NATIONAL ROAD SAFETY COUNCIL

2007 ROAD SAFETY DATA REPORT

PAPUA NEW GUINEA

Version No.	Date	Prepared by	Summary of Update/Revision
1.2	Jan 2011	WW/TAS	First draft
1.3a	Jan 2011	WW/TAS	Review by TAS
2	Jan 2011	WW/TAS	Incorporating data logic checks
3	Feb 2011	WW/TAS	Final for Executive Director approval
4	Feb 2011	WW/TAS	Final

Prepared by:

.....

Wilson Wariaka
Senior Road Safety Engineer
National Road Safety Council

.....

Tim Selby
Road Safety Adviser
Transport Sector Support Program - NRSC

Approved by

.....

Frank Aku
Executive Director
National Road Safety Council

National Road Safety Council
PO Box 8560
Boroko
National Capital District
PNG

Tel: + (675) 325 0722
Fax: + (675) 311 3290
Website: www.nrsc.gov.pg

Contents

Executive Summary

Whilst reported accident data has been collated by the Police for a number of years, no formal review, analysis and dissemination of the information have occurred in recent times. As such, in 2009, the NRSC received funding to set up an accident database utilising the Police data to try and better understand the extent of the road safety problem along with identifying the main causes and locations. Accordingly, over the past year, the NRSC has entered the reported 2007 accident data into the accident database. It is our intention to also undertake similar work for both older and more recent years' data in order to help monitor trends in the future.

Amongst a variety of other functions, the NRSC has a responsibility for promoting road safety as well as advising Government on '*all matters relating to road safety*' and monitoring the effectiveness of interventions. One way that it can achieve the above is by providing information on road safety to its partner agencies, politicians and the public. This road safety data report is one such example of information provided by the NRSC. As the accident database is further populated, it is intended that annual road safety reports based on the previous five years worth of data will be prepared.

It is acknowledged that the Government's recently published Vision 2050 and the PNG Development Strategic Plan 2010-2030 do not specifically highlight road safety as an issue. This, however, is perhaps unsurprising given the lack of quality information made available to politicians and the public over recent years concerning the scale of the problem. Nevertheless, targets relating to health (e.g. life expectancy), disability and standards of living (e.g. economic impacts) are set out in these strategic documents, which in turn are particularly relevant to road safety given that road deaths and injuries are a major contributor to the shortening of people's lives and/or the cause of disability. Furthermore, research has shown that those people that are involved in a road accident are usually in the age range that can be considered the most economically active. Reducing the number of people being killed and/or injured on PNG's roads can therefore strongly contribute to meeting the Government's strategic objectives.

As such, the information contained in this report (along with the NRSCs recently prepared '*PNG Road Safety Review – Discussion Paper'*) is intended to assist the Government, road controlling authorities (such as the Department of Works – DoW, the National Roads Authority – NRA, National Capital Districts Commission – NCDC and other Provincial and Local Level Governments), the Royal PNG Constabulary (Police) and others in evaluating the safety performance of the road network in Papua New Guinea in order to better help meet the Government's objectives as set out in its strategic documents and plans. Researchers, consultants, students, and organisations with an interest in road safety (such as MVIL) will also find the information useful.

This Road Safety Data Report contains information relating to accident and casualty numbers as well as contributory factors associated with the road environment, road user behaviour and vehicles.

In total in 2007, 2,697 accidents were reported, resulting in 270 deaths and 2,446 road users with serious and minor injuries. The above number of deaths equates to the number that would be killed if a Boeing B767 aeroplane along with a Dash 8 aeroplane filled with passengers were to crash. If two such major air crashes resulting in this number of deaths were to occur in the

aviation sector each and every year, there would be a national outcry. And yet, such large numbers of accidents resulting in death and disability occur annually on our roads.

The number of reported accidents, deaths and injuries can be considered to be the 'tip of the iceberg'. Modelling work carried out as part of the *World Health Organisation 'Road Safety in the Western Pacific Region: Call for Action'* estimates that due to under-reporting, the actual number of road deaths in PNG could be between 3 to 5 times higher than the number reported. The under-reporting of less severe accidents can be expected to be even greater.

Using population and vehicle data set out in the *World Health Organisation Road Safety in the Western Pacific – Call for Action (2009)*, the above number of deaths indicates a fatality rate of 45 road deaths per 10,000 vehicles and a fatality risk of 4.2 road deaths per 100,000 population. In terms of the number of deaths per 10,000 vehicles, the fatality rate is considered to be relatively high and one of the worst in the Western Pacific. Furthermore, whilst the average fatality risk is 4.2 deaths per 100,000 population, this varies by region and province with the fatality risk increasing to 10.7 deaths per 100,000 population in the NCD and Central and Sundaun Provinces both having a fatality risk more than double the national average. Overall, the NCD had the greatest number of accidents, fatalities and casualties. However, it should be noted that whilst 29% of all fatal and casualty accidents occurred in the NCD, only 17% of fatal accidents occurred there. This contrasts with the Western and Eastern Highlands along with Chimbu Province which had 27% of all fatal and casualty accidents, but 29% of all fatal accidents.

Based on a single years' worth of accident data, the accident data indicates that for PNG:

- single vehicle overturn/run-off road crashes are the most common type of crash along with collisions with pedestrians –
  - Whilst 17% of crashes were 'overturn' type collisions, they resulted in 26% of all fatalities and casualties.
  - Utility vehicles (pick-ups) were the main type of vehicle in overturn crashes.
- speed/loss of control, drink driving and inattention are major contributory factors to crashes in terms of road user behaviour –
  - 12% of all accidents were reported as 'alcohol suspected' or tested positive. On Saturdays and Sundays, this increases to approximately 20%.
- pedestrians along with passengers in the back of trucks, utility vehicles and PMVs are those road users that are most commonly killed and/or injured in a road accident –
  - 65% of casualties outside in the rear of a utility vehicle were killed or seriously injured, compared with 48% of casualties sitting inside the vehicle.
  - 31% of all pedestrians killed and/or injured were aged 15 years or less.

A review of previously entered accident data from 1987 to 1994 suggests that the above issues are typically as relevant today as they were 15 to 20 years ago. Again, this is perhaps unsurprising given the limited numbers of interventions to improve road safety that have actually been implemented over this time period. Similarly, whilst the number of reported crashes in 2007 is much lower than 15 to 20 years ago, given the increase in population and number of motor vehicles, it can be expected that this reduction can primarily be attributed to an increase in under-reporting i.e. crashes are not reported to the Police or those that are reported are not then sent to Police Head Quarters for collation, and hence are not included in the official statistics. The level of under-reporting is an area that needs urgent attention.

1. Introduction and General Information

1.1 Background

To put road safety issues into perspective on a global scale, the World Health Organisation (WHO) forecasts that road traffic deaths will rise to become the fifth leading cause of death by 2030 (ranked as ninth in 2004), ahead of issues such as HIV/AIDS[1]. Furthermore, for the Western Pacific Region (which includes Papua New Guinea), the WHO *Global Burden of Disease – 2004 Update* project indicates that injuries sustained as a result of road traffic accident are the primary cause of death for people between 15 and 44 years of age, and the second main cause of death for children between 5 and 14 years of age in the Region.

Whilst reported accident data has been collated by the Police for a number of years in Papua New Guinea (PNG), no formal review, analysis and dissemination of the information has occurred in recent times. As such, in 2009, the NRSC received funding to set up an accident database utilising the Police data to try and better understand the extent of the road safety problem in PNG, along with identifying the main causes and locations, with the aim of subsequently reducing the social and economic impact of road accidents on the nation.

Strategic Framework

It is acknowledged that the Government's recently published Vision 2050 and the PNG Development Strategic Plan 2010-2030 do not specifically highlight road safety as an issue. This, however, is perhaps unsurprising given the lack of quality information made available to politicians and the public over recent years concerning the scale of the problem.

Notwithstanding the above, targets relating to health (e.g. life expectancy), disability and standards of living (e.g. economic impacts) are set out in these strategic documents, which in turn are particularly relevant to road safety given that road deaths and injuries are a major contributor to the shortening of people's lives and/or the cause of disability. Furthermore, research has shown that those people that are involved in a road accident are usually in the age range that can be considered the most economically active. Reducing the number of people being killed and/or injured in PNG can therefore strongly contribute to meeting the Government's strategic objectives.

Legislation

Section 4(i) of the NRSC Act notes that the NRSC should '*monitor and evaluate the effectiveness of programs and strategies of organisations involved in the promotion of road safety*'.

As such, whilst the NRSC has no explicit mandate to set up and manage an accident database, without such a tool, the above monitoring function cannot be undertaken with respect to reviewing the intended outcomes relating to a reduction in the number of people killed or injured in a traffic accident. Given the lack of any other organisation

[1] World Health Organisation. Road Safety in the Western Pacific Region – Call for Action (2008)

currently undertaking such a role (see Section 1.4), the NRSC has taken the initiative to develop and maintain PNGs accident database.

1.2 Purpose

Amongst a variety of other functions, the NRSC has a responsibility for promoting road safety as well as advising Government on '*all matters relating to road safety*'[2] and monitoring the effectiveness of interventions. One way that it can achieve the above is by providing information on road safety to its partner agencies and the public. This Road Safety Data Report is just one example of information provided by the NRSC.

Specifically, this Report helps identify road safety issues in PNG by presenting local facts and figures related to:

- numbers and trends in reported crashes and casualties;
- characteristics and types of crashes and casualties; and
- factors contributing to crashes.

The information is intended to assist Government, road controlling authorities (such as the Department of Works – DoW, the National Roads Authority – NRA, National Capital Districts Commission – NCDC and other Provincial and Local Level Governments), the Royal PNG Constabulary (Police) and others in evaluating the safety performance of the entire road network in PNG. Comparisons between different provinces within the country have also been provided where appropriate.

Researchers, consultants, students, and organisations with an interest in road safety (such as Motor Vehicle Insurance Limited - MVIL) will also find the information useful.

The collation and dissemination of results addresses one of the deficiencies in the management of road safety identified in the NRSC's recently prepared *Road Safety Review Discussion Paper*, and also meets one of the identified outputs set out in its draft 2011-2015 Corporate Plan. In due course, detailed short 'Issue Papers' will also be prepared to further analyse specific road safety concerns that have been highlighted throughout this Report, for example pedestrian casualties.

1.3 Accident Data

Accident Reporting

Section 24 of the Motor Traffic Act states that '*where injury or damage is caused to a person or to an animal or vehicle in the charge of a person because of an accident in which a motor vehicle is concerned*', the driver must report the accident to the officer in charge of the nearest police station as soon as practicable and within a maximum of 24 hours if a member of the Police is not called out to the scene of the accident to carry out an investigation.

Accordingly, in theory, every motor traffic accident in PNG should be reported to the Police, who in turn should complete a Road Accident Report Form (see Appendix A).

[2] NRSC Act 1997

Unfortunately, for a number of reasons, actual crash numbers can be expected to be under-reported, with the Asian Development Bank (ADB) Guidelines[3] acknowledging that the '*under-reporting of road accidents is a particularly serious problem in many developing countries*'. The full extent of under reporting in PNG is not yet known. However, modelling work carried out as part of the *WHO Road Safety in the Western Pacific Region: Call for Action* has estimated that the actual number of road traffic deaths in PNG could be between 3 to 5 times higher than the number actually reported. The under-reporting of less severe accidents can be expected to be even greater. For instance, a general 'rule of thumb' for low income countries is to assume a ratio of 1 death to every 20-30 injuries[4]. As such, even assuming that the current number of reported fatalities is correct, the actual number of casualties can be expected to be at least two to three times greater than that reported, increasing to between 7 and 16 times if the number of fatalities increased to those levels indicated above.

Data Accuracy

A high level review of the accident data provided on the Police Accident Report Forms indicated that in some instances, inconsistencies and inaccuracies in the reported information exist. This is perhaps unsurprising given the limited training that Police receive in filling out the Forms and/or in accident investigation as well as the fact that in many instances, the Police did not attend the accident scene, thereby making accurate accident reporting difficult. Overall, in 2007, the Police actually only attended 41% of the reported crashes (rising to 59% of reported fatal crashes) - see Figure 1.1.

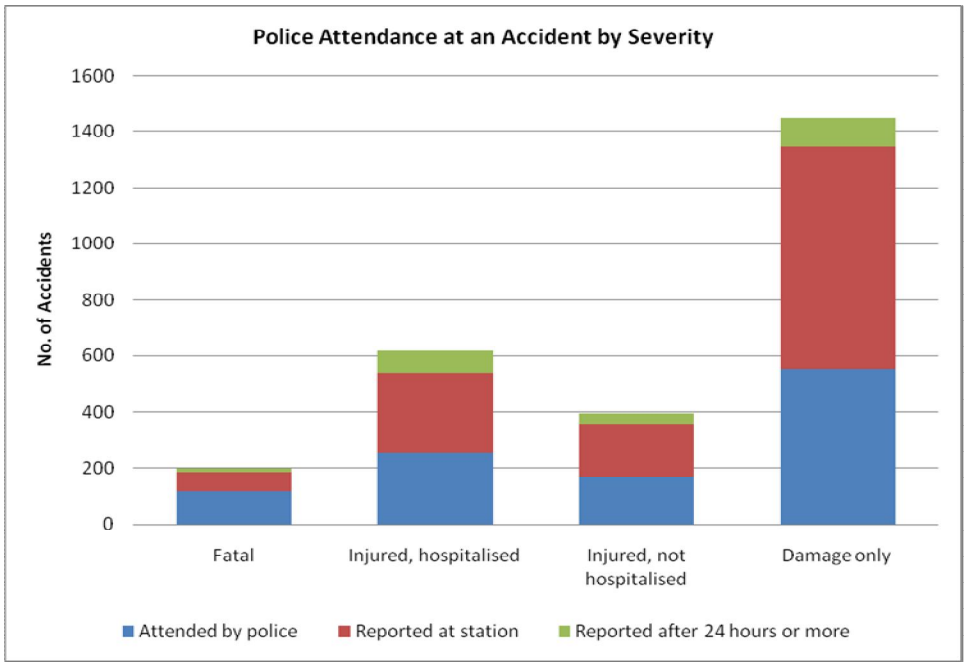


Figure 1.1

[3] ADB Road Safety Guidelines for the Asian and Pacific Region.

[4] Asian Development Bank. Accident Costing Report – The Cost of Road Traffic Accidents in Cambodia. ADB-ASEAN Regional Road Safety Program

In addition, the Police Accident Report Form (which was last modified in 1986) is not overly clear in many instances and does not always reflect current trends – for instance, there is no specific category for '4-wheel sport utility vehicles' when identifying the vehicle type – with such vehicles often identified as being either a 'car', 'utility vehicle' or 'other' by reporting officers.

As part of the work carried out by the NRSC in entering and reviewing the data, a number of logic and sanity checks have been carried out, and where appropriate, based on the police accident reports, changes have been made to the entered data to better reflect the intent of the question in the Police Accident Report Form. Despite these checks and balances, it is acknowledged that some anomalies may well still exist with the data.

1.4 MAAP Accident Database

The NRSC is currently in the process of establishing a national accident database (using the MAAP[5] system procured from the UK's *Transport Research Laboratory - TRL*) following funding from the Government's Development Budget in 2009 and 2010. This work aims to update the previous Department of Transport (DoT) maintained database that was destroyed in a fire (but never re-instated) up the present day and into the future. Fortunately, as part of their previous work with the accident database, TRL had maintained a copy of previously entered crash data for 1987 to 1994 (see Section 2.1). This existing information now forms the basis of the current database with work being carried out to enter reported fatal and casualty crashes from 1995 to 2004, and all reported crashes (fatal, serious, minor and damage only) from 2005 onwards. To date, 2007 accident data has been entered into the system whilst 2006 is approximately 95% complete.

In future, as the accident database is populated, it is intended to prepare annual reports based on the previous five years worth of data.

Source of Accident Information

This report uses data from the NRSCs accident database for 2007. This database includes all crashes involving injury and non–injury for which Police Road Accident Report Forms have been completed and forwarded to the Police HQ.

It should be noted that in some instances, as well as accidents not being reported to the Police, Police Accident Report Forms are not sent through to Police HQ or are perhaps sent to the wrong location. For example Police HQ have no records of accidents occurring in Milne Bay Province since 2005 and as such, motor traffic accident deaths and injuries for the Province have not been included in any official statistics – despite crashes being known to have occurred.

Given there are major concerns relating to both the accuracy and reported numbers of accidents at present, a high level of care and caution is required when interpreting the data. Where appropriate, in each of the following Chapters, comment on data validity

[5] Microcomputer Accident Analysis Package.

has been made and in some instances, some elements of the collated data have not been reported on due to concerns about its veracity.

1.5 Explanatory Note

Data

This Road Safety Data Report contains information relating to:

- accidents - i.e. the actual crash event itself;
- vehicles involved in the crash and their driver; and
- casualties - i.e. the injured persons including fatalities which may include:
  - vehicle occupants i.e. drivers and passengers; and
  - pedestrians.

As such, one accident may involve two vehicles (with two drivers) and result in three casualties (e.g. both drivers and a passenger); or alternatively, one accident may involve a single vehicle (with one driver) and result in five casualties (e.g. four passengers and one pedestrian). Due to the different elements that make up the accident data, great care is needed when analysing the database and/or using the enclosed data to ensure that outputs/information is correctly understood. Accordingly, to assist users of this Report, at the start of each Section, a short analysis and summation of the data has been provided.

Accident and Casualty Injury Severity

As part of the process of filling in the Accident Report Form, the Police classify road accidents by the severity of injuries suffered by road users in the accident using the following levels:

- Fatal[6].
- Injured and hospitalised (Serious injury).
- Injured but not hospitalised (Minor injury).
- Damage only to vehicles/property.

Accident severity is classed by the most severe injury sustained in the incident i.e. an accident involving a hospitalised person and two injured but not hospitalised people should be classed as a 'hospitalised' accident for official statistics – although in some instances due to errors in the completion of the Accident Form, the information provided doesn't always follow this convention.

Unless specifically noted, the data set down in this Data Report is for casualty accidents only (i.e. only those involving a fatal or injured person) and excludes 'damage only' crashes. This is due to an initial focus being on seeking to reduce the

[6] At present, no formal definition exists with respect to a 'fatal accident' in terms of the time period over which a person is assumed to have died as a result of suffering an injury in a road crash. Typically, deaths within 24 hours of the crash are reported as such. Deaths beyond this period can be included within Police records subject to appropriate paperwork; however, it is suspected that such updates to records are rarely carried out. Clarification on this matter is intended in the future. Elsewhere overseas, road deaths are typically defined as those occurring as a result of injuries received in a motor vehicle accident within 30 days of the accident occurring.

number of deaths and injuries on our roads (rather than non-injury crashes). In addition, a slightly higher proportion of casualty crashes are attended by police compared to damage only crashes, and it is assumed that the details provided on Police Accident Report Forms from attended crashes are more accurate than self-reported accidents.

2. National Overview

2.1 Historical Trends

As highlighted previously, the NRSC is currently in the process of updating the MAAP accident database given that no information has been entered into the system since the fire that destroyed the original DoT system and computers in the mid 1990s.

Figure 2.1 overleaf shows the accident data that currently exists in the system for 1987 to 1994 and 2007. Of particular note is the difference in the number of accidents reported in 2007 compared to those in the late 1980s and early 1990s. Given the large increase in population and number of motor vehicles in PNG since the original 1980s/1990s data, coupled with no significant intervention to reduce road accidents, it is strongly suggested that the lower number of recorded accidents in 2007 is due primarily to increased levels of under-reporting, particularly of damage only crashes, rather than any improvement in road safety.

2.2 2007 Accident and Casualty Numbers

The total number of reported accidents and casualties by severity for 2007 are shown in Table 2.1.

Severity	Accidents		Casualties		Casualties per Accident
	No.	%	No.	%	
Fatal	202	16	270	10	1.3
Serious	630	51	1413	52	2.2
Minor	403	33	1033	38	2.6
Total Injury	1235	100	2716	100	2.2
Damage Only	1462				
TOTAL	2697				

Table 2.1

As indicated, there were a total of 2,697 accidents reported in 2007, resulting in 2,716 known deaths and/or injuries. In terms of injury crashes (i.e. excluding damage only crashes), on average, 2.2 people were killed or injured in each crash. Whilst the vast majority (64%) of fatal and casualty crashes involve only a single death or injury, there were six reported instances where 20 or more people were injured and/or killed in each of the crashes. (For the record – these 6 crashes resulted in 7 deaths, 80 serious injuries, 43 minor injuries and 10 of unknown severity: 140 fatal and injury casualties in total).

Using population and vehicle data set out in the *World Health Organisation Road Safety in the Western Pacific – Call for Action (2009)*, the above number of deaths indicates a fatality rate of 45 road deaths per 10,000 vehicles and a fatality risk of 4.2 road deaths per 100,000 population. In terms of the number of deaths per 10,000 vehicles, the fatality rate is considered to be relatively high and one of the worst in the Western Pacific. Furthermore, as discussed in Section 3, whilst the average fatality risk is 4.2 deaths per 100,000 population, this varies by region and province with the fatality

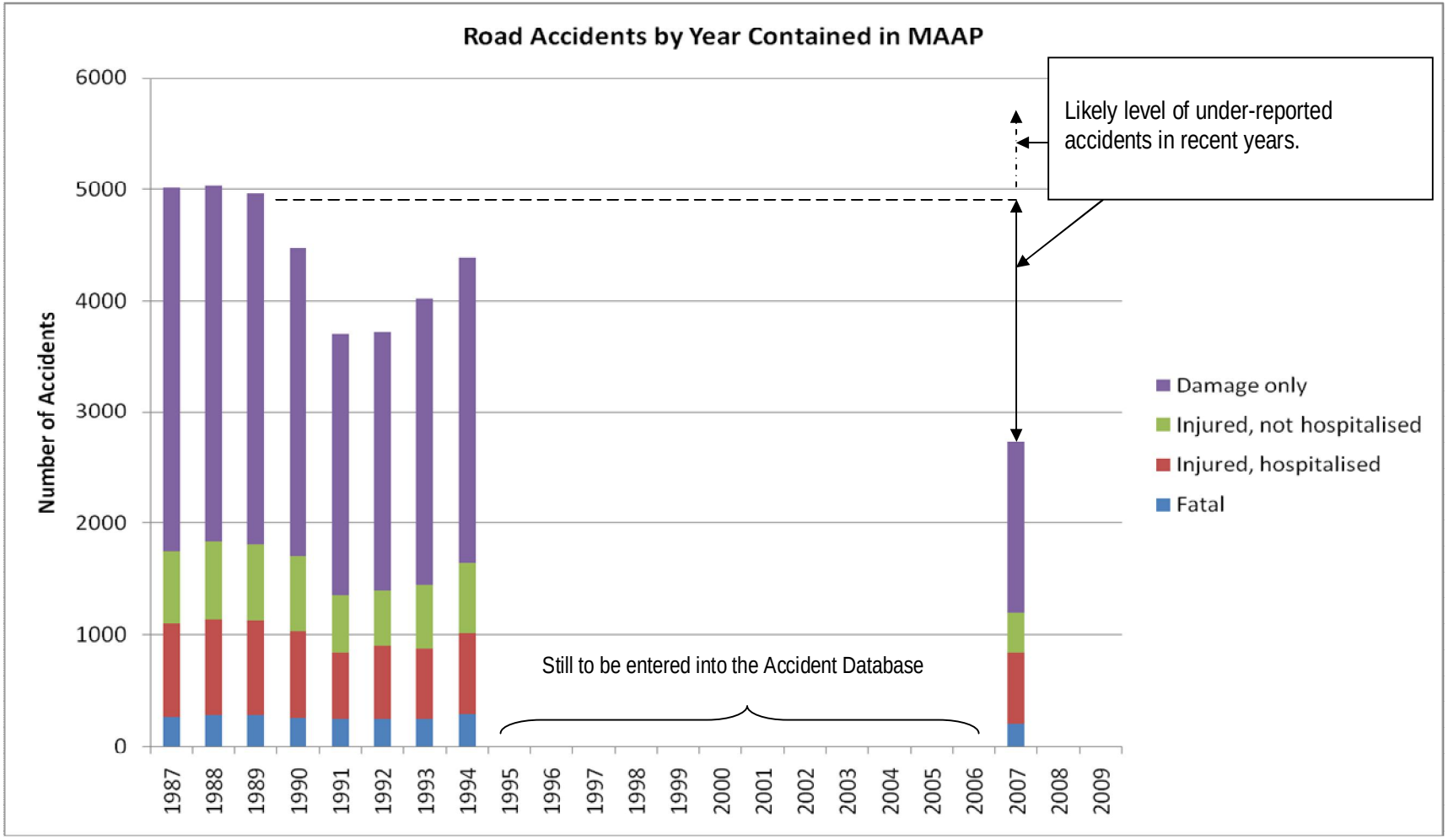


Figure 2.1 Annual Accident Numbers by Severity

risk increasing to 10.7 deaths per 100,000 population in the NCD, with Central and Sundaun Provinces both having a fatality risk more than double the national average.

Whilst 47% of fatal casualties received multiple injuries, 34% of deaths were due to head injuries alone, increasing to 44% for those sitting outside in the rear of a truck/ute.

Of interest to note is the higher number of serious accidents and casualties when compared to minor accidents and casualties. Typically, elsewhere, there are a greater number of minor accidents/casualties than serious – which may either reflect under-reporting of minor accidents and/or that accidents in PNG typically result in more serious injuries due to, for instance, poor 'in-crash' safety elements such as a lack of seat belt wearing, passengers sitting in the rear tray of a ute, or road safety barriers.

2.3 Urban/Rural Split

For greater clarity, the accident and casualty data has been split down by urban (city) and rural areas, as shown in Figures 2.2 and 2.3. For the purposes of this analysis, it is assumed that an urban area has a 60km/h speed limit and rural areas typically have a 75km/h speed limit (regardless of actual operating speeds) in line with the Motor Traffic Act 1950 and Motor Traffic Regulations 1967.

As indicated in Figures 2.2 and 2.3, rural areas have a much higher number of both fatal and serious injury (injured, hospitalised) crashes along with a higher number of fatalities and serious casualties. This may well be due to higher operating speeds in rural areas.

Whilst urban areas have a higher number of minor injury accidents (injured, not hospitalised) than rural areas, of particular note however is rural areas actually have a higher number of minor injury casualties, suggesting a high number of casualties per accident in rural areas. Indeed, compared to those average values shown in Table 2.1, rural areas have a much higher casualty to accident rate (with urban areas having a correspondingly smaller casualty to accident rate), with rural areas averaging four casualties for each reported minor accident that occurs.

It should also be noted that whilst only 15% of PNGs population live in urban areas, the proportion of accidents (51% of casualty accidents and 65% of all accidents including damage only) and casualties (38%) occurring in such areas is much greater. This can be attributed to the higher number of motor vehicles in urban areas compared to rural locations.

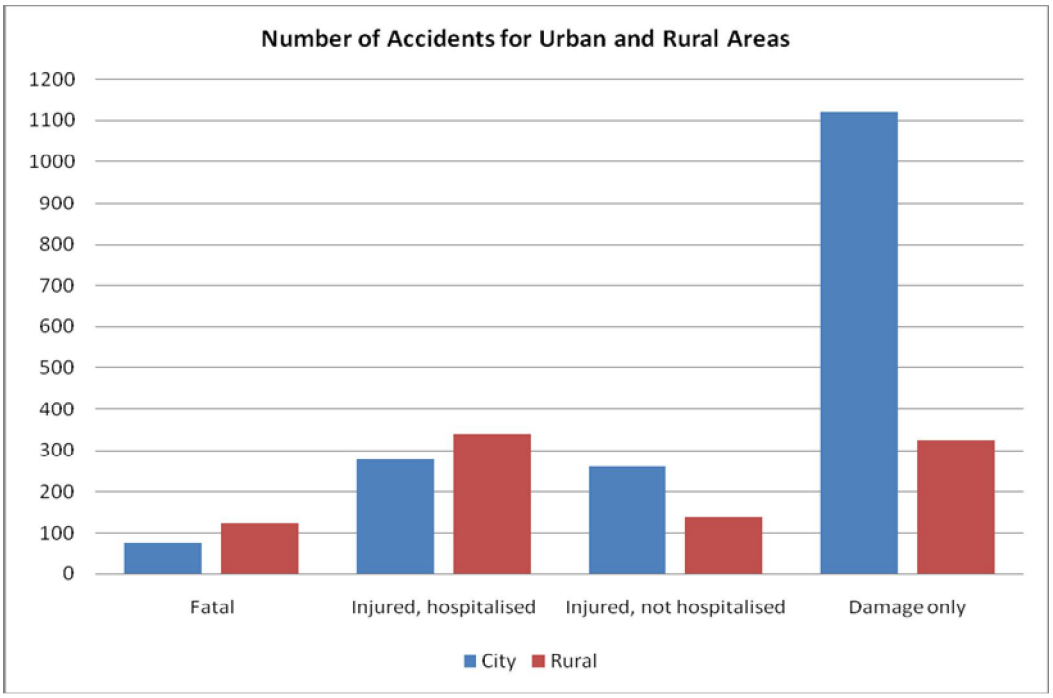


Figure 2.2

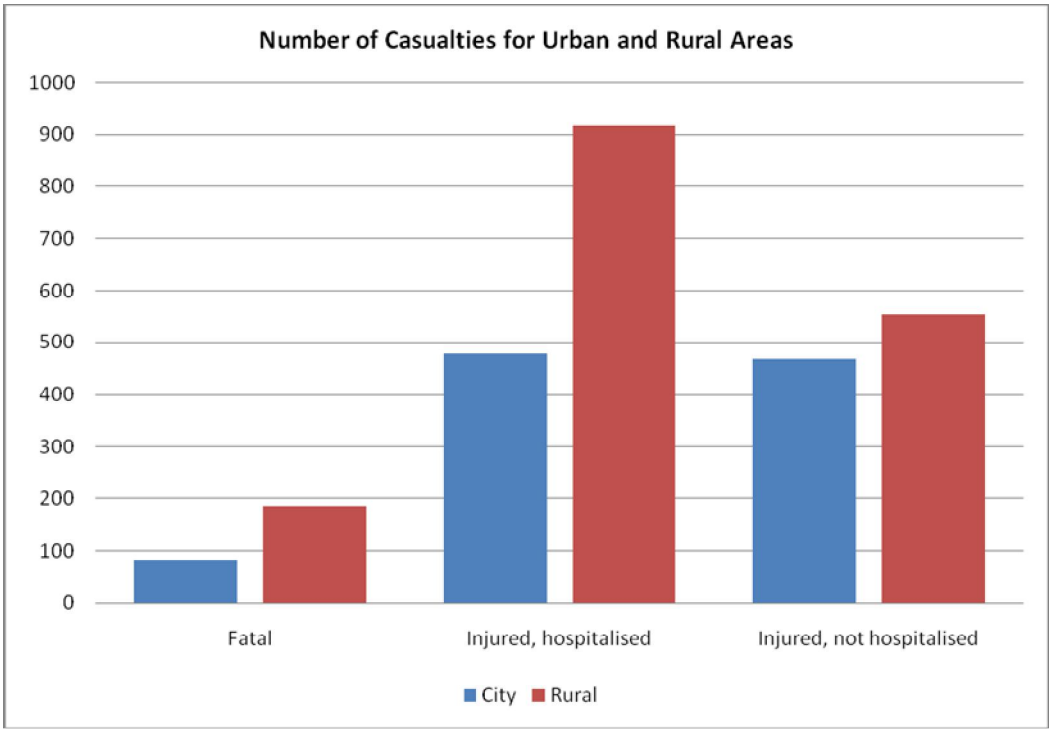


Figure 2.3

3. Provincial Data

Figures 3.1 to 3.6 provide a breakdown of road safety performance by Province[7] for 2007. As shown in Figures 3.1 and 3.2, the NCD has the greatest number of total road accidents as well as actual deaths and injuries caused by road accidents. It should be noted however that whilst 29% of all fatal and casualty accidents occurred in the NCD, only 17% of fatal accidents occurred there. This contrasts with the Western and Eastern Highlands along with Chimbu Province which had 27% of all fatal and casualty accidents, but 29% of all fatal accidents.

Figure 3.3 allows a like for like comparison based on deaths per 100,000[8] population for each Province to indicate levels of risk. As indicated in Figures 3.3 and 3.4, when the number of road deaths in each Province is compared with deaths per 100,000, some provinces with a lower number of reported deaths, such as Sundaun and Central, actually have a relatively high level of risk in terms of population size.

In order to compare the relative risk of death in a road accident across Provinces, a Fatality Index has been calculated[9] - see Figure 3.5. The Fatality Index provides a guide with respect to how many people die as a result of an accident compared to those that are simply injured. The Fatality Index of most developed nations is in the order to 1% to 2% whereas for PNG as a whole, it's 10% based on current reported accidents/casualties. In some Provinces such as West New Britain, East Sepik, Sundaun, Gulf and Western however, the Fatality Index exceeds 20%.

It should be noted that the Fatality Index is highly dependent upon accurate accident reporting – with high levels of under-reporting, particularly of less serious accidents, causing the Fatality Index value to increase. It is also influenced by other factors such as the number and quality of medical facilities[10] as prompt medical treatment, for instance at the scene of the crash, can help stabilise an injured person's condition and therefore minimise the chance of the person dying – and hence reduce the Fatality Index. In addition, the Fatality Index can be influenced by the nature of accidents and the high probability of fatal accidents as occurs with passengers travelling in the back of utility vehicles or heavy vehicles with limited protection for occupants – such that when an accident occurs, there is a high probability of the occupants being ejected from the vehicle and being killed.

Figure 3.6 also attempts to indicate the level of Police attendence/non-attendance at accidents by Province. In theory, Police attendance at accidents should help improve the quality of the data as a detailed investigation can be carried out. It is highly unlikely that drivers reporting an accident at the Police Station will implicate themself as being at fault or having a defective vehicle. Whilst there may be many reasons why the Police cannot attend the scene of an accident, such as unawareness or lack of fuel etc, the

[7] No accident data for Milne Bay Province has been sent to Police HQ for 2007 and is therefore not included in the statistics.
[8] Population data obtained from statistics in the National Health Plan – based on population estimates for 2008.
[9] Fatality Index values calculated by dividing the number of fatalities by the total number of casualties (including fatals) – and expressing the result as a percentage.
[10] ADB Guidelines for Road Safety in Asia and Pacific Region.

Police should be encouraged where possible to attend as many accidents as possible in order to try and improve the accident information being collected.

In addition to the above, Appendix B also contains lists of the most hazardous roads (in terms of reported accident numbers) in each Province.

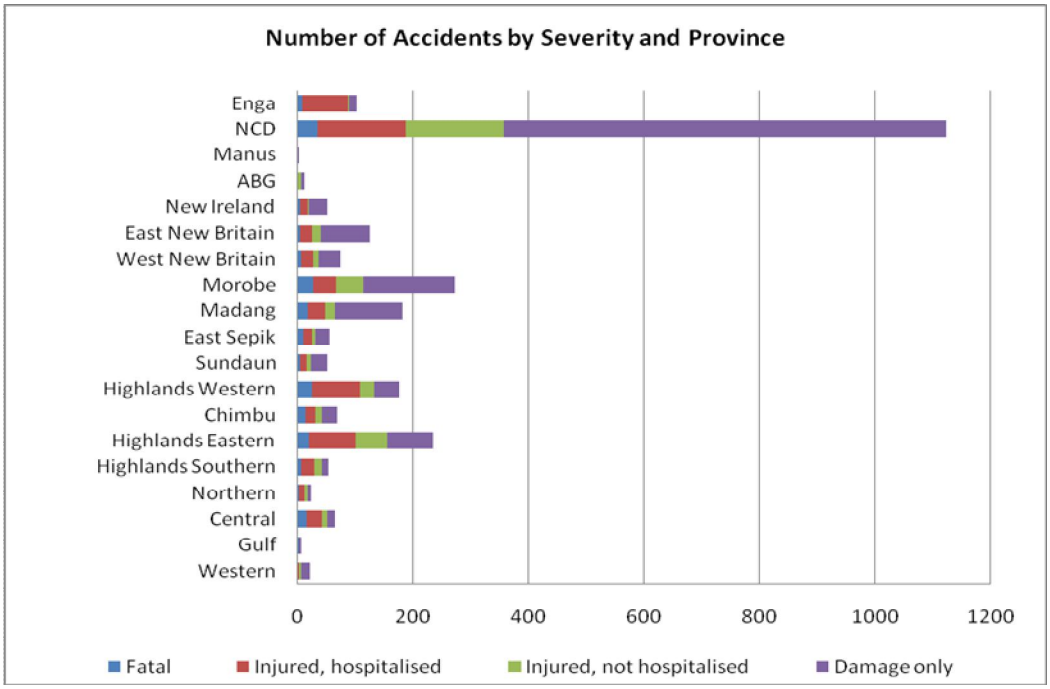


Figure 3.1

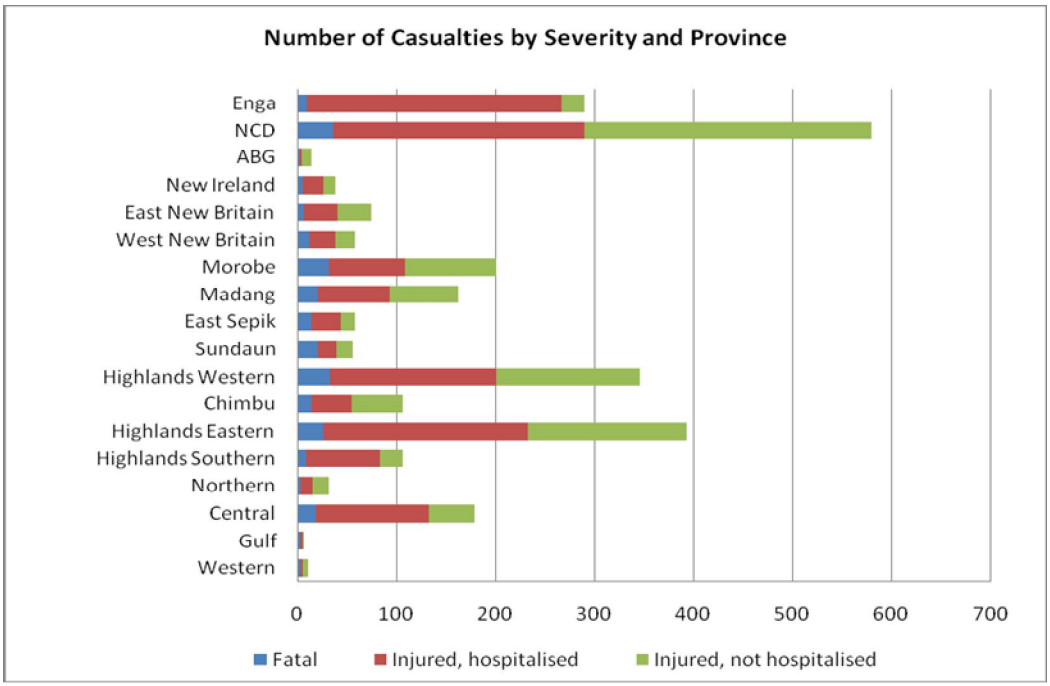


Figure 3.2

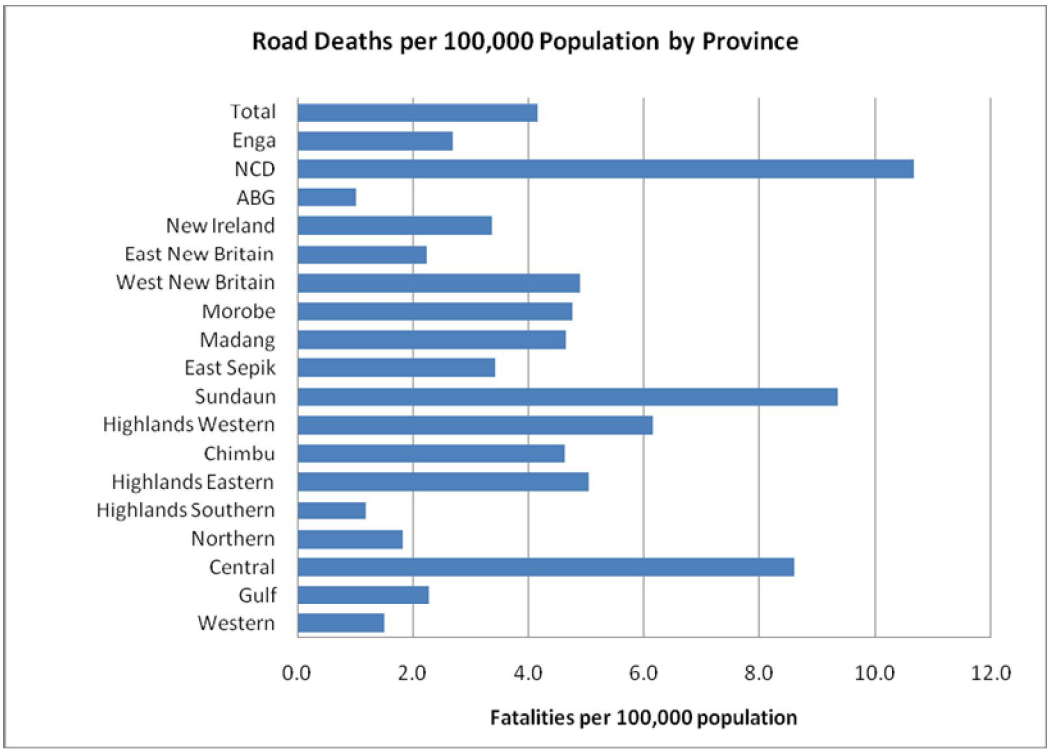


Figure 3.3

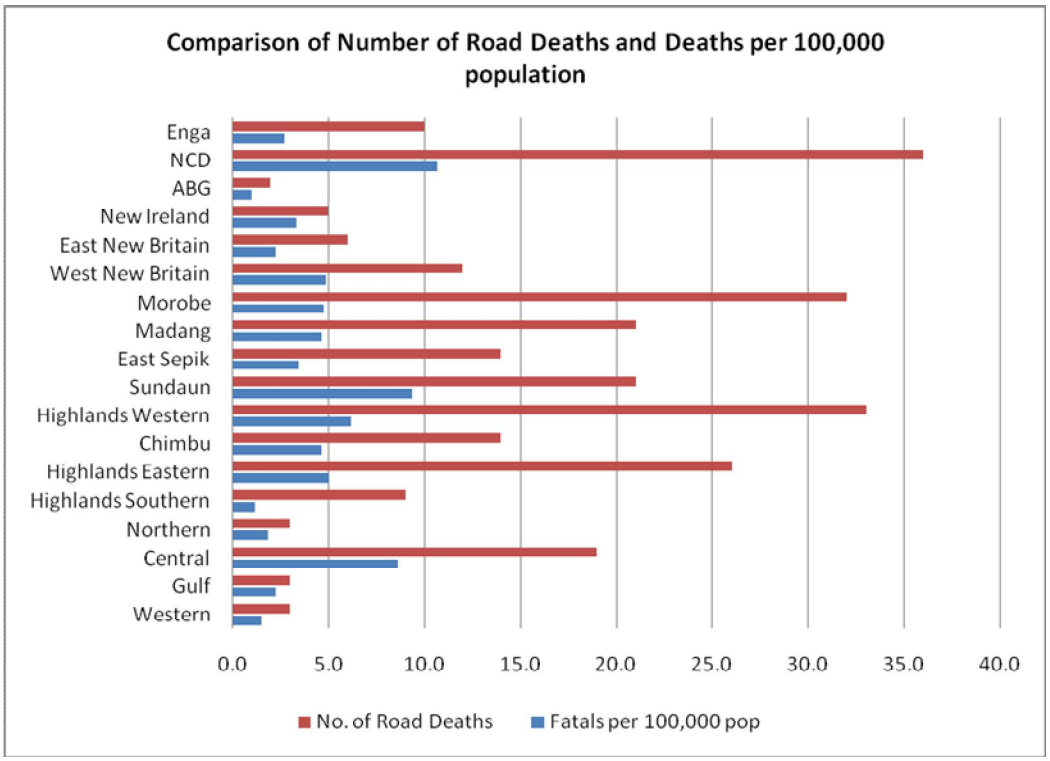


Figure 3.4

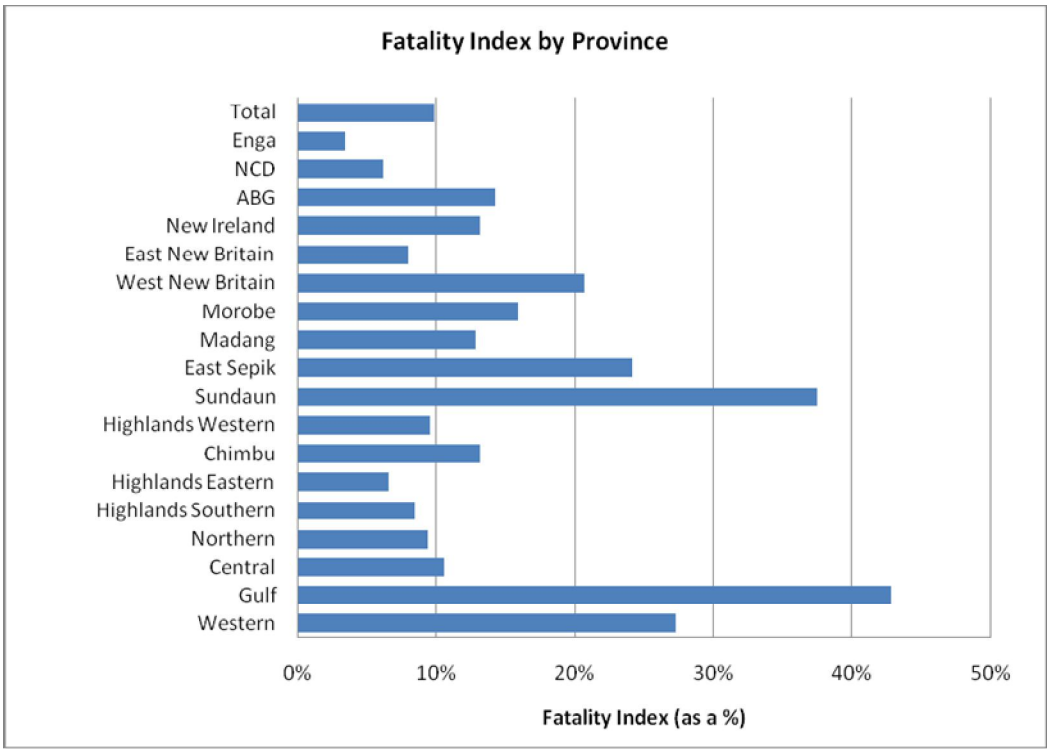


Figure 3.5

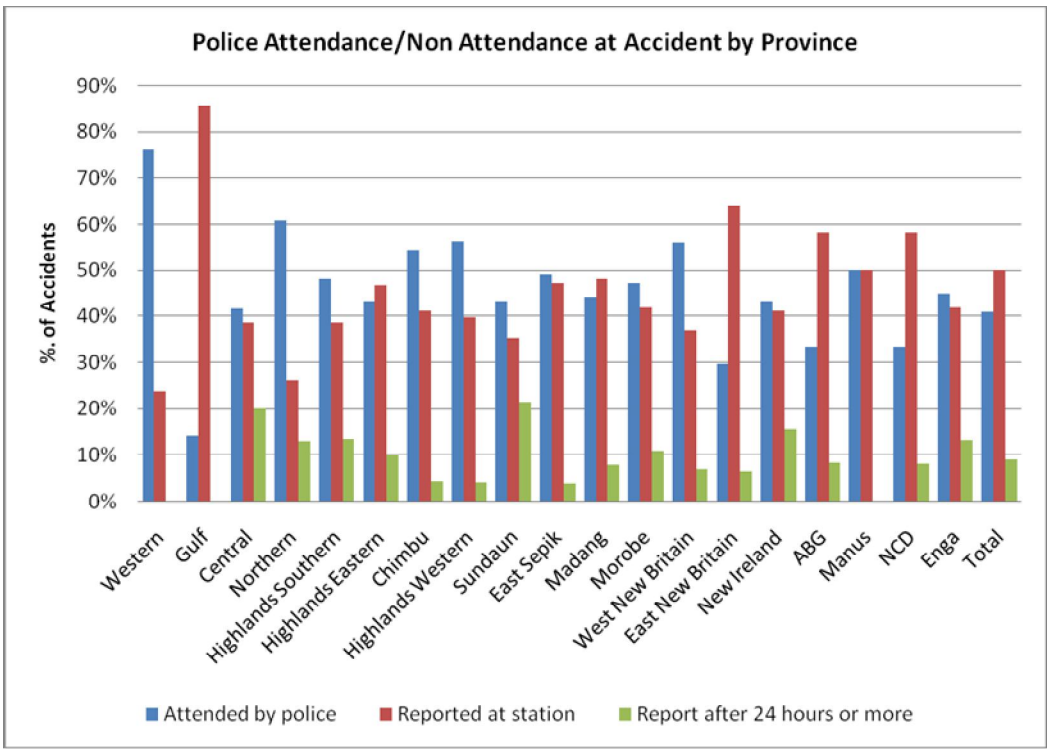


Figure 3.6

4. Accident Date and Time

Figures 4.1 and 4.2 show reported accident numbers (broken down by severity) by the day of the week and the month of year respectively. Whilst no particular trend exists throughout the year in terms of monthly accident numbers, it is clear that accident numbers increase greatly on Friday and Saturday. Unfortunately, no traffic flow data exists to better understand the risk of travelling on either a Friday or Saturday. However, as shown in Figure 4.3, both Friday and Saturday have a higher number of crashes occurring outside of daytime hours (i.e. at night time, dawn or dusk) compared with any other day of the week.

Data relating to the actual time of the crash is currently still being entered into the accident database, although such information will be included in future Road Safety Data Reports.

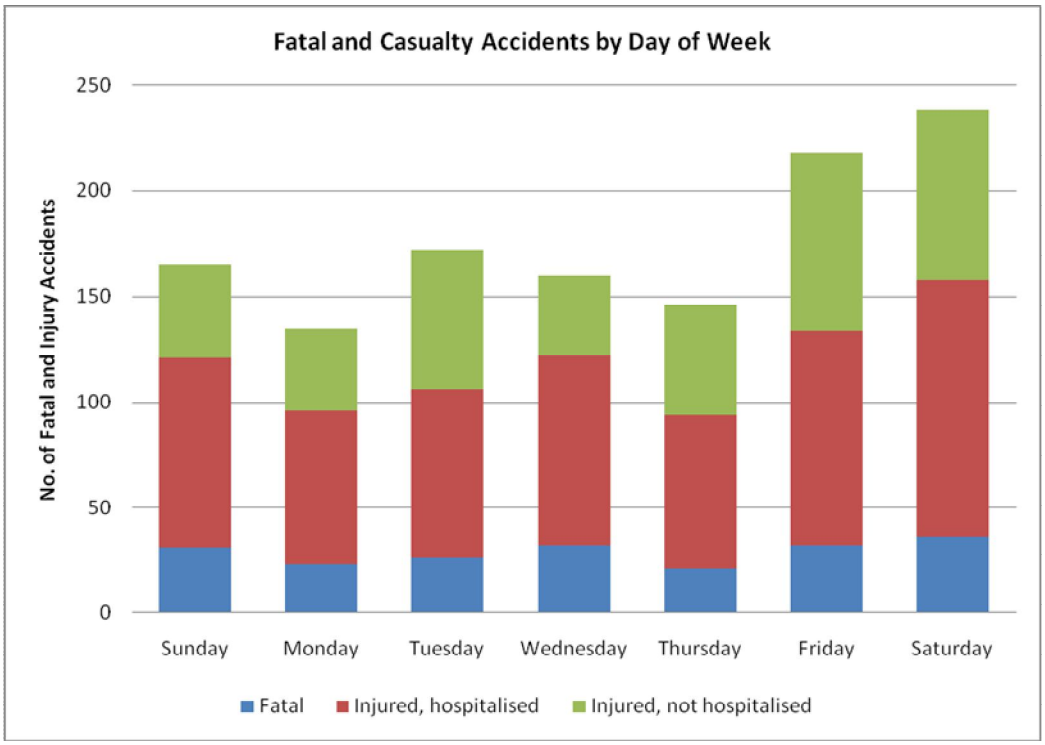


Figure 4.1

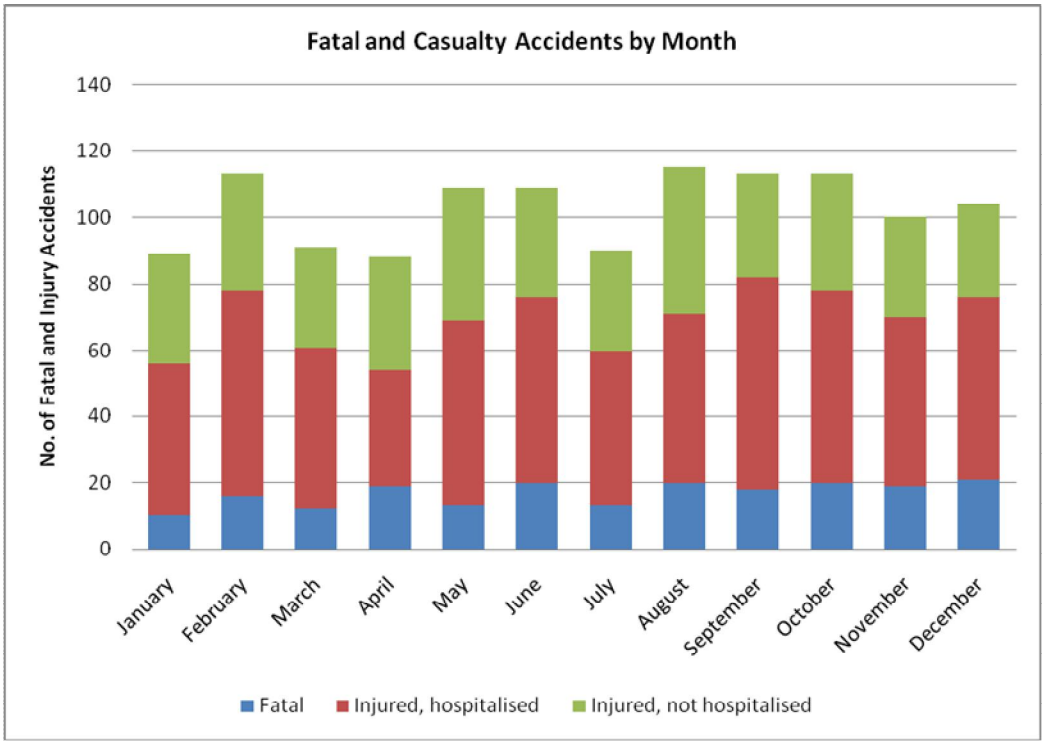


Figure 4.2

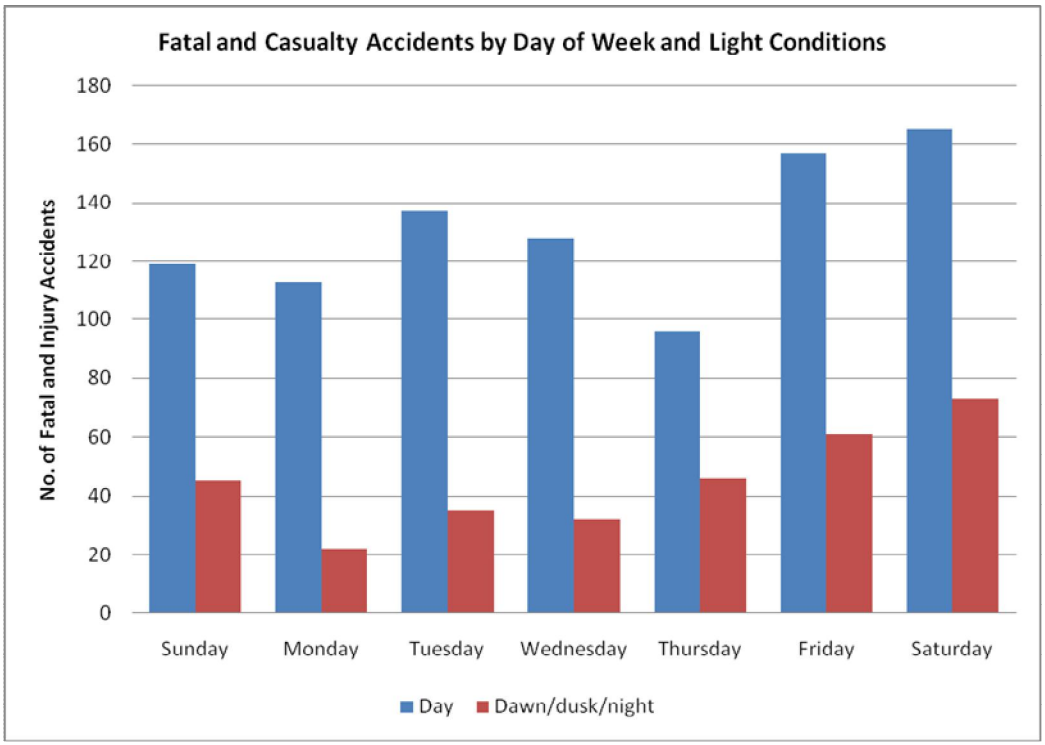


Figure 4.3

5. Crash Types

Figure 5.1 sets out the number of fatal and casualty crashes by the reported type of collision for urban and rural roads. Care should be taken with respect to the accuracy of some of this data in terms of the Police Officer's stated the collision type, although it should be noted that logic and sanity checks of the 'collision type' data set down on the Police Accident Report Forms have been undertaken with respect to the hand written description/witness statements/accident drawing. For instance, a number of accidents were originally reported as being single vehicle crashes whilst the collision type used would suggest the need for at least two vehicles – for example a head-on crash (two vehicles hitting each other whilst travelling towards each other), rear-end crashes (one vehicle hitting the rear of another vehicle that is in front of it), right angle crashes (a vehicle hitting another vehicle on the side such as at a T-junction or cross roads) and side swipe crashes (a vehicle hitting another vehicle travelling in the same direction as it passes on the side of the vehicle). The above issues reinforces the need to carry out training with the Traffic Police so that the intention of the questions set down on the Forms can be explained.

Eighty percent of all reported accidents are noted as involving only one vehicle. These caused 73% of all casualties (including fatals).

Notwithstanding some of the above concerns concerning original data accuracy, it is clearly evident that pedestrian collisions along with single vehicle overturned and/or run-off road (hit object off road) crashes are the most common types of crashes, the latter two being particularly true on rural roads.

It should be noted however that whilst pedestrian collisions are the most common, crash type, 'overturn' types of accidents resulted in the most number of casualties – see Figure 5.3. Indeed, whilst 17% of crashes were 'overturn' type collisions, they resulted in 25% of total casualties. This compares with pedestrian collisions which made up 38% of crash types but 21% of all casualties. Overturned collisions typically involved utility vehicles/utes (pick-ups) – 35% of all vehicles involved in such a collision type, followed by trucks (27%) and buses (19%).

Figure 5.4 also presents a breakdown of crash type by road geometry. Whilst most accidents (58%) are reported to occur on 'straight and flat' sections of road, unsurprisingly, this overall percentage reduces for overturned (31%) and run-off road hitting an object (37%) type of crashes, with such crashes typically occurring on curved roads.

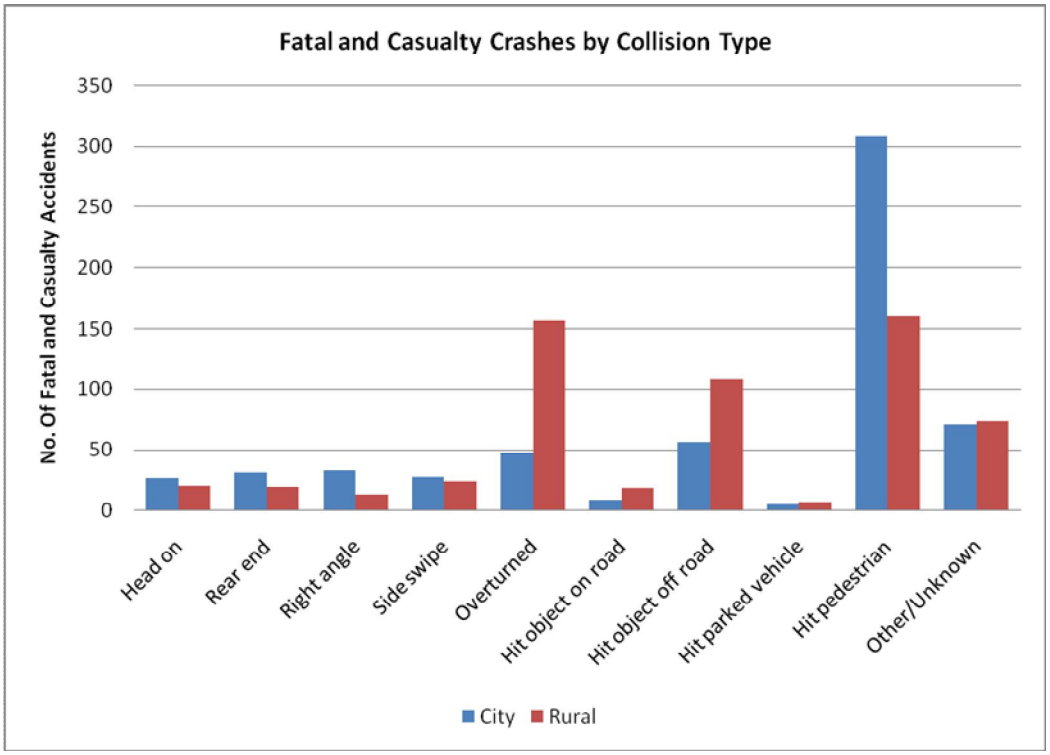


Figure 5.1

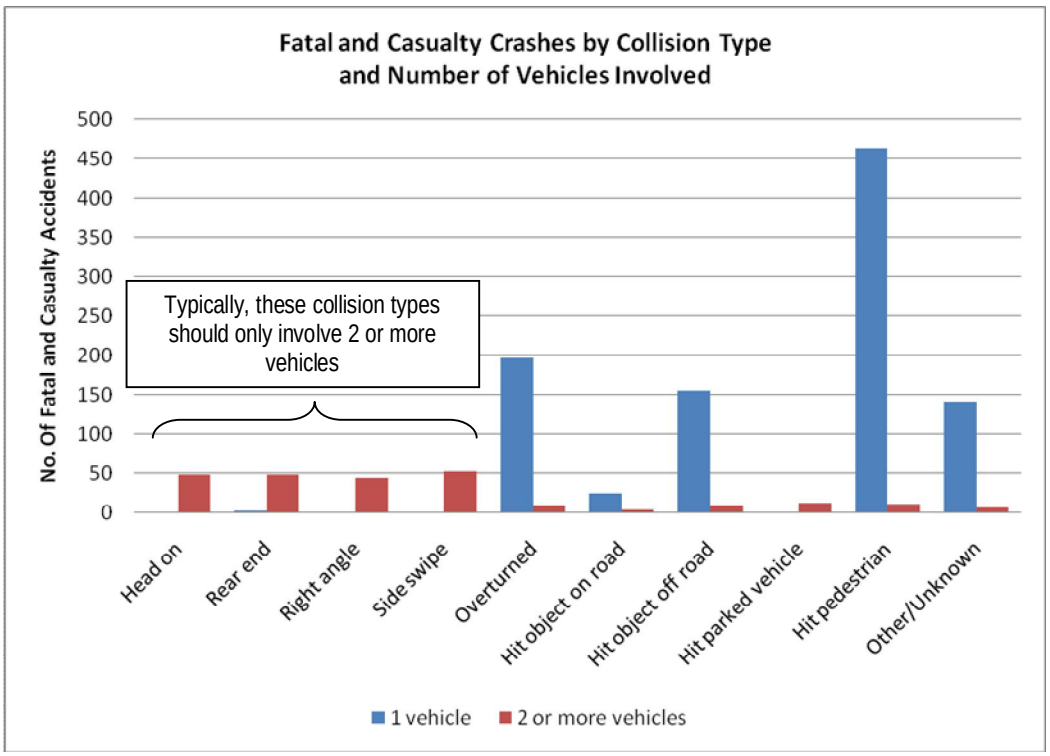


Figure 5.2

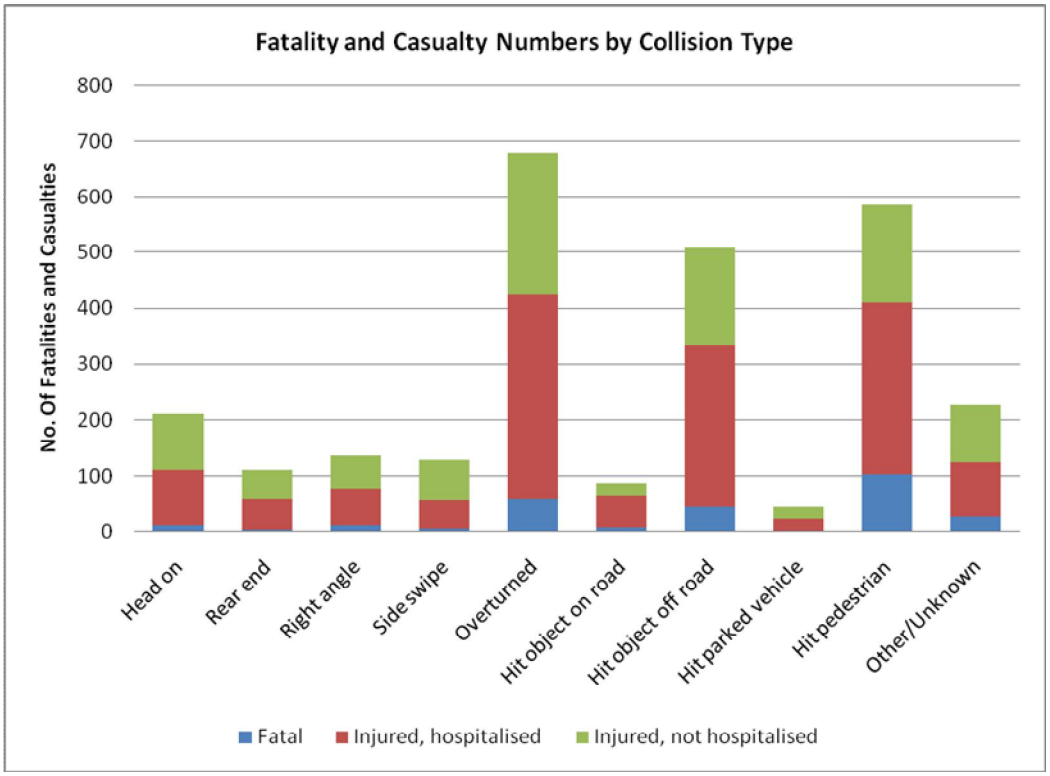


Figure 5.3

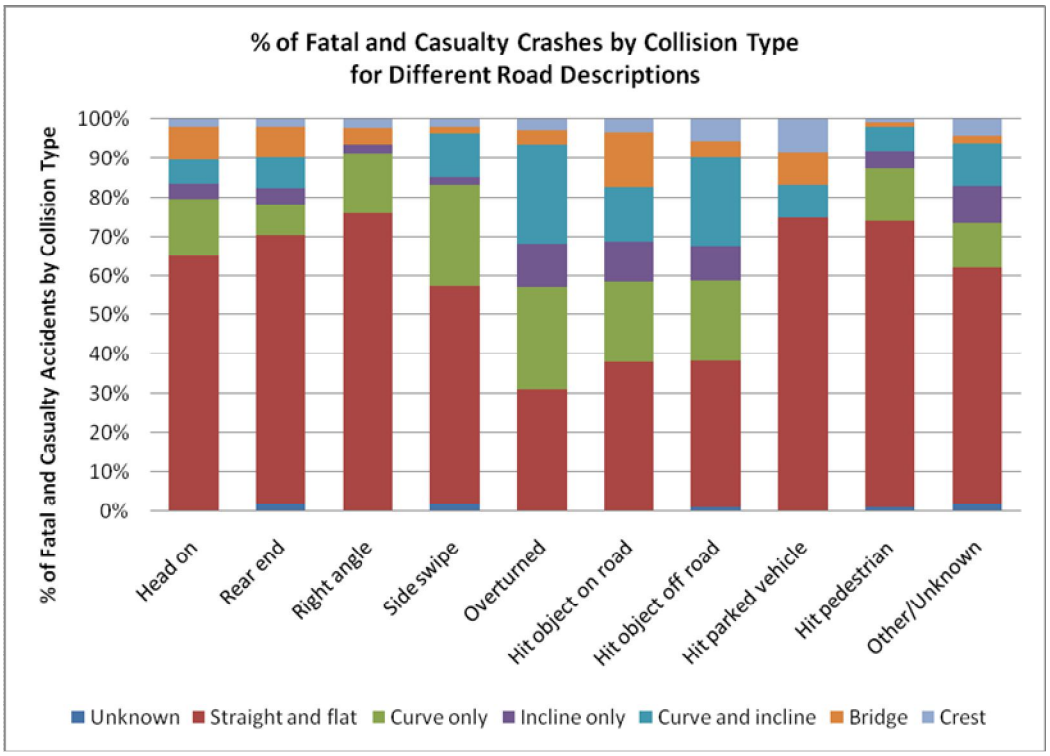


Figure 5.4

6. Road User Factors

Figure 6.1 shows the percentage of fatal and injured road user casualties split down by type whilst Figure 6.2 shows the type of vehicle that killed and injured people were using (or collided with in the case of pedestrians) when the crash occurred. Vehicle passengers on a bus (20%) or in the back of a truck or utility vehicle (30%) make up half of all killed and injured road users. It should be noted that 65% of casualties sitting (or standing) outside in the rear of a utility vehicle were killed or seriously injured (i.e. hospitalised), compared with 48% of casualties sitting inside the utility vehicle. Whilst it could have been expected that an even greater percentage of casualties in the rear tray of a utility vehicle would be killed or seriously injured than the 66% reported given the lack of restraints, it still demonstrates the greater risks associated with travelling in such a manner. It is calculated that between 60 and 70 lives would have been saved or less severely injured had the occupants in the rear tray been in an enclosed vehicle.

Figures 6.3 and 6.4 show similar information to that contained in Figures 6.1 and 6.2 except the data relates to fatal casualties only. As indicated, the proportion of pedestrians killed increases compared to those 'killed and injured' (from 20% to 37%), reflecting the vulnerability of such road users. Trucks and buses were involved in 42% of the fatalities.

The age and gender of fatal and injured road user casualties are shown in Figure 6.5 whilst the details for fatal casualties only are shown in Figure 6.6. Approximately 70% of all road user casualties are male, with the majority (55%) involving people aged between 21 and 40 years of age. Whilst acknowledging that the overall number of injured female road users is relatively small, it is noted that over a quarter of all female road deaths involve children aged 10 years or younger (this compares to 6% for males), with a higher proportion of females being killed/injured when young compared to their male counterparts. Twenty percent of all road deaths involved children aged 15 years or younger

Figures 6.7 to 6.11 provide the details of those drivers involved in a crash. It should be noted that the information relates to all drivers involved in an accident – rather than for instance just the driver deemed at fault.

As shown in Figure 6.7, 98% of drivers involved in a crash are male (i.e. 2% are female). Care should be taken however with simply suggesting females are safer drivers than men, as observations would suggest that the vast majority of drivers are male. As such, gender issues associated driver involvement in accidents needs to be carefully considered in terms of exposure to risk – i.e. if, for instance, 98% of all drivers are typically male, then their 98% involvement in accidents is perhaps unsurprising. Unfortunately, general surveys of driver gender have not yet been carried out to help to better understand this risk.

Figures 6.8 and 6.9 show the number and percentage of drivers reported by the police as having committed a driver error, for instance travelling too fast or being inattentive. Of particular note is the number of drivers noted as not having committed an error (combined with 'unknown' in Figure 6.8 for simplicity due to the low number of crashes reported as being 'unknown'). Whilst it is acknowledged that the data includes those

drivers that may not have been at fault – for instance in a two car collision where only 1 drivers has committed an error, a review of single vehicle only crashes suggest that over a third of all such accidents were still reported as a driver not being at fault or having made an error. Research from elsewhere in the world suggests that road users (either as a single contributory factor, or as one of multiple factors) are at fault in 95% of accidents. This would suggest that the Police are perhaps currently unable to best determine driver error, perhaps as a result of the lack of site attended and fully investigated crashes.

Notwithstanding the above concerns, a review of driver error figures excluding those reported as being 'unknown' or 'none' indicates that speed, coupled with loss of control, and inattention are the main driver errors reported by the police.

Figure 6.10 provides details relating to drink-driving with police either being suspicious of the driver having been drinking or the driver testing positive in 12% of crashes (including those rated as 'unknown'). For Saturdays and Sundays however, this percentage increases to approximately 20% - see Figure 6.11 for numbers of drivers by day of week.

When excluding those Police Road Accident reports indicating 'unknown' and reviewing crash severity, Figure 6.12 shows that for fatal accidents, alcohol is suspected or tested positive for drivers in 23% of cases (increasing to 28% for single vehicle accidents), compared to 13% and 12% respectively for serious and minor severity crashes. This suggests that almost a quarter of all drivers involved in fatal accidents were suspected or proven to be under the influence of alcohol.

With respect to pedestrian road user casualties, Figures 6.13 provides details concerning age and gender. Thirty one percent of all pedestrians killed and/or injured were aged 15 years or younger (increasing to 37% for killed only). It should also be noted that two-thirds of all pedestrian casualties occur in urban areas, partly reflecting the increased level of exposure and risk. In addition, Figure 6.14 shows the actions of pedestrians when they were involved in an accident. When excluding 'unknowns', pedestrians crossing the road account for 38% of all pedestrian casualties. However, of particular interest is that pedestrians walking along the road, walking along the edge of the road or on a footpath account for 10%, 23% and 18% respectively of all pedestrian casualties. As such, over 50% of pedestrian casualties occur whilst travelling along a road rather than crossing it. In terms of such accidents, a higher proportion of pedestrian casualties in urban areas are injured on footpaths, whilst in rural areas, unsurprisingly given the lack of pedestrian facilities such as footpaths, a higher prortion of pedestrian casualties occur whilst walking along the road/at the edge of the road.

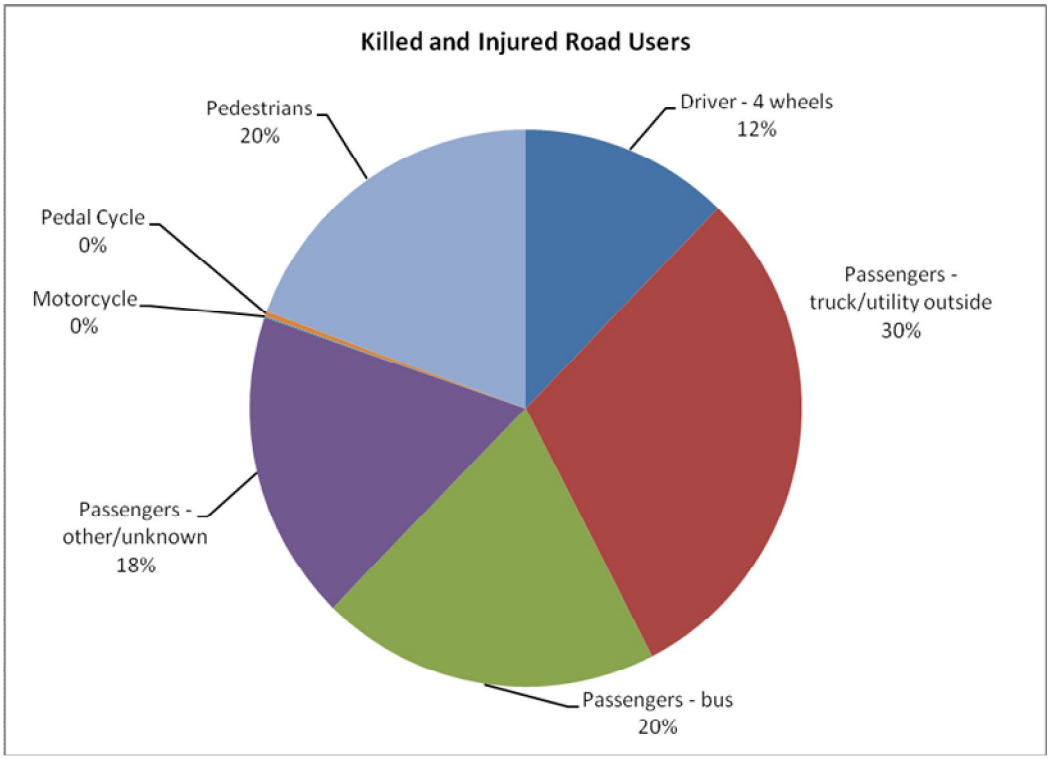


Figure 6.1

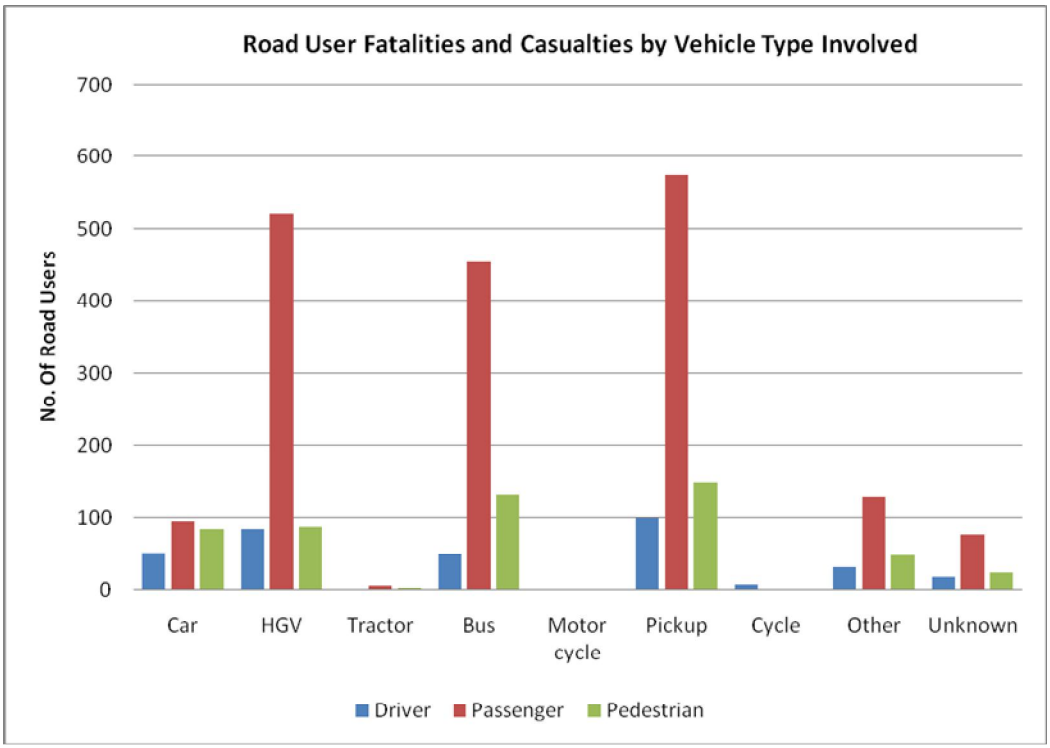


Figure 6.2

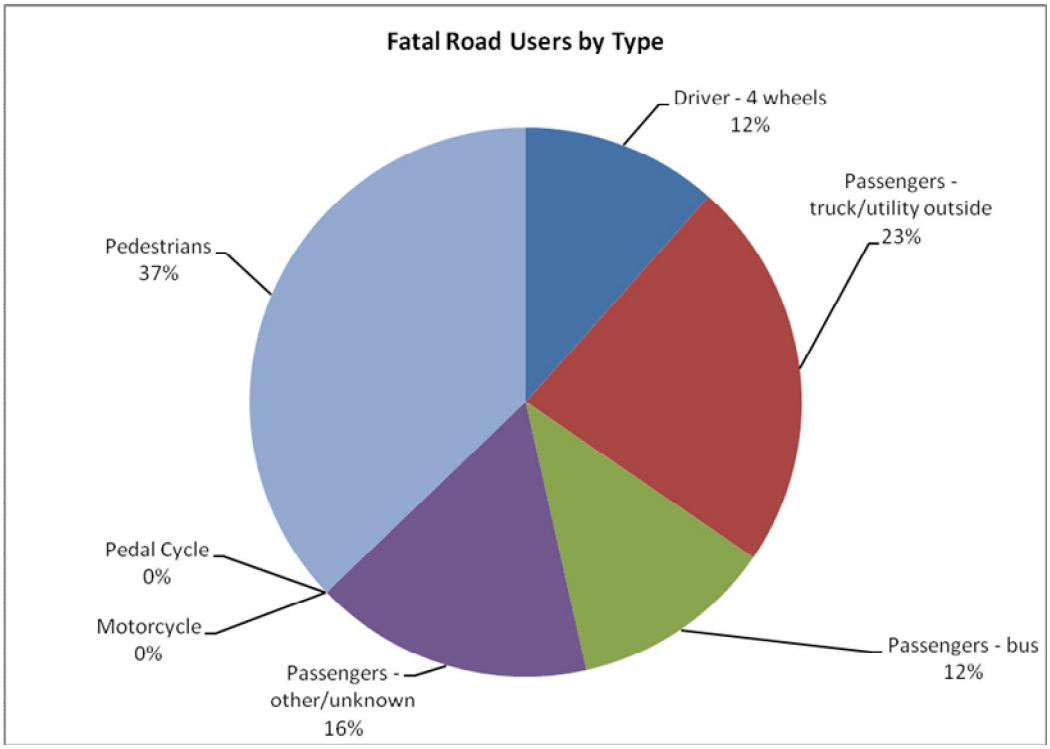


Figure 6.3

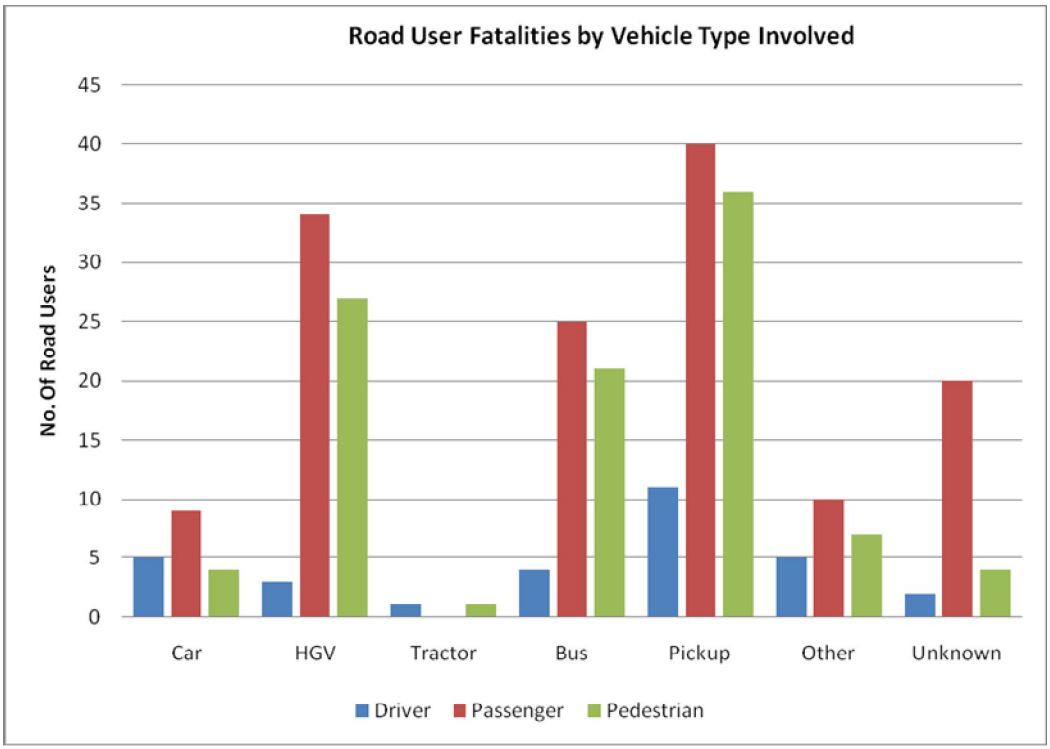


Figure 6.4

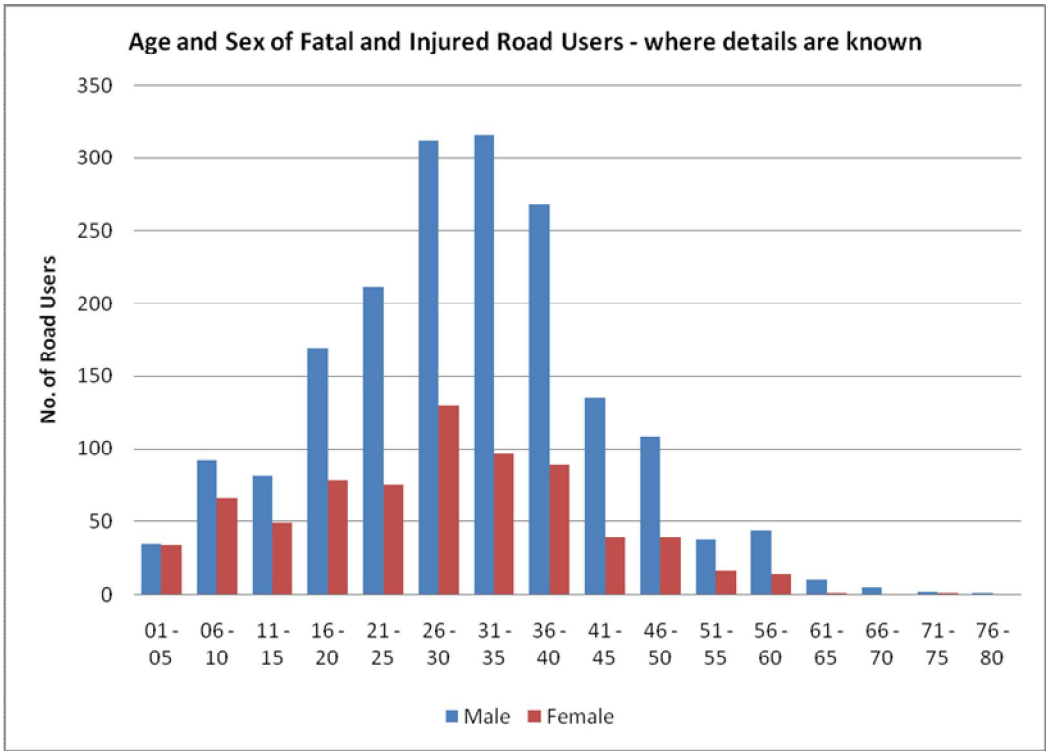


Figure 6.5

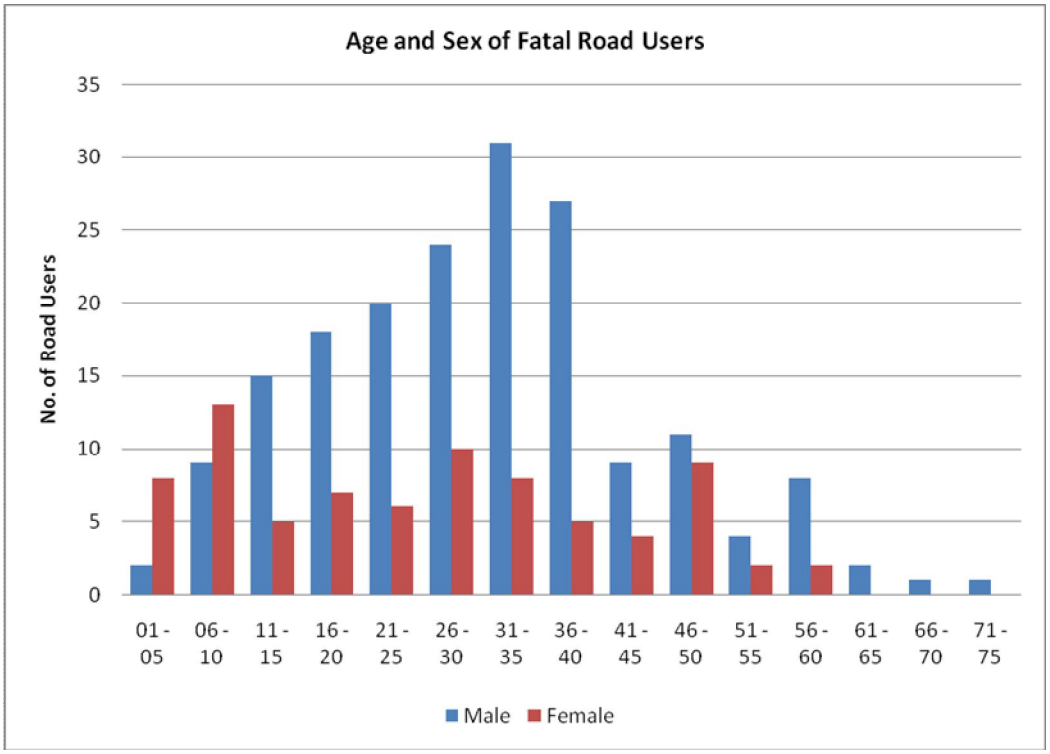


Figure 6.6

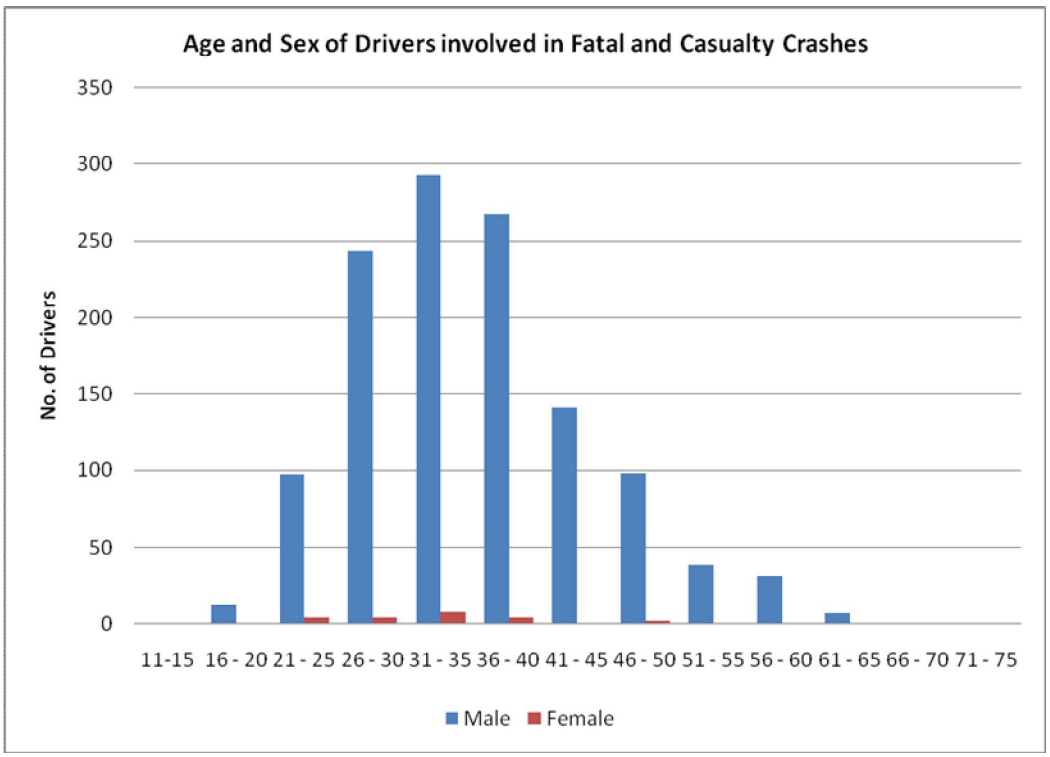


Figure 6.7

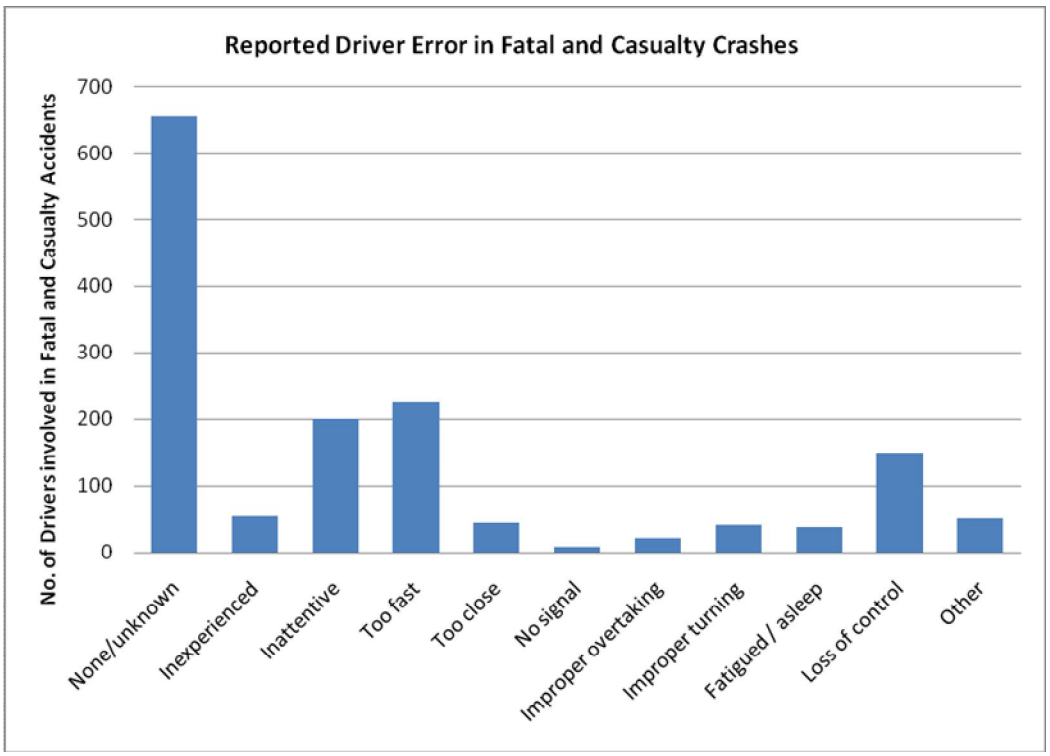


Figure 6.8

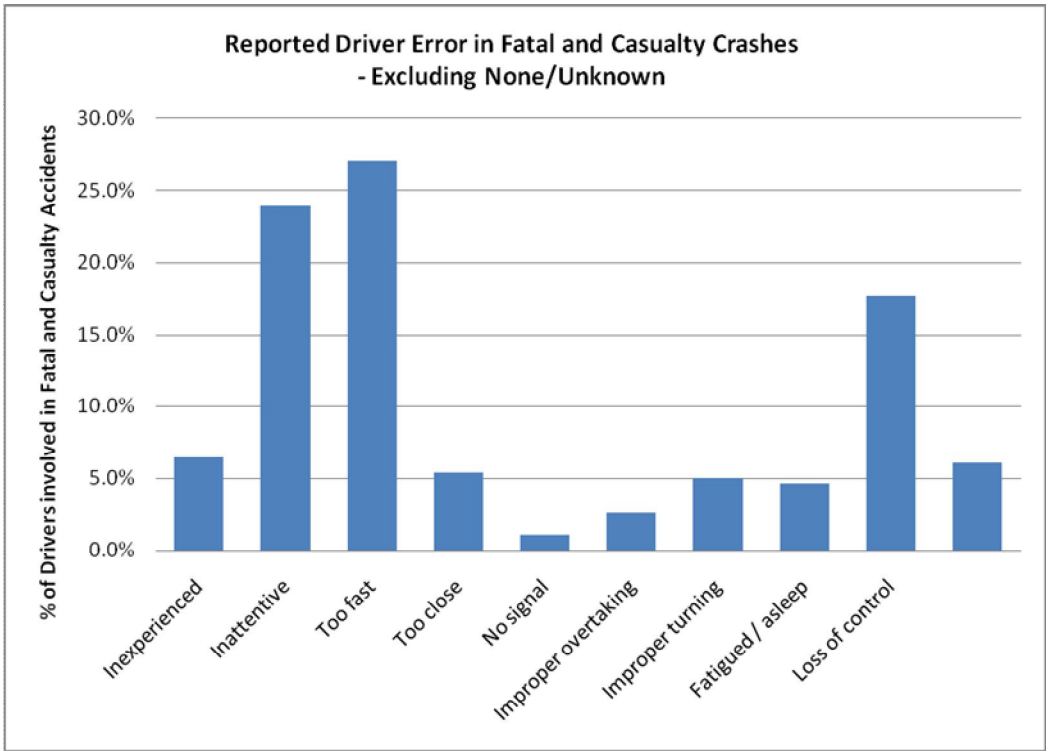


Figure 6.9

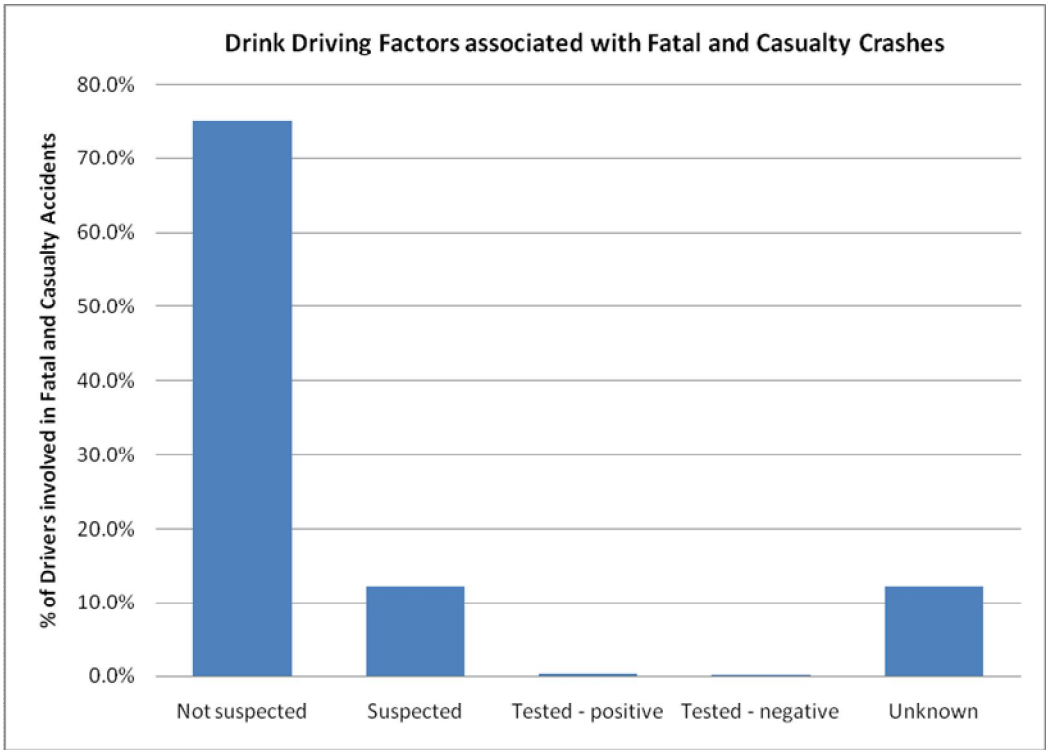


Figure 6.10

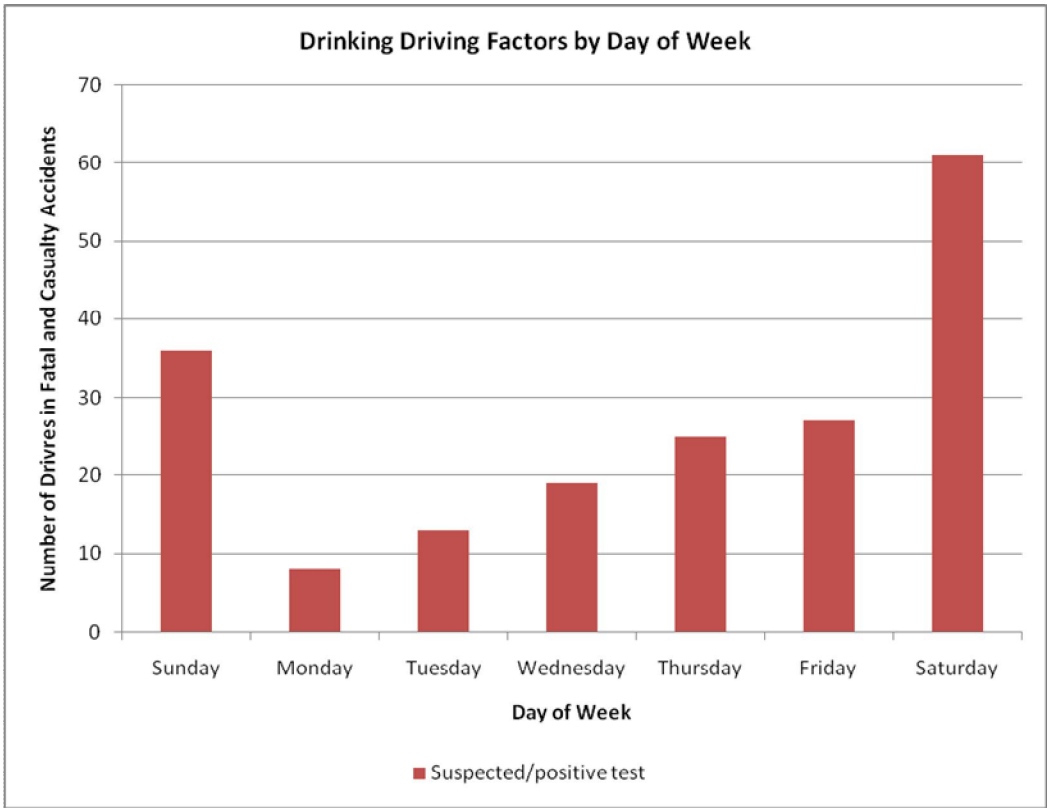


Figure 6.11

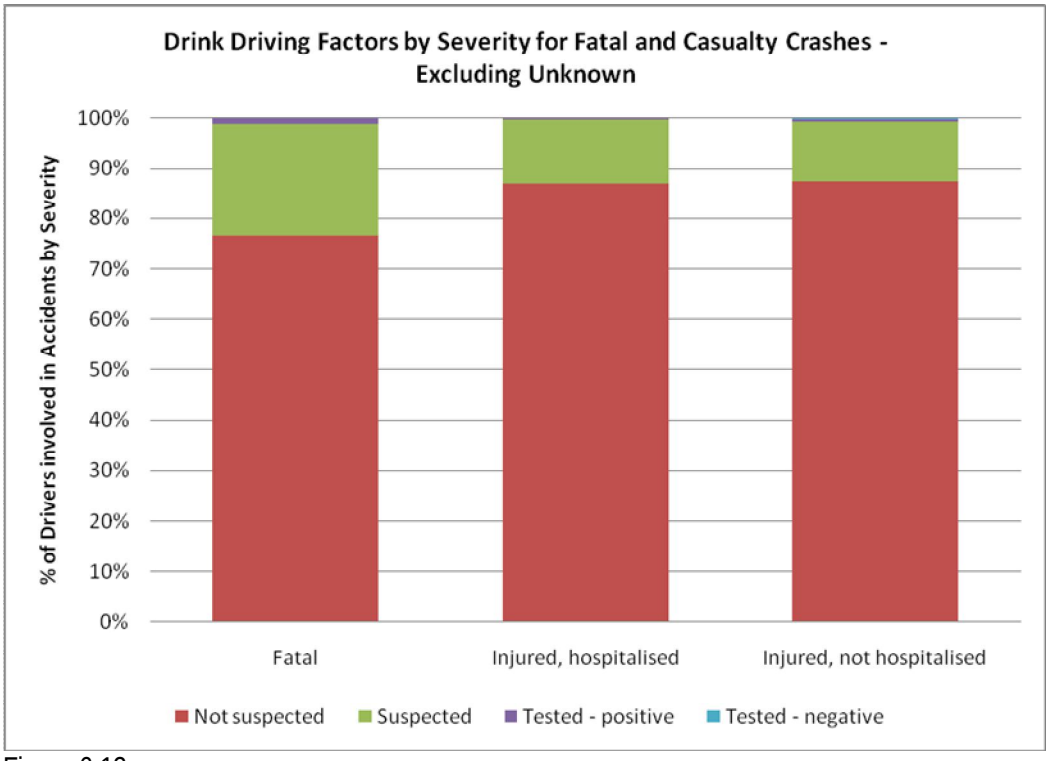


Figure 6.12

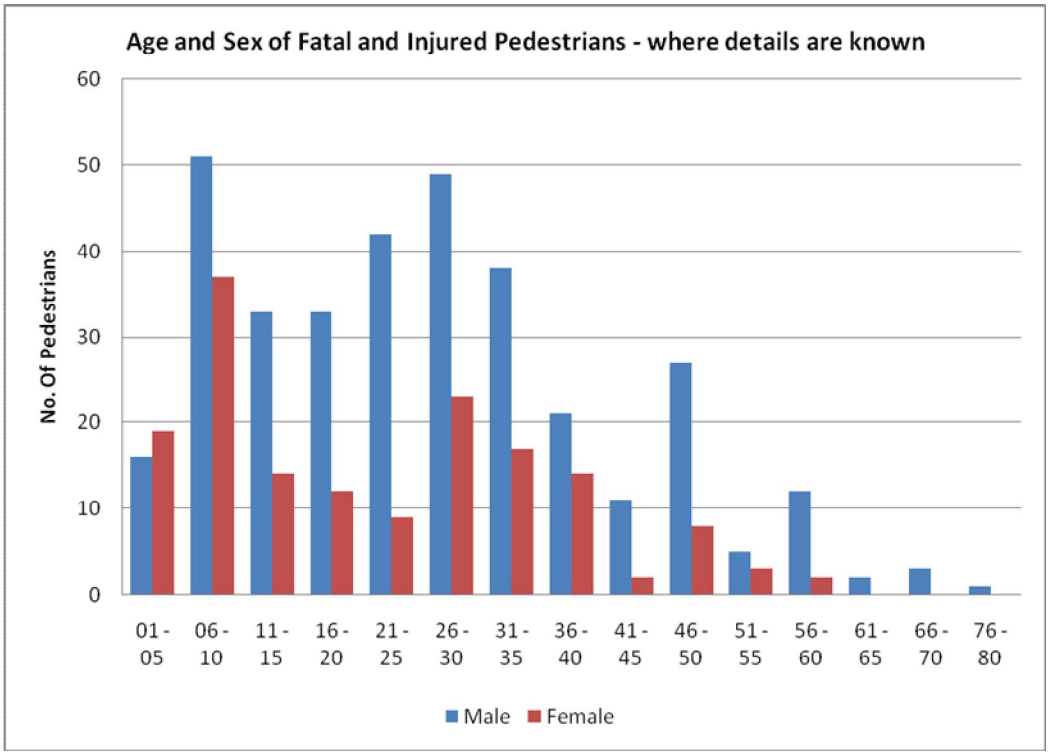


Figure 6.13

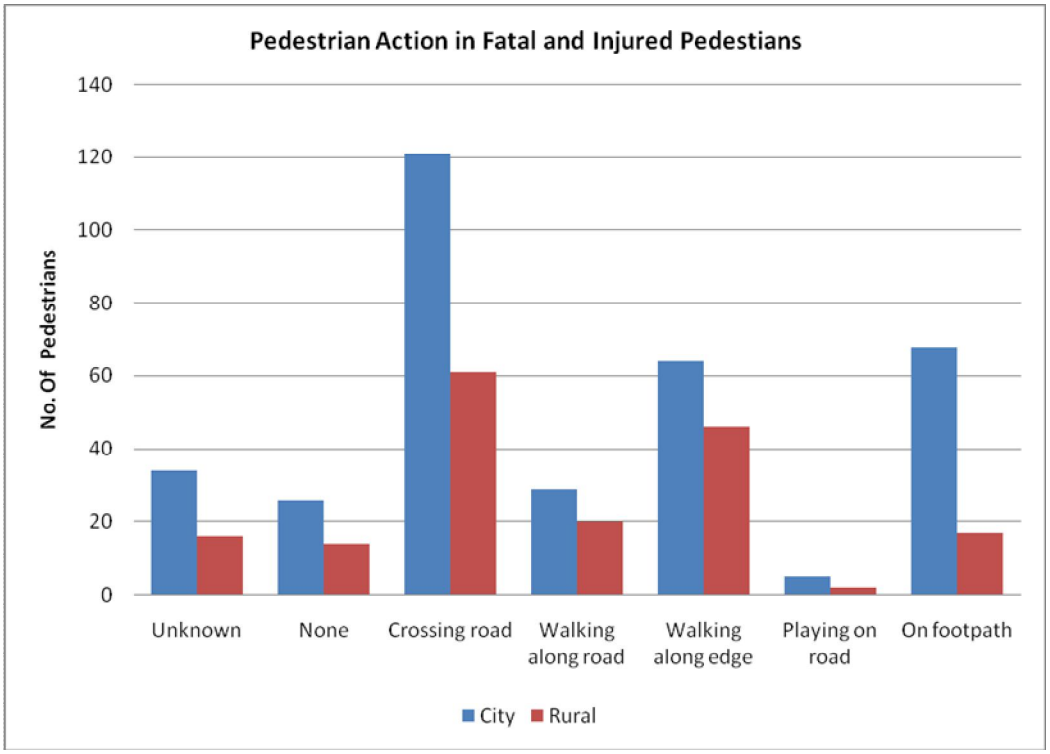


Figure 6.14

7. Vehicle Factors

Figure 7.1 identifies the types of vehicles involved in a fatal or casualty crash. As indicated, heavy goods vehicles (HGVs - i.e. trucks), buses (PMVs) and pick-ups/utes are the major types involved in crashes. This however, for instance in the case of pick-ups/utes may simply reflect the high numbers of such vehicles (and hence increased exposure to risk) along with the lack of protection/restraints when sitting in the rear of such vehicles. Vehicle fleet data for PNG set out in the World Health Organisation document Road Safety in the Western Pacific Region – Call for Action (2009) doesn't break down vehicle types into those shown in Figure 7.1. However, it suggests that buses account for 11% of the vehicle fleet and trucks 18%. In comparison, 20% of vehicles involved in accidents were buses (23% of all fatalities and casualties), and 22% of vehicles were trucks (resulting in 25% of all fatalities and casualties).

It should be noted that a review of accident reports also indicated that Officers typically indicated the presence of a 4-wheel drive Sport Utility Vehicles (SUVs) in the crash as being 'other', but in some instances, also recorded them as being 'cars' and/or 'pick-ups'. In addition, HGVs can act as PMVs and as such, care should be taken when interpreting this data. Furthermore, whilst Accident Report Forms indicate the reported vehicle manoeuvres, a review of the data shows a significant number of suspicious responses when compared to other information on the Forms. As such, vehicle manoeuvre data is not considered reliable enough at this stage to report back on.

Figures 7.2 and 7.3 show the types of vehicle faults that have been reported as being factors in fatal and casualty crashes. Such faults include lighting problems and 'other' faults such as brake failure or bald tyres. Thirteen percent of vehicles involved in a crash (15% of accidents) were reported as having a known defect, with brake failure being the most common problem, especially for trucks. Such levels are slightly higher than more developed countries overseas (typically 8 to 12% of accidents).

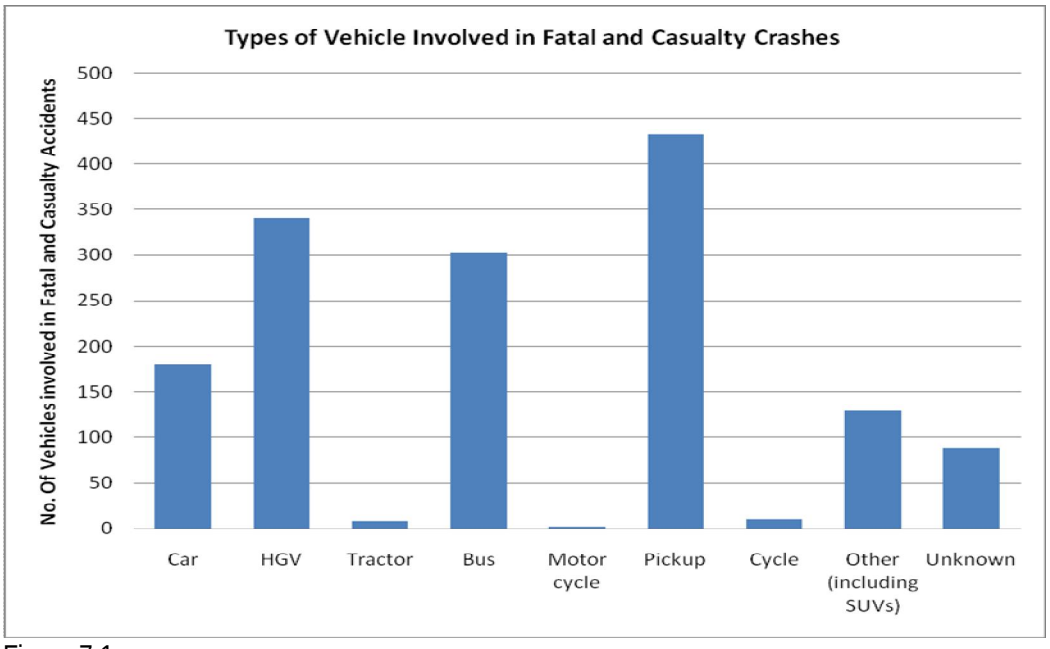


Figure 7.1

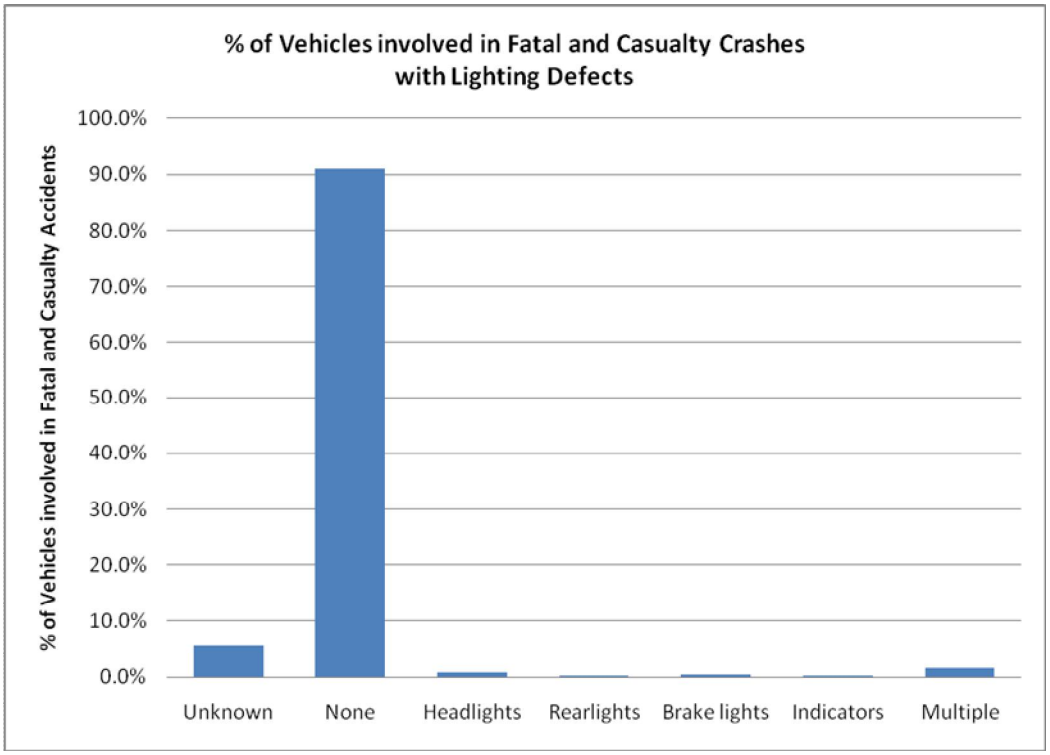


Figure 7.2

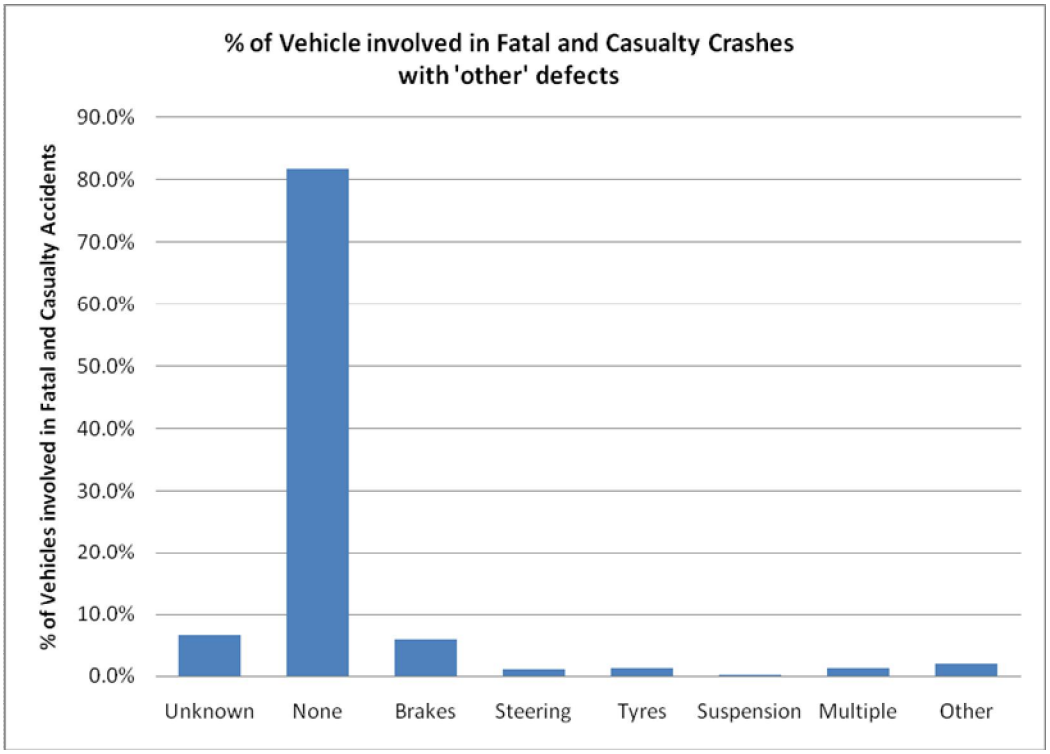


Figure 7.3

8. Road Environment Factors

Road environment issues such as alignment, surface condition and visibility can all contribute to an accident. Figures 8.1 to 8.6 set out the general road environment factors associated with reported fatal and casualty crashes. As with other elements of the accident data reported upon, caution should be taken with respect to the accuracy of the information provided.

Figure 8.1 shows that approximately 80% of crashes occur at mid-block locations (i.e. away from intersections), albeit with a lower proportion in urban areas due to the increased number of intersections in towns and cities. Eighty one percent of accidents involving pedestrians occurred away from an intersection. Figure 8.2 also indicates that well over half (58%) occurred on flat, straight sections of road, albeit with crashes on curves and/or inclines being much more prevalent in rural areas.

Figures 8.3 and 8.4 provide information related to road surface. Two-thirds of crashes occurred on sealed roads, with or without a 'few' potholes, with crashes typically occurring on dry roads (78%) . As part of this, as indicated in Figure 8.5, 83% of crashes occurred in fine weather. Fifteen percent of fatal and casualty crashes occurred on gravel roads – typicaly in rural areas. Gravel roads also had a higher percentage of crashes in wet conditions than sealed roads.

As shown in Figure 8.6, three quarters of fatal and casualty crashes occurred during daylight hours. Of those shown as occurring during hours of darkness, care should be taken with respect to the accuracy of the reports indicating whether street lights were switched on. For example, a review of the data indicates a number of records indicating accidents occurring in rural areas with gravel roads which have been reported as being at 'night with lights on'. It seems highly unlikely that street lights would be provided in such instances, and it is presumed that mis-understandings may exist with respect to this particular question on the Police Accident Report Form – for instance, some Police Officers may interpret the 'lights on' aspect as relating to the vehicle lights rather than street lights.

Figure 8.7 shows typical pedestrian locations when hit by a motor vehicle. As indicated, 28% of pedestrians were in the middle of road – typically crossing the road away from any formal crossing facility such as a pedestrian crossing (3%) or pedestrian refuge island in the middle of the road (8%). Almost half (46%) however were reported as being hit whilst walking alongside or in the road. Whilst the low number of people hit whilst using a pedestrian crossing could be argued as being justification for more such facilities (given that such facilities are perceived as safer), the data needs to be considered in terms of exposure to risk i.e. only a few pedestrian crossings exist compared to the rest of the road network, and as a consequence, pedestrians use such facilities much less than locations away from a crossing. Indeed, the very fact that pedestrians are being injured whilst using a specifically designed facility would suggest that such crossings are not overly safe – which typically ties in with overseas experience and research.

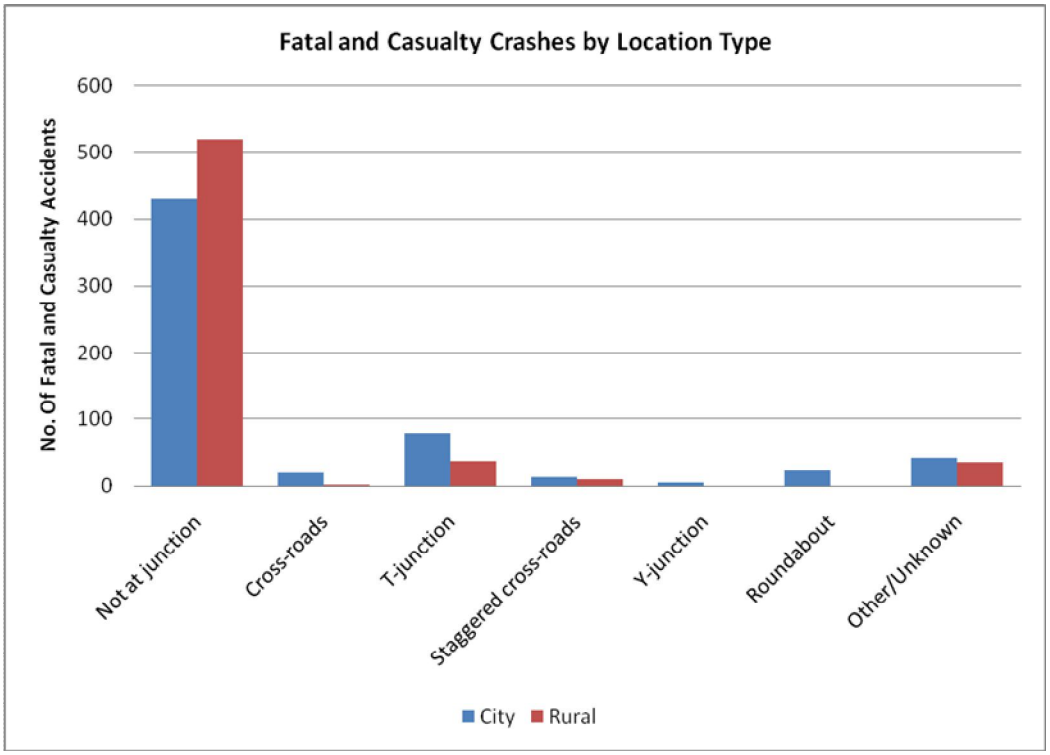


Figure 8.1

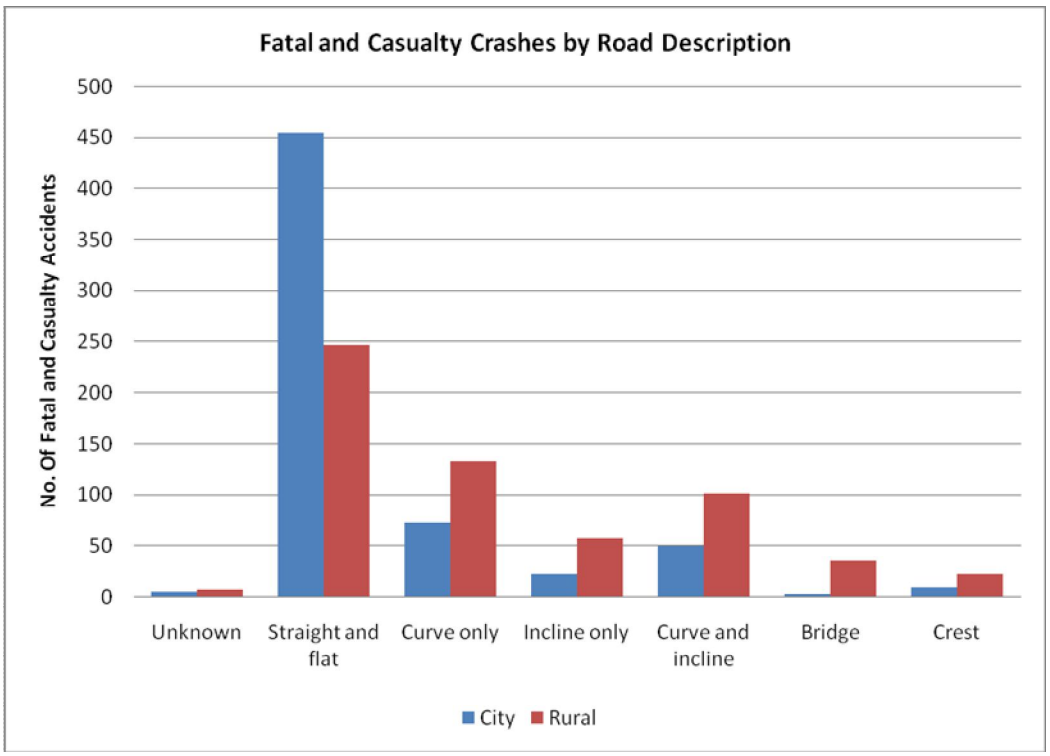


Figure 8.2

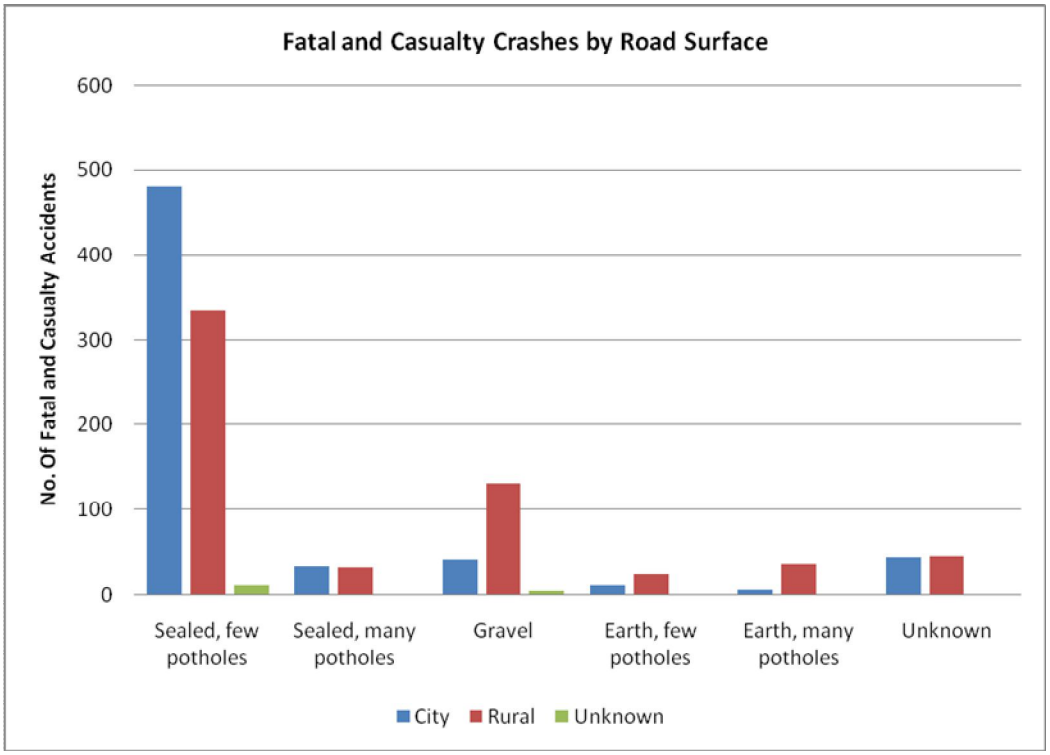


Figure 8.3

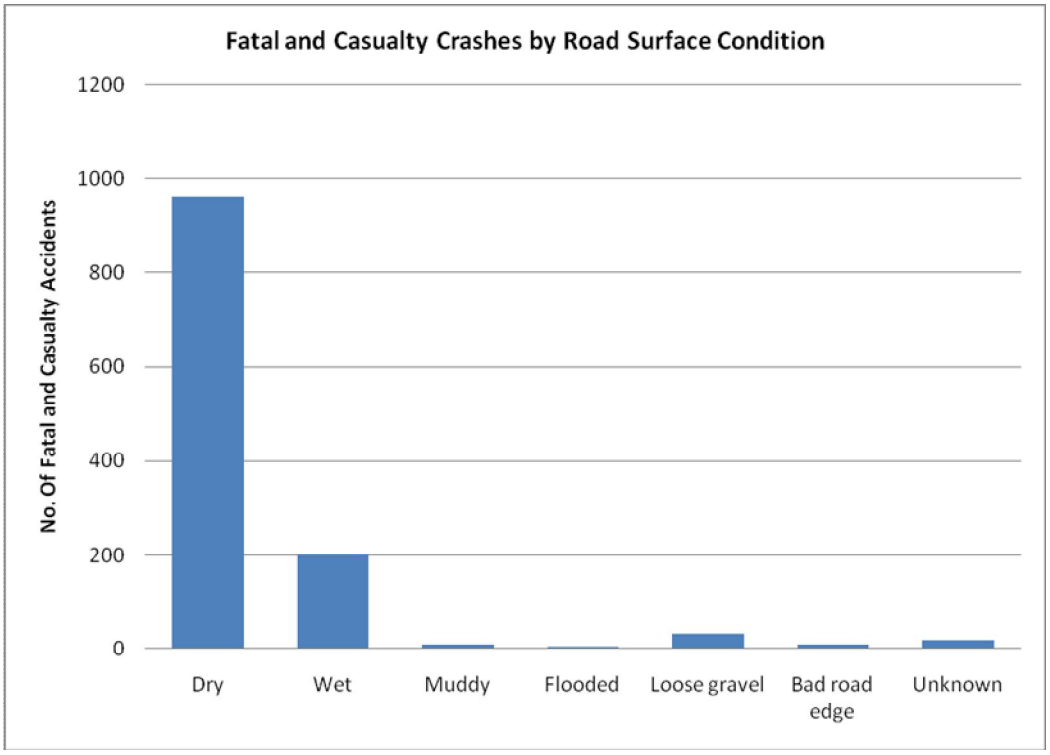


Figure 8.4

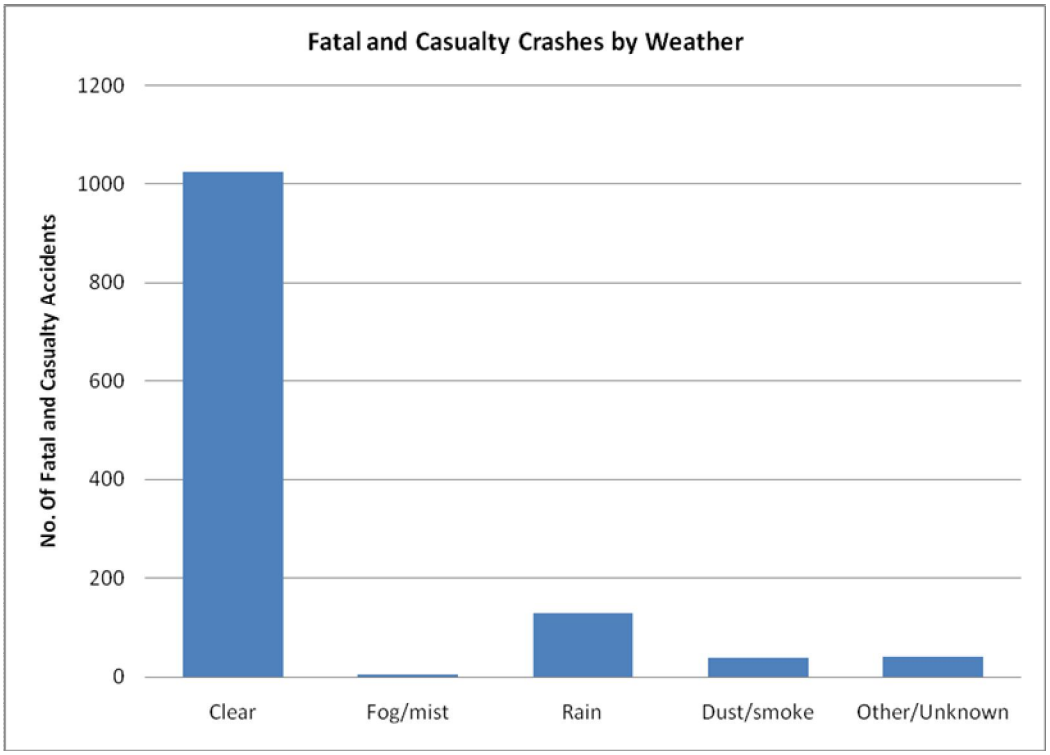


Figure 8.5

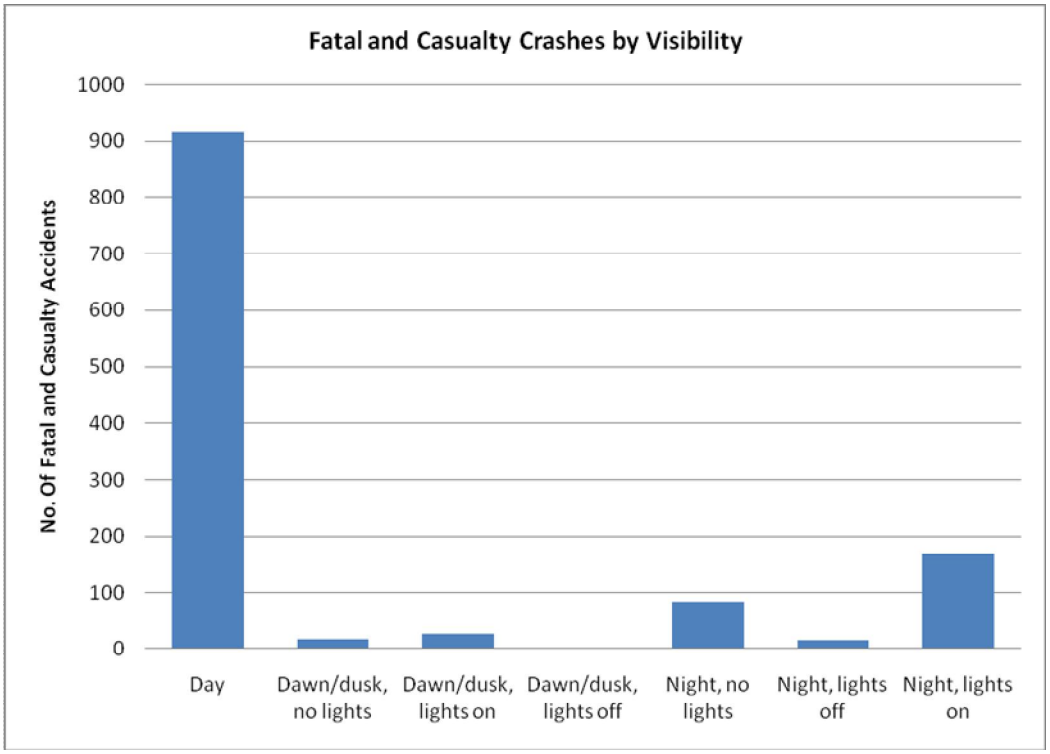


Figure 8.6

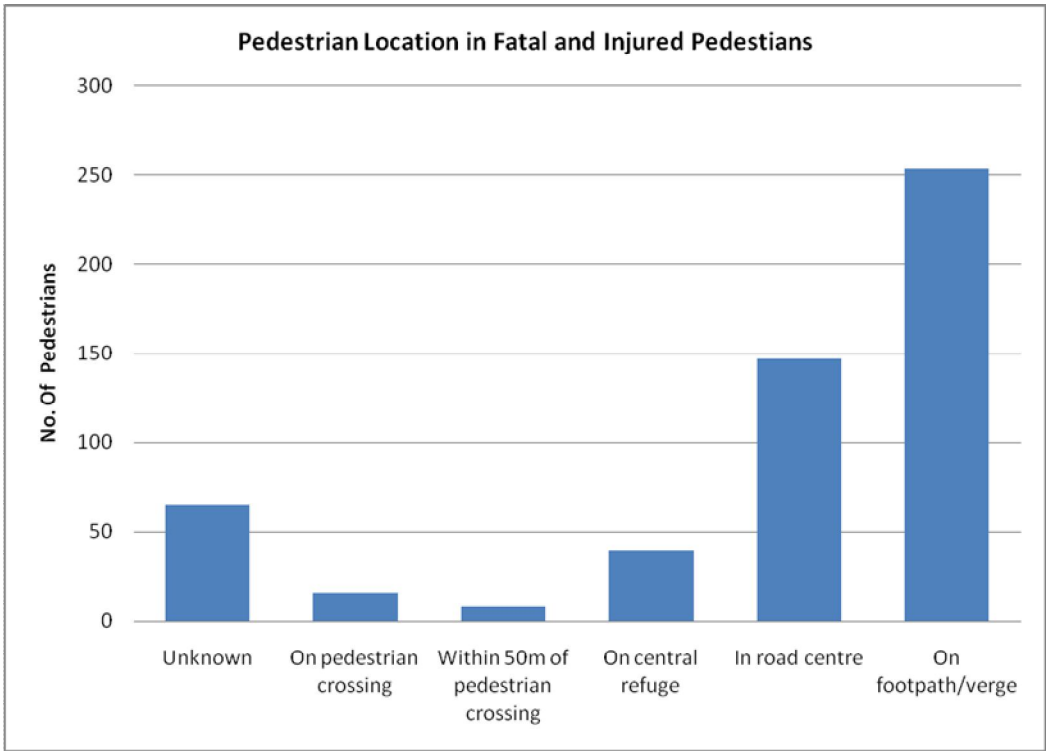
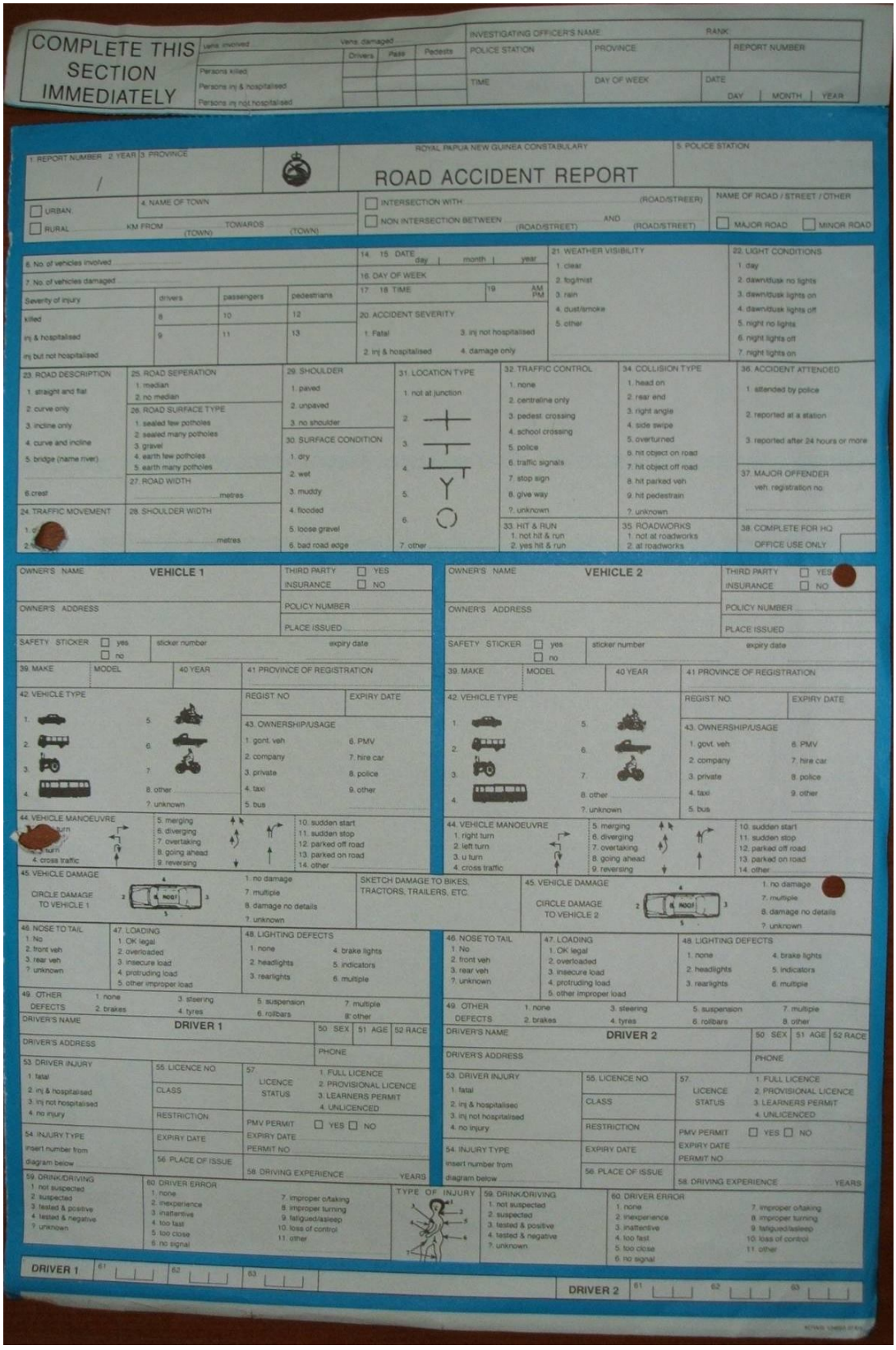
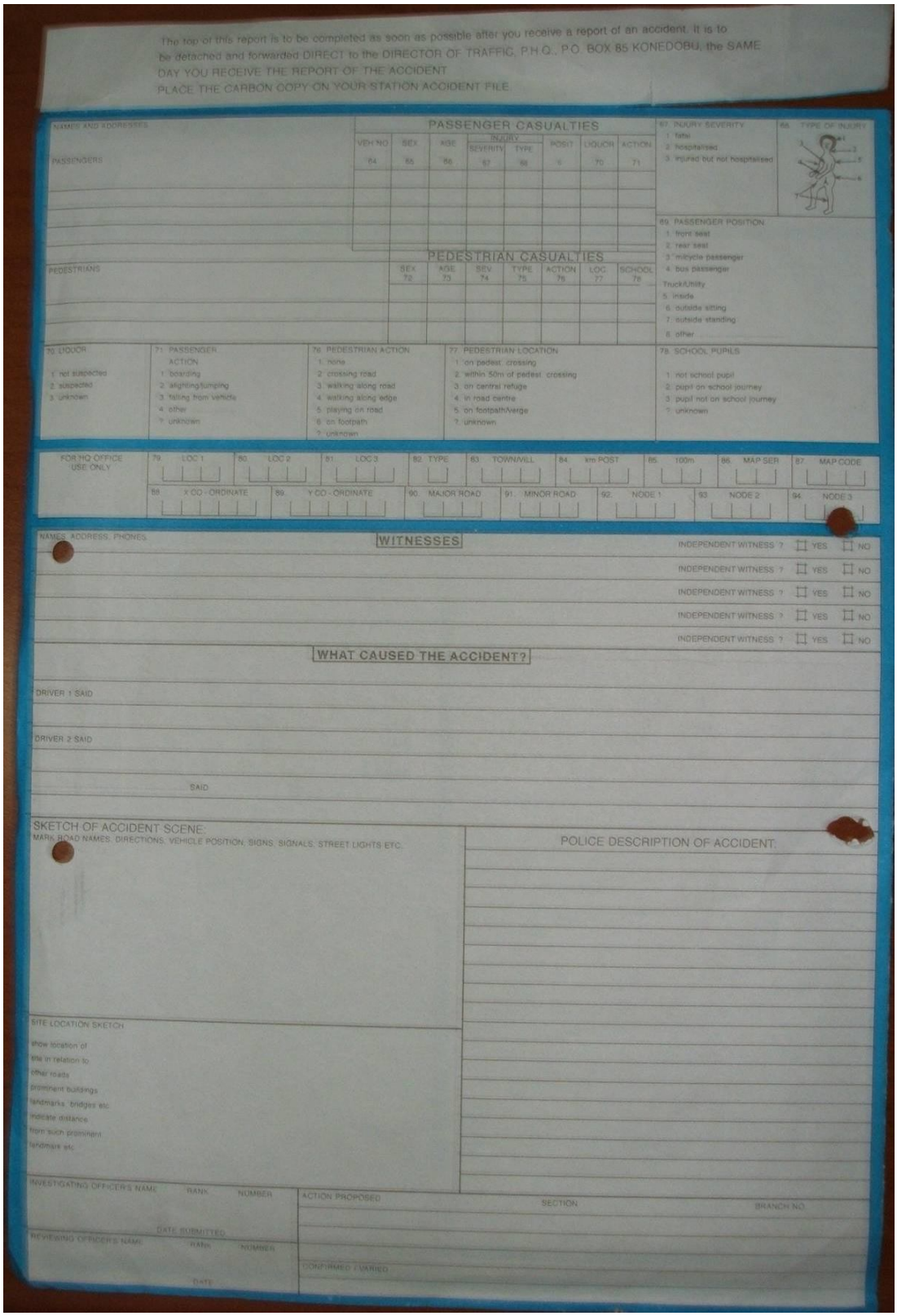

Pedestrian Location in Fatal and Injured Pedestians
No. Of Pedestrians
300
250
200
150
100
50
0
Unknown
On pedestrian crossing
Within 50m of pedestrian crossing
On central refuge
In road centre
On footpath/verge

Figure 8.7

Appendix A: Police Road Accident Report Form



.



The top of this report is to be completed as soon as possible after you receive a report of an accident. It is to be detached and forwarded DIRECT to the DIRECTOR OF TRAFFIC, P.H.Q., P.O. BOX 85 KONEDOBU, the SAME DAY YOU RECEIVE THE REPORT OF THE ACCIDENT.
PLACE THE CARBON COPY ON YOUR STATION ACCIDENT FILE.

NAMES AND ADDRESSES

PASSENGER CASUALTIES

PASSENGERS | VEH NO 64 | SEX 65 | AGE 66 | INJURY SEVERITY 67 | INJURY TYPE 68 | POSIT 69 | LIQUOR 70 | ACTION 71

67. INJURY SEVERITY
1. fatal
2. hospitalised
3. injured but not hospitalised

68. TYPE OF INJURY

69. PASSENGER POSITION
1. front seat
2. rear seat
3. motorcycle passenger
4. bus passenger
Truck/Utility
5. inside
6. outside sitting
7. outside standing
8. other

PEDESTRIAN CASUALTIES

PEDESTRIANS | SEX 72 | AGE 73 | SEV 74 | TYPE 75 | ACTION 76 | LOC 77 | SCHOOL 78

70. LIQUOR
1. not suspected
2. suspected
3. unknown

71. PASSENGER ACTION
1. boarding
2. alighting/jumping
3. falling from vehicle
4. other
?. unknown

76. PEDESTRIAN ACTION
1. none
2. crossing road
3. walking along road
4. walking along edge
5. playing on road
6. on footpath
?. unknown

77. PEDESTRIAN LOCATION
1. on pedest. crossing
2. within 50m of pedest. crossing
3. on central refuge
4. in road centre
5. on footpath/verge
?. unknown

78. SCHOOL PUPILS
1. not school pupil
2. pupil on school journey
3. pupil not on school journey
?. unknown

FOR HQ OFFICE USE ONLY

79. LOC 1 | 80. LOC 2 | 81. LOC 3 | 82. TYPE | 83. TOWN/VILL | 84. km POST | 85. 100m | 86. MAP SER | 87. MAP CODE

88. X CO - ORDINATE | 89. Y CO - ORDINATE | 90. MAJOR ROAD | 91. MINOR ROAD | 92. NODE 1 | 93. NODE 2 | 94. NODE 3

NAMES, ADDRESS, PHONES.

WITNESSES

INDEPENDENT WITNESS ? ☐ YES ☐ NO
INDEPENDENT WITNESS ? ☐ YES ☐ NO
INDEPENDENT WITNESS ? ☐ YES ☐ NO
INDEPENDENT WITNESS ? ☐ YES ☐ NO
INDEPENDENT WITNESS ? ☐ YES ☐ NO

WHAT CAUSED THE ACCIDENT?

DRIVER 1 SAID

DRIVER 2 SAID

SAID

SKETCH OF ACCIDENT SCENE:
MARK ROAD NAMES, DIRECTIONS, VEHICLE POSITION, SIGNS, SIGNALS, STREET LIGHTS ETC.

POLICE DESCRIPTION OF ACCIDENT:

SITE LOCATION SKETCH
show location of site in relation to other roads prominent buildings landmarks bridges etc indicate distance from such prominent landmark etc

INVESTIGATING OFFICER'S NAME RANK NUMBER
DATE SUBMITTED
REVIEWING OFFICER'S NAME RANK NUMBER
DATE

ACTION PROPOSED
SECTION
BRANCH NO.
CONFIRMED / VARIED

Appendix B: Crash Locations

The following tables set out the number of crashes, broken down by severity, for roads in each province (for which data has been sent to Police HQ). The data makes no attempt to rationalise accident numbers relative to the amount of traffic using those roads (due to a lack of data), nor does it make any allowance for length of road. As such, the exposure to risk is unfortunately unable to be considered at present. Crash numbers however typically reflect, as expected, those roads that can be expected to be the busiest.

In due course, as the accident database develops, it will be able to identify specific hazardous locations (black spots) to allow targeting of remedial treatments. At present however, the naming of roads only allows us to narrow down investigations into the general whereabouts of hazardous locations. Furthermore, road names are based on those provided on the Police Accident Report forms. In some instances therefore, depending upon the local naming convention as reported by the Police Officer, the same road may have been listed twice, albeit with different names. Feedback to the NRSC on such instances is welcomed, as is feedback with respect to the helpfulness or otherwise of these Tables and the other information set out in the Data Report.

As highlighted in the main report, the high level of under-reporting can be expected to have an impact on the number and location of crashes able to be reported upon. The roads shown in each list also simply reflects the main reported crash locations for 2007, not all crash locations in that particular province. For example, in many Provinces, roads with only one or two reported crashes have not been included in the tables below, whilst in other areas such as NCD, the large number of accidents is such that for simplicity, roads with 5 or less reported crashes over the year have not been included.

ABG

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
BUKA HWY	0	0	2	1	3
KESA RD	1	0	1	0	2

Central

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
HIRITANO HWY	9	7	3	4	23
MAGI HWY	5	5	1	2	13
SOGERI RD	1	3	2	3	9
HULA RD	0	4	0	0	4
AROMA RD	0	1	0	1	2
POREBADA RD	0	1	1	0	2

Chimbu

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
OKUK H/WAY	6	8	3	8	25
KUNDIAWA HWAY/RD	0	1	1	5	7
PRINOKUA RD	0	0	2	1	3
DUMUN ROAD	2	0	0	0	2
MAINAMO ROAD	0	1	1	0	2
MINDIMA ROAD	0	0	1	1	2
WARA TAMBA ROAD	0	0	0	2	2

Eastern Highlands

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
OKUK HIGHWAY	14	42	33	49	138
GOROKA HWAY/RD	1	6	2	3	12
AIYURA RD	0	2	1	3	6
KUNDIAWA ROAD	1	1	3	1	6
BUNDAIRA ROAD	0	2	0	1	3
EDWARD STREET	1	0	2	0	3
KASSAM ROAD	0	0	2	1	3

East New Britain

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
WILLAM RD	0	0	3	19	22
KOKOPO ROAD	1	2	2	15	20
KEREVAT STREET	1	2	1	4	8
MALAGUNA ROAD	0	1	2	3	6
TOKUA RD	0	1	0	5	6
BURMA ROAD	0	1	1	3	5
TOMA ROAD	0	0	0	4	4
WARANGOI RD	0	0	1	3	4

East Sepik

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
SEPIK HWY	3	3	1	3	10
BORAM HWAY/RD	2	1	0	4	7
MAPRIK HWAY/RD	0	1	0	2	3
ANORAM HWAY/RD	0	0	0	2	2
CALTEX RD	0	1	0	1	2
WEST COAST ROAD	0	1	0	1	2
WEWAK/AITAPE ROAD	0	0	0	2	2

Enga

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
OKUK/WAPENAMANDA HWY	3	40	1	7	51
WABAG HWAY/PORGERA RD	0	11	0	0	11
KOMPIAM RD	2	2	0	1	5
WALYA RD	0	2	0	1	3

Gulf

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
TRANS (KEREMA/MALALAUA) H/WAY	1	1	0	2	4
SAPEHARO ROAD	0	0	0	2	2
SCRATCHLEY RD	1	0	0	0	1

Madang

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
NORTH COAST RD	8	7	4	18	37
MODILON RD	0	2	2	21	25
BRUCE JEFFCOT HWY	1	4	3	11	19
CORONATION DR	0	1	1	1	3
MADANG HWY	2	1	0	0	3

Manus

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
MOMOTE RD	0	0	0	1	1
POWAT RD	0	0	0	1	1

Morobe

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
OKUK HWY	11	11	12	27	61
MILFORD HAVEN RD	2	1	2	14	19
BUMBU RD	1	1	3	13	18
BUSU ROAD	4	6	4	4	18
MARKHAM RD	0	5	3	10	18
HUON RD	1	1	3	9	14
AIRCORPS RD	0	2	2	9	13
BUTIBUM RD	0	0	2	8	10
INDEPENDENCE DR	1	0	1	4	6
MANGOLA ST	0	1	2	3	6

NCD

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
WAIGANI DR	1	21	21	116	159
HUBERT MURRAY HIGHWAY	9	24	17	98	148
POREPORENA FREEWAY	2	11	2	45	60
WARDS RD	2	4	6	42	54
TAURAMA RD	2	2	3	26	33
CAMERON RD	0	3	4	13	20
CHAMPION PDE	0	3	2	13	18
ELA BEACH RD	0	2	3	11	16
MOREA-TOBO RD	1	4	1	9	15
GEAUTA DR	2	1	3	7	13
SOGERI RD	1	3	6	3	13
BOROKO DR	0	0	1	11	12
GEREHU DR	1	1	3	7	12
GODWIT ST	0	0	0	12	12
KOURA WAY	1	2	2	7	12
NEW BOROKO DR	0	1	1	10	12
KENNEDY RD	1	0	2	8	11
LAWES RD	0	2	2	7	11
BAVA ST	0	1	1	8	10
GAVAMANI RD	0	4	3	3	10
GORO-KAEAGA RD	0	1	1	8	10
MUSGRAVE ST	0	2	1	7	10
OKARI ST	0	1	2	7	10
SCRATCHLEY RD	0	2	3	5	10
GABAKA ST	0	0	0	9	9
DOGURA RD	0	4	1	3	8
ANGAU DR	1	0	0	6	7
JACKSONS PDE	0	0	1	6	7
KARIUS RD	0	4	2	1	7
LAPWING DR	0	1	4	2	7
ROUNDABOUT(COURTS)	0	0	0	7	7
SPOONBILL DR	0	2	2	3	7
DIKAGARI RD	0	1	1	4	6
ISLANDER DR	0	0	1	5	6

New Ireland

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
BULUMINSKY H/WAY	2	7	1	13	23
CORONATION DRIVE	0	0	0	3	3
MONGOL ROAD	0	0	2	1	3
WEST COAST H/WAY	0	2	0	1	3
DJAUL STREET	0	0	0	2	2
LAVONGAI STREET	0	0	0	2	2
NUSA PERADE	0	0	0	2	2
PANAPAI ROAD	0	1	0	1	2

Northern

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
KOKODA HWY	0	6	0	1	7
ORO BAY HWAY/ROAD	2	2	2	1	7

Southern Highlands

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
OKUK HWY	3	7	1	1	12
MENDI WAY/RD	0	3	0	1	4
POSU RD	0	0	1	3	4
KUTUBU ACCESS RD	1	1	0	1	3
ERAVE CREEK/RD	0	1	1	0	2
IALIBU/KAGUA RD	0	2	0	0	2
MORO/POROMA RD	0	1	1	0	2

Sundaun

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
VAMIMO HWAY/RD	0	4	3	5	12
DASI (PASI) ROAD	0	2	3	2	7
POLICE CAR PARK	0	0	0	3	3

Western

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
TABUBIL/KIUNGA H/WAY	1	1	0	5	7
DUKUM RD	0	1	1	1	3
ABIP RD	0	0	0	2	2
KIWAL RD	0	0	0	2	2
MINE ACCESS RD	0	0	1	1	2

Western Highlands

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
OKUK (KUDJIP/WABAG/ MINJ) H/WAY	15	33	10	21	79
DEI RD	1	6	2	0	9
BAIYER RD	1	6	0	1	8
HAGEN DR	0	0	1	2	3
WURUP RD	0	1	0	2	3
BANZ WAY	0	1	0	1	2
BUKAPENA RD	1	0	0	1	2
KELTA RD	2	0	0	0	2
KUMNIGA RD	0	1	0	1	2
MOIKA RD	0	2	0	0	2
MT HAGEN (!)	1	1	0	0	2
WAGHI PDE	0	1	0	1	2

West New Britain

ROAD NAME	Fatal	Injured, hospitalised	Injured, not hospitalised	Damage only	Total
KIMBE RD/HOSKINS HWY	0	4	4	14	22
SANREMO DR	0	2	0	2	4
BIALLA HWY	0	1	2	0	3
NAVO ESTATE ROAD	1	0	0	2	3
MOSA ROAD	0	1	0	1	2
SAN REMO STREET	0	0	0	2	2
TALASEA CR	0	0	0	2	2