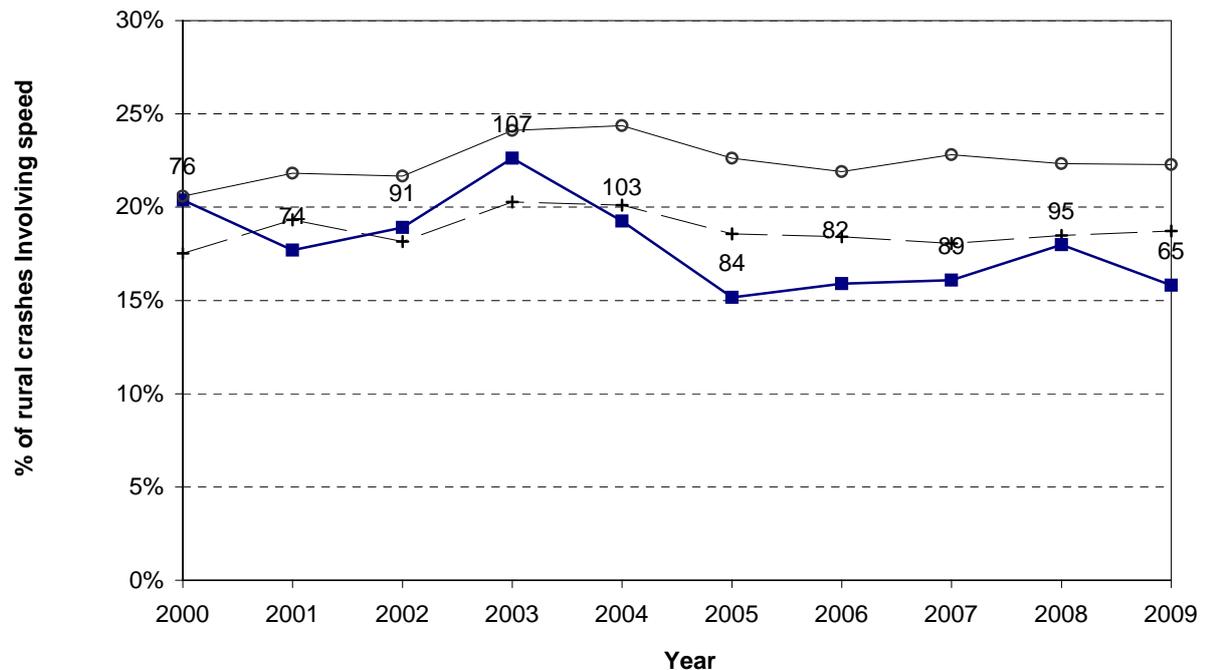
**Figure 5.13 Alcohol involved trend
Heavy Motor Vehicles - rural roads**



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

—+— All NZ SH —■— HMVs —○— All NZ

**Figure 5.14 Speed involved trend
Heavy Motor Vehicles - rural roads**

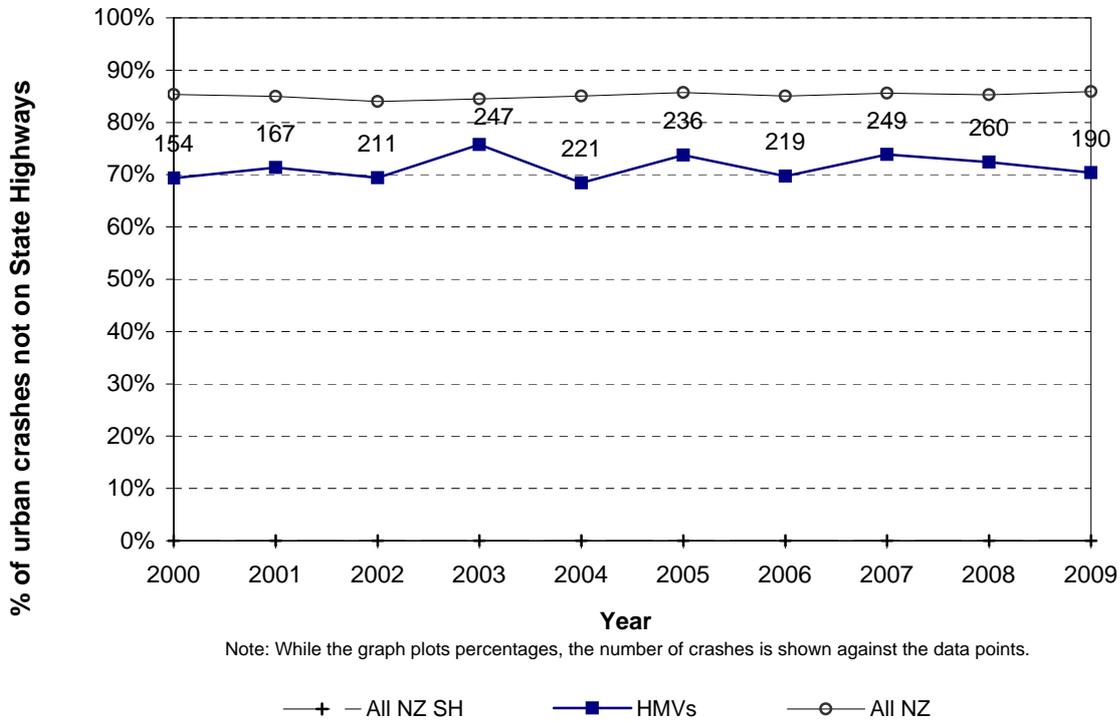


Note: While the graph plots percentages, the number of crashes is shown against the data points.

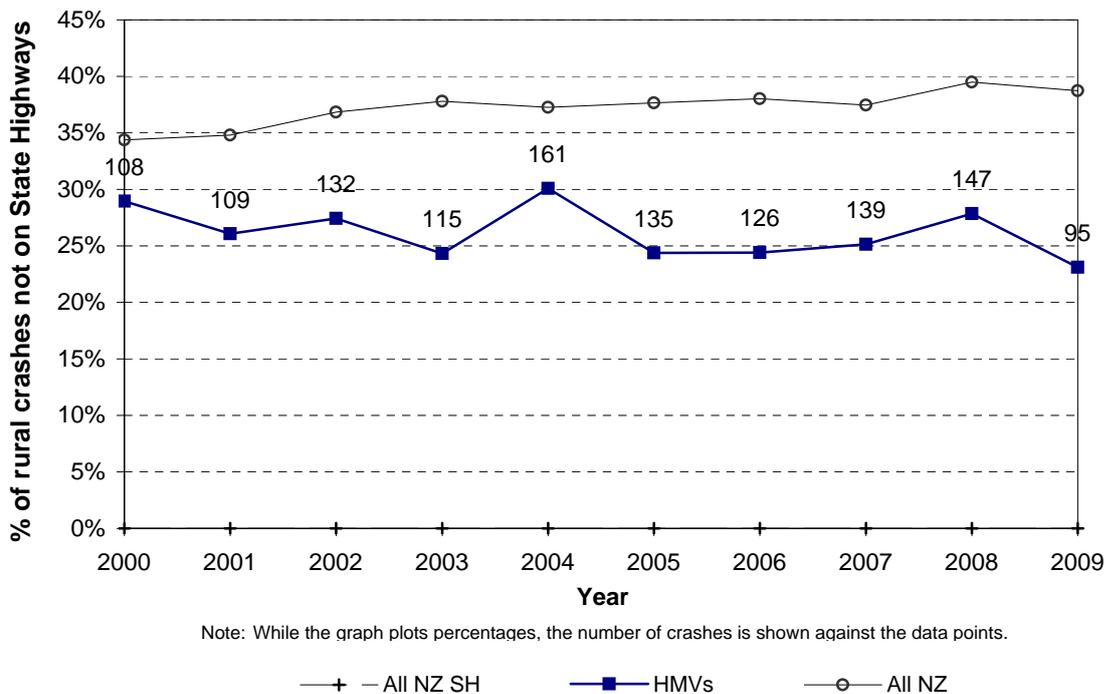
—+— All NZ SH —■— HMVs —○— All NZ

Environmental Statistics

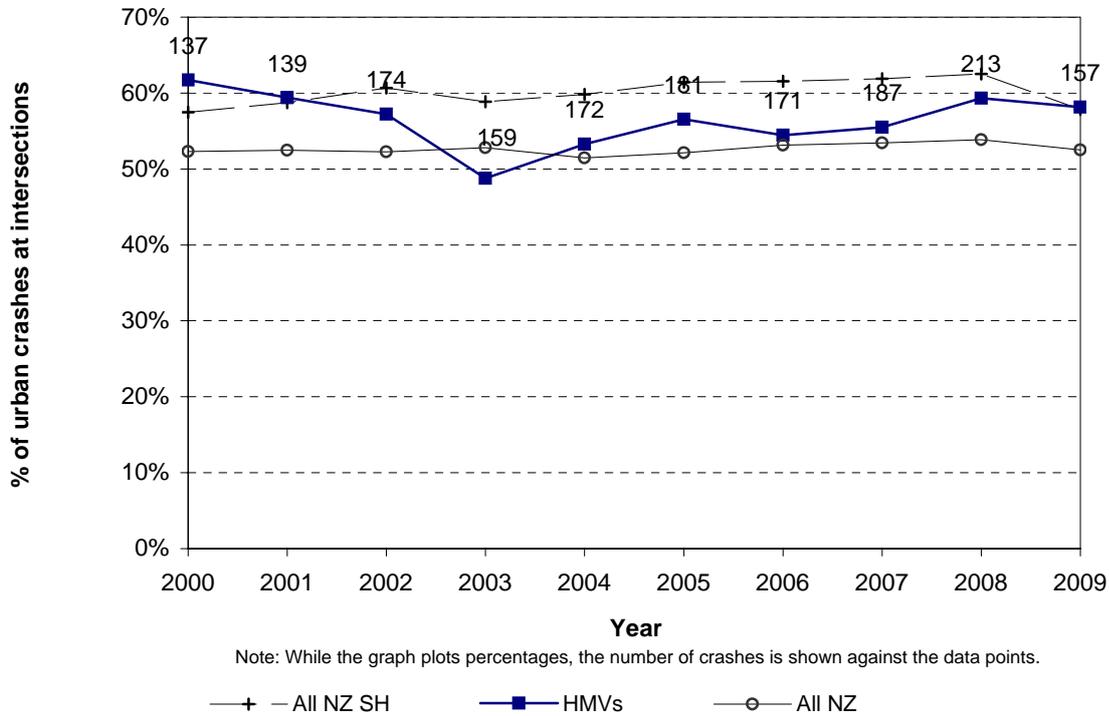
**Figure 6.1 Crashes not on state highways
Heavy Motor Vehicles - urban roads**



**Figure 6.2 Crashes not on state highways
Heavy Motor Vehicles - rural roads**



**Figure 6.3 Intersection crashes
Heavy Motor Vehicles - urban roads**



**Figure 6.4 Intersection crashes
Heavy Motor Vehicles - rural roads**

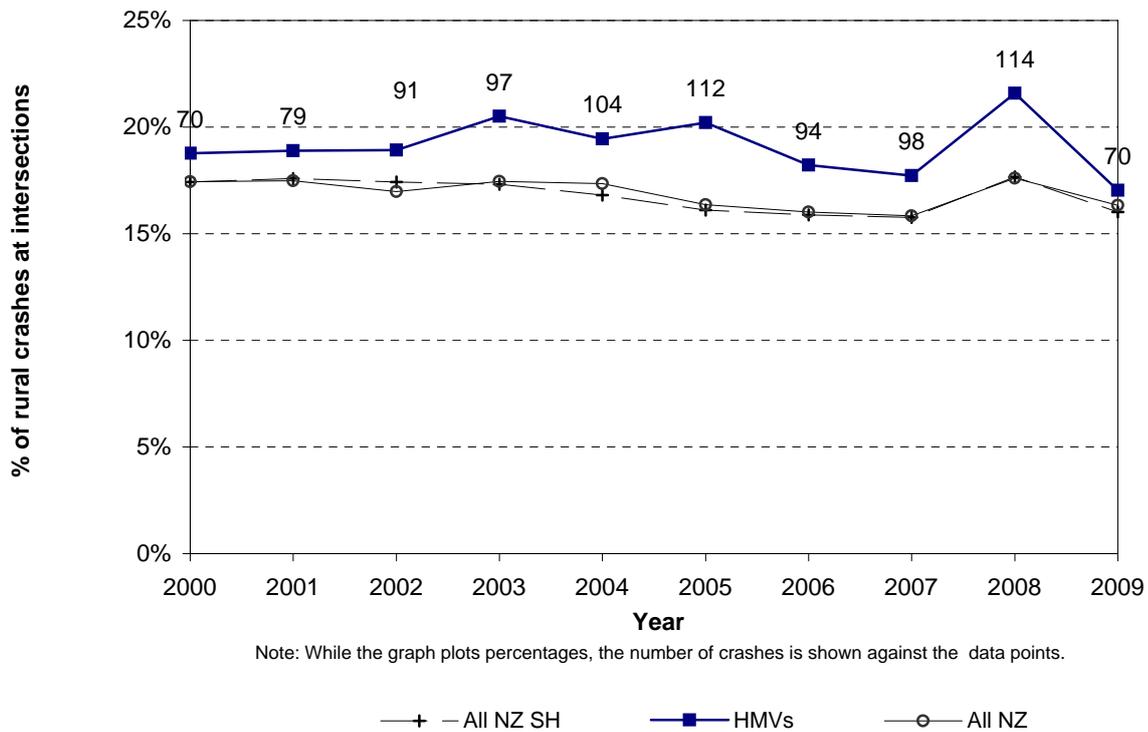


Figure 6.5 Wet road crashes
Heavy Motor Vehicles - urban roads

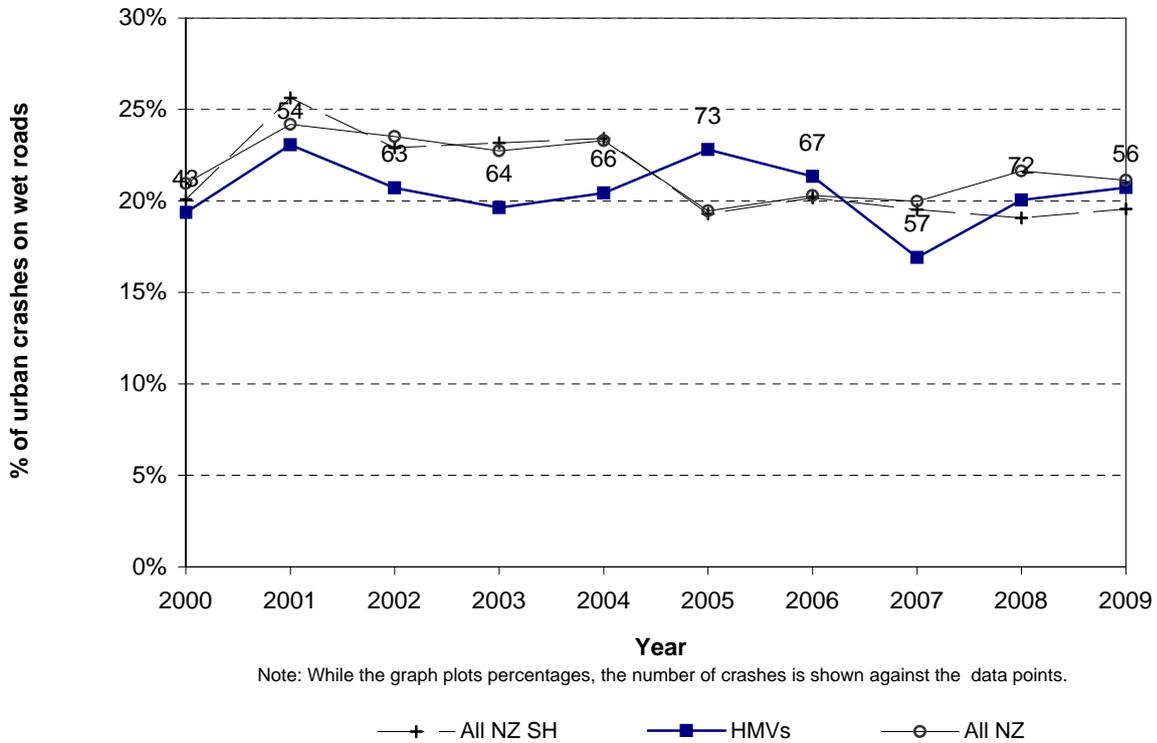
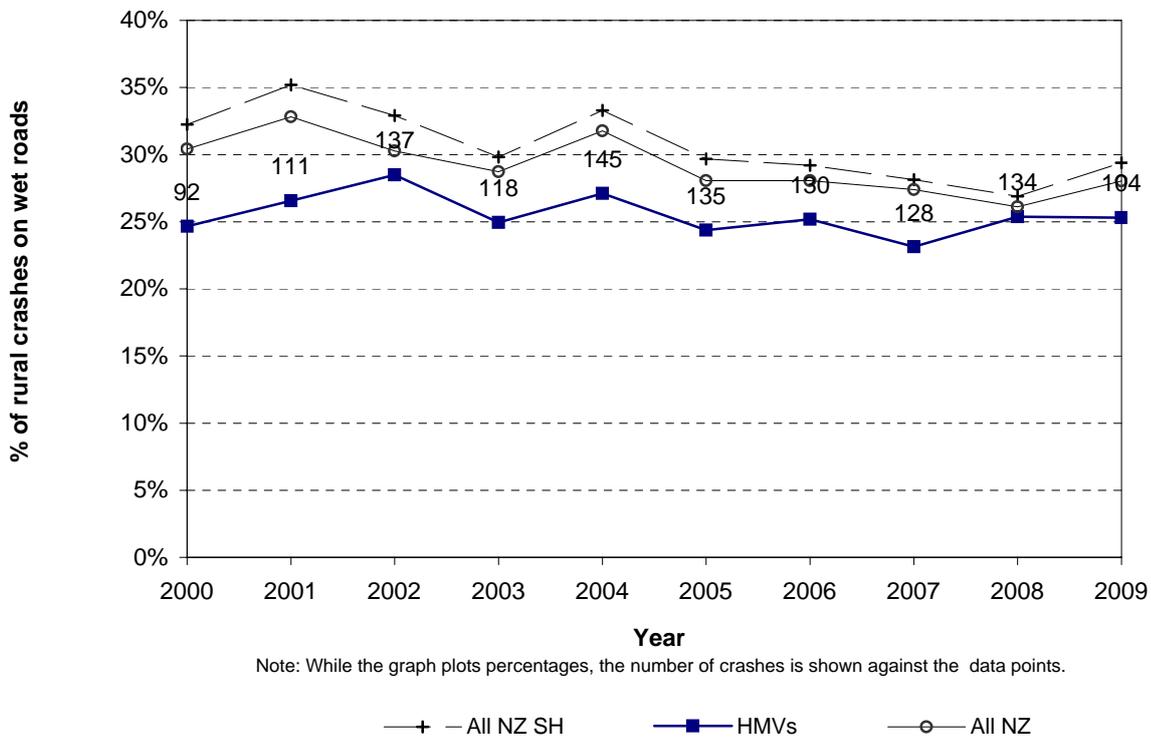
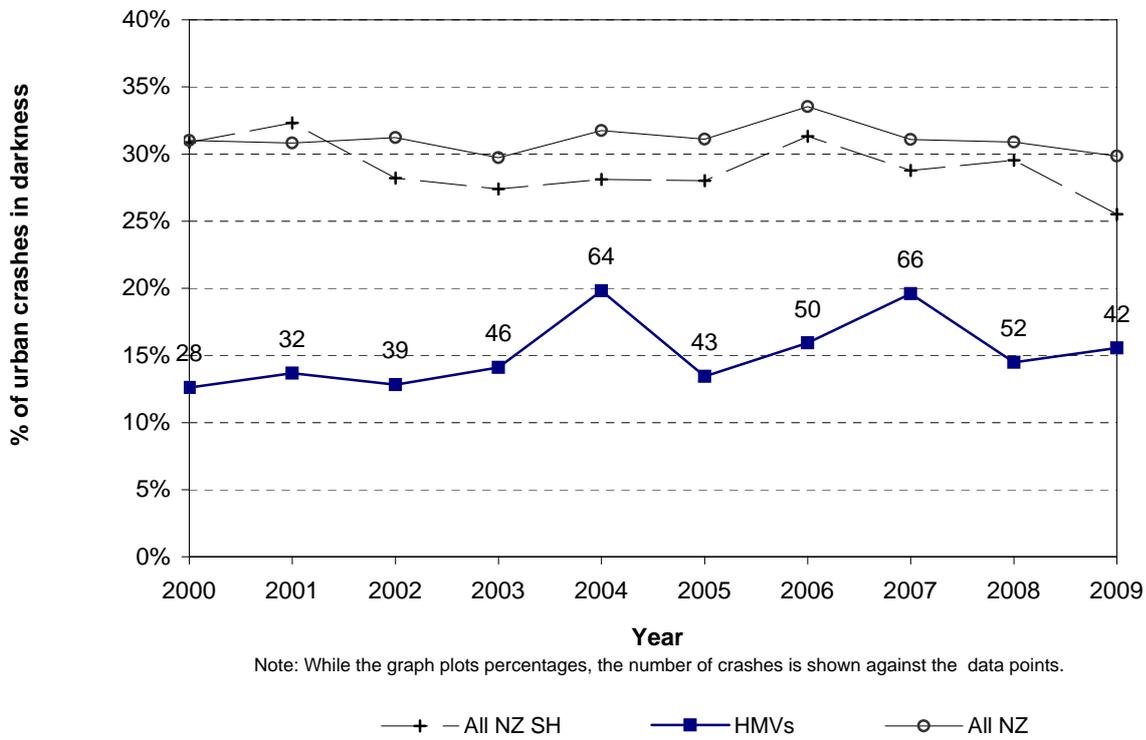


Figure 6.6 Wet road crashes
Heavy Motor Vehicles - rural roads



**Figure 6.7 Crashes in darkness
Heavy Motor Vehicles - urban roads**



**Figure 6.8 Crashes in darkness
Heavy Motor Vehicles - rural roads**

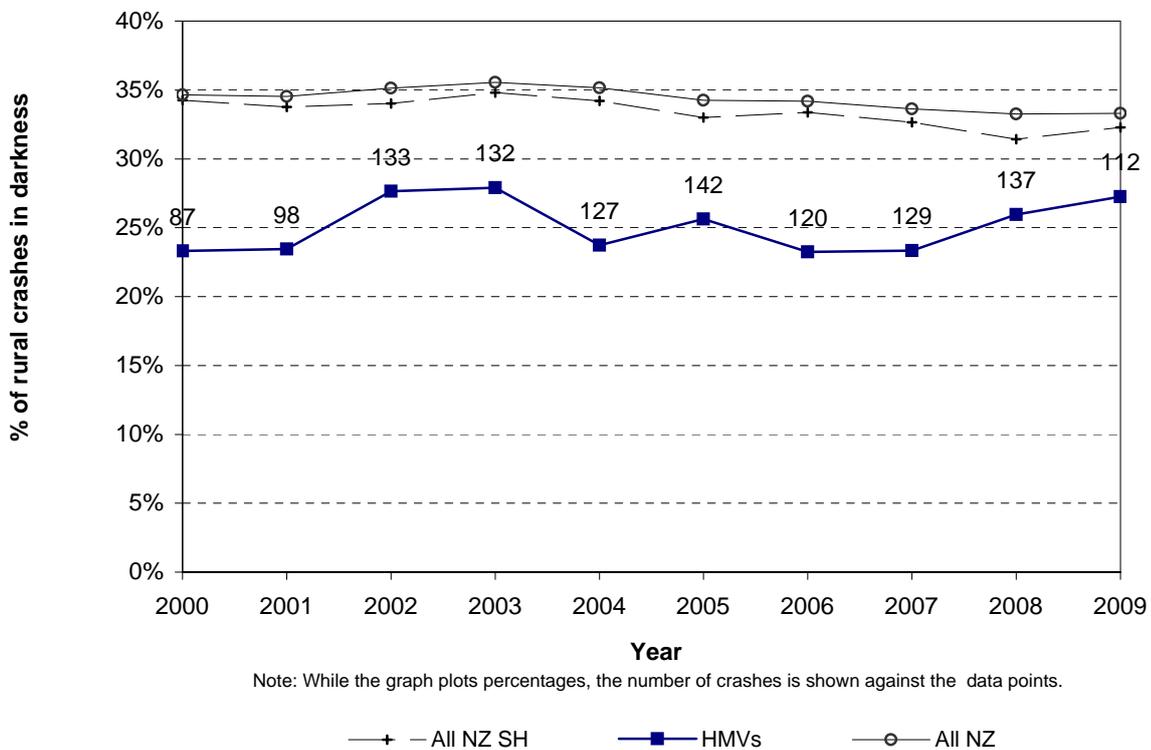


Figure 6.9 Unsealed road crashes
Heavy Motor Vehicles - rural roads

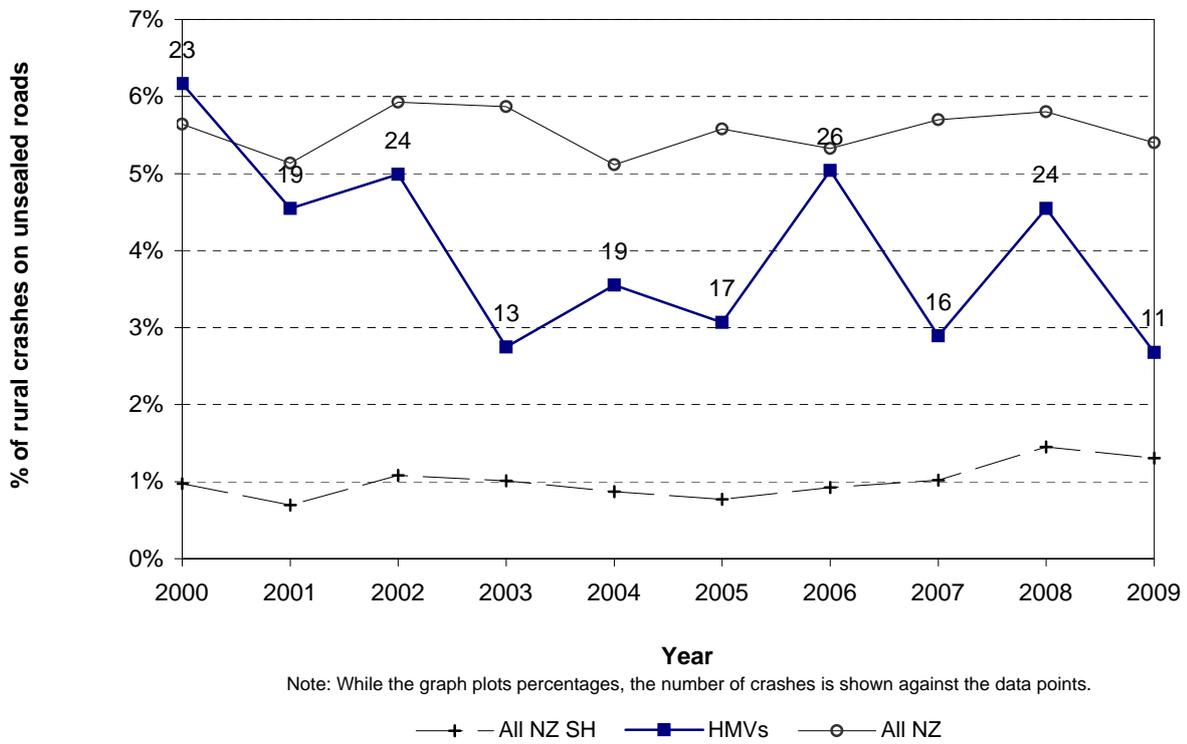
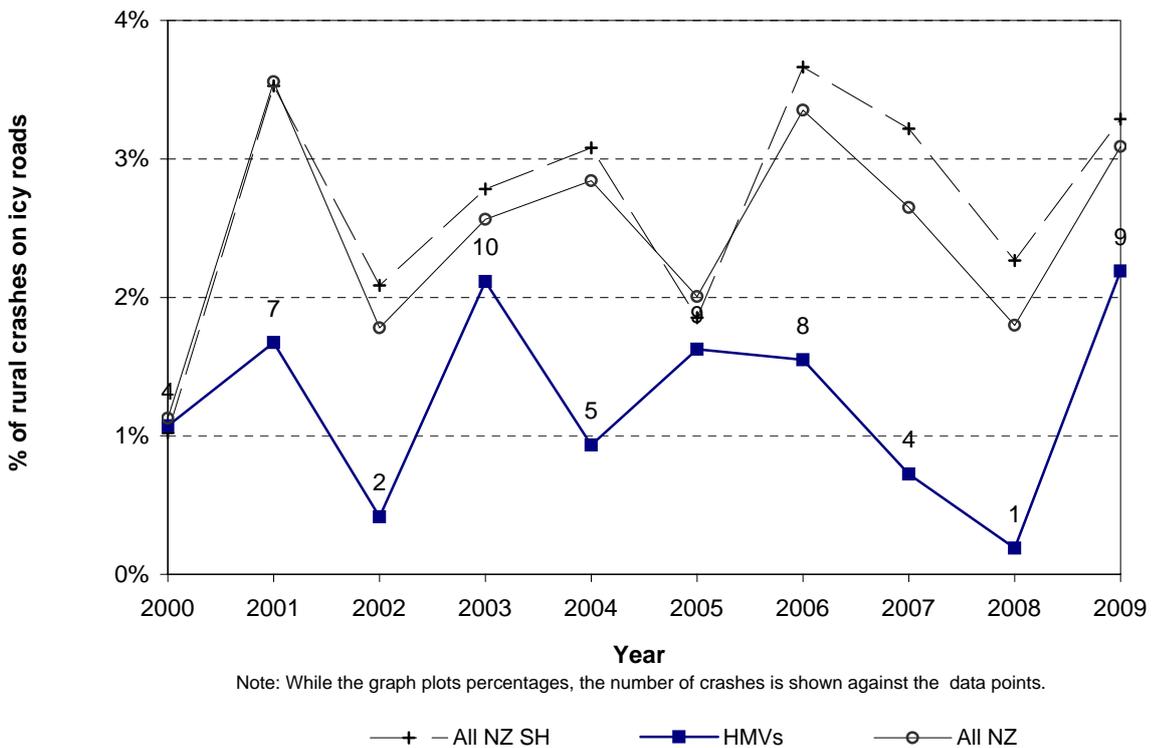
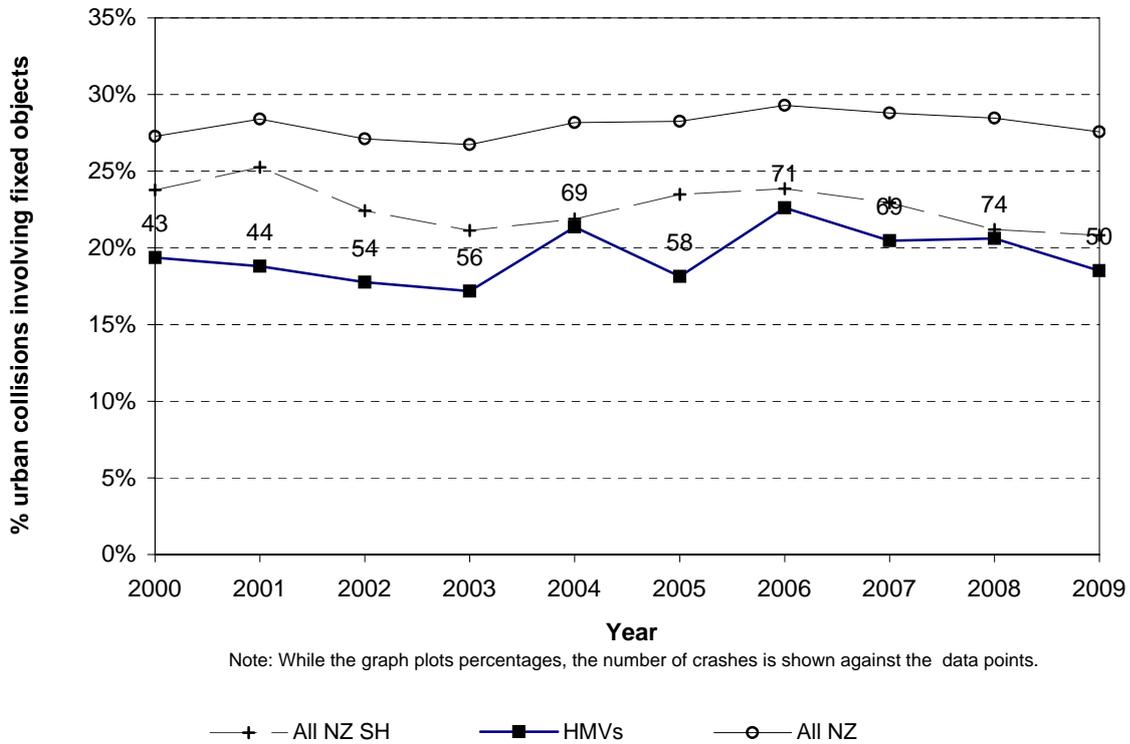


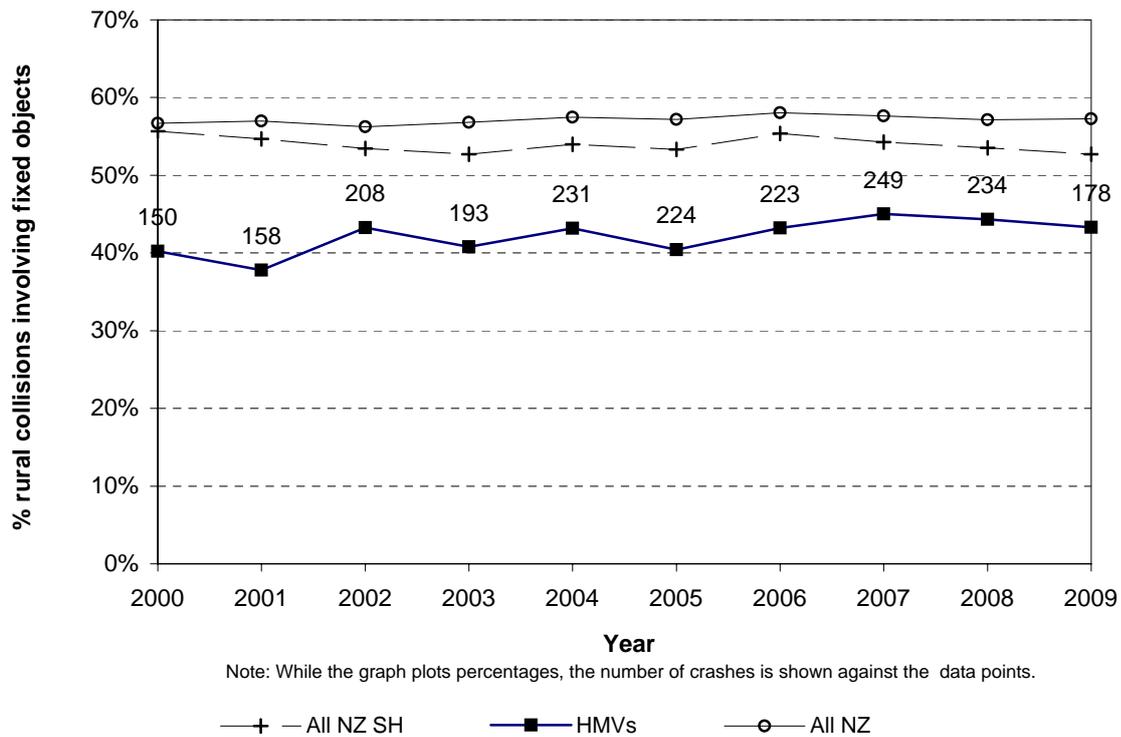
Figure 6.10 Icy road crashes
Heavy Motor Vehicles - rural roads



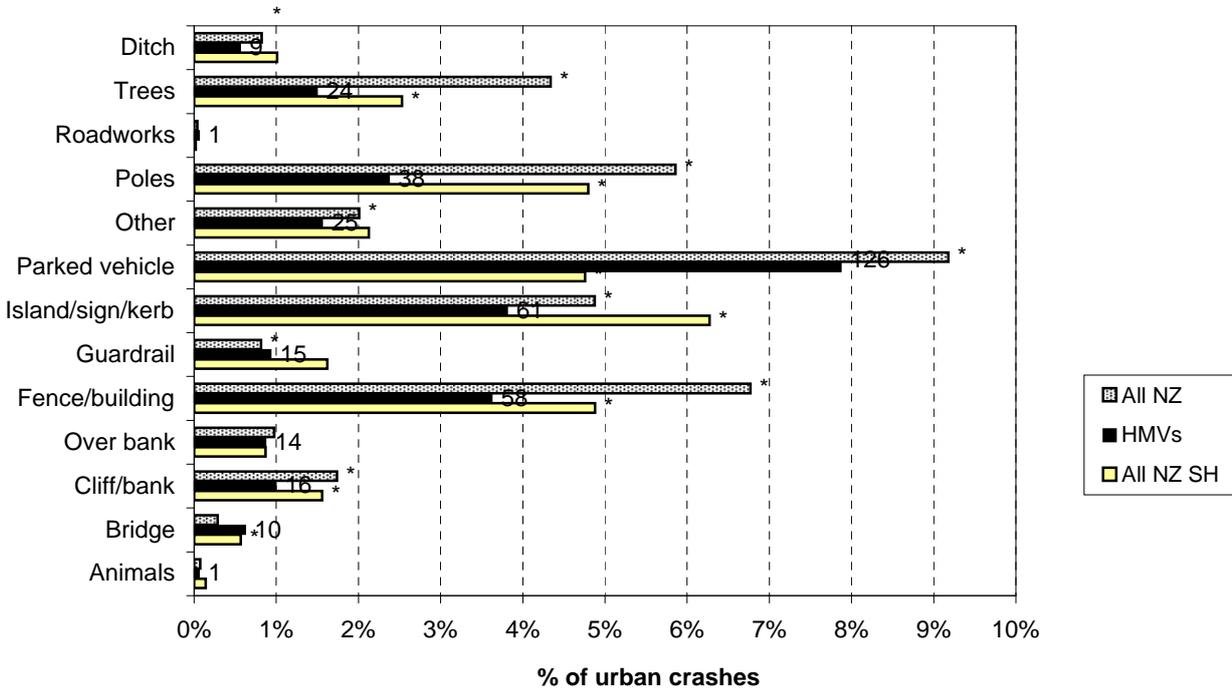
**Figure 6.11 Collisions with objects
Heavy Motor Vehicles - urban roads**



**Figure 6.12 Collisions with objects
Heavy Motor Vehicles - rural roads**

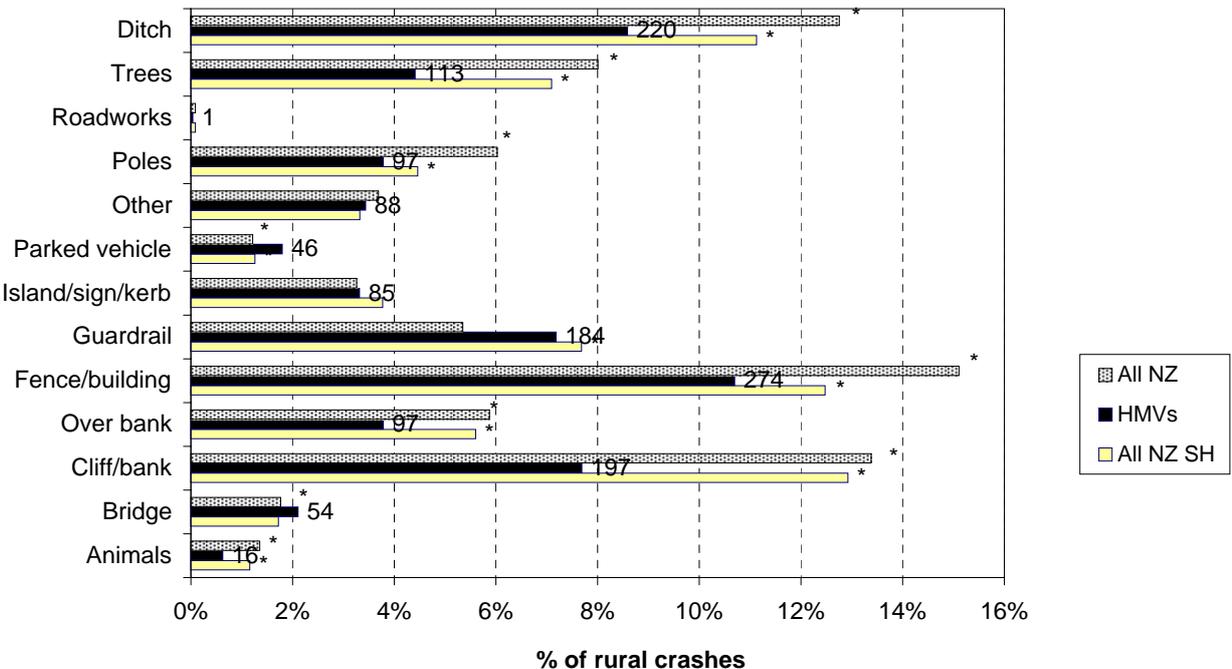


**Figure 6.13 Objects struck - urban
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles (2005-2009)**



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
Heavy Motor Vehicles (2005-2009)

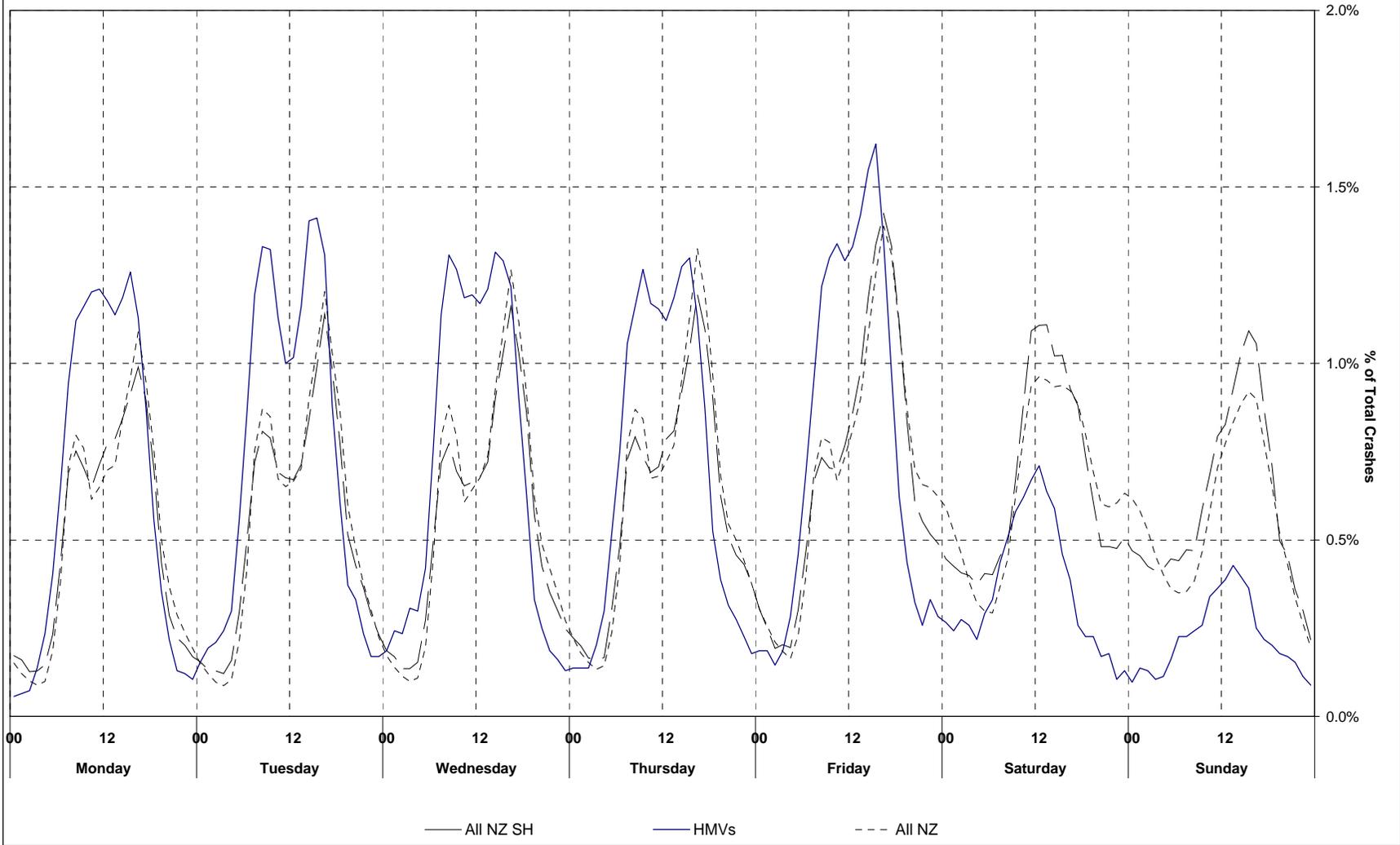


Figure 7.2 Day of week (6 a.m. to 6 a.m.)
Heavy Motor Vehicles (2005-2009)

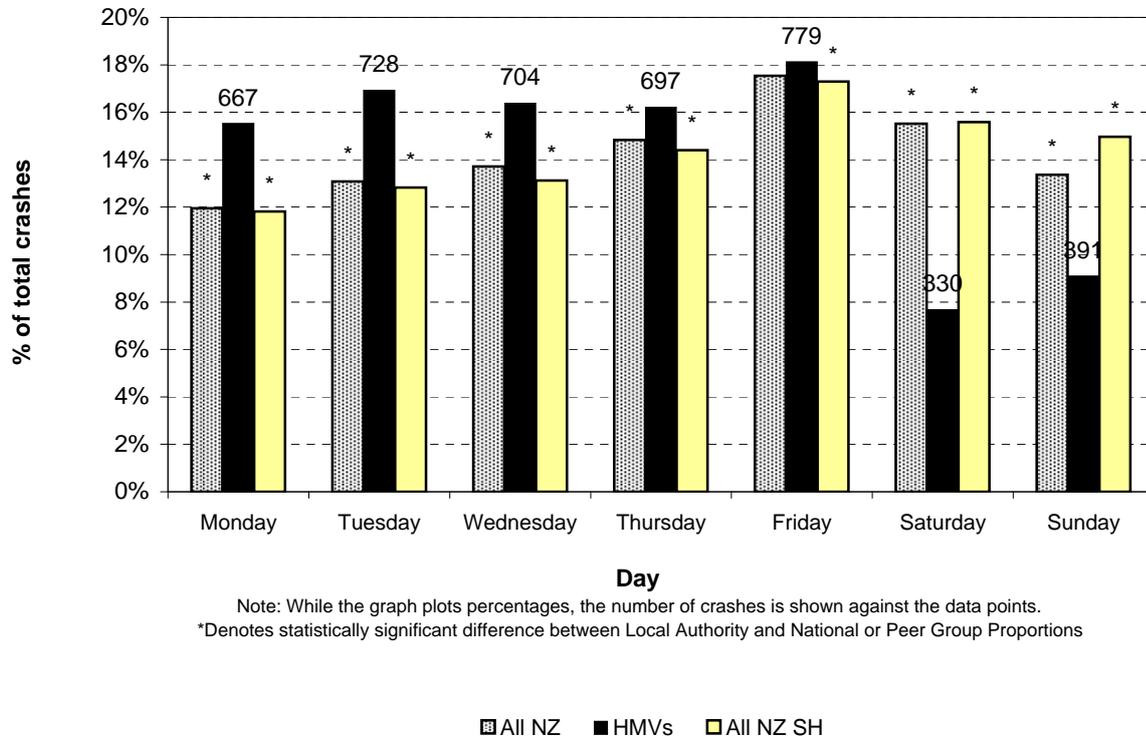
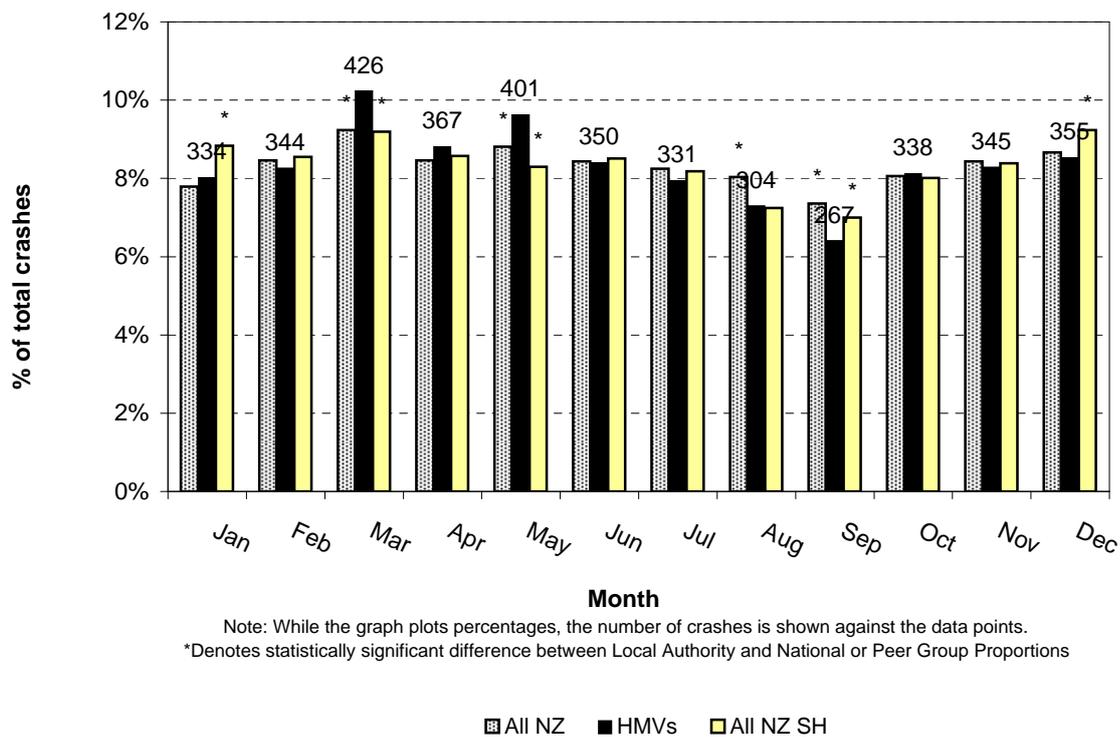


Figure 7.3 Month of year
Heavy Motor Vehicles (2005-2009)



Local Road Statistics

Figure 8.1 Number of injury crashes
Heavy Motor Vehicles - council roads (urban & rural)

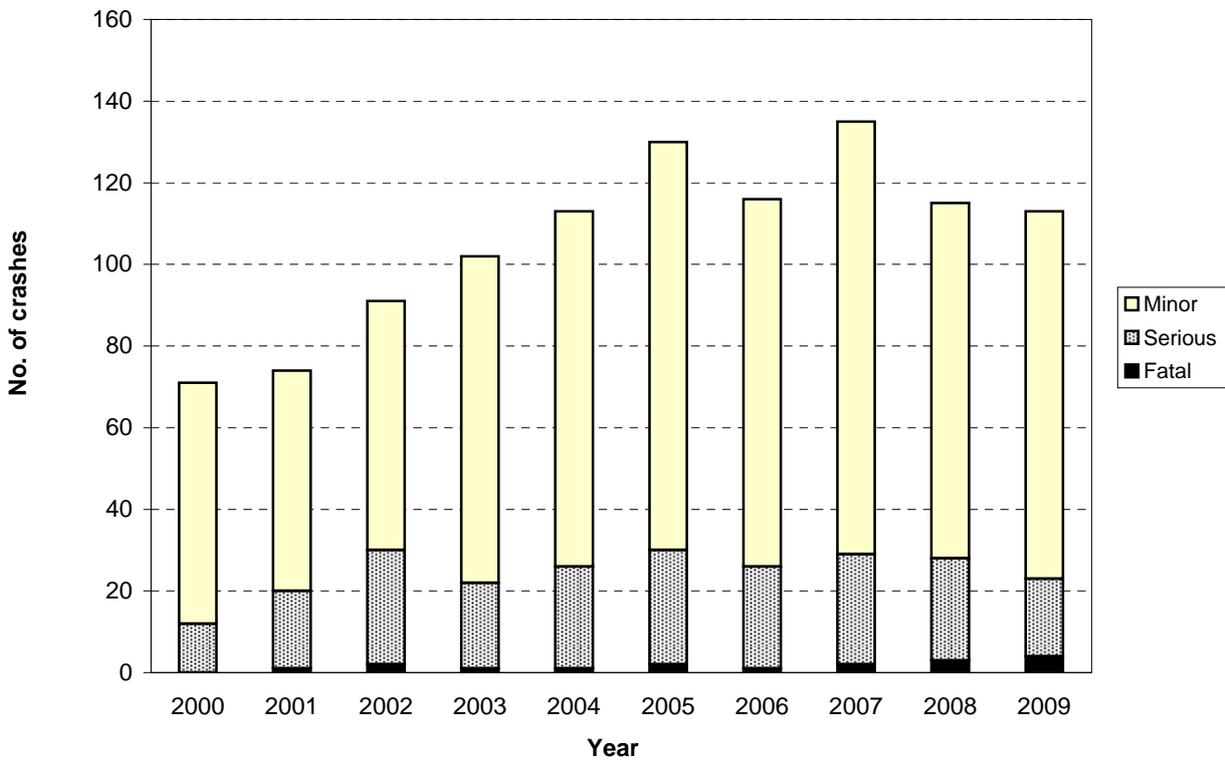
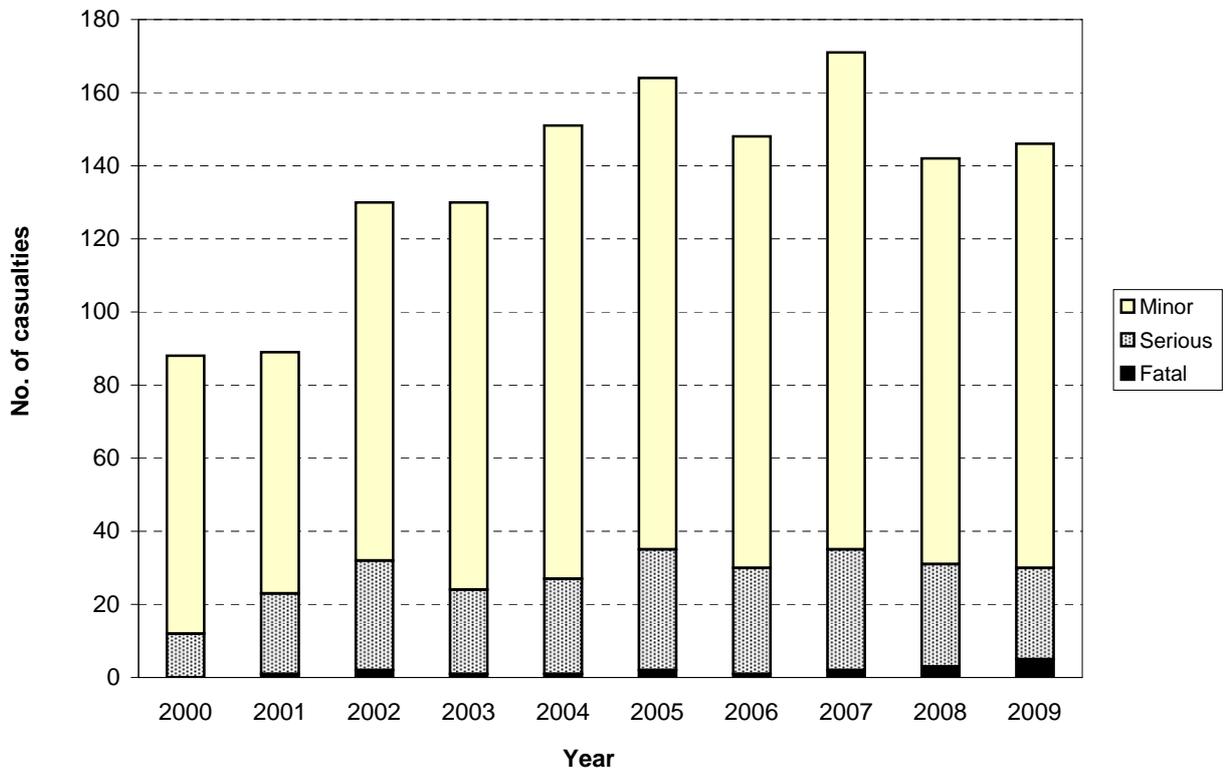


Figure 8.2 Number of casualties
Heavy Motor Vehicles - council roads (urban & rural)



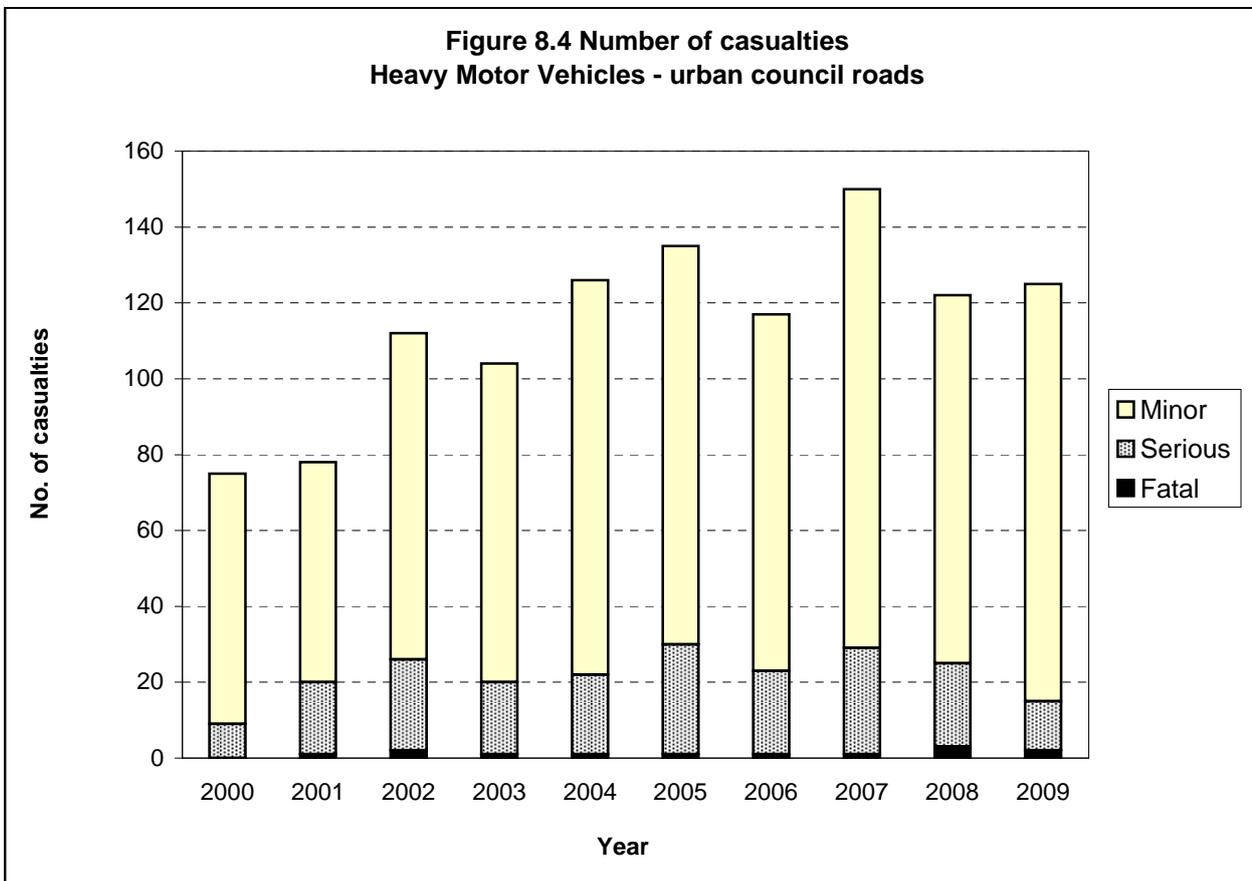
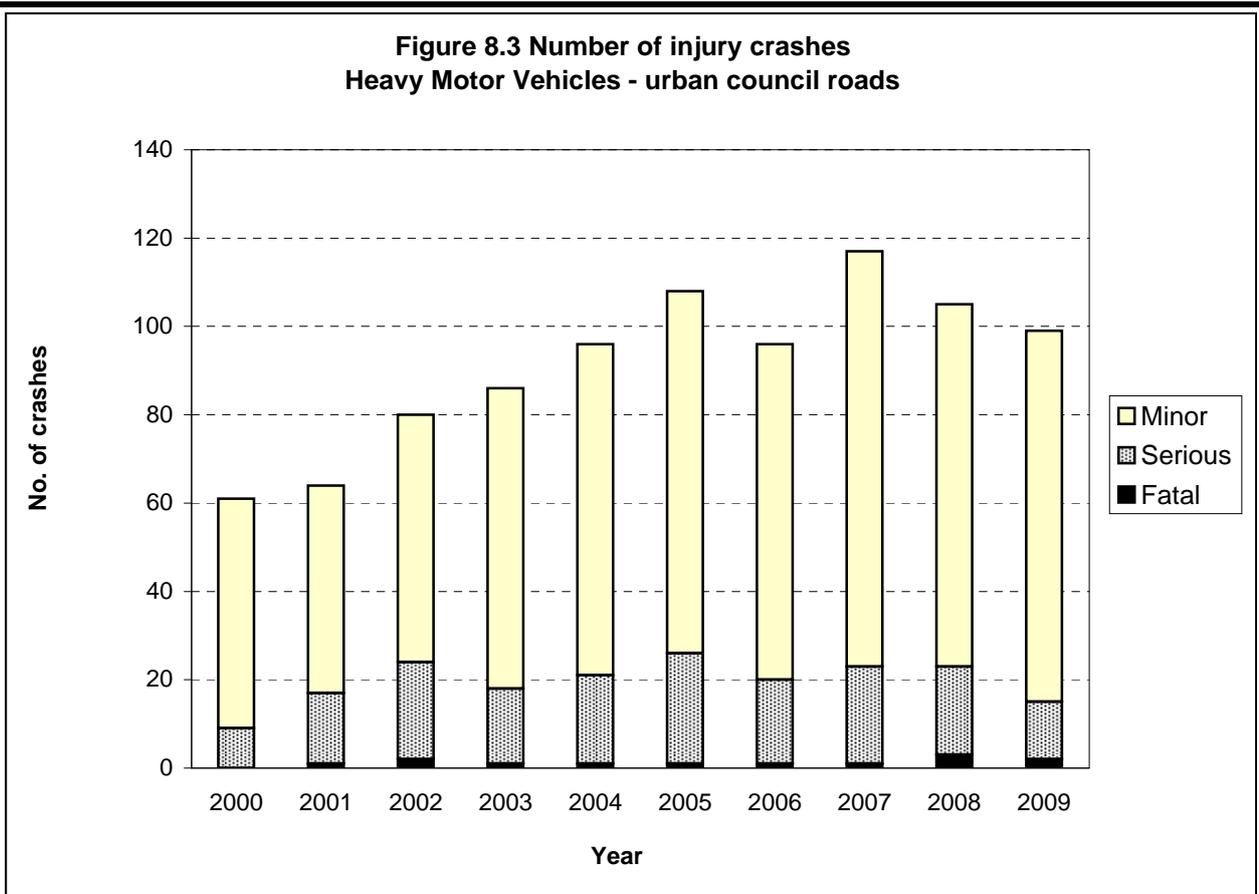


Figure 8.5 Number of injury crashes
Heavy Motor Vehicles - rural council roads

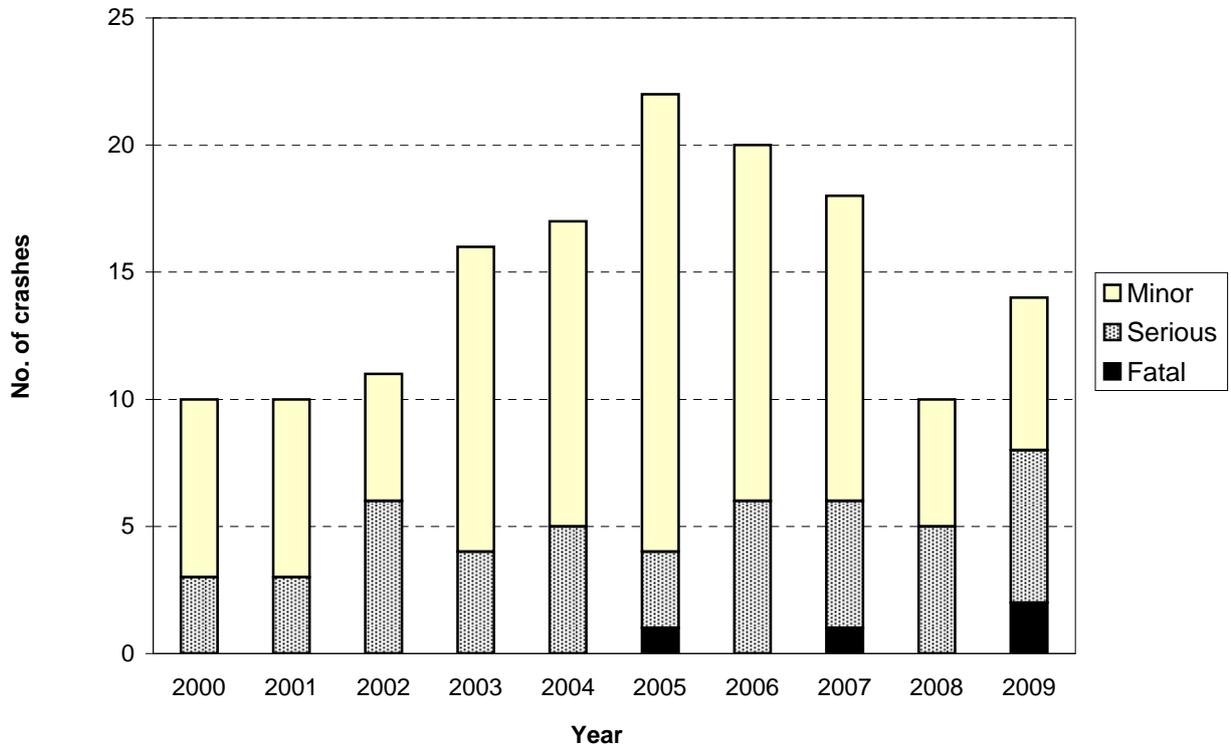
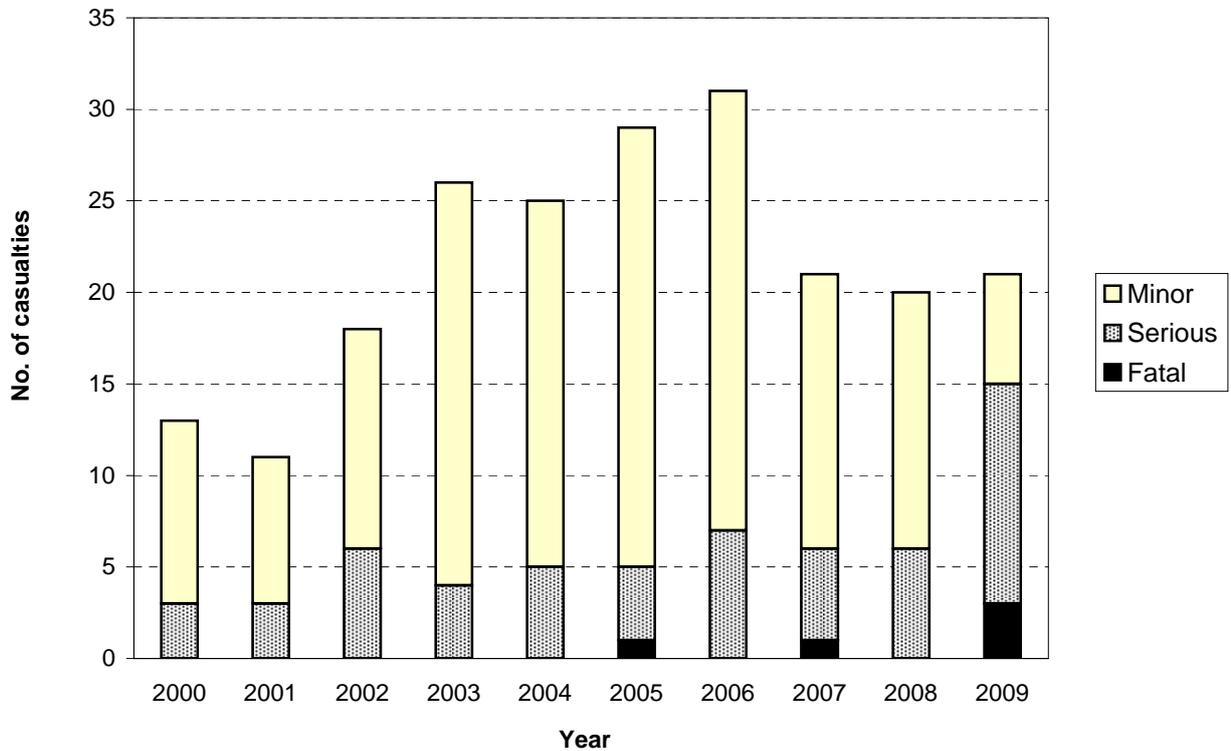
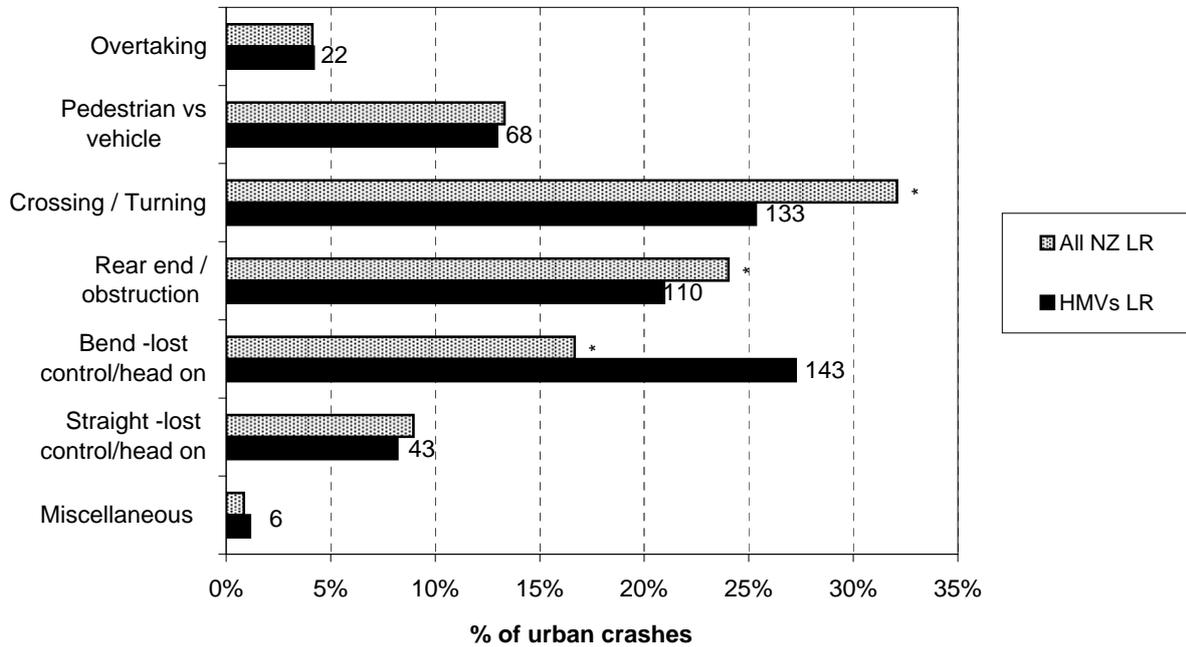


Figure 8.6 Number of casualties
Heavy Motor Vehicles - rural council roads

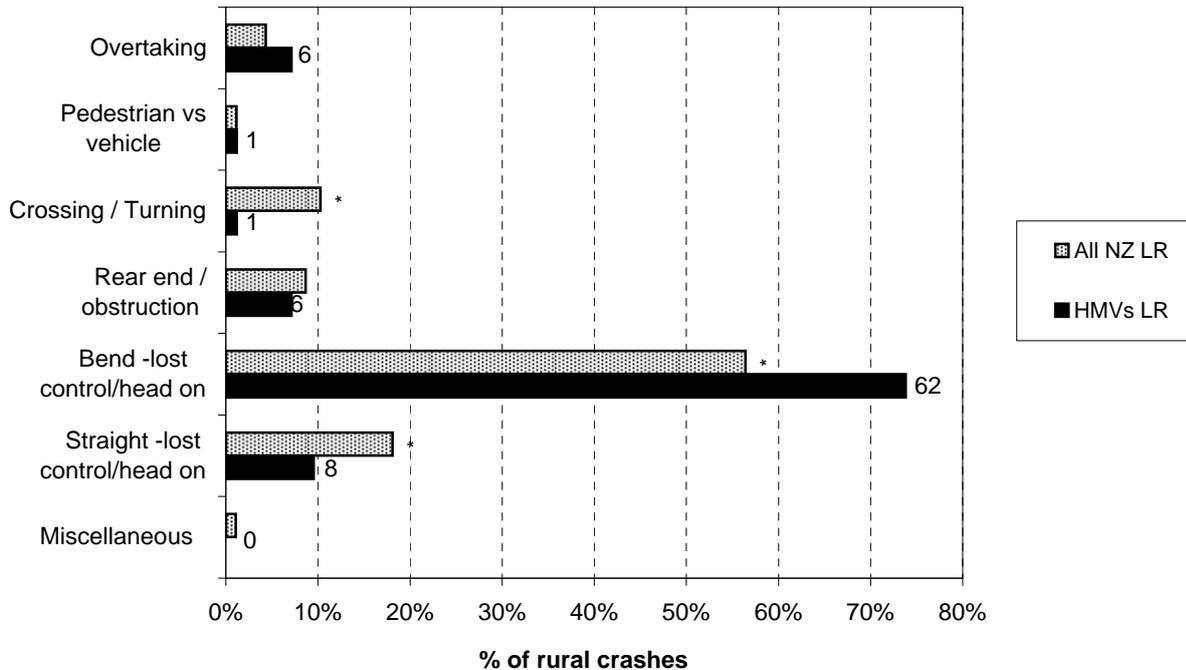


**Figure 8.7 Crash movement type - urban
Heavy Motor Vehicles council roads (2005-2009)**



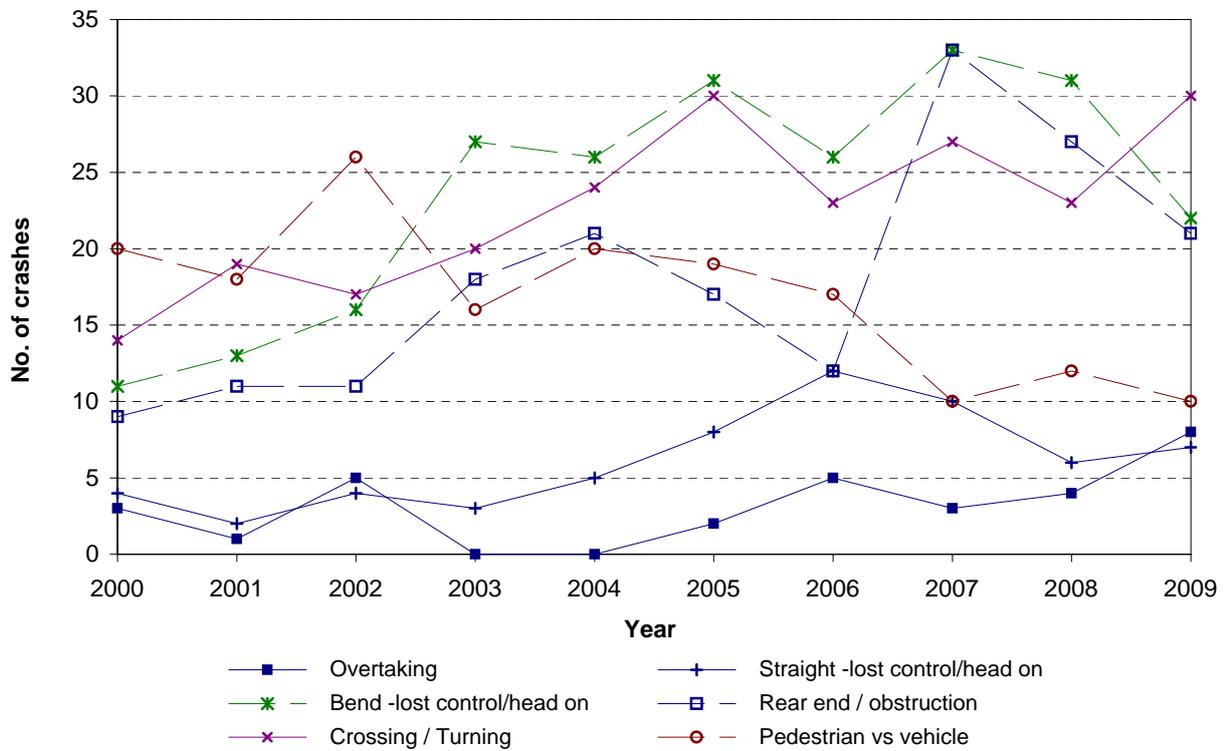
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

**Figure 8.8 Crash movement type - rural
Heavy Motor Vehicles council roads (2005-2009)**

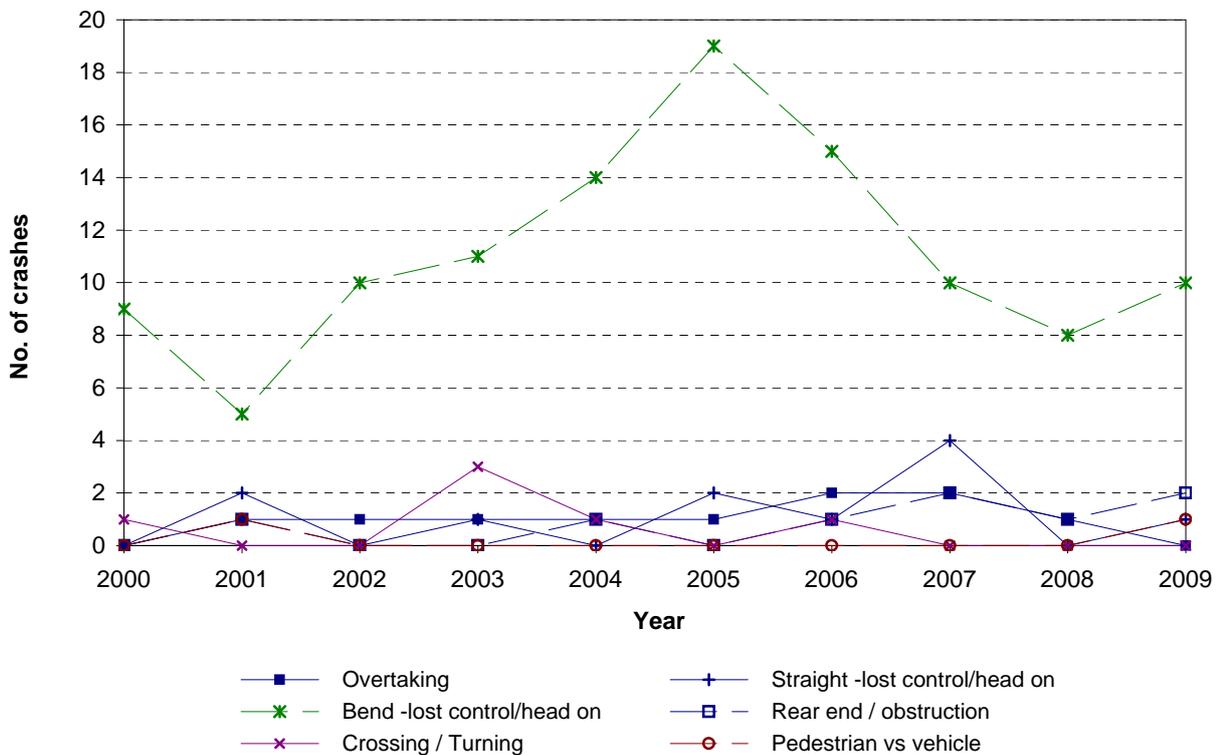


Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

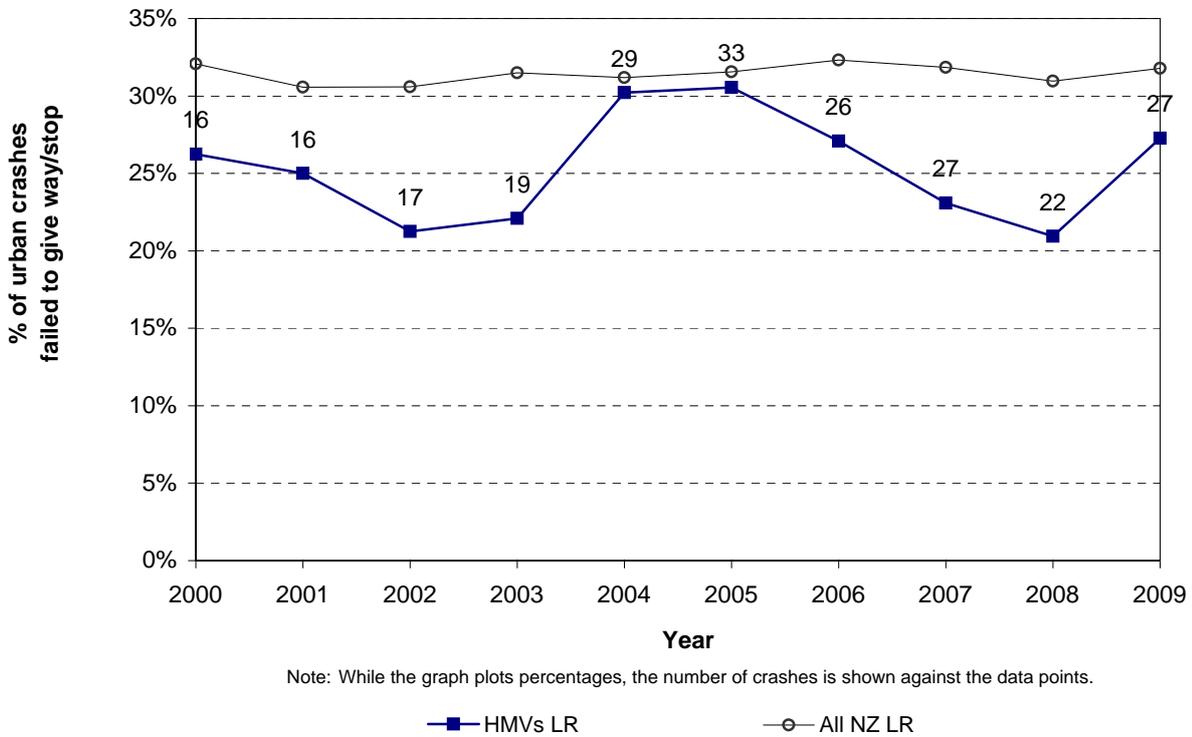
**Figure 8.9 Crash movement type - Trends
Heavy Motor Vehicles - urban council roads**



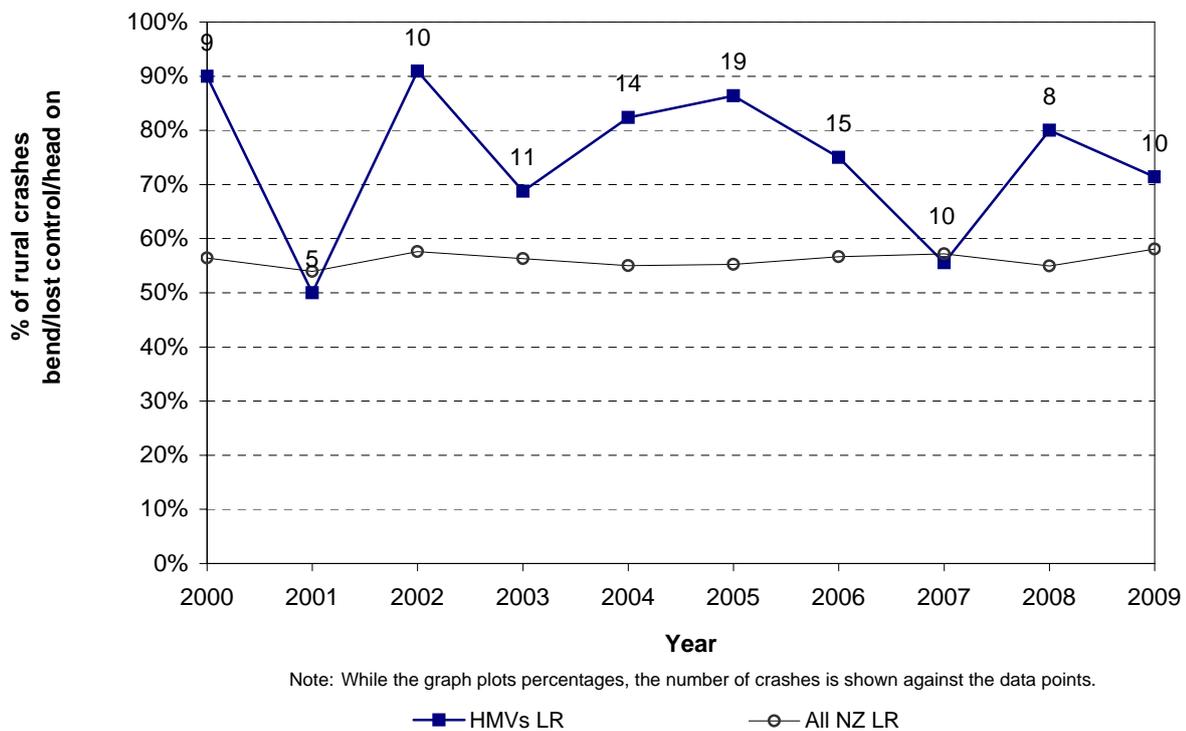
**Figure 8.10 Crash movement type - Trends
Heavy Motor Vehicles - rural council roads**



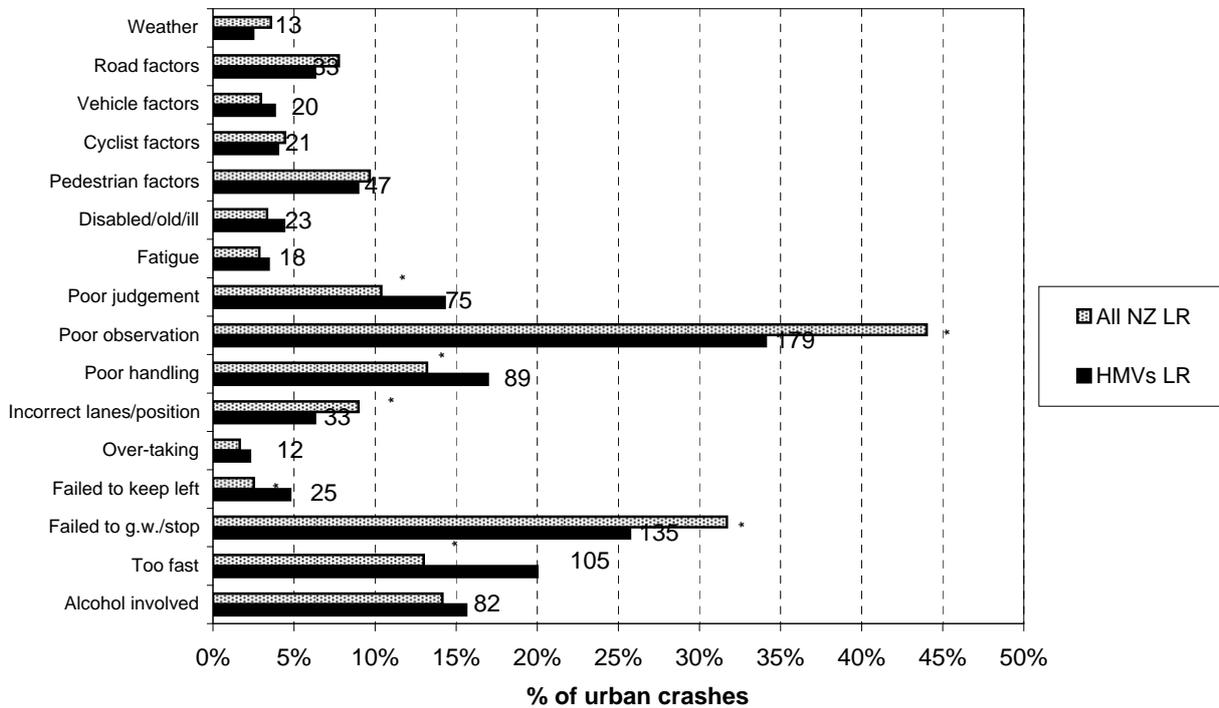
**Figure 8.11 Failed to give way/stop
Heavy Motor Vehicles - urban council roads**



**Figure 8.12 Bend - lost control / head - on
Heavy Motor Vehicles - rural council roads**

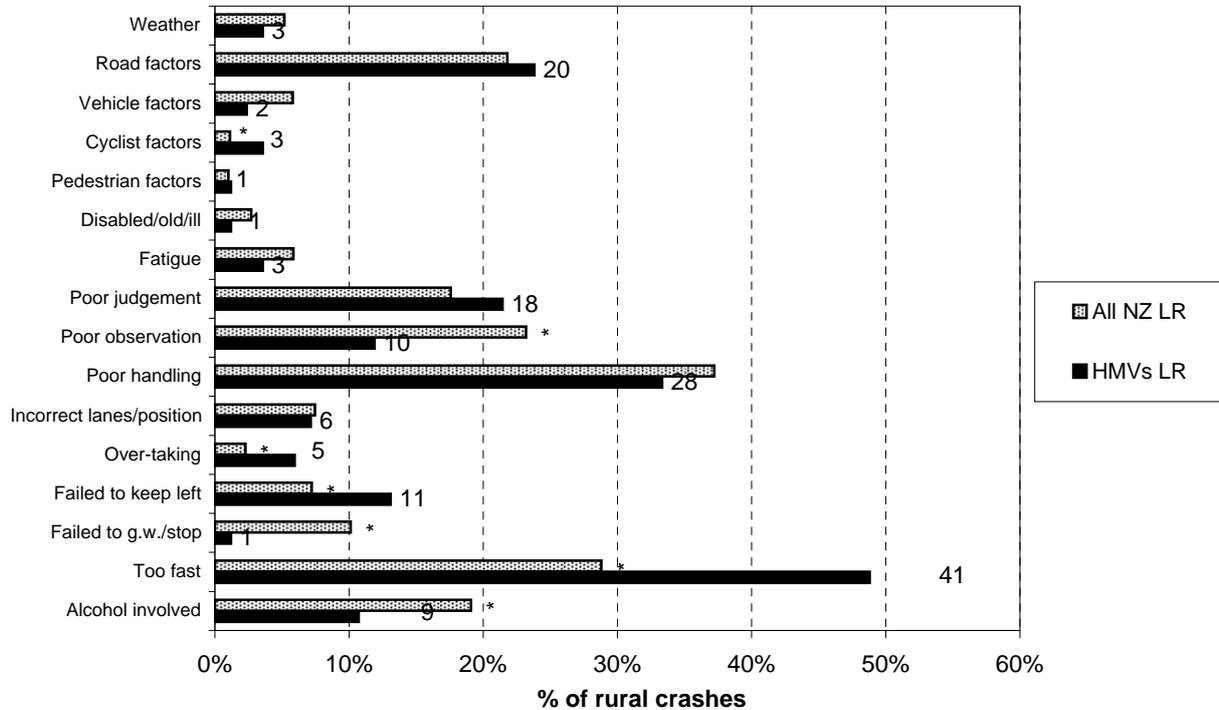


**Figure 8.13 Contributing factors - urban
Heavy Motor Vehicles council roads (2005-2009)**



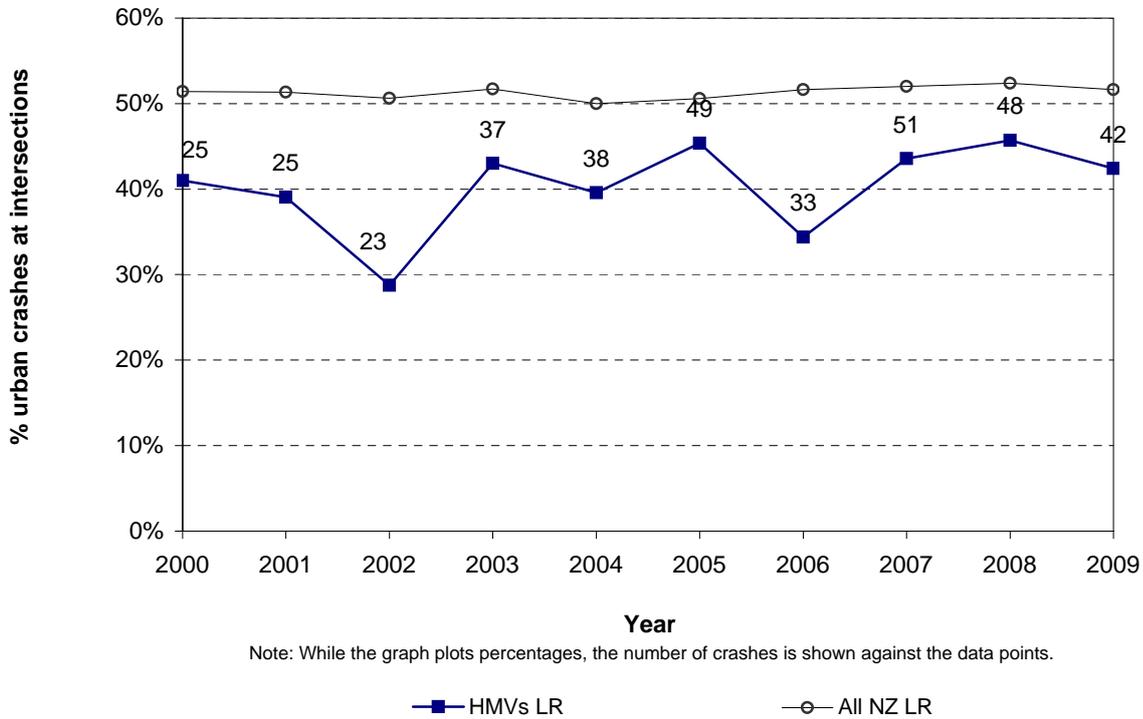
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

**Figure 8.14 Contributing factors - rural
Heavy Motor Vehicles council roads (2005-2009)**



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
Heavy Motor Vehicles - urban council roads**



**Figure 8.16 Intersection crashes
Heavy Motor Vehicles - rural council roads**

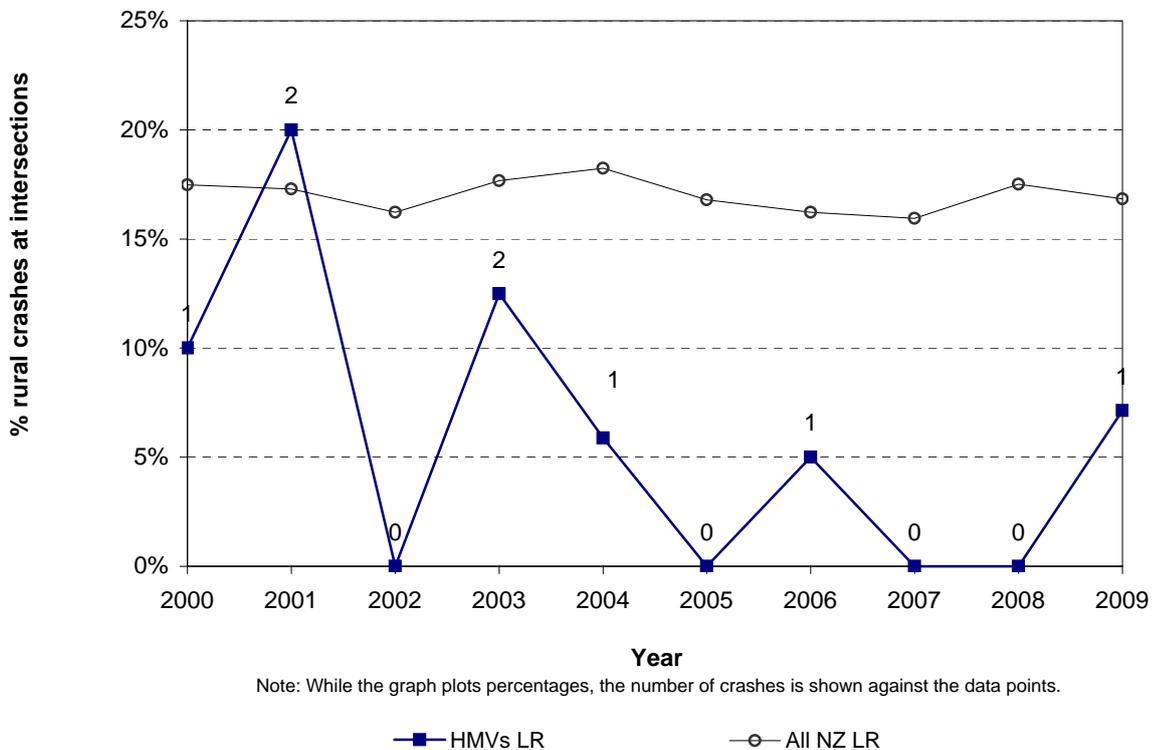


Figure 8.17 Wet road crashes
Heavy Motor Vehicles - urban council roads

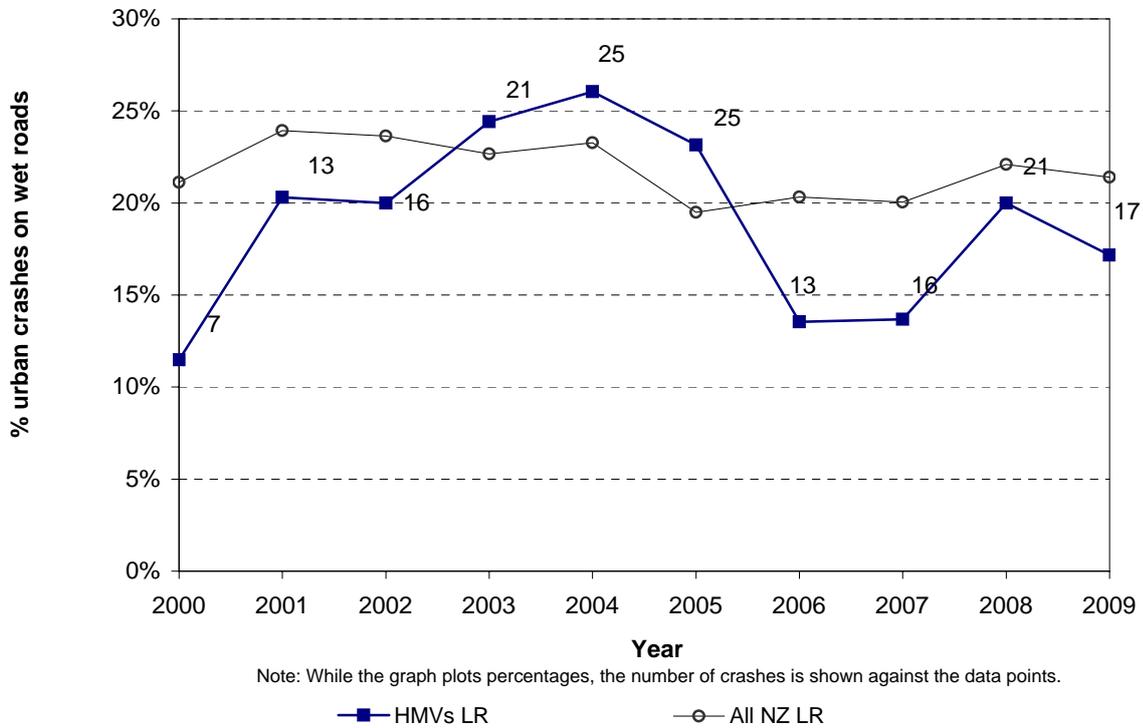
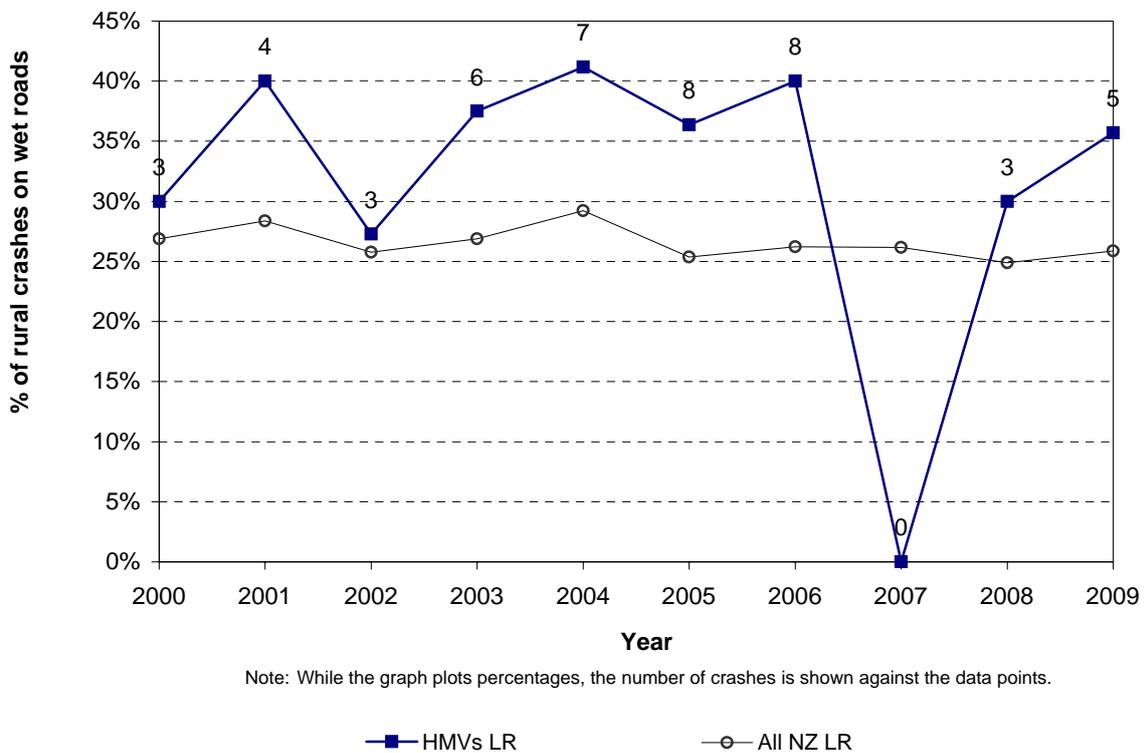
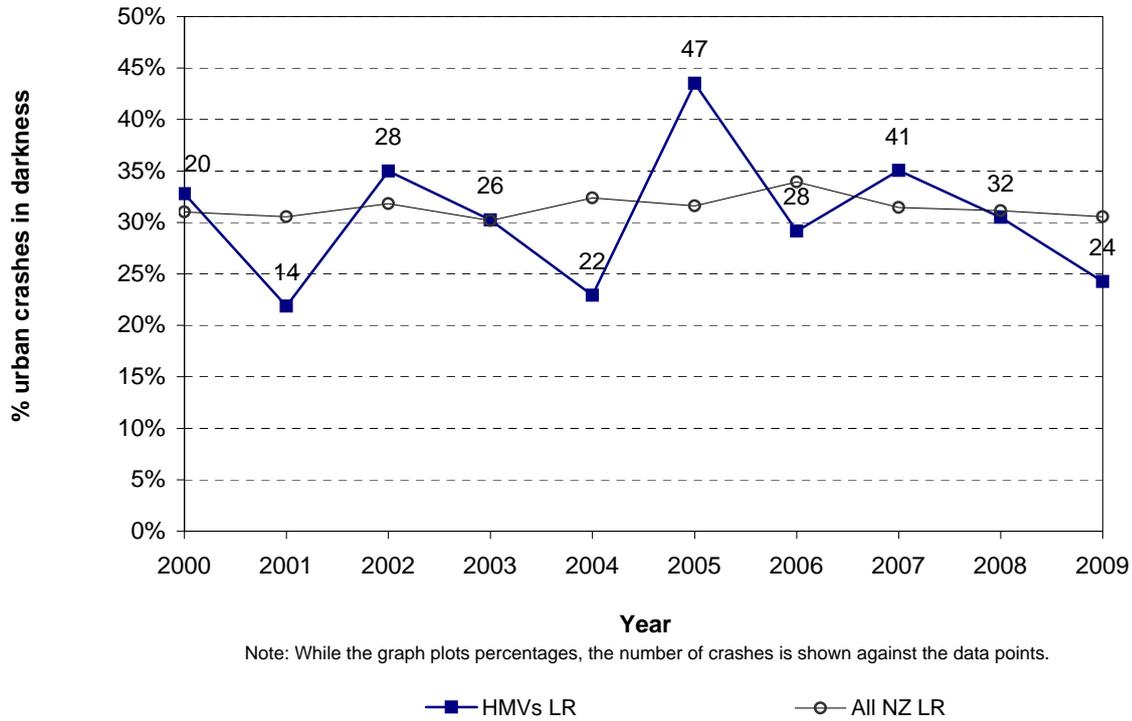


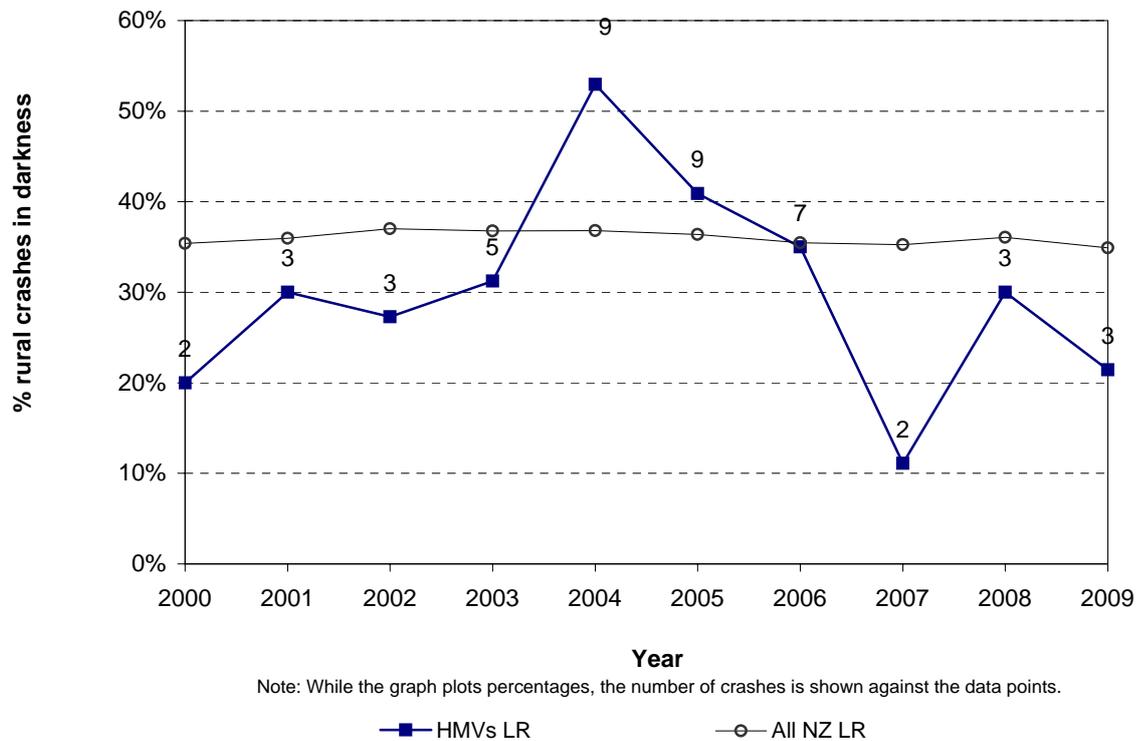
Figure 8.18 Wet road crashes
Heavy Motor Vehicles - rural council roads



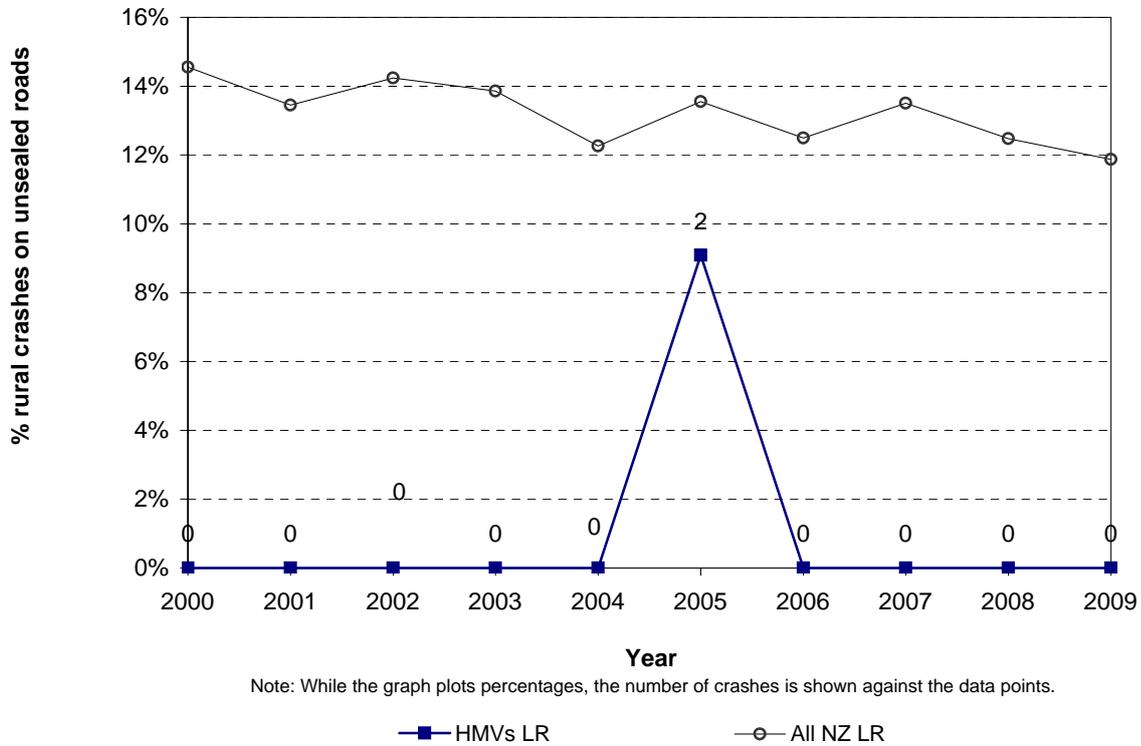
**Figure 8.19 Crashes in darkness
Heavy Motor Vehicles - urban council roads**



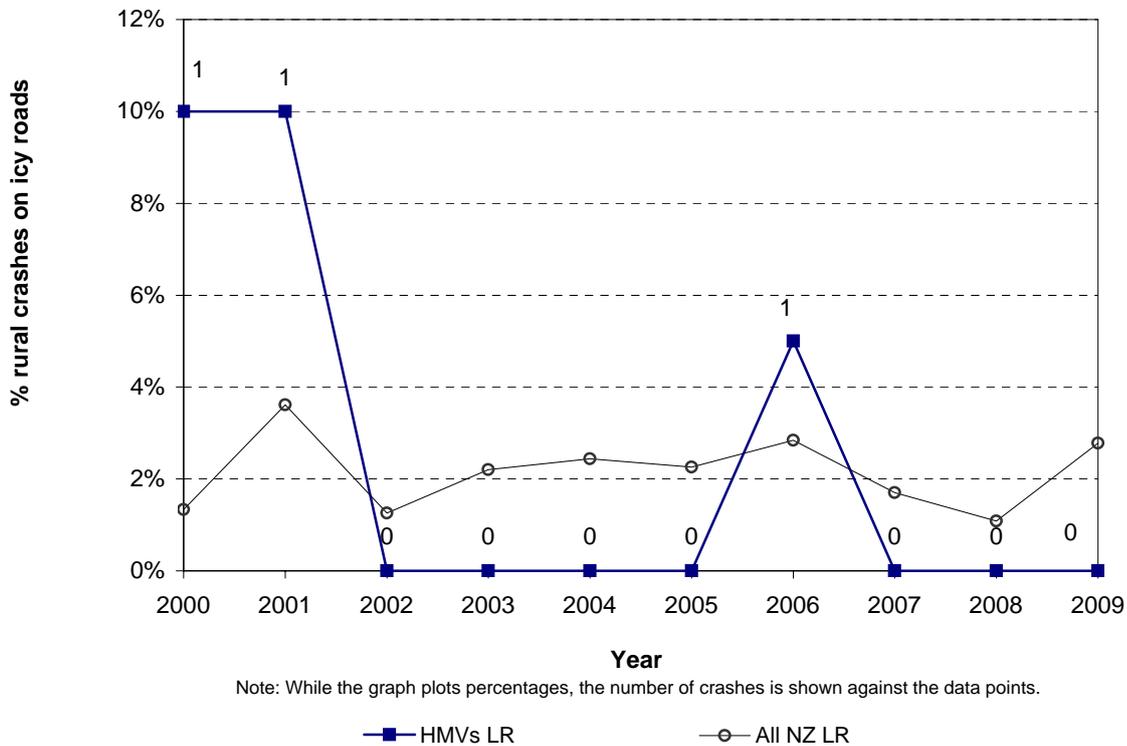
**Figure 8.20 Crashes in darkness
Heavy Motor Vehicles - rural council roads**



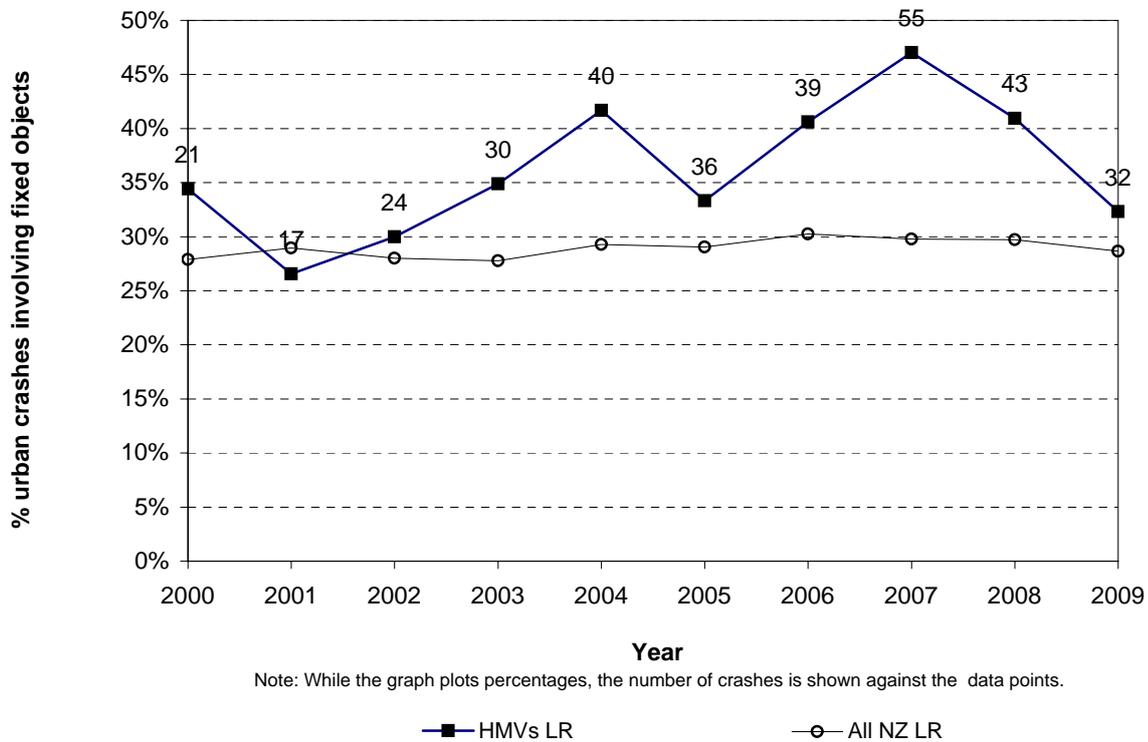
**Figure 8.21 Crashes on unsealed roads
Heavy Motor Vehicles - rural council roads**



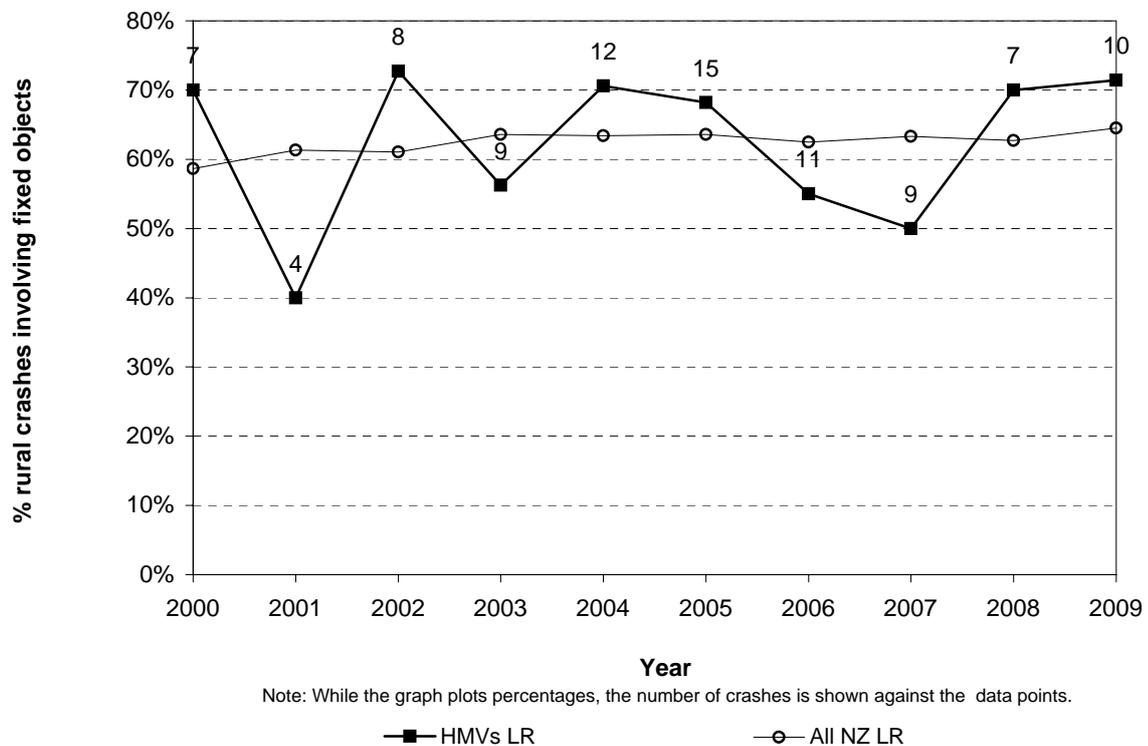
**Figure 8.22 Icy road crashes
Heavy Motor Vehicles - rural council roads**



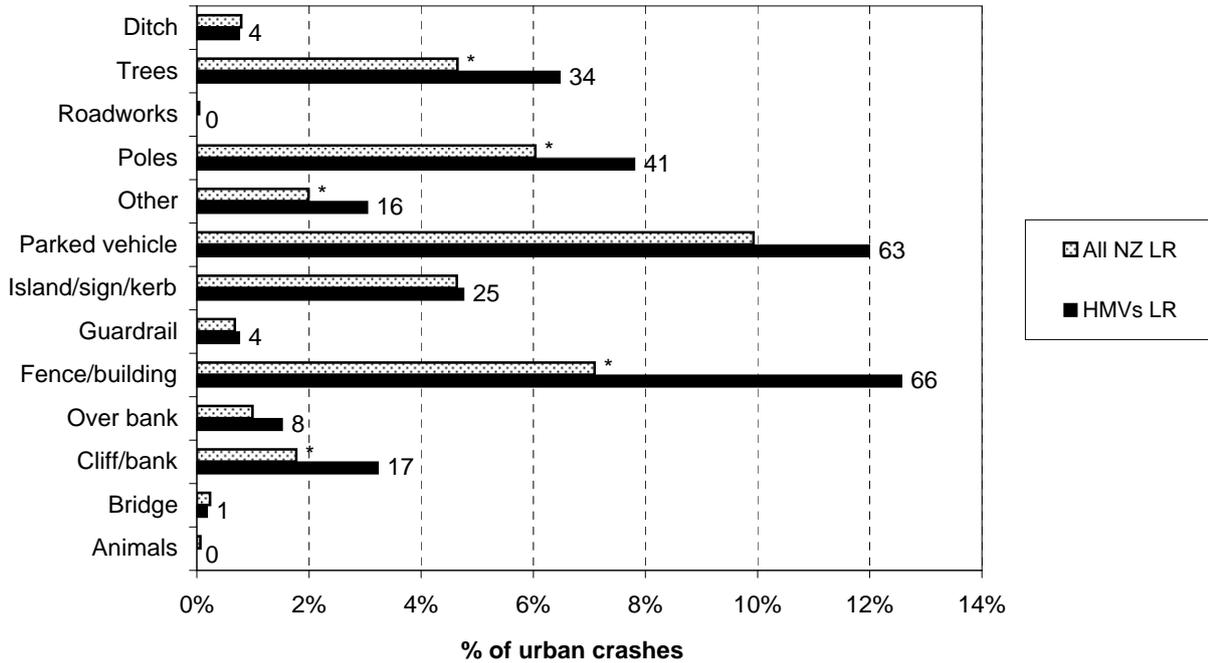
**Figure 8.23 Collisions with objects
Heavy Motor Vehicles - urban council roads**



**Figure 8.24 Collisions with objects
Heavy Motor Vehicles - rural council roads**

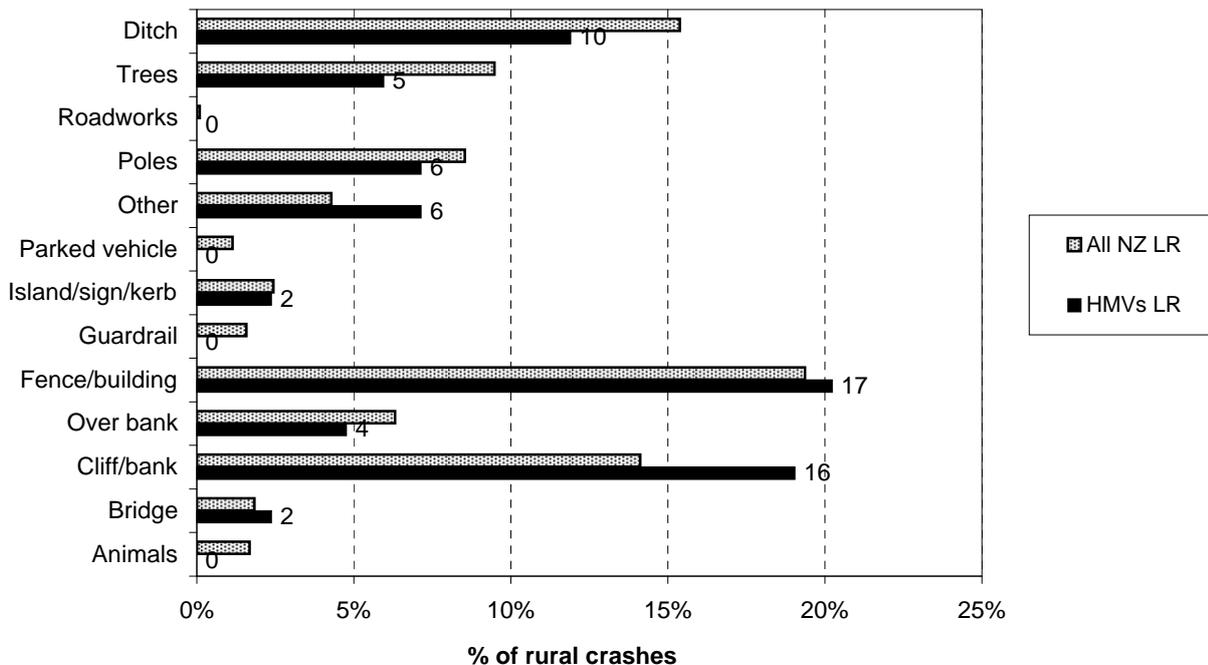


**Figure 8.25 Objects struck - urban
Heavy Motor Vehicles council roads (2005-2009)**



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
Heavy Motor Vehicles council roads (2005-2009)**



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 Urban and Rural Black Spot List
(Injury and Non-Injury Crashes)**
**Urban Site Radius = 30 metres
Rural Site Radius = 250 metres**

Local Authority	Location	Total Crashes 2005-2009	Injury Crashes 2005-2009	Total Crashes in 2009
Auckland City	SH 1N/GILLIES ON NBD	64	13	15
South Waikato District	SH 1N/SH 5	14	10	1
Auckland City	SH 1N/16 LINK 1	36	9	3
Hutt City	SH 2/HOROKIWI ROAD	22	9	4
Wellington City	SH 1N/TYERS ROAD	24	8	3
Auckland City	SH 1N/PANAMA OBR	21	7	2
Auckland City	SH 1N/WELLESLEY OFF NBD	59	7	12
Auckland City	SH 1N/MT WGTN ON NBD	31	7	10
Auckland City	SH 1N/PENROSE OBR	41	7	7
Auckland City	SH 1N/MARKET OBR	19	6	3
Papakura District	SH 1N/TAKANINI ON NBD	14	6	3
Napier City	SH 2B/PREBENSEN DRIVE	7	6	1
Auckland City	SH 1N/SEART ON NBD	31	6	4
Taupo District	SH 1N/SH 5	9	5	1
Auckland City	GREAT SOUTH ROAD/MOUNT RICHMOND DRIVE	11	5	0
Wellington City	SH 1N/AOTEA ON NBD	9	5	1
Dunedin City	SH 1S/BARNES DRIVE	6	5	3
Auckland City	SH 16/NEWTON OFF EBD	19	5	3
Auckland City	SH 1N/PRINCES OBR	24	5	6
Auckland City	SH 1N/PENROSE ON SBD	37	5	8
Manukau City	SH 1N/OTARA ON NBD	20	5	4
Manukau City	ALFRISTON ROAD/PORCHESTER ROAD	4	4	1
Manukau City	SPRINGS ROAD/LADY RUBY DRIVE	10	4	0
Dunedin City	ANDREW DRIVE/TUMAI OBR	4	4	1
Auckland City	SH 1N/TE COMA ON SBD	14	4	3
Manukau City	SH 1N/GT SOUTH OBR	9	4	1
Auckland City	SH 1N/TOP OF HARBOUR BRIDGE	11	4	1

**Table 9.1 Urban and Rural Black Spot List
(Injury and Non-Injury Crashes)**

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

Local Authority	Location	Total Crashes 2005-2009	Injury Crashes 2005-2009	Total Crashes in 2009
Christchurch City	SH 73 CURLETTS ROAD/BLENHEIM ROAD	7	4	1
Rodney District	SH 17/TAVERN ROAD	13	4	2
Auckland City	SH 1N/MT WGTN OBR	10	4	0
North Shore City	SH 1N/ONEWA OFF NBD	14	4	4
Auckland City	SH 1N/TE COMA OFF SBD	18	4	5
Auckland City	SH 1N/CURRAN ON NBD	22	4	5
Manukau City	SH 1N/MANUREWA ON NBD	10	4	3
Papakura District	SH 1N/PAPAKURA ON NBD	14	4	3
North Shore City	SH 1N/GREVILLE OFF NBD	11	4	1
Manukau City	SH 1N/OTARA OFF NBD	9	4	3
Auckland City	SH 1N/MT WGTN ON SBD	15	4	4

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Auckland City	SH 1N	768
Manukau City	SH 1N	202
North Shore City	SH 1N	194
Wellington City	SH 1N	144
Auckland City	SH 16	139
Whangarei District	SH 1N	130
Western Bay Of Plenty District	SH 2	130
Manukau City	SH 20	129
Waikato District	SH 1N	128
Taupo District	SH 1N	125
New Plymouth District	SH 3	123
Tauranga City	SH 2	117
Dunedin City	SH 1S	111
Auckland City	GREAT SOUTH ROAD	104
Hamilton City	SH 1N	100
South Waikato District	SH 1N	98
Rodney District	SH 1N	94
Horowhenua District	SH 1N	94
Hutt City	SH 2	91
Papakura District	SH 1N	90
Far North District	SH 1N	87
Rodney District	SH 17	84
Waitakere City	SH 16	82
Timaru District	SH 1S	81
Kapiti Coast District	SH 1N	75
Rangitikei District	SH 1N	73
Hauraki District	SH 2	72

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Porirua City	SH 1N	67
Tararua District	SH 2	66
Matamata-Piako District	SH 27	64
Waitomo District	SH 3	63
Auckland City	MOUNT WELLINGTON HIGHWAY	60
Marlborough District	SH 1S	60
Kaikoura District	SH 1S	59
Rotorua District	SH 30	54
Thames-Coromandel District	SH 25	53
Christchurch City	SH 73	53
Wairoa District	SH 2	52
Nelson City	SH 6	52
Tasman District	SH 6	52
Ruapehu District	SH 4	52
Ashburton District	SH 1S	52
Manukau City	GREAT SOUTH ROAD	51
Rotorua District	SH 5	51
Clutha District	SH 1S	51
Selwyn District	SH 1S	50
Waitaki District	SH 1S	47
Far North District	SH 10	45
Rodney District	SH 16	44
Hastings District	SH 2	44
Hastings District	SH 5	43
Auckland City	NEILSON ST	42
Franklin District	SH 1N	42
Auckland City	SH 20	41

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Tasman District	SH 60	41
Taupo District	SH 5	40
Waitakere City	LINCOLN ROAD	40
Christchurch City	SH 1S	40
Invercargill City	SH 1S	40
South Taranaki District	SH 3	39
Gisborne District	SH 35	39
Hurunui District	SH 1S	39
Napier City	SH 2	38
Gisborne District	SH 2	38
Marlborough District	SH 6	38
Kaipara District	SH 12	37
Waipa District	SH 1N	35
Central Hawkes Bay District	SH 2	34
Waipa District	SH 3	33
Papakura District	GREAT SOUTH ROAD	33
Waimate District	SH 1S	33
Auckland City	MOUNT ALBERT ROAD	32
Christchurch City	SH 74	32
Waitakere City	SWANSON ROAD	32
Manukau City	MASSEY ROAD	31
Auckland City	SOUTH-EASTERN HIGHWAY	31
Queenstown-Lakes District	SH 6	30
Tauranga City	SH 2A	30
Tauranga City	SH 29	30
Manukau City	PAKURANGA ROAD	30
Whakatane District	SH 2	29

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Manukau City	TI RAKAU DRIVE	29
Upper Hutt City	SH 2	29
Hurunui District	SH 7	29
Auckland City	GREAT NORTH ROAD	29
Horowhenua District	SH 57	28
Auckland City	CHURCH ST	28
Hauraki District	SH 27	27
Waitakere City	GREAT NORTH ROAD	27
Franklin District	SH 2	27
Tauranga City	CAMERON ROAD	27
Waitakere City	HENDERSON VALLEY ROAD	27
Western Bay Of Plenty District	SH 29	27
North Shore City	TRISTRAM AVENUE	27
Napier City	SH 50	27
Hastings District	SH 50	26
South Wairarapa District	SH 2	26
Palmerston North City	SH 3	25
Hamilton City	AVALON DRIVE	25
Waikato District	SH 39	24
Christchurch City	SH 73A	24
Auckland City	GREEN LANE EAST	24
Auckland City	ROSEBANK ROAD	24
Stratford District	SH 3	24
Wanganui District	SH 3	23
Auckland City	CARR ROAD	22
Matamata-Piako District	SH 29	22
Palmerston North City	TREMAINE AVENUE	22

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Waimakariri District	SH 1S	22
Rodney District	WHANGAPARAOA ROAD	22
Wellington City	ADELAIDE ROAD	22
North Shore City	ONEWA ROAD	21
Kaipara District	SH 1N	21
Waipa District	SH 39	21
Waikato District	SH 1B	21
Hastings District	SH 50A	21
Southland District	SH 6	21
Central Otago District	SH 8	21
Christchurch City	FERRY ROAD	21
Queenstown-Lakes District	SH 6A	21
Auckland City	STATION ROAD	20
North Shore City	EAST COAST ROAD	20
Otorohanga District	SH 3	20
Auckland City	ELLERSLIE-PANMURE HIGHWA	20
Thames-Coromandel District	SH 25A	20
Hastings District	OMAHU ROAD	20
Palmerston North City	SH 57	20
Invercargill City	SH 6	20
Gore District	SH 1S	20
Manukau City	EAST TAMAKI ROAD	20
Waitomo District	SH 4	20
Opotiki District	SH 2	19
Masterton District	SH 2	19
Grey District	SH 6	19
Dunedin City	SH 88	19

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Buller District	SH 6	19
Auckland City	RICHARDSON ROAD	19
Otorohanga District	SH 31	19
Christchurch City	SH 73 BROUGHAM	19
Manukau City	HARRIS ROAD	18
Manukau City	BAIRDS ROAD	18
Manukau City	ROSCOMMON ROAD	18
Matamata-Piako District	SH 26	18
Manukau City	SPRINGS ROAD	18
Auckland City	HILLSBOROUGH ROAD	18
Manukau City	CHAPEL ROAD	18
Waitakere City	WEST COAST ROAD	18
Auckland City	DENBIGH AVENUE	18
Southland District	SH 1S	18
Manukau City	TE IRIRANGI DRIVE	17
Waipa District	CAMBRIDGE ROAD	17
Auckland City	MANUKAU ROAD	17
Auckland City	BLOCKHOUSE BAY ROAD	17
Hamilton City	TE RAPA ROAD	17
New Plymouth District	SH 45	17
Westland District	SH 6	17
Wellington City	SH 2	17
Tauranga City	FRASER ST	16
North Shore City	GLENFIELD ROAD	16
Kaipara District	SH 14	16
Porirua City	TITAHI BAY ROAD	16
Christchurch City	SH 73A MAIN SOUTH	16

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Waitakere City	TE ATATU ROAD	16
Hutt City	THE ESPLANADE	16
Whakatane District	SH 30	15
Auckland City	LAGOON DRIVE	15
Franklin District	WAIUKU ROAD	15
Upper Hutt City	FERGUSSON DRIVE	15
Mackenzie District	SH 8	15
North Shore City	LAKE ROAD	15
Hamilton City	VICTORIA ST	15
Auckland City	BEACH ROAD	15
Manukau City	MAHIA ROAD	15
Porirua City	SH 58	15
Rangitikei District	SH 3	15
Selwyn District	SH 73	15
Manukau City	CAVENDISH DRIVE	15
Hamilton City	SH 3	14
Ruapehu District	SH 1N	14
Tararua District	SH 3	14
Hastings District	PAKOWHAI ROAD	14
Manukau City	SH 20A	14
Auckland City	DOMINION ROAD	14
Auckland City	PANMURE ROUNDABOUT	14
Manukau City	BROWNS ROAD	14
Auckland City	TAMAKI DRIVE	14
Auckland City	MOUNT SMART ROAD	13
Auckland City	REMUERA ROAD	13
Manukau City	PUHINUI ROAD	13

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Whangarei District	SH 14	13
North Shore City	SH 17	13
South Waikato District	SH 5	13
Carterton District	SH 2	13
Wanganui District	SH 4	13
Rotorua District	SH 30A	13
Auckland City	SYMONDS ST	13
Hauraki District	SH 25	13
Hamilton City	BROOKLYN ROAD	13
Auckland City	MOUNT EDEN ROAD	13
Rodney District	OLD NORTH ROAD	13
Papakura District	SETTLEMENT ROAD	13
Wellington City	WILLIS ST	13
Wellington City	HUTT ROAD	13
Manukau City	HIGHBROOK ROAD	13
Waikato District	SH 2	12
North Shore City	ALBANY HIGHWAY	12
Rotorua District	SH 36	12
Waitakere City	EDMONTON ROAD	12
Manawatu District	SH 3	12
Manawatu District	SH 1N	12
Buller District	SH 7	12
Auckland City	ST LUKES ROAD	12
Wellington City	TINAKORI ROAD	12
Rodney District	COATESVILLE-RIVERHEAD HIC	12
Wellington City	VICTORIA ST	12
Waitomo District	SH 30	11

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Manukau City	WALMSLEY ROAD	11
Auckland City	PORTAGE ROAD	11
Otorohanga District	SH 39	11
Christchurch City	SH 1S MAIN SOUTH	11
Taupo District	SH 32	11
Auckland City	SANDRINGHAM ROAD	11
Waitakere City	CLARK ST	11
Manukau City	MURPHYS ROAD	11
North Shore City	WAIRAU ROAD	11
Hutt City	WAIONE ST	11
Manawatu District	HALCOMBE ROAD	11
New Plymouth District	SH 3A	11
Porirua City	KENEPURU DRIVE	11
Manawatu District	SH 54	11
Auckland City	KEPA ROAD	11
Hutt City	SEAVIEW ROAD	11
Auckland City	NEWTON OFF EBD	11
Franklin District	OLD SH 2	10
Manukau City	BOTANY ROAD	10
Taupo District	SPA ROAD	10
Far North District	SH 12	10
South Taranaki District	SH 45	10
Christchurch City	SH 1S JOHNS	10
Tauranga City	OROPI ROAD	10
Auckland City	QUEEN ST	10
North Shore City	APOLLO DRIVE	10
Tauranga City	MAUNGANUI ROAD	10

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Auckland City	ATKINSON AVENUE	10
Auckland City	UNION ST	10
Christchurch City	MAIN NORTH ROAD	10
Christchurch City	POUND ROAD	10
Wellington City	ARO ST	10
Hutt City	HIGH ST	10
Christchurch City	HEREFORD ST	10
Manukau City	KERRS ROAD	9
Rodney District	KAHIKATEA FLAT ROAD	9
Whangarei District	MANGAKAHIA ROAD	9
Wellington City	CUSTOMHOUSE QUAY	9
Dunedin City	HILLSIDE ROAD	9
Christchurch City	HALSWELL JUNCTION ROAD	9
Christchurch City	MARSHLAND ROAD	9
Dunedin City	SH 87	9
Franklin District	PUKEKOHE EAST ROAD	9
Papakura District	MILL ROAD	9
Hamilton City	SH 1N LINCOLN	9
Tauranga City	HULL ROAD	9
Waikato District	SH 26	9
Whangarei District	WALTON ST	9
Napier City	MARINE PARADE	9
Wellington City	GHUZNEE ST	9
Wellington City	JERVOIS QUAY	9
Horowhenua District	SH 56	9
Upper Hutt City	AKATARAWA ROAD	9
Wellington City	MAIN ROAD	9

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Dunedin City	PRINCES ST	9
Dunedin City	THOMAS BURNS ST	9
Manukau City	PUHINUI ON NBD	9
North Shore City	ESMONDE ROAD	9
Whangarei District	REWA REWA ROAD	9
Opotiki District	SH 35	9
Wellington City	WATERLOO QUAY	9
Wellington City	JOHNSONVILLE ROAD	9
Wellington City	AOTEA OFF SBD	9
Selwyn District	WAIMAKARIRI GORGE ROAD	9
Manukau City	MANUKAU OFF SBD	9
Manukau City	FAVONA ROAD	8
Waikato District	TAHUNA ROAD	8
North Shore City	TARGET ROAD	8
Papakura District	HUNUA ROAD	8
Papakura District	SH 22	8
Whakatane District	SH 34	8
Rotorua District	SH 33	8
Napier City	SH 2B	8
Palmerston North City	FERGUSON ST	8
Southland District	SH 96	8
Christchurch City	MOORHOUSE AVENUE	8
Christchurch City	SHANDS ROAD	8
Auckland City	JELLICOE ROAD	8
Auckland City	GREEN LANE WEST	8
North Shore City	NORTHCOTE ROAD	8
Manukau City	WEYMOUTH ROAD	8

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Auckland City	HIGH ST	8
Auckland City	CARRINGTON ROAD	8
Waitakere City	DON BUCK ROAD	8
Auckland City	VICTORIA ST WEST	8
Gisborne District	STANLEY ROAD	8
Wellington City	PIPI TEA ST	8
Southland District	SH 99	8
Gore District	SH 93	8
Christchurch City	PAPANUI ROAD	8
Christchurch City	SH 73 YALDHURST	8
Christchurch City	SPRINGS ROAD	8
Christchurch City	FITZGERALD AVENUE	8
Western Bay Of Plenty District	SH 36	8
Rodney District	SOUTH HEAD ROAD	8
Waikato District	SH 23	8
Tasman District	SH 65	8
Christchurch City	TUAM ST	8
North Shore City	SH 18	8
Hauraki District	SH 26	7
Franklin District	GLENBROOK ROAD	7
Auckland City	WELLESLEY ST WEST	7
Auckland City	DONOVAN ST	7
Taupo District	POIHIPI ROAD	7
Manawatu District	CAMPBELL ROAD	7
New Plymouth District	SH 44	7
Rangitikei District	WELLINGTON ROAD	7
Gisborne District	CHILDERS ROAD	7

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Nelson City	WAIMEA ROAD	7
Buller District	SH 67	7
Christchurch City	BUCKLEYS ROAD	7
Hamilton City	RIVER ROAD	7
Rotorua District	CLAYTON ROAD	7
Whangarei District	KAMO ROAD	7
North Shore City	GREVILLE ROAD	7
Auckland City	QUAY ST	7
Matamata-Piako District	SH 24	7
North Shore City	ARCHERS ROAD	7
Manukau City	CRYERS ROAD	7
Auckland City	NEWTON ROAD	7
Auckland City	PONSONBY ROAD	7
Far North District	SH 11	7
Auckland City	WALMSLEY ROAD	7
Whangarei District	BANK ST	7
Hastings District	TAIHAPE ROAD	7
Wellington City	TARANAKI ST	7
Wellington City	WAKEFIELD ST	7
New Plymouth District	DEVON ST EAST	7
Wellington City	RIDDIFORD ST	7
Napier City	KENNEDY ROAD	7
Christchurch City	LINWOOD AVENUE	7
Christchurch City	BLENHEIM ROAD	7
Christchurch City	SH 1S CARMEN	7
Christchurch City	SH 1S RUSSLEY	7
Auckland City	PARNELL ROAD	7

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Hamilton City	ANGLESEA ST	7
Masterton District	MASTERTON-CASTLEPOINT R	7
Christchurch City	SH 73 CURLETTS ROAD	7
Auckland City	MT WELLINGTON HIGHWAY	7
Auckland City	SALEYARDS ROAD	7
Whangarei District	PIPIWAI ROAD	7
Papakura District	OLD WAIROA ROAD	7
North Shore City	SUNNYBRAE ROAD	7
Hamilton City	PEMBROKE ST	7
Napier City	MEEANEE ROAD	7
Gisborne District	GLADSTONE ROAD	7
Auckland City	KHYBER PASS ROAD	7
Manukau City	SMALES ROAD	7
Thames-Coromandel District	SH 26	6
Taupo District	SH 30	6
Waitakere City	ROYAL ROAD	6
Auckland City	GILLIES AVENUE	6
Auckland City	NEW NORTH ROAD	6
North Shore City	ROSEDALE ROAD	6
Franklin District	MILL OFF SBD	6
South Waikato District	SH 28	6
Hutt City	CAMBRIDGE TERRACE	6
Napier City	GLOUCESTER ST	6
Marlborough District	SH 63	6
Wellington City	NEWLANDS ROAD	6
Central Otago District	SH 6	6
Christchurch City	WAIRAKEI ROAD	6

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Southland District	SH 94	6
Christchurch City	MANCHESTER ST	6
Waimakariri District	SOUTH EYRE ROAD	6
Dunedin City	MAIN SOUTH ROAD	6
Selwyn District	SHANDS ROAD	6
Christchurch City	RICCARTON ROAD	6
Matamata-Piako District	PAEROA TAHUNA ROAD	6
Manukau City	GEORGE BOLT MEMORIAL DRIVE	6
Hamilton City	KILLARNEY ROAD	6
North Shore City	BUSH ROAD	6
Manukau City	PRESTON ROAD	6
Western Bay Of Plenty District	SH 33	6
Auckland City	MAYORAL DRIVE	6
Hamilton City	GREY ST	6
Auckland City	APIRANA AVENUE	6
Manukau City	WHITFORD ROAD	6
North Shore City	TAHAROTO ROAD	6
Hauraki District	HAURAKI ROAD	6
Waitakere City	CANDIA ROAD	6
Auckland City	CARBINE ROAD	6
Auckland City	WELLESLEY ST EAST	6
Ruapehu District	SH 49	6
South Taranaki District	ELTHAM ROAD	6
Marlborough District	SH 62	6
Wanganui District	VICTORIA AVENUE	6
Napier City	PREBENSEN DRIVE	6
Hutt City	HUTT ROAD	6

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Kapiti Coast District	KAPITI ROAD	6
Christchurch City	LINCOLN ROAD	6
Dunedin City	KAIKORAI VALLEY ROAD	6
Grey District	SH 7	6
Dunedin City	PORTSMOUTH DRIVE	6
Manukau City	REDOUBT ROAD	6
North Shore City	CONSTELLATION DRIVE	6
South Waikato District	SH 32	6
Whakatane District	THORNTON ROAD	6
Waitomo District	RORA ST	6
Hamilton City	SH 23	6
Auckland City	MANGERE ROAD	6
Waikato District	TAUWHARE ROAD	6
Manukau City	ALLENS ROAD	6
Far North District	KAITAIA-AWAROA ROAD	6
Whangarei District	NGUNGURU ROAD	6
Whangarei District	RIVERSIDE DRIVE	6
Upper Hutt City	MAIN ST	6
Gisborne District	ORMOND ROAD	6
Christchurch City	SH 75	6
Wellington City	BROOKLYN ROAD	6
Waitakere City	PARRS CROSS ROAD	6
Hamilton City	WAI RERE DRIVE	6
Auckland City	MORRIN ROAD	6
Napier City	LATHAM ST	6
Waipa District	SH 1B	5
Waipa District	SH 21	5

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Franklin District	LINWOOD ROAD	5
Auckland City	TRIPOLI ROAD	5
Papakura District	PORCHESTER ROAD	5
Manukau City	ALFRISTON ROAD	5
Manukau City	SH 20B	5
Whangarei District	PORT ROAD	5
Auckland City	POINT CHEVALIER ROAD	5
Franklin District	KAIAUA ROAD	5
Franklin District	ONEWHERE TUAKAU BRIDGE R	5
Hastings District	RAILWAY ROAD SOUTH	5
Manawatu District	NO 1 LINE	5
Christchurch City	PAGES ROAD	5
Christchurch City	SH 74 TUNNEL	5
Gore District	SH 94	5
Waitakere City	HUIA ROAD	5
Hamilton City	BRIDGE ST	5
Hamilton City	FOREST LAKE ROAD	5
Tauranga City	ELEVENTH AVENUE	5
Auckland City	FANSHAWE ST	5
Auckland City	PATIKI ROAD	5
Auckland City	PORT LINK SBD	5
Waitakere City	TITIRANGI ROAD	5
North Shore City	FORREST HILL ROAD	5
Hamilton City	PEACHGROVE ROAD	5
Waipa District	SH 1N ALBERT	5
Auckland City	BROADWAY	5
Manukau City	ACCENT DRIVE	5

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Tauranga City	MARSH ST	5
Auckland City	PENROSE INT	5
Whangarei District	NIXON ST	5
Auckland City	MASON AVENUE	5
Auckland City	STODDARD ROAD	5
Whangarei District	MAUNU ROAD	5
Waipa District	PIRONGIA ROAD	5
Tauranga City	TWENTYSECOND AVENUE	5
Auckland City	ONEHUNGA MALL	5
Papakura District	PAPAKURA-CLEVEDON ROAD	5
Manukau City	PLUNKET AVENUE	5
Hutt City	NAENAE ROAD	5
Wellington City	TORY ST	5
Wellington City	GLENMORE ST	5
Porirua City	MUNGAVIN AVENUE	5
Tasman District	MOUTERE HIGHWAY	5
Nelson City	NAYLAND ROAD	5
Wellington City	HUTT ON NBD	5
Wellington City	BURMA ROAD	5
Wellington City	ORIENTAL PARADE	5
Hutt City	BARNES ST	5
Gisborne District	LYTTON ROAD	5
Clutha District	JAMES ST	5
Christchurch City	SAWYERS ARMS ROAD	5
Waimakariri District	TRAM ROAD	5
Manukau City	WHITFORD-MARAETAI ROAD	5
Matamata-Piako District	MORRINSVILLE WALTON F	5

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road	Route Total
Western Bay Of Plenty District TE MATAI ROAD	5
Waipa District ARAPUNI ROAD	5
Hutt City RANDWICK ROAD	5
Hutt City EASTERN HUTT ROAD	5
Hastings District HERETAUNGA ST WEST	5
Wellington City AOTEA QUAY	5
Waitaki District SH 8	5
Dunedin City NORTH ROAD	5
Invercargill City ROCKDALE ROAD	5
Christchurch City ST ASAPH ST	5
Christchurch City WIGRAM ROAD	5
Waitaki District SH 83	5
Clutha District SH 93	5
Rotorua District FENTON ST	5
Waitakere City EDSEL ST	5
Whangarei District WHANGAREI HEADS ROAD	5
Auckland City FORT ST	5
Hutt City WAIWHETU ROAD	5
Tararua District MILLER ST	5
Palmerston North City ALBERT ST	5
Wellington City THE PARADE	5
Hutt City GRACEFIELD ROAD	5
Wellington City CUBA ST	5
Clutha District SH 8	5
Gore District SH 90	5
Manukau City BADER DRIVE	5
Franklin District MANUKAU ROAD	5

**Table 9.2 Roads with Aggregated Number of Crashes
(Injury and Non-Injury Crashes). Roads with 5 or more crashes**

Note: No account has been taken of the length of the named road.

TLA & Road		Route Total
Waitakere City	GLENVIEW ROAD	5
Manukau City	CORONATION ROAD	5
Manukau City	LAMBIE DRIVE	5
Wellington City	SH 1N KARO	5
Rotorua District	TUTUKAU ROAD	5
Manukau City	JAMES FLETCHER DRIVE	5
Manukau City	REDOUBT RAOD	5
Dunedin City	ST ANDREW ST	5

appendix



- Groupings of crash types
- Grouping of contributing factors
- General factor list
- General movement types

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	AA	AB	AC	AD	AE	AF	AG						
	 PULLING OUT OR CHANGING LANE TO RIGHT	 HEAD ON	 CUTTING IN OR CHANGING LANE TO LEFT	 LOST CONTROL (OVERTAKING VEHICLE)	 SIDE ROAD	 LOST CONTROL (OVERTAKEN VEHICLE)	 WEAVING IN HEAVY TRAFFIC						
Straight - Lost control / Head on	GE	GB	BA	CA	CB	CC	BE						
	 OVERTAKING VEHICLE	 LEFT SIDE SIDE SWIPE	 ON STRAIGHT	 OUT OF CONTROL ON ROADWAY	 OFF ROADWAY TO LEFT	 OFF ROADWAY TO RIGHT	 LOST CONTROL ON STRAIGHT						
Bend - Lost control / Head on	DA	DB	DC	BB	BC	BD	BF						
	 LOST CONTROL TURNING RIGHT	 LOST CONTROL TURNING LEFT	 MISSED INTERSECTION OR END OF ROAD	 CUTTING CORNER	 SWINGING WIDE	 BOTH OR UNKNOWN	 LOST CONTROL ON CURVE						
Rear end / Obstruction	EA	EB	EC	ED	EE	FA	FB						
	 PARKED VEHICLE	 ACCIDENT OR BROKEN DOWN	 NON VEHICULAR OBSTRUCTIONS (INCLUDING ANIMALS)	 WORKMANS VEHICLE	 OPENING DOOR	 SLOWER VEHICLE	 CROSS TRAFFIC						
Crossing / Turning	FC	FD	FE	FF	GA	GD	GF						
	 PEDESTRIAN	 QUEUE	 SIGNALS	 OTHER	 REAR OF LEFT TURNING VEHICLE	 NEAR CENTRE LINE	 TWO TURNING						
Pedestrian vs Vehicle	MA	MB	MC	MD	ME	MF	MG						
	 PARKING OR LEAVING	 'U' TURN	 'U' TURN	 DRIVEWAY MANOEUVRE	 PARKING OPPOSITE	 ENTERING OR LEAVING	 REVERSING ALONG ROAD						
Miscellaneous	GC	HA	JA	JC	KA	KB	KC						
	 STOPPED OR TURNING FROM LEFT SIDE	 RIGHT ANGLE (70° TO 110°)	 RIGHT TURN RIGHT SIDE	 TWO TURNING	 LEFT TURN IN	 RIGHT TURN IN	 TWO TURNING						
Miscellaneous	LA	LB	NA	NB	NC	ND	NE	NF	NG				
	 STOPPED WAITING TO TURN	 MAKING TURN	 LEFT SIDE	 RIGHT SIDE	 LEFT TURN LEFT SIDE	 RIGHT TURN RIGHT SIDE	 LEFT TURN RIGHT SIDE	 RIGHT TURN LEFT SIDE	 MANOEUVRING VEHICLE				
Miscellaneous	PA	PB	PC	PD	PE	PF	QA	QB	QC	QD	QE	QF	QG
	 FELL WHILE BOARDING OR ALIGHTING	 FELL FROM MOVING VEHICLE	 TRAIN	 PARKED VEHICLE RAN AWAY	 EQUESTRIAN	 FELL INSIDE VEHICLE	 TRAILER OR LOAD						

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.

VEHICLE MOVEMENT CODING SHEET

For use with crash data from CAS (Version 2.8 May 2010)

	TYPE	A	B	C	D	E	F	G	O
A	OVERTAKING AND LANE CHANGE	PULLING OUT OR CHANGING LANE TO RIGHT	HEAD ON	CUTTING IN OR CHANGING LANE TO LEFT	LOST CONTROL (OVERTAKING VEHICLE)	SIDE ROAD	LOST CONTROL (OVERTAKEN VEHICLE)	WEAVING IN HEAVY TRAFFIC	OTHER
B	HEAD ON	ON STRAIGHT	CUTTING CORNER	SWINGING WIDE	BOTH OR UNKNOWN	LOST CONTROL ON STRAIGHT	LOST CONTROL ON CURVE		OTHER
C	LOST CONTROL OR OFF ROAD (STRAIGHT ROADS)	OUT OF CONTROL ON ROADWAY	OFF ROADWAY TO LEFT	OFF ROADWAY TO RIGHT					OTHER
D	CORNERING	LOST CONTROL TURNING RIGHT	LOST CONTROL TURNING LEFT	MISSED INTERSECTION OR END OF ROAD					OTHER
E	COLLISION WITH OBSTRUCTION	PARKED VEHICLE	CRASH OR BROKEN DOWN	NON VEHICULAR OBSTRUCTIONS (INCLUDING ANIMALS)	WORKMANS VEHICLE	OPENING DOOR			OTHER
F	REAR END	SLOWER VEHICLE	CROSS TRAFFIC	PEDESTRIAN	QUEUE	SIGNALS T	OTHER		OTHER
G	TURNING VERSUS SAME DIRECTION	REAR OF LEFT TURNING VEHICLE	LEFT TURN SIDE SIDE SWIPE	STOPPED OR TURNING FROM LEFT SIDE	NEAR CENTRE LINE	OVERTAKING VEHICLE	TWO TURNING		OTHER
H	CROSSING (NO TURNS)	RIGHT ANGLE (70° TO 110°)							OTHER
J	CROSSING (VEHICLE TURNING)	RIGHT TURN RIGHT SIDE	OPPOSING RIGHT TURNS	TWO TURNING					OTHER
K	MERGING	LEFT TURN IN	RIGHT TURN IN	TWO TURNING					OTHER
L	RIGHT TURN AGAINST	STOPPED WAITING TO TURN	MAKING TURN						OTHER
M	MANOEUVRING	PARKING OR LEAVING	"U" TURN	"U" TURN	DRIVEWAY MANOEUVRE	ENTERING OR LEAVING FROM OPPOSITE SIDE	ENTERING OR LEAVING FROM SAME SIDE	REVERSING ALONG ROAD	OTHER
N	PEDESTRIANS CROSSING ROAD	LEFT SIDE	RIGHT SIDE	LEFT TURN LEFT SIDE	RIGHT TURN RIGHT SIDE	LEFT TURN RIGHT SIDE	RIGHT TURN LEFT SIDE	MANOEUVRING VEHICLE	OTHER
P	PEDESTRIANS OTHER	WALKING WITH TRAFFIC	WALKING FACING TRAFFIC	WALKING ON FOOTPATH	CHILD PLAYING (INCLUDING TRICYCLE)	ATTENDING TO VEHICLE	ENTERING OR LEAVING VEHICLE		OTHER
Q	MISCELLANEOUS	FELL WHILE BOARDING OR ALIGHTING	FELL FROM MOVING VEHICLE	TRAIN	PARKED VEHICLE RAN AWAY	EQUESTRIAN	FELL INSIDE VEHICLE	TRAILER OR LOAD	OTHER

* = Movement applies for left and right hand bends, curves or turns

FACTORS PROBABLY CONTRIBUTING TO CRASHES (Version 1.8- 2 November 2009)

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 Intoxicated non-driver (pedestrian / cyclist / passenger)
- 106 (MOT only) dead driver not suspect, tested neg
- 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
- 179 Long vehicle tracked outside lane

180 In line of traffic

- 181 Following too closely
- 182 Travelling unreasonably slowly
- 183 Motorist crowded cyclist
- 184 Incorrect merging /diverging manoeuvre

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
- 199 Avoiding approaching emergency vehicle

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
- 210 Cyclist riding on ped-xing / ped signals

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 Vehicle slowing, stopping or stationary 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 /road rage
- 358 Cigarette, radio, heater, AC, glove box, obj under drivers feet/pedals etc
- 359 Cell phone
- 360
- 361 Navigation device
- 362 CB radio/ non cell comms device
- 363 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 unfamiliar vehicle
- 404 Overseas / migrant driver fails to adjust to NZ road rules and road 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 or caught under pedal
- 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 / drifting
- 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 blow-out
- 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 to /from school bus
- 730 Pedestrian behind reversing / manoeuvring vehicle
- 731 Overseas pedestrian
- 732 Pedestrian attention diverted eg cigarette, cell phone, music player

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