Bay of Plenty Region State Highways

Road Safety Report 2005 to 2009

Performance Information
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Introduction and general information

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

This report helps identify road safety issues in Bay of Plenty Region State Highways area ('the region') by presenting tables or graphs of:

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

The information is intended to assist road controlling authorities, the New Zealand Police and others in evaluating the safety performance of the road network in Bay of Plenty Region State Highways. Comparison with other cities, districts or regions elsewhere in the country is included.

Researchers, students, and organisations with an interest in road safety will also find the information useful.

Source of crash information

This report uses data from the NZ Transport Agency's crash database. This database includes all crashes involving injury and non–injury for which Police reports have been completed and forwarded to the 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.

Council authority peer groups

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

The peer group used for comparison with Bay of Plenty Region State Highways is Group Y which consists of provincial city and towns with hinterland. (Population under 380000 and/or rural crashes less than 50 percent). Council authorities included in this group are listed in Figure 1.4a, however this may not be the most appropriate comparison for the state highways and should be considered with caution.

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 roads and state highways.

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 graph includes all drivers irrespective of injury or culpability.

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

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

11. Alarm crash sites listed in Figure 9.5 are crash sites that have shown a statistically significant increase (at the 95 percent level of confidence) in reported crashes in 2009 compared with the previous five years (2004 to 2008). The sites are initially selected on the basis of 3 or more reported crashes at the sites. Sites are listed regardless of any recent remedial treatments and they may already be under investigation for treatment.

Crash Rates and Costs

Crash reporting rates

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

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

Figure 1.1 Reporting rate serious injuries to hospital admissions

Region	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
Bay of Plenty Region S.H.	28	29	17	17
Group Y	35	30	27	18
All NZ	37	29	27	18

Figure 1.3 Casualties per 100 million vehicle kilometres travelled

	Council roads		State Highways	
	Urban	Rural	Urban	Rural
Bay of Plenty Region S.H.	35	43	24	27
Group Y	44	43	37	29
All NZ	46	42	36	26

Figure 1.4 Peer group crash and casualty rates

Regions

Region name	Crashes per 10,000 Population (5 year average)	Crashes per 100 million vehicle kilometres travelled: Council roads Urban	Council roads Rural	State Highways Urban	State Highways Rural	Casualties per 10,000 Population (5 year average)	Casualties per 100 million vehicle kilometres travelled: Council roads Urban	Council roads Rural	State Highways Urban	State Highways Rural	2009 Population	% of rural crashes
Auckland	23	33	29	40	14	29	42	41	53	19	1454200	28
Bay of Plenty	16	28	29	17	17	22	35	43	24	27	371020	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	153270	47
Manawatu Wanganui	27	39	25	31	18	38	47	37	42	28	230000	54
Nelson Marlborough	25	39	23	22	20	33	47	35	27	29	136800	52
Southland	91	71	32	57	24	138	102	50	77	39	45330	50
Greater Wellington	27	41	37	32	14	34	49	50	43	20	386480	27
Canterbury	51	41	22	24	14	67	51	31	31	21	278450	30
Chathams	1109	n/a	n/a	n/a	n/a	91	n/a	n/a	n/a	n/a	640	n/a
Northland	26	34	34	20	22	39	43	49	32	39	185900	71
Otago	47	73	43	47	21	69	103	65	65	33	186150	45
Taranaki	28	45	31	30	22	39	58	45	38	33	108240	53
Waikato	32	40	29	22	19	45	50	39	31	30	384870	58
West Coast	38	35	24	20	22	55	48	34	30	33	32590	77
All New Zealand	26	38	29	28	18	36	48	42	38	26	4331000	41

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 - urban council roads

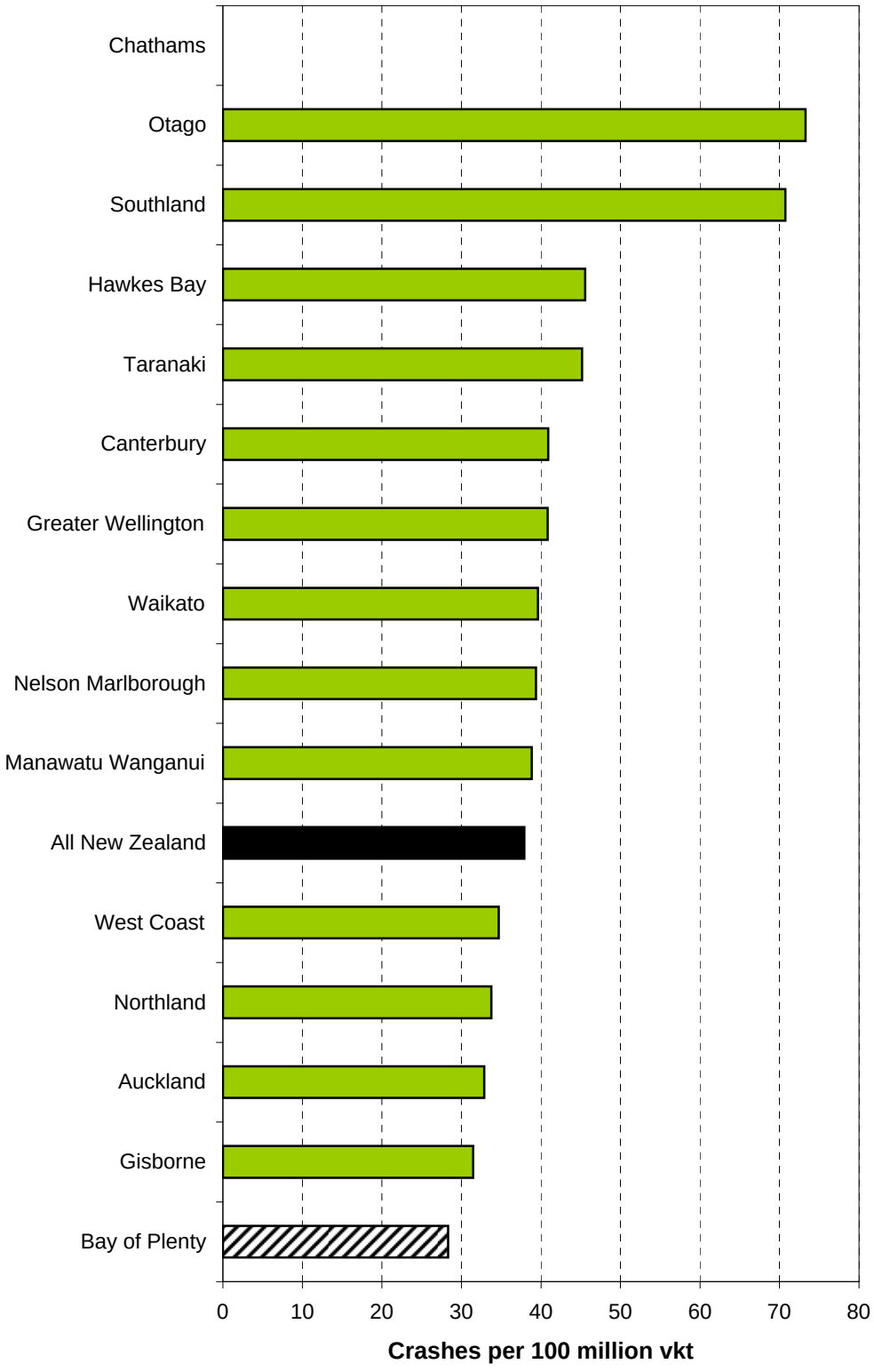


Figure 1.6 Crashes per 100 million vehicle-kilometres travelled - rural council roads

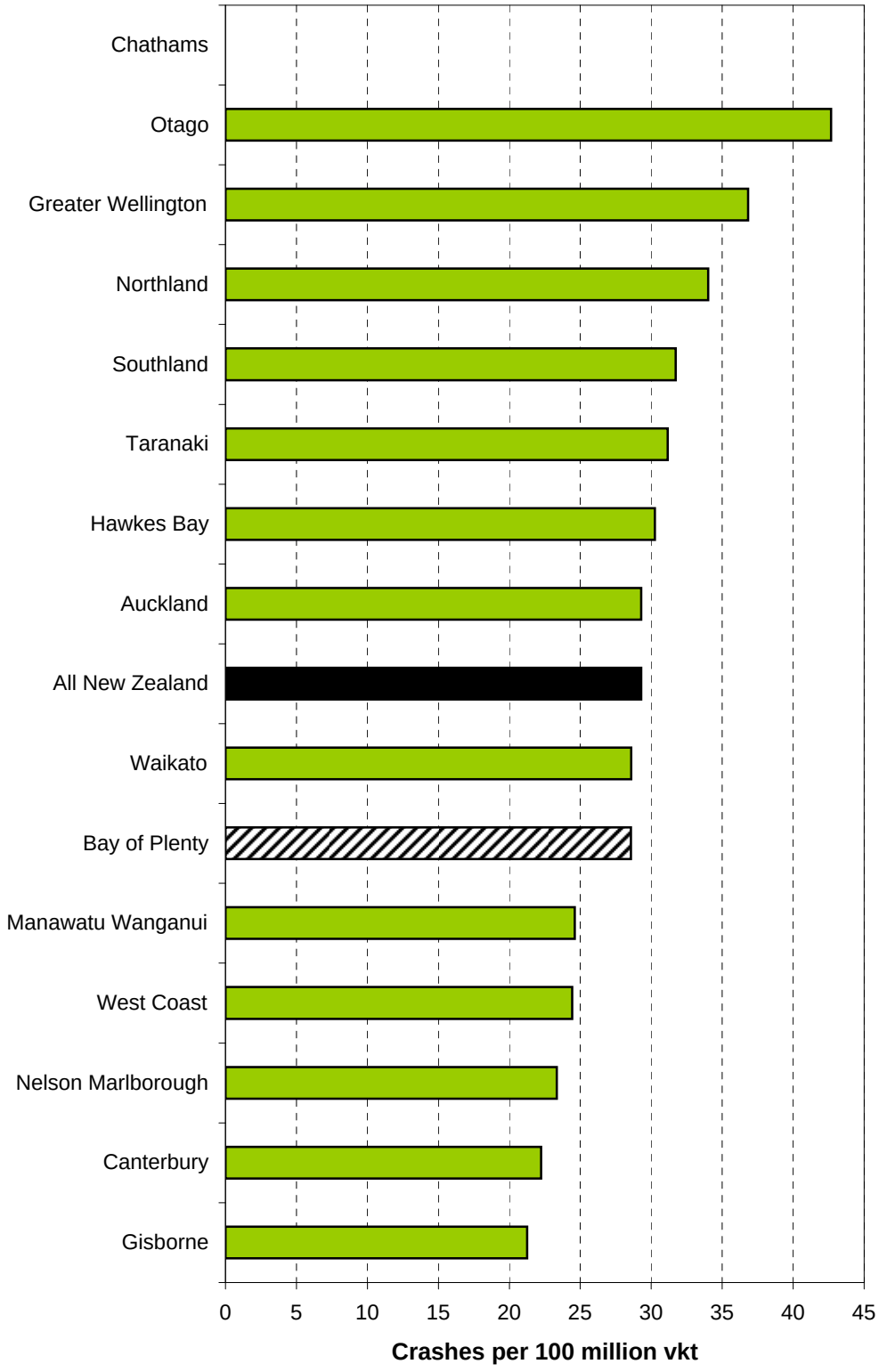


Figure 1.7 Crashes per 100 million vehicle kilometres travelled - urban state highways

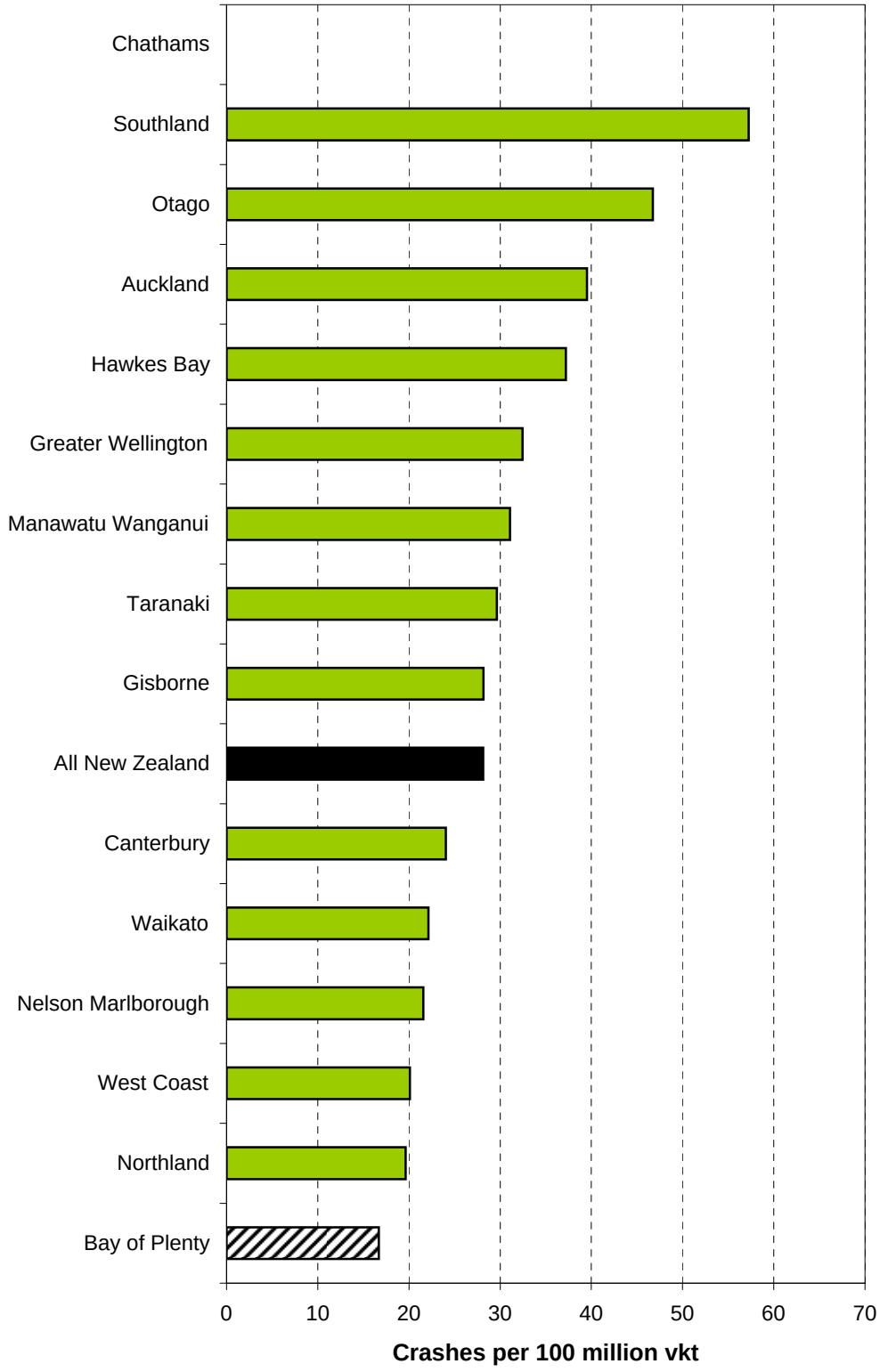


Figure 1.8 Crashes per 100 million vehicle-kilometres travelled - rural state highways

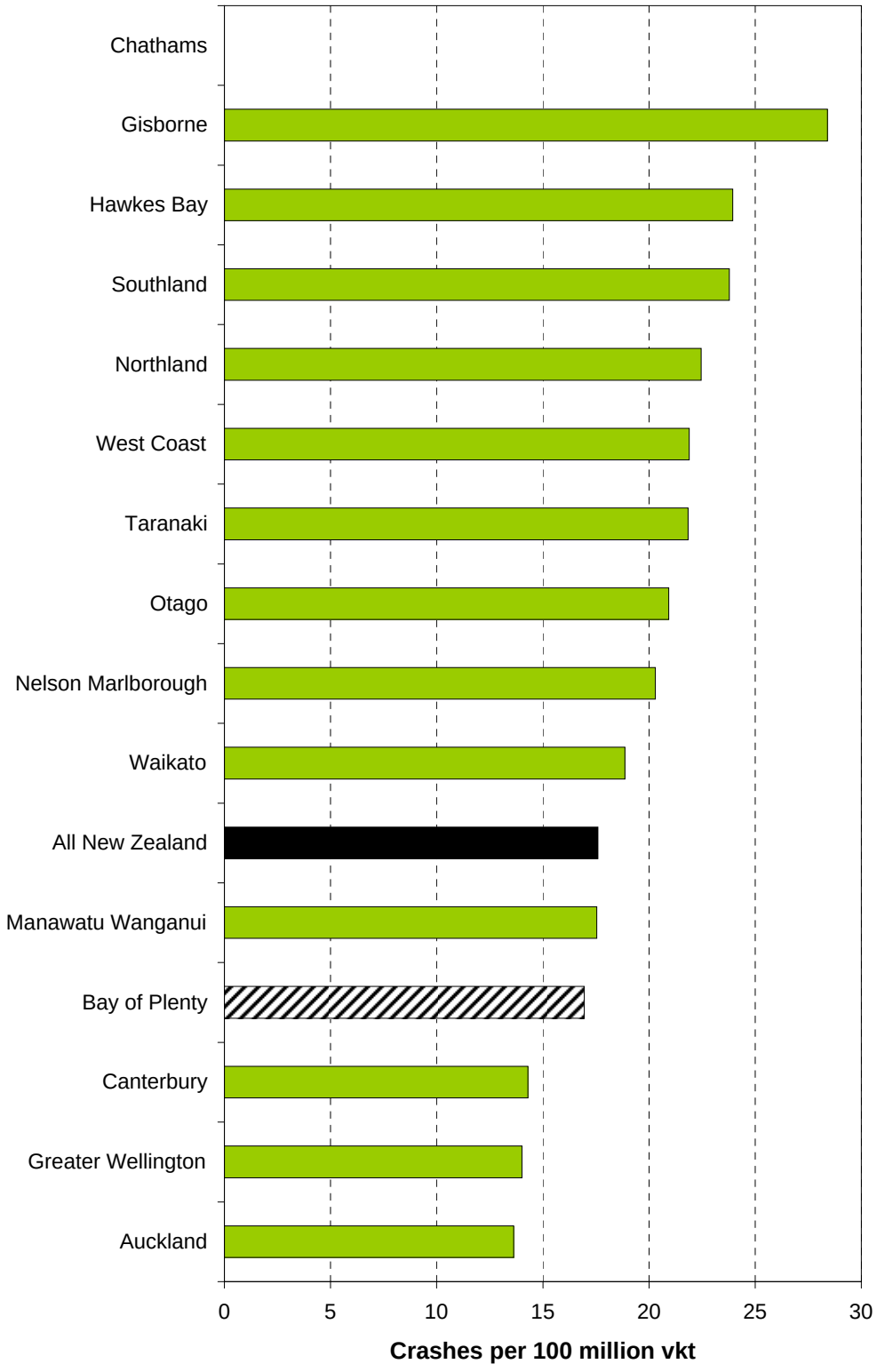


Figure 1.4a Peer group crash and casualty rates

Group Y

City or District name	Crashes per 10,000 Population (5 year average)	Crashes per 100 million vehicle kilometres travelled: Council roads Urban	Council roads Rural	State Highways Urban	State Highways Rural	Casualties per 10,000 Population (5 year average)	Casualties per 100 million vehicle kilometres travelled: Council roads Urban	Council roads Rural	State Highways Urban	State Highways Rural	2009 Population	% of rural crashes
Gisborne	27	31	21	28	28	38	41	31	38	44	46200	47
Gore	32	47	24	36	17	46	55	39	50	25	12250	59
Grey	29	41	33	18	26	40	50	48	26	36	13750	61
Hastings	35	48	34	45	24	50	59	50	59	40	74300	54
Kapiti Coast	17	29	44	17	12	25	36	67	21	20	48900	46
Marlborough	27	58	25	32	19	37	71	41	41	27	45000	57
Masterton	30	52	26	44	25	39	66	35	58	31	23300	37
New Plymouth	28	45	39	36	23	38	58	53	44	35	72300	42
Porirua	19	35	42	19	8	25	44	63	29	11	51500	28
Rotorua	25	40	33	24	18	36	48	48	35	30	68200	45
Thames Coromandel	30	32	27	27	25	44	47	35	45	34	26800	63
Timaru	23	43	25	25	11	31	53	38	33	15	44100	42
Upper Hutt	19	33	30	23	24	23	39	37	30	34	40600	48
Whangarei	23	35	30	13	12	36	43	40	28	29	79000	51
Group Y	26	39	30	26	18	36	49	43	36	29	646200	48
All New Zealand	26	38	29	28	18	36	48	42	38	26	4331000	41

Group Y : Cities and dstricts where the percentage of vehicle kilometres travelled in urban areas is between 30 and 50 percent.
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 1.9 Crashes per 10,000 people
Bay of Plenty Region state highways

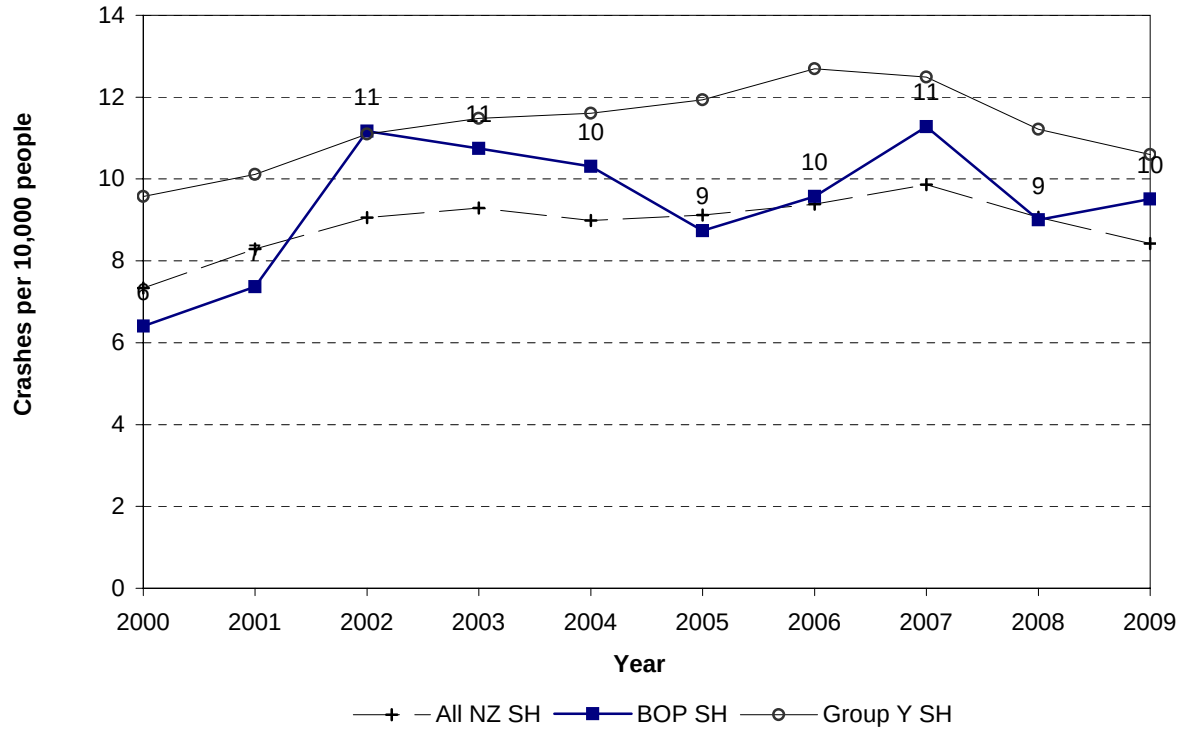


Figure 1.10 Casualties per 10,000 people
Bay of Plenty Region state highways

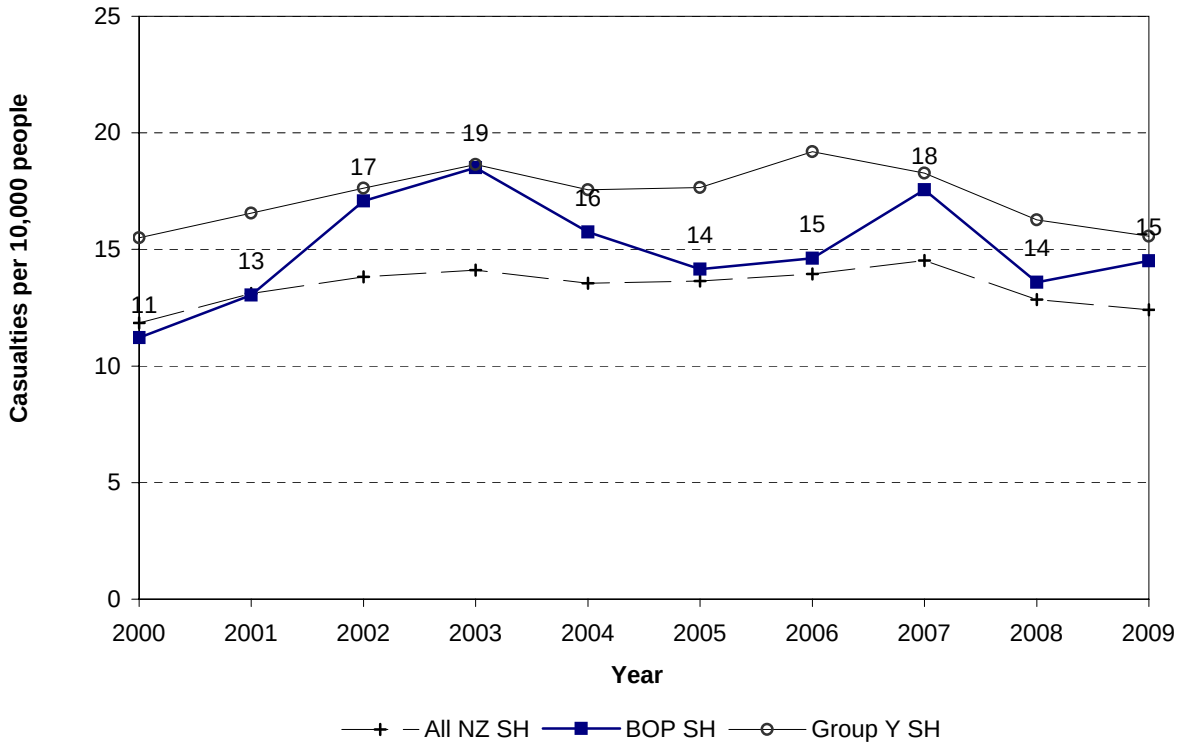


Figure 1.11 Social cost of crashes in Bay of Plenty Region in 2009

		Bay of Plenty Region	New Zealand
Council roads	urban rural	$100.38 $46.48	$1,607.40 $909.43
State Highways	urban rural	$36.31 $141.24	$299.76 $1,487.35
Total		**$324.42**	**$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	%	Group Y
Fatal crashes	18	21	13	17	16	**85**	7%	5%
Serious crashes	60	76	82	51	65	**334**	26%	20%
Minor crashes	151	157	207	175	178	**868**	67%	75%
Total injury crashes	**229**	**254**	**302**	**243**	**259**	**1287**	**100%**	**100%**
Non-injury crashes	641	619	655	587	661	3163		

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

	2005	2006	2007	2008	2009	Total	%	Group Y
Fatal crashes	3	2	0	5	2	12	3%	2%
Serious crashes	15	21	17	13	19	85	22%	15%
Minor crashes	55	55	63	67	51	291	75%	83%
Total injury crashes	**73**	**78**	**80**	**85**	**72**	**388**	**100%**	**100%**
Non-injury crashes	355	329	338	305	294	1621		

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

	2005	2006	2007	2008	2009	Total	%	Group Y
Fatal crashes	15	19	13	12	14	73	8%	7%
Serious crashes	45	55	65	38	46	249	28%	22%
Minor crashes	96	102	144	108	127	577	64%	72%
Total injury crashes	**156**	**176**	**222**	**158**	**187**	**899**	**100%**	**100%**
Non-injury crashes	286	290	317	282	367	1542		

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

	2005	2006	2007	2008	2009	Total	%	Group Y
Fatal casualties	19	27	17	20	18	101	5%	4%
Serious casualties	82	101	112	75	88	458	23%	18%
Minor casualties	270	260	341	272	289	1432	72%	78%
Total casualties	**371**	**388**	**470**	**367**	**395**	**1991**	**100%**	**100%**

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

	2005	2006	2007	2008	2009	Total	%	Group Y
Fatal casualties	3	2	0	7	2	14	3%	2%
Serious casualties	17	22	20	15	26	100	18%	13%
Minor casualties	87	85	96	100	73	441	79%	86%
Total casualties	**107**	**109**	**116**	**122**	**101**	**555**	**100%**	**100%**

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

	2005	2006	2007	2008	2009	Total	%	Group Y
Fatal casualties	16	25	17	13	16	87	6%	5%
Serious casualties	65	79	92	60	62	358	25%	20%
Minor casualties	183	175	245	172	216	991	69%	75%
Total casualties	**264**	**279**	**354**	**245**	**294**	**1436**	**100%**	**100%**

Figure 2.7 Number of injury crashes
Bay of Plenty Region state highways (urban & rural)

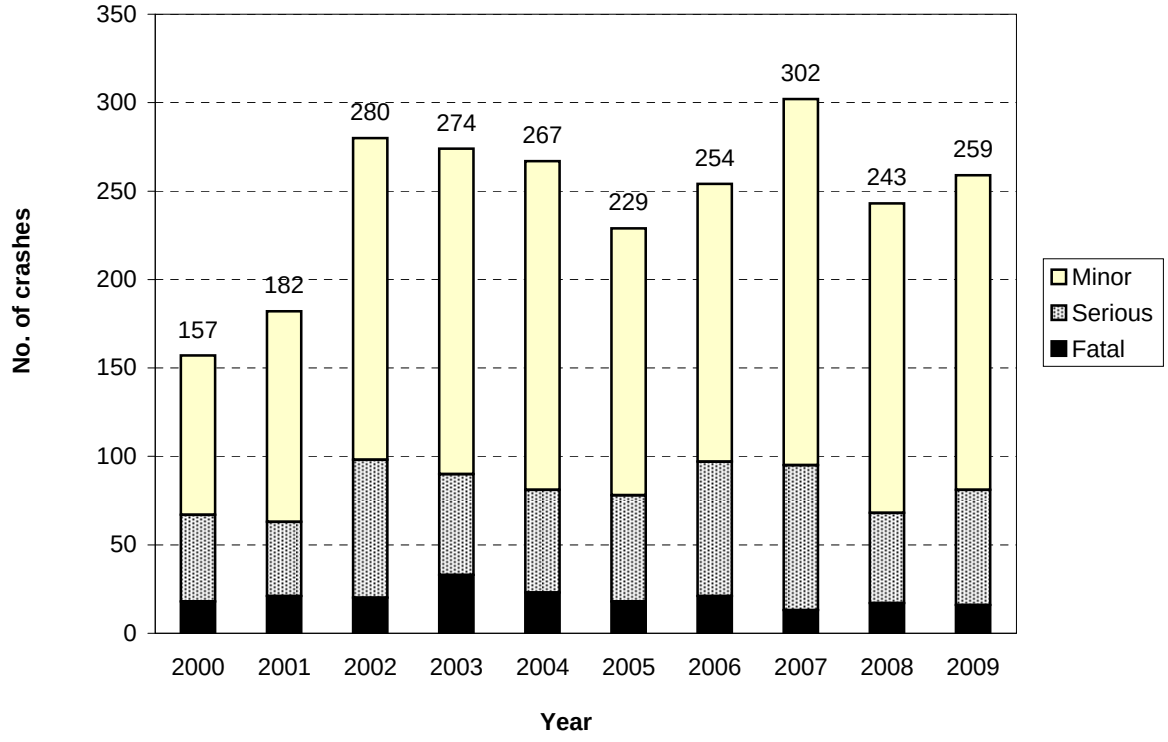


Figure 2.8 Number of casualties
Bay of Plenty Region state highways (urban & rural)

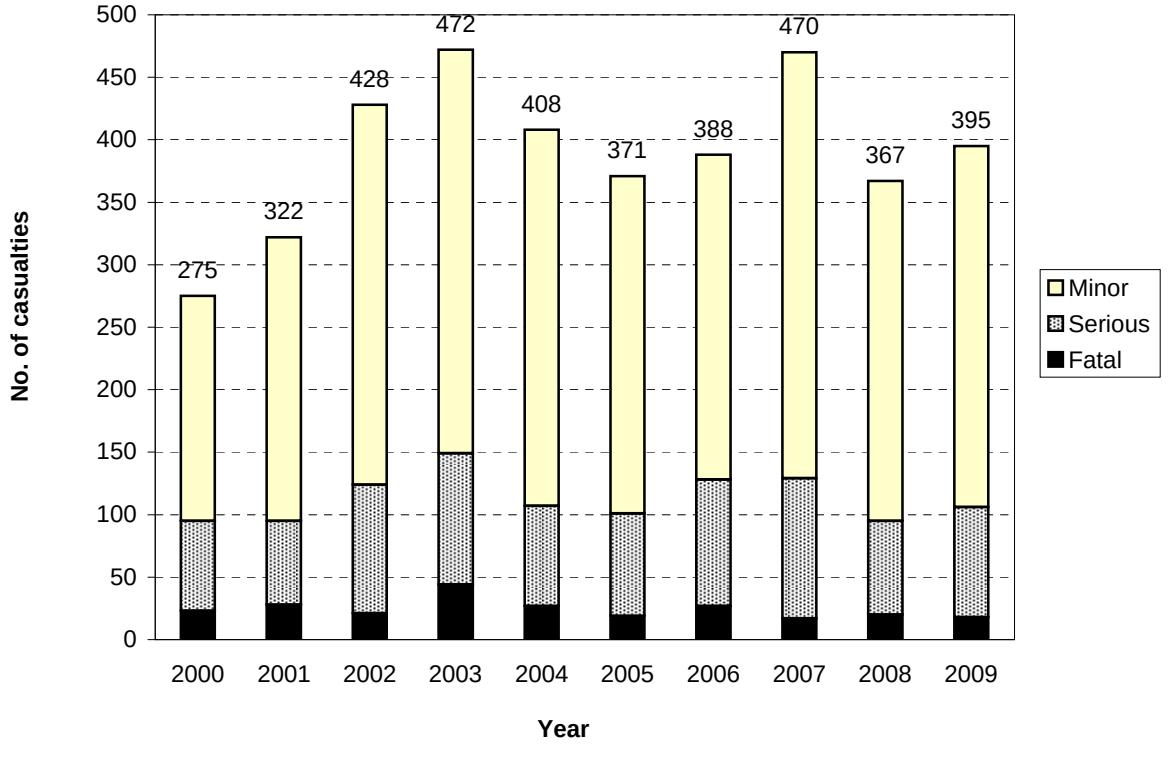


Figure 2.9 Number of injury crashes
Bay of Plenty Region - urban state highways

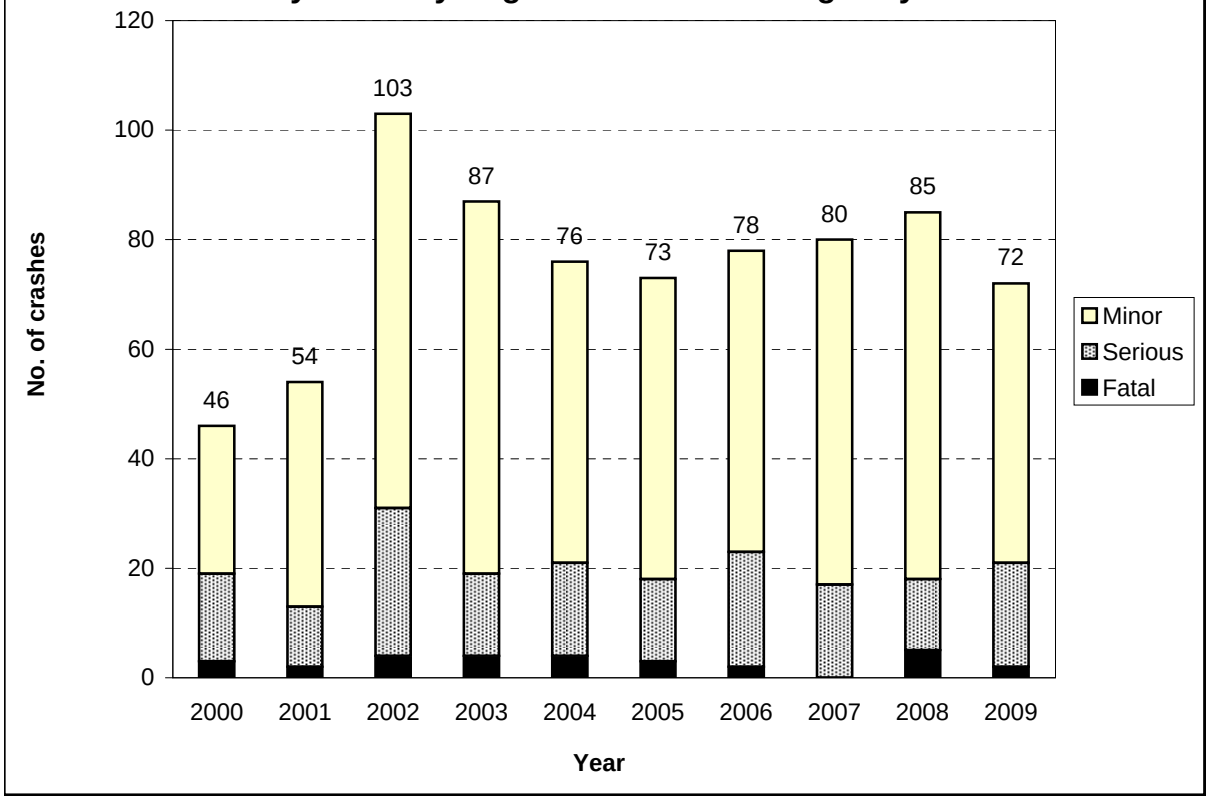


Figure 2.10 Number of casualties
Bay of Plenty Region - urban state highways

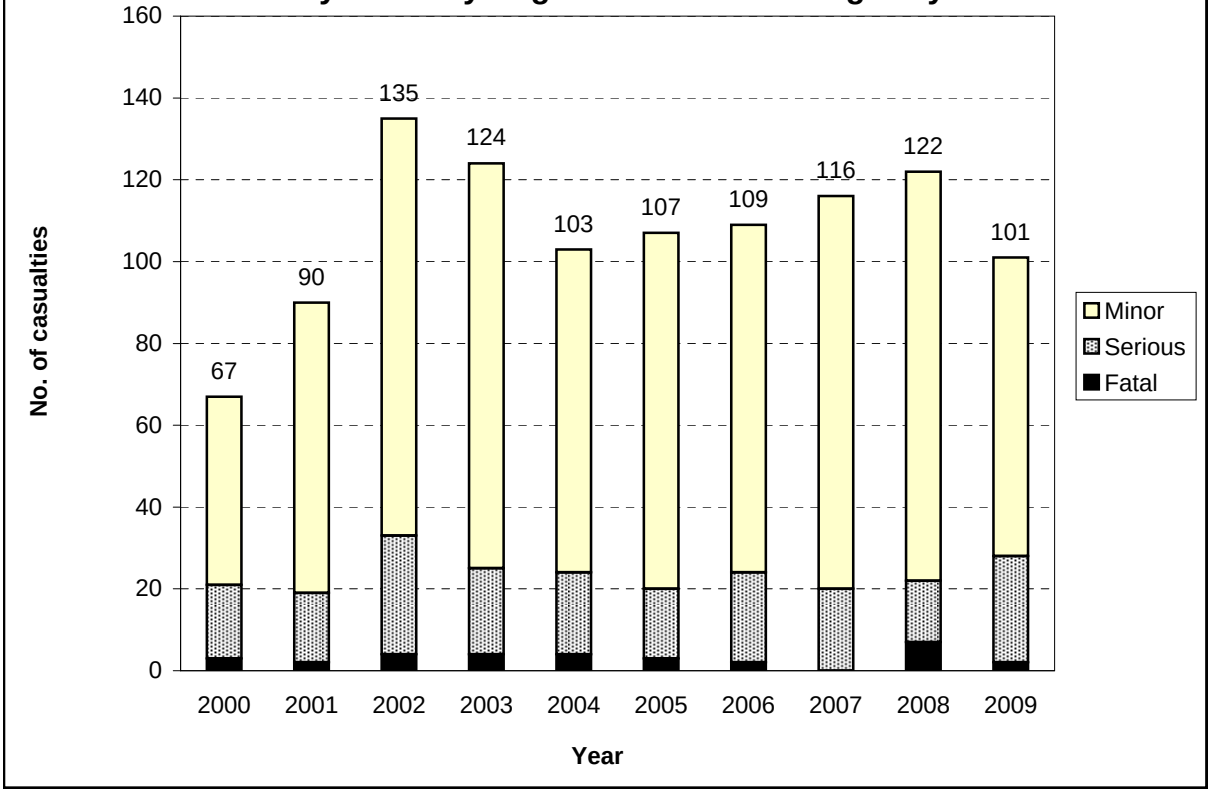


Figure 2.11 Number of injury crashes
Bay of Plenty Region - rural state highways

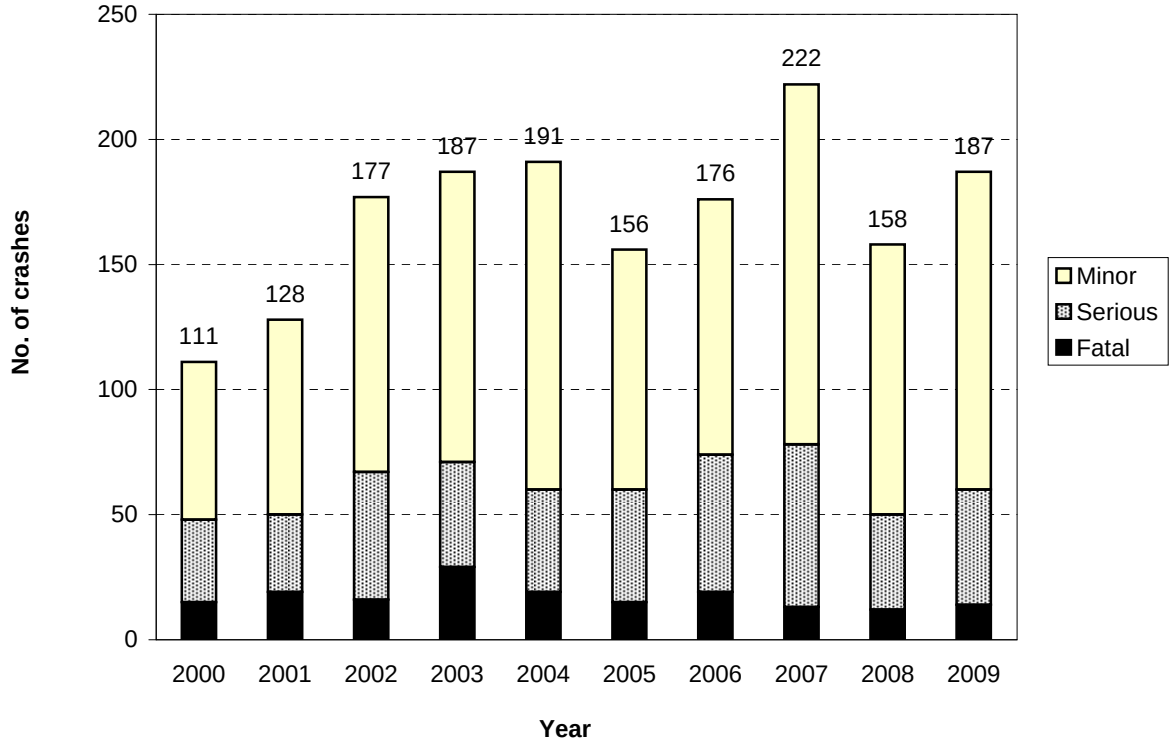


Figure 2.12 Number of casualties
Bay of Plenty Region - rural state highways

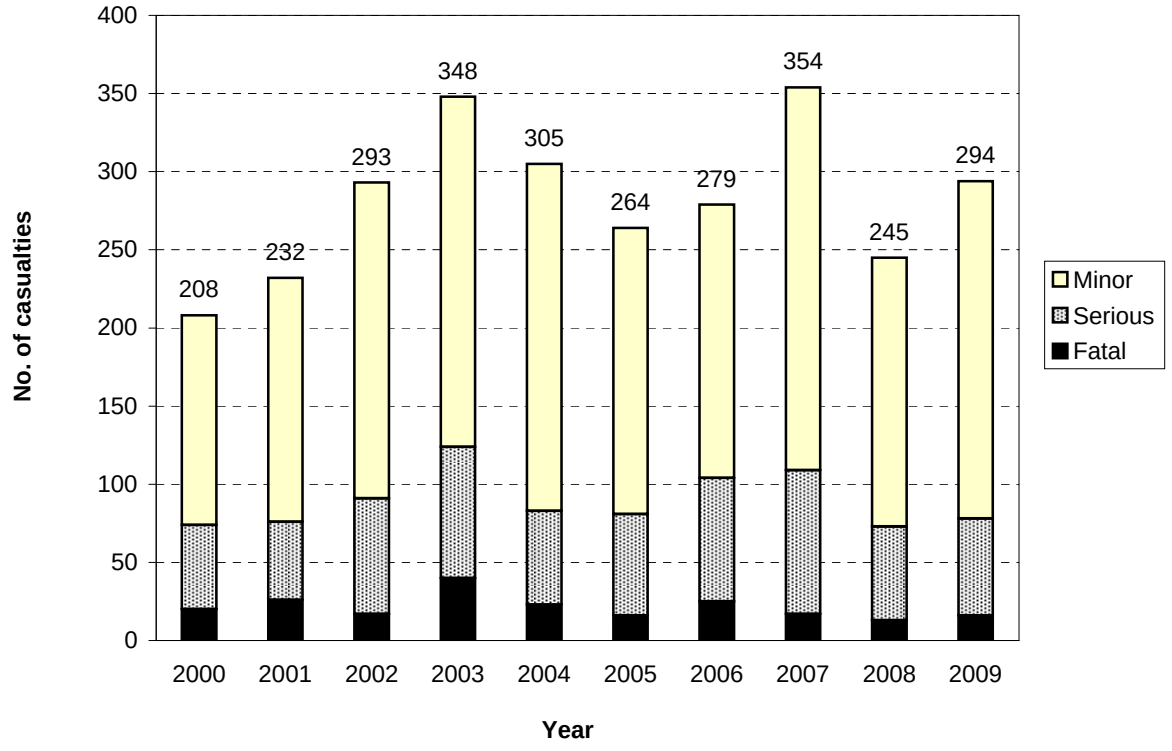
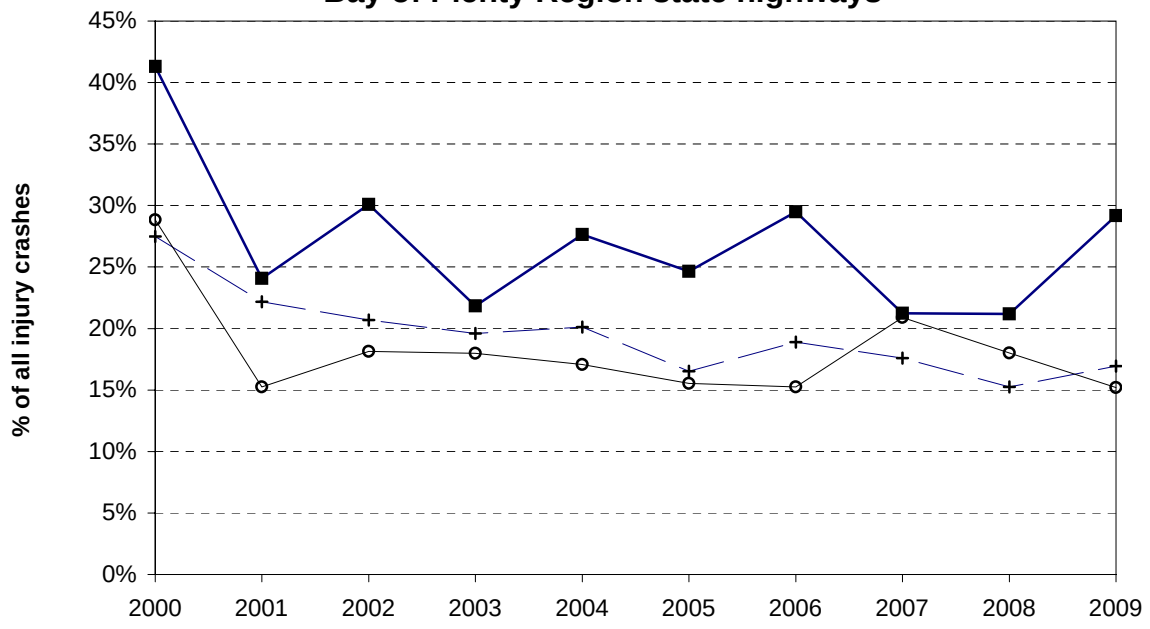
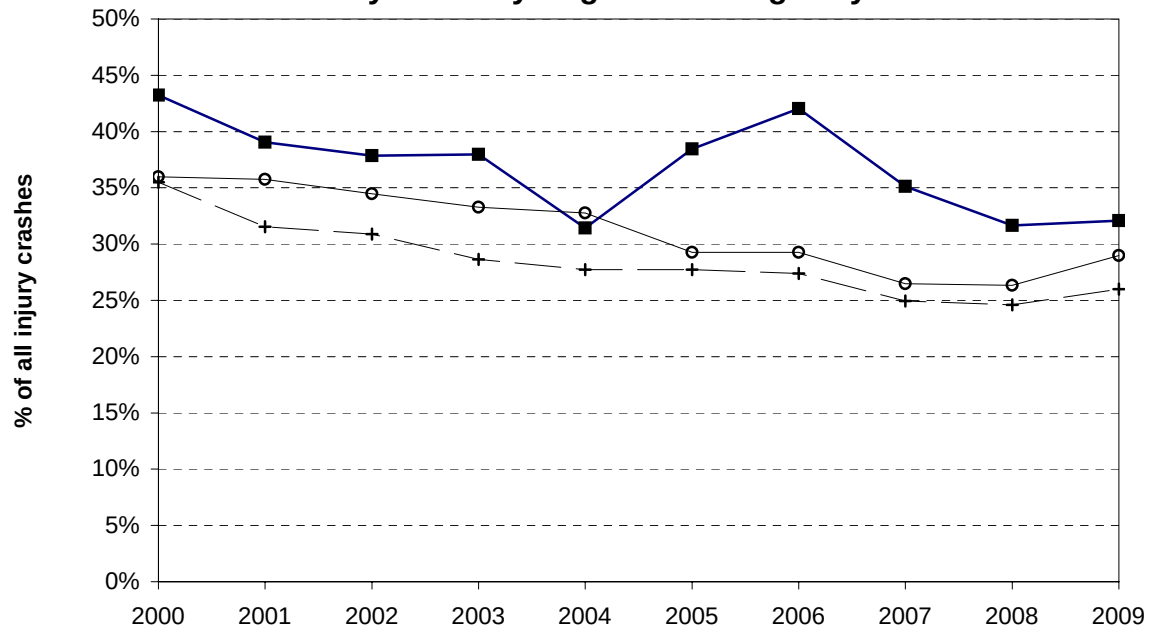


Figure 2.13 Severity ratio - urban
Bay of Plenty Region state highways



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

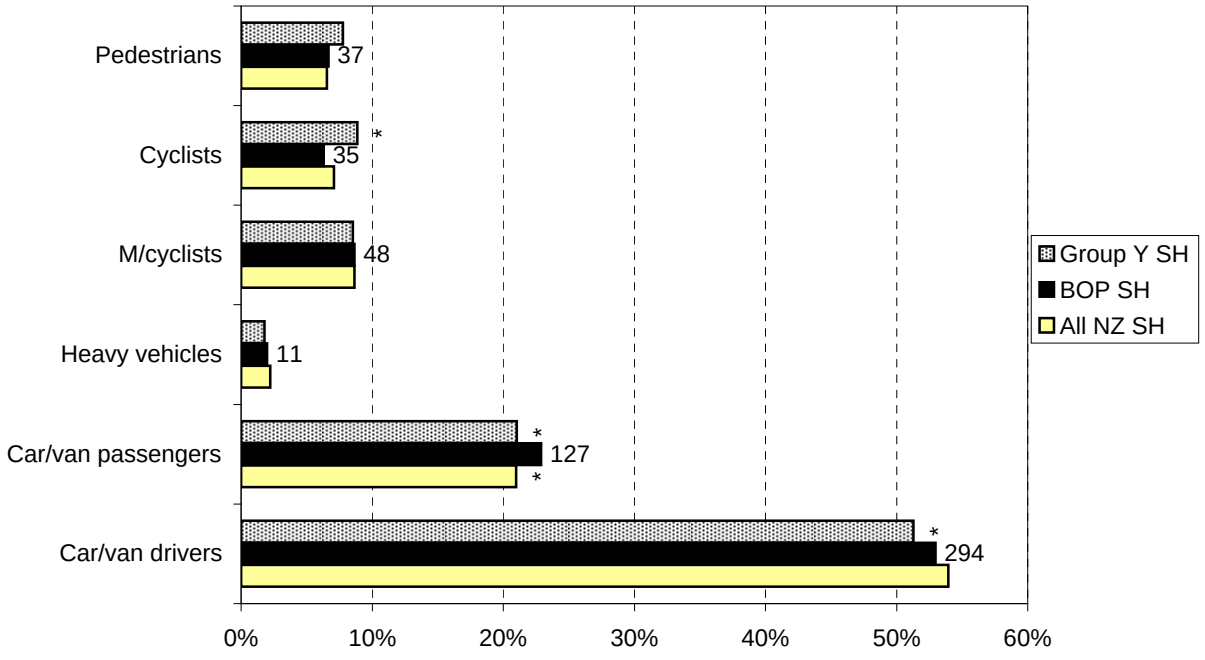
Figure 2.14 Severity ratio - rural
Bay of Plenty Region state highways



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

Road User Statistics

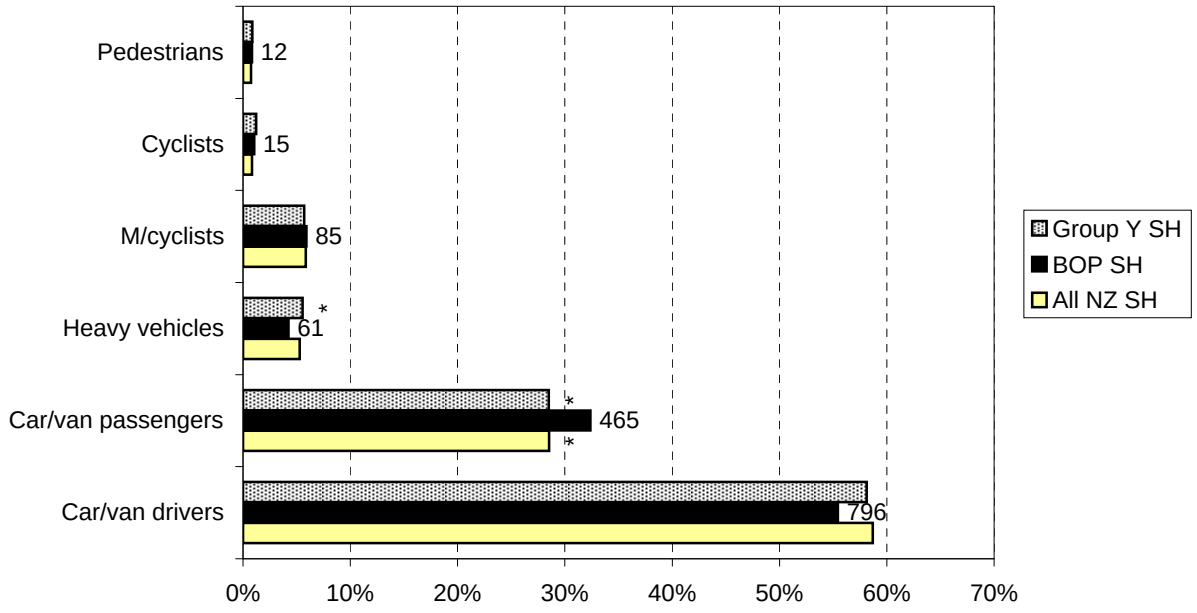
Figure 3.1 Road user casualties - urban
Bay of Plenty Region state highways (2005-2009)



% of urban casualties

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

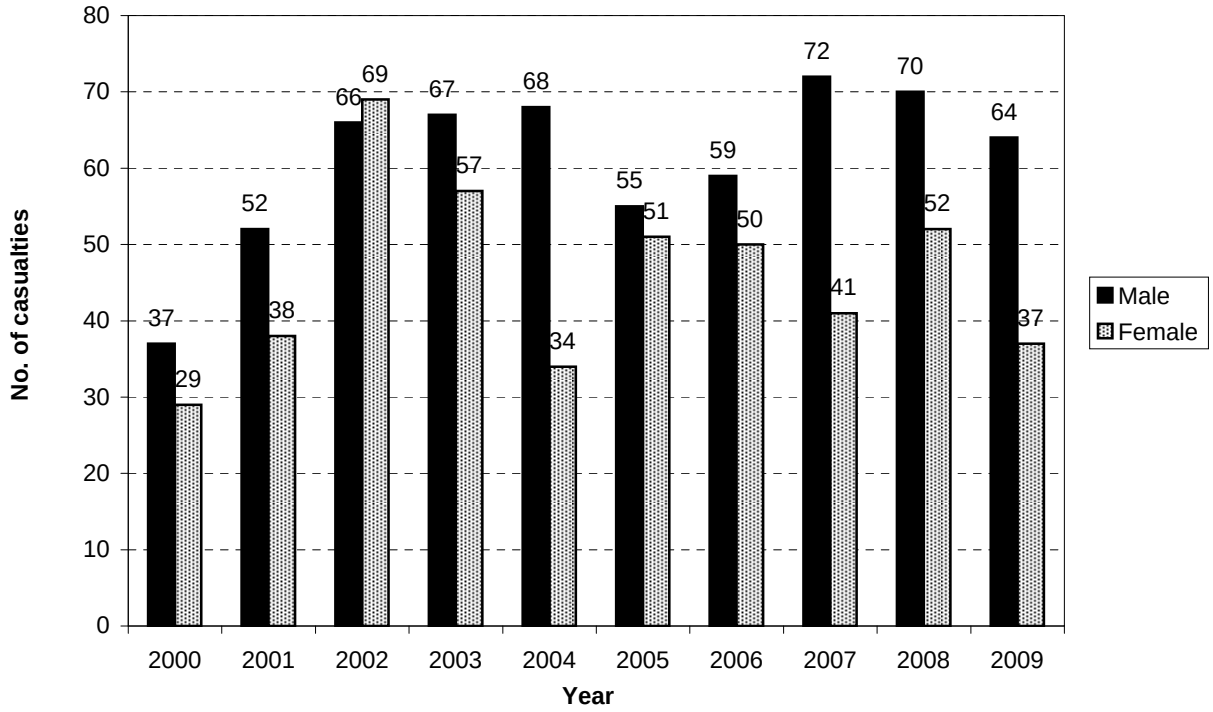
Figure 3.2 Road user casualties - rural
Bay of Plenty Region state highways (2005-2009)



% of rural casualties

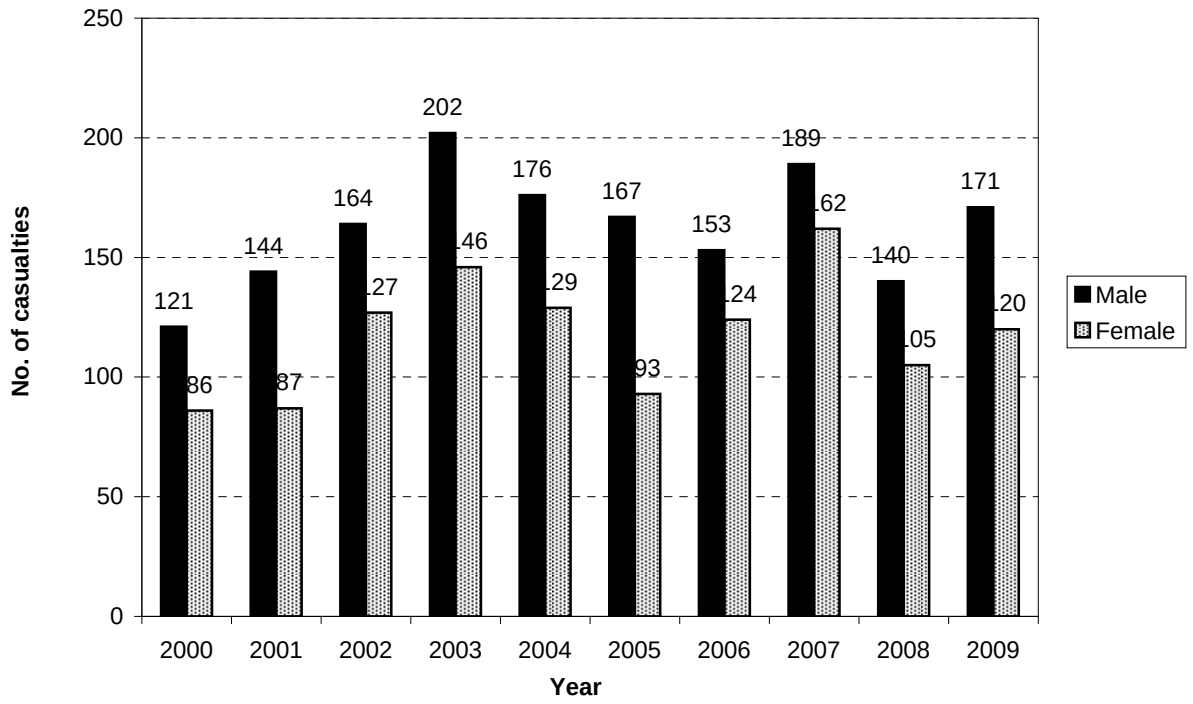
Note: While the graph plots percentages, the number of casualties is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.3 Male/female casualties - urban
Bay of Plenty Region state highways



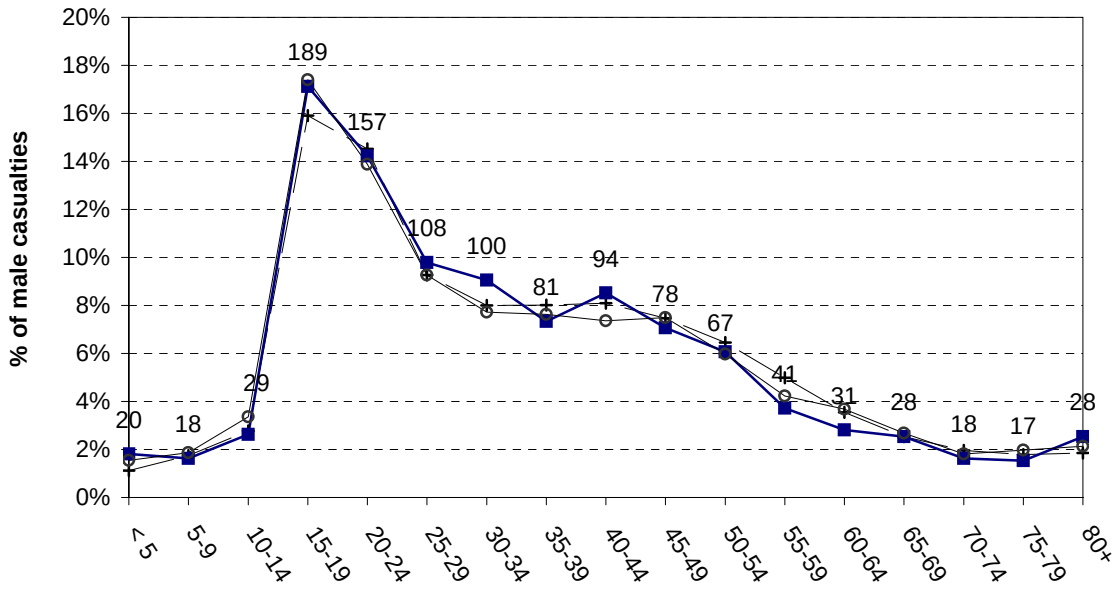
Note: This graph shows the number of male and female roadusers injured

Figure 3.4 Male/female casualties - rural
Bay of Plenty Region state highways



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

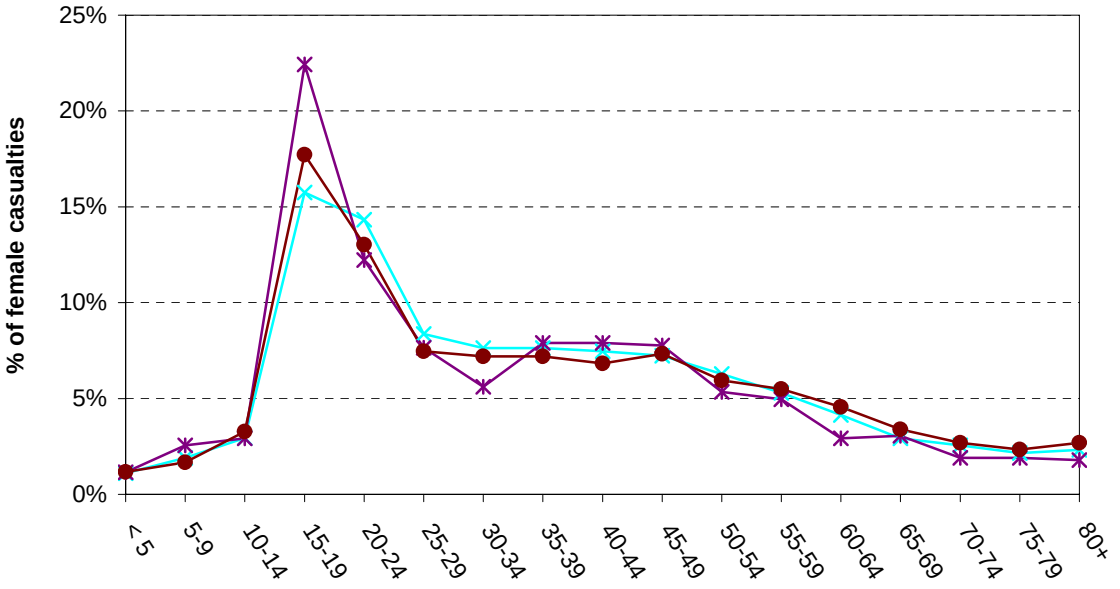
Figure 3.5 Male casualties by age
Bay of Plenty Region state highways (2005-2009)



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

All NZ SH BOP SH Group Y SH

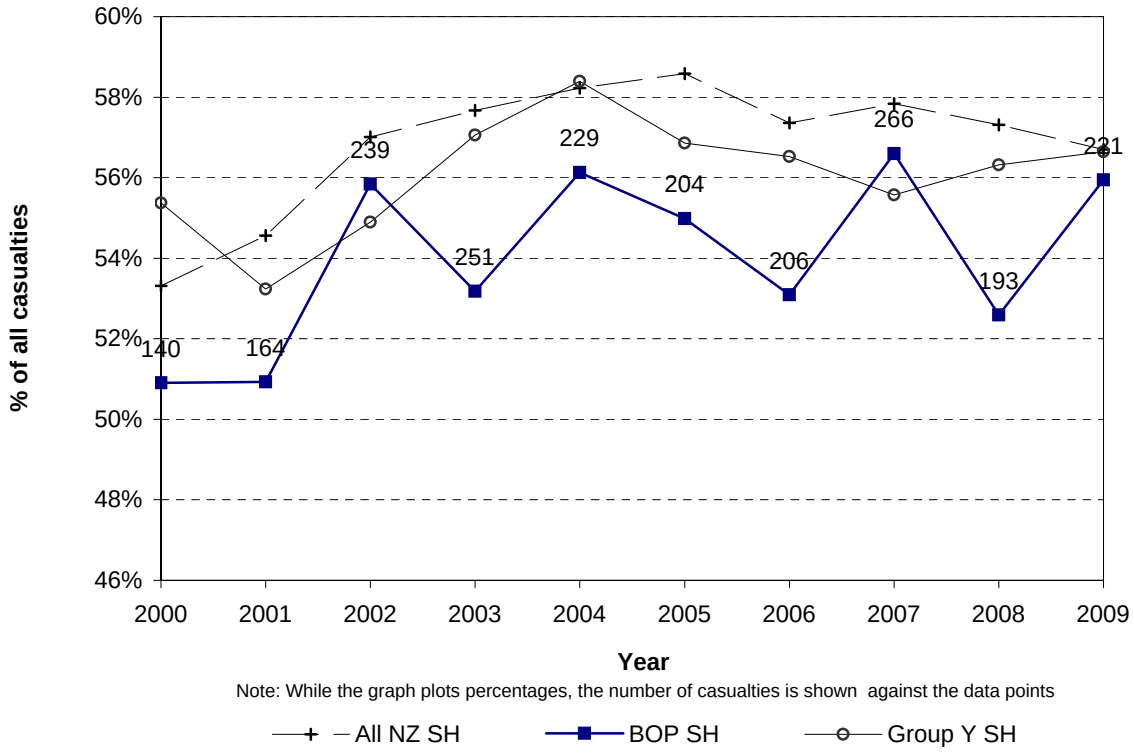
Figure 3.6 Female casualties by age
Bay of Plenty Region state highways (2005-2009)



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

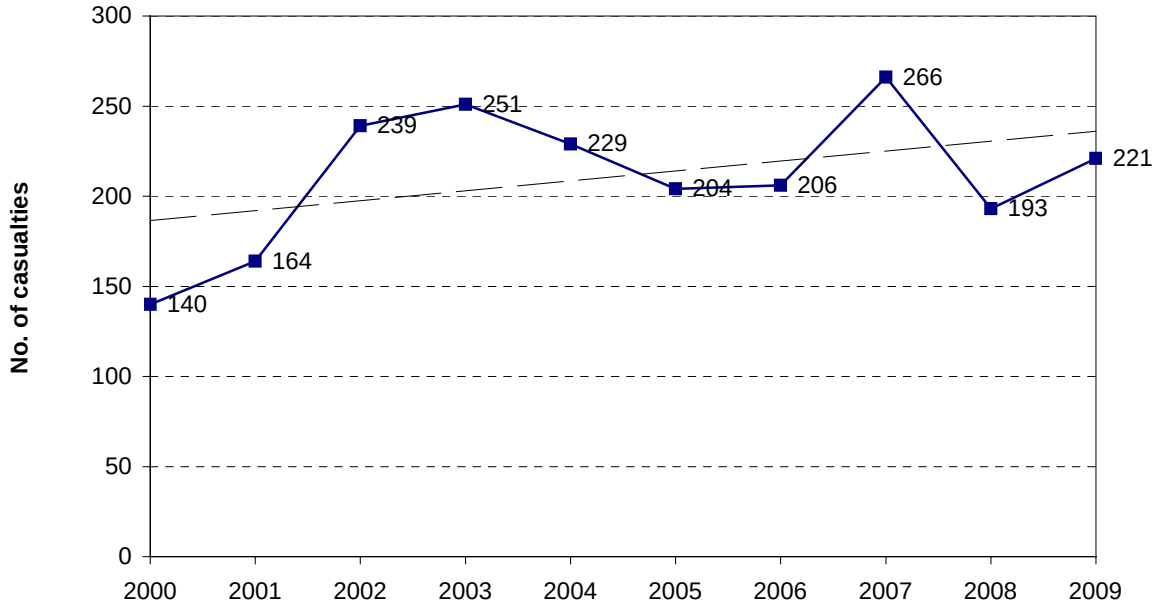
All NZ SH BOP SH Group Y SH

Figure 3.7 Car/van driver casualties
Bay of Plenty Region state highways



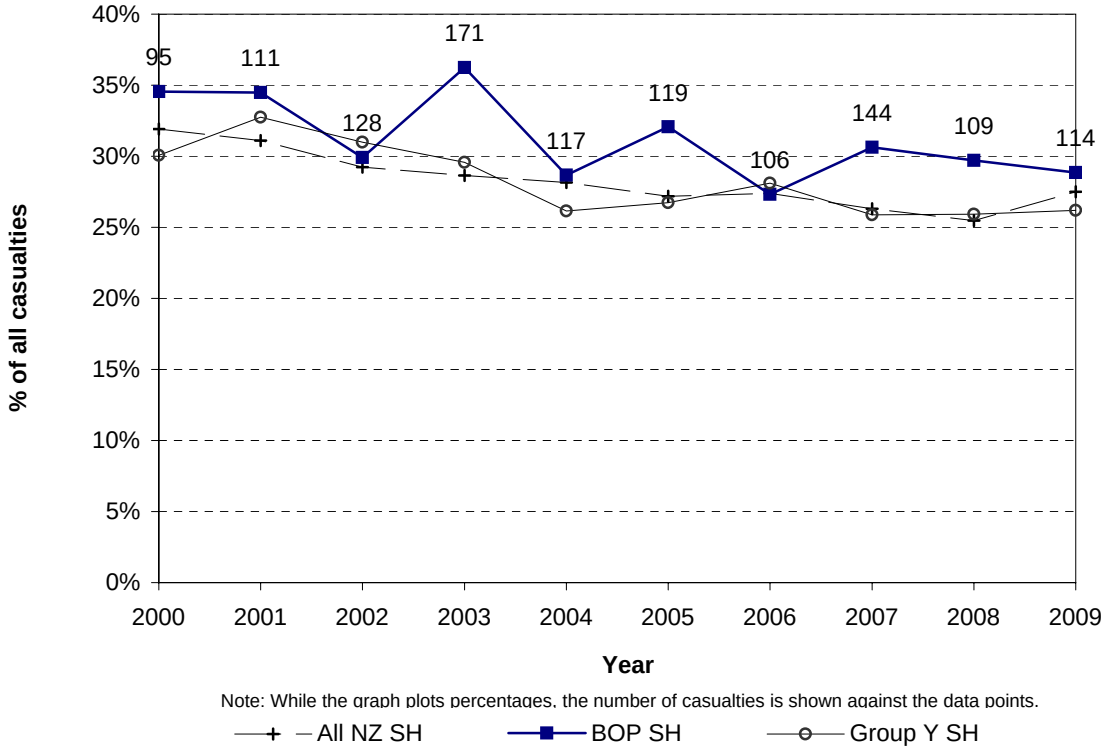
Note: While the graph plots percentages, the number of casualties is shown against the data points

Figure 3.8 Car/van driver casualties
Bay of Plenty Region state highways



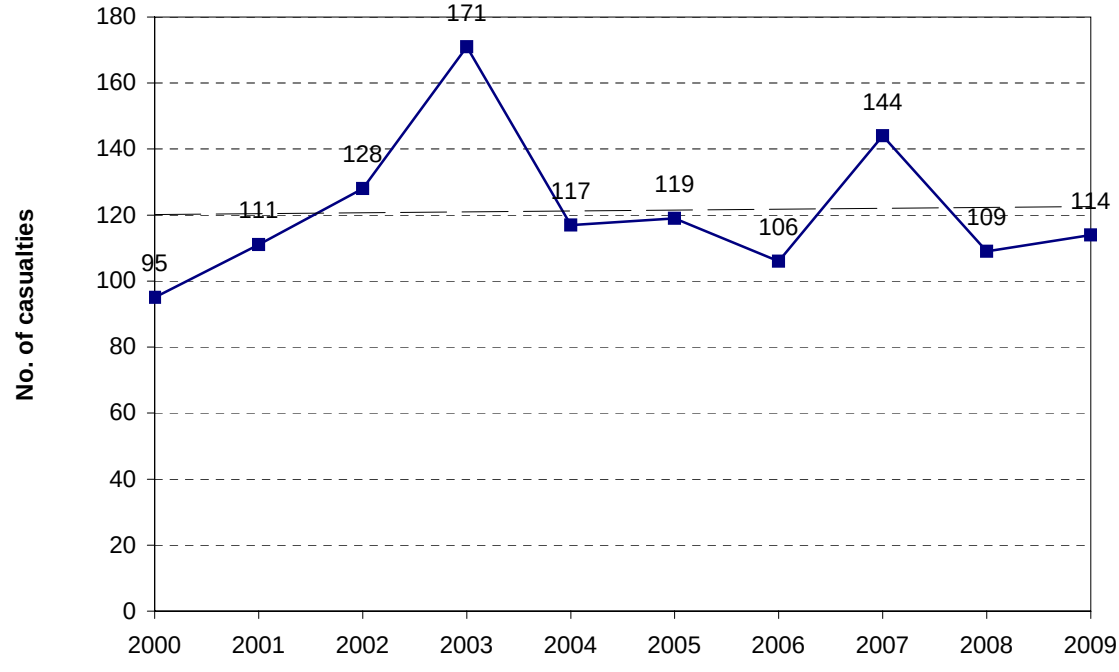
Note: Dotted line represents the ten year trend line

Figure 3.9 Car/van passenger casualties
Bay of Plenty Region state highways



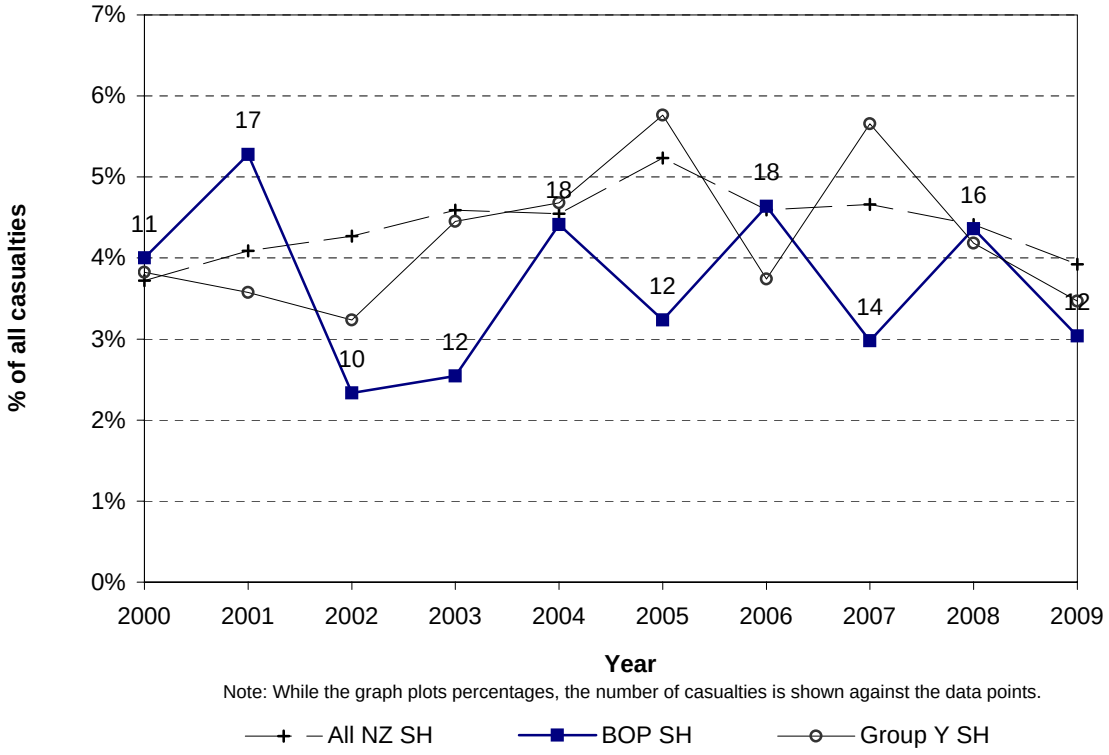
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.10 Car/van passenger casualties
Bay of Plenty Region state highways



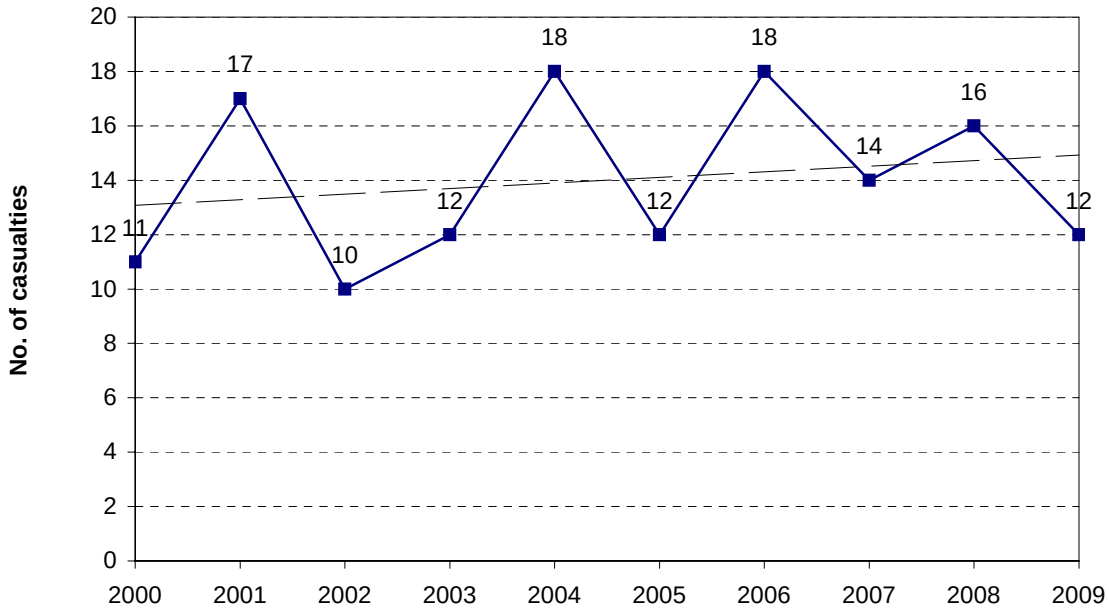
Note: Dotted line represents the ten year trend line

Figure 3.11 Heavy vehicle casualties
Bay of Plenty Region state highways



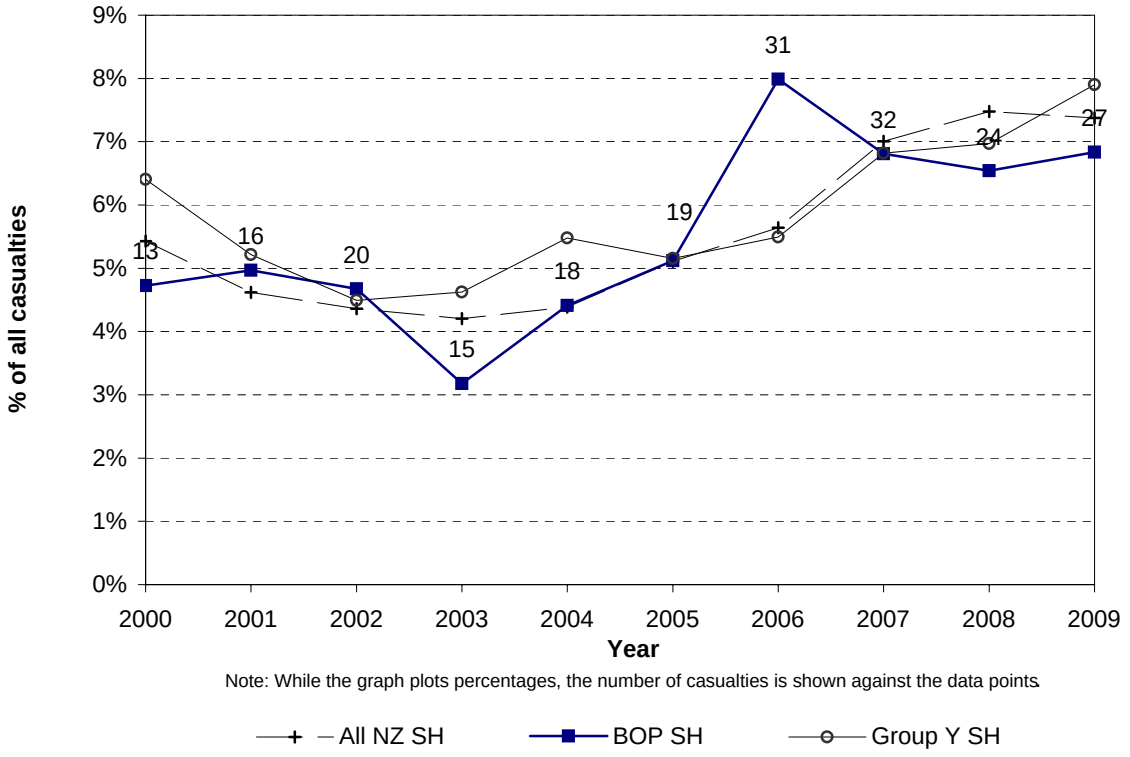
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.12 Heavy vehicle casualties
Bay of Plenty Region state highways



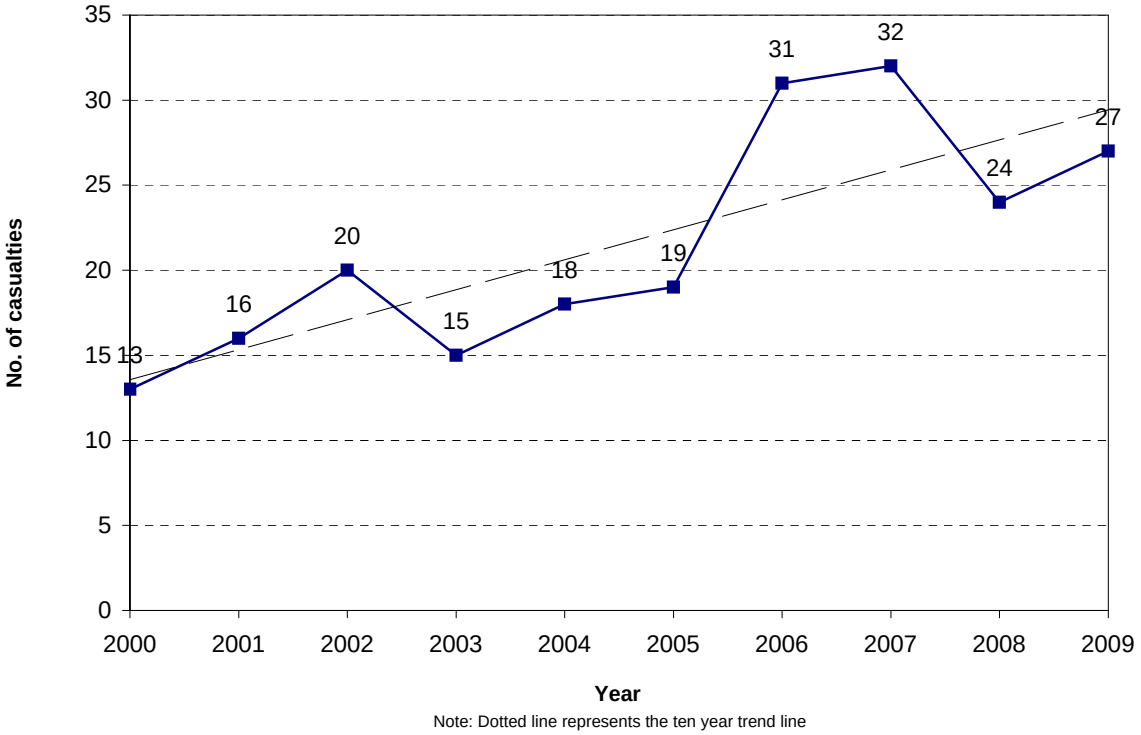
Note: Dotted line represents the ten year trend line

Figure 3.13 Motorcyclist casualties
Bay of Plenty Region state highways



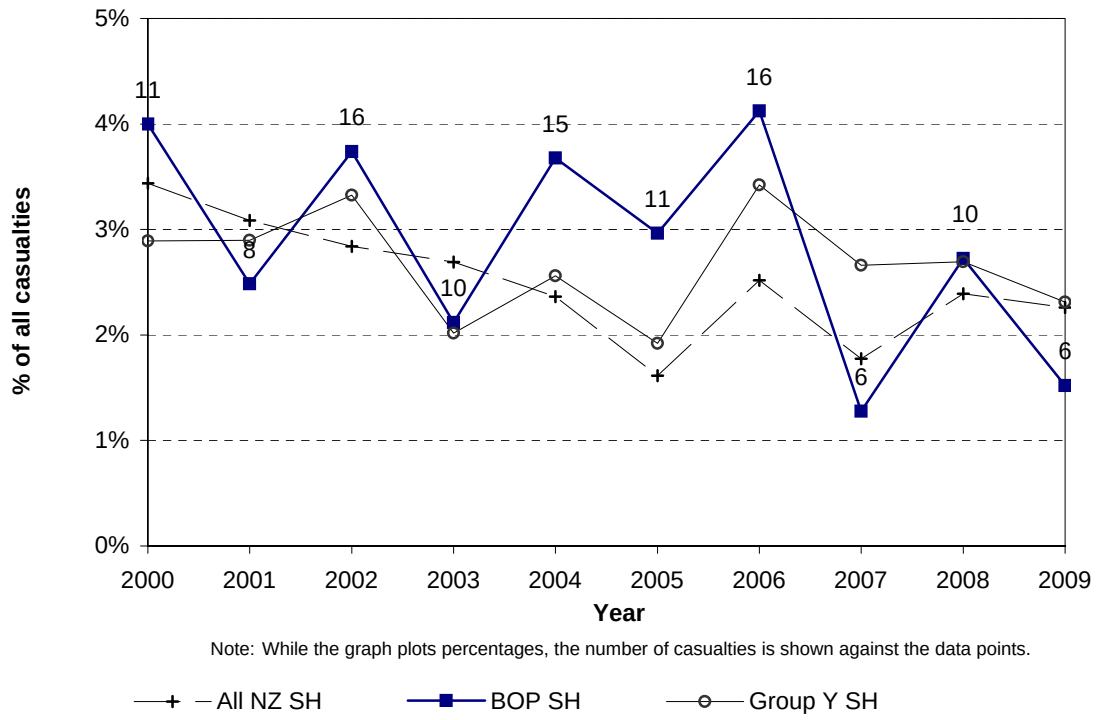
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.14 Motorcyclist casualties
Bay of Plenty Region state highways



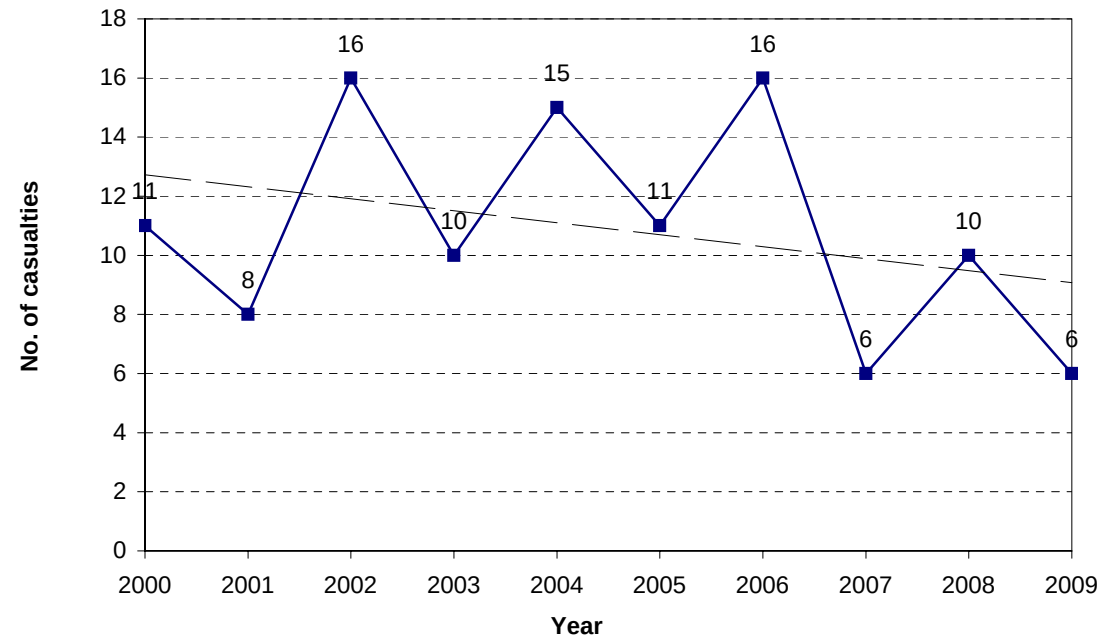
Note: Dotted line represents the ten year trend line

Figure 3.15 Pedestrian casualties
Bay of Plenty Region state highways



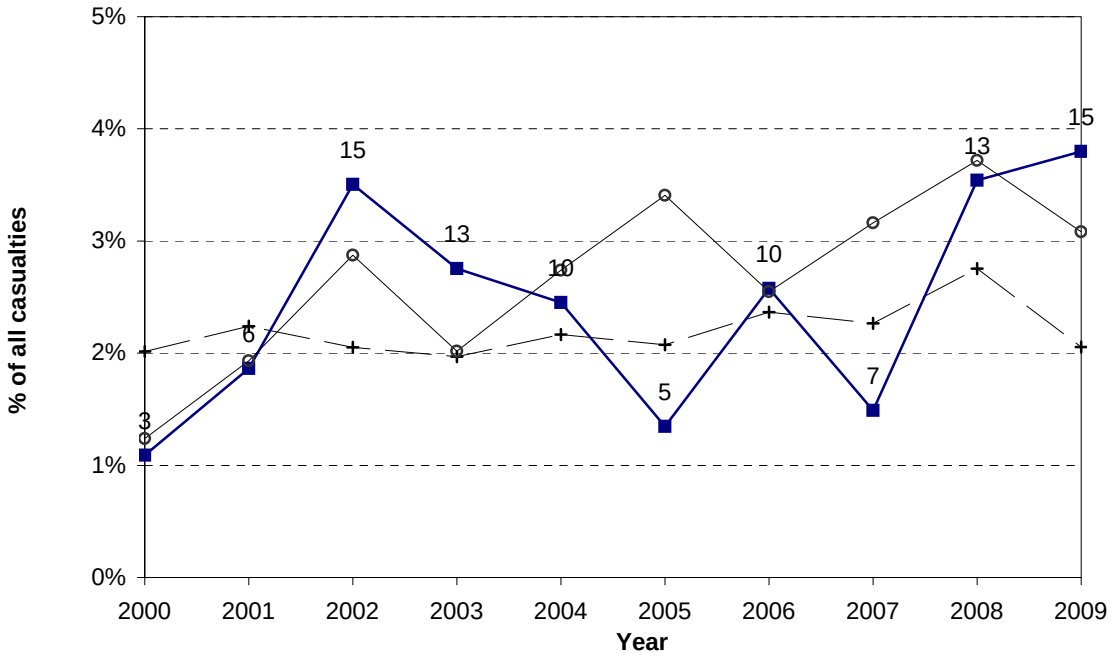
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.16 Pedestrian casualties
Bay of Plenty Region state highways



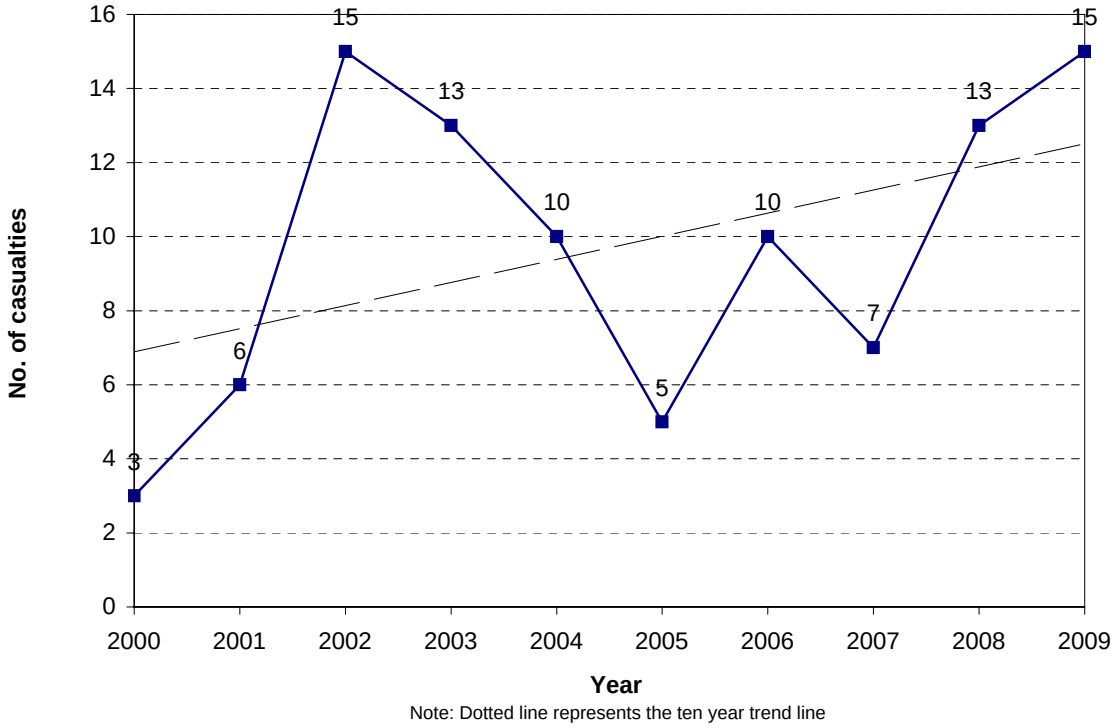
Note: Dottedline represents the ten year trend line

Figure 3.17 Cyclist casualties
Bay of Plenty Region state highways



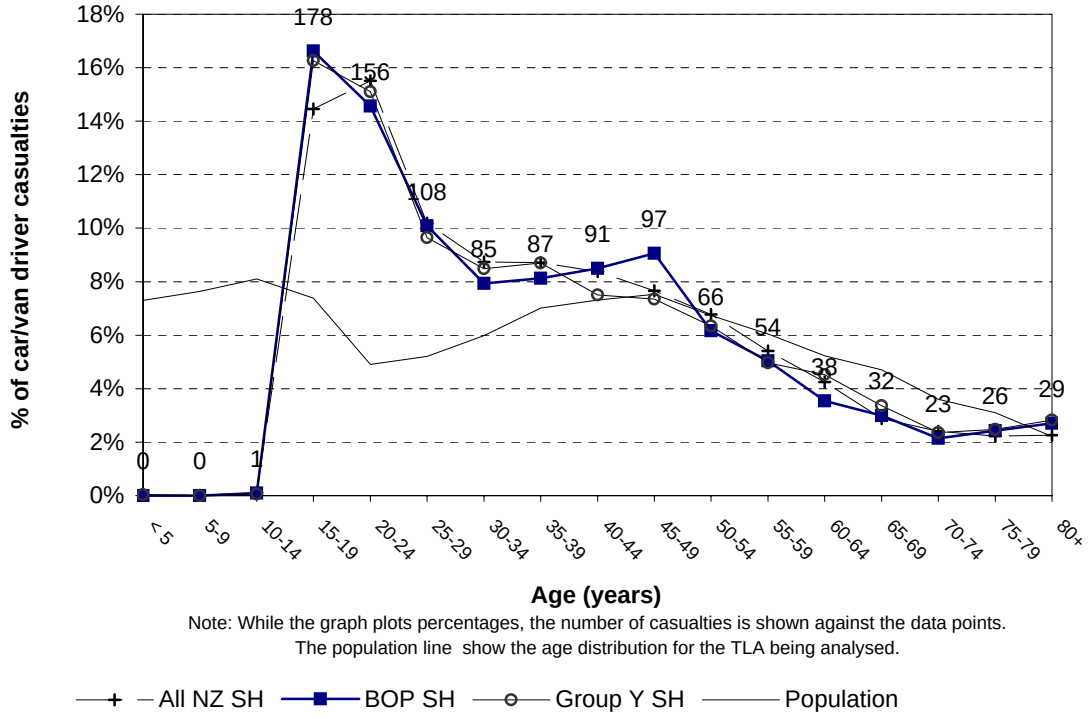
Note: While the graph plots percentages, the number of casualties is shown against the data points.

Figure 3.18 Cyclist casualties
Bay of Plenty Region state highways



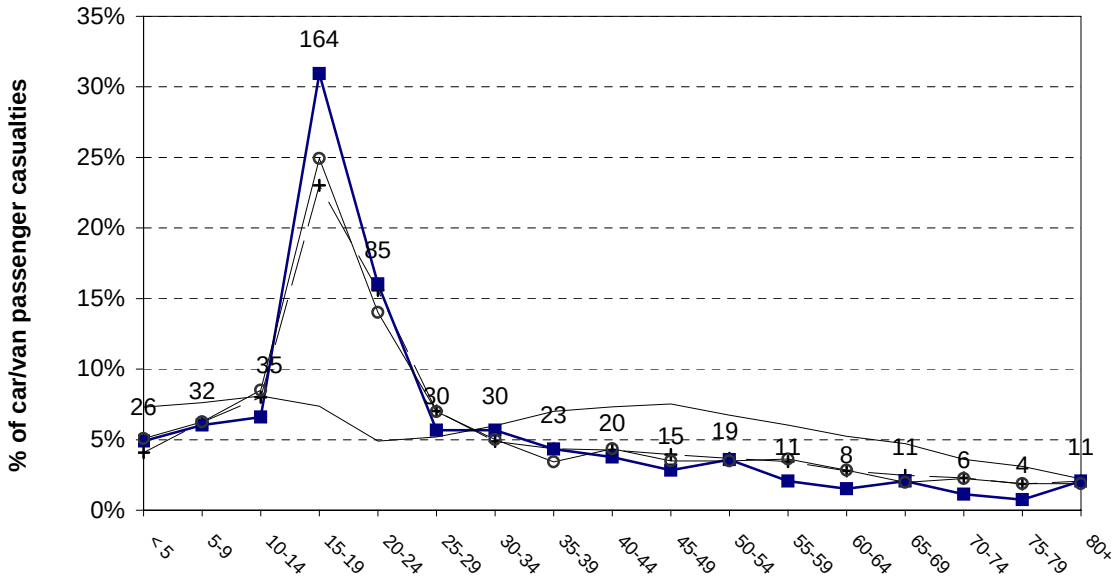
Note: Dotted line represents the ten year trend line

Figure 3.19 Car/van driver casualty age
Bay of Plenty Region state highways (2005-2009)



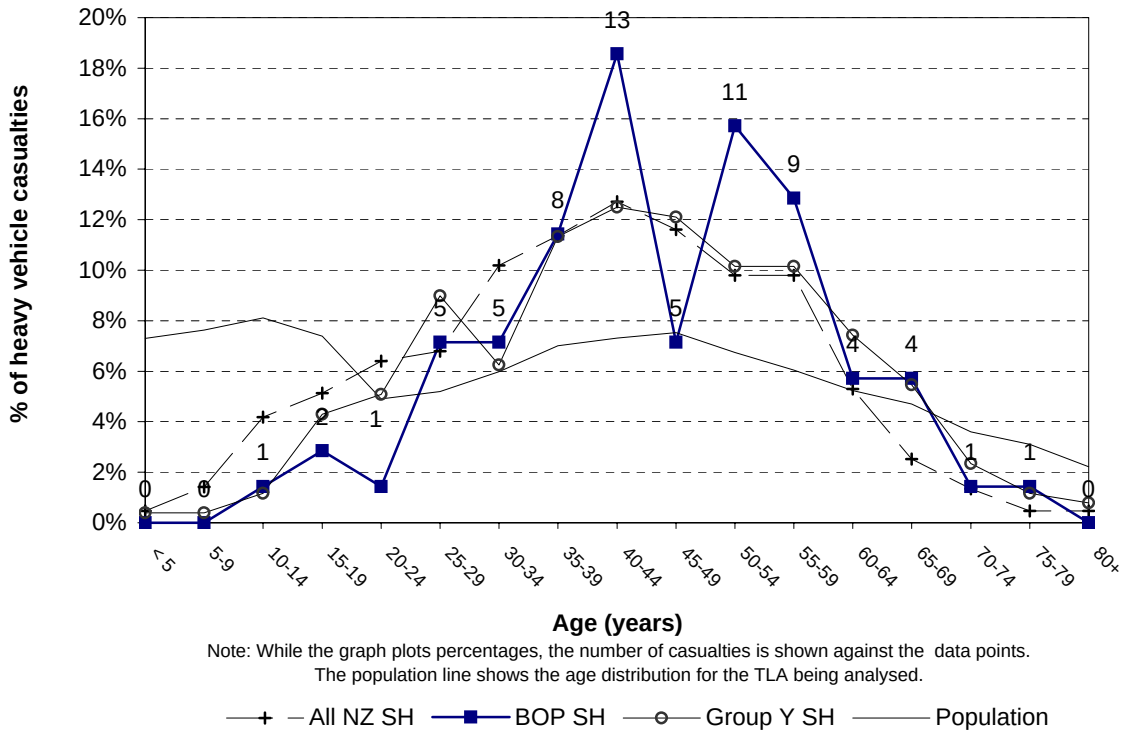
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line show the age distribution for the TLA being analysed.

Figure 3.20 Car/van passenger casualty age
Bay of Plenty Region state highways (2005-2009)



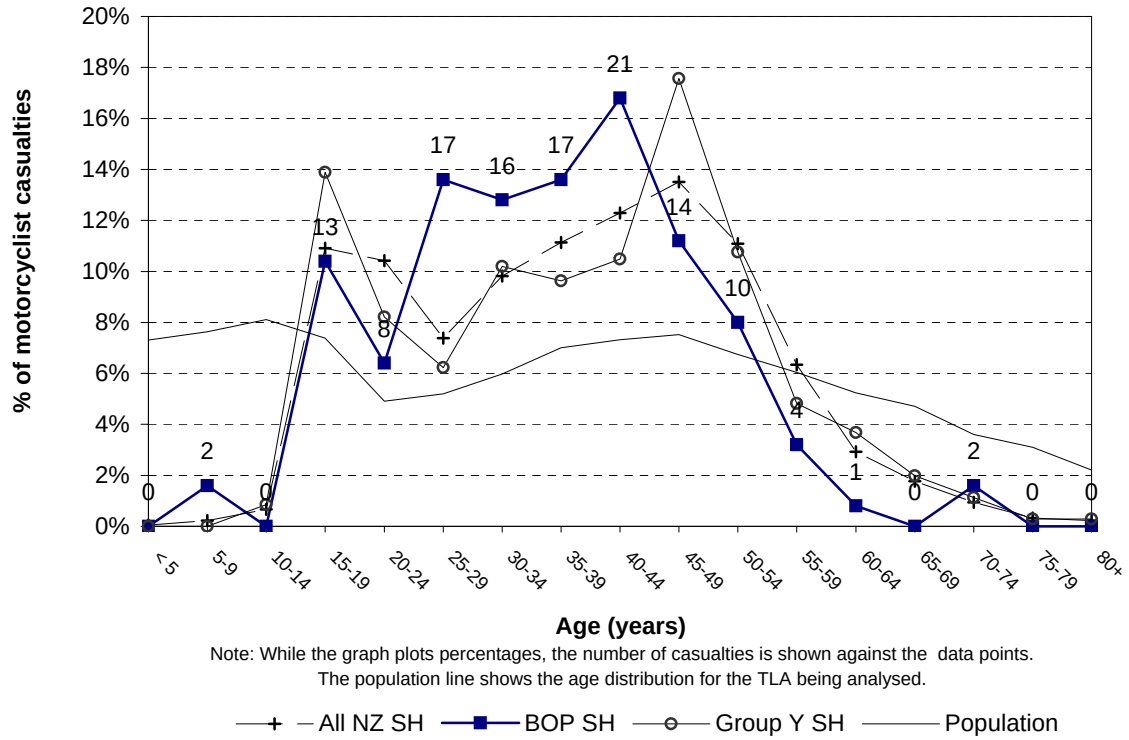
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.21 Heavy vehicle casualty age
Bay of Plenty Region state highways (2005-2009)



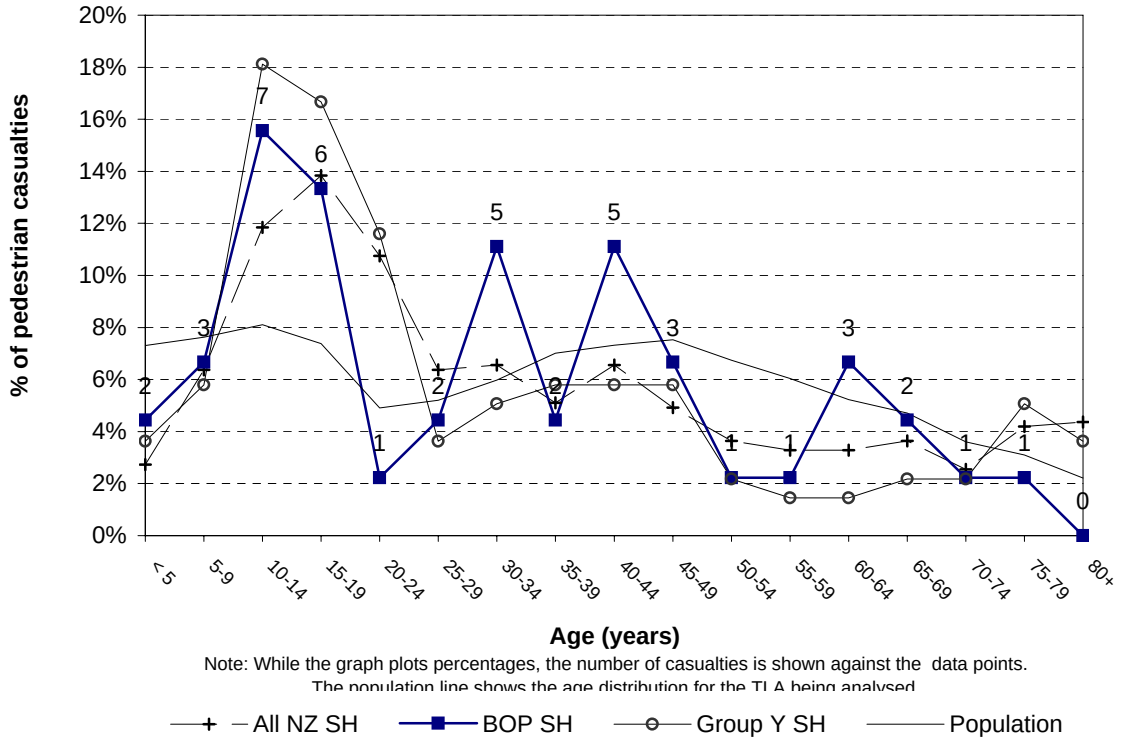
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.22 Motorcyclist casualty age
Bay of Plenty Region state highways (2005-2009)



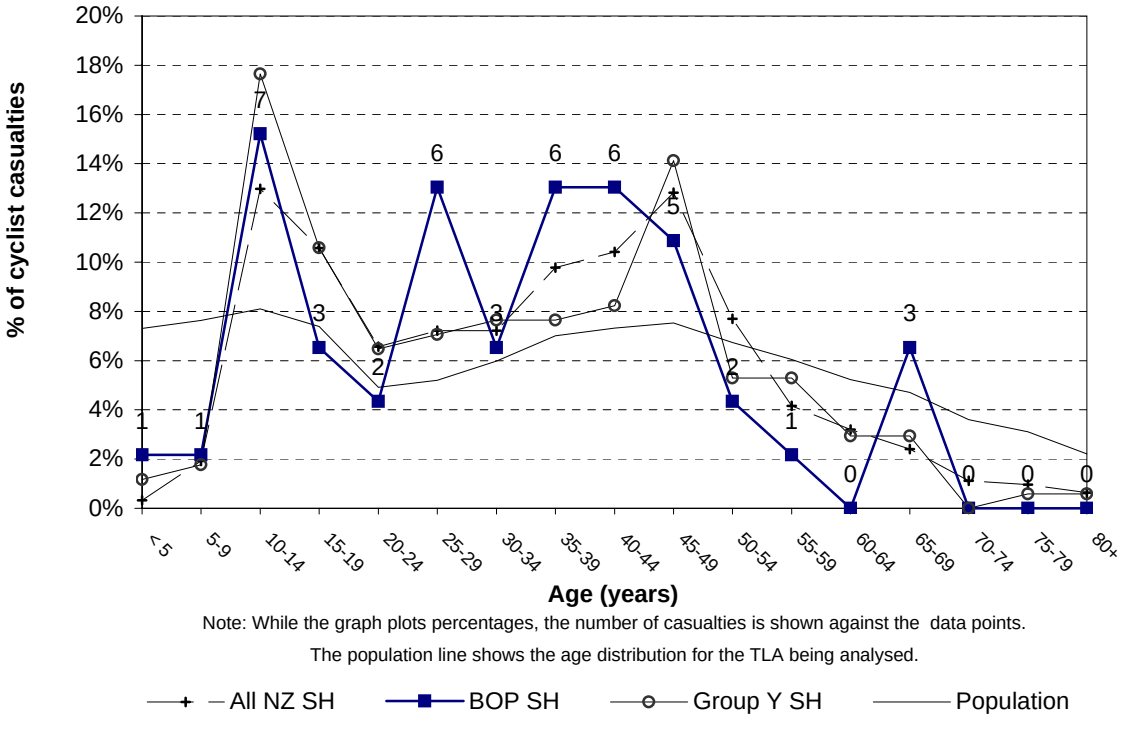
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.23 Pedestrian casualty age
Bay of Plenty Region state highways (2005-2009)



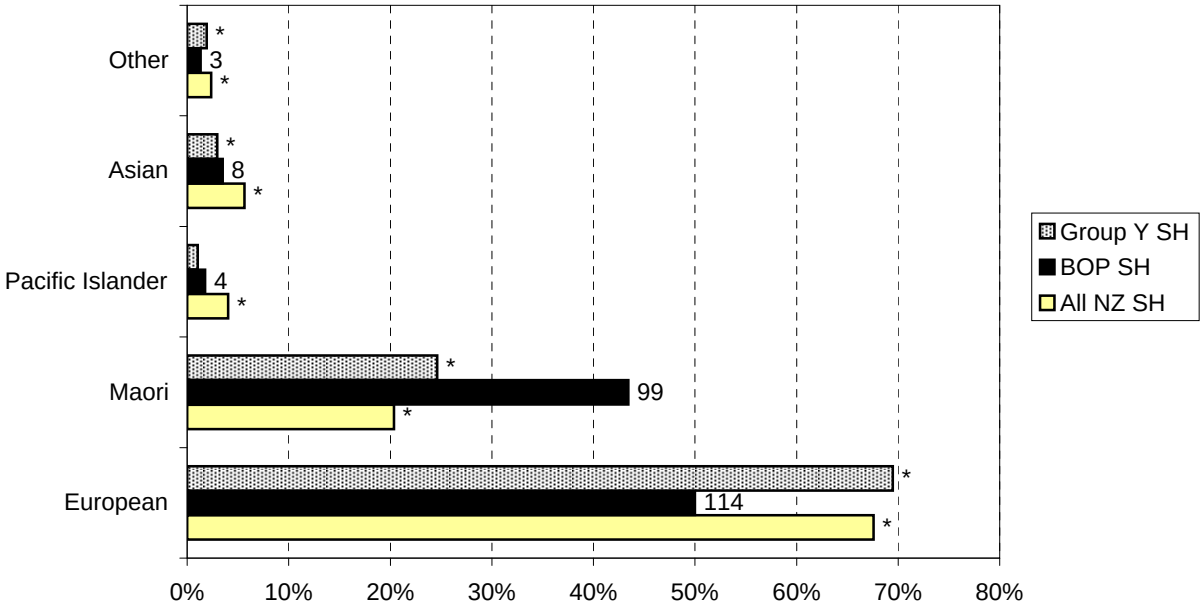
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed

Figure 3.24 Cyclist casualty age
Bay of Plenty Region state highways (2005-2009)



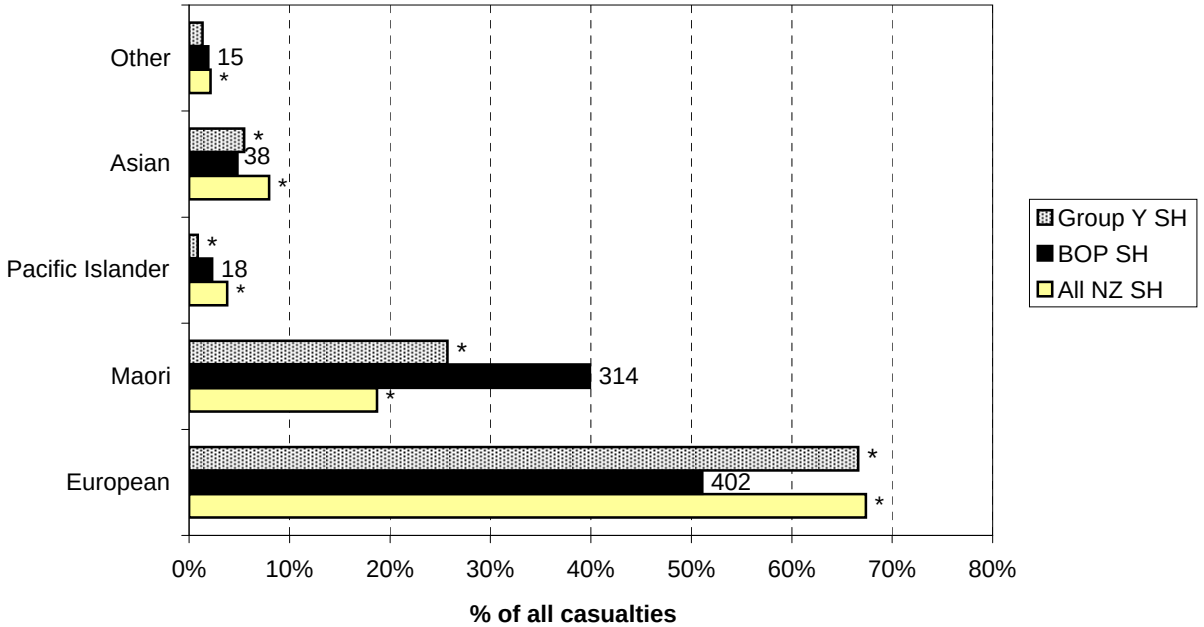
Note: While the graph plots percentages, the number of casualties is shown against the data points.
The population line shows the age distribution for the TLA being analysed.

Figure 3.25 Casualty ethnicity - urban
Bay of Plenty Region state highways (2005-2009)



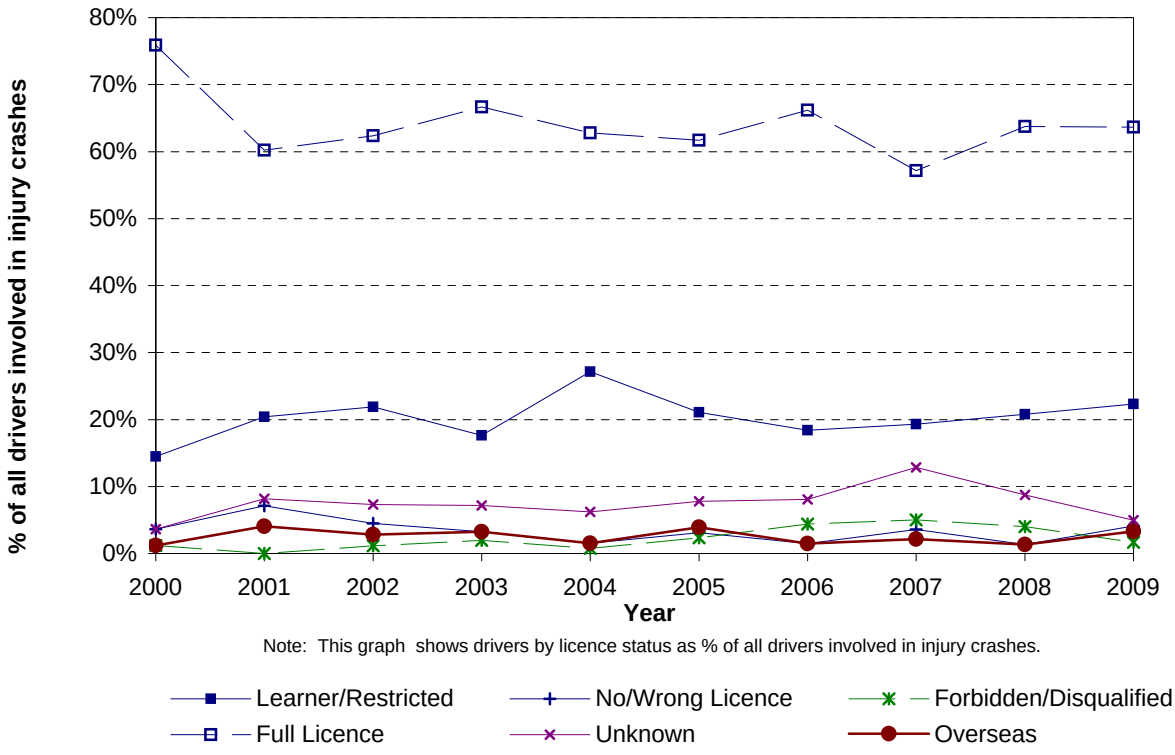
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.26 Casualty ethnicity - rural
Bay of Plenty Region state highways (2005-2009)



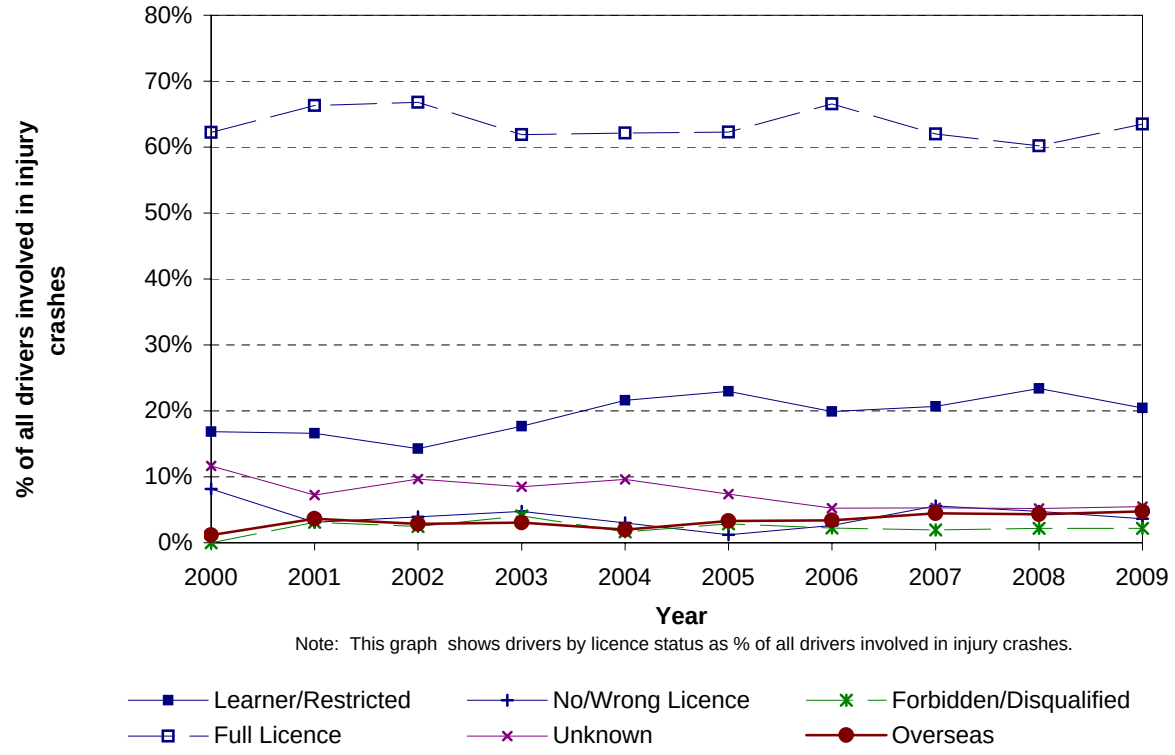
Note: While the graph plots percentages, the number of crashes is shown against the data points.
*Denotes statistically significant difference between Local Authority and National or Peer Group Proportions

Figure 3.27 Licence status - urban
Bay of Plenty Region state highways



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

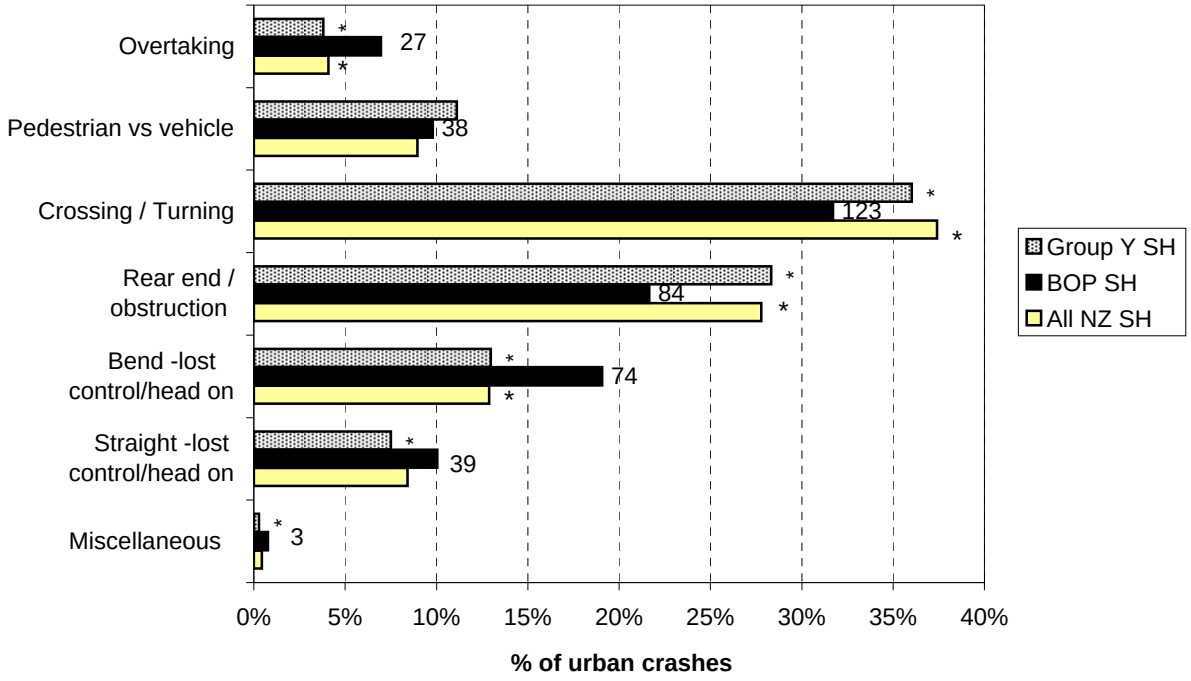
Figure 3.28 Licence status - rural
Bay of Plenty Region state highways



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

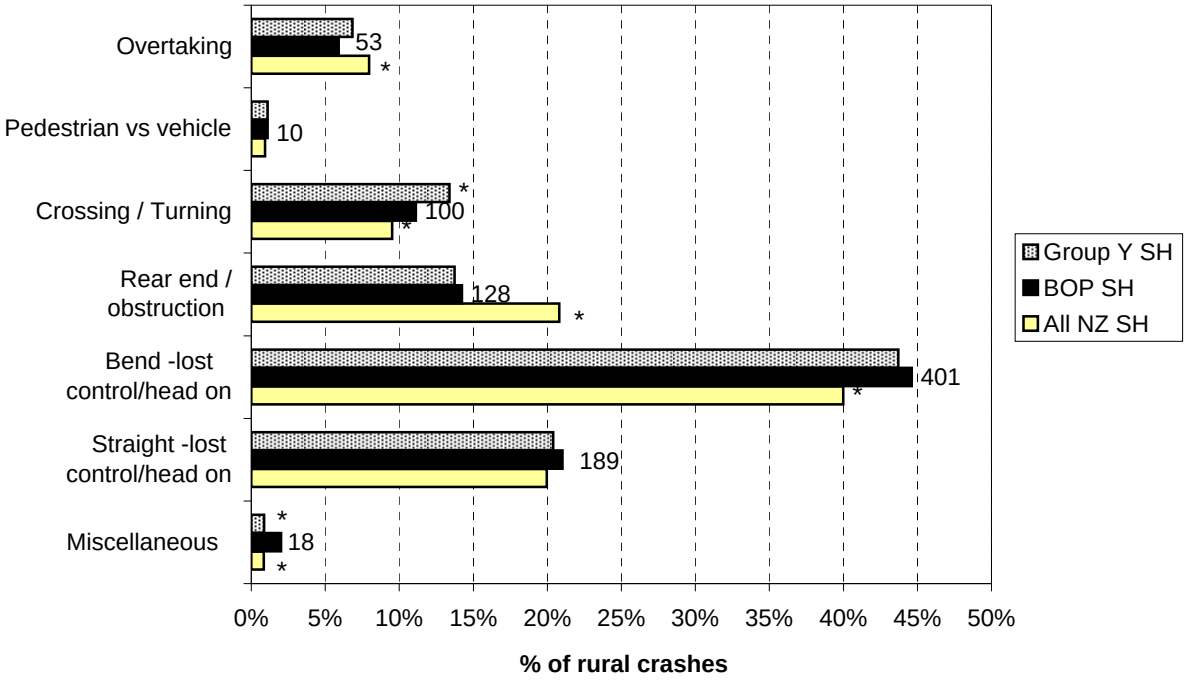
Crash Type Statistics

Figure 4.1 Crash movement type - urban
Bay of Plenty Region state highways (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
Bay of Plenty Region state highways (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
Bay of Plenty Region - urban state highways

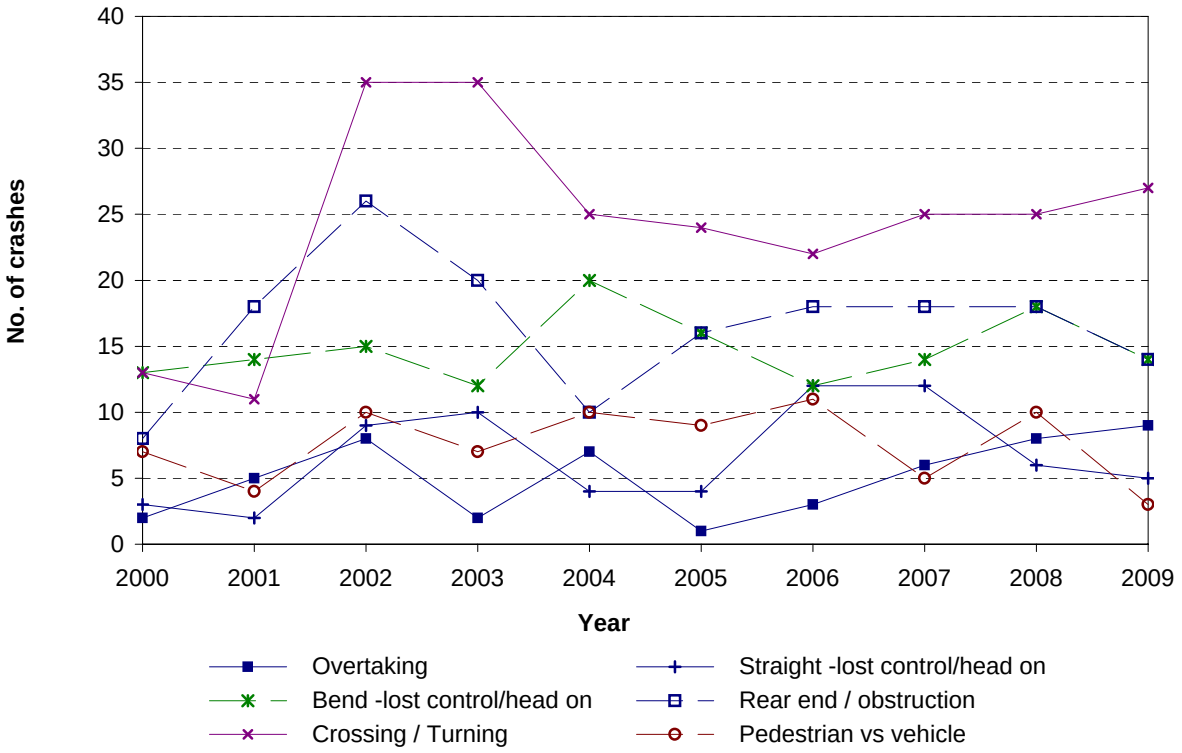


Figure 4.4 Crash movement type - trends
Bay of Plenty Region - rural state highways

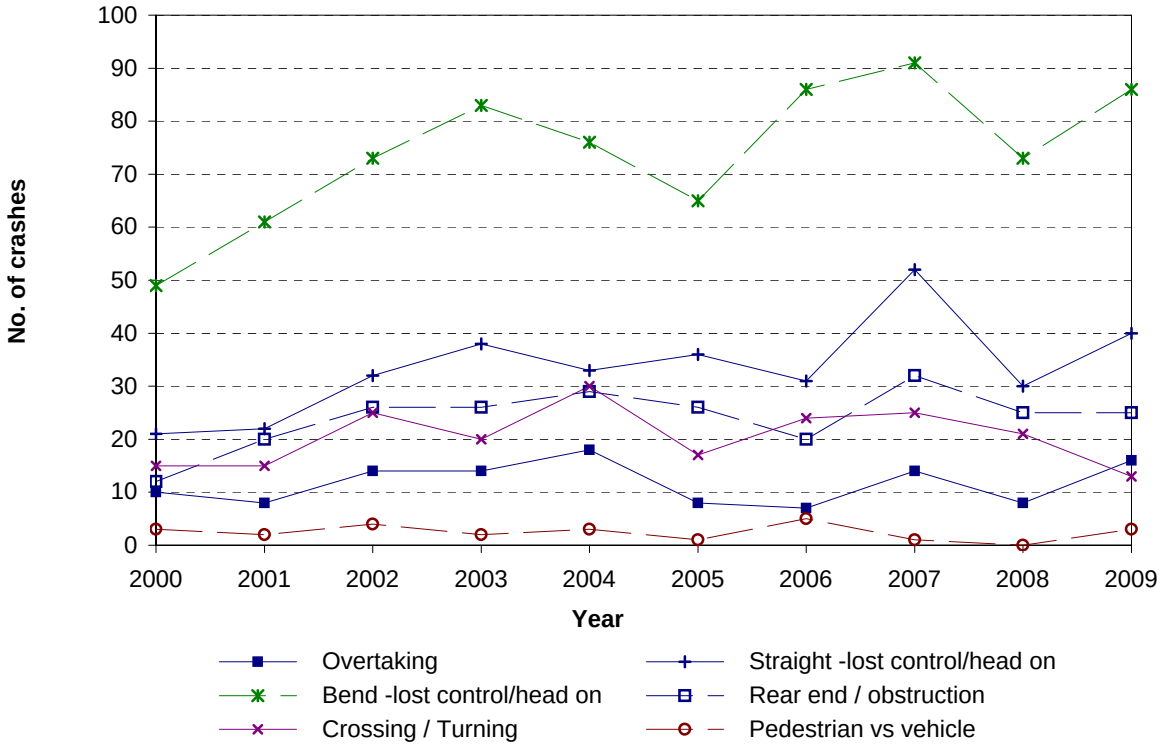
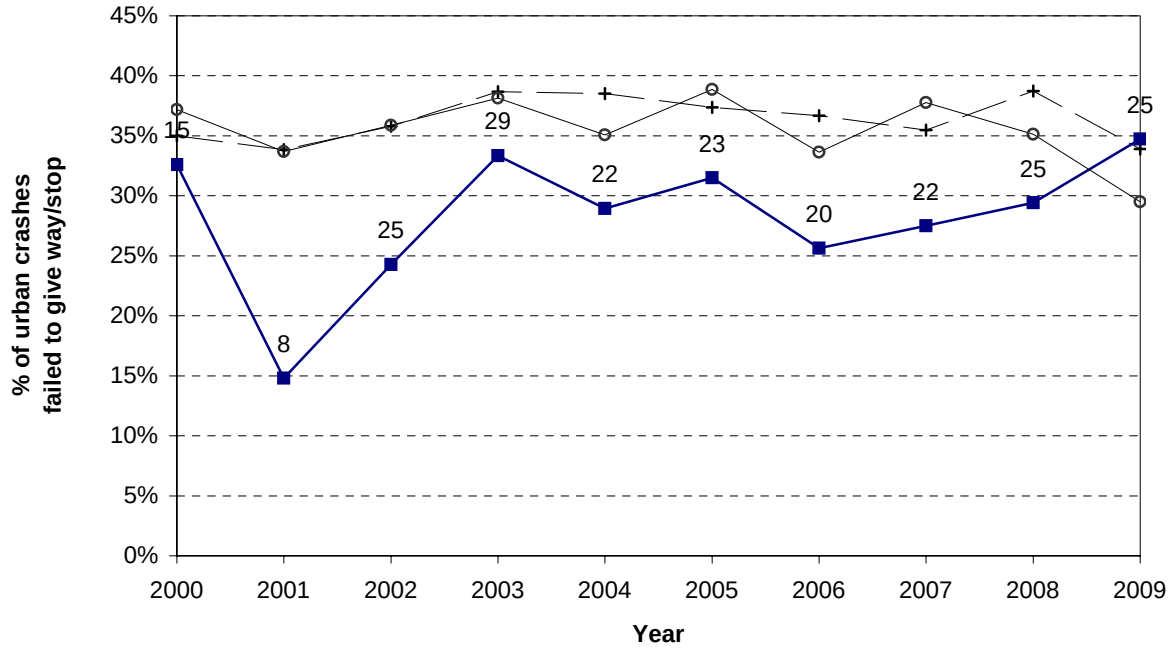
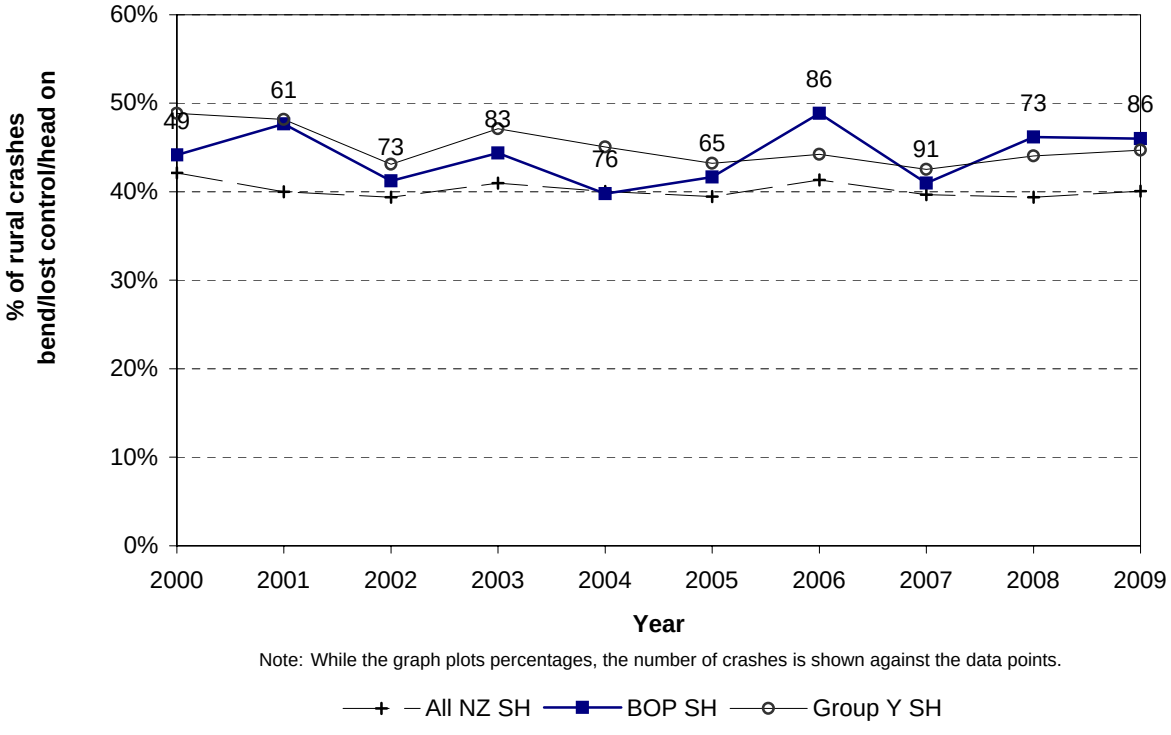


Figure 4.5 Failed to give way / stop
Bay of Plenty Region - urban state highways



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

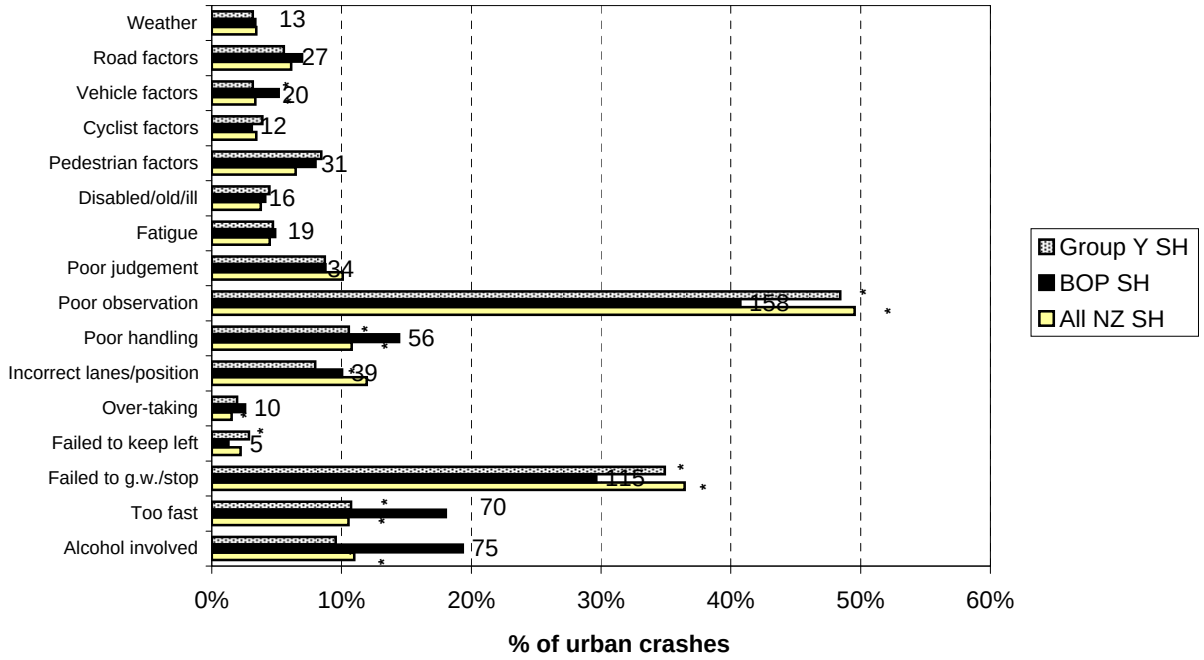
Figure 4.6 Bend - lost control / head - on
Bay of Plenty Region - rural state highways



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

Crash Factor Statistics

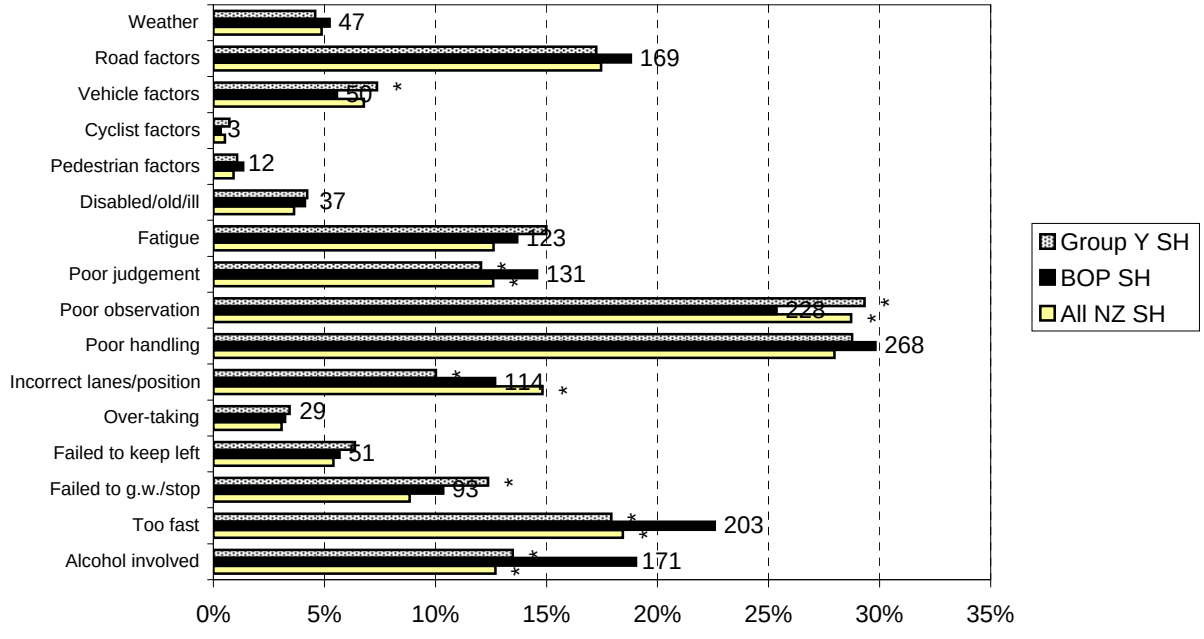
Figure 5.1 Contributing factors - urban
Bay of Plenty Region state highways (2005-2009)



% of urban crashes

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
Bay of Plenty Region state highways (2005-2009)



% of rural crashes

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
Bay of Plenty Region - urban state highways

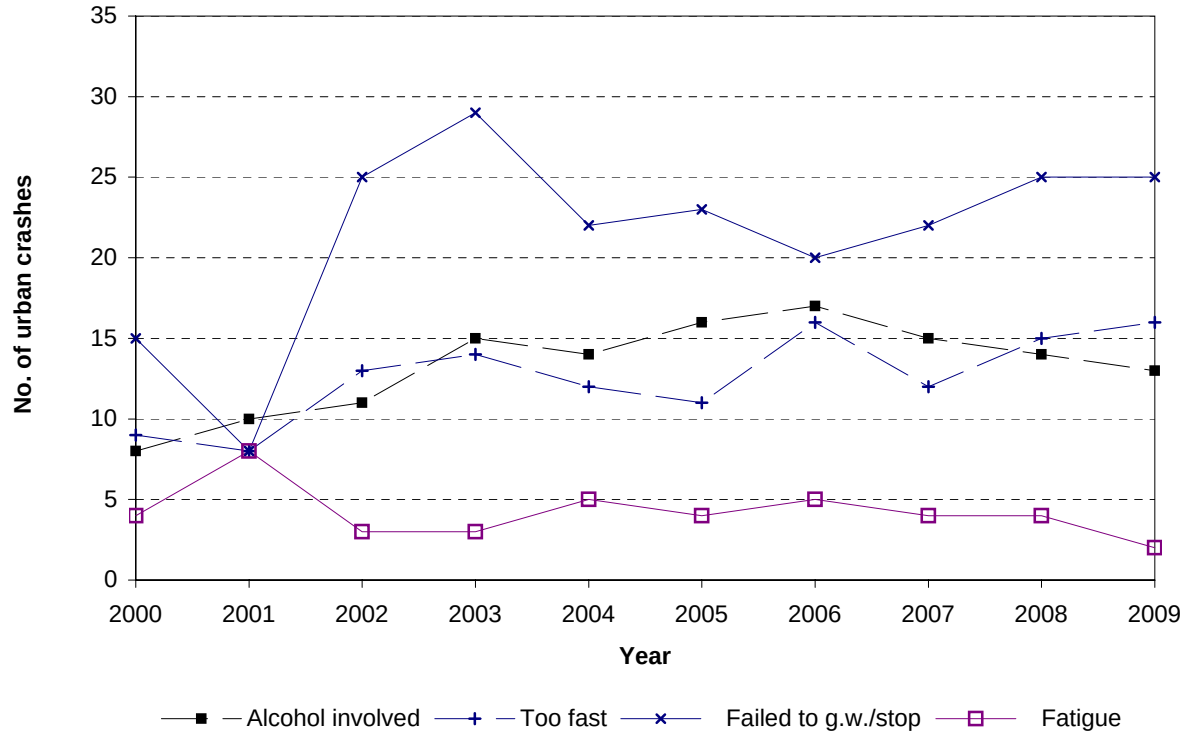


Figure 5.4 Contributing factor trends
Bay of Plenty Region - urban state highways

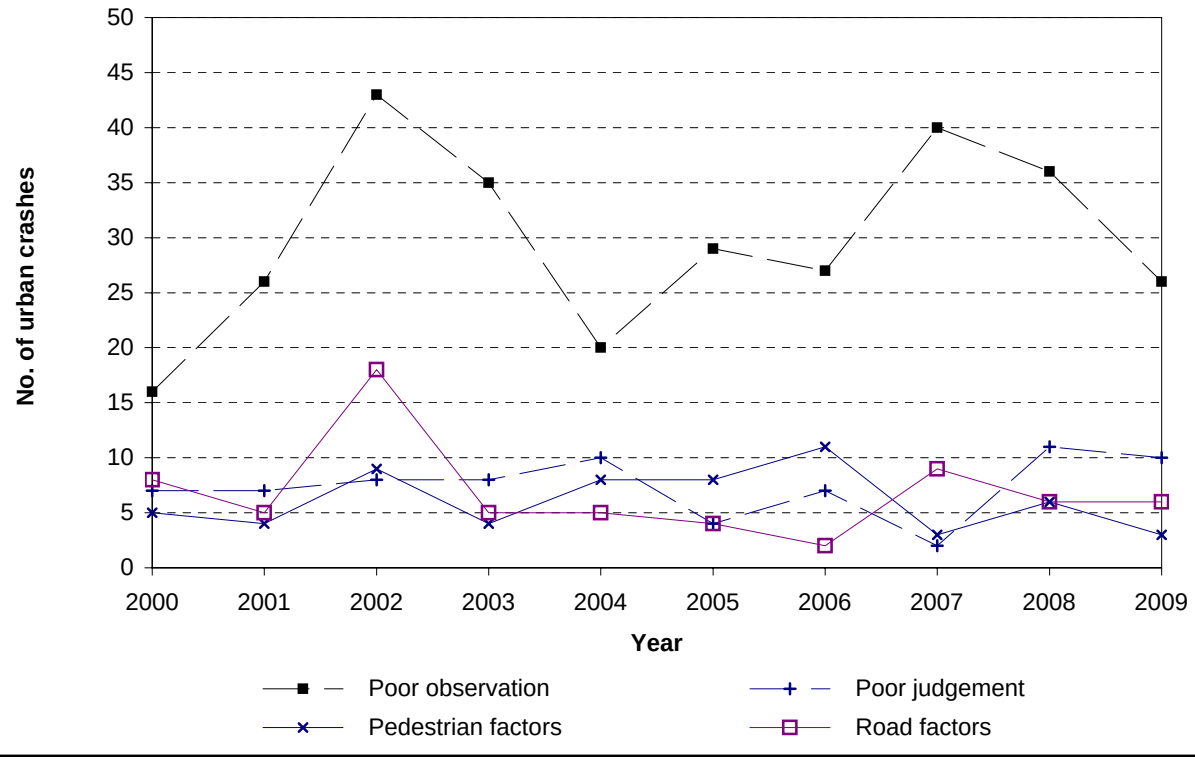


Figure 5.5 Contributing factor trends
Bay of Plenty Region - urban state highways

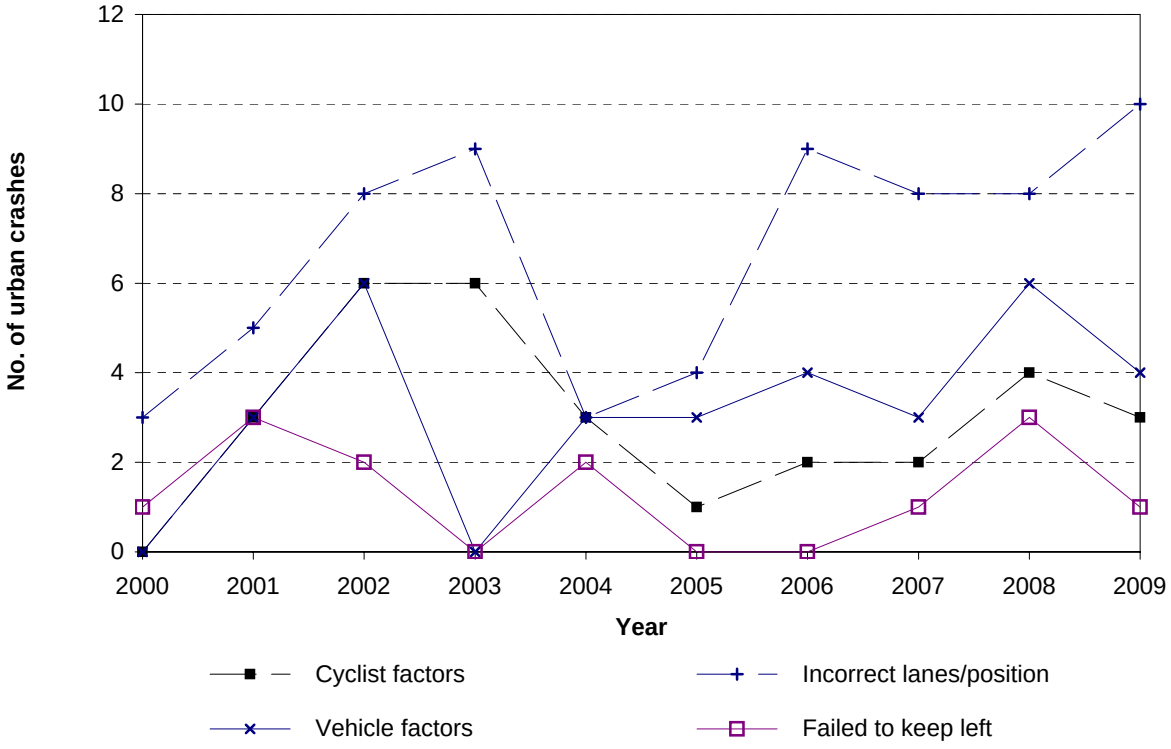


Figure 5.6 Contributing factor trends
Bay of Plenty Region - urban state highways

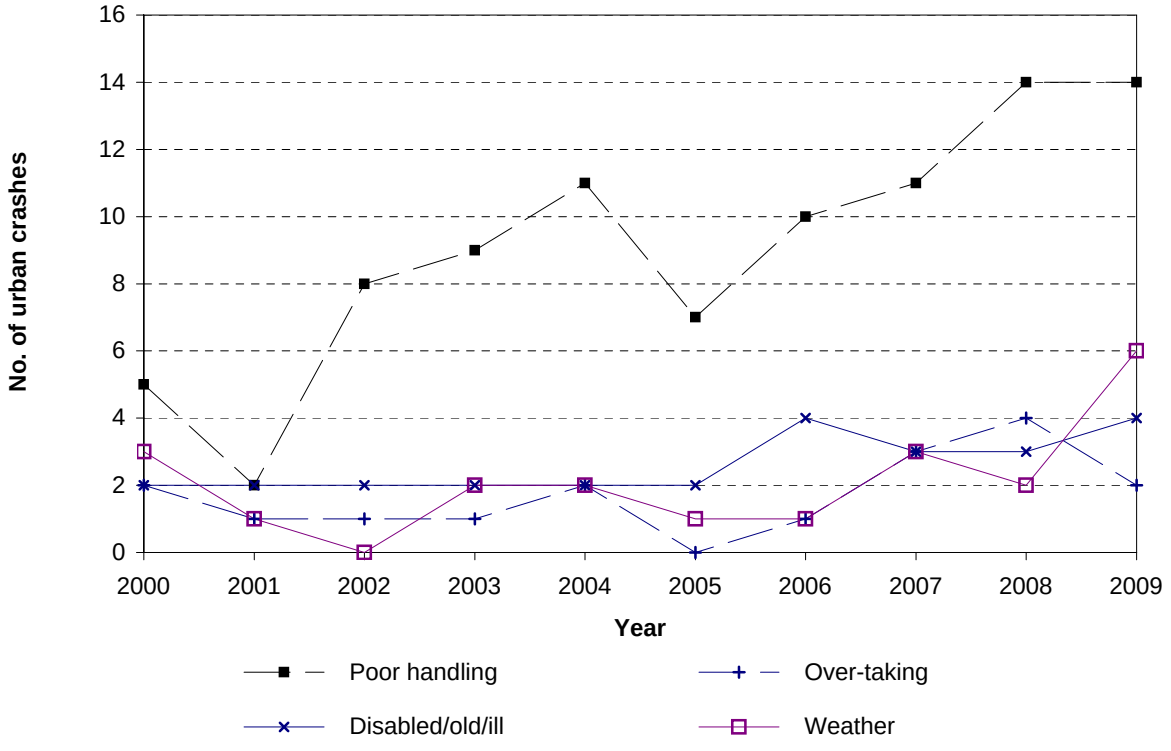
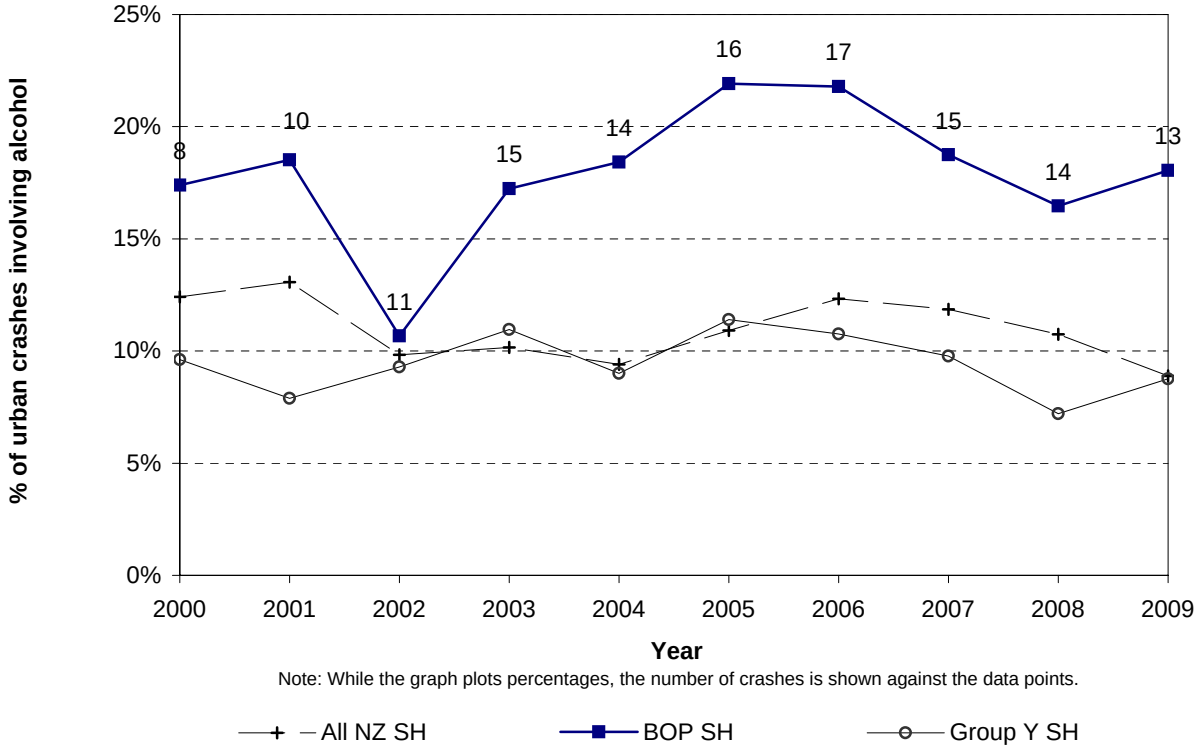
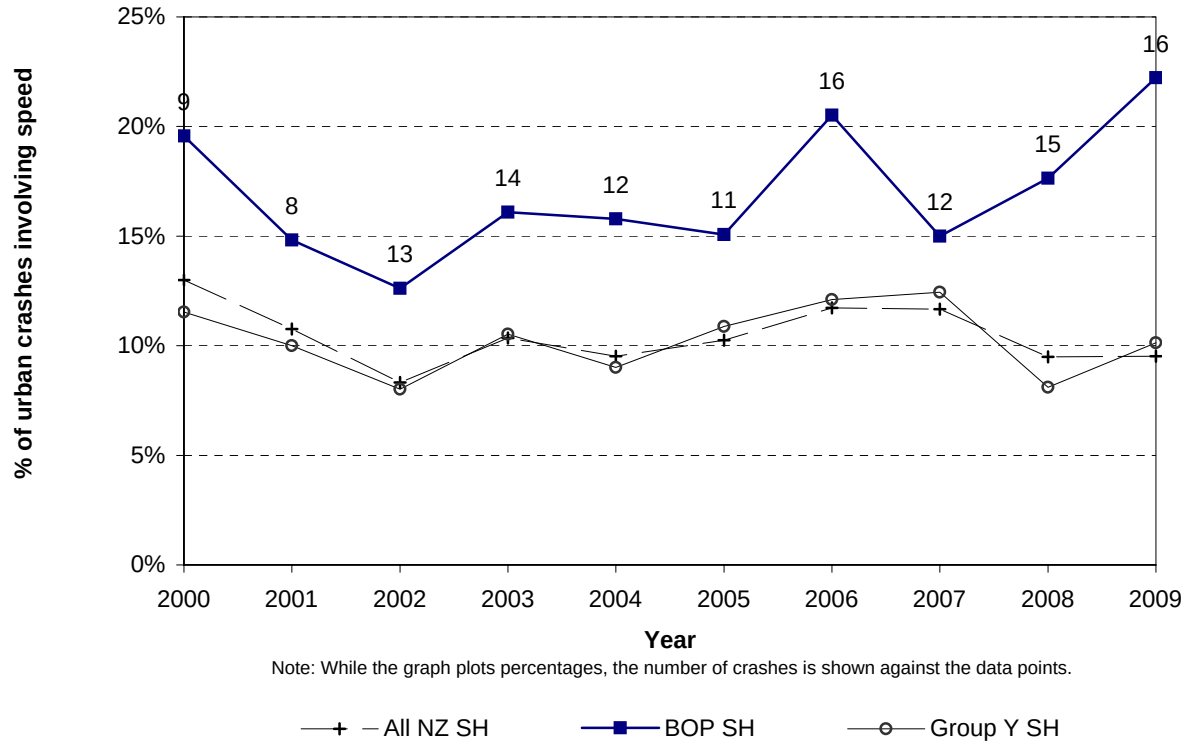


Figure 5.7 Alcohol involved trend
Bay of Plenty Region - urban state highways



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

Figure 5.8 Speed involved trend
Bay of Plenty Region - urban state highways



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

Figure 5.9 Contributing factor trends
Bay of Plenty Region - rural state highways

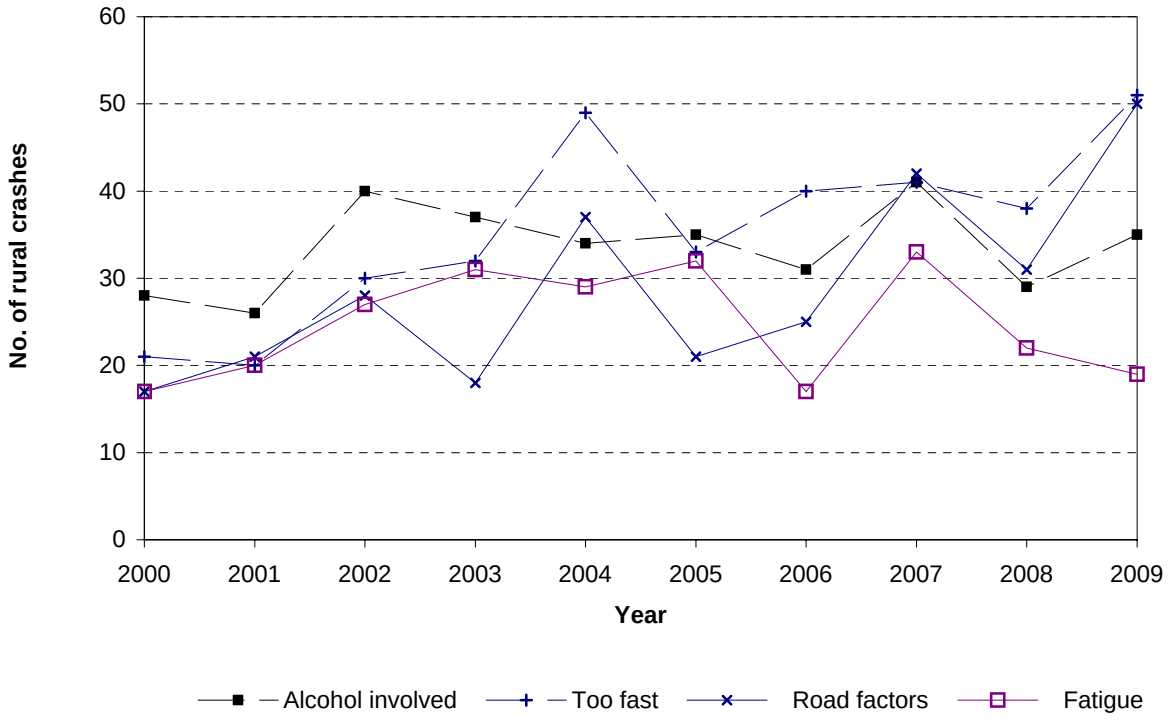


Figure 5.10 Contributing factor trends
Bay of Plenty Region - rural state highways

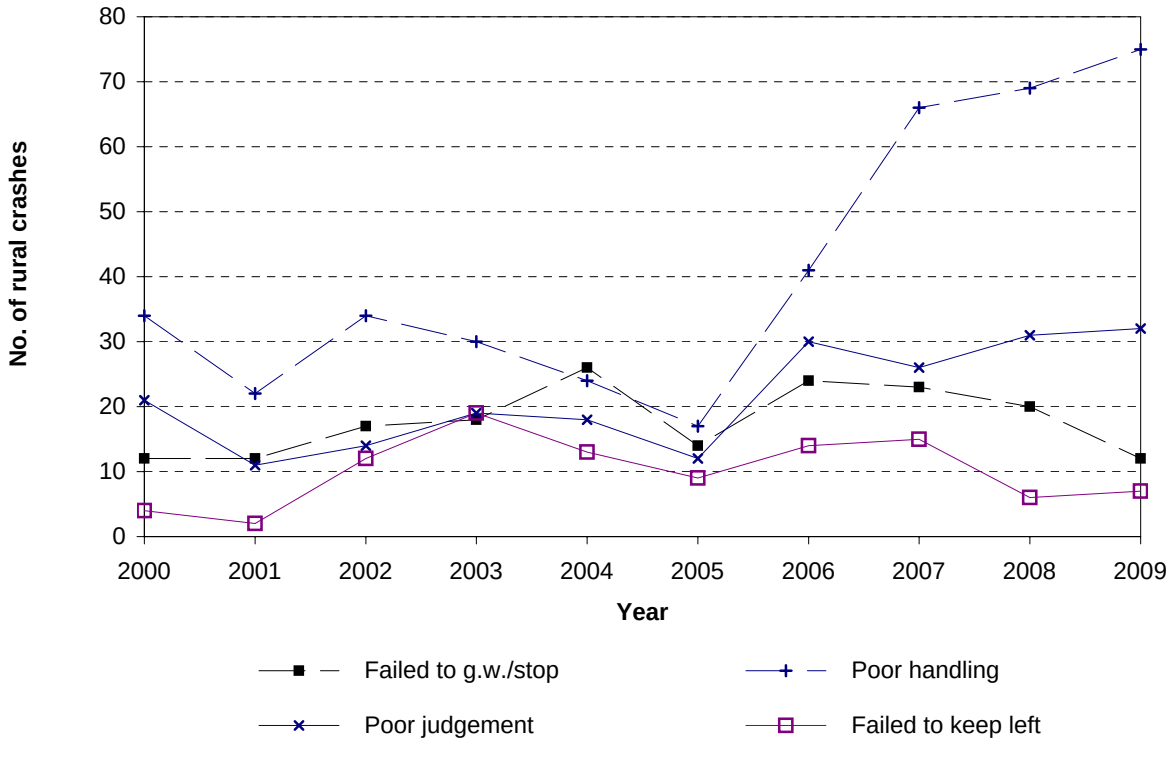


Figure 5.11 Contributing factor trends
Bay of Plenty Region - rural state highways

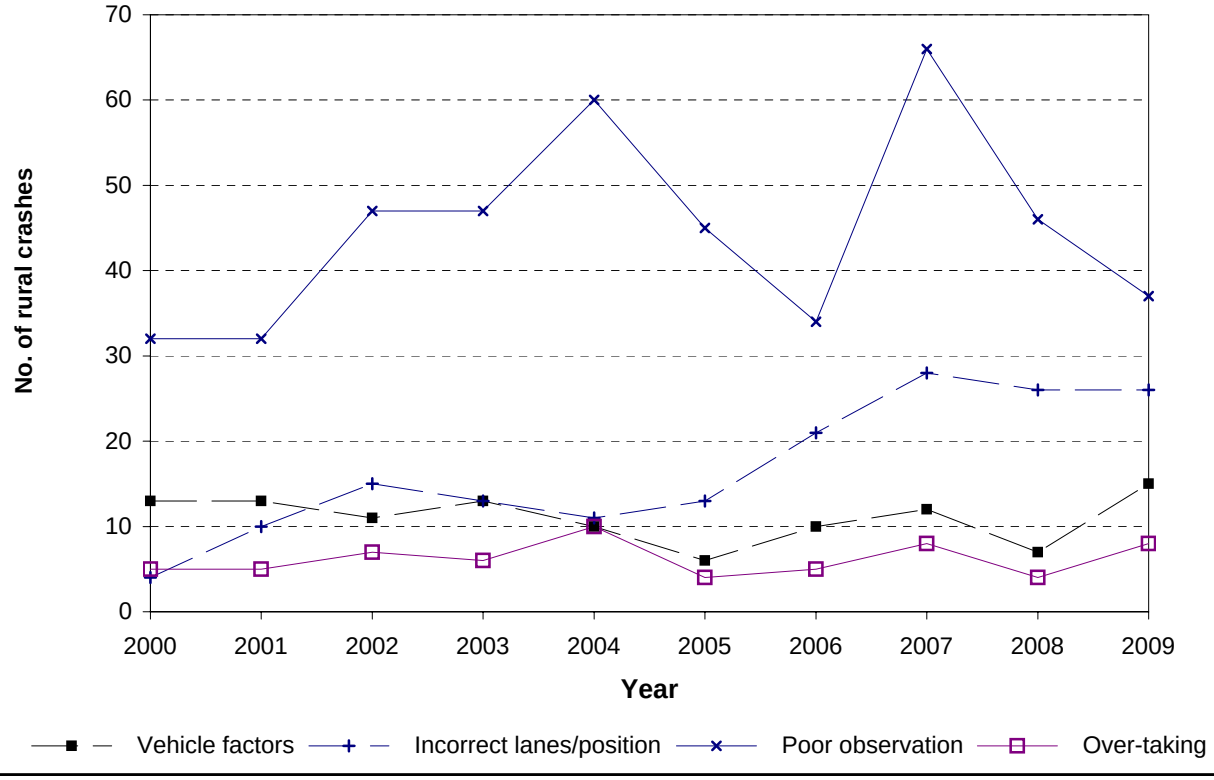


Figure 5.12 Contributing factor trends
Bay of Plenty Region - rural state highways

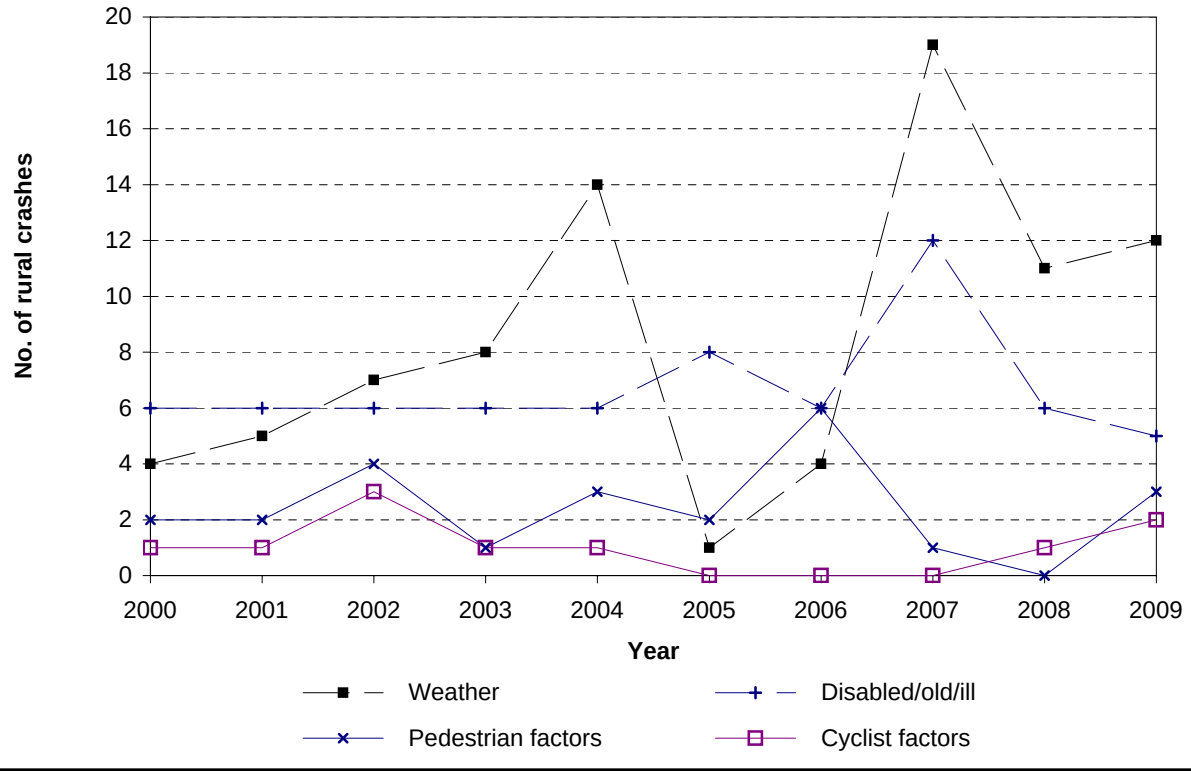
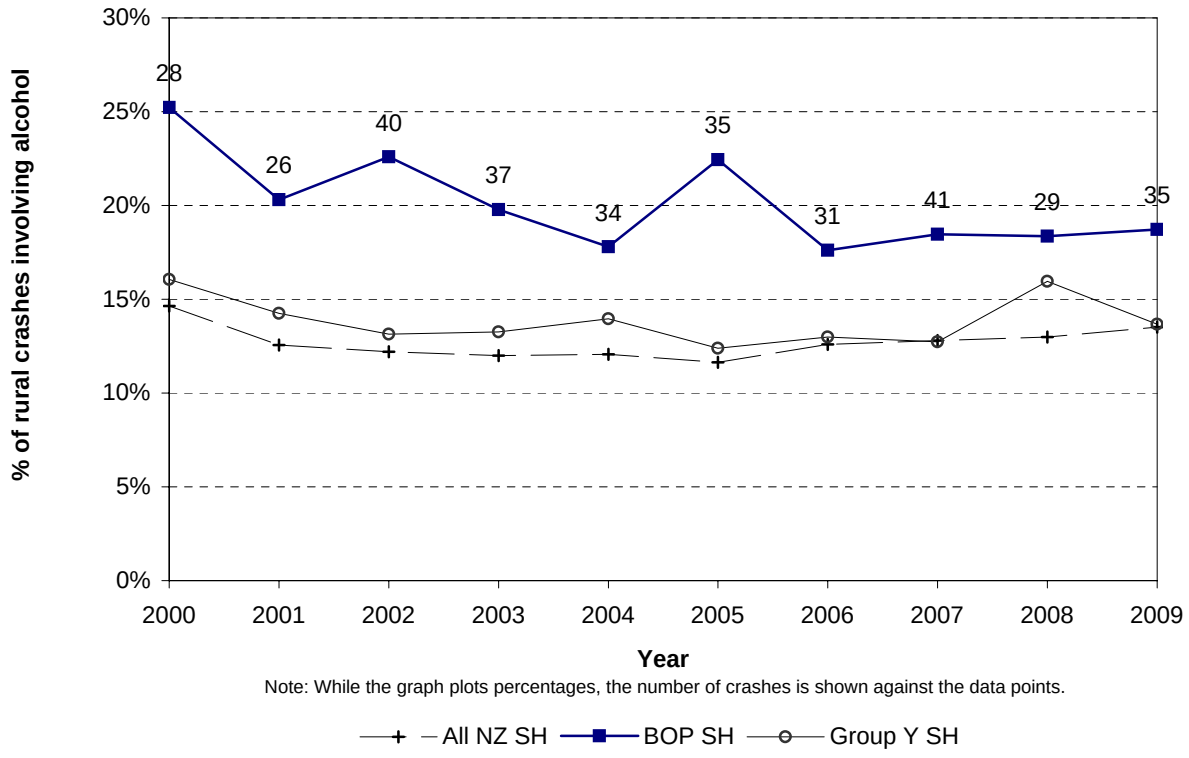
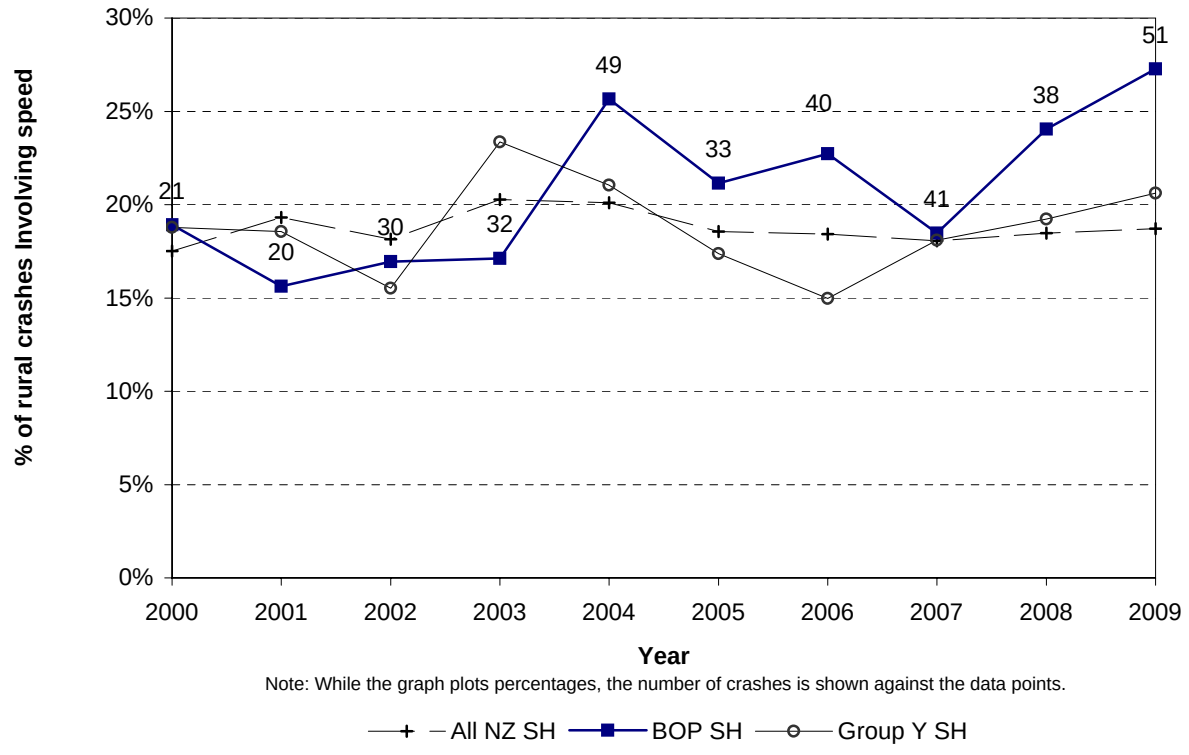


Figure 5.13 Alcohol involved trend
Bay of Plenty Region - rural state highways



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

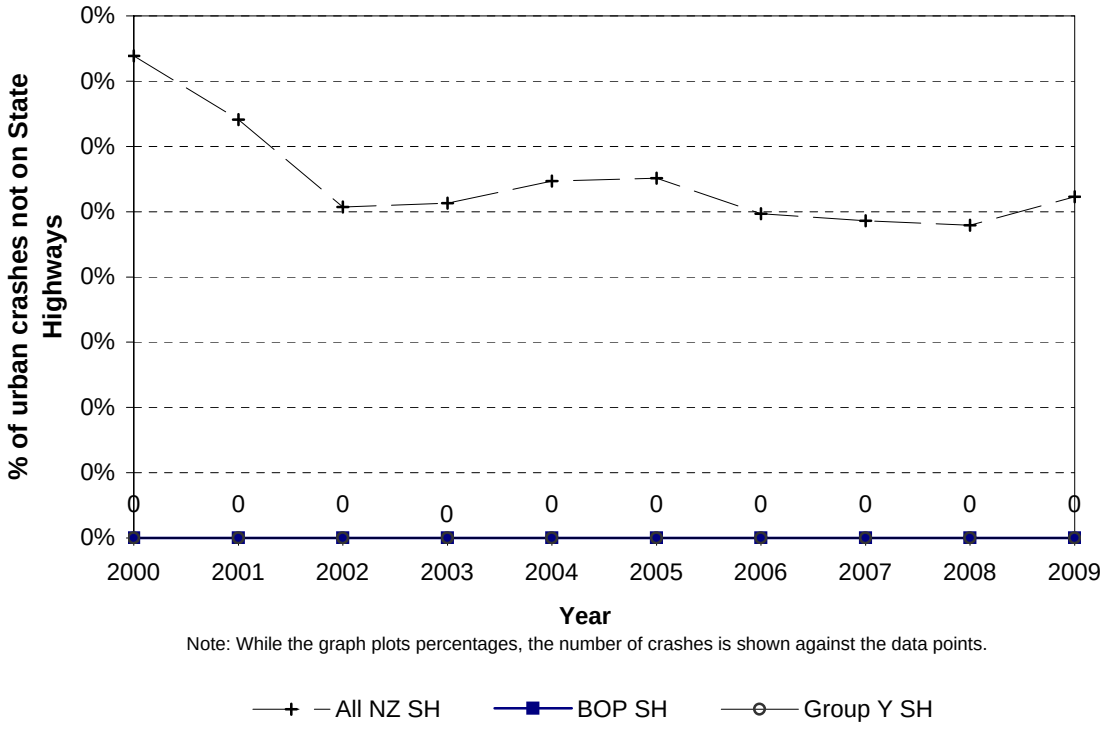
Figure 5.14 Speed involved trend
Bay of Plenty Region - rural state highways



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

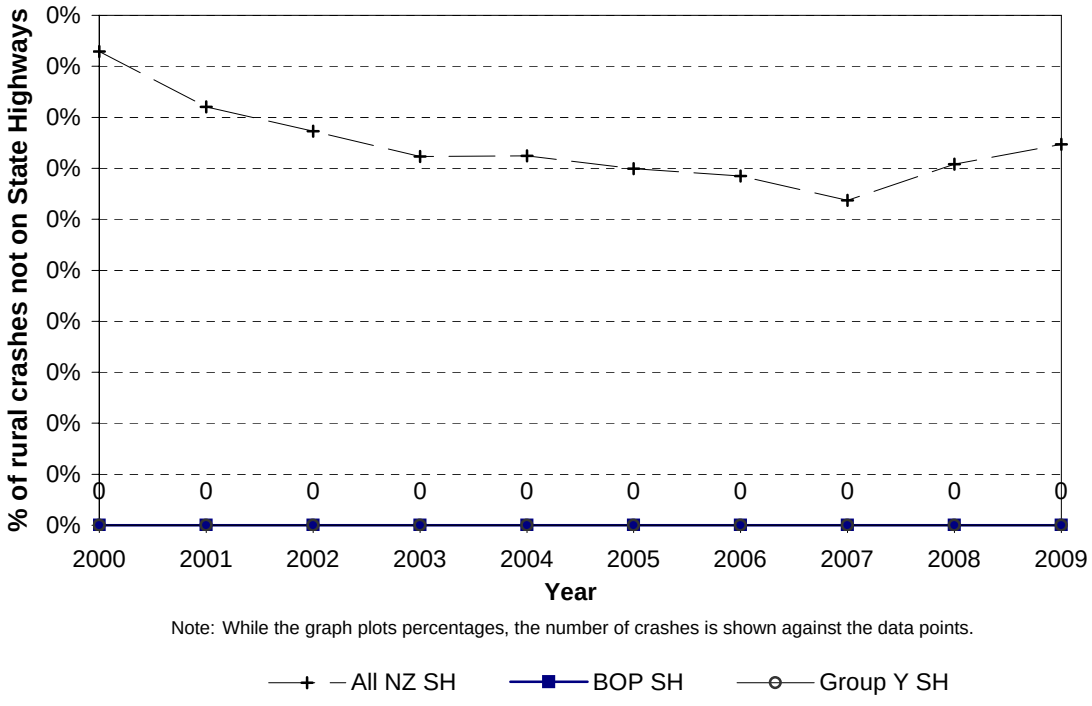
Environmental Statistics

Figure 6.1 Crashes not on state highways
Bay of Plenty Region - urban state highways



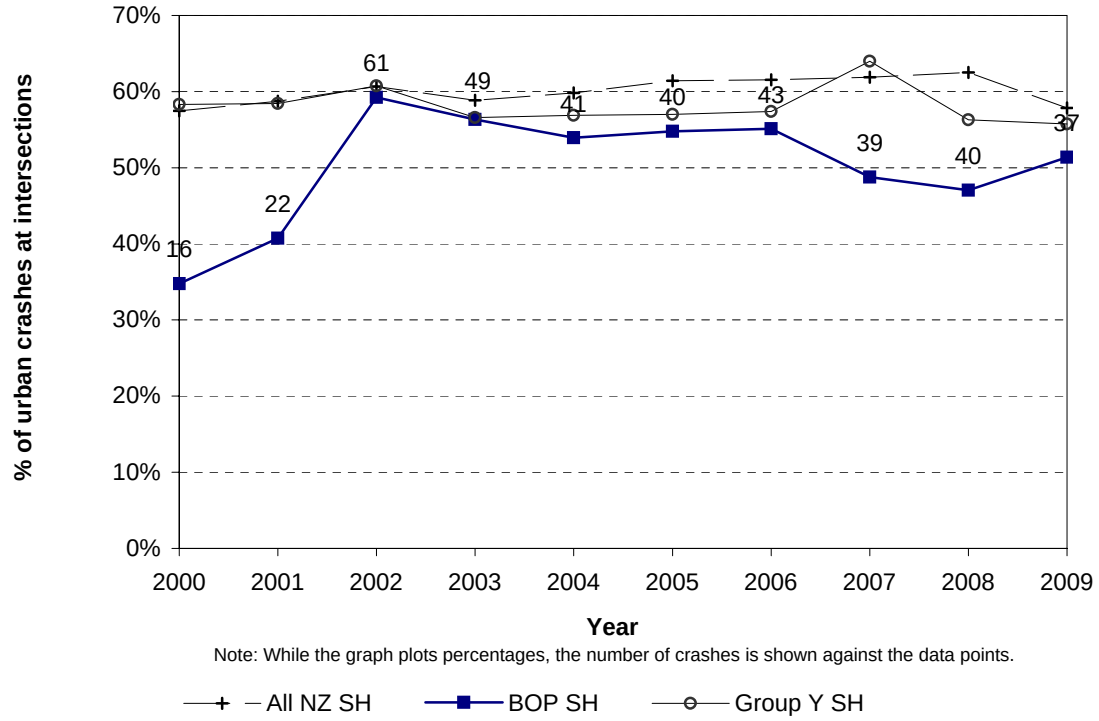
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.2 Crashes not on state highways
Bay of Plenty Region - rural state highways



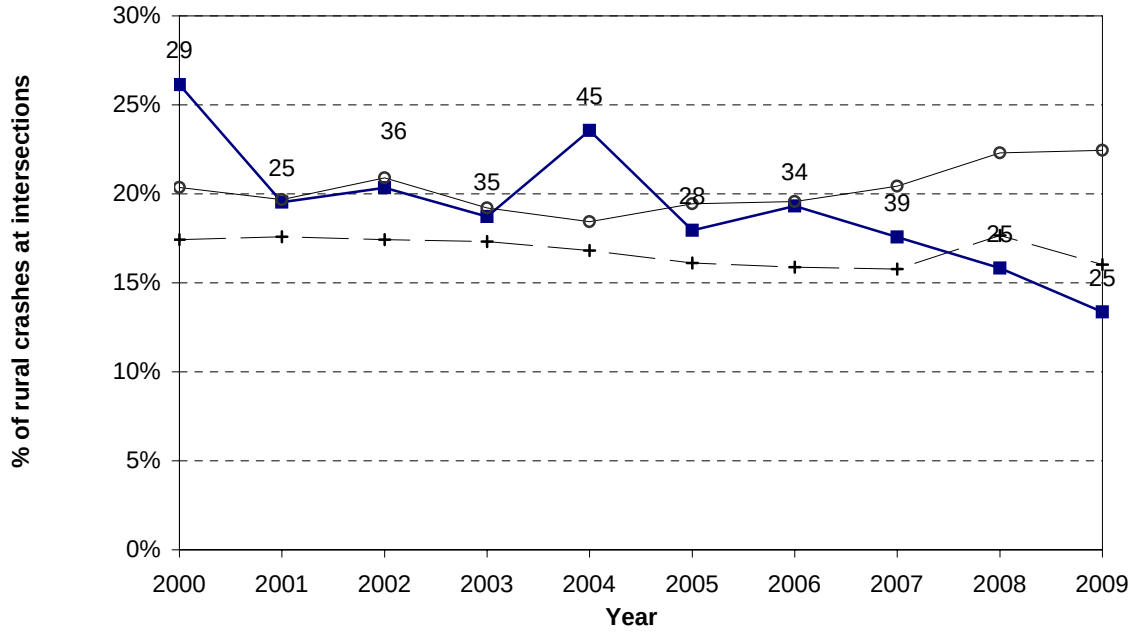
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.3 Intersection crashes
Bay of Plenty Region - urban state highways



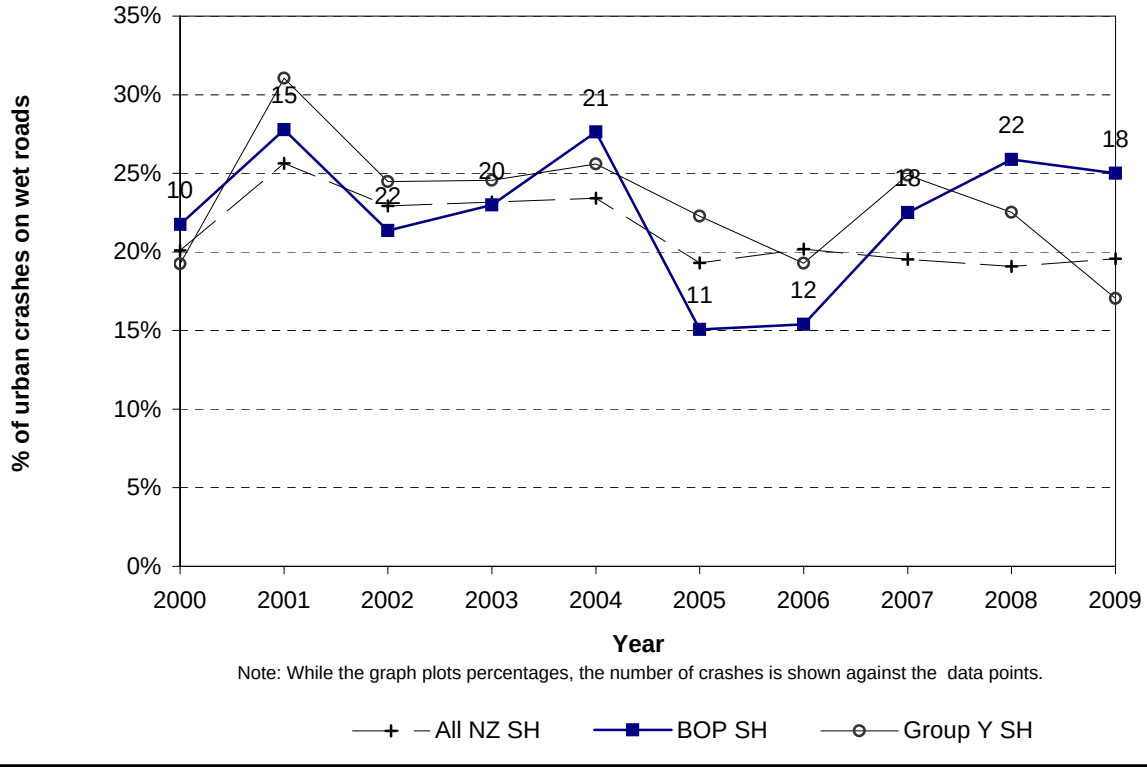
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.4 Intersection crashes
Bay of Plenty Region - rural state highways



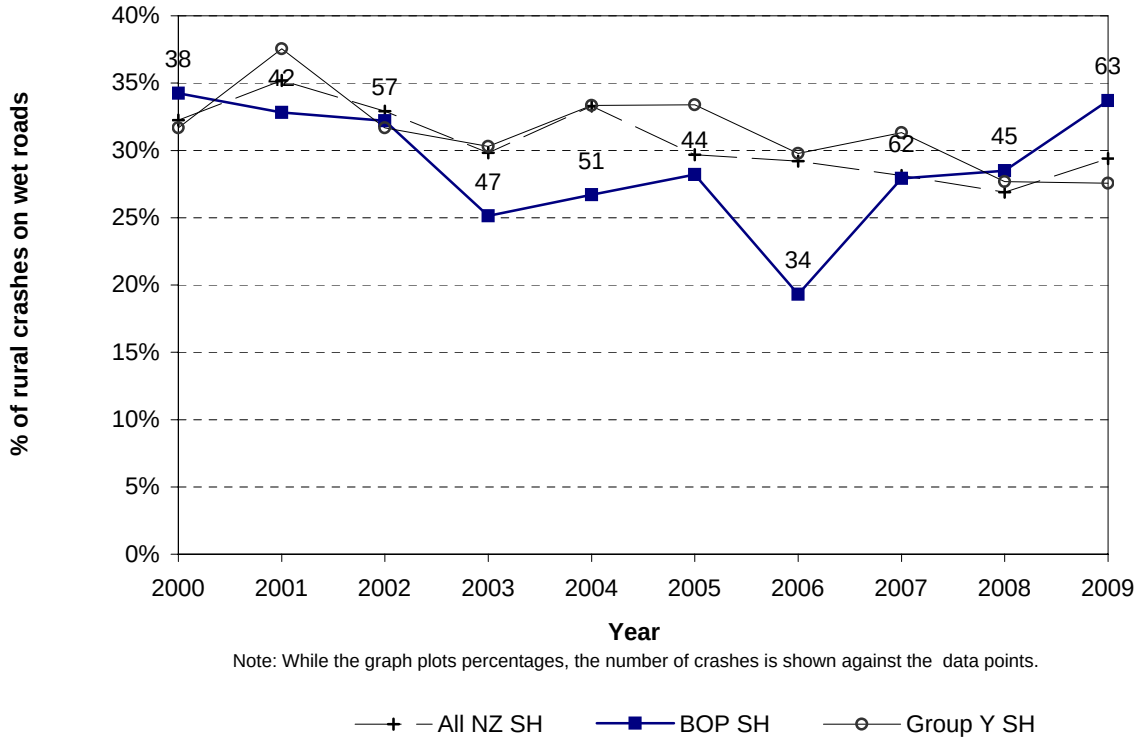
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.5 Wet road crashes
Bay of Plenty Region - urban state highways



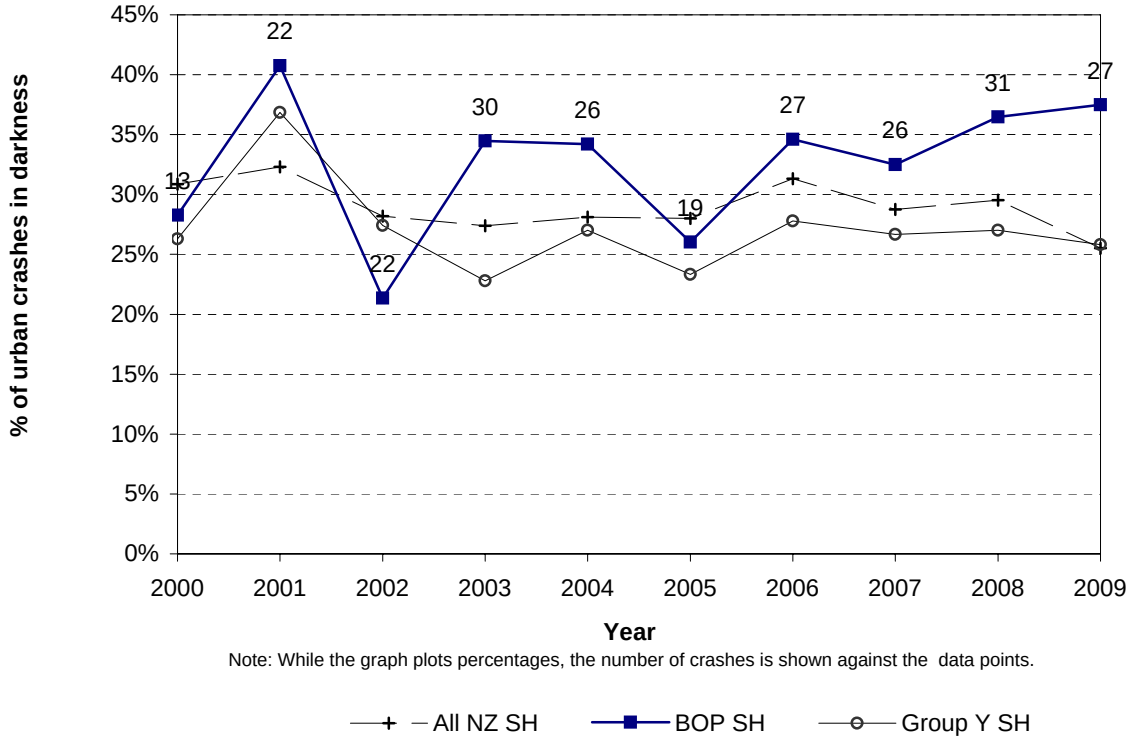
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.6 Wet road crashes
Bay of Plenty Region - rural state highways



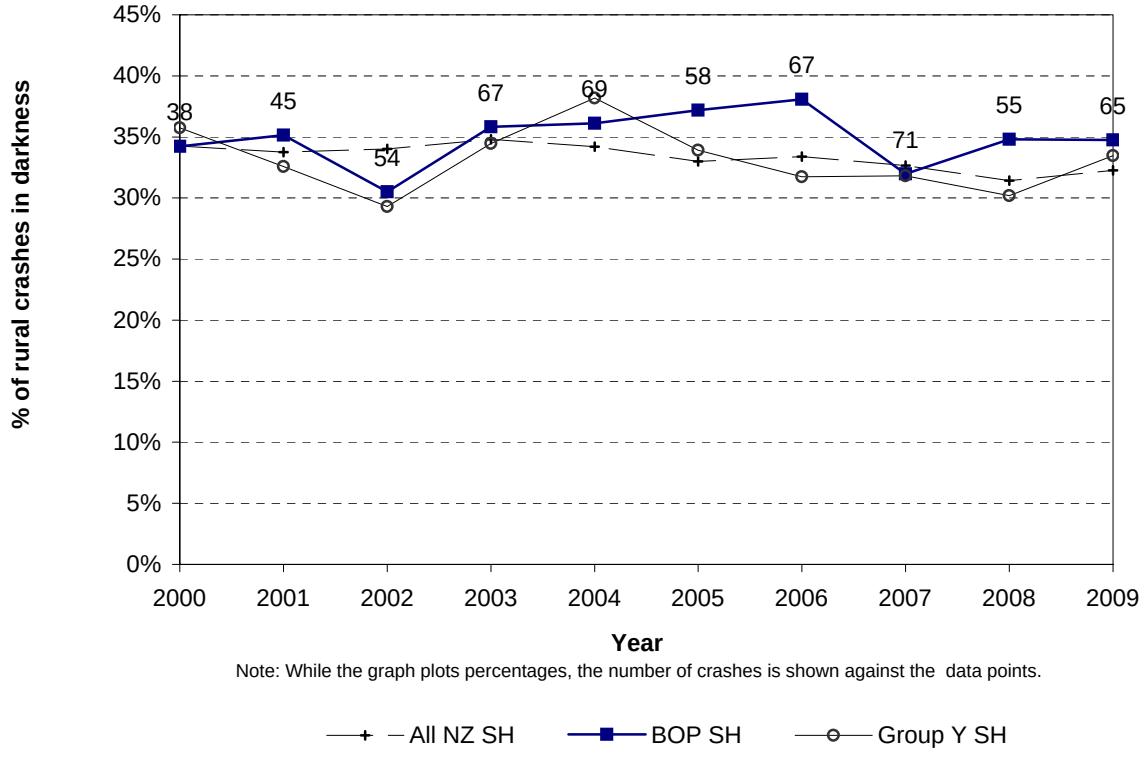
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.7 Crashes in darkness
Bay of Plenty Region - urban state highways



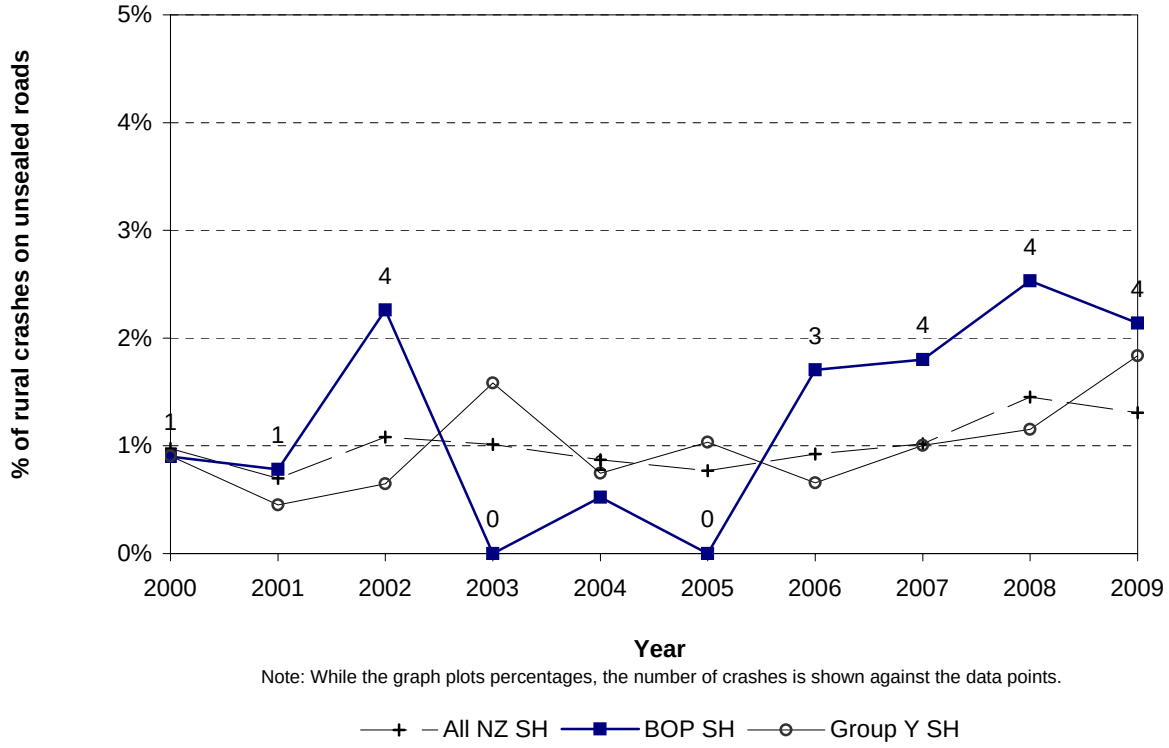
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.8 Crashes in darkness
Bay of Plenty Region - rural state highways



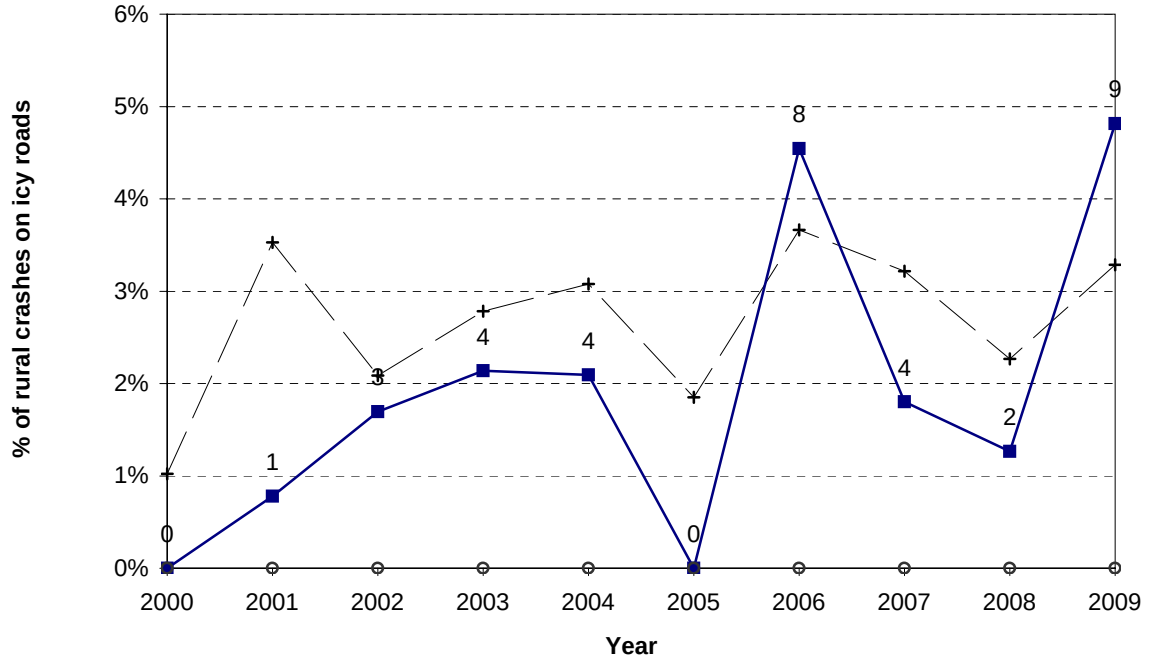
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.9 Unsealed road crashes
Bay of Plenty Region - rural state highways



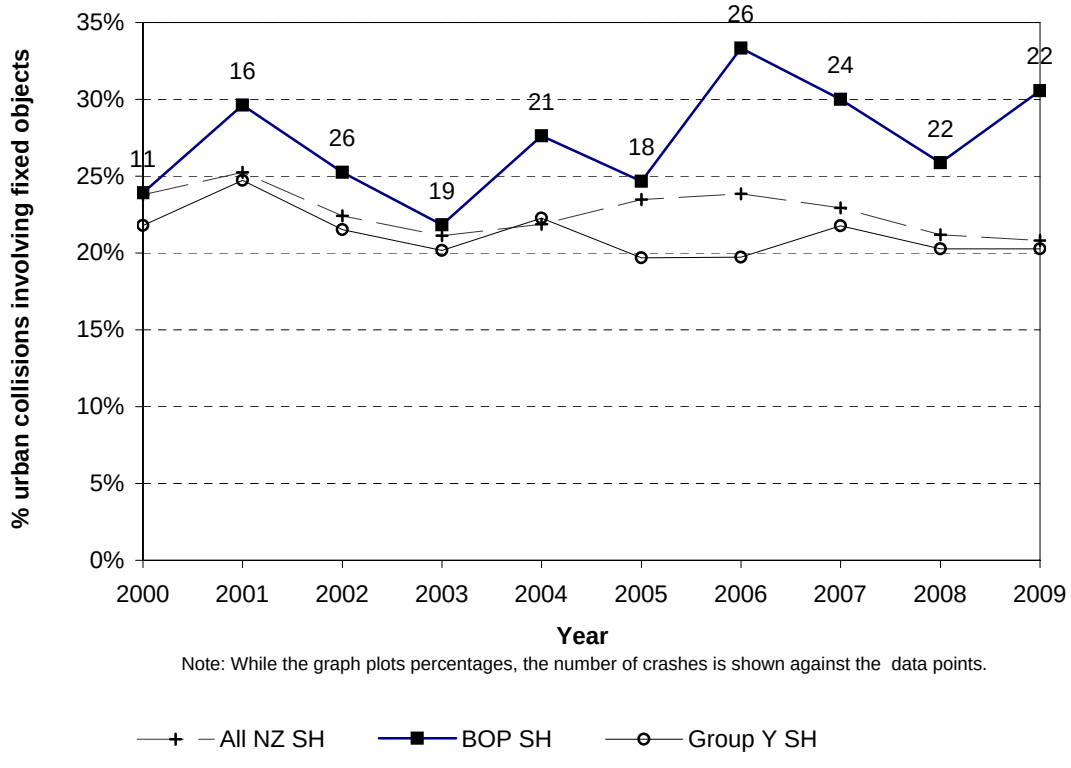
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.10 Icy road crashes
Bay of Plenty Region - rural state highways



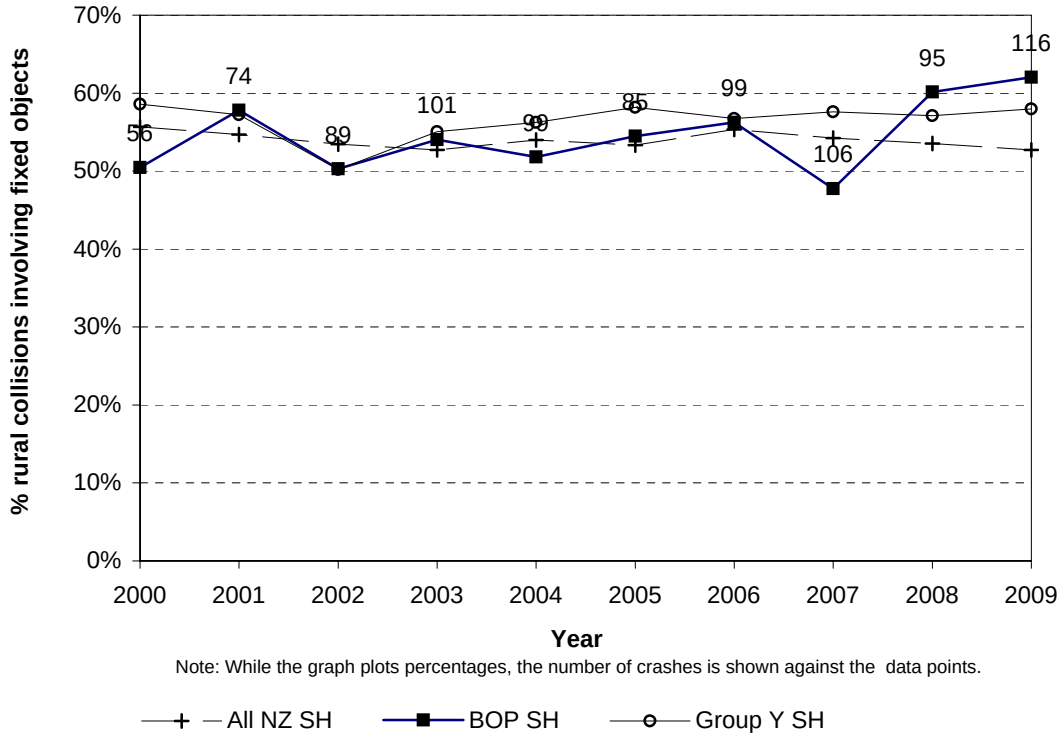
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.11 Collisions with objects
Bay of Plenty Region - urban state highways



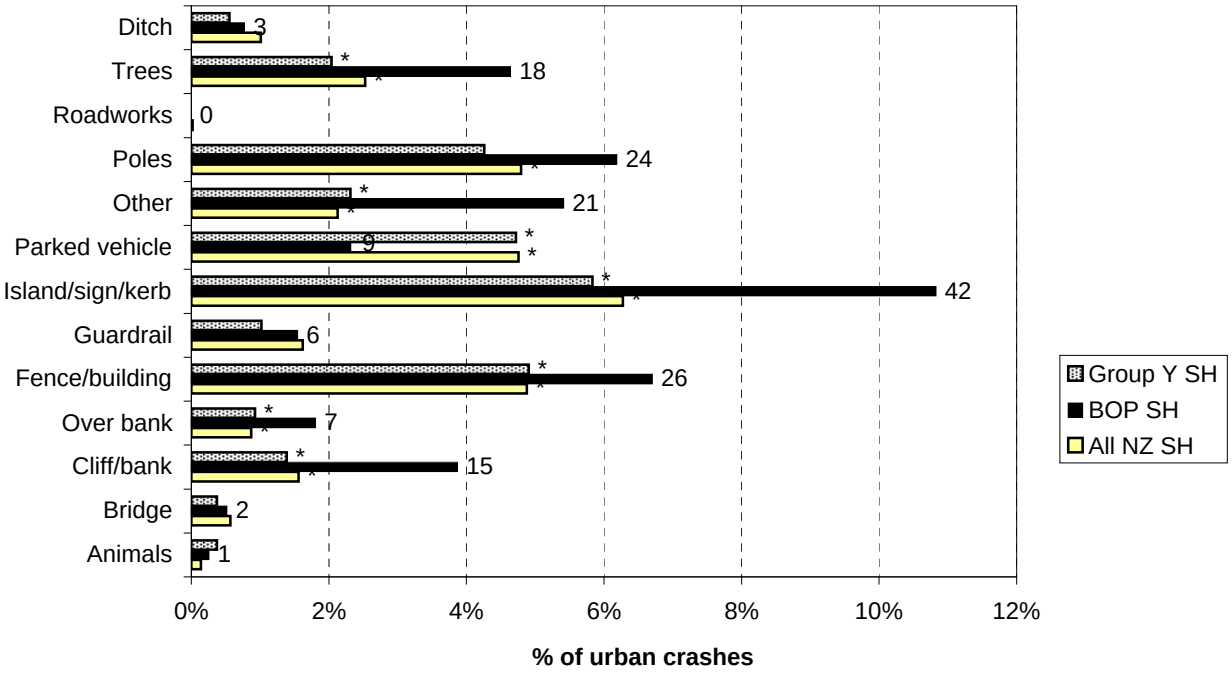
Note: While the graph plots percentages, the number of crashes is shown against the data points.

Figure 6.12 Collisions with objects
Bay of Plenty Region - rural state highways



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

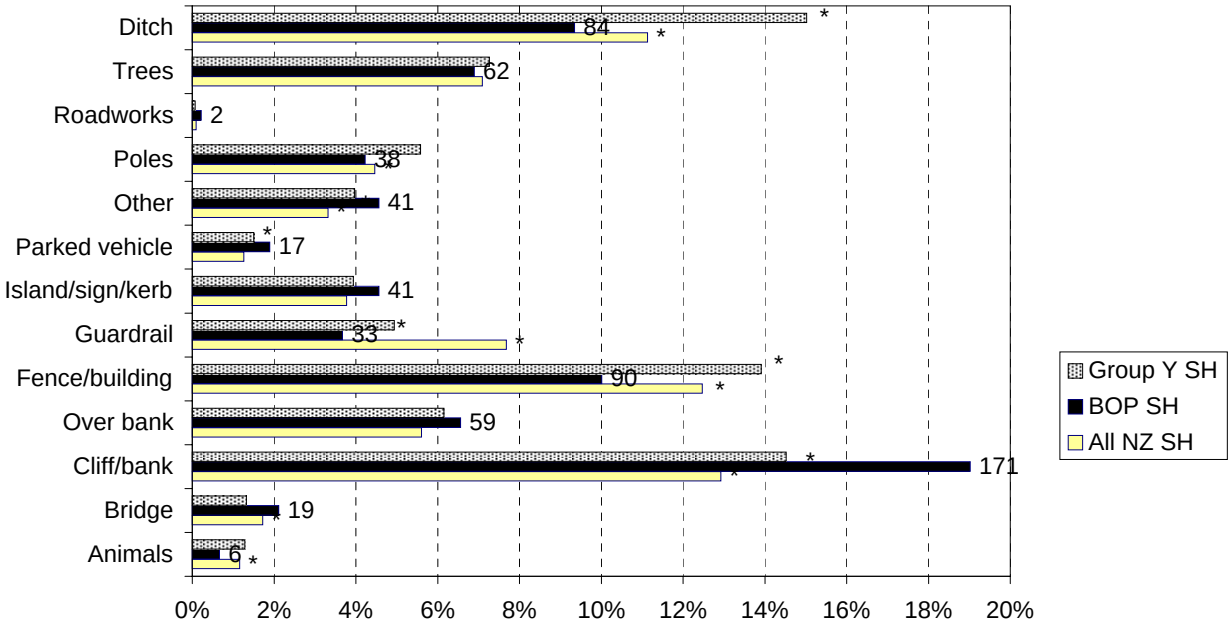
Figure 6.13 Objects struck - urban
Bay of Plenty Region state highways (2005-2009)



% of urban crashes

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
Bay of Plenty Region state highways (2005-2009)



% of rural crashes

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

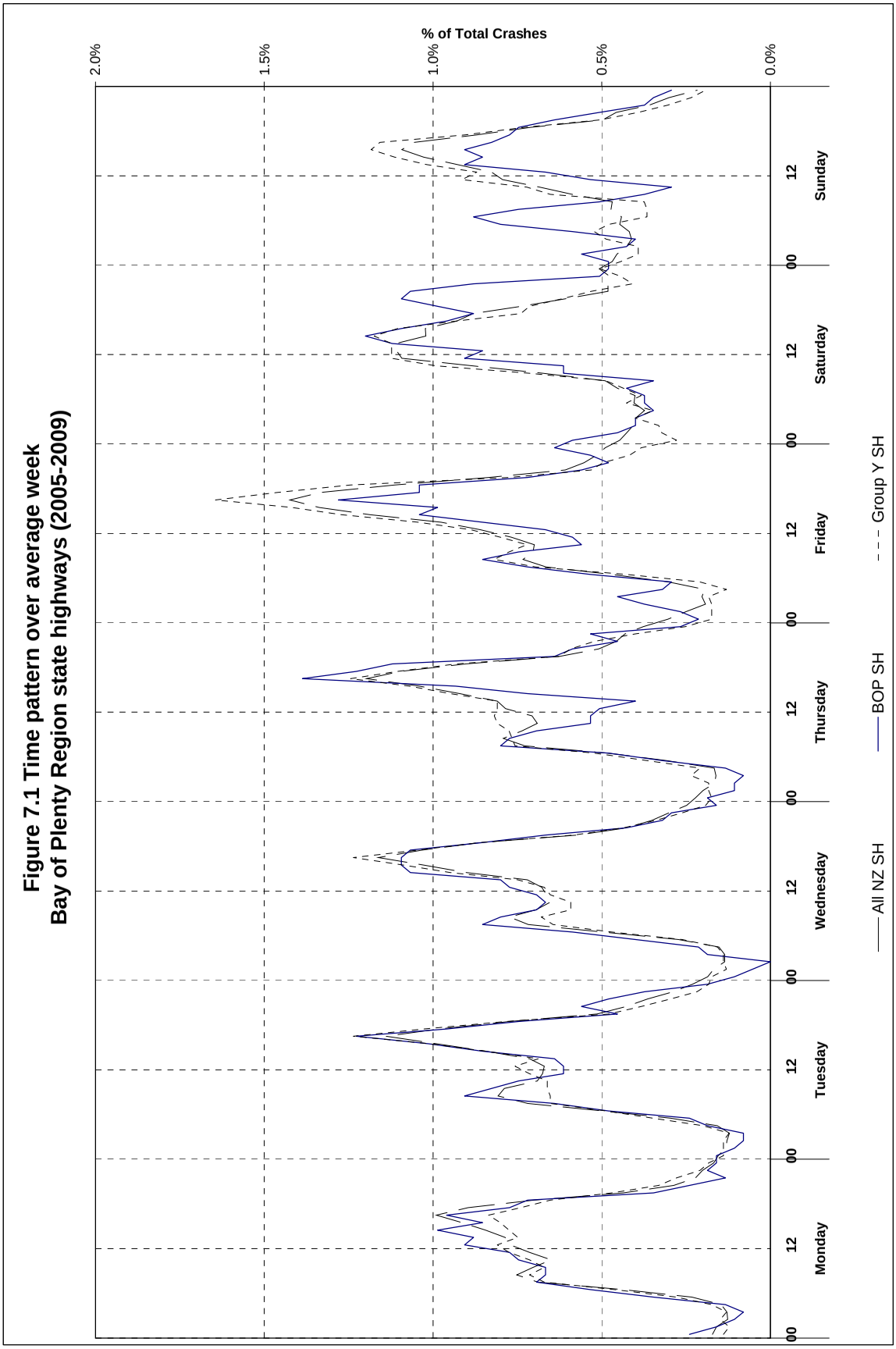
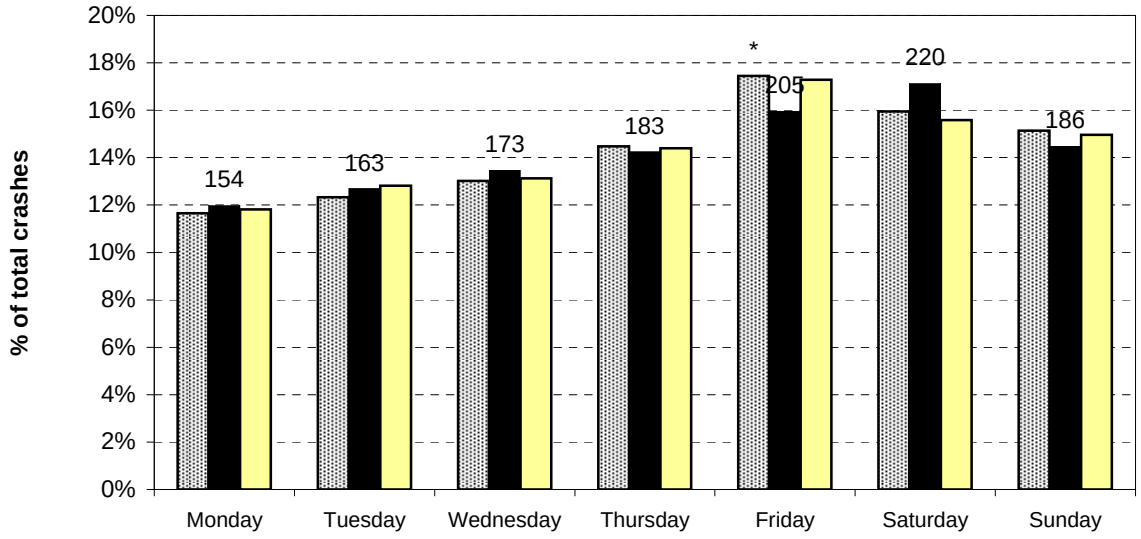


Figure 7.1 Time pattern over average week
Bay of Plenty Region state highways (2005-2009)

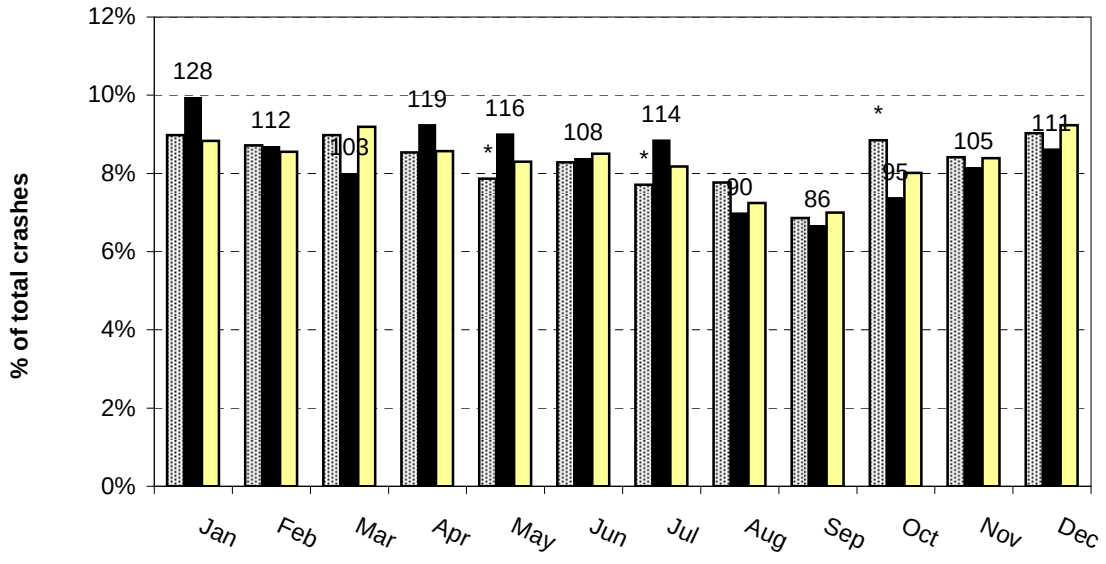
Figure 7.2 Day of week (6 a.m. to 6 a.m.)
Bay of Plenty Region state highways (2005-2009)



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

Group Y SH ■ BOP SH □ All NZ SH

Figure 7.3 Month of year
Bay of Plenty Region state highways (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

Group Y SH ■ BOP SH □ All NZ SH

Crash Location Statistics

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

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

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

CRASH ROAD				SIDE ROAD	2005	2006	2007	2008	2009	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SH 33		10000	S	ALLPORT ROAD	1	0	1	1	2	5	1	100	20	$11,057,837
SH 29	I			BELK ROAD	0	2	2	7	5	16	10	50	31	$10,924,047
SH 30		300	E	ONEPU SPRING ROAD	2	1	0	1	1	5	2	0	40	$9,989,950
SH 2	I			MANOEKA ROAD	1	0	1	0	2	4	2	50	50	$8,934,674
SH 33	I			BANKSIA PLACE	1	2	0	0	0	3	1	67	33	$8,872,356
SH 2	I			MAKETU ROAD	3	6	6	1	4	20	12	20	25	$8,601,729
SH 30	I			PAROA ROAD	1	4	6	1	0	12	3	17	33	$7,795,349
SH 2		1600	E	WAIOTAHI VALLEY BACK R	1	0	2	1	0	4	1	0	25	$6,800,717
SH 5		2350	S	SH 30	3	5	0	2	1	11	6	55	55	$6,129,331
SH 2	I			TE MATAI ROAD	2	1	1	1	5	10	6	20	30	$6,092,335
SH 36		450	N	TE MATAI ROAD	0	1	1	1	8	11	7	27	27	$6,091,238
SH 2	I			WELCOME BAY ROAD	3	0	2	2	2	9	6	0	0	$5,977,388
SH 29		1500	S	MCLAREN FALLS ROAD	0	1	0	0	4	5	2	60	20	$5,846,694
SH 2		1000	E	MOFFAT ROAD	0	4	1	0	2	7	5	14	43	$5,837,160
SH 2		200	S	SH 29	1	5	3	7	1	17	13	24	29	$5,451,728
SH 5	I			TAHARUA ROAD	0	2	2	0	1	5	2	40	60	$5,203,732
SH 5		1800	N	RANGITAIKI TVN	0	0	4	0	2	6	4	67	50	$5,185,207
SH 2	I			PAH ROAD	3	1	4	1	2	11	7	18	55	$5,148,030
SARGENT ROAD	I			SH 2	3	1	1	1	1	7	3	14	43	$5,010,087
SH 29		100	S	TUAKOPAI STM BR	3	2	0	3	1	9	6	56	33	$4,984,670
SH 29		600	N	VALLEY VIEW ROAD	0	0	2	0	8	10	8	80	20	$4,982,375
SH 2	A			MAUNGATAPU BR N	0	1	3	2	1	7	5	57	57	$4,873,983
SH 2		400	S	STANLEY ROAD	0	2	2	0	1	5	2	40	60	$4,861,712
SH 29		570	N	BELK ROAD	0	3	0	0	1	4	0	25	50	$4,856,880
SH 2		4100	E	STANLEY ROAD	0	2	1	2	1	6	4	33	33	$4,839,105
SH 2		200	N	WELCOME BAY ROAD	1	2	2	1	2	8	7	25	13	$4,829,713
SH 2		5	S	DOMAIN ROAD	3	3	4	5	1	16	15	44	44	$4,828,442
SH 30		1000	E	LUXTON ROAD	2	0	0	1	3	6	5	17	33	$4,784,518
SH 30	I			MAUNDER ROAD	2	1	0	1	1	5	3	0	20	$4,782,727
SH 2	I			TURNER ROAD	0	1	1	2	2	6	5	50	50	$4,780,883
SH 2		200	N	WAINUI ROAD	0	1	2	1	0	4	2	0	25	$4,763,712
SH 34	I			OTAKIRI ROAD	1	1	0	2	0	4	2	0	25	$4,737,150
SH 2	I			KAIRUA ROAD	1	2	4	1	1	9	5	22	33	$4,735,803
SH 33		1680	E	ALLPORT ROAD	0	0	1	1	1	3	1	33	33	$4,725,077
SH 29	I			NGAMUWAHINE ROAD	0	1	2	0	2	5	4	60	40	$4,714,807
SH 35	I			GOW ROAD	0	2	0	0	2	4	3	50	75	$4,709,248
SH 5		950	N	WESTERN ROAD	1	2	0	0	0	3	1	33	33	$4,705,294
SH 2		280	W	LOOP ROAD W	0	2	0	1	0	3	1	33	67	$4,702,537
SH 5		2000	N	DANSEY ROAD	1	1	0	0	1	3	1	33	100	$4,700,394
SH 2		500	W	OMEHEU ROAD	1	0	1	1	0	3	2	33	67	$4,671,490
SH 33		5900	N	MANIATUTU ROAD	3	2	2	2	0	9	5	78	44	$4,487,680
SH 30A	I			SH 30	1	7	9	2	4	23	20	22	9	$4,453,948
SH 2		400	W	STRANG ROAD	2	0	1	1	0	4	3	25	25	$4,378,967
SH 2	I			TAINUI ROAD	1	1	0	0	1	3	2	0	33	$4,341,332
SH 29		5	S	GIRVEN ROAD	3	4	4	2	4	17	15	0	24	$4,272,390
SH 2	I			BELVEDERE ST	2	0	3	5	3	13	10	8	23	$3,966,820
SH 30A		200	S	PUKUATUA ST	1	1	2	1	1	6	4	17	83	$3,557,776
SH 2		450	W	ATHENREE ROAD	0	3	1	4	0	8	2	50	25	$3,521,154
SH 29		300	N	OMANAWA ROAD	4	1	1	1	2	9	6	22	33	$3,479,390
SH 33	I			SH 30	2	1	2	1	1	7	2	14	29	$3,479,014

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

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

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

CRASH ROAD			SIDE ROAD	2005	2006	2007	2008	2009	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SH 36		500 S	TE MATAI ROAD	0	2	1	3	2	8	3	63	25	$3,459,911
SH 29	I		GARGAN ROAD	1	0	1	2	4	8	5	50	13	$3,426,421
SH 2	I		SH 33	1	0	8	1	10	20	15	25	10	$2,993,330
SH 2	I		CLARKE ROAD	4	4	3	4	4	19	13	26	11	$2,954,567
SH 5	I		WAIPA MILL ROAD	5	2	5	4	1	17	14	18	18	$2,791,220
SH 2	I		PAHOIA ROAD	1	2	0	4	4	11	6	36	36	$2,672,338
SH 30	I		MILL ROAD	5	3	3	1	1	13	10	23	23	$2,646,072
SH 36	I		CENTRAL ROAD	2	2	1	3	2	10	6	60	40	$2,575,932
SH 2	I		WHARAWHARA ROAD	1	2	2	0	7	12	9	42	25	$2,553,268
SH 30	I		SH 34	1	0	2	0	6	9	6	11	22	$2,465,441
SH 2		100 N	MORTON ROAD	4	1	2	1	0	8	5	38	38	$2,461,836
SH 29	I		SOLDIERS ROAD	1	0	2	1	4	8	5	50	13	$2,445,624
SH 2	I		WAIHI OFF EBD	1	3	1	2	2	9	6	0	0	$2,445,310
SH 2		1900 W	PAERATA RIDGE ROAD	0	0	1	2	3	6	2	83	17	$2,419,634
SH 2	I		PONGAKAWA STATION RO.	1	1	2	2	1	7	4	0	29	$2,413,767
SH 2	I		REA ROAD	1	1	2	2	1	7	4	43	29	$2,407,704
SH 30		100 S	SH 2	2	0	3	0	1	6	3	17	33	$2,357,927
SH 34		500 E	FLETCHER AVENUE	2	1	2	1	0	6	4	33	17	$2,320,403
SH 5		1500 E	OTUROA ROAD	0	1	3	0	0	4	1	50	25	$2,291,656
SH 2		900 S	FACTORY ROAD	1	1	1	0	1	4	1	25	50	$2,260,377
LINDEMANN ROAD	I		SH 2	0	1	0	1	2	4	1	0	50	$2,251,557
SH 2		930 W	PAERATA RIDGE ROAD	0	1	0	3	0	4	1	25	0	$2,251,557
SH 30	I		SH 34	1	2	0	0	1	4	2	50	25	$2,205,912
SH 35		400 N	SNELL ROAD	1	1	0	1	0	3	1	0	33	$2,167,277
SH 29		50 E	PYES PA ROAD	0	2	1	2	1	6	4	33	50	$2,154,604
SH 2	I		DOMAIN ROAD	9	5	6	0	4	24	19	29	29	$2,126,113
SH 30A	I		FENTON ST	18	7	7	13	2	47	37	30	28	$2,111,819
SH 2		80 N	ATHENREE ROAD	3	3	4	4	6	20	14	55	35	$2,086,068
SH 2	I		ATHENREE ROAD	1	0	1	1	0	3	1	0	0	$2,048,697
SH 29	I		TAKITIMU DRIVE	6	2	5	1	7	21	17	14	19	$2,007,446
SH 36	I		TAUMATA ROAD	2	4	0	3	8	17	11	59	29	$1,977,961
SH 2	I		BELL ROAD	3	7	2	3	4	19	14	26	37	$1,960,384
SH 29	I		GIRVEN ROAD	0	3	4	4	4	15	12	20	47	$1,903,005
SH 2	I		MINDEN ROAD	7	1	5	3	6	22	20	14	14	$1,901,556
SH 2		300 E	TE PUNA ROAD	1	5	6	2	2	16	10	6	13	$1,892,769
SH 30	I		SH 5 OLD TAUPO ROAD	3	8	2	4	4	21	17	14	24	$1,882,722
SH 30	I		BRENT ROAD	3	1	2	1	1	8	4	38	13	$1,834,262
SH 2	I		BARRETT ROAD	3	2	2	5	1	13	7	15	31	$1,823,870
SH 29	I		POIKE ROAD	1	3	5	6	4	19	16	37	42	$1,822,564
SH 5		3000 W	MATEA ROAD	0	0	1	1	1	3	0	67	0	$1,718,920
SH 2	I		BEACH ROAD	1	3	0	2	1	7	5	14	43	$1,710,748
SH 2	I		TE PUNA STATION ROAD	2	3	5	3	0	13	9	8	8	$1,707,284
SH 2		30 S	MORRISON ROAD	0	1	1	1	1	4	2	0	0	$1,658,460
SH 2		70 W	BOUCHER AVENUE	0	1	1	1	0	3	1	0	67	$1,641,070
SH 5	A		RANGITAIKI TVN	0	1	2	0	0	3	1	33	33	$1,627,297
LAKE ROAD	I		SH 5	11	9	7	4	3	34	29	24	26	$1,617,655
SH 2		100 E	THOMPSONS TRACK	1	1	1	5	1	9	5	56	11	$1,547,680
SH 2	I		WAITAHANUI LANE	0	2	4	4	2	12	10	50	42	$1,504,287
SH 2	I		FRASER ST	8	4	5	7	7	31	27	13	39	$1,499,157
SH 2		700 S	YOUNGSON ROAD	1	3	0	1	2	7	3	43	57	$1,483,987

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

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

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

CRASH ROAD			SIDE ROAD	2005	2006	2007	2008	2009	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SH 2	I		MOFFAT ROAD	4	5	10	4	6	29	25	3	14	$1,474,783
SH 2	I		MANGATAWA LANE	1	1	4	1	1	8	5	38	25	$1,457,601
SH 30A	I		TAREWA ROAD	6	2	2	5	6	21	15	14	24	$1,446,897
SH 29	I		CONCORD AVENUE	3	3	3	3	7	19	16	11	32	$1,439,414
SH 2	I		SH 29 MAUNGANUI	5	2	4	0	5	16	12	13	6	$1,425,570
SH 5		4500 N	SH 38	2	3	0	0	0	5	1	0	80	$1,425,336
SH 2	I		TANNERS POINT ROAD	2	1	0	1	1	5	1	0	20	$1,418,557
SH 33		200 N	HAMURANA ROAD	3	1	1	0	1	6	2	17	33	$1,404,073
SH 30		700 N	LAKE ROTOKAWAU ROAD	2	2	0	1	1	6	3	0	33	$1,397,828
SH 30		500 E	LAKE OKATAINA ROAD	2	0	1	1	2	6	3	33	50	$1,388,007
SH 29	I		WELCOME BAY ROAD	1	8	7	6	5	27	24	19	22	$1,384,491
SH 30A	I		SH 5	2	6	2	5	1	16	12	25	25	$1,371,636
SH 5	I		PARADISE VALLEY ROAD	0	1	0	1	2	4	0	0	50	$1,364,160
SH 2		500 E	MATHERS ROAD	0	1	0	3	1	5	1	60	40	$1,357,797
SH 2	I		PUKEHINA BEACH ROAD	0	1	4	1	0	6	3	33	33	$1,338,211
ELEVENTH AVENUE	I		ELEVENTH OFF SBD	5	1	7	3	5	21	17	24	29	$1,335,409
SH 36		360 N	WAITETI ROAD	2	2	1	0	0	5	2	60	40	$1,314,909
SH 2		3700 W	HAUONE ROAD	1	0	1	0	2	4	1	25	50	$1,311,737
SH 30		4000 W	SH 34	0	2	1	0	1	4	1	50	0	$1,309,696
SH 2	I		SH 34	0	0	1	3	0	4	1	25	75	$1,290,177
SH 30		710 W	TAHUNA ROAD	2	0	1	0	0	3	0	33	0	$1,283,800
SH 5		800 S	HIGHLANDS LOOP ROAD	2	1	0	1	0	4	1	25	75	$1,276,274
SH 36		400 S	WILLIAMS ROAD	0	3	1	0	0	4	1	25	50	$1,274,497
SH 29		510 E	NGAMUWAHINE ROAD	0	0	2	0	1	3	0	67	33	$1,266,160
SH 35	I		JACKSON ROAD	2	1	0	0	0	3	0	0	67	$1,245,580
SH 30A	I		AMOHIA ST	2	2	4	4	6	18	15	22	44	$1,227,603
SH 5		5 S	TALLYHO ST	4	2	3	7	2	18	15	22	44	$1,227,591
SH 5	I		DEVON ST	1	4	2	4	2	13	9	54	23	$1,167,988
SH 2A		50 E	MIRRIELEES ROAD	2	1	2	0	1	6	3	0	17	$1,165,863
SH 29	I		OROPI ROAD	2	3	3	4	5	17	12	41	24	$908,013
SH 30	I		TARAWERA ROAD	8	5	8	7	5	33	29	24	21	$898,308
SH 2	I		NO 1 ROAD	5	0	4	4	4	17	13	12	35	$839,505
SH 5		300 N	HENDERSON ROAD	2	2	3	1	4	12	8	42	33	$663,067
SH 29		10 N	SPUR AVENUE	0	5	5	3	4	17	12	18	24	$641,841
SH 2	I		CAMERON ROAD	3	3	9	5	4	24	20	17	50	$631,707
SH 2	I		TANIWHA PLACE	2	2	1	3	3	11	7	27	9	$631,113
SH 29	I		MARU ST	3	5	3	4	3	18	15	17	17	$558,548
SH 29		1000 N	HANGA ROAD	4	1	1	0	2	8	4	50	38	$547,481
HEWLETTS ROAD	I		AERODROME ROAD	3	2	4	5	1	15	11	7	13	$539,543
SH 36	I		HAMURANA ROAD	2	3	0	2	2	9	6	22	11	$510,991
SH 33		480 S	OKAWA BAY ROAD	2	2	1	2	0	7	3	57	57	$510,111
SH 2	I		GRACE ROAD	4	5	3	2	3	17	13	12	12	$508,436
SH 36		2500 S	HAMURANA ROAD	0	1	1	2	2	6	1	17	50	$507,157
SH 2		740 W	MANGATAWA LANE	2	1	3	2	0	8	5	0	13	$470,476
SH 2	I		OMOKOROA ROAD	0	2	0	2	4	8	5	38	38	$469,863
SH 29	I		TASMAN QUAY	4	5	1	1	0	11	7	9	36	$467,207
SH 30A	I		PUKUATUA ST	4	3	4	4	2	17	14	29	12	$455,183
SH 2	I		GULLIVER ROAD	4	1	1	0	1	7	4	14	43	$454,381
SH 30		320 S	FORTUNE ROAD	4	1	1	1	0	7	4	0	14	$451,360
SH 2	I		APATA STATION ROAD E	0	1	4	1	0	6	2	33	17	$450,814

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

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

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

CRASH ROAD			SIDE ROAD	2005	2006	2007	2008	2009	TOTAL	Non-Injury	Wet Crash %	Dark Crash %	Crash Costs
SH 36		3400 N	DUDLEY ROAD	1	3	0	1	2	7	4	43	43	$437,742
SH 2	I		COLLINS LANE	0	2	1	0	2	5	1	20	40	$418,957
SH 5		2000 E	OTUROA ROAD	1	2	1	0	2	6	3	33	17	$405,169
SH 2	I		NO 3 ROAD	4	1	3	1	2	11	8	27	45	$387,209
SH 33		5000 S	ALLPORT ROAD	1	1	2	1	0	5	2	80	40	$363,512
SH 5	I		BIDOIS ROAD	1	1	3	1	4	10	7	40	10	$335,932
SH 2	I		WORK ROAD	1	0	2	0	1	4	1	75	0	$318,814
SH 30		500 S	SH 2	0	2	1	1	0	4	1	50	75	$310,177
SH 5		600 W	MATEA ROAD	0	1	1	1	1	4	1	0	25	$303,317
SH 2	I		TURRET ROAD	2	4	1	0	1	8	5	38	63	$302,062
SH 2	A		HAIRINI BR N	1	0	3	0	0	4	1	25	25	$280,777
SH 35		100 N	COPENHAGEN LOOP ROAI	0	0	1	1	1	3	0	100	33	$253,820
SH 2	I		ALEXANDER ST	2	2	0	0	1	5	2	20	20	$250,696

Table 9.5 : State Highway Crash Sites with a Significant Increase in Crashes in 2009 (Injury and Non-Injury Crashes)

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

CRASH ROAD			SIDE ROAD	2004	2005	2006	2007	2008	2009	TOTAL	Non-Injury	Wet Crash %	Dark Crash %
SH 2	I		SH 33	3	1	0	8	1	10	23	18	22	13
SH 36	I		TAUMATA ROAD	1	2	4	0	3	8	18	11	56	33
SH 2	I		WHARAWHARA ROAD	3	1	2	2	0	7	15	11	33	20
SH 2		50 E	JOCELYN ST	3	1	1	2	2	5	14	13	7	14
SH 2	I		TE MATAI ROAD	2	2	1	1	1	5	12	8	33	25
SH 5	I		BIDOIS ROAD	1	1	1	3	1	4	11	8	36	9
SH 36		450 N	TE MATAI ROAD	0	0	1	1	1	8	11	7	27	27
SH 34 KAWERAU	I		SH 30	2	1	0	2	0	6	11	8	18	18
SH 29	I		GARGAN ROAD	3	1	0	1	2	4	11	7	55	27
SH 29		600 N	VALLEY VIEW ROAD	0	0	0	2	0	8	10	8	80	20
SH 29	I		SOLDIERS ROAD	1	1	0	2	1	4	9	6	56	22
SH 2	I		PAERATA RIDGE ROAD	2	0	1	0	1	3	7	3	57	0
SH 29		1500 S	MCLAREN FALLS ROAD	2	0	1	0	0	4	7	2	43	29
SH 2	I		TRUMAN ROAD	1	0	2	0	0	4	7	5	0	29
SH 2A		250 W	TASMAN QUAY	0	0	0	3	1	3	7	6	29	57
SH 29		100 W	TOTARA ST	0	0	2	0	0	4	6	6	0	33
SH 2		1900 W	PAERATA RIDGE ROAD	0	0	0	1	2	3	6	2	83	17
SH 30		1000 E	LUXTON ROAD	0	2	0	0	1	3	6	5	17	33
SH 34		800 W	PARK ROAD	0	1	0	0	1	3	5	3	60	0
SH 29		500 S	CAMBRIDGE ROAD	0	1	0	0	1	3	5	5	20	60
SH 30		50 E	OWHATA ROAD	0	1	0	1	0	3	5	5	40	0
SH 30		120 E	MCINTYRE AVENUE	0	0	0	1	1	3	5	3	40	60
SH 30		200 N	TAMATEA ST	0	0	0	1	0	4	5	3	20	40
SH 29		1000 S	MCLAREN FALLS ROAD	0	1	0	0	1	3	5	4	60	60
SH 2	I		CAMERON ROAD	0	0	0	0	1	3	4	4	25	25
SH 35		200 W	HEREMA ROAD	1	0	0	0	0	3	4	2	25	0
SH 2		2000 N	TAIPARI OBR	1	0	0	0	0	3	4	2	50	75
SH 36		970 S	KENNEDY ROAD	0	0	1	0	0	3	4	2	75	100
SH 29		400 E	OROPI ROAD	1	0	0	0	0	2	3	1	0	0
SH 33		9350 S	ALLPORT ROAD	0	0	1	0	0	2	3	3	33	0
SH 30		300 E	TUMOANA ROAD	0	0	0	1	0	2	3	3	33	0
SH 33		930 N	HAMURANA ROAD	0	0	1	0	0	2	3	1	33	33
SH 30		400 N	GALATEA ROAD	0	0	0	1	0	2	3	2	0	67
SH 2		5 E	RANGIURU ROAD	0	0	0	1	0	2	3	2	33	0
SH 2	I		EARL DRIVE	1	0	0	0	0	2	3	3	67	33
SH 30		700 W	MANAWAHE ROAD	0	0	0	1	0	2	3	1	33	0
SH 29		1000 E	CAMERON ROAD	0	0	0	0	1	2	3	3	67	100
SH 33	I		OKERE ROAD	1	0	0	0	0	2	3	2	0	33
SH 29		150 S	SH 2	0	0	1	0	0	2	3	2	0	67
SH 5		2100 W	MATEA ROAD	0	0	1	0	0	2	3	3	0	0
SH 2		10 N	JOCELYN ST	0	0	0	0	0	3	3	1	0	33

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.

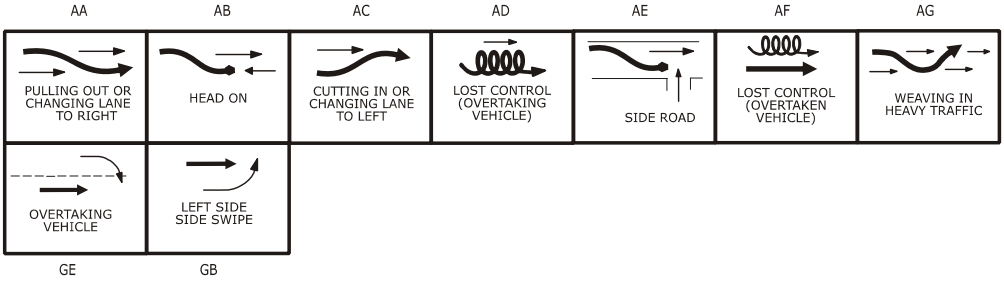
4. The factor group ‘poor handling’ includes factor codes that were only introduced in 1998. This could explain why there may have been a sudden change at this time.

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.

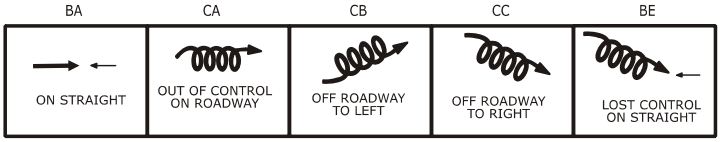
6. It should be noted that a traffic crash generally has more than one contributing factor. Therefore, adding the number of crashes on graphs showing the number of crashes with a given factor or factor group will be greater than the total number of crashes in the city or district.

Groupings of crash types

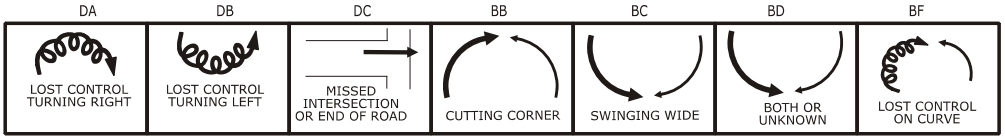
Overtaking



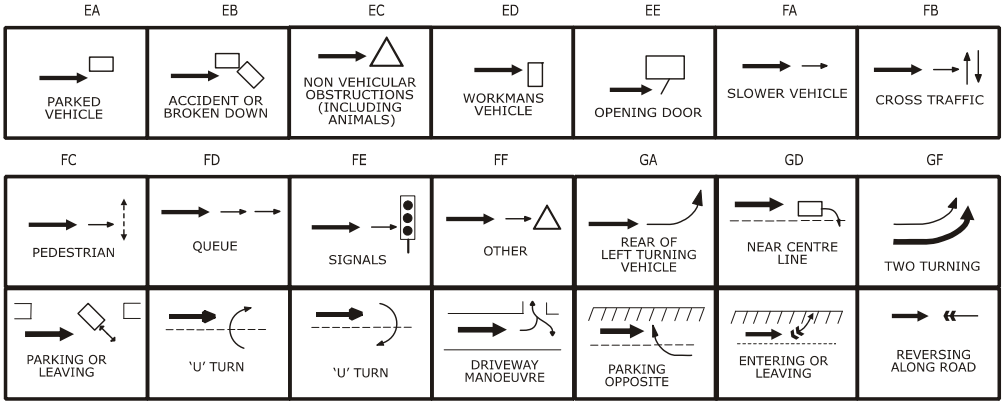
Straight - Lost control / Head on



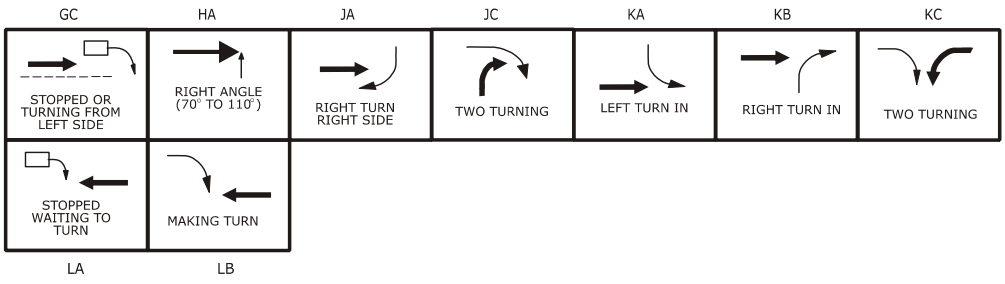
Bend - Lost control / Head on



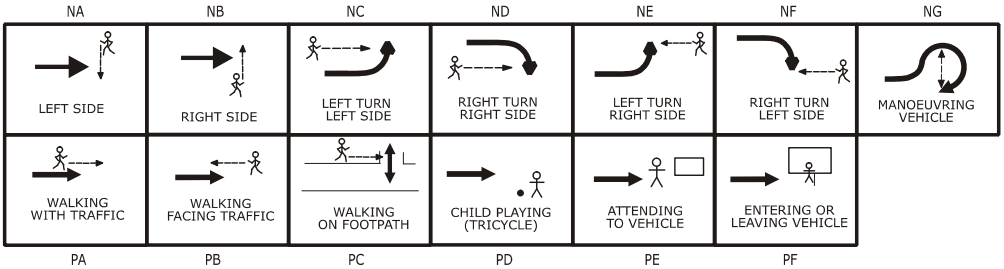
Rear end / Obstruction



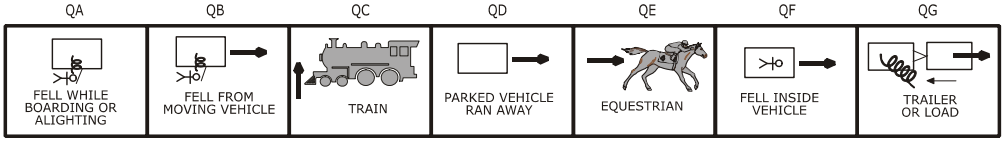
Crossing / Turning



Pedestrian vs Vehicle



Miscellaneous



Groupings of contributing factors

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

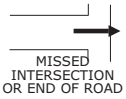
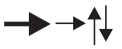
Note:

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

NZ TRANSPORT AGENCY
WAKA KOTAHI

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	 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

New Zealand Government

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**