



Transport
for NSW

Centre for Road Safety

Road Trauma Amongst Aboriginal and Torres Strait Islander People in NSW 2005-2015

Statistical Profile

Acknowledgements

Transport for NSW wishes to thank the following:

- NSW Ministry of Health for providing access to information in the NSW Admitted Patient Data Collection, NSW Emergency Department Data Collection and the NSW Registry of Births, Deaths and Marriages – Death registrations.
- Centre for Health Record Linkage for conducting the record linkage.
- Aboriginal Health & Medical Research Council for supporting the ongoing data linkage project.
- Independent Hospital Pricing Authority for providing the International Classification of Diseases, 10th Revision, Australian Modification (ICD-10-AM) electronic code lists.
- The State Insurance Regulatory Authority (SIRA) and iCare (Lifetime Care) for providing data on Compulsory Third Party insurance claims and Lifetime Care participants.
- ACT Health Directorate for providing access to information in the ACT Admitted Patient Care and ACT Emergency Department Information System data collections.

This serious injury research forms part of the routine monitoring activity undertaken by Transport for NSW to improve road safety for the community. It was approved by the following ethics committees:

- Approved by the NSW Population & Health Services Research Ethics Committee on 19th December 2013.
- Approved by the Aboriginal Health & Medical Research Council Ethics Committee on 24th January 2014.
- Approved by the ACT Health Human Research Ethics Committee on 13th November 2013.

Contents

Acknowledgements.....	2
1 Executive summary.....	5
2 Introduction.....	10
2.1 Background.....	10
2.2 Purpose of this document.....	10
2.3 Reporting injury severity.....	10
2.4 Reporting Aboriginal status.....	12
2.5 Comparison of 'Ever Identified' and 'MoH Algorithm' methods.....	12
2.5.1 Number of Aboriginal and non-Aboriginal people by severity.....	12
2.5.2 Number of Aboriginal and non-Aboriginal people by road user ...	13
2.5.3 Age-standardised rates by severity.....	13
2.5.4 Age-standardised rates by road user.....	15
3 Overview of casualties for Aboriginal people.....	17
3.1 What this chapter does.....	17
3.2 Casualties for Aboriginal people.....	17
3.3 Population change.....	18
3.4 Population age distribution.....	19
3.5 Casualty rates by severity.....	20
3.6 Road user group rates.....	21
4 Comparison of matched and unmatched serious injuries.....	23
4.1 What this chapter does.....	23
4.2 Matched and unmatched serious injuries by reporting.....	23
4.3 Gender.....	24
4.4 Road user group.....	24
4.5 Serious injuries by severity.....	25
4.6 Body region of injury.....	28
4.7 Nature of injury.....	29
4.8 Crash counterpart.....	30
5 Statistical profile for 2011-2015.....	32
5.1 What this chapter does.....	32
5.2 Casualties.....	32
5.3 Who is involved in road casualties.....	32
5.3.1 Road user group.....	32
5.3.2 Age (Ten-year grouping).....	36
5.3.3 Child (0-16) road users.....	40
5.3.4 Young (17-29) road users.....	42
5.3.5 Middle aged (30-59) road users.....	44
5.3.6 Older (60+) road users.....	46
5.3.7 Gender.....	48
5.4 Where the casualties occurred (matched data only).....	48
5.4.1 Urbanisation.....	48
5.4.2 RMS region.....	49
5.4.3 LGA of crash.....	50
5.4.4 LGA of residence.....	51
5.4.5 Crash in the same LGA as place of residence.....	54
5.4.6 Speed limit.....	54
5.4.7 Road classification.....	58
5.5 When the casualties occurred.....	59
5.5.1 Time of crash.....	59

5.5.2	McLean time period of crash	61
5.6	How the casualties occurred	62
5.6.1	Road user movement (RUM)	62
5.6.2	Crash counterpart	63
5.7	Why the casualties occurred	64
5.7.1	Motor vehicle controllers: Alcohol involved	64
5.7.2	Pedestrian casualties: Alcohol levels	67
5.7.3	Motor vehicle controllers: Fatigue involved	68
5.7.4	Motor vehicle controllers: Speeding involved	70
5.7.5	Restraint use for drivers and passengers	73
5.7.6	Helmet use for motorcyclists	77
5.7.7	Helmet use for pedal cyclists	80
5.7.8	Unauthorised licence	84
5.7.9	Unregistered vehicle	84
6	Urban and rural analysis	86
6.1	What this chapter does	86
6.2	Number by casualties by severity	86
6.3	Age	86
6.4	Gender	87
6.5	High Threat to Life (HTTL)	88
6.6	Serious injury severity	88
6.7	Licence status	89
6.8	Crash counterpart	90
6.9	Body region of injury	91
6.10	Nature of injury	92
6.11	Road user movement	93
6.12	Road classification	94
6.13	Controller alcohol level	95
6.14	Controller fatigued	95
6.15	Controller speeding	96
	Appendix: Additional data tables	97
	Chapter 2 Tables	97
	Chapter 3 Tables	99
	Chapter 5 Tables	101

Author: Centre for Road Safety
Date: April 2017
Version: 2.0
Reference: Reference
Division: Centre for Road Safety
Review date: April 2017

1 Executive summary

The Centre for Road Safety (CRS) classifies casualties from road traffic crashes into four severity categories (fatality, serious injury, moderate injury and minor/other injury) using linked hospital records. CRS also uses an approach (“the algorithm”) derived by the NSW Ministry of Health to report on Aboriginal and Torres Strait Islander status.

In particular, serious injuries (total hospitalisations) were people who were admitted to hospital with 24 hours of their crash with a diagnosis code of an injury and who did not die in the next 30 days. Approximately half of both Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander serious injuries (53.3 per cent and 55.0 per cent respectively) were hospital admission records that matched to a police report with detailed crash information. The remainder were identified from hospital admission records which were not matched to a police report, with only limited details of the crash circumstances.

Aboriginal people is the term used to describe both Aboriginal and Torres Strait Islander people throughout this report

Overview of Aboriginal and non-Aboriginal casualties 2005-2015

Aboriginal people comprise 3.0 per cent of the NSW population (2011 Census). Aboriginal road users accounted for 3.3 per cent of all fatalities and 4.1 per cent of all serious injuries in the period 2005-2015. On average, there were:

- 13 fatalities and 486 serious injuries per year for Aboriginal road users.
- 386 fatalities and 11,453 serious injuries per year for non-Aboriginal road users.

The age-standardised fatality rate for:

- Aboriginal people increased by 182.1 per cent from 3.7 to 10.3 deaths per 100,000 in 2005-2015.
- non-Aboriginal people decreased by 43.2 per cent from 7.6 to 4.3 deaths per 100,000 in 2005-2015.

The age-standardised serious injury rate for:

- Aboriginal people increased by 22.9 per cent from 221.9 to 272.6 per 100,000 in 2005-2015.
- non-Aboriginal people decreased by 11.4 per cent from 175.5 to 155.5 per 100,000 in 2005-2015.

The age-standardised moderate injury rate for:

- Aboriginal people increased by 29.9 per cent from 133.6 to 173.5 per 100,000 in 2005-2015.
- non-Aboriginal people decreased by 28.8 per cent from 161.6 to 115.1 per 100,000 in 2005-2015.

Comparison of matched and unmatched serious injuries for Aboriginal and non-Aboriginal serious injuries 2005-2015

There were on average per year:

- 259 matched and 227 unmatched Aboriginal serious injuries.
- 6,300 matched and 5,153 unmatched non-Aboriginal serious injuries.

For serious injuries classified as high threat to life:

- 33.1 per cent of Aboriginal matched serious injuries were classified as high threat to life compared with 21.4 per cent of unmatched serious injuries.
- This pattern was similar for non-Aboriginal serious injuries.

Head injuries were the most common body region of injury in:

- Matched serious injuries comprising 26.0 per cent for Aboriginal people and 20.8 per cent for non-Aboriginal people.
- Unmatched serious injuries comprising 21.4 per cent for Aboriginal people and 16.7 per cent for non-Aboriginal people.

Fractures were the most common type of injury in:

- Matched serious injuries comprising 33.9 per cent for Aboriginal people and 38.0 per cent for non-Aboriginal people.
- Unmatched serious injuries comprising 36.9 per cent for Aboriginal and 45.6 per cent for non-Aboriginal people.

The most common crash counterpart in:

- Matched serious injuries was 'car or van' comprising 43.0 per cent for Aboriginal people and 55.5 per cent for non-Aboriginal people.
- Unmatched serious injuries was non-collision comprising 33.7 per cent for Aboriginal people and 34.0 per cent for non-Aboriginal people.

Aboriginal and non-Aboriginal casualties 2011-2015

In 2011-2015 there were:

- 87 fatalities, 2,772 serious injuries and 2,048 moderate injuries for Aboriginal people.
- 1,636 fatalities, 58,358 serious injuries and 51,981 moderate injuries for non-Aboriginal people.

Who is involved in road casualties:

- Drivers were the most common road user group for all injury severity types. Aboriginal passengers were more likely to have serious and moderate injuries compared to non-Aboriginal passengers.
- The most common age groups for Aboriginal casualties were the 20-29 and 10-19 year age groups. For non-Aboriginal casualties, the most common age groups were the 20-29 and 30-39 year age groups.
- Age-specific fatality and serious injury rates were stable for both Aboriginal and non-Aboriginal people aged 30-59 and 60+ years.

- For male Aboriginal casualties, 62.4 per cent were serious injuries but for male non-Aboriginal casualties, 56.6 per cent were serious injuries.
- For female Aboriginal casualties, 48.0 per cent were serious injuries compared with 45.5 per cent of female non-Aboriginal casualties.

Where the casualties occurred:

- The Sydney-Newcastle-Wollongong Greater (SNW Gtr) conurbation accounted for 43.6 per cent of all Aboriginal serious injuries compared to 68.8 per cent of non-Aboriginal serious injuries occurring in SNW Gtr conurbation.
- The highest percentage of fatalities for Aboriginal people occurred in the Northern RMS region (33.3 per cent) and in the Sydney RMS region for non-Aboriginal people (28.2 per cent). The highest proportions of Aboriginal and non-Aboriginal serious and moderate injuries occurred in the Sydney RMS region.
- Aboriginal fatalities were more likely (54.0 per cent) to occur in the same LGA as the person resided in. Non-Aboriginal fatalities (43.5 per cent) were less likely to occur in the LGA of residence.
- Fatalities were most likely to occur in 100 km/h zones (47.1 per cent for Aboriginal, 35.4 per cent for non-Aboriginal) while serious injuries were more likely to occur in 50 km/h zones (33.6 per cent for Aboriginal, 30.8 per cent for non-Aboriginal).
- Serious injuries for Aboriginal (53.4 per cent) and non-Aboriginal people (44.7 per cent) were most likely to occur on unclassified roads.

When the casualties occurred:

- The most common time for serious injuries to occur for both Aboriginal and non-Aboriginal people were between 16:00 and 17:59 (14.1 per cent and 14.5 per cent respectively).
- The most common McLean time period of crash for both Aboriginal and non-Aboriginal people occurred Monday to Friday between 9am and 3pm (18.6 per cent and 23.4 per cent respectively).

How the casualties occurred:

- 'Off Path on Straight' was the most common road user movement for both Aboriginal and non-Aboriginal serious injuries (27.4 per cent and 18.5 per cent respectively), followed by 'Off Path on Curve or Turning' (23.7 per cent and 17.3 per cent respectively).
- 'Off Path on Curve or Turning' was the most common road user movement for Aboriginal fatalities (34.5 per cent), while the highest proportions of non-Aboriginal fatalities was for 'Vehicles from Opposing Directions' (24.3 per cent) and 'Off Path on Curve or Turning' (23.6 per cent).
- Car/pickup/van was the most common crash counterpart for both Aboriginal and non-Aboriginal serious injuries (42.0 per cent and 56.8 per cent respectively).
- A fixed or stationary object was the more common crash counterpart among Aboriginal fatalities (52.9 per cent) while car/pick-up/van was the most common crash counterpart for non-Aboriginal fatalities (39.1 per cent).

Why the casualties occurred:

- Illegal blood alcohol concentration was more likely for Aboriginal controller fatalities compared to non-Aboriginal motor vehicle controller fatalities (33.3 per cent and 18.4 per cent respectively) and controller serious injuries (19.6 per cent and 7.2 per cent respectively).
- Fatigue was more commonly involved among Aboriginal compared to non-Aboriginal motor vehicle controller fatalities (30 per cent and 18.7 per cent respectively) and serious injuries (16.8 per cent and 12.1 per cent respectively).
- Speeding was more commonly involved among Aboriginal compared to non-Aboriginal motor vehicle fatalities (53.3 per cent and 45.8 per cent respectively) and serious injuries (35.8 per cent and 22.8 per cent respectively).
- Restraint non-use was higher among Aboriginal compared to non-Aboriginal motor vehicle occupants for fatalities (28.6 per cent versus 15.4 per cent) and serious injuries (8.3 per cent versus 3.6 per cent).
- Restraint non-use was more likely for Aboriginal casualties and for all casualties involving: child motor vehicle occupants aged 0-6 and 7-16 years, increased number of vehicle occupants, older vehicles, and head injuries.
- Helmet non-use was more common among Aboriginal compared to non-Aboriginal motorcyclist fatalities (25.0 per cent and 6.7 per cent respectively) and serious injuries (21.6 per cent and 2.6 per cent respectively).
- Helmet non-use was more common among Aboriginal compared to non-Aboriginal pedal cyclist serious injuries (51.4 per cent and 16.3 per cent respectively).
- Unauthorised driving was more common among Aboriginal compared to non-Aboriginal motor vehicle controller fatalities (20.0 per cent and 9.0 per cent respectively) and serious injuries (21.7 per cent and 4.7 per cent respectively).
- Driving an unregistered vehicle was more common among Aboriginal compared to non-Aboriginal motor vehicle controller fatalities (11.7 per cent and 5.1 per cent respectively) and serious injuries (10.4 per cent and 2.4 per cent respectively).

Urban and rural analysis

In the SNW Gtr conurbation in 2011-2015 there were higher proportions of:

- Fatalities among non-Aboriginal people compared to Aboriginal people (40.2 per cent and 12.6 per cent respectively).
- Serious injuries among non-Aboriginal people compared to Aboriginal people (68.9 per cent and 43.7 per cent respectively).

Factors that are similar across the different conurbations for Aboriginal and non-Aboriginal casualties:

- Age
- Gender
- High Threat to Life classification
- Serious injury severity
- Licence status
- Body region of injury
- Nature of injury

Factors that differed across the different areas of NSW for Aboriginal and non-Aboriginal casualties:

- Crash counterpart: Car/pick-up van was involved in 63.9 per cent of Aboriginal casualties in the SNW Gtr conurbation, compared to 53.9 percent in Urban Rest of NSW and 17.8 per cent of Rural Rest of NSW. Fixed/stationary object was the most common crash counterpart for Aboriginal casualties in Rural Rest of NSW.
- Road user movement: 'Off Path on Straight' was most common for Aboriginal casualties in SNW Gtr (20.2 per cent) and Urban Rest of NSW (29.6 per cent) conurbations. 'Off Path On Curve or Turning' was most common for Aboriginal casualties in Rural Rest of NSW (39.3 per cent).
- Road classification: Aboriginal casualties on unclassified roads were more common for SNW Gtr (58.0 per cent) and Urban Rest of NSW (63.9 per cent) conurbations compared to Rural Rest of NSW, where Aboriginal casualties were more common on state highways (40.3 per cent).
- Controller Alcohol: Illegal blood alcohol concentration was more common for Aboriginal motor vehicle controller casualties in Urban Rest of NSW (15.5 per cent) and Rural Rest of NSW (15.1 per cent) compared to the SNW Gtr conurbation (8.8 per cent).
- Controller fatigue: Fatigue was more common for Aboriginal motor vehicle controller casualties in Rural Rest of NSW (21.4 per cent) compared to SNW Gtr conurbation (10.3 per cent) and Urban Rest of NSW (12.4 per cent).
- Controller speeding: Speeding was more common for Aboriginal motor vehicle controller casualties in Rural Rest of NSW (38.3 per cent) compared to SNW Gtr conurbation (22.1 per cent) and Urban Rest of NSW (28.0 per cent).

2 Introduction

2.1 Background

The NSW Road Safety Strategy 2012-2021 aimed to reduce the incidence of death and serious injury on the State's roads. To achieve these reductions, it has proven useful to break the task into parts, even though all the different parts are closely related. An important part of the NSW Road Safety Strategy 2012-2021 is the work to improve the safety of Aboriginal road users.

2.2 Purpose of this document

This document is a Statistical Profile of Road Trauma amongst Aboriginal people in NSW 2005-2015 because it seeks to summarise the safety issues relating to Aboriginal road users with a particular focus on serious injuries and fatalities. There are six sections:

Section 1: Executive Summary

Section 2: Introduction and Definitions

Section 3: Provides an overview of Aboriginal and non-Aboriginal casualties, including rates, as well as changes in demographic characteristics.

Section 4: Investigates the differences between hospital serious injury records that were either matched or unmatched to police crash records.

Section 5: Investigates road trauma for Aboriginal people in more detail for 2011-2015, including investigation of sub-groups of road users with a focus on the records matched to police crash records.

Section 6: Investigates differences in road trauma for Aboriginal people for 2011-2015 for key measures by the urbanisation of the crash.

2.3 Reporting injury severity

Previously, the NSW Centre for Road Safety (CRS) used data only from police crash reports that categorised casualties into two severity levels: fatal or injured. Crash reports (CrashLink) are now linked with four datasets, including the Admitted Patient Data Collection (APDC), Emergency Department Data Collection (EDDC), the State Insurance Regulatory Authority (SIRA) Compulsory Third Party (CTP) Insurance and the iCare (Insurance & Care NSW) (Lifetime care) (LTC). The following sections summarise the definitions of linkage terms used in this report:

Periods of stay

- All APDC records which are in the continuous admission period following the crash are now included in the dataset. Previously, only episodes of hospital care which started on the day of or after the crash were linked and transfers after that initial episode, but part of a continuous period of care, which began after that time were excluded. APDC episodes of care are now grouped by periods of stay prior to being linked to Crash reports.
- This new definition provides more diagnosis codes from which International Classification for Diseases-10-Australian Modification (ICD) based Injury Severity Score (ICISS) can be calculated for matched and unmatched Serious Injuries.

Injury diagnoses

- Only APDC records with injury diagnoses are included as matched and unmatched Serious Injuries.
- Records which had an external cause code which related the admission to a crash (Land transport accident cause or Roadway location) remained linked as No Injury.

SIRA Maximum Abbreviated Injury Score (MAIS)

- For non-Serious Injury crash-persons which linked to SIRA CTP claims, those with MAIS scores of: Moderate or higher were reclassified as Moderate Injuries and Minor were reclassified as Minor/Other Injuries.

Lifetime Care

- Crash-persons linked to an LTC records have been included as Serious Injuries.
- This is due to the near certainty that these persons had been admitted to hospital with an injury following a crash.

Coding Practice change reversal

- In 2010/11, a change in coding practice resulted in people being incorrectly coded as injuries.
- This has been corrected in Minor/Other injuries, resulting in the removal of 1,128 non-injured passengers from the datasets entirely and 1,358 crash-involved persons changed to No injury.

The following section summarises the definitions of Injury severity levels used in this report:

Fatality

- A person who dies within 30 days of a crash from injuries sustained during the crash.

Serious Injuries (Matched)

- CrashLink records that linked to APDC records that have an injury diagnosis. CrashLink records that linked to APDC records but did not have an injury diagnosis are not included as serious injuries matched unless the CrashLink record links to a LTC record then, regardless of linkage with APDC, they are now included as Serious Injuries (matched).

Serious Injuries (Unmatched)

- APDC records with injury diagnoses that did not link with a CrashLink record are included as Serious Injuries (unmatched). Unlinked APDC records without injury diagnoses are no longer included as Serious Injuries (unmatched).
- Unmatched Serious Injuries now include unlinked APDC records with external cause codes indicating unspecified traffic or non-traffic accidents and accidents on a public roadway.

Moderate Injuries

- CrashLink records that link to an EDDC record with an injury code but not to an APDC record.

- Previously defined Minor/other and No Injury CrashLink records which link to SIRA CTP records with an MAIS Score of 2 (moderate) or higher are now included as Moderate Injuries (matched).

Minor/Other Injuries

- CrashLink records that indicate an injury but did not link to a EDDC or APDC record.
- Previously defined No Injury CrashLink records which link to SIRA CTP records with an MAIS Score of one (minor) are included as Minor/Other Injuries.
- Those Minor/Other crash-persons which were incorrectly coded in CrashLink as injuries due to the 2010/11 changes were either removed from the dataset – for example non-injured passengers – or moved to the No Injury category for controllers.

No Injury

- CrashLink records which link to APDC records but do not have injuries are now included as No Injury.
- Minor/Other crash-persons which were incorrectly coded in CrashLink as injuries due to the 2010/11 changes and were not removed altogether were moved to No Injury.

2.4 Reporting Aboriginal status

Previously, the NSW Centre for Road Safety (CRS) reported that a person was Aboriginal if they had “ever been identified” as Aboriginal on any linked health record. For this report CRS has used the algorithm proposed by the Ministry of Health publication *Improved Reporting of Aboriginal and Torres Strait Islander Peoples on Population Datasets in New South Wales using Record Linkage – a Feasibility Study*:

This Algorithm takes a unit of information approach outlined in the above publication as follows:

1. Where a person is reported as Aboriginal or Torres Strait Islander on the dataset of interest this is accepted as reported;
2. otherwise:
 - a. If the person has three or more units of information, at least two indicating that the person is Aboriginal or Torres Strait Islander are required to report the person as Aboriginal or Torres Strait Islander; or
 - b. If the person has one or two units of information, one is sufficient to report the person as Aboriginal or Torres Strait Islander.

For this statistical profile a unit of information is a matched APDC or an EDDC record.

2.5 Comparison of ‘Ever Identified’ and ‘MoH Algorithm’ methods

2.5.1 Number of Aboriginal and non-Aboriginal people by severity

The proportion of Aboriginal people decreased 2.3 per cent to 2.0 per cent between the ever identified and MoH algorithm (Table 1). The proportions of serious and moderate injuries decreased 0.4 per cent between the identification methods. The proportion of Aboriginal people identified by both methods in Minor/Other injuries and No injuries was approximately half of other injury categories and so will not be reported on in the remainder of this profile.

Table 1: Aboriginal and non-Aboriginal persons involved in crashes* by severity and method of reporting NSW 2005-2015

Injury Severity	Ever Identified				MoH Algorithm				Total
	Aboriginal	%	Non-Aboriginal	%	Aboriginal	%	Non-Aboriginal	%	
Fatality	157	3.6	4,237	96.4	145	3.3	4,249	96.7	4,394
Serious injuries	5,883	4.5	125,446	95.5	5,347	4.1	125,982	95.9	131,329
Moderate injuries	4,717	3.7	122,221	96.3	4,063	3.2	122,875	96.8	126,938
Minor/Other injuries	1,961	2.0	98,337	98.0	1,703	1.7	98,595	98.3	100,298
No injuries	8,523	1.5	559,721	98.5	7,194	1.3	561,050	98.7	568,244
Total	21,241	2.3	909,962	97.7	18,452	2.0	912,751	98.0	931,203

*Defined as a traffic unit controller or a casualty of a non-controller

2.5.2 Number of Aboriginal and non-Aboriginal people by road user

The proportions of Aboriginal passengers, motorcyclists and pedal cyclists decreased 0.4 per cent between the ever and MoH algorithm identification methods (Table 2).

Table 2: Casualties* for Aboriginal and non-Aboriginal people by road user group and method of reporting NSW 2005-2015

Road User Group	Ever Identified				MoH Algorithm				Total
	Aboriginal	%	Non-Aboriginal	%	Aboriginal	%	Non-Aboriginal	%	
Driver	4601	42.7	129,277	51.3	3969	41.5	129,909	51.3	133,878
Passenger	2,189	20.3	35,416	14.0	1,982	20.7	35,623	14.0	37,605
Motorcyclist	1,479	13.8	36,631	14.6	1,315	13.8	36,795	14.6	38,110
Pedestrian	1,159	10.8	19,226	7.6	1,047	11.0	19,338	7.7	20,385
Pedal Cyclist	1,025	9.6	23,634	9.4	958	10.0	23,701	9.4	24,659
Other Road User	304	2.8	7,720	3.1	284	3.0	7,740	3.1	8,024
Total	10,757	100	251,904	100	9,555	100	253,106	100	262,661

* Fatalities, Serious injuries and Moderate Injuries only

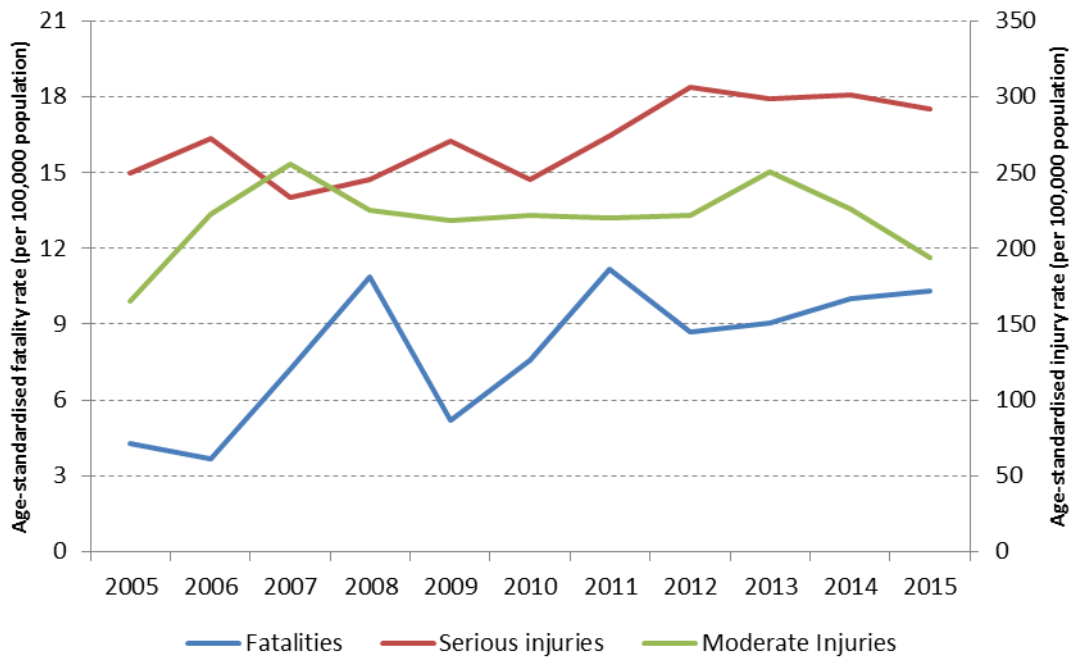
Sections 2.5.3 and 2.5.4 focus on age-standardised rates using the ever Aboriginal identified method to give readers an indication of the uppermost number of road traumas involving Aboriginal people. For comparison, sections 3.5 and 3.6 present age standardised rates using the algorithm recommended by the NSW Ministry of health.

2.5.3 Age-standardised rates by severity

The age-standardised fatality rates for Aboriginal people increased 2.4 times from 4.3 to 10.3 per 100,000 in 2005-2015 (Figure 1). The age-standardised serious injury rates for Aboriginal people increased 17 per cent from 249.2 to 291.4 per 100,000 in 2005-2015. The age-standardised rates for moderate injuries for Aboriginal people increased 17 per cent from 165.3 to 194.1 per 100,000 in 2005-2015.

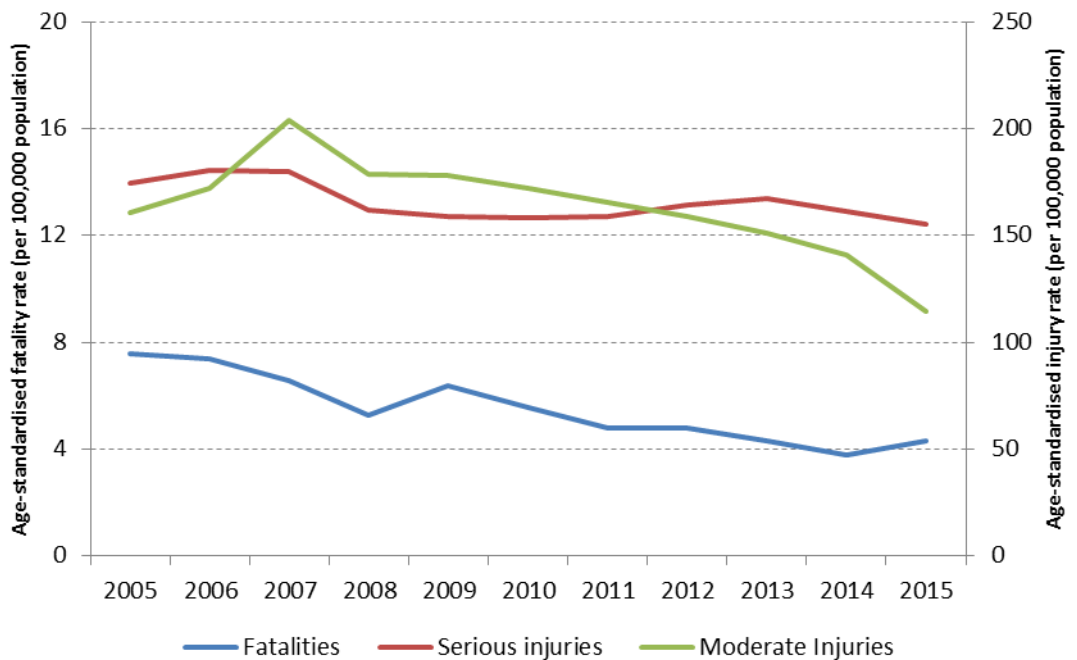
The age-standardised fatality rates for non-Aboriginal people decreased 43 per cent from 7.6 to 4.3 per 100,000 in 2005-2015 (Figure 2). The age-standardised serious injury rates for non-Aboriginal people decreased 11 per cent from 174.8 to 155.0 per 100,000 in 2005-2015. The age-standardised rates for moderate injuries for non-Aboriginal people decreased 29 per cent from 160.8 to 114.4 per 100,000 in 2005-2015.

Figure 1: Age-standardised* casualty rates for Aboriginal people using ever identified method by severity, reporting year NSW 2005-2015



*Using Australian 2001 standard population

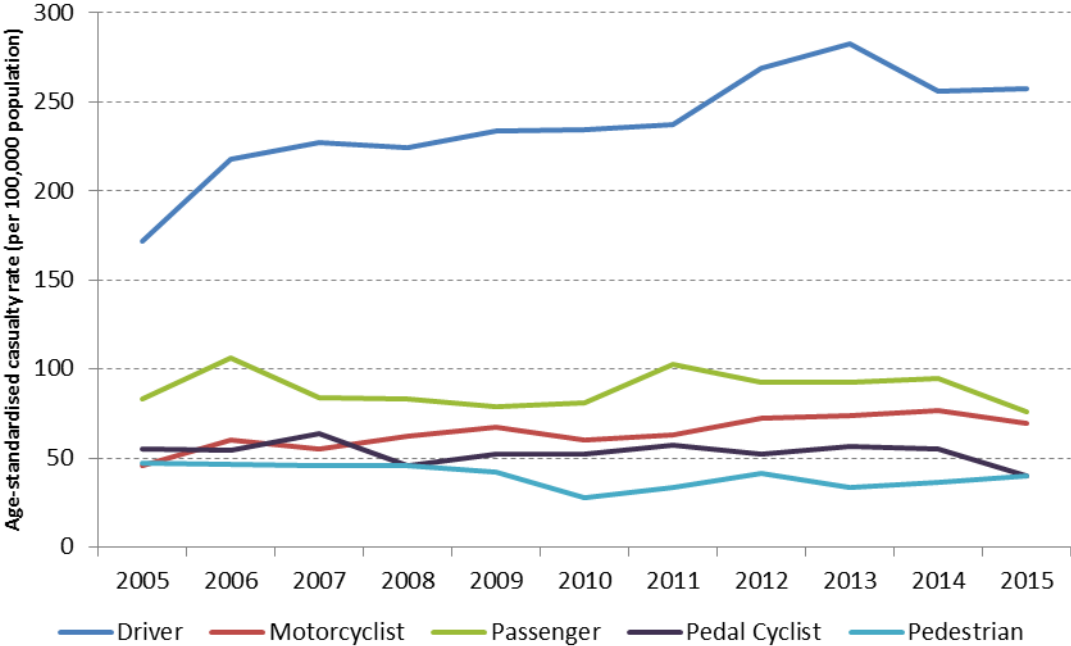
Figure 2: Age-standardised casualty rates for non-Aboriginal people using ever identified method by severity, reporting year NSW 2005-2015



2.5.4 Age-standardised rates by road user

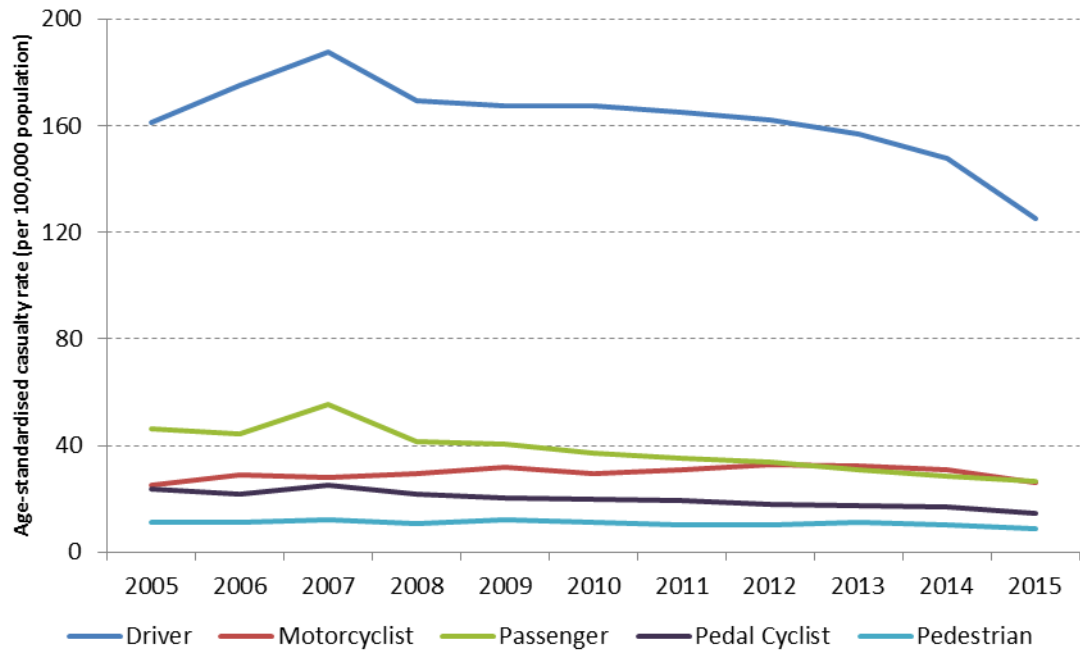
The age-standardised casualty rates for Aboriginal drivers increased 50 per cent from 171.8 to 257.3 per 100,000 in 2005-2015 (Figure 3). The age-standardised casualty rates for Aboriginal motorcyclists increased 51 per cent from 45.9 to 69.3 per 100,000 in 2005-2015. The age-standardised casualty rates decreased by 9 per cent, 27 per cent and 16 per cent in 2005-2015 for Aboriginal passengers, pedal cyclists and pedestrians respectively.

Figure 3: Age-standardised casualty rates for Aboriginal people using ever identified method by road user type, reporting year NSW 2005-2015



The age-standardised casualty rates for non-Aboriginal drivers decreased 19 per cent from 169.2 to 136.9 per 100,000 in 2005-2015 (Figure 4). The age-standardised casualty rates for non-Aboriginal motorcyclists were unchanged in 2005-2015. The age-standardised casualty rates decreased by 37 per cent for non-Aboriginal passengers, 32 per cent for non-Aboriginal pedal cyclists and 3 per cent non-Aboriginal pedestrians in 2005-2015.

Figure 4: Age-standardised casualty rates for Aboriginal people using ever identified method by road user type, reporting year NSW 2005-2015



3 Overview of casualties for Aboriginal people

3.1 What this chapter does

From this chapter forward Aboriginal people are identified by the MOH algorithm only. Identification of Aboriginal people by the MOH Algorithm relies on the number of linked records, so people involved in crashes later in the period 2005-2015 may be more likely to be identified than those earlier in the period.

This chapter provides an overview of the 9,555 casualties for Aboriginal and 253,106 casualties for non-Aboriginal people for reporting years 2005-2015 (Table 3). This chapter also examines the increases in population size and changes during 2005-2015.

3.2 Casualties for Aboriginal people

For Aboriginal people in NSW in 2005-2015 there were 145 fatalities, 5,347 serious injuries, and 4,063 moderate injuries (Table 3) compared with 4,249 fatalities, 125,982 serious injuries, and 122,875 moderate injuries for non-Aboriginal people. The numbers of fatalities, serious and moderate injuries for Aboriginal people all increased (by 171 per cent, 39 per cent, and 57 per cent respectively) in 2005-2015. The number of moderate injuries for Aboriginal people fell 13% from 426 to 371 between 2014 and 2015 after steadily increasing from 349 in 2008. This recent decrease may be due to reporting of minor crashes becoming non-compulsory. In contrast, the numbers of fatalities and moderate injuries for non-Aboriginal people decreased (by 34 per cent and 20 per cent respectively) in 2005-2015 whilst serious injuries remained stable.

Table 3: Casualties for Aboriginal and non-Aboriginal people by severity and reporting year NSW 2005-2015

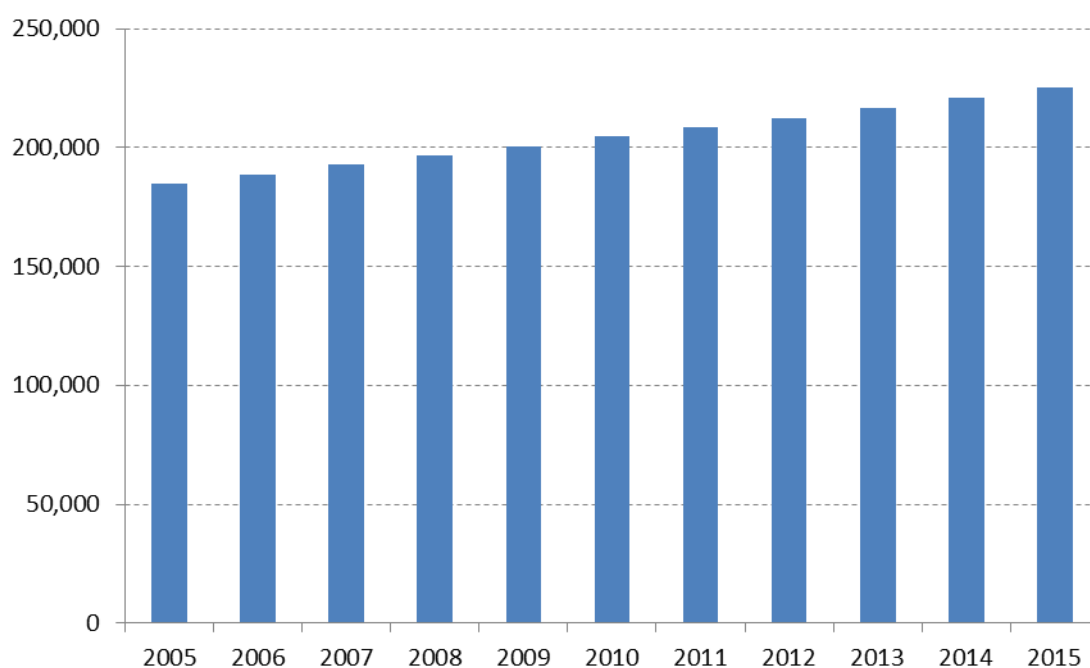
Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
	Aboriginal			
2005	7	414	237	658
2006	8	425	315	748
2007	9	416	391	816
2008	11	426	349	786
2009	10	465	361	836
2010	13	429	362	804
2011	18	494	383	895
2012	18	559	405	982
2013	13	579	463	1055
2014	19	566	426	1011
2015	19	574	371	964
Total Casualties	145	5,347	4,063	9,555

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
	Non-Aboriginal			
2005	501	11,353	10,425	22,279
2006	488	12,034	11,340	23,862
2007	426	11,334	13,053	24,813
2008	363	10,946	12,017	23,326
2009	443	10,937	12,174	23,554
2010	392	11,020	11,885	23,297
2011	346	11,177	11,507	23,030
2012	351	11,693	11,172	23,216
2013	320	12,087	10,766	23,173
2014	288	11,854	10,163	22,305
2015	331	11,547	8,373	20,251
Total Casualties	4,249	125,982	122,875	253,106

3.3 Population change

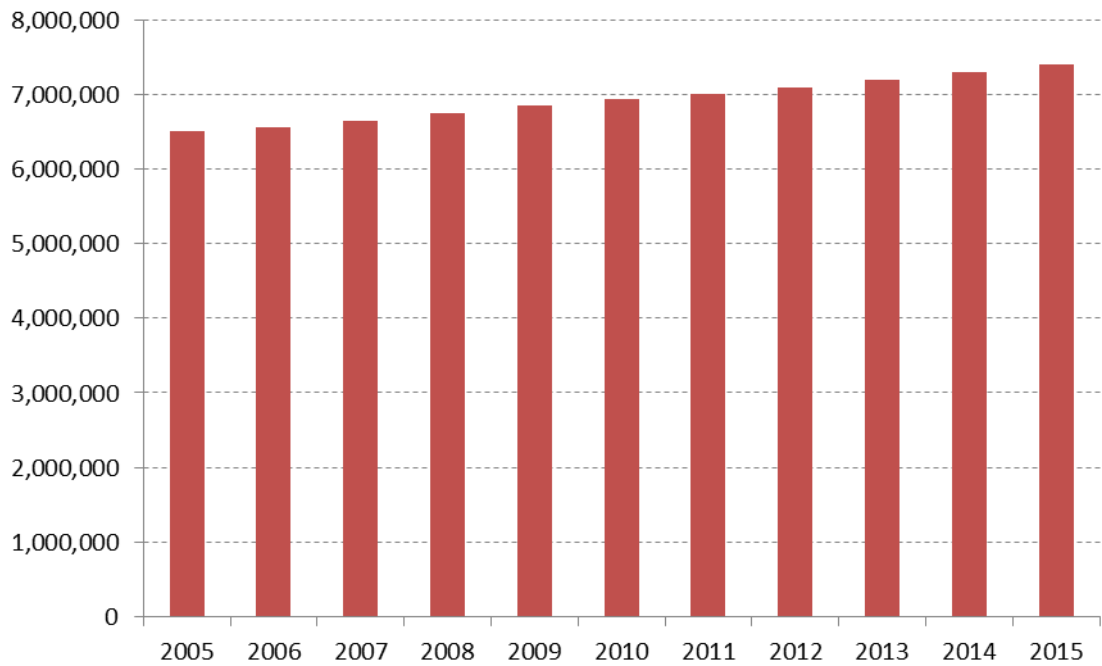
The population of NSW Aboriginal people increased by 22 per cent in 2005-2015 (Figure 5), over the same period the non-Aboriginal population increased by 14 per cent (Figure 6). As a result the proportion of Aboriginal people in the NSW population increased from 2.8% in 2005 to 3.0% in 2015.

Figure 5: NSW Aboriginal population by year 2005-2015



Source: Australian Bureau of Statistics 3238.0 – Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026

Figure 6: NSW non-Aboriginal population by year 2005-2015

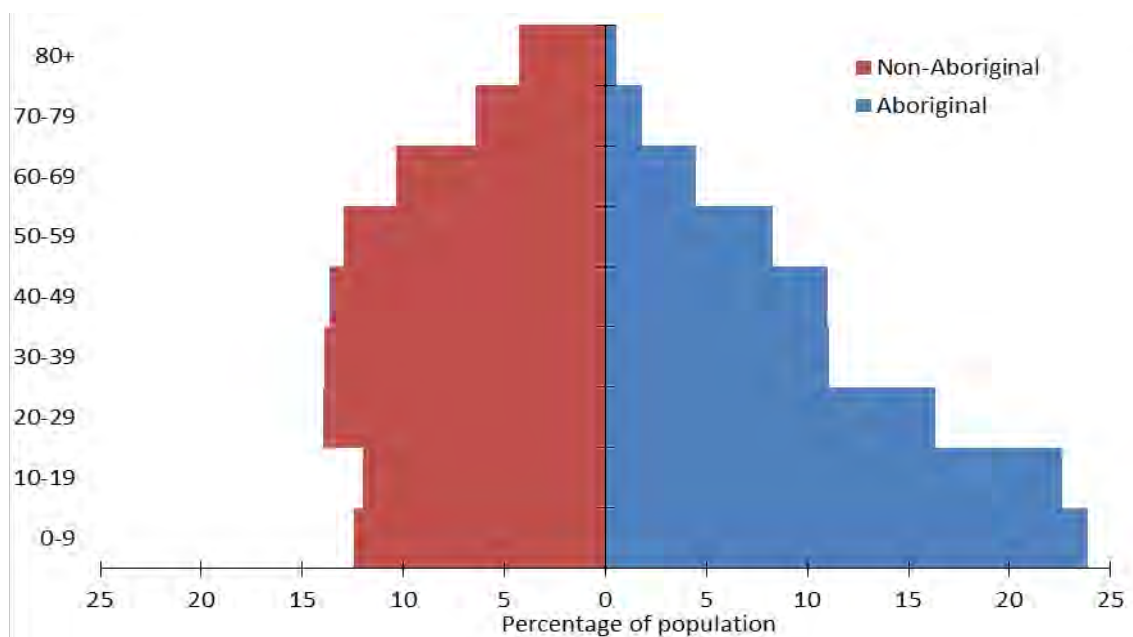


Source: Australian Bureau of Statistics 3238.0 – Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026

3.4 Population age distribution

The median age for Aboriginal people in 2005-2015 was in the 20-29 year age-group; however the median age-group for non-Aboriginal people was in the 30-39 year age group (Figure 7).

Figure 7: NSW Aboriginal and non-Aboriginal populations by 10 year age-groups 2005-2015

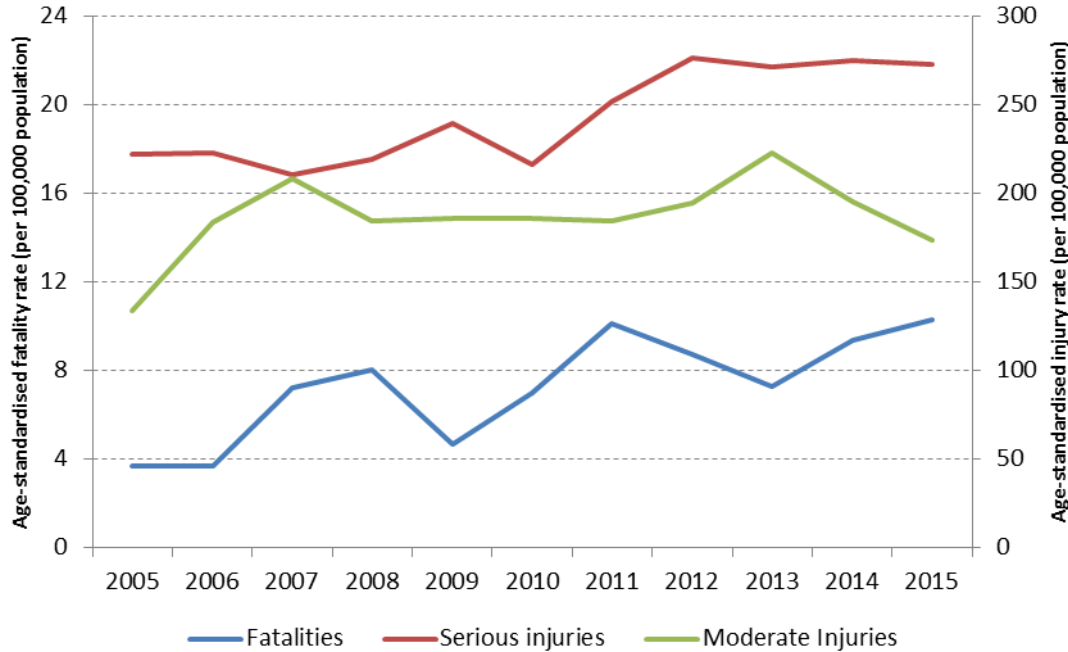


Source: Australian Bureau of Statistics 3238.0 – Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026

3.5 Casualty rates by severity

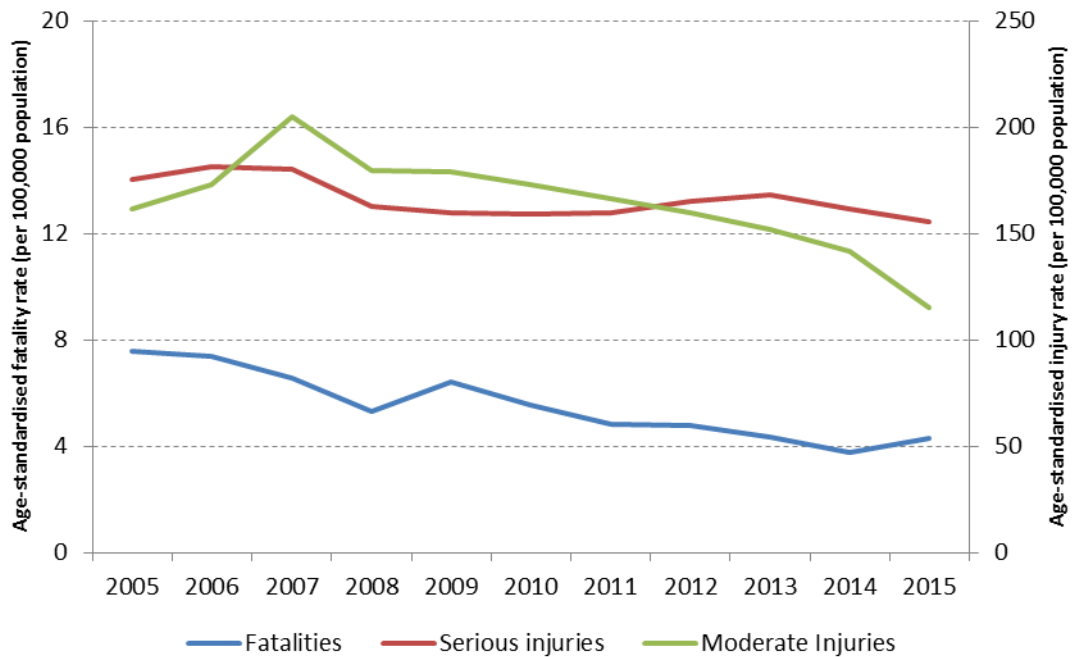
The age-standardised fatality rate for Aboriginal people increased by 182 per cent from 3.7 to 10.3 deaths per 100,000 in 2005-2015 (Figure 8). Serious injury rates and moderate injury rates increased by 23 per cent and 30 per cent respectively in 2005-2015. Actual rates are detailed in Table A3.

Figure 8: Age-standardised casualty rates for Aboriginal people by severity, using MOH Algorithm identification, reporting year NSW 2005-2015



The age-standardised fatality rate for non-Aboriginal people decreased by 43 per cent from 7.6 to 4.3 deaths per 100,000 in 2005-2015 (Figure 9). Serious injury and moderate injury rates also decreased by 11 per cent and 29 per cent respectively in 2005-2015. Actual rates are detailed in Table A4.

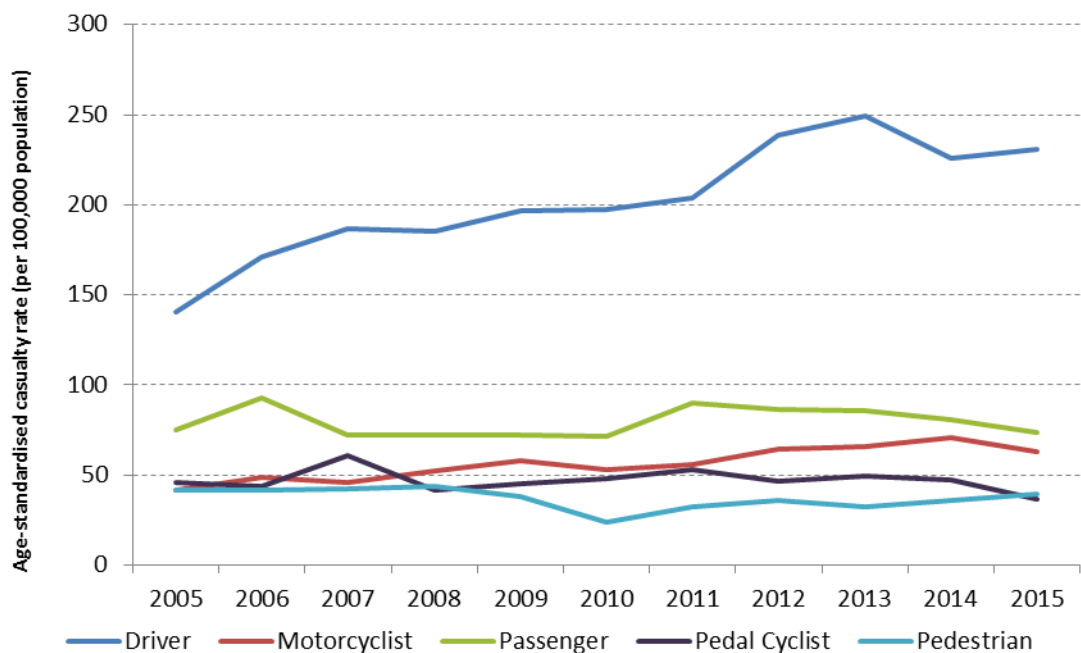
Figure 9: Age-standardised casualty rates for non-Aboriginal people by severity, using MOH Algorithm identification, reporting year NSW 2005-2015



3.6 Road user group rates

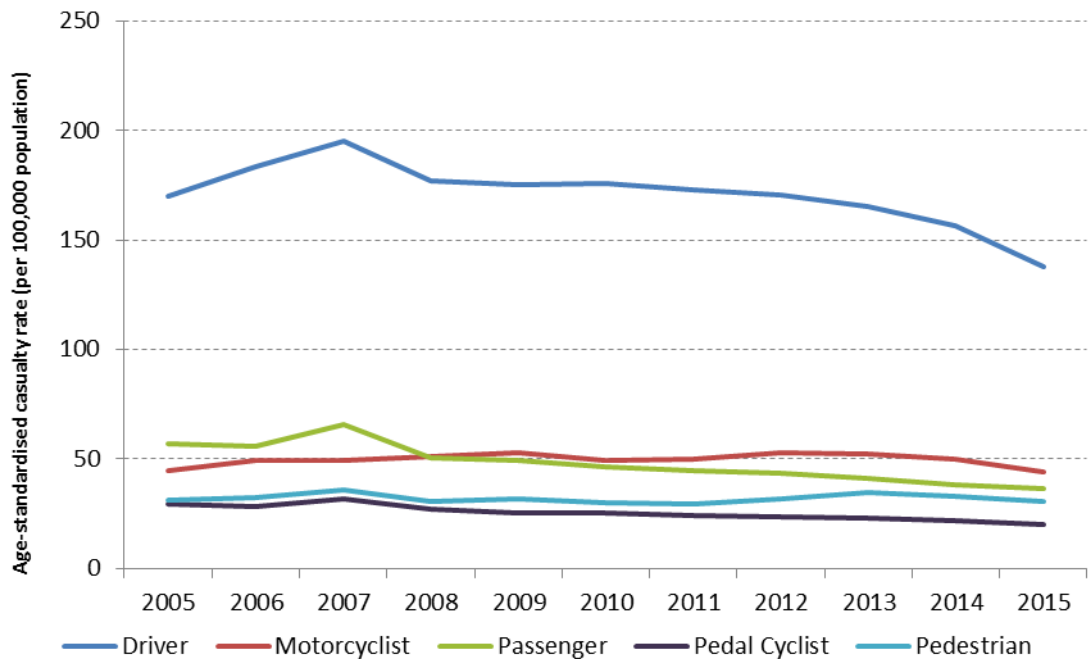
The age-standardised casualty rate for Aboriginal drivers increased by 64 per cent from 140.6 to 230.7 per 100,000 in 2005-2015 (Figure 10). The motorcyclist casualty rate increased by 53 per cent from 41.2 to 63.0 per 100,000. For passengers the casualty rate for non-Aboriginal people was unchanged. For pedestrians and pedal cyclists the casualty rates fell by 5 per cent and 20 per cent respectively in 2005-2015.

Figure 10: Age-standardised casualty rates for Aboriginal people by road user group, using MOH Algorithm identification, reporting year NSW 2005-2015



The age-standardised casualty rate for non-Aboriginal drivers decreased by 19 per cent from 169.9 to 137.6 per 100,000 in 2005-2015 (Figure 11). The motorcyclist and pedestrian casualty rates were stable. For non-Aboriginal people, casualty rates decreased by 37 per cent and 33 per cent and 33 per cent for passengers and respectively in 2005-2015.

Figure 11: Age-standardised casualty rates for non-Aboriginal people by road user group, using MOH Algorithm identification, reporting year NSW 2005-2015



4 Comparison of matched and unmatched serious injuries

4.1 What this chapter does

For serious injuries where the hospital record was not matched to a crash record there was limited information about the crash circumstances. This chapter contrasts the characteristics of the unmatched serious injuries with those serious injuries matched to the crash data for those variables common to both datasets.

The two datasets can be compared by a few common variables: injury severity, age, gender, the nature of the injury and the body region injured.

4.2 Matched and unmatched serious injuries by reporting

The number of matched and unmatched serious injuries for Aboriginal people increased by 27 per cent and 52 per cent respectively in 2005-2015 (Table 4). The number of matched and unmatched serious injuries for non-Aboriginal people decreased by five per cent and increased by 11 per cent respectively in 2005-2015. There were more than half (53 per cent) of serious injuries for Aboriginal people that were matched. Similarly 55 per cent of serious injuries in non-Aboriginal people were matched.

Table 4: Matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by reporting year NSW 2005-2015

Reporting year	Matched Serious Injuries	Unmatched Serious Injuries	Total
	Aboriginal		
2005	223	191	414
2006	234	191	425
2007	212	204	416
2008	229	197	426
2009	234	231	465
2010	224	205	429
2011	262	232	494
2012	314	245	559
2013	321	258	579
2014	315	251	566
2015	283	291	574
Total	2,851	2,496	5,347

Reporting year	Matched Serious Injuries	Unmatched Serious Injuries	Total
Non-Aboriginal			
2005	6,398	4,955	11,353
2006	6,714	5,320	12,034
2007	6,190	5,144	11,334
2008	5,962	4,984	10,946
2009	5,972	4,965	10,937
2010	6,000	5,020	11,020
2011	6,330	4,847	11,177
2012	6,570	5,123	11,693
2013	6,611	5,476	12,087
2014	6,497	5,357	11,854
2015	6,057	5,490	11,547
Total	69,301	56,681	125,982

4.3 Gender

For Aboriginal people, among the matched serious injuries 37 per cent were female and for the unmatched serious injuries 30 per cent were female (Table 5). Similarly, for non-Aboriginal people, among the matched serious injuries 38 per cent were female and for the unmatched serious injuries 31 per cent were female.

Table 5: Matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by gender NSW 2005-2015

Gender	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
Male	1,802	63.3	1,739	69.7	3,541
Female	1,046	36.7	757	30.3	1,803
Total	2,848	100	2,496	100	5,344
Non-Aboriginal					
Male	42,970	62.0	38,874	68.6	81,844
Female	26,303	38.0	17,805	31.4	44,108
Total	69,273	100	56,679	100	125,952

Note: For 33 people the gender was unknown (3 Aboriginal people (all matched) and 30 non-Aboriginal people (2 matched and 28 unmatched)).

4.4 Road user group

For Aboriginal people, among the matched serious injuries 43.0 per cent were motor vehicle drivers and 10.7 per cent unmatched serious injuries (Table 6). Similarly, for non-Aboriginal people, among the matched serious injuries 51.5 per cent were motor vehicle drivers and 11.5 per cent for the unmatched serious injuries. For both Aboriginal and non-Aboriginal people motorcyclists and pedal cyclists were the most common road users with unmatched serious injuries.

Table 6: Matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by road user group NSW 2005-2015

Road user group	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
Driver	1,226	43.0	268	10.7	1,494
Passenger	694	24.3	374	15.0	1,068
Motorcyclist	377	13.2	682	27.3	1,059
Pedestrian	406	14.2	283	11.3	689
Pedal cyclist	148	5.2	606	24.3	754
Other road user	0	-	283	11.3	283
Total	2,851	100	2,496	100	5,347
Non-Aboriginal					
Driver	35,672	51.5	6,516	11.5	42,188
Passenger	10,299	14.9	7,543	13.3	17,842
Motorcyclist	11,966	17.3	14,729	26.0	26,695
Pedestrian	7,919	11.4	4,435	7.8	12,354
Pedal cyclist	3,437	5.0	15,736	27.8	19,173
Other road user	8	0.0	7,722	13.6	7,730
Total	69,301	100	56,681	100	125,982

4.5 Serious injuries by severity

Hospital data linkage has provided a more detailed method of measuring injury severity. An ICD Injury Severity Score (ICISS) is assigned to each person with a serious injury based on their diagnosis codes at admission. A lower ICISS indicates a lower probability of survival therefore a more severe injury.

The average ICISS for matched Aboriginal serious injuries (0.942) was lower, therefore more severe, than for unmatched (0.959). Similarly the average ICISS for matched non-Aboriginal serious injuries (0.944) was lower, therefore more severe, than for unmatched (0.960).

Henley and Harrison (2009) divided ICISS into two categories where a value of less than 0.941 indicated a high threat to life. For Aboriginal people, high threat to life injuries comprised 33 per cent of matched serious injuries compared with 21 per cent of unmatched serious injuries (Table 7). Similarly for non-Aboriginal people, high threat to life injuries comprise 32 per cent of matched serious injuries compared with 21 per cent of unmatched serious injuries.

Table 7: Number of matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by High Threat to Life NSW 2005-2015

High Threat to Life	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
Yes	939	33.1	532	21.4	1,471
No	1,902	66.9	1,956	78.6	3,858
Total	2,841	100	2,488	100	5,329
Non-Aboriginal					
Yes	21,969	31.7	11,731	20.7	33,700
No	47,240	68.3	44,849	79.3	92,089
Total	69,209	100	56,580	100	125,789

Note: 211 serious injuries did not have HTTL information (18 Aboriginal people (10 matched and 8 unmatched) and 193 non-Aboriginal people (952 matched and 101 unmatched)).

For both Aboriginal and non-Aboriginal people, the numbers of High Threat To Life injuries in both matched and unmatched serious injuries (Table 8), is highest in the youngest age groups.

Table 8: Number of matched and unmatched serious injuries with High Threat to Life (HTTL) for Aboriginal and non-Aboriginal people by age group NSW 2005-2015

Age group	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
0-9	44	4.7	43	8.1	87
10-19	243	25.9	165	31.0	408
20-29	250	26.6	111	20.9	361
30-39	156	16.6	70	13.2	226
40-49	128	13.6	74	13.9	202
50-59	72	7.7	38	7.1	110
60-69	26	2.8	20	3.8	46
70-79	14	1.5	7	1.3	21
80+	4	0.4	4	0.8	8
Unknown	2	0.2	0	-	2
Total	939	100	532	100	1,471

Age group	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Non-Aboriginal					
0-9	391	1.8	503	4.3	894
10-19	2,629	12.0	1,783	15.2	4,412
20-29	4,410	20.1	1,917	16.3	6,327
30-39	3,271	14.9	1,521	13.0	4,792
40-49	3,234	14.7	1,643	14.0	4,877
50-59	2,954	13.4	1,522	13.0	4,476
60-69	2,107	9.6	1,113	9.5	3,220
70-79	1,666	7.6	894	7.6	2,560
80+	1,231	5.6	835	7.1	2,066
Unknown	76	0.3	0	0.0	76
Total	21,969	100	11,731	100	33,700

Note: 211 serious injuries did not have HTTL information (18 Aboriginal people and 193 non-Aboriginal people)

Further grouping of ICISS values provides more information about the severity of serious injuries (Table 9). For Aboriginal people 43 per cent of matched serious injuries have a high or maximum ICISS severity category compared with 30 per cent of unmatched injuries. For non-Aboriginal people 41 per cent of matched serious injuries have a high or maximum ICISS severity category compared with 29 per cent of unmatched injuries.

Table 9: Number of matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by ICISS injury severity NSW 2005-2015

Severity of injury	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
Minimum severity	301	10.6	547	22.0	848
Moderate severity*	1,308	46.0	1,201	48.3	2,509
High severity	988	34.8	609	24.5	1,597
Maximum severity	244	8.6	131	5.3	375
Total	2,841	100	2,488	100	5,329
Non-Aboriginal					
Minimum severity	7,560	10.9	14,194	25.1	21,754
Moderate severity*	33,351	48.2	25,826	45.6	59,177
High severity	22,603	32.7	13,712	24.2	36,315
Maximum severity	5,695	8.2	2,848	5.0	8,543
Total	69,209	100	56,580	100	125,789

Note: 211 serious injuries did not have ICISS information (18 Aboriginal people and 193 non-Aboriginal people).

* This refers to a serious injury with an ICISS in the moderate band and not a moderate injury.

4.6 Body region of injury

Head injuries were the most common body region for serious injuries for Aboriginal people (23.8 per cent) and for non-Aboriginal people (18.9 per cent). Knee/lower leg injuries were the next most common body region for serious injuries for Aboriginal people (11.8 per cent). Amongst serious injuries for non-Aboriginal people the second most common body region was the thorax (13.2 per cent).

Table 10: Number of matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by body region NSW 2005-2015

Body region	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
Head	739	26.0	535	21.4	1,274
Neck	324	11.4	156	6.3	480
Thorax	362	12.7	172	6.9	534
Abdomen / Lower back / Lumbar spine / Pelvis	326	11.5	254	10.2	580
Shoulder/Upper arm	205	7.2	202	8.1	407
Elbow/Forearm	158	5.6	253	10.1	411
Wrist/Hand	85	3.0	177	7.1	262
Hip/Thigh	144	5.1	103	4.1	247
Knee/Lower leg	312	11.0	321	12.9	633
Ankle/Foot	87	3.1	110	4.4	197
Other	102	3.6	213	8.5	315
Total	2,844	100	2,496	100	5,340
Non-Aboriginal					
Head	14,384	20.8	9,491	16.7	23,875
Neck	8,870	12.8	4,009	7.1	12,879
Thorax	11,562	16.7	5,122	9.0	16,684
Abdomen / Lower back / Lumbar spine / Pelvis	7,441	10.7	4,848	8.6	12,289
Shoulder/Upper arm	5,227	7.5	6,480	11.4	11,707
Elbow/Forearm	4,045	5.8	7,023	12.4	11,068
Wrist/Hand	2,565	3.7	4,110	7.3	6,675
Hip/Thigh	2,783	4.0	2,377	4.2	5,160
Knee/Lower leg	7,686	11.1	7,243	12.8	14,929
Ankle/Foot	2,067	3.0	1,873	3.3	3,940
Other	2,618	3.8	4,105	7.2	6,723
Total	69,248	100	56,681	100	125,929

Note: There were 60 serious injuries that had an unknown body region (seven Aboriginal people and 53 non-Aboriginal people).

4.7 Nature of injury

Fractures were the most common type of injury in both the matched (34 per cent for Aboriginal people and 38 per cent for non-Aboriginal people) and unmatched (37 per cent for Aboriginal people and 46 per cent for non-Aboriginal) serious injuries (Table 11). Superficial injuries, open wounds and injuries to internal organs were more common in matched serious injuries compared with unmatched serious injuries. Dislocations/sprains/strains were higher in unmatched serious injuries. Unmatched serious injuries were also more likely to have an unknown nature of injury.

Table 11: *Number of matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by nature of injury NSW 2005-2015*

Nature of injury	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
	Aboriginal				
Superficial injuries	411	14.5	290	11.6	701
Open wound	389	13.7	312	12.5	701
Fracture	963	33.9	922	36.9	1,885
Dislocations/sprains/strains	117	4.1	117	4.7	234
Injury to nerves/spinal cord	13	0.5	8	0.3	21
Injury to eye/orbit	3	0.1	5	0.2	8
Injury to blood vessels	6	0.2	7	0.3	13
Injury to muscle/fascia/tendon	34	1.2	36	1.4	70
Traumatic amputation	5	0.2	5	0.2	10
Injury to internal organs	320	11.3	226	9.1	546
Burns	10	0.4	16	0.6	26
Other/unspecified injuries	515	18.1	390	15.6	905
Other	10	0.4	18	0.7	28
Unknown	48	1.7	144	5.8	192
Total	2,844	100	2,496	100	5,340

Nature of injury	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
	Non-Aboriginal				
Superficial injuries	8,934	12.9	4,869	8.6	13,803
Open wound	6,975	10.1	5,443	9.6	12,418
Fracture	26,333	38.0	25,862	45.6	52,195
Dislocations/sprains/strains	2,493	3.6	3,077	5.4	5,570
Injury to nerves/spinal cord	405	0.6	295	0.5	700
Injury to eye/orbit	192	0.3	92	0.2	284
Injury to blood vessels	170	0.2	91	0.2	261
Injury to muscle/fascia/tendon	699	1.0	912	1.6	1,611
Traumatic amputation	153	0.2	118	0.2	271
Injury to internal organs	6,629	9.6	4,260	7.5	10,889
Burns	147	0.2	217	0.4	364
Other/unspecified injuries	14,388	20.8	7,951	14.0	22,339
Other	282	0.4	382	0.7	664
Unknown	1,448	2.1	3,112	5.5	4,560
Total	69,248	100	56,681	100	125,929

Note: There were 60 serious injuries that had an unknown injury nature (seven Aboriginal people and 53 non-Aboriginal people).

4.8 Crash counterpart

The crash counterpart variable is derived from hospital records and police data and is a means of describing the crash type and the vehicles involved in the crash for each serious injury. For unmatched serious injuries it is derived from the diagnostic codes in the hospital data. For matched serious injuries it is derived from a combination of variables in the police data (first impact type, role in the first impact, road user group, and traffic unit type).

Car, pick-up or van was the most common crash counterpart in the matched (43 per cent for Aboriginal people and 56 per cent for non-Aboriginal people) serious injuries (Table 12). Non-collision was the most common crash counterpart in the non-matched serious injuries (34 per cent for both Aboriginal and non-Aboriginal people). Car, pick-up or van and fixed or stationary object crash counterparts were more common in matched serious injuries compared with unmatched serious injuries. Non-collision and other/unspecified crash counterparts were more common in unmatched serious injuries.

Table 12: Number of matched and unmatched serious injuries for Aboriginal and non-Aboriginal people by crash counterpart NSW 2005-2015

Crash counterpart	Matched Serious Injuries	%	Unmatched Serious Injuries	%	Total
Aboriginal					
Car/Pick-up/van	1,225	43.0	581	23.3	1,806
Heavy vehicle/bus	119	4.2	39	1.6	158
Two/Three wheeled vehicle	23	0.8	24	1.0	47
Railway train/vehicle	0	0.0	1	0.0	1
Pedestrian/animal	27	0.9	28	1.1	55
Pedal cycle	1	0.0	17	0.7	18
Other non-motor vehicle	1	0.0	4	0.2	5
Fixed/Stationary object	963	33.8	281	11.3	1,244
Non-collision	387	13.6	842	33.7	1,229
Other/unspecified	105	3.7	679	27.2	784
Total	2,851	100	2,496	100	5,347
Non-Aboriginal					
Car/Pick-up/van	38,485	55.5	12,874	22.7	51,359
Heavy vehicle/bus	3,361	4.8	830	1.5	4,191
Two/Three wheeled vehicle	570	0.8	473	0.8	1,043
Railway train/vehicle	7	0.0	8	0.0	15
Pedestrian/animal	717	1.0	561	1.0	1,278
Pedal cycle	194	0.3	867	1.5	1,061
Other non-motor vehicle	59	0.1	79	0.1	138
Fixed/Stationary object	16,098	23.2	4,985	8.8	21,083
Non-collision	7,330	10.6	19,254	34.0	26,584
Other/unspecified	2,480	3.6	16,750	29.6	19,230
Total	69,301	100	56,681	100	125,982

5 Statistical profile for 2011-2015

5.1 What this chapter does

This chapter summarises casualties in NSW for Aboriginal and non-Aboriginal and people for the five-year period 2011-2015, particularly focusing on fatalities, serious and moderate injuries. It is designed to be a statistical “snapshot” of the most recently available detailed injury data.

The first part of this chapter (Sections 5.2 and 5.3) includes unmatched serious injuries. The second part of this chapter (Sections 5.4-5.7) examines crashes matched with hospital admission records only, as detailed information is only available from the police record.

5.2 Casualties

Over the five year period 2011 to 2015 there were 87 Aboriginal fatalities, 2,772 serious injuries and 2,048 moderate injuries on NSW roads (Table 13). The age-standardised rates per 100,000 for each casualty type was higher for Aboriginal people compared to non-Aboriginal people (see Appendix for more detailed data).

Table 13: Casualties for Aboriginal and non-Aboriginal people by injury type NSW 2011-2015

Injury severity	Aboriginal			Non-Aboriginal		
	Number	%	Average rate*	Number	%	Average rate*
Fatality	87	1.8	11.7	1,636	1.5	4.4
Serious injury (Matched)	1,495	30.5	149.9	32,065	28.6	88.6
Serious injury (Unmatched)	1,277	26.0	120.6	26,293	23.5	73.4
Moderate injury	2,048	41.7	193.9	51,981	46.4	147.0
Total	4,907	100	472.4	111,975	100	313.4

* Age-standardised annualised rate per 100,000 population for 2011-2015

5.3 Who is involved in road casualties

5.3.1 Road user group

Among both Aboriginal and non-Aboriginal casualties, the highest percentage of all injury severity types occurred for drivers in NSW for 2011-2015 (Table 14). It was more common for Aboriginal serious and moderate injuries to involve passengers (20.7 per cent and 20.5 per cent respectively) compared to non-Aboriginal serious and moderate injuries (13.5 per cent and 12.1 per cent respectively).

Table 14: Aboriginal and non-Aboriginal casualties by road user group and injury severity in NSW 2011-2015

Road user group	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Driver	48	55.2	843	30.4	1259	61.5	2,150
Passenger	15	17.2	574	20.7	419	20.5	1,008
Motorcyclist	12	13.8	577	20.8	125	6.1	714
Pedestrian	11	12.6	323	11.7	164	8.0	498
Pedal Cyclist	1	1.1	333	12.0	80	3.9	414
Other Road User	0	0.0	122	4.4	1	0.0	123
Total	87	100	2,772	100	2,048	100	4,907
Non-Aboriginal							
Driver	760	46.5	20,116	34.5	36880	70.9	57,756
Passenger	292	17.8	7,888	13.5	6,274	12.1	14,454
Motorcyclist	297	18.2	12,630	21.6	4,427	8.5	17,354
Pedestrian	239	14.6	5,406	9.3	2,526	4.9	8,171
Pedal Cyclist	48	2.9	9,360	16.0	1,871	3.6	11,279
Other Road User	0	0.0	2,958	5.1	3	0.0	2,961
Total	1,636	100	58,358	100	51,981	100	111,975

A breakdown of Aboriginal and non-Aboriginal casualty types by both road user group and age group is given in Table 15. Casualties for Aboriginal people within the passenger, motorcyclist, pedestrian and pedal cyclist road user groups tended to be younger compared to non-Aboriginal people.

Table 15: Aboriginal and non-Aboriginal casualties* by injury severity, road user group, and age group in NSW 2011-2015

Road user group	Age group	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal								
Driver	0-16	1	2.1	24	2.8	15	1.2	40
	17-29	15	31.3	367	43.5	622	49.5	1,004
	30-59	26	54.2	384	45.6	559	44.5	969
	60+	6	12.5	68	8.1	61	4.9	135
	Sub-total	48	100	843	100	1257	100	2,148
Passenger	0-16	6	40.0	158	27.6	164	39.2	328
	17-29	6	40.0	246	42.9	175	41.9	427
	30-59	3	20.0	145	25.3	69	16.5	217
	60+	0	0.0	24	4.2	10	2.4	34
	Sub-total	15	100	573	100	418	100	1,006
Motorcyclist	0-16	0	0.0	116	20.1	20	16.0	136
	17-29	6	50.0	266	46.1	50	40.0	322
	30-59	6	50.0	182	31.5	54	43.2	242
	60+	0	0.0	13	2.3	1	0.8	14
	Sub-total	12	100	577	100	125	100	714
Pedestrian	0-16	2	18.2	90	27.9	65	39.6	157
	17-29	3	27.3	90	27.9	47	28.7	140
	30-59	6	54.5	122	37.8	51	31.1	179
	60+	0	0.0	21	6.5	1	0.6	22
	Sub-total	11	100	323	100	164	100	498
Pedal cyclist	0-16	0	0.0	153	45.9	35	43.8	188
	17-29	0	0.0	61	18.3	22	27.5	83
	30-59	1	100	110	33.0	23	28.7	134
	60+	0	0.0	9	2.7	0	0.0	9
	Sub-total	1	100	333	100	80	100	414
Other Road User	0-16	-	-	16	13.1	0	0.0	16
	17-29	-	-	37	30.3	0	0.0	37
	30-59	-	-	52	42.6	1	100	53
	60+	-	-	17	13.9	0	0.0	17
	Sub-total	-	-	122	100	1	100	123
Total	0-16	9	10.3	557	20.1	299	14.6	865
	17-29	30	34.5	1067	38.5	916	44.8	2,013
	30-59	42	48.3	995	35.9	757	37.0	1,794
	60+	6	6.9	152	5.5	73	3.6	231
	Total	87	100	2771	100	2045	100	4,903

Road user group	Age group	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Non-Aboriginal								
Driver	0-16	4	0.5	89	0.4	92	0.2	185
	17-29	240	31.6	6118	30.5	13373	36.3	19,731
	30-59	289	38.0	9003	44.8	17744	48.2	27,036
	60+	227	29.9	4881	24.3	5629	15.3	10,737
	Sub-total	760	100	20091	100	36838	100	57,689
Passenger	0-16	44	15.2	1280	16.3	1741	27.9	3,065
	17-29	91	31.4	2485	31.6	1991	31.9	4,567
	30-59	61	21.0	2141	27.2	1699	27.2	3,901
	60+	94	32.4	1960	24.9	806	12.9	2,860
	Sub-total	290	100	7866	100	6237	100	14,393
Motorcyclist	0-16	7	2.4	795	6.3	74	1.7	876
	17-29	80	26.9	4569	36.2	1805	40.8	6,454
	30-59	169	56.9	6379	50.5	2290	51.8	8,838
	60+	41	13.8	884	7.0	254	5.7	1,179
	Sub-total	297	100	12627	100	4423	100	17,347
Pedestrian	0-16	18	7.5	817	15.1	540	21.4	1,375
	17-29	31	13.0	1193	22.1	727	28.8	1,951
	30-59	73	30.5	1705	31.6	828	32.8	2,606
	60+	117	49.0	1685	31.2	429	17.0	2,231
	Sub-total	239	100	5400	100	2524	100	8,163
Pedal cyclist	0-16	3	6.3	1832	19.6	186	9.9	2,021
	17-29	6	12.5	1556	16.6	488	26.1	2,050
	30-59	24	50.0	4775	51.0	1062	56.8	5,861
	60+	15	31.3	1196	12.8	135	7.2	1,346
	Sub-total	48	100	9359	100	1871	100	11,278
Other Road User	0-16	-	-	226	7.6	1	33.3	227
	17-29	-	-	509	17.2	0	0.0	509
	30-59	-	-	980	33.1	2	66.7	982
	60+	-	-	1243	42.0	0	0.0	1,243
	Sub-total	-	-	2958	100	3	100	2,961
Total	0-16	76	4.7	5039	8.6	2634	5.1	7,749
	17-29	448	27.4	16430	28.2	18384	35.4	35,262
	30-59	616	37.7	24983	42.9	23625	45.5	49,224
	60+	494	30.2	11849	20.3	7253	14.0	19,596
	Total	1634	100	58301	100	51896	100	111,831

* There were 148 people that had unknown age values (four Aboriginal people, 144 non-Aboriginal people).

5.3.2 Age (Ten-year grouping)

For both Aboriginal and non-Aboriginal casualties, the highest proportion of all injury severity types occurred within the 20-29 age group in NSW for 2011-2015 (Table 16). A higher proportion of Aboriginal serious and moderate injuries (25.9 per cent and 24.5 per cent respectively) were in the 10-19 age group compared to non-Aboriginal injuries (13.0 per cent for both groups).

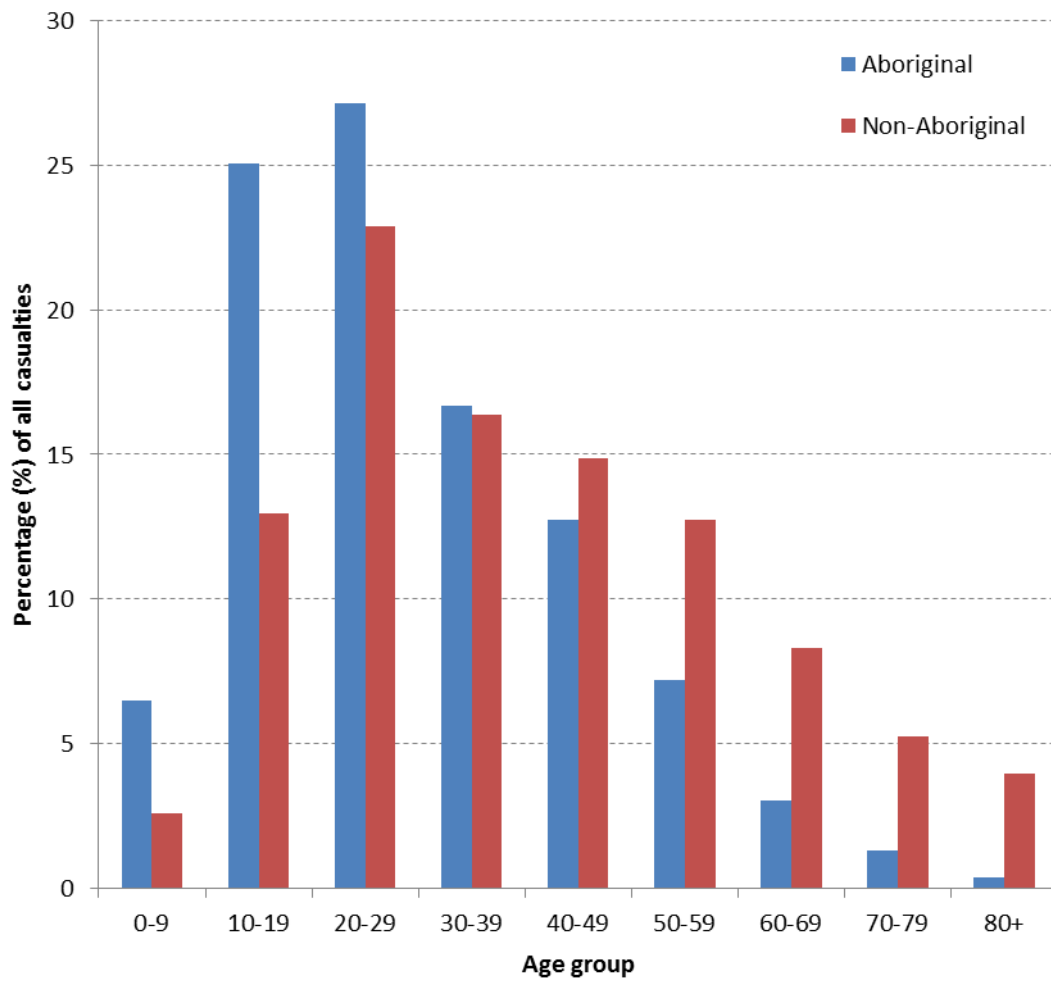
Table 16: Distribution of casualties for Aboriginal and non-Aboriginal people by age NSW 2011-2015

Age group	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
0-9	5	5.7	196	7.1	118	5.8	319
10-19	9	10.3	719	25.9	501	24.5	1,229
20-29	25	28.7	709	25.6	596	29.1	1,330
30-39	17	19.5	437	15.8	363	17.8	817
40-49	15	17.2	347	12.5	262	12.8	624
50-59	10	11.5	211	7.6	132	6.5	353
60-69	5	5.7	95	3.4	49	2.4	149
70-79	1	1.1	42	1.5	21	1.0	64
80+	0	0.0	15	0.5	3	0.2	18
Total	87	100	2,772	100	2,048	100	4,907
Non-Aboriginal							
0-9	40	2.4	1,798	3.1	1076	2.1	2,914
10-19	166	10.2	7,608	13.0	6,737	13.0	14,511
20-29	318	19.5	12,063	20.7	13,205	25.4	25,586
30-39	182	11.1	8,876	15.2	9,275	17.9	18,333
40-49	211	12.9	8,571	14.7	7,845	15.1	16,627
50-59	223	13.6	7,536	12.9	6,505	12.5	14,264
60-69	178	10.9	5,184	8.9	3,931	7.6	9,293
70-79	158	9.7	3,580	6.1	2,136	4.1	5,874
80+	158	9.7	3,085	5.3	1,186	2.3	4,429
Total	1,636	100	58,358	100	51,981	100	111,975

Note: There were 148 unknown age values (4 Aboriginal people, 144 non-Aboriginal people).

For Aboriginal people, casualties were most common among the 10-19 and 20-29 age groups (Figure 12). For non-Aboriginal people, casualties were most common among the 20-29 age group, followed by a similar percentage of casualties in the 10-19, 30-39, 40-49 and 50-59 age groups.

Figure 12: *Distribution of Aboriginal and non-Aboriginal casualties by age NSW 2011-2015*



5.3.2.1 Younger age groups

For both Aboriginal and non-Aboriginal people, fatalities, serious injuries, and moderate injuries for all younger age groups (0-9, 10-19, and 20-29) were stable for 2011-2015 (Figures 13 and 14). See Appendix for data tables corresponding to the following figures.

Figure 13: Aboriginal casualties by younger age groups and year NSW 2011-2015

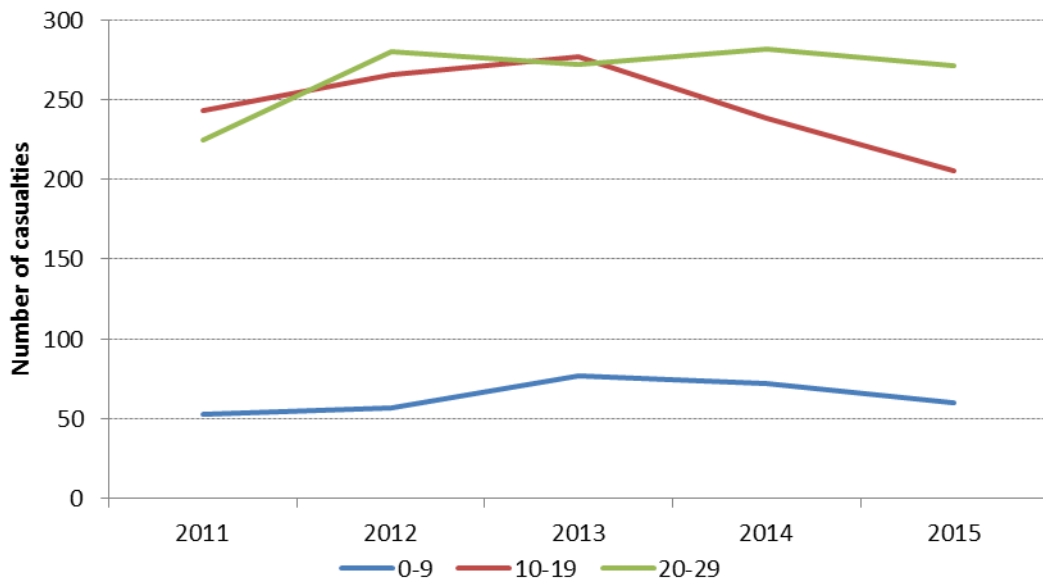
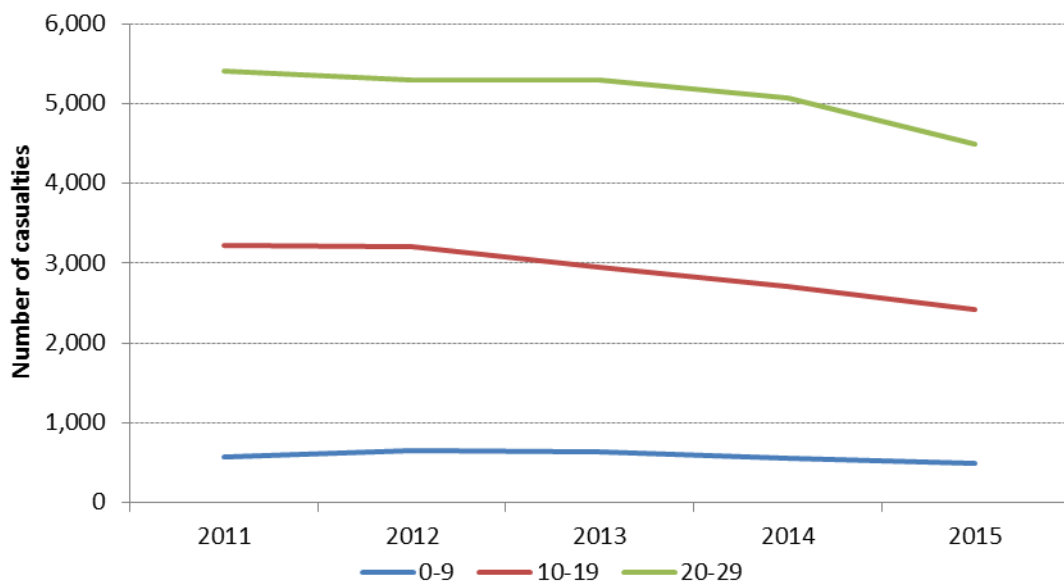


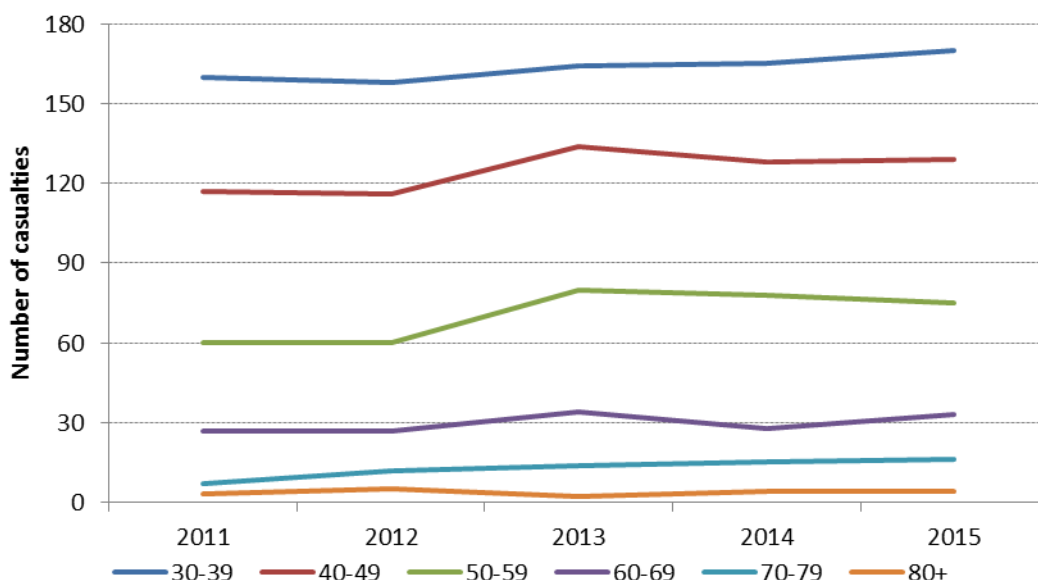
Figure 14: Non-Aboriginal casualties by younger age groups and year NSW 2011-2015



5.3.2.2 Older age groups

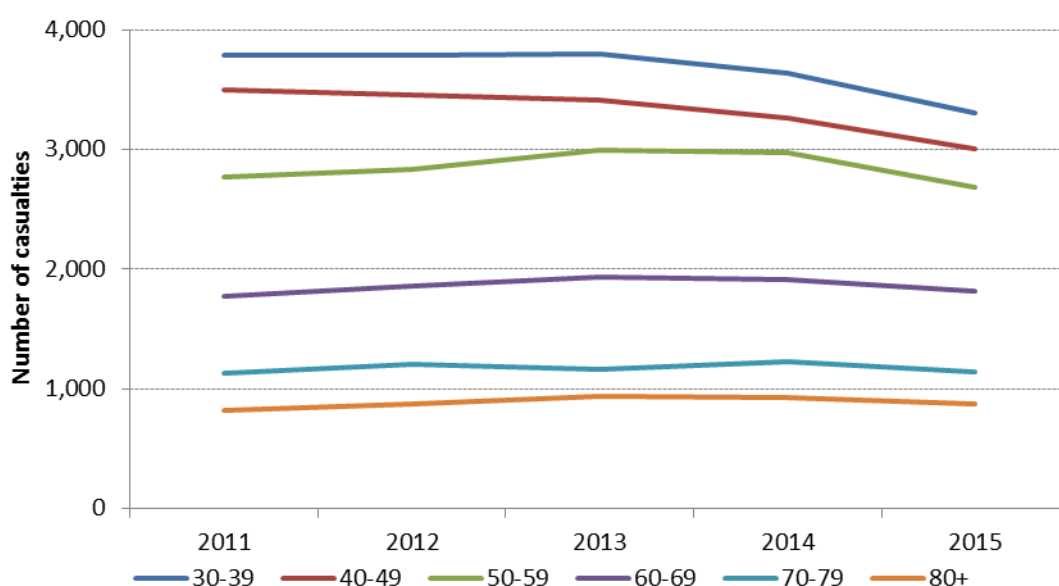
Casualties among Aboriginal people aged 30-39, 40-49, 50-59 and 60-69 rose in 2011-2015. The number of serious injuries for Aboriginal people aged 70-79 and 80+ were stable for 2011-2015 (Figure 15).

Figure 15: Aboriginal casualties by older age groups and year NSW 2011-2015



Casualties among non-Aboriginal people aged 50-59 and 60-69 rose in 2011-2015. The number of serious injuries for non-Aboriginal people aged 30-39, 40-49, 70-79 and 80+ were stable for 2011-2015 (Figure 16).

Figure 16: Non-Aboriginal casualties by older age groups and year NSW 2011-2015



The following sections investigate the differences in numbers and age-specific rates of injuries for broader age groups (0-16, 17-29, 30-59 and 60+). Age-specific casualty rates were calculated by dividing the number of casualties in each group (Aboriginality by injury severity by age group by year) by the corresponding Aboriginal and non-Aboriginal population for that year and age group (taken from ABS estimates) and multiplying the result by 100,000.

5.3.3 Child (0-16) road users

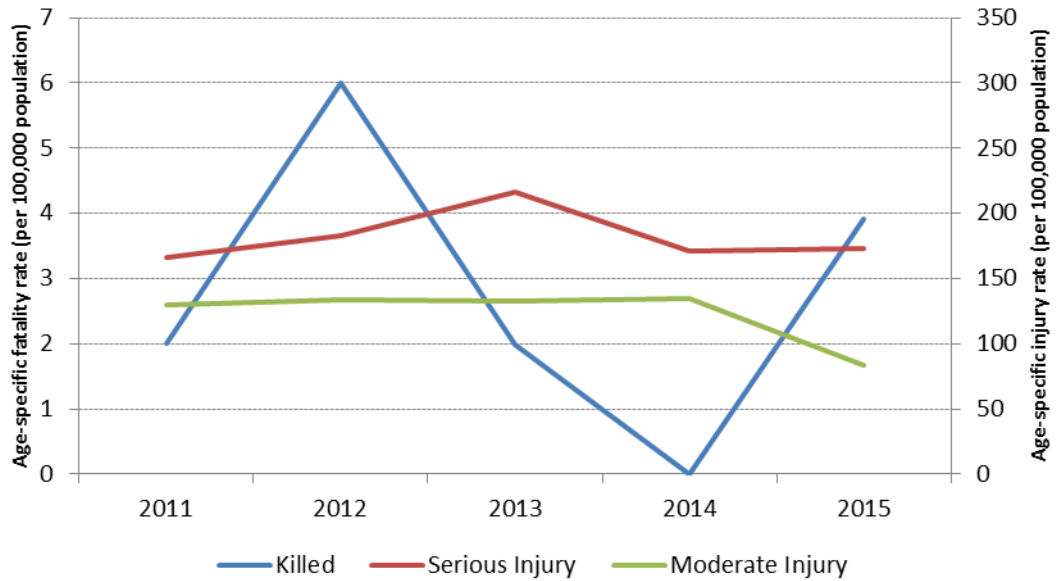
The number of fatalities and serious injuries for Aboriginal people aged 0-16 was stable in NSW for 2011-2015 (Table 17). The number of moderate injuries for Aboriginal people aged 0-16 was stable for 2011 to 2014, but decreased to 36 moderate injuries in 2015. For non-Aboriginal people aged 0-16, the number of fatalities was stable over this time period. Serious and moderate injuries fell by 15.4 per cent and 28.0 per cent respectively.

Table 17: Casualties for Aboriginal and non-Aboriginal children aged 0-16 by year NSW 2011-2015

Reporting year	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
2011	2	22.2	103	18.5	63	21.1	168
2012	2	22.2	113	20.3	62	20.7	177
2013	2	22.2	135	24.2	69	23.1	206
2014	0	0.0	98	17.6	69	23.1	167
2015	3	33.3	108	19.4	36	12.0	147
Total	9	100	557	100	299	100	865
Non-Aboriginal							
2011	17	20.7	1,044	22.4	590	22.4	1,651
2012	20	21.7	1,093	22.0	580	22.0	1,693
2013	10	21.4	1,079	20.6	542	20.6	1,631
2014	12	18.7	940	18.9	497	18.9	1,449
2015	17	17.5	883	16.1	425	16.1	1,325
Total	76	100	5,039	100	2,634	100	7,749

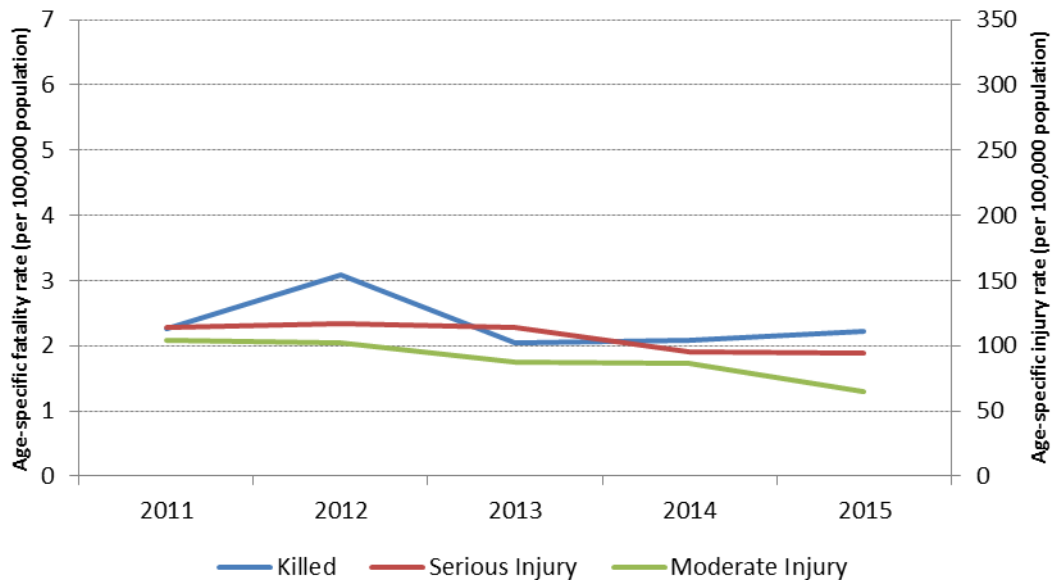
Age-specific casualty rates are provided for people aged 0 to 19 (rather than 0 to 16 years as reported above) due to the availability of yearly population data by Aboriginality. Age-specific fatality and serious injury rates for Aboriginal people aged 0-19 were stable in NSW for 2011-2015. Age-specific rates for moderate injuries decreased by 35.9 per cent in NSW for 2011-2015 (Figure 17). See Appendix for the data table corresponding to the following figures.

Figure 17: Age-specific casualty rates (per 100,000 population) for Aboriginal people aged 0-19 by year NSW 2011-2015



Age-specific fatality and serious injury rates for non-Aboriginal people aged 0-19 were stable in NSW for 2011-2015. Age-specific rates for moderate injuries decreased by 37.4 per cent in NSW for 2011-2015 (Figure 18).

Figure 18: Age-specific casualty rates (per 100,000 population) for non-Aboriginal people aged 0-19 by year NSW 2011-2015



5.3.4 Young (17-29) road users

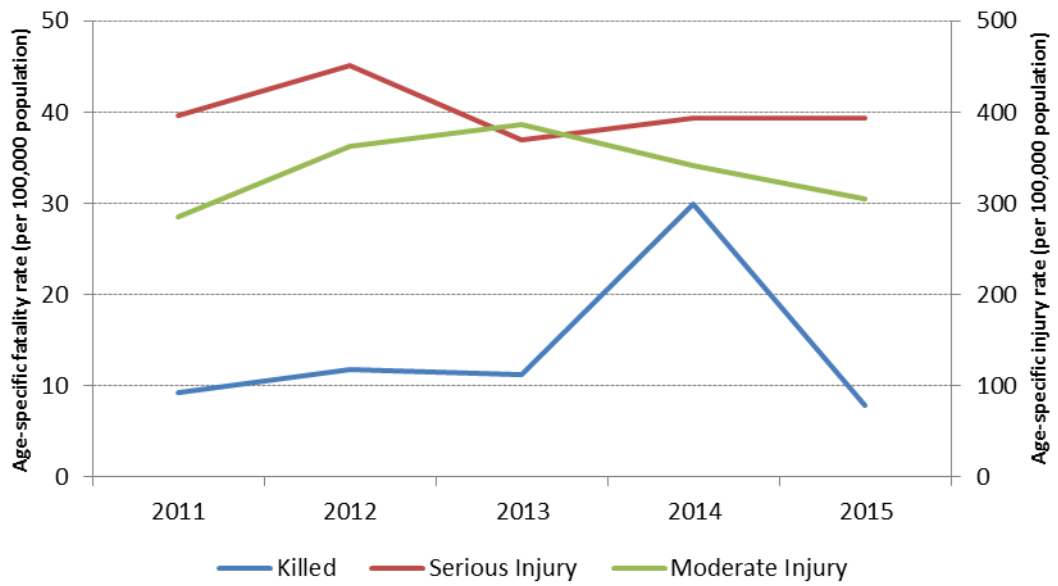
The number of serious injuries for Aboriginal people aged 17-29 increased by 14.7 per cent for 2011-2015 (Table 18). Fatalities and moderate injuries were stable over this time period. For non-Aboriginal people aged 17-29, the number of fatalities and moderate injuries fell by 23.0 per cent and 32.1 per cent respectively for 2011-2015. Serious injuries for this group were stable over this time period.

Table 18: Casualties for Aboriginal and non-Aboriginal people aged 17-29 by year NSW 2011-2015

Reporting year	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
2011	3	10.0	191	17.9	159	17.4	353
2012	8	26.7	223	20.9	195	21.2	426
2013	4	13.3	214	20.1	202	20.9	420
2014	11	36.7	220	20.6	194	21.1	425
2015	4	13.3	219	20.5	166	19.3	389
Total	30	100	1,067	100	916	100	2,013
Non-Aboriginal							
2011	100	22.3	3,325	22.5	4,128	21.4	7,553
2012	106	23.7	3,355	21.8	4,014	21.2	7,475
2013	94	21.0	3,436	20.3	3,730	20.6	7,260
2014	71	15.8	3,119	20.2	3,708	19.6	6,898
2015	77	17.2	3,195	15.3	2,804	17.2	6,076
Total	448	100	16,430	100	18,384	100	35,262

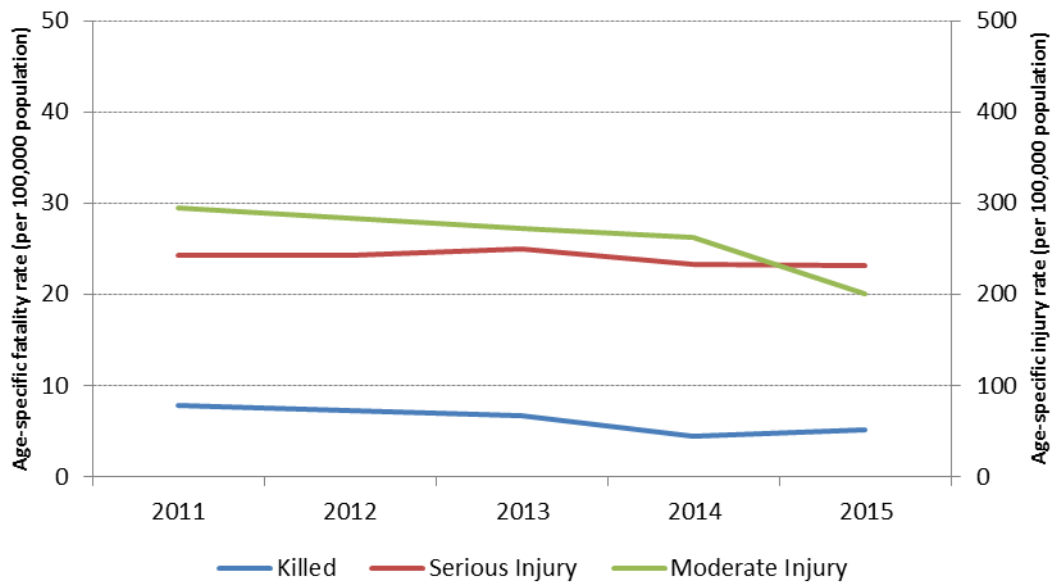
Age-specific casualty rates are provided for people aged 20 to 29 (rather than 17 to 29 years as reported above) due to the availability of yearly population data by Aboriginality. Age-specific fatality, serious and moderate casualty rates for Aboriginal people aged 20-29 were stable for NSW for 2011-2015 (Figure 19). See Appendix for the data table corresponding to the following figures.

Figure 19: Age-specific casualty rates (per 100,000 population) for Aboriginal people aged 20-29 by year NSW 2011-2015



Age-specific fatality and serious injury rates for non-Aboriginal people aged 20-29 were stable in NSW for 2011-2015. Age-specific rates for moderate injuries decreased by 32.1 per cent in NSW for 2011-2015 (Figure 20).

Figure 20: Age-specific casualty rates (per 100,000 population) for non-Aboriginal people aged 20-29 by year NSW 2011-2015



5.3.5 Middle aged (30-59) road users

The number of serious injuries for Aboriginal people aged 30-59 increased by 24.0 per cent for NSW for 2011-2015 (Table 19). All other injury categories were stable over this time period. For non-Aboriginal people aged 30-59, the number of moderate injuries fell by 25.9 per cent and all other categories were stable for 2011-2015.

Table 19: Casualties for Aboriginal and non-Aboriginal people aged 30-59 by year NSW 2011-2015

Reporting year	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
2011	13	31.0	171	17.2	153	20.2	78
2012	7	16.7	197	19.8	130	17.2	57
2013	4	9.5	201	20.2	173	22.9	60
2014	8	19.0	214	21.5	149	19.7	69
2015	10	23.8	212	21.3	152	20.1	47
Total	42	100	995	100	757	100	311
Non-Aboriginal							
2011	134	21.8	4,662	18.7	5,266	22.3	4,131
2012	119	19.3	4,994	20.0	4,969	21.0	3,850
2013	126	20.5	5,136	20.6	4,948	20.9	3,437
2014	110	17.9	5,227	20.9	4,537	19.2	3,203
2015	127	20.6	4,964	19.9	3,905	16.5	4,031
Total	616	100	24,983	100	23,625	100	18,652

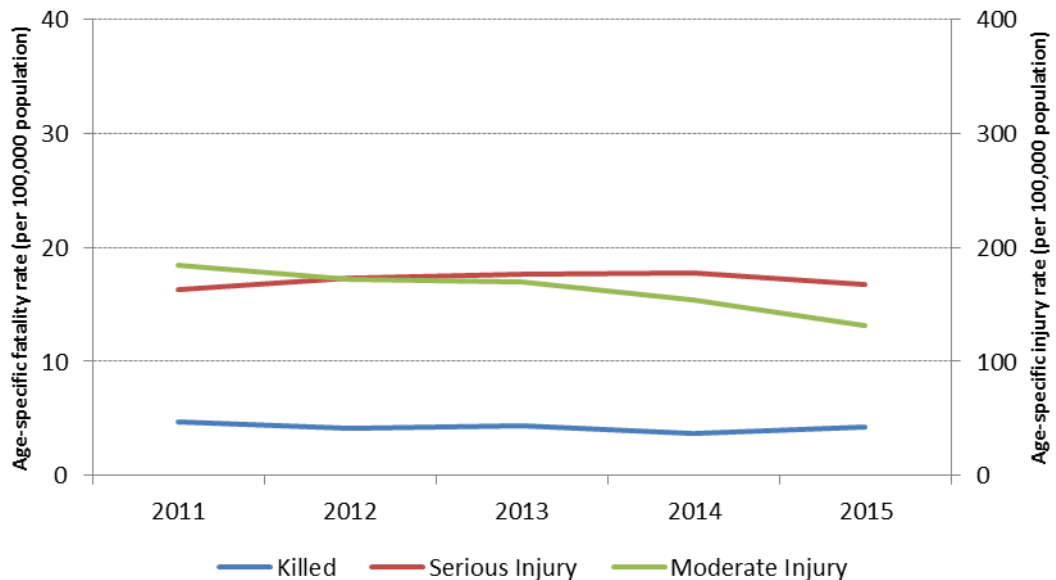
Age-specific fatality, serious and moderate casualty rates for Aboriginal people aged 30-59 were stable for NSW for 2011-2015 (Figure 21). See Appendix for the data table corresponding to the following figures.

Figure 21: Age-specific casualty rates (per 100,000 population) for Aboriginal people aged 30-59 by year NSW 2011-2015



Age-specific fatality and serious casualty rates for non-Aboriginal people aged 30-59 were stable in NSW for 2011-2015. Age-specific rates for moderate injuries decreased by 28.7 per cent in NSW for 2011-2015 (Figure 22).

Figure 22: Age-specific casualty rates (per 100,000 population) for non-Aboriginal people aged 30-59 by year NSW 2011-2015



5.3.6 Older (60+) road users

The number of fatalities for Aboriginal people aged 60+ were stable for 2011-2015 (Table 20). The number of serious injuries and moderate injuries increased by 20.7 per and 100 per cent respectively for Aboriginal people aged 60+ for 2011-2015 (Table 20).

The number of fatalities and serious injuries for non-Aboriginal people aged 60+ increased by 15.7 per cent and 16.7 per cent respectively for 2011-2015 (Table 20). The number of moderate injuries decreased by 18.1 per cent respectively for non-Aboriginal people aged 60+ for 2011-2015 (Table 20).

Table 20: Casualties for Aboriginal and non-Aboriginal people aged 60+ NSW 2011-2015

Reporting year	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
2011	0	0.0	29	19.1	8	11.0	37
2012	1	16.7	26	17.1	17	23.3	44
2013	3	50.0	29	19.1	18	24.7	50
2014	0	0.0	33	21.7	14	19.2	47
2015	2	33.3	35	23.0	16	21.9	53
Total	6	100	152	100	73	100	231
Non-Aboriginal							
2011	95	19.2	2,135	18.0	1,499	20.7	3,729
2012	105	21.3	2,242	18.9	1,591	21.9	3,938
2013	90	18.2	2,424	20.5	1,525	21.0	4,039
2014	94	19.0	2,555	21.6	1,410	19.4	4,059
2015	110	22.3	2,493	21.0	1,228	16.9	3,831
Total	494	100	11,849	100	7,253	100	19,596

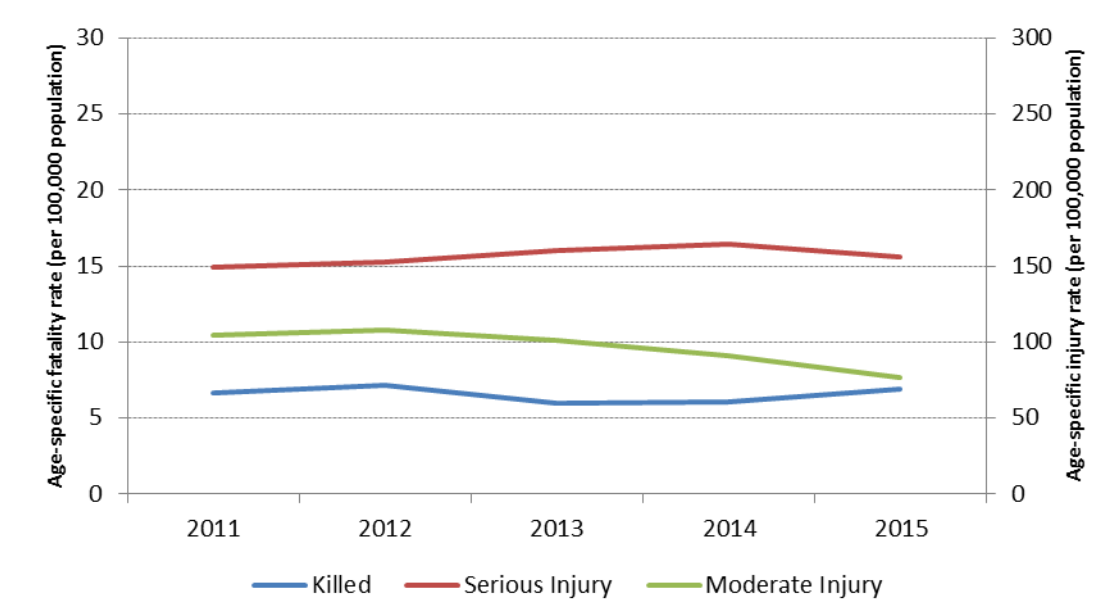
Age-specific casualty rates for Aboriginal people aged 60+ were stable in NSW for 2011-2015 (Figure 23). Age-specific rates for moderate injuries increased by 58.2 per cent over this time period.

Figure 23: Age-specific casualty rates (per 100,000 population) for Aboriginal people aged 60+ by year NSW 2011-2015



Age-specific fatality and serious casualty rates for non-Aboriginal people aged 60+ were stable in NSW for 2011-2015. Age-specific rates for moderate injuries decreased by 26.4 per cent over this time period (Figure 24).

Figure 24: Age-specific casualty rates (per 100,000 population) for non-Aboriginal people aged 60+ by year NSW 2011-2015



5.3.7 Gender

The distribution of fatalities and serious injuries by gender was similar for Aboriginal and non-Aboriginal people in NSW for 2011-2015 (Table 21). However, the percentage of moderate injuries who are males is slightly higher for non-Aboriginal people (53.5 per cent compared to 49.7 per cent for Aboriginal people).

Table 21: Number and proportions of Aboriginal and non-Aboriginal casualties by gender and severity NSW 2011-2015

Gender	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Male	63	72.4	1,796	64.8	1,017	49.7	2,876
Female	24	27.6	975	35.2	1,031	50.3	2,030
Total	87	100	2,771	100	2,048	100	4,906
Non-Aboriginal							
Male	1,167	71.3	37,774	64.7	27,802	53.5	66,743
Female	469	28.7	20,575	35.3	24,164	46.5	45,208
Total	1,636	100	58,349	100	51,966	100	111,951

Note: There were 25 missing values for gender (1 Aboriginal person and 24 non-Aboriginal people).

5.4 Where the casualties occurred (matched data only)

5.4.1 Urbanisation

Urbanisation is derived from the LGA and speed limit in effect where the crash took place. The Sydney-Newcastle-Wollongong greater conurbation (SNW Gtr Conurbation) is defined as all Sydney metropolitan LGAs, Newcastle City, Lake Macquarie City, Wollongong City, Shellharbour City, Gosford, Wyong, Hawkesbury, Blue Mountains, and Wollondilly LGAs. The Urban Rest of NSW is defined as other LGAs where speed limits were 80 km/h or less. The Rural Rest of NSW is defined as other LGAs where the highest speed limits were more than 80 km/h.

The majority of fatalities occurred outside of the SNW Gtr Conurbation, particularly for Aboriginal people (87.4 per cent) in NSW for 2011-2015 (Table 22). Serious injuries in the SNW Gtr Conurbation accounted for 43.6 per cent of the Aboriginal NSW total compared to 68.8 per cent of the non-Aboriginal NSW total. For Aboriginal people, almost two in three serious injuries occurred either in the Urban Rest of NSW (30.0 per cent) or Rural Rest of NSW (26 per cent). For non-Aboriginal people, less than one in three serious injuries occurred either in the Urban Rest of NSW (15.2 per cent) or Rural Rest of NSW (15.9 per cent).

Table 22: Aboriginal and non-Aboriginal casualties by area of crash in NSW 2011-2015

Area of crash	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
SNW Gtr conurbation	11	12.6	652	43.6	771	37.6	1,434
Urban Rest of NSW	25	28.7	449	30.0	884	43.2	1,358
Rural Rest of NSW	51	58.6	392	26.2	392	19.1	835
Rest of NSW – Unk	0	0.0	2	0.1	1	0.0	3
Total	87	100	1,495	100	2,048	100	3,630
Non-Aboriginal							
SNW Gtr conurbation	657	40.2	22,063	68.8	35,887	69.0	58,607
Urban Rest of NSW	324	19.8	4,870	15.2	10,065	19.4	15,259
Rural Rest of NSW	654	40.0	5,105	15.9	6,002	11.5	11,761
Rest of NSW – Unk	1	0.1	27	0.1	27	0.1	55
Total	1,636	100	32,065	100	51,981	100	85,682

5.4.2 RMS region

For Aboriginal people, the highest proportion of fatalities (33.3 per cent) in NSW for 2011-2015 occurred in the Northern RMS region (Table 23). For non-Aboriginal people, most fatalities (28.2 per cent) in this time period occurred in the Sydney RMS region. The highest proportion of Aboriginal serious injuries and non-Aboriginal serious and moderate injuries occurred in the Sydney RMS region.

Table 23: Numbers of Aboriginal and non-Aboriginal casualties by severity and RMS region NSW 2011-2015

RMS Region	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Sydney	6	6.9	414	27.7	412	20.1	832
Northern	29	33.3	292	19.5	495	24.2	816
Hunter	14	16.1	281	18.8	516	25.2	811
Southern	12	13.8	174	11.6	208	10.2	394
South West	9	10.3	116	7.8	109	5.3	234
Western	17	19.5	218	14.6	308	15.0	543
Total	87	100	1,495	100	2,048	100	3,630
Non-Aboriginal							
Sydney	461	28.2	18,233	56.9	28,537	54.9	47,231
Northern	311	19.0	3,239	10.1	5,542	10.7	9,092
Hunter	266	16.3	3,800	11.9	8,520	16.4	12,586
Southern	242	14.8	3,297	10.3	4,717	9.1	8,256
South West	171	10.5	1,669	5.2	1,757	3.4	3,597
Western	185	11.3	1,827	5.7	2,908	5.6	4,920
Total	1,636	100	32,065	100	51,981	100	85,682

5.4.3 LGA of crash

The number of Aboriginal and non-Aboriginal casualties by the LGAs with the highest frequencies of serious casualties for each group is shown in Tables 24 and 25. For the 20 LGAs that have the largest number of serious casualties (fatalities and serious injuries) factors such as: resident population, traffic levels and interaction levels with other road users all potentially influence the number of crashes and casualties in a LGA.

Table 24: Aboriginal casualties by LGA by severity, for LGAs with highest frequencies of serious casualties NSW 2011-2015

LGA of crash	Fatality	Serious Injury	Moderate Injury	Total	Total Serious Casualties	Aboriginal population*	Aboriginal % of LGA*
Blacktown	1	107	45	153	108	9,988	3.2
Penrith	2	51	45	98	53	6,532	3.5
Wollongong	2	49	40	91	51	5,108	2.5
Shoalhaven	6	43	55	104	49	5,287	5.5
Lake Macquarie	0	45	54	99	45	6,680	3.4
Wyong	1	43	88	132	44	6,583	4.3
Sydney	1	40	34	75	41	3,016	1.6
Newcastle	0	37	71	108	37	4,759	3.1
Kempsey	5	28	36	69	33	3,715	12.8
Clarence Valley	3	29	43	75	32	3,403	6.6
Campbelltown	0	30	28	58	30	5,774	3.8
Liverpool	0	30	26	56	30	3,322	1.8
Tweed	0	30	25	55	30	3,554	4.0
Cessnock	3	25	55	83	28	2,941	5.6
Shellharbour	0	28	27	55	28	2,313	3.5
Wagga Wagga	0	28	36	64	28	3,255	5.3
Gosford	1	26	65	92	27	4,352	2.6
Lismore	2	23	38	63	25	2,287	5.2
Inverell	1	22	23	46	23	1,262	7.6
Dubbo	3	19	71	93	22	5,956	14.8

* Using 2011 estimated resident Aboriginal and non-Aboriginal populations

Table 25: Non-Aboriginal casualties by LGA by severity, for LGAs with highest frequencies of serious casualties NSW 2011-2015

LGA of crash	Fatality	Serious Injury	Moderate Injury	Total	Total Serious Casualties	Aboriginal population*	Aboriginal % of LGA*
Blacktown	26	1,921	1,034	2,981	1,947	9,988	3.2
Sydney	19	1,257	2,030	3,306	1,276	3,016	1.6
Wollongong	32	1,064	1,186	2,282	1,096	5,108	2.5
Bankstown	26	1,032	2,094	3,152	1,058	1,680	0.9
Parramatta	19	1,018	1,199	2,236	1,037	1,754	1.0
Fairfield	28	1,004	1,693	2,725	1,032	1,598	0.8
Liverpool	26	974	1,514	2,514	1,000	3,322	1.8
Penrith	30	855	1,213	2,098	885	6,532	3.5
Holroyd	12	735	837	1,584	747	999	1.0
The Hills	14	700	594	1,308	714	548	7.8
Lake Macquarie	41	620	1,164	1,825	661	6,680	3.4
Gosford	40	594	1,561	2,195	634	4,352	2.6
Sutherland	26	576	1,145	1,747	602	136	0.4
Newcastle	21	573	1,475	2,069	594	4,759	3.1
Hornsby	21	532	981	1,534	553	647	0.4
Auburn	7	544	740	1,291	551	561	0.7
Shoalhaven	49	472	795	1,316	521	5,287	5.5
Randwick	10	507	806	1,323	517	2,377	1.7
Canterbury	6	496	1,144	1,646	502	980	0.7
Tweed	28	448	655	1,131	476	3,554	4.0

* Using 2011 estimated resident Aboriginal and non-Aboriginal populations

5.4.4 LGA of residence

The number of Aboriginal and non-Aboriginal casualties by the LGAs of residence with the highest frequencies of serious casualties for each group is shown in Tables 26 and 27.

Table 26: Aboriginal casualties by LGA of residence by severity, for LGAs with highest frequencies of serious casualties NSW 2011-2015

LGA of residence	Fatality	Serious Injury	Moderate Injury	Total	Total Serious Casualties	Aboriginal population*	Aboriginal % of LGA*
Blacktown	1	85	56	142	86	9,988	3.2
Penrith	2	59	43	104	61	6,532	3.5
Wyong	1	51	84	136	52	6,583	4.3
Wollongong	1	42	34	77	43	5,108	2.5
Campbelltown	0	41	33	74	41	5,774	3.8
Shoalhaven	5	33	42	80	38	5,287	5.5
Lake Macquarie	0	33	60	93	33	6,680	3.4
Interstate/O'seas	0	30	39	69	30		-
Cessnock	4	26	52	82	30	2,941	5.6
Kempsey	4	25	30	59	29	3,715	12.8
Clarence Valley	4	23	39	66	27	3,403	6.6
Shellharbour	1	26	22	49	27	2,313	3.5
Dubbo	3	23	53	79	26	5,956	14.8
Maitland	2	24	48	74	26	2,830	4.0
Newcastle	0	26	53	79	26	4,759	3.1
Gosford	0	24	52	76	24	4,352	2.6
Tamworth Regional	3	21	80	104	24	5,677	9.7
Sydney	2	21	20	43	23	3,015	1.6
Liverpool	0	21	27	48	21	3,322	1.8
Port Stephens	2	18	28	48	20	2,791	4.2

*Using 2011 estimated resident Aboriginal non-Aboriginal populations

Note: There were 232 unknown LGA of residence values for Aboriginal serious casualties.

Table 27: Non-Aboriginal casualties by LGA of residence by severity, for LGAs with highest frequencies of serious casualties NSW 2011-2015

LGA of residence	Fatality	Serious Injury	Moderate Injury	Total	Total Serious Casualties	Aboriginal population*	Aboriginal % of LGA*
Blacktown	43	1,788	1,361	3,192	1,831	9,988	3.2
Interstate/O'seas	131	1,042	1,281	2,454	1,173	-	-
Liverpool	29	1,012	1,636	2,677	1,041	3,322	1.8
Penrith	30	949	1,219	2,198	979	6,532	3.5
Fairfield	21	950	1,612	2,583	971	1,598	0.8
Wollongong	34	929	1,101	2,064	963	5,108	2.5
Bankstown	13	908	1,686	2,607	921	1,680	0.9
Parramatta	22	865	1,113	2,000	887	1,754	1.0
The Hills	13	725	779	1,517	738	548	7.8
Sydney	14	686	856	1,556	700	3,015	1.6
Lake Macquarie	36	602	1,242	1,880	638	6,680	3.4
Canterbury	12	619	1,247	1,878	631	980	0.7
Holroyd	9	591	732	1,332	600	999	1.0
Sutherland	25	568	1,153	1,746	593	136	0.4
Campbelltown	15	567	1,158	1,740	582	5,774	3.8
Gosford	36	540	1,263	1,839	576	4,352	2.6
Randwick	13	530	928	1,471	543	2,377	1.7
Newcastle	15	511	1,023	1,549	526	4,759	3.1
Wyong	28	493	1,338	1,859	521	6,583	4.3
Auburn	10	452	634	1,096	462	561	0.7

*Using 2011 estimated resident Aboriginal and non-Aboriginal populations

Note: There were 3,121 unknown LGA of residence values for non-Aboriginal serious casualties.

5.4.5 Crash in the same LGA as place of residence

Aboriginal fatalities were more likely (54.0 per cent) to occur in the same LGA as the person resided compared to elsewhere in NSW for 2011-2015 (Table 28). Aboriginal moderate injuries were also more likely to occur in the same LGA (60.8%) while all other crash injury categories were more likely to occur outside their LGA of residence. Non-Aboriginal fatalities (43.5 per cent), serious injuries (47.4 per cent) and moderate injuries (47.9 per cent) were less likely to occur in the LGA of residence.

Table 28: Aboriginal and non-Aboriginal casualties by severity, and whether they occurred in the same LGA as their place of residence NSW 2011-2015

Crash LGA/ LGA of Residence	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Same LGA	47	54.0	759	50.8	1,163	56.8	1,969
Other	40	46.0	736	49.2	885	47.9	1,661
Total	87	100	1,495	100	2,048	100	3,630
Non-Aboriginal							
Same LGA	711	43.5	15,214	47.4	24,891	47.9	40,816
Other	925	56.5	16,851	52.6	27,090	52.1	44,866
Total	1,636	100	32,065	100	51,981	100	85,682

5.4.6 Speed limit

Among Aboriginal casualties, the largest percentage occurred where the speed limit was 50 km/h (35.9 per cent), followed by speed limit areas of 60 km/h (20.5 per cent) and 100 km/h (19.7 per cent) in NSW for 2011-2015 (Table 29). Fatalities were more likely to occur in 100 km/h zones (47.1 per cent) while serious injuries were more likely to occur in 50 km/h zones (33.6 per cent).

Table 29: Aboriginal casualties by severity and speed limit NSW 2011-2015

Speed limit (km/h)	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Under 40	0	0.0	0	0.0	1	0.0	1
40	1	1.1	26	1.4	42	2.1	69
50	12	13.8	502	33.6	788	38.5	1,302
60	8	9.2	286	19.2	449	21.9	743
70	3	3.4	79	5.3	131	6.4	213
80	11	12.6	160	10.7	196	9.6	367
90	5	5.7	36	2.4	32	1.6	73
100	41	47.1	341	22.9	333	16.3	715
110	6	6.9	62	4.2	75	3.7	143
Total	87	100	1,492	100	2,047	100	3,626

Note: There were 4 unknown speed limit values for Aboriginal casualties.

Among non-Aboriginal casualties, the largest percentage took place where the speed limit was 50 km/h (32.0 per cent) or 60 km/h (29.7 per cent) in NSW for 2011-2015 (Table 30). Fatalities were more likely to occur in 100 km/h zones (35.4 per cent) while serious injuries were more likely to occur in 50 km/h (30.8 per cent) followed by 60 km/h (27.8 per cent) zones.

Table 30: Non-Aboriginal casualties by severity and speed limit NSW 2011-2015

Speed limit (km/h)	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Under 40	3	0.2	64	0.2	102	0.2	169
40	18	1.1	558	1.7	948	1.8	1,524
50	268	16.4	9,850	30.8	17,240	33.2	27,358
60	278	17.0	8,887	27.8	16,253	31.3	25,418
70	74	4.5	2,634	8.2	4,710	9.1	7,418
80	251	15.4	3,540	11.1	4,782	9.2	8,573
90	53	3.2	623	1.9	880	1.7	1,556
100	578	35.4	4,751	14.9	5,383	10.4	10,712
110	111	6.8	1,083	3.4	1,579	3.0	2,773
Total	1,634	100	31,990	100	51,877	100	85,501

Note: There were 181 unknown speed limit values for non-Aboriginal casualties.

5.4.6.1 Speed limit by road user group

Among driver casualties for Aboriginal people the most common speed limit was 50 km/h (30.2 per cent) (Table 31). For Aboriginal passenger casualties the most common speed limits were 50 km/h (27.0 per cent) and 100 km/h (27.0 per cent). Aboriginal motorcyclist casualties (51.6 per cent), pedestrians (57.7 per cent) and pedal cyclists (71.4 per cent) were most common in areas where the speed limit was 50 km/h.

However, among driver and passenger casualties for non-Aboriginal people the largest percentage occurred where the speed limit was 60/km/h (30.0 per cent and 28.4 per cent respectively) (Table 32). Non-Aboriginal motorcyclist casualties (33.9 per cent), pedestrians (57.3 per cent) and pedal cyclists (56.1 per cent) were most common in areas where the speed limit was 50 km/h.

Table 31: Aboriginal casualties by road user group and speed limit in NSW 2011-2015

Speed limit (km/h)	Driver	%	Passenger	%	Motorcyclist	%
Aboriginal						
Under 40	20	1.0	20	2.5	6	1.7
50	599	30.2	214	27.0	177	51.6
60	404	20.4	148	18.7	73	21.3
70	130	6.5	40	5.0	16	4.7
80	231	11.6	97	12.2	34	9.9
90	51	2.6	19	2.4	1	0.3
100	455	22.9	214	27.0	33	9.6
110	95	4.8	41	5.2	3	0.9
Total	1,985	100	793	100	343	100

Speed limit (km/h)	Pedestrian	%	Pedal cyclist	%	Other road user	Total
Aboriginal						
Under 40	20	5.7	3	1.9	1	70
50	202	57.7	110	71.4	0	1,302
60	88	25.1	30	19.5	0	743
70	18	5.1	9	5.8	0	213
80	4	1.1	1	0.6	0	367
90	2	0.6	0	0.0	0	73
100	12	3.4	1	0.6	0	715
110	4	1.1	0	0.0	0	143
Total	350	100	154	100	1	3,626

Note: There were 4 unknown speed limit values for Aboriginal people.

Table 32: Non-Aboriginal casualties by road user group and speed limit in NSW 2011-2015

Speed limit (km/h)	Driver	%	Passenger	%	Motorcyclist	%
Non-Aboriginal						
Under 40	743	143.0	127	1.2	204	1.9
50	15,435	28.4	2,819	25.9	3,611	33.9
60	16,317	30.0	3,084	28.4	3,288	30.9
70	5,282	9.7	928	8.5	840	7.9
80	5,925	10.9	1,193	11.0	1,214	11.4
90	1,171	2.2	245	2.3	121	1.1
100	7,401	13.6	1,907	17.6	1,239	11.6
110	2,048	3.8	563	5.2	132	1.2
Total	54,322	100	10,866	100	10,649	100

Speed limit (km/h)	Pedestrian	%	Pedal cyclist	%	Other road user	Total
Non-Aboriginal						
Under 40	454	7.4	165	4.7	0	1,693
50	3,529	57.3	1,961	56.1	3	27,355
60	1,761	28.6	967	27.6	1	25,418
70	226	3.7	142	4.1	0	7,418
80	92	1.5	148	4.2	1	8,576
90	11	0.2	8	0.2	0	1,556
100	67	1.1	93	2.7	5	10,712
110	16	0.3	14	0.4	0	2,773
Total	6,156	100	3,498	100	10	85,501

Note: There were 181 unknown speed limit values for non-Aboriginal people.

5.4.7 Road classification

Aboriginal serious and moderate injuries were more likely to occur on unclassified (local) roads (53.4 per cent and 51.8 per cent respectively) compared to non-Aboriginal serious and moderate injuries (44.7 per cent and 43.2 per cent respectively) in NSW for 2011-2015 (Table 33).

Table 33: Aboriginal and non-Aboriginal casualties by injury severity and road classification in NSW 2011-2015

Road classification	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Freeway/motorway	0	0.0	34	2.3	29	1.4	63
State highway	34	39.1	290	19.4	476	23.2	800
Other classified road	21	24.1	373	24.9	482	23.5	876
Unclassified road	32	36.8	798	53.4	1,061	51.8	1,891
Total	87	100	1,495	100	2,048	100	3,630
Non-Aboriginal							
Freeway/motorway	32	2.0	1,085	3.4	1,624	3.1	2,741
State highway	479	29.3	5,580	17.4	9,958	19.2	16,017
Other classified road	555	33.9	11,064	34.5	17,928	34.5	29,547
Unclassified road	570	34.8	14,336	44.7	22,471	43.2	37,377
Total	1,636	100	32,065	100	51,981	100	85,682

5.5 When the casualties occurred

5.5.1 Time of crash

For both Aboriginal and non-Aboriginal people the highest percentage of serious injuries occurred between 16:00 and 17:59 (14.1 per cent and 14.5 per cent respectively) (Table 34).

Table 34: Aboriginal and non-Aboriginal casualties by severity and two-hour time period of crash in NSW 2011-2015

Two-hour interval	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
00:01 - 01:59	11	12.6	101	6.8	60	2.9	172
02:00 - 03:59	6	6.9	73	4.9	64	3.1	143
04:00 - 05:59	5	5.7	61	4.1	50	2.4	116
06:00 - 07:59	4	4.6	80	5.4	113	5.5	197
08:00 - 09:59	5	5.7	97	6.5	216	10.5	318
10:00 - 11:59	5	5.7	124	8.3	198	9.7	327
12:00 - 13:59	9	10.3	171	11.4	258	12.6	438
14:00 - 15:59	9	10.3	193	12.9	329	16.1	531
16:00 - 17:59	11	12.6	210	14.1	316	15.4	537
18:00 - 19:59	10	11.5	160	10.7	199	9.7	369
20:00 - 21:59	3	3.4	111	7.4	150	7.3	264
22:00 - Midnight	9	10.3	113	7.6	95	4.6	217
Total	87	100	1,494	100	2,048	100	3,629
Non-Aboriginal							
00:01 - 01:59	97	5.9	1,116	3.5	1,152	2.2	2,365
02:00 - 03:59	56	3.4	713	2.2	730	1.4	1,499
04:00 - 05:59	68	4.2	972	3.0	1,171	2.3	2,211
06:00 - 07:59	124	7.6	2,412	7.5	3,791	7.3	6,327
08:00 - 09:59	133	8.1	3,392	10.6	6,155	11.8	9,680
10:00 - 11:59	187	11.4	3,605	11.2	5,918	11.4	9,710
12:00 - 13:59	193	11.8	3,812	11.9	6,329	12.2	10,334
14:00 - 15:59	225	13.8	4,457	13.9	7,678	14.8	12,360
16:00 - 17:59	217	13.3	4,664	14.5	8,268	15.9	13,149
18:00 - 19:59	138	8.4	3,243	10.1	5,415	10.4	8,796
20:00 - 21:59	109	6.7	2,054	6.4	3,068	5.9	5,231
22:00 - Midnight	89	5.4	1,624	5.1	2,305	4.4	4,018
Total	1,636	100	32,064	100	51,980	100	85,680

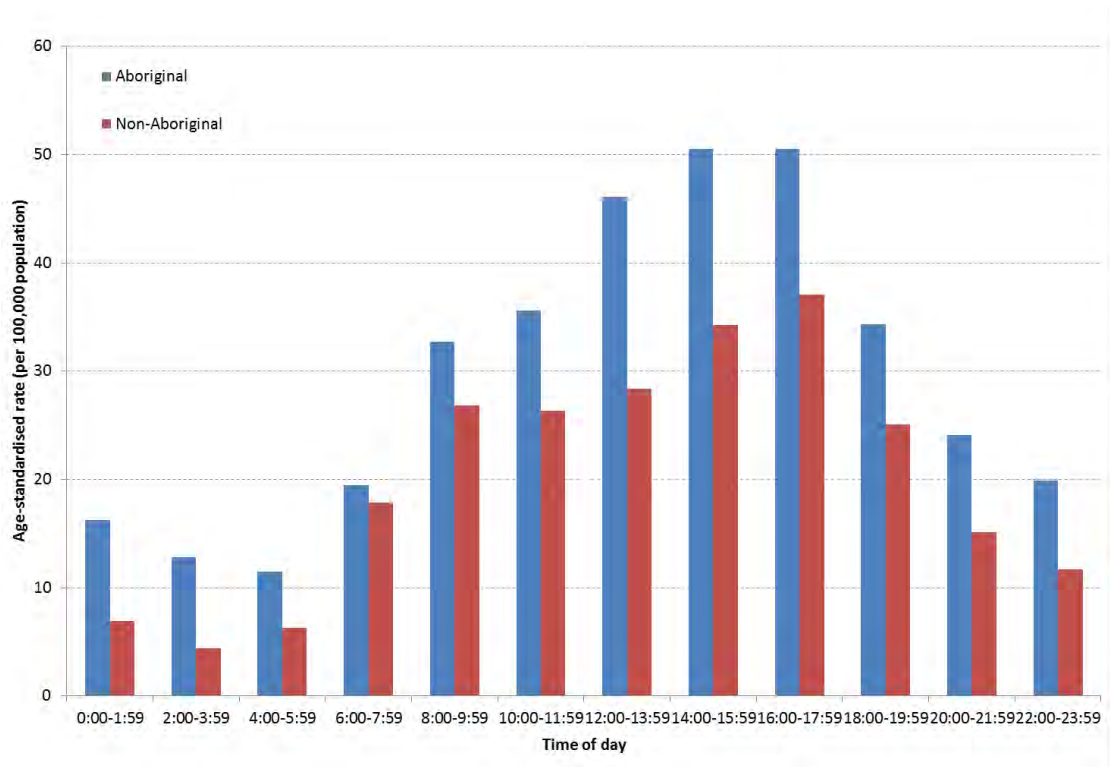
Note: There were five unknown time of crash values (one Aboriginal person and four non-Aboriginal people).

For Aboriginal people the highest age standardised rates for serious injuries occurred in the two-hour periods 14:00-15:59 and 16:00-17:59, both with 50.5 per 100,000 population (Figure 25). The lowest age-standardise rate was 11.5 serious injuries per 100,000 population, which occurred in the two-hour period 4:00-5:59. For non-

Aboriginal people the highest age standardised rate for serious injuries at 37.1 per 100,000 population was during the two hour period 16:00-17:59 and the lowest rate at 4.4 per 100,000 population was during the period 2:00-3:59.

For all two-hour time periods across the day, the Aboriginal age-standardised serious injury rate exceeded that for non-Aboriginal people. Between midnight and 5:59 the Aboriginal rate was double that of the non-Aboriginal rate.

Figure 25: Aboriginal and non-Aboriginal age-standardised casualty rates by two-hour time period of crash in NSW 2011-2015



5.5.2 McLean time period of crash

The McLean time periods were defined by A.J. McLean, O.T. Holubowycz and B.L. Sandow in their report *Alcohol and Crashes: Identification of Relevant Factors in this Association*, Department of Transport, Australia, 1980. The ten time periods, named A to J, exhibit different characteristics of traffic conditions, driver/rider behaviour and trip purpose.

For both Aboriginal and non-Aboriginal serious injuries, the highest percentage occurred Monday to Friday between 9am and 3pm (18.6 per cent and 23.4 per cent respectively), followed by Monday to Wednesday between 3pm and 9pm (15.3 per cent and 15.1 per cent respectively) (Table 35). It should be noted that serious injuries are overrepresented for Aboriginal compared to non-Aboriginal casualties.

Table 35: Aboriginal and non-Aboriginal casualties by severity and McLean time period of crash in NSW 2011-2015

McLean time period	% of week	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal								
A (Mon-Fri 3am-9am)	17.9	8	9.2	142	9.5	220	10.7	370
B (Sat-Sun 3am-9am)	7.1	4	4.6	82	5.5	77	3.8	163
C (Mon-Fri 9am-3pm)	17.9	11	12.6	278	18.6	479	23.4	768
D (Sat 9am-3pm)	3.6	10	11.5	78	5.2	116	5.7	204
E (Sun 9am-3pm)	3.6	1	1.1	60	4.0	115	5.6	176
F (Mon-Wed 3pm-9pm)	10.7	11	12.6	228	15.3	327	16.0	566
G (Thu-Fri 3pm-9pm)	7.1	10	11.5	169	11.3	258	12.6	437
H (Sat-Sun 3pm-9pm)	7.1	8	9.2	147	9.8	192	9.4	347
I (Sun-Wed 9pm-3am)	14.3	11	12.6	134	9.0	123	6.0	268
J (Thu-Sat 9pm-3am)	10.7	13	14.9	176	11.8	141	6.9	330
Total		87	100	1,494	100	2,048	100	3,629
Non-Aboriginal								
A (Mon-Fri 3am-9am)	17.9	200	12.2	4,302	13.4	7,033	13.5	11,535
B (Sat-Sun 3am-9am)	7.1	79	4.8	1,200	3.7	1,566	3.0	2,845
C (Mon-Fri 9am-3pm)	17.9	370	22.6	7,503	23.4	12,826	24.7	20,699
D (Sat 9am-3pm)	3.6	98	6.0	1,833	5.7	3,070	5.9	5,001
E (Sun 9am-3pm)	3.6	95	5.8	1,760	5.5	2,539	4.9	4,394
F (Mon-Wed 3pm-9pm)	10.7	221	13.5	4,827	15.1	8,600	16.5	13,648
G (Thu-Fri 3pm-9pm)	7.1	162	9.9	3,630	11.3	6,422	12.4	10,214
H (Sat-Sun 3pm-9pm)	7.1	140	8.6	2,929	9.1	4,598	8.8	7,667
I (Sun-Wed 9pm-3am)	14.3	110	6.7	1,802	5.6	2,458	4.7	4,370
J (Thu-Sat 9pm-3am)	10.7	161	9.8	2,278	7.1	2,868	5.5	5,307
Total		1,636	100	32,064	100	51,980	100	85,680

Note: There were five unknown time of crash values (one Aboriginal person and four non-Aboriginal people).

5.6 How the casualties occurred

5.6.1 Road user movement (RUM)

The type of crash is grouped according to the road user movement (RUM) code recorded for the first impact for the crash. For both Aboriginal and non-Aboriginal serious injuries, the highest percentage occurred in 'Off Path on Straight' (27.4 per cent and 18.5 per cent respectively) followed by 'Off Path on Curve or Turning' (23.7 per cent and 17.3 per cent respectively) crashes (Table 36). The highest proportion of Aboriginal fatalities occurred in 'Off Path on Curve or Turning' (34.5 per cent) crashes while the highest proportion of non-Aboriginal fatalities was for both 'Vehicles from Opposing Directions' (24.3 per cent) and 'Off Path on Curve or Turning' (23.6 per cent) crashes.

Table 36: Aboriginal and non-Aboriginal casualties by severity and Road User Movement (RUM) group in NSW 2011-2015

RUM group	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Pedestrian	11	12.6	174	11.6	173	8.4	358
Vehicles from Adjacent Directions	1	1.1	126	8.4	308	15.0	435
Vehicles from Opposing Directions	13	14.9	178	11.9	210	10.3	401
Vehicles from Same Direction	1	1.1	130	8.7	394	19.2	525
Manoeuvring	0	0.0	59	3.9	123	6.0	182
Overtaking	5	5.7	15	1.0	16	0.8	36
On Path	2	2.3	35	2.3	42	2.1	79
Off Path On Straight	24	27.6	410	27.4	436	21.3	870
Off Path On Curve or Turning	30	34.5	355	23.7	340	16.6	725
Miscellaneous / Unknown	0	0.0	13	0.9	6	0.3	19
Total	87	100	1,495	100	2,048	100	3,630
Non-Aboriginal							
Pedestrian	230	14.1	3,339	10.4	3,028	5.8	6,597
Vehicles from Adjacent Directions	87	5.3	3,793	11.8	8,518	16.4	12,398
Vehicles from Opposing Directions	398	24.3	5,451	17.0	8,059	15.5	13,908
Vehicles from Same Direction	98	6.0	5,078	15.8	13,883	26.7	19,059
Manoeuvring	42	2.6	1,601	5.0	2,999	5.8	4,642
Overtaking	39	2.4	301	0.9	391	0.8	731
On Path	33	2.0	811	2.5	1,005	1.9	1,849
Off Path On Straight	309	18.9	5,947	18.5	7,223	13.9	13,479
Off Path On Curve or Turning	386	23.6	5,562	17.3	6,684	12.9	12,632
Miscellaneous / Unknown	14	0.9	182	0.6	191	0.4	387
Total	1,636	100	32,065	100	51,981	100	85,682

5.6.2 Crash counterpart

The crash counterpart variable is derived from hospital records and police data and is a means of describing the crash type and the vehicles involved in the crash for each serious injury. For unmatched serious injuries it is derived from the diagnostic codes in the hospital data. For matched serious injuries it is derived from a combination of variables in the police data (first impact type, role in the first impact, road user group, and traffic unit type).

A fixed or stationary object was the more common crash counterpart among Aboriginal fatalities (52.9 per cent). Car/Pick-up/van was the most common counterpart for Aboriginal people with serious injuries (42.0 per cent) and moderate injuries (56.2 per cent) in NSW for 2011-2015 (Table 37). Car/pick-up/van was the most common crash counterpart for non-Aboriginal fatalities (39.1 per cent), serious injuries (56.8 per cent) and moderate injuries (65.9 per cent respectively).

Table 37: Aboriginal and non-Aboriginal casualties by severity and crash counterpart in NSW 2011-2015

Crash counterpart	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Car/pick-up/van	19	21.8	628	42.0	1,150	56.2	1,797
Heavy vehicle/bus	9	10.3	68	4.5	63	3.1	140
Two/three wheeled vehicle	0	0.0	7	0.5	20	1.0	27
Railway train/vehicle	0	0.0	0	0.0	1	0.0	1
Pedal cycle	0	0.0	1	0.1	5	0.2	6
Pedestrian/animal	1	1.1	13	0.9	29	1.4	43
Other non-motor vehicle	0	0.0	1	0.1	5	0.2	6
Fixed/stationary object	46	52.9	522	34.9	510	24.9	1,078
Non-collision	11	12.6	209	14.0	211	10.3	431
Other/unspecified	1	1.1	46	3.1	54	2.6	101
Total	87	100	1,495	100	2,048	100	3,630
Non-Aboriginal							
Car/pick-up/van	640	39.1	18,201	56.8	34,275	65.9	53,116
Heavy vehicle/bus	233	14.2	1,544	4.8	2,192	4.2	3,969
Two/three wheeled vehicle	12	0.7	263	0.8	551	1.1	826
Railway train/vehicle	2	0.1	4	0.0	4	0.0	10
Pedal cycle	3	0.2	99	0.3	193	0.4	295
Pedestrian/animal	13	0.8	366	1.1	927	1.8	1,306
Other non-motor vehicle	2	0.1	31	0.1	48	0.1	81
Fixed/stationary object	524	32.0	7,291	22.7	8,669	16.7	16,484
Non-collision	168	10.3	3,303	10.3	3,574	6.9	7,045
Other/unspecified	39	2.4	963	3.0	1,548	3.0	2,550
Total	1,636	100	32,065	100	51,981	100	85,682

5.7 Why the casualties occurred

5.7.1 Motor vehicle controllers: Alcohol involved

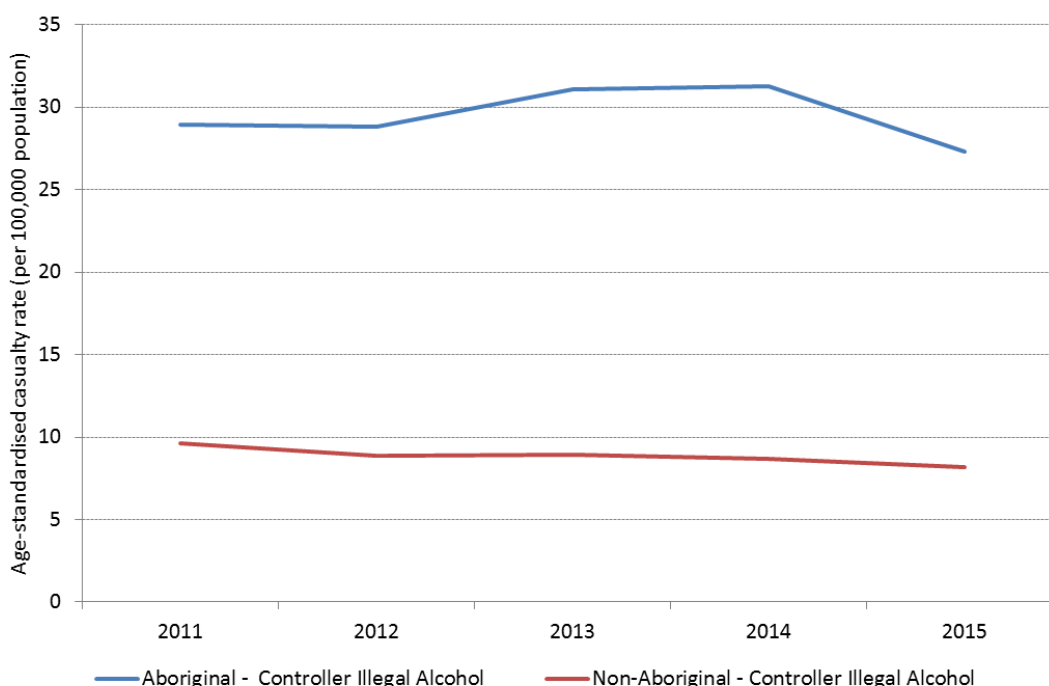
Aboriginal motor vehicle controller fatalities were more likely to involve illegal alcohol consumption compared to non-Aboriginal fatalities (33.3 per cent versus 18.4 per cent) in NSW for 2011-2015 (Table 38). Similarly for seriously injured Aboriginal motor vehicle controllers, illegal alcohol was more common (19.6 per cent) compared with non-Aboriginal motor vehicle controllers (7.2 per cent)

Table 38: *Aboriginal and non-Aboriginal motor vehicle controller casualties by severity and illegal alcohol indicator in NSW 2011-2015*

Alcohol indicator	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Illegal	20	33.3	171	19.6	105	7.6	296
Legal	35	58.3	588	67.5	1,019	74.1	1,642
Unknown	5	8.3	112	12.9	251	18.3	368
Total	60	100	871	100	1,375	100	2,306
Non-Aboriginal							
Illegal	192	18.4	1,618	7.2	1,252	3.0	3,062
Legal	792	75.7	17,536	77.8	31,576	76.7	49,904
Unknown	62	5.9	3,389	15.0	8,323	20.2	11,774
Total	1,046	100	22,543	100	41,151	100	64,740

Over the five-year period 2011-2015, the age-standardised rate for motor vehicle controller casualties that involved illegal alcohol was unchanged both for Aboriginal (from 28.9 to 27.3 per 100,000 population) and non-Aboriginal people (from 9.6 to 8.2 per 100,000 population) in NSW (Figure 26).

Figure 26: Age standardised casualty rates for Aboriginal and non-Aboriginal motor vehicle controller casualties by illegal alcohol indicator in NSW 2011-2015



5.7.1.1 Motor vehicle controller: Alcohol involved by gender

For Aboriginal motor vehicle controller casualties, 17.7 per cent of males had an illegal alcohol Blood Alcohol Concentration, compared with 6.4 per cent of female controllers (Table 39). For non-Aboriginal motor vehicle controller casualties 6.3 per cent of males had an illegal alcohol Blood Alcohol Concentration, compared with 2.4 per cent of females.

Table 39: Aboriginal and non-Aboriginal motor vehicle controller casualties by gender and illegal alcohol indicator in NSW 2011-2015

Alcohol indicator	Male	%	Female	%	Total	%
Aboriginal						
Illegal	230	17.7	65	6.4	295	12.8
Legal	861	66.4	781	77.5	1,642	71.2
Unknown	206	15.9	162	16.1	368	16.0
Total	1,297	100	1,008	100	2,305	100
Non-Aboriginal						
Illegal	2,413	6.3	649	2.4	3,062	4.7
Legal	29,165	76.5	20,732	78.0	49,897	77.1
Unknown	6,566	17.2	5,195	19.5	11,731	18.1
Total	38,144	100	26,576	100	64,720	100

Note: There were 21 people with unknown gender values (1 Aboriginal person and 20 non-Aboriginal people)

5.7.1.2 Motor vehicle controller: Alcohol involved by vehicle age

Aboriginal motor vehicle controller casualties involving illegal alcohol levels were more likely to involve vehicles that were at least 11 years in age compared to non-Aboriginal motor vehicle controller casualties (77.6 per cent versus 55.4 per cent) in NSW for 2011-2015 (Table 40).

Table 40: Aboriginal and non-Aboriginal motor vehicle controller casualties by age of vehicle (years) and illegal alcohol indicator in NSW 2011-2015

Alcohol indicator	0-1	%	2-5	%	6-10	%	11+	%	Total
Aboriginal									
Illegal	3	1.1	22	8.1	36	13.2	211	77.6	272
Legal	105	6.6	241	15.2	322	20.3	916	57.8	1,584
Unknown	22	6.7	55	16.7	69	21.0	183	55.6	329
Total	130	5.9	318	14.6	427	19.5	1,310	60.0	2,185
Non-Aboriginal									
Illegal	153	5.2	450	15.4	697	23.9	1,618	55.4	2,918
Legal	4,286	8.7	11,280	23.0	13,448	27.4	20,060	40.9	49,074
Unknown	997	8.7	2,709	23.6	3,151	27.5	4,609	40.2	11,466
Total	5,436	8.6	14,439	22.8	17,296	27.3	26,287	41.4	63,458

Note: There were 1,403 unknown vehicle age values (121 Aboriginal people and 1,282 non-Aboriginal people).

5.7.1.3 Motor vehicle controller: Alcohol involved by LGA of crash

Aboriginal and non-Aboriginal motor vehicle controller casualties involving illegal alcohol consumption were more likely to occur in the same LGA as their residence (65.9 per cent and 65.7 per cent respectively) in NSW for 2011-2015 (Table 41). Compared to the underlying percentages of motor vehicle controller casualties (60.0 per cent for Aboriginal and 50.6 per cent for non-Aboriginal casualties), illegal alcohol involvement is more likely to occur in the same LGA of residence (65.9 per cent for Aboriginal and 65.7 per cent for non-Aboriginal casualties). There is a larger over-representation for non-Aboriginal illegal alcohol involvement.

Table 41: Aboriginal and non-Aboriginal motor vehicle controller casualties by whether the crash occurred in the same LGA as their place of residence and illegal alcohol indicator in NSW 2011-2015

Controller BAC	Same LGA	%	Other / Unknown LGA	%	Total
Aboriginal					
Illegal	195	65.9	101	34.1	296
Legal	961	58.5	681	41.5	1,642
Unknown	228	62.0	140	38.0	368
Total	1,384	60.0	922	40.0	2,306
Non-Aboriginal					
Illegal	2,013	65.7	1,049	34.3	3,062
Legal	24,942	50.0	24,962	50.0	49,904
Unknown	5,819	49.4	5,955	50.6	11,774
Total	32,774	50.6	31,966	49.4	64,740

5.7.2 Pedestrian casualties: Alcohol levels

Aboriginal pedestrian serious injuries were more likely to involve a blood alcohol concentration of 0.05 or more (18.3 per cent) compared to non-Aboriginal pedestrian serious injuries (7.3 per cent) in NSW for 2011-2015 (Table 42). Aboriginal pedestrian moderate injuries were more likely to involve a blood alcohol concentration of 0.05 or more (9.1 per cent) compared to non-Aboriginal pedestrian moderate injuries (2.7 per cent). Note that there are high levels of unknown alcohol concentration amongst all serious and moderate injuries for both Aboriginal and non-Aboriginal pedestrians.

Table 42: Aboriginal and non-Aboriginal pedestrian casualties by injury severity and blood alcohol concentration in NSW 2011-2015

Pedestrian BAC	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Less than 0.05	2	18.2	28	16.0	20	12.2	50
0.05 or more	8	72.7	32	18.3	15	9.1	55
Unknown	1	9.1	115	65.7	129	78.7	245
Total	11	100	175	100	164	100	350
Non-Aboriginal							
Less than 0.05	168	70.3	1,123	32.8	582	23.0	1,873
0.05 or more	46	19.2	251	7.3	68	2.7	365
Unknown	25	10.5	2,054	59.9	1,876	74.3	3,955
Total	239	100	3,428	100	2,526	100	6,193

5.7.3 Motor vehicle controllers: Fatigue involved

Fatigue was more commonly involved among Aboriginal compared to non-Aboriginal motor vehicle controller fatalities (30.0 per cent versus 18.7 per cent). Aboriginal motor vehicle controller serious injuries were more likely to involve fatigue (16.8 per cent) compared to non-Aboriginal motor vehicle controllers (12.1 per cent versus eight per cent) in NSW for 2011-2015 (Table 43).

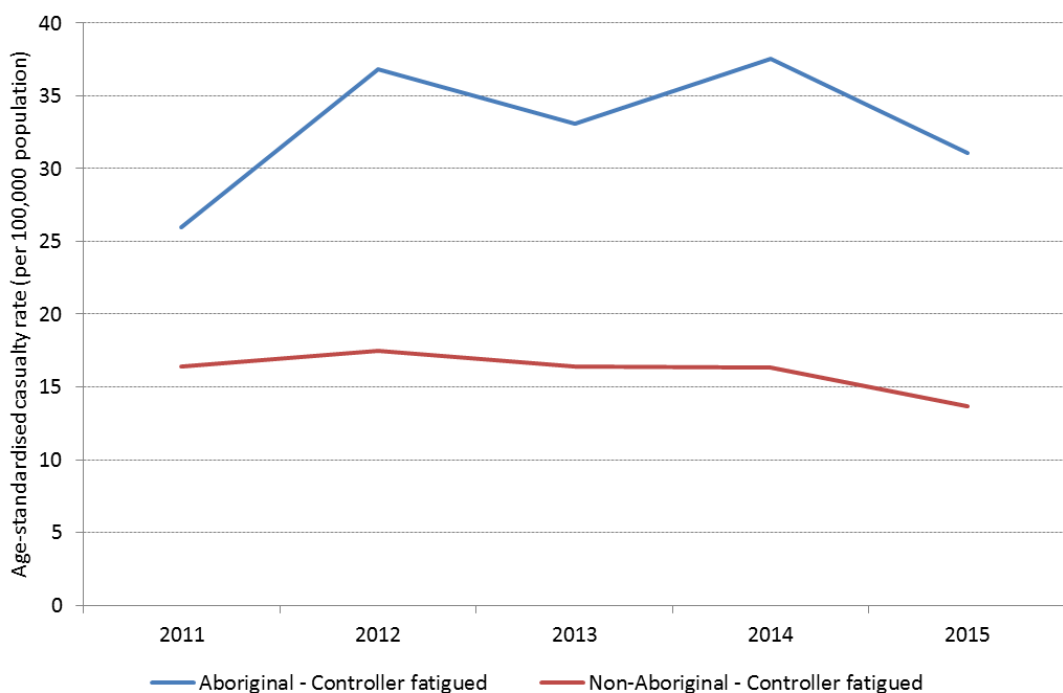
Table 43: Aboriginal and non-Aboriginal motor vehicle controller casualties by controller fatigue in NSW 2011-2015

Controller fatigued	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Yes	18	30.0	146	16.8	154	11.2	318
No or unknown	42	70.0	725	83.2	1,221	88.8	1,988
Total	60	100	871	100	1,375	100	2,306
Non-Aboriginal							
Yes	196	18.7	2,737	12.1	2,822	6.9	5,755
No or unknown	850	81.3	19,806	87.9	38,329	93.1	58,985
Total	1,046	100	22,543	100	41,151	100	64,740

Note: There were 21 unknown gender values (1 Aboriginal person and 20 non-Aboriginal people).

The age-standardised rate for motor vehicle controller casualties where the controller was fatigued increased by 20 per cent for Aboriginal people (from 26.0 to 31.1 per 100,000 population) for 2011-2015. However, the rate for non-Aboriginal people fell by 17 per cent (from 16.4 to 13.6 per 100,000 population) in the same period (Figure 27).

Figure 27: Age standardised rates for Aboriginal and non-Aboriginal motor vehicle controller casualties by controller fatigue in NSW 2011-2015



5.7.3.1 Motor vehicle controllers: Fatigue involved by gender

For Aboriginal motor vehicle controller casualties, 17.0 per cent of males were fatigued, compared with 9.6 per cent of female controllers (Table 44). For non-Aboriginal motor vehicle controller casualties 10.5 per cent of males were fatigued, compared with 6.6 per cent of females.

Table 44: Aboriginal and non-Aboriginal motor vehicle controller casualties by fatigue for controller and gender in NSW 2011-2015

Controller fatigued	Male	%	Female	%	Total
Aboriginal					
Yes	221	17.0	97	9.6	318
No or unknown	1,076	83.0	911	80.4	1,987
Total	1,297	100	1,008	100	2,305
Non-Aboriginal					
Yes	4,003	10.5	1,751	6.6	5,754
No or unknown	34,141	89.5	24,825	83.4	58,966
Total	38,144	100	26,576	100	64,720

5.7.3.2 Motor vehicle controllers: Fatigue involved by vehicle age

Aboriginal motor vehicle controller casualties involving fatigue were more likely to involve vehicles that were at least 11 years in age compared to non-Aboriginal motor vehicle controller casualties (64.4 per cent versus 45.3 per cent) in NSW for 2011-2015 (Table 45).

Table 45: Aboriginal and non-Aboriginal motor vehicle controller casualties by age of vehicle (years) and controller fatigue in NSW 2011-2015

Controller fatigued	0-1	%	2-5	%	6-10	%	11+	%	Total
Aboriginal									
Yes	14	4.7	41	13.9	50	16.9	190	64.4	295
No or unknown	116	6.1	277	14.7	377	19.9	1120	59.3	1,890
Total	130	5.9	318	14.6	427	19.5	1,310	60.0	2,185
Non-Aboriginal									
Yes	455	8.1	1151	20.5	1465	26.1	2,542	45.3	5,613
No or unknown	4,981	8.6	13,288	23.0	15,831	27.4	23,745	41.0	57,845
Total	5,436	8.3	14,439	22.8	17,296	27.3	26,287	41.4	63,458

Note: There were 1,403 unknown vehicle age values (121 Aboriginal people and 1,282 non-Aboriginal people).

5.7.3.3 Motor vehicle controllers: Fatigue involved by LGA of crash

Aboriginal motor vehicle controller casualties, when controller fatigue was involved, were more likely to occur in the same LGA of residence (54.4 per cent) in NSW for 2011-2015 (Table 46). For Aboriginal motor vehicle controller casualties, when fatigue was not involved, casualties were more likely to occur in the same LGA (60.9 per cent). For non-Aboriginal motor vehicle controller casualties, when controller fatigue was involved, were less likely to occur in the same LGA of residence (45.6 per cent)

in NSW for 2011- 2015 (Table 46). For non-Aboriginal motor vehicle controller casualties, when fatigue was not involved, casualties were more likely to occur in the same LGA (50.9 per cent). Compared to the underlying percentages of motor vehicle controller casualties (60.0 per cent for Aboriginal and 50.6 per cent for non-Aboriginal casualties), controller fatigue is less likely to occur in the same LGA of residence (54.4 per cent for Aboriginal and 47.4 per cent for non-Aboriginal casualties).

Table 46: Aboriginal and non-Aboriginal motor vehicle controller casualties by whether it occurred in the same LGA as their place of residence and controller fatigue in NSW 2011-2015

Controller fatigued	Same LGA	%	Other / Unknown LGA	%	Total
Aboriginal					
Yes	173	54.4	145	45.6	318
No or unknown	1,211	60.9	777	39.1	1,988
Total	1,384	60.0	922	40.0	2,306
Non-Aboriginal					
Yes	2,725	47.4	3,030	52.6	5,755
No or unknown	30,049	50.9	28,936	49.1	58,985
Total	32,774	50.6	31,966	49.4	64,740

5.7.4 Motor vehicle controllers: Speeding involved

Aboriginal motor vehicle controller casualties were more likely to involve speeding compared to non-Aboriginal people (28.3 per cent and 18.1 per cent respectively) in NSW for 2011-2015 (Table 47). Speeding was more commonly involved among Aboriginal compared to non-Aboriginal motor vehicle fatalities (53.3 per cent and 45.8 per cent respectively) and serious injuries (35.8 per cent and 22.8 per cent respectively).

Table 47: Aboriginal and non-Aboriginal motor vehicle controller casualties by severity and controller speeding in NSW 2011-2015

Controller speeding	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Yes	32	53.3	312	35.8	309	22.5	653
No or unknown	28	46.7	559	64.2	1,066	77.5	1,653
Total	60	100	871	100	1,375	100	2,306
Non-Aboriginal							
Yes	479	45.8	5,133	22.8	6,105	14.8	11,717
No or unknown	567	54.2	17,410	77.2	35,046	85.2	53,023
Total	1,046	100	22,543	100	41,151	100	64,740

5.7.4.1 Motor vehicle controllers: Speeding involved by gender

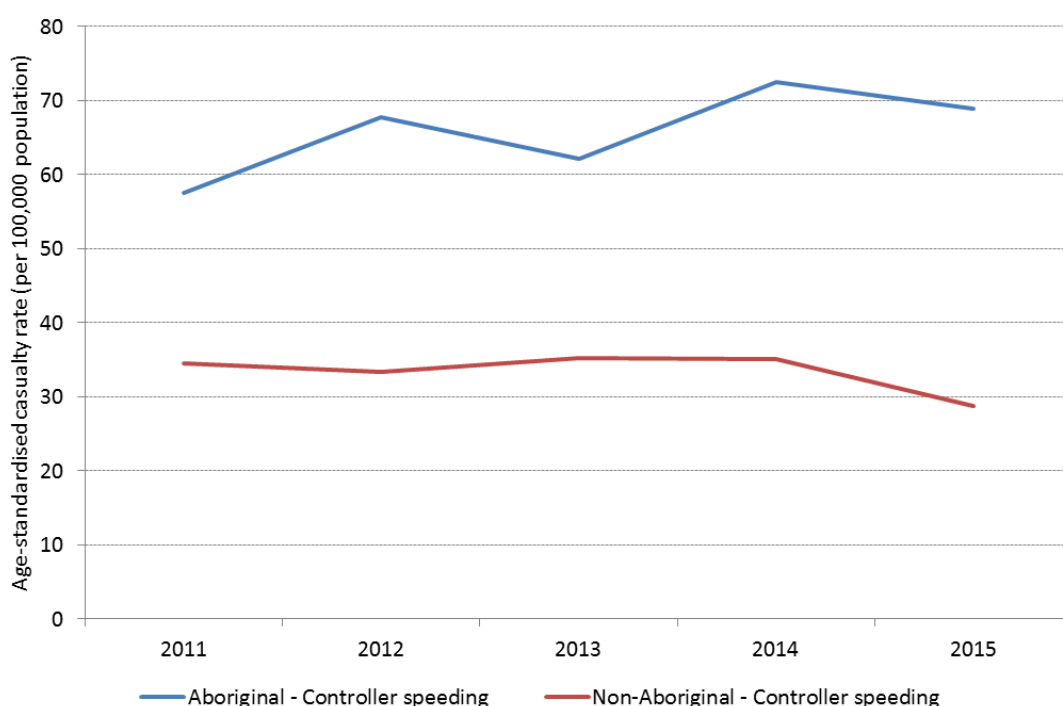
For Aboriginal motor vehicle controller casualties, 34.1 per cent of males were speeding, compared with 20.8 per cent of female controllers (Table 48). For non-Aboriginal motor vehicle controller casualties, 21.1 per cent of males were speeding, compared with 13.8 per cent of females.

Table 48: Aboriginal and non-Aboriginal motor vehicle controller casualties by gender and controller speeding in NSW 2011-2015

Controller speeding	Male	%	Female	%	Total
Aboriginal					
Yes	442	34.1	210	20.8	652
No or unknown	855	65.9	798	79.2	1,653
Total	1,297	100	1,008	100	2,305
Non-Aboriginal					
Yes	8,036	21.1	3,678	13.8	11,714
No or unknown	30,108	78.9	22,898	86.2	53,006
Total	38,144	100	26,576	100	64,720

The age-standardised rate for motor vehicle controller casualties where the controller was speeding increased by 20 per cent (from 57.5 to 68.9 per 100,000 population) for Aboriginal people for 2011-2015. However, the rate for non-Aboriginal people decreased by 17 per cent (from 34.5 to 28.7 per 100,000 population) in the same period (Figure 28).

Figure 28: Age standardised rates for Aboriginal and non-Aboriginal motor vehicle controller casualties by controller speeding in NSW 2011-2015



5.7.4.2 Motor vehicle controllers: Speeding involved by vehicle age

Aboriginal motor vehicle controller casualties involving speeding were more likely to involve vehicles that were at least 11 years in age compared to non-Aboriginal controller motor vehicle casualties (66.3 per cent versus 46.8 per cent) in NSW for 2011-2015 (Table 49). Compared to underlying levels of motor vehicle controller casualties, motor vehicle controller casualties in motor vehicles of at least 11 years in

age were more likely to involve speeding for both Aboriginal and non-Aboriginal people.

Table 49: Aboriginal and non-Aboriginal motor vehicle controller casualties by age of vehicle (years) and controller speeding in NSW 2011-2015

Controller speeding	0-1	%	2-5	%	6-10	%	11+	%	Total
Aboriginal									
Yes	28	4.5	70	11.3	111	17.9	411	66.3	620
No or unknown	102	6.5	248	15.8	316	20.2	899	57.4	1,565
Total	130	5.9	318	14.6	427	19.5	1,310	60.0	2,185
Non-Aboriginal									
Yes	819	7.2	2181	19.1	3086	27	5,358	46.8	11,444
No or unknown	4,617	8.9	12,258	23.6	14,210	27.3	20,929	40.2	52,014
Total	5,436	8.6	14,439	22.8	17,296	27.3	26,287	41.4	63,458

Note: There were 1,403 unknown vehicle age values (121 Aboriginal people and 1,282 non-Aboriginal people).

5.7.4.3 Motor vehicle controllers: Speeding involved by LGA of crash

Aboriginal motor vehicle controller casualties where controller speeding was involved were more likely to occur in the same LGA of residence (57.9 per cent) in NSW for 2011-2015 (Table 50). Non-Aboriginal motor vehicle controller casualties where speeding was not involved in the crash were just as likely to occur in the same LGA as residence as another or unknown LGA. Compared to the underlying percentages of motor vehicle controller casualties (60.0 per cent for Aboriginal and 50.6 for non-Aboriginal casualties), controller speeding is less likely to occur in the same LGA of residence (57.9 per cent for Aboriginal and 48.4 per cent for non-Aboriginal casualties).

Table 50: Aboriginal and non-Aboriginal motor vehicle controller casualties by whether it occurred in the same LGA as their place of residence and controller speeding in NSW 2011-2015

Controller speeding	Same LGA	%	Other / Unknown LGA	%	Total
Aboriginal					
Yes	378	57.9	275	42.1	653
No or unknown	1,006	60.9	647	39.1	1,653
Total	1,384	60.0	922	40.0	2,306
Non-Aboriginal					
Yes	5,670	48.4	6,047	51.6	11,717
No or unknown	27,104	51.1	25,919	48.9	53,023
Total	32,774	50.6	31,966	49.4	64,740

5.7.5 Restraint use for drivers and passengers

Aboriginal drivers and passengers were more likely to not wear a restraint when injured compared to Aboriginal motor vehicle occupants (5.3 per cent versus 2.3 per cent) (Table 51). Restraint non-use was higher among Aboriginal to non-Aboriginal people for fatalities (28.6 per cent versus 15.4 per cent) and serious injuries (8.3 per cent versus 3.6 per cent).

Table 51: Aboriginal and non-Aboriginal motor vehicle occupant casualties by restraint use NSW 2011-2015

Injury severity	Restraint worn [#]	%	Restraint not worn*	%	Other/Unknown	%	Total
Aboriginal							
Fatality	36	57.1	18	28.6	9	14.3	63
Serious injury	771	74.3	86	8.3	181	17.4	1,038
Moderate injury	1,469	87.5	42	2.5	167	10.0	1,678
Total	2,276	81.9	146	5.3	357	12.8	2,779
Non-Aboriginal							
Fatality	709	67.4	162	15.4	163	17.2	1,052
Serious injury	18,349	87.1	766	3.6	766	9.3	21,072
Moderate injury	40,184	93.1	577	1.3	577	5.5	43,154
Total	59,242	90.8	1,505	2.3	1,505	6.9	65,278

Includes 'Belt worn' and 'Child restraint' values. * Includes 'Belt not worn' and 'Belt not fitted'.

5.7.5.1 Child Restraint use for motor vehicle occupants aged 0-6

A restraint was not used in 2.6 per cent of Aboriginal and 4.2 per cent of non-Aboriginal casualties for children aged up to six years in NSW for 2011-2015 (Table 52). However, the result for Aboriginal child casualties is based on very small numbers.

Table 52: Aboriginal and non-Aboriginal motor vehicle occupant casualties for children aged zero to six years by restraint use NSW 2011-2015

Injury severity	Restraint worn [#]	%	Restraint not worn*	%	Other/Unknown	%	Total
Aboriginal							
Fatality	2	66.7	1	33.3	0	0.0	3
Serious injury	17	65.4	1	3.8	8	30.8	26
Moderate injury	41	85.4	0	0.0	7	14.6	48
Total	60	77.9	2	2.6	15	19.5	77
Non-Aboriginal							
Fatality	10	71.4	3	21.4	1	7.1	14
Serious injury	147	78.2	13	6.9	28	14.9	188
Moderate injury	430	80.8	15	2.8	87	16.4	532
Total	587	80.0	31	4.2	116	15.8	734

Includes 'Belt worn' and 'Child restraint' values. * Includes 'Belt not worn' and 'Belt not fitted'.

5.7.5.2 Restraint use for motor vehicle occupants aged 7-16

Restraint non-use was more common for children aged 7-16 years, compared to 0-6 years. Restraints were not used in 11.4 per cent of Aboriginal and 6.3 per cent of non-Aboriginal casualties (Table 53). Restraint non-use was higher among Aboriginal to non-Aboriginal people aged 7-16 for serious injuries (15.3 per cent versus 7.2 per cent) but similar for moderate injuries.

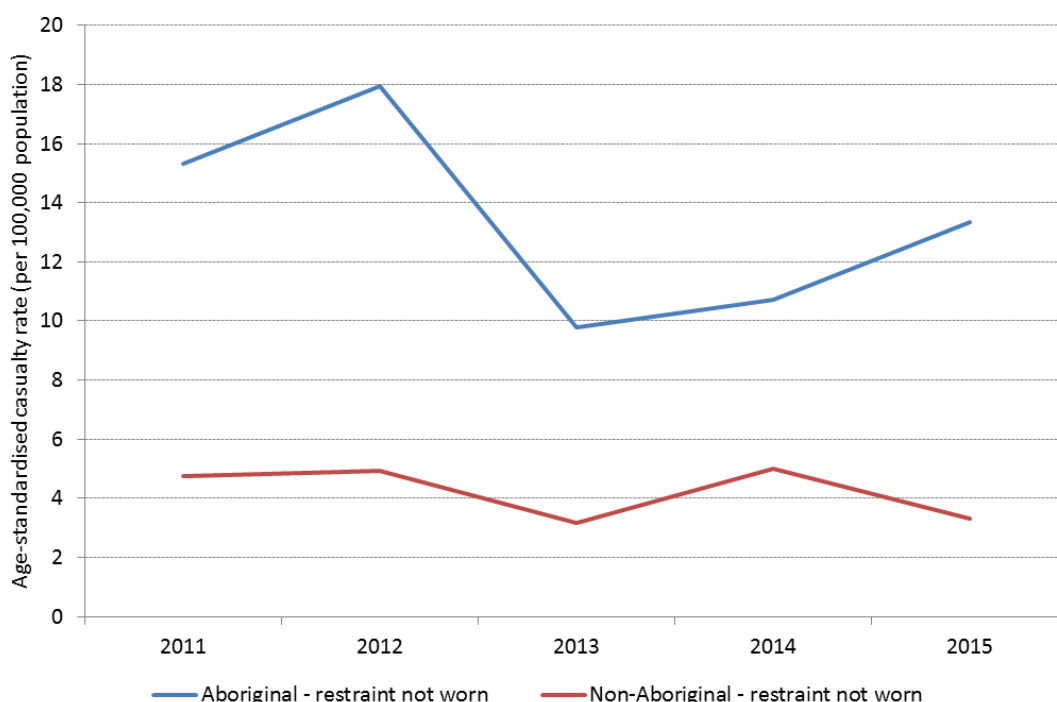
Table 53: Aboriginal and non-Aboriginal motor vehicle occupant casualties for children aged 7-16 years by restraint use NSW 2011-2015

Injury severity	Restraint worn [#]	%	Restraint not worn [*]	%	Other/Unknown	%	Total
Aboriginal							
Fatality	0	0.0	3	75.0	1	25.0	4
Serious injury	48	56.5	13	15.3	24	28.2	85
Moderate injury	108	82.4	9	6.9	14	10.7	131
Total	156	70.9	25	11.4	39	17.7	220
Non-Aboriginal							
Fatality	19	55.9	6	17.6	9	26.5	34
Serious injury	465	79.5	42	7.2	78	13.3	585
Moderate injury	1,111	85.4	73	5.6	117	9.0	1,301
Total	1,595	83.1	121	6.3	204	10.6	1,920

[#]Includes 'Belt worn' and 'Child restraint' values. ^{*} Includes 'Belt not worn' and 'Belt not fitted'.

The age-standardised rate for motor vehicle occupant casualties where a restraint was not worn (belt not worn or belt not fitted) decreased by 13.0 per cent (from 15.3 to 13.3 per 100,000 population) for non-Aboriginal people for 2011-2015 (Figure 29). The corresponding rate for non-Aboriginal people was stable. See Appendix (Chapter 5 Tables) for the data table corresponding to these age-standardised rates.

Figure 29: Age standardised rates for Aboriginal and non-Aboriginal motor vehicle occupant casualties by safety belt usage in NSW 2011-2015



5.7.5.3 Restraint use by number of occupants

Restraint non-use was more common as the number of vehicle occupants increased and for Aboriginal compared to non-Aboriginal motor vehicle occupant casualties (Table 54). When there were six or more vehicle occupants a restraint was not used in 23.3 per cent of Aboriginal and 21.2 per cent of non-Aboriginal vehicle occupant casualties.

Table 54: Aboriginal and non-Aboriginal casualties by restraint usage and number of occupants NSW 2011-2015

Number of occupants	Restraint worn [#]	%	Restraint not worn*	%	Other/Unknown	%	Total
Aboriginal							
1	1,011	84.0	53	4.4	140	11.6	1,204
2	651	83.0	33	4.2	100	12.8	784
3	310	82.4	18	4.8	48	12.8	376
4	203	76.9	21	8.0	40	15.2	264
5	79	73.1	11	10.2	18	16.7	108
6+	22	51.2	10	23.3	11	25.6	43
Total	2,276	81.9	146	5.3	357	12.8	2,779

Number of occupants	Restraint worn [#]	%	Restraint not worn*	%	Other/Unknown	%	Total
Non-Aboriginal							
1	35,844	91.5	771	2.0	2,560	6.5	39,175
2	14,613	91.7	355	2.2	976	6.1	15,944
3	4,984	89.7	138	2.5	436	7.8	5,558
4	2,486	88.8	66	2.4	246	8.8	2,798
5	976	84.1	39	3.4	146	12.6	1,161
6+	339	52.8	136	21.2	167	26.0	642
Total	59,242	90.8	1,505	2.3	4,531	6.9	65,278

#Includes 'Belt worn' and 'Child restraint' values. * Includes 'Belt not worn' and 'Belt not fitted'.

5.7.5.4 Restraint use by vehicle age

The age of the vehicle was derived by subtracting the year of manufacture from the year of crash, where both were known. Restraint non-use increased as the age of the vehicle increased (Table 55). When the vehicle was 11 years or older a restraint was not used in 5.8 per cent of Aboriginal and 2.5 per cent of non-Aboriginal casualties.

Table 55: Aboriginal and non-Aboriginal casualties by restraint usage and age of vehicle NSW 2011-2015

Age of vehicle (years)	Restraint worn [#]	%	Restraint not worn*	%	Other/Unknown	%	Total
Aboriginal							
0-1	107	89.2	4	3.3	9	7.5	120
2-5	285	89.6	6	1.9	27	8.5	318
6-10	445	84.1	21	4.0	63	11.9	529
11+	1,422	80.0	103	5.8	253	14.2	1,778
Total	2,259	82.3	134	4.9	352	12.8	2,745
Non-Aboriginal							
0-1	4,329	92.7	75	1.6	265	5.7	4,669
2-5	11,924	92.1	265	2.0	757	5.8	12,946
6-10	16,312	92.3	280	1.6	1,088	6.2	17,680
11+	26,123	89.6	739	2.5	2,282	7.8	29,144
Total	58,688	91.1	1,359	2.1	4,392	6.8	64,439

#Includes 'Belt worn' and 'Child restraint' values. * Includes 'Belt not worn' and 'Belt not fitted'.

Note: There were 873 unknown vehicle age values (34 Aboriginal people and 839 non-Aboriginal people).

5.7.5.5 Restraint use by body region injured

For Aboriginal driver and passenger serious injuries with restraint non-use, the most common injuries were to head (12.6 per cent), hip/thigh (10.3 per cent), and knee/lower leg (10.2 per cent) (Table 56). Similarly, for non-Aboriginal motor vehicle occupant serious injuries, restraint non-use was most common among head (6.9 per cent), knee/lower leg (6.5 per cent), hip/thigh (6.5 per cent), and ankle/foot (6.2 per cent) serious injuries.

Table 56: Aboriginal and non-Aboriginal serious injuries by restraint usage and body region injured NSW 2011-2015

Body region injured	Restraint worn [#]	%	Restraint not worn*	%	Other/Unknown	%	Total
Aboriginal							
Head	159	64.6	31	12.6	56	22.8	246
Neck	144	82.3	8	4.6	23	13.1	175
Thorax	126	72.4	14	8.0	34	19.5	174
Abdomen/Lower back/lumbar spine/pelvis	94	79.7	8	6.8	16	13.6	118
Shoulder/upper arm	59	81.9	4	5.6	9	12.5	72
Elbow/forearm	43	78.2	3	5.5	9	16.4	55
Wrist/hand	27	81.8	2	6.1	4	12.1	33
Hip/thigh	26	66.7	4	10.3	9	23.1	39
Knee/lower leg	43	72.9	6	10.2	10	16.9	59
Ankle/foot	20	76.9	2	7.7	4	15.4	26
Other	28	73.7	4	10.5	6	15.8	38
Total	769	74.3	86	8.3	180	17.4	1,035
Non-Aboriginal							
Head	3,352	80.0	289	6.9	548	13.1	4,189
Neck	3,587	92.1	62	1.6	245	6.3	3,894
Thorax	4,232	90.9	87	1.9	335	7.2	4,654
Abdomen/Lower back/lumbar spine/pelvis	2,086	87.0	80	3.3	231	9.6	2,397
Shoulder/upper arm	1,142	88.7	37	2.9	108	8.4	1,287
Elbow/forearm	777	88.7	24	2.7	75	8.6	876
Wrist/hand	592	88.6	22	3.3	54	8.1	668
Hip/thigh	394	79.6	32	6.5	69	13.9	495
Knee/lower leg	1,039	82.7	82	6.5	135	10.7	1,256
Ankle/foot	359	82.3	27	6.2	50	11.5	436
Other	769	86.4	22	2.5	99	11.1	890
Total	18,329	87.1	764	3.6	1,949	9.3	21,042

[#]Includes 'Belt worn' and 'Child restraint' values. * Includes 'Belt not worn' and 'Belt not fitted'.

Note: There were 33 missing principal injury values for serious injury motor vehicle occupants.

5.7.6 Helmet use for motorcyclists

Aboriginal motorcyclists were more likely to have not been wearing a helmet when injured compared to non-Aboriginal motorcyclists (19.1 per cent versus 2.2 per cent) for NSW for 2011-2015 (Table 57). Helmet non-use was more common among Aboriginal motorcyclist fatalities compared to non-Aboriginals (25.0 per cent and 6.7 per cent respectively) and serious injuries (21.6 per cent and 2.6 per cent respectively). For both Aboriginal and non-Aboriginal people, the highest percentage of helmet non-use was recorded for fatalities. Note that there are small numbers of Aboriginal fatalities where a helmet was not worn.

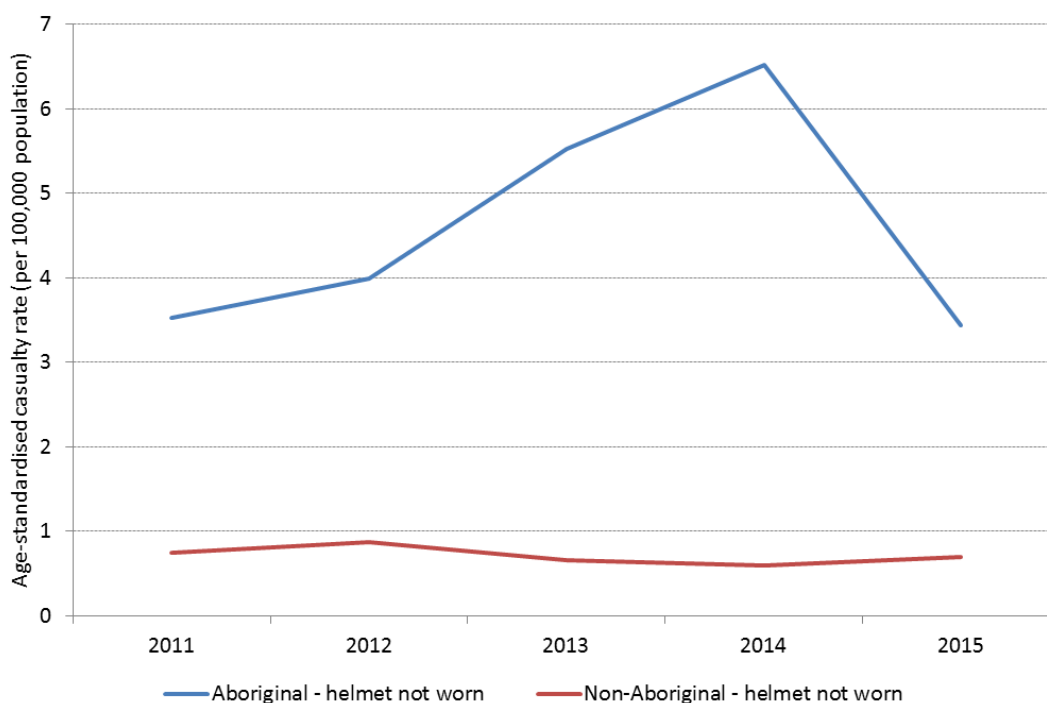
Table 57: Aboriginal and non-Aboriginal motorcyclist casualties by helmet usage and injury severity NSW 2011-2015

Injury severity	Helmet worn [#]	%	Helmet not worn	%	Other/Unknown	%	Total
Aboriginal							
Fatality	9	75.0	3	25.0	0	0.0	12
Serious injury	141	67.8	45	21.6	22	10.6	208
Moderate injury	95	76.0	18	14.4	12	9.6	125
Total	245	71.0	66	19.1	34	9.9	345
Non-Aboriginal							
Fatality	269	90.6	20	6.7	8	2.7	297
Serious injury	5,366	90.1	157	2.6	435	7.3	5,958
Moderate injury	4,050	91.5	60	1.4	317	7.2	4,427
Total	9,685	90.7	237	2.2	760	7.1	10,682

[#]Includes 'Open face/bicycle helmet' and 'Full face helmet worn'.

The age-standardised rate for motorcyclist casualties with no helmet worn was stable for non-Aboriginal people for 2011-2015 (Figure 30). However, the Aboriginal age-standardised rate is more variable over this time period (increases by 84.8 per cent from 3.5 to 6.5 per 100,000 between 2011 and 2014, and then drops to 3.4 per 100,000 in 2015).

Figure 30: Age-standardised rates for Aboriginal and non-Aboriginal motorcyclist casualties by helmet usage NSW 2011-2015



5.7.6.1 Helmet use for motorcyclists by age

Helmet non-usage was generally more common for the younger age groups for Aboriginal compared to non-Aboriginal motorcyclist casualties in NSW for 2011-2015 (Table 58). Among Aboriginal motorcyclist casualties where a helmet was not worn, 54.5 per cent were aged 13 to 20 years, compared to 32.1 per cent of non-Aboriginal motorcyclist casualties.

Table 58: Aboriginal and non-Aboriginal motorcyclist casualties by helmet usage and age group in NSW 2011-2015

Age group	Helmet worn#	%	Helmet not worn	%	Other/Unknown	%	Total
Aboriginal							
0-4	0	0.0	1	100	0	0.0	1
5-12	4	33.3	6	50.0	2	16.7	12
13-16	11	29.7	20	54.1	6	16.2	37
17-20	56	72.7	16	20.8	5	6.5	77
21-25	40	78.4	7	13.7	4	7.8	51
26-29	17	65.4	7	26.9	2	7.7	26
30-39	49	80.3	6	9.8	6	9.8	61
40-49	42	87.5	3	6.3	3	6.3	48
50-59	22	84.6	0	0.0	4	15.4	26
60-69	2	50.0	0	0.0	2	50.0	4
70-79	2	100	0	0.0	0	0.0	2
Total	245	71.0	66	19.1	34	9.9	345
Non-Aboriginal							
5-12	17	56.7	8	26.7	5	16.7	30
13-16	93	65.5	31	21.8	18	12.7	142
17-20	1,040	89.6	45	3.9	76	6.5	1,161
21-25	1,502	91.5	45	2.7	95	5.8	1,642
26-29	1,030	90.6	30	2.6	77	6.8	1,137
30-39	1,977	91.3	45	2.1	144	6.6	2,166
40-49	1,790	91.1	23	1.2	151	7.7	1,964
50-59	1,515	91.2	9	0.5	138	8.3	1,662
60-69	594	94.3	0	0.0	36	5.7	630
70-79	101	87.8	0	0.0	14	12.2	115
80+	22	84.6	1	3.8	3	11.5	26
Total	9,681	90.7	237	2.2	757	7.1	10,675

Note: There were 7 unknown age values for motorcyclist casualties (0 Aboriginal people and 7 non-Aboriginal people).

5.7.6.2 Helmet use for motorcyclists by body region injured

Among motorcyclist head injuries, Aboriginal motorcyclists were more likely to have not been wearing a helmet (44.1 per cent) compared to non-Aboriginal motorcyclists (11.3 per cent) (Table 59). Non-Aboriginal motorcyclists had much lower rates of helmet non-use across all body part categories. Note that the small numbers for Aboriginal motorcyclists affects the interpretability of the results.

Table 59: Aboriginal and non-Aboriginal motorcyclist serious injuries by helmet usage and body region injured NSW 2011-2015

Body region injured	Helmet worn#	%	Helmet not worn	%	Other/Unknown	%	Total
Aboriginal							
Head	13	38.2	15	44	6	17.6	34
Neck	1	33.3	2	66.7	0	0.0	3
Thorax	11	68.8	2	12.5	3	18.8	16
Abdomen/Lower back/lumbar spine/pelvis	15	93.3	3	16.7	0	0.0	18
Shoulder/upper arm	21	87.5	1	4.2	2	8.3	24
Elbow/forearm	13	68.4	3	15.8	3	15.8	19
Wrist/hand	10	76.9	3	23.1	0	0.0	13
Hip/thigh	12	66.7	6	33.3	0	0.0	18
Knee/lower leg	29	67.4	8	18.6	6	14.0	43
Ankle/foot	13	86.7	1	6.7	1	6.7	15
Other	2	50	1	25.0	1	25.0	4
Total	140	67.6	45	21.7	22	10.6	207
Non-Aboriginal							
Head	489	81.2	68	11.3	45	7.5	602
Neck	155	90.6	7	4.1	9	5.3	171
Thorax	590	92.9	9	1.4	36	5.7	635
Abdomen/Lower back/lumbar spine/pelvis	493	90.0	10	1.8	45	8.2	548
Shoulder/upper arm	695	92.2	10	1.3	49	6.5	754
Elbow/forearm	587	91.7	8	1.3	45	7.0	640
Wrist/hand	350	91.4	3	0.8	30	7.8	383
Hip/thigh	379	89.0	10	2.3	37	8.7	426
Knee/lower leg	1,204	90.6	24	1.8	101	7.6	1,329
Ankle/foot	331	91.2	4	1.1	28	7.7	363
Other	88	86.3	4	3.9	10	9.8	102
Total	5,361	90.1	157	2.6	435	7.3	5,953

#Includes 'Open face/bicycle helmet' and 'Full face helmet worn'.

Note: There were 6 missing principal injury values for serious injury motorcyclists.

5.7.7 Helmet use for pedal cyclists

Aboriginal pedal cyclist casualties were more likely to have not been wearing a helmet compared to Aboriginal pedal cyclists (52.3 per cent versus 13.9 per cent) (Table 60). For Aboriginal people, helmet non-use was similar for serious and moderate injuries.

Table 60: Aboriginal and non-Aboriginal pedal cyclist casualties by helmet usage and injury severity NSW 2011-2015

Injury severity	Helmet worn [#]	%	Helmet not worn	%	Other/Unknown	%	Total
Aboriginal							
Fatality	0	0.0	1	100	0	0.0	1
Serious injury	18	24.3	38	51.4	18	24.3	74
Moderate injury	22	27.5	42	52.5	16	20.0	80
Total	40	25.8	81	52.3	34	21.9	155
Non-Aboriginal							
Fatality	37	77.1	11	22.9	0	0.0	48
Serious injury	1,139	71.2	260	16.3	201	12.6	1,600
Moderate injury	1,434	76.6	218	11.7	219	11.7	1,871
Total	2,610	74.2	489	13.9	420	11.9	3,519

[#]Includes 'Open face/bicycle helmet' and 'Full face helmet worn'.

5.7.7.1 Helmet use for pedal cyclists by age group

For Aboriginal pedal cyclist casualties, helmet non-use was most common among the 21-25 (76.9 per cent) and 13-16 (69.4 per cent) age groups (Table 61). For non-Aboriginal pedal cyclist casualties, helmet non-use was most common among the 13-16 (45.9 per cent), 5-12 (31.4 per cent) and 17-20 (31.3 per cent) age groups. Non-Aboriginal pedal cyclists had lower rates of helmet non-use across all age groups.

Among Aboriginal pedal cyclist casualties where a helmet was not worn, 51.8 per cent were aged 5 to 16 years, compared with 24.9 per cent of non-Aboriginal pedal cyclist casualties.

Table 61: Aboriginal and non-Aboriginal pedal cyclist casualties by helmet usage and person age NSW 2011-2015

Age group	Helmet worn [#]	%	Helmet not worn	%	Other/Unknown	%	Total
Aboriginal							
0-4	0	0.0	0	0	0	0.0	0
5-12	7	22.6	17	54.8	7	8.3	31
13-16	8	22.2	25	69.4	3	27.8	36
17-20	2	11.1	11	61.1	5	7.7	18
21-25	2	15.4	10	76.9	1	16.7	13
26-29	1	16.7	4	66.7	1	42.1	6
30-39	6	31.6	5	26.3	8	33.3	19
40-49	6	33.3	6	33.3	6	25.0	18
50-59	6	50.0	3	25.0	3	0.0	12
60-69	1	100.0	0	0.0	0	0.0	1
70-79	1	100.0	0	0.0	0	0.0	1
80+	0	0	0	0.0	0	0.0	0
Total	40	25.8	81	52.3	34	21.9	155

Age group	Helmet worn#	%	Helmet not worn	%	Other/Unknown	%	Total
Non-Aboriginal							
0-4	1	25.0	0	0.0	3	75.0	4
5-12	63	40.4	49	31.4	44	28.2	156
13-16	66	41.5	73	45.9	20	12.6	159
17-20	111	56.1	62	31.3	25	12.6	198
21-25	206	65.6	67	21.3	41	13.1	314
26-29	216	73.0	50	16.9	30	10.1	296
30-39	607	78.2	82	10.6	87	11.2	776
40-49	606	82.2	57	7.7	74	10.0	737
50-59	433	83.6	30	5.8	55	10.6	518
60-69	201	81.4	14	5.7	32	13.0	247
70-79	81	89.0	3	3.3	7	7.7	91
80+	18	81.8	2	9.1	2	9.1	22
Total	2,609	74.2	489	13.9	420	11.9	3,518

#Includes 'Open face/bicycle helmet' and 'Full face helmet worn'.

Note: There was one unknown age value for pedal cyclist casualties (0 Aboriginal people and 1 non-Aboriginal person).

5.7.7.2 Helmet use for pedal cyclists by body region injured

For Aboriginal pedal cyclist serious injuries in NSW for 2011-2015, most involved injuries to the head (Table 62). Among these head injuries, helmet non-use was 63.6 per cent. For non-Aboriginal pedal cyclist serious injuries, helmet non-use was most common among ankle/foot (28.6 per cent), other (27.6 per cent), and head (26.4 per cent) injuries.

Table 62: Aboriginal and non-Aboriginal pedal cyclist serious injuries by helmet usage and body region injured NSW 2011-2015

Body region injured	Helmet worn#	%	Helmet not worn	%	Other/Unknown	%	Total
Aboriginal							
Head	7	21.1	21	64	5	15.2	33
Neck	0	0.0	0	0.0	1	100	1
Thorax	1	16.7	3	50.0	2	33.3	6
Abdomen/Lower back/lumbar spine/pelvis	0	0.0	2	66.7	1	33.3	3
Shoulder/upper arm	1	16.7	3	50.0	2	33.3	6
Elbow/forearm	2	40.0	1	20.0	2	40.0	5
Wrist/hand	1	100	0	0.0	0	0.0	1
Hip/thigh	4	80.0	1	20.0	0	0.0	5
Knee/lower leg	1	11.1	5	55.6	3	33.3	9
Ankle/foot	0	0.0	2	50.0	2	50.0	4
Other	1	100	0	0.0	0	0.0	1
Total	18	24.3	38	51.4	18	24.3	74

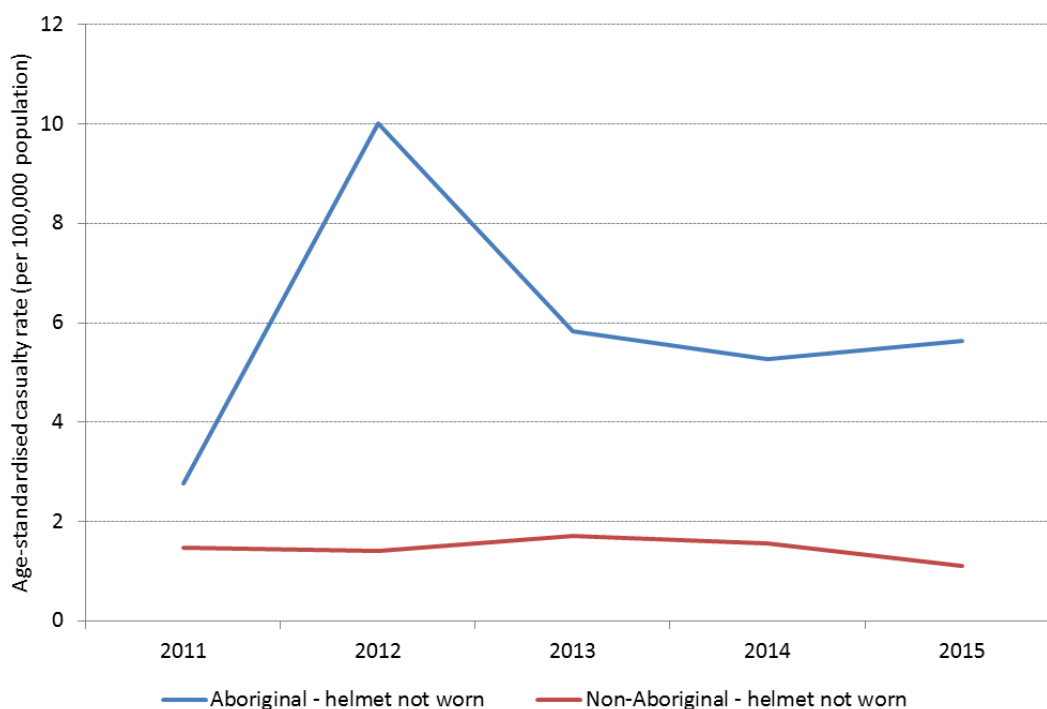
Body region injured	Helmet worn#	%	Helmet not worn	%	Other/Unknown	%	Total
Non-Aboriginal							
Head	280	61.5	120	26.4	55	12.1	455
Neck	48	78.7	8	13.1	5	8.2	61
Thorax	96	76.8	8	6.4	21	16.8	125
Abdomen/Lower back/lumbar spine/pelvis	116	82.3	12	8.5	13	9.2	141
Shoulder/upper arm	196	80.7	20	8.2	27	11.1	243
Elbow/forearm	109	73.2	17	11.4	23	15.4	149
Wrist/hand	66	74.2	11	12.4	12	13.5	89
Hip/thigh	53	69.7	12	15.8	11	14.5	76
Knee/lower leg	135	68.9	34	17.3	27	13.8	196
Ankle/foot	21	60.0	10	28.6	4	11.4	35
Other	18	62.1	8	27.6	3	10.3	29
Total	1,138	71.2	260	16.3	201	12.6	1,599

#Includes 'Open face/bicycle helmet' and 'Full face helmet worn'.

Note: There was one missing principal injury value for serious injury pedal cyclists.

The age-standardised rate for pedal cyclist casualties with no helmet worn increased by 103.4 per cent for Aboriginal people and fell by 15.2 per cent for non-Aboriginal people in 2011-2015 (Figure 31).

Figure 31: Age-standardised rates for Aboriginal and non-Aboriginal pedal cyclist injuries by whether a helmet was worn in the crash NSW 2011-2015



5.7.8 Unauthorised licence

Aboriginal motor vehicle controller casualties in NSW for 2011-2015 were more likely to be unauthorised (which included people whose licences have expired or been cancelled, suspended or have been disqualified or are unlicensed for any other reason) (Table 63). Among Aboriginal motor vehicle controller fatalities, 20.0 per cent were unauthorised, compared to 9.0 per cent of non-Aboriginal fatalities. Among motor vehicle controller serious injuries, 21.7 per cent were unauthorised, compared to only 4.7 per cent of non-Aboriginal serious injuries.

Table 63: Aboriginal and non-Aboriginal motor vehicle controller casualties by injury severity and licence status NSW 2011-2015

Licence status	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Learner	2	3.3	55	6.3	59	4.3	116
Provisional	10	16.7	180	20.7	407	29.6	597
Standard	31	51.7	346	39.7	610	44.4	987
Unauthorised	12	20.0	189	21.7	172	12.5	373
Other	0	0.0	0	0.0	1	0.1	1
Unknown	5	8.3	101	11.6	126	9.2	232
Total	60	100	871	100	1,375	100	2,306
Non-Aboriginal							
Learner	27	2.6	969	4.3	1092	2.7	2,088
Provisional	124	11.9	3,368	14.9	7,894	19.2	11,386
Standard	709	67.8	14,596	64.7	27,234	66.2	42,539
Unauthorised	94	9.0	1,063	4.7	1,205	2.9	2,362
Other	0	0.0	19	0.1	51	0.1	70
Unknown	92	8.8	2,528	11.2	3,675	8.9	6,295
Total	1,046	100	22,543	100	41,151	100	64,740

5.7.9 Unregistered vehicle

Aboriginal motor vehicle controller casualties in NSW for 2011-2015 were more likely to be driving an unregistered vehicle (Table 64). Among Aboriginal motor vehicle controller fatalities, 11.7 per cent were driving an unregistered vehicle, compared to 5.1 per cent of non-Aboriginal fatalities. Among motor vehicle controller serious injuries, 10.4 per cent were driving an unregistered vehicle, compared to only 2.4 per cent of non-Aboriginal serious injuries.

Table 64: Aboriginal and non-Aboriginal vehicle controller casualties by injury severity and vehicle registration status NSW 2011-2015

Vehicle registration status	Fatality	%	Serious Injury	%	Moderate Injury	%	Total
Aboriginal							
Registered	50	83.3	739	84.8	1274	92.7	2,063
Not registered	7	11.7	91	10.4	51	3.7	149
Registration status unknown	3	5.0	41	4.7	50	3.6	94
Total	60	100	871	100	1,375	100	2,306
Non-Aboriginal							
Registered	952	91.0	21,210	94.1	39,694	96.5	61,856
Not registered	53	5.1	539	2.4	416	1.0	1,008
Registration status unknown	41	3.9	794	3.5	1,041	2.5	1,876
Total	1,046	100	22,543	100	41,151	100	64,740

6 Urban and rural analysis

6.1 What this chapter does

This chapter summarises casualties for 2011-2015 (fatalities, matched serious injuries and moderate injuries) for Aboriginal and non-Aboriginal people by the location of the crash. For this analysis NSW was divided into the following regions:

- The Sydney-Newcastle-Wollongong greater conurbation (SNW Gtr conurbation) is defined as all Sydney metropolitan LGAs, Newcastle City, Lake Macquarie City, Wollongong City, Shellharbour City, Gosford, Wyong, Hawkesbury, Blue Mountains, and Wollondilly LGAs.
- Urban Rest of NSW (Local government areas where speed limit is up to and including 80 km/h)
- Rural Rest of NSW (Local government areas where the speed limit is more than 80 km/h).
- There were also 58 casualties (3 Aboriginal people and 55 non-Aboriginal people) in Rest of NSW where the speed limit was unknown.

6.2 Number by casualties by severity

There were 12.6 per cent of fatalities and 43.7 per cent of serious injuries to Aboriginal people that occurred in the SNW Gtr conurbation compared with 40.2 per cent and 68.9 per cent of Non-Aboriginal fatalities and serious injuries respectively (Table 65).

Table 65: Casualties for Aboriginal and non-Aboriginal people by location and injury severity NSW 2011-2015

Injury severity	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Fatality	11	12.6	25	28.7	51	58.6	87
Serious Injury	652	43.7	449	30.1	392	26.3	1,493
Moderate Injury	771	37.7	884	43.2	392	19.1	2,047
Total	1,434	39.5	1,358	37.4	835	23.0	3,627
Non-Aboriginal							
Fatality	657	40.2	324	19.8	654	40.0	1,635
Serious Injury	22,063	68.9	4,870	15.2	5,105	15.9	32,038
Moderate Injury	35,887	69.1	10,065	19.4	6,002	11.6	51,954
Total	58,607	68.4	15,259	17.8	11,761	13.7	85,627

6.3 Age

The median age for Aboriginal casualties in NSW was 26 and this did not vary between areas of NSW (Table 66). However the median age for non-Aboriginal casualties was higher at 36 but did not vary between areas of NSW.

Table 66: Distribution of casualties for Aboriginal and non-Aboriginal people by location and age NSW 2011-2015

Age group	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
0-9	78	5.4	89	6.6	35	4.2	202
10-19	340	23.7	356	26.3	174	20.8	870
20-29	424	29.6	380	28.0	221	26.5	1,025
30-39	250	17.4	224	16.5	143	17.1	619
40-49	184	12.8	160	11.8	127	15.2	471
50-59	113	7.9	79	5.8	81	9.7	273
60-69	29	2.0	44	3.2	38	4.6	111
70-79	9	0.6	19	1.4	14	1.7	43
80+	6	0.4	4	0.3	2	0.2	12
Total	1,433	100	1,355	100	835	100	3,626
Non-Aboriginal							
0-9	1,099	1.9	328	2.2	271	2.3	1,698
10-19	6,360	10.9	2,391	15.7	1,680	14.3	10,434
20-29	14,635	25.0	3,262	21.4	2,676	22.8	20,589
30-39	10,632	18.2	2,214	14.5	1,605	13.7	14,459
40-49	9,002	15.4	2,074	13.6	1,718	14.6	12,806
50-59	7,443	12.7	1,953	12.8	1,676	14.3	11,076
60-69	4,595	7.9	1,317	8.6	1,168	9.9	7,087
70-79	2,818	4.8	954	6.3	631	5.4	4,405
80+	1,922	3.3	734	4.8	325	2.8	2,984
Total	58,606	100	15,227	100	11,750	100	85,538

Note: There were 148 unknown age values (4 Aboriginal people and 144 non-Aboriginal people).

6.4 Gender

The majority of Aboriginal and non-Aboriginal casualties are males with the highest levels for Aboriginal people in the SNW Gtr conurbation (57.8 per cent) and for non-Aboriginal people in Rural Rest of NSW (60.8 per cent) (Table 67).

Table 67: Number of Aboriginal and non-Aboriginal casualties by location and gender NSW 2011-2015

Gender	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Male	829	57.9	718	52.9	470	56.3	2,017
Female	604	42.1	640	47.1	365	43.7	1,609
Total	1,433	100	1,358	100	835	100	3,626
Non-Aboriginal							
Male	33,284	56.8	8,390	55.0	7,149	60.8	48,823
Female	25,305	43.2	6,865	45.0	4,611	39.2	36,781
Total	58,589	100	15,255	100	11,760	100	85,604

Note: There were 24 unknown gender values (1 Aboriginal person and 23 non-Aboriginal people).

6.5 High Threat to Life (HTTL)

An ICD Injury Severity Score (ICISS) is assigned to each person with a serious injury based on their diagnosis codes at admission. A lower ICISS indicates a lower probability of survival therefore a more severe injury. Henley and Harrison divided ICISS into two categories where a value of less than 0.941 indicated a high threat to life (HTTL).

Across all regions of the state, around one-third of all Aboriginal (33.1 per cent) and non-Aboriginal (32.7 per cent) serious injuries had a HTTL (Table 68).

Table 68: Number and proportions of Aboriginal and non-Aboriginal serious injuries by gender NSW 2011-2015

High Threat To Life (HTTL)	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Yes	209	32.1	151	33.8	132	34.0	492
No	442	67.9	296	66.2	256	66.0	994
Total	651	100	447	100	388	100	1,486
Non-Aboriginal							
Yes	7,184	32.6	1,530	31.5	1,754	34.6	10,468
No	14,865	67.4	3,333	68.5	3,318	65.4	21,516
Total	22,049	100	4,863	100	5,072	100	31,984

6.6 Serious injury severity

Further grouping of ICISS values provides more information about the severity of serious injuries. Maximum severity was defined as ICISS values less than 0.854, high severity was defined as ICISS values of at least 0.854 and less than 0.965, moderate severity was defined as ICISS values of at least 0.965 and less than 0.992, and minimum severity was defined as ICISS values of at least 0.992 and less than 1.

In the SNW Gtr conurbation 43.0 per cent of serious injuries for Aboriginal people were considered high or maximum severity which was similar to the 40.1 per cent of serious injuries for non-Aboriginal people considered to be of high or maximum severity (Table 69). In Rural Rest of NSW areas 44.6 per cent of serious injuries for Aboriginal people were considered high or maximum severity which was lower to the 45.0 per cent of serious injuries for non-Aboriginal people considered to be of high or maximum severity.

Table 69: Number and proportions of Aboriginal and non-Aboriginal serious injuries by injury severity NSW 2011-2015

Serious injury severity	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Minimum severity	57	8.8	56	12.5	43	11.1	156
Moderate severity	314	48.2	191	42.7	172	44.3	677
High severity	235	36.1	161	36.0	140	36.1	536
Maximum severity	45	6.9	39	8.7	33	8.5	117
Total	651	100	447	100	388	100	1,486
Non-Aboriginal							
Minimum severity	2,477	11.2	566	11.6	435	8.6	3,478
Moderate severity	10,732	48.7	2,243	46.1	2,351	46.4	15,326
High severity	7,259	32.9	1,605	33.0	1,757	34.6	10,621
Maximum severity	1,581	7.2	449	9.2	529	10.4	2,559
Total	22,049	100	4,863	100	5,072	100	31,984

6.7 Licence status

Unauthorised licence status includes people whose licences have expired or been cancelled, suspended or have been disqualified or are unlicensed for any other reason. One-tenth (10.1 per cent) of Aboriginal motor vehicle controller casualties in the SNW Gtr conurbation were to unauthorised drivers compared to 2.5 per cent of non-Aboriginal motor vehicle casualties (Table 70). Of Aboriginal vehicle controller casualties in Rural Rest of NSW areas, 8.9 were unauthorised compared to 2.8 per cent of non-Aboriginal motor vehicle casualties.

Table 70: Number and proportions of Aboriginal and non-Aboriginal motor vehicle controller casualties by location and licence status NSW 2011-2015

Licence status	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Learner	53	6.0	47	5.5	16	2.8	116
Provisional	240	27.1	212	25.0	145	25.5	597
Standard	370	41.8	344	40.5	270	47.5	984
Unauthorised	145	16.4	154	18.1	74	13.0	373
Other	1	0.1	0	0.0	0	0.0	1
Unknown	76	8.6	92	10.8	64	11.2	232
Total	885	100	849	100	569	100	2,303
Non-Aboriginal							
Learner	1,510	3.5	403	3.4	173	1.9	2,086
Provisional	7,656	17.6	2,110	17.9	1,612	17.3	11,378
Standard	29,383	67.4	7,338	62.3	5,792	62.3	42,513
Unauthorised	1,463	3.4	548	4.7	349	3.8	2,360
Other	50	0.1	13	0.1	7	0.1	70
Unknown	3,554	8.1	1,372	11.6	1,365	14.7	6,291
Total	43,616	100	11,784	100	9,298	100	64,698

6.8 Crash counterpart

For Aboriginal people in the SNW Gtr conurbation 63.9 per cent of casualties occurred in crashes where the crash counterpart was a car/pick-up or van (Table 71). For Aboriginal people in Rural Rest of NSW more than half (50.3 per cent) of casualties occurred in crashes where the crash counterpart was a fixed/stationary object. For non-Aboriginal people in the SNW Gtr conurbation 70.7 per cent of casualties occurred in crashes where the crash counterpart was a car/pick-up or van. For Aboriginal people in the Rural Rest of NSW areas 44.5 per cent of casualties occurred in crashes where the crash counterpart was a fixed/stationary object.

Table 71: Number and proportions of Aboriginal and non-Aboriginal casualties by location and crash counterpart NSW 2011-2015

Crash counterpart	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Car/pick-up/van	916	63.9	732	53.9	149	17.8	1,797
Heavy vehicle/bus	60	4.2	46	3.4	34	4.1	140
Two/three wheeled veh.	14	1.0	6	0.4	5	0.6	25
Railway train/vehicle	-	0.0	1	0.1	-	0.0	1
Pedal cycle	1	0.1	5	0.4	-	0.0	6
Pedestrian/animal	8	0.6	12	0.9	23	2.8	43
Other non-motor veh.	1	0.1	5	0.4	-	0.0	6
Fixed/stationary object	288	20.1	369	27.2	420	50.3	1,077
Non-collision	91	6.3	144	10.6	196	23.5	431
Other/unspecified	55	3.8	38	2.8	8	1.0	101
Total	1,434	100	1,358	100	835	100	3,627

Crash counterpart	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Non-Aboriginal							
Car/pick-up/van	41,448	70.7	8,848	58.0	2,810	23.9	53,106
Heavy vehicle/bus	2,787	4.8	542	3.6	639	5.4	3,968
Two/three wheeled veh.	550	0.9	165	1.1	108	0.9	823
Railway train/vehicle	-	0.0	1	0.0	9	0.1	10
Pedal cycle	221	0.4	49	0.3	22	0.2	292
Pedestrian/animal	608	1.0	228	1.5	466	4.0	1,302
Other non-motor veh.	63	0.1	16	0.1	2	0.0	81
Fixed/stationary object	7,703	13.1	3,527	23.1	5,236	44.5	16,466
Non-collision	3,111	5.3	1,550	10.2	2,372	20.2	7,033
Other/unspecified	2,116	3.6	333	2.2	97	0.8	2,546
Total	58,607	100	15,259	100	11,761	100	85,627

6.9 Body region of injury

Among serious injuries in the SNW Gtr conurbation, the highest percentage was head injuries (22.9 per cent for Aboriginal people and 18.7 per cent for non-Aboriginal people) (Table 72). Thorax injuries (17.3 per cent) were also prominent among non-Aboriginal serious injuries in the SNW Gtr conurbation. Among serious injuries in the Rural Rest of NSW, head injuries were most common for both Aboriginal (22.9 per cent) and non-Aboriginal (23.4 per cent) people.

Table 72: Number and proportions of Aboriginal and non-Aboriginal serious injuries by location and body region injured NSW 2011-2015

Body region of injury	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Head	149	22.9	127	28.3	89	22.9	365
Knee/lower leg	80	12.3	46	10.3	25	6.4	151
Thorax	95	14.6	47	10.5	63	16.2	205
Neck	74	11.3	55	12.3	53	13.6	182
Abdomen/lower back/	64	9.8	50	11.2	41	10.5	155
Shoulder/upper arm	48	7.4	29	6.5	35	9.0	112
Elbow/forearm	43	6.6	25	5.6	24	6.2	92
Hip/thigh	30	4.6	25	5.6	20	5.1	75
Wrist/hand	20	3.1	17	3.8	16	4.1	53
Ankle/foot	31	4.8	16	3.6	5	1.3	52
Other	18	2.8	11	2.5	18	4.6	47
Total	652	100	448	100	389	100	1,489

Body region of injury	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Non-Aboriginal							
Head	4,133	18.7	1,016	20.9	1,189	23.4	6,338
Thorax	3,824	17.3	874	18.0	894	17.6	5,592
Neck	3,166	14.3	489	10.1	565	11.1	4,220
Knee/lower leg	2,453	11.1	612	12.6	422	8.3	3,487
Abdomen/lower back/l	2,288	10.4	490	10.1	605	11.9	3,383
Shoulder/upper arm	1,724	7.8	359	7.4	441	8.7	2,524
Elbow/forearm	1,316	6.0	279	5.7	296	5.8	1,891
Wrist/hand	837	3.8	191	3.9	190	3.7	1,218
Hip/thigh	825	3.7	221	4.5	169	3.3	1,215
Other	724	3.3	192	3.9	163	3.2	1,079
Ankle/foot	773	3.5	141	2.9	140	2.8	1,054
Total	22,063	100	4,864	100	5,074	100	32,001

6.10 Nature of injury

Around one-third (34.5 per cent) of Aboriginal serious injuries in the SNW Gtr conurbation involved fracture as the principal injury type, similar to non-Aboriginal serious injuries (36.3 per cent) (Table 73). Of Aboriginal serious injuries in Rural Rest of NSW areas, 31.6 per cent involved fracture as the principal injury type, lower than the 38.9 per cent for non-Aboriginal serious injuries.

Table 73: Number and proportions of Aboriginal and non-Aboriginal serious injuries by location and nature of injury NSW 2011-2015

Nature of injury	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Fracture	225	34.5	159	35.5	123	31.6	507
Other/unspecified injuries	124	19.0	73	16.3	80	20.6	277
Superficial injuries	98	15.0	56	12.5	51	13.1	205
Injury to internal organs	67	10.3	58	12.9	46	11.8	171
Open wound	93	14.3	52	11.6	52	13.4	197
Dislocations/sprains/strains	21	3.2	31	6.9	17	4.4	69
Unknown	7	1.1	6	1.3	8	2.1	21
Injury to muscle/fascia/tendon	6	0.9	5	1.1	4	1.0	15
Injury to nerves/spinal cord	2	0.3	3	0.7	3	0.8	8
Other	4	0.6	0	0.0	3	0.8	7
Burns	3	0.5	1	0.2	2	0.5	6
Injury to blood vessels	2	0.3	1	0.2	0	0.0	3
Traumatic amputation	0	0.0	2	0.4	0	0.0	2
Injury of eye/orbit	0	0.0	1	0.2	0	0.0	1
Total	652	100	448	100	389	100	1,489

Nature of injury	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Non-Aboriginal							
Fracture	8,000	36.3	1,996	41.0	1,976	38.9	11,972
Other/unspecified injuries	5,564	25.2	762	15.7	778	15.3	7,104
Superficial injuries	2,866	13.0	558	11.5	650	12.8	4,074
Injury to internal organs	1,930	8.7	573	11.8	637	12.6	3,140
Open wound	1,939	8.8	510	10.5	598	11.8	3,047
Dislocations/sprains/ sprains	725	3.3	181	3.7	151	3.0	1,057
Unknown	443	2.0	125	2.6	84	1.7	652
Injury to muscle/ fascia/tendon	226	1.0	60	1.2	61	1.2	347
Injury to nerves/ spinal cord	92	0.4	33	0.7	48	0.9	173
Other	71	0.3	22	0.5	26	0.5	119
Injury to blood vessels	46	0.2	16	0.3	29	0.6	91
Injury of eye/orbit	62	0.3	11	0.2	9	0.2	82
Burns	57	0.3	6	0.1	10	0.2	73
Traumatic amputation	42	0.2	11	0.2	17	0.3	70
Total	22,063	100	4,864	100	5,074	100	32,001

6.11 Road user movement

One-fifth (20.2 per cent) of Aboriginal serious injuries in the SNW Gtr conurbation were involved in 'Off Path on Straight' road user movement (RUM), slightly higher than non-Aboriginal serious injuries (15.6 per cent) (Table 74). Of Aboriginal serious injuries in Rural Rest of NSW areas, 39.3 per cent were 'Off Path on Curve or Turning', which was similar to the 37.0 per cent for non-Aboriginal serious injuries.

Table 74: Number and proportions of Aboriginal and non-Aboriginal serious injuries by location and RUM code group 2011-2015

RUM code group	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Pedestrian	114	17.5	55	12.2	5	1.3	174
Vehicles from Adjacent Directions	74	11.3	47	10.5	5	1.3	126
Vehicles from Opposing Directions	88	13.5	43	9.6	45	11.5	176
Vehicles from Same Direction	86	13.2	34	7.6	10	2.6	130
Manoeuvring	39	6.0	17	3.8	3	0.8	59
Overtaking	5	0.8	3	0.7	7	1.8	15
On Path	14	2.1	7	1.6	14	3.6	35
Off Path On Straight	132	20.2	133	29.6	145	37.0	410
Off Path On Curve or Turning	95	14.6	106	23.6	154	39.3	355
Miscellaneous/Unk	5	0.8	4	0.9	4	1.0	13
Total	652	100	449	100	392	100	1,493

RUM code group	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Non-Aboriginal							
Pedestrian	2,947	13.4	369	7.6	21	0.4	3,337
Vehicles from Adjacent Directions	2,955	13.4	625	12.8	211	4.1	3,791
Vehicles from Opposing Directions	4,033	18.3	718	14.7	698	13.7	5,449
Vehicles from Same Direction	4,309	19.5	452	9.3	315	6.2	5,076
Manoeuvring	1,276	5.8	244	5.0	81	1.6	1,601
Overtaking	148	0.7	51	1.0	102	2.0	301
On Path	440	2.0	102	2.1	268	5.2	810
Off Path On Straight	3,450	15.6	987	20.3	1,504	29.5	5,941
Off Path On Curve or Turning	2,380	10.8	1,282	26.3	1,889	37.0	5,551
Miscellaneous/Unk	125	0.6	40	0.8	16	0.3	181
Total	22,063	100	4,870	100	5,105	100	32,038

6.12 Road classification

Among Aboriginal serious injuries in the SNW Gtr conurbation, 58.0 per cent were on unclassified roads, higher than the 45.9 per cent for non-Aboriginal serious injuries (Table 75). Of Aboriginal serious injuries in Rural Rest of NSW areas, 40.3 per cent occurred on highways, similar to the 39.0 per cent for non-Aboriginal injuries.

Table 75: Number and proportions of Aboriginal and non-Aboriginal casualties by location and road classification NSW 2011-2015

Road classification	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Freeway/motorway	34	5.2	0	-	0	-	34
State highway	63	9.7	69	15.4	158	40.3	290
Other classified road	177	27.1	93	20.7	101	25.8	371
Unclassified road	378	58.0	287	63.9	133	33.9	798
Total	652	100	449	100	392	100	1,493
Non-Aboriginal							
Freeway/motorway	1,081	4.9	1	0.0	3	0.1	1,085
State highway	2,699	12.2	887	18.2	1,989	39.0	5,575
Other classified road	8,154	37.0	1,306	26.8	1,597	31.3	11,057
Unclassified road	10,129	45.9	2,676	54.9	1,516	29.7	14,321
Total	22,063	100	4,870	100	5,105	100	32,038

6.13 Controller alcohol level

Among Aboriginal motor vehicle controller casualties in the SNW Gtr conurbation, 8.8 per cent had an illegal blood alcohol concentration, more than twice as high as the 3.8 per cent for non-Aboriginal motor vehicle controller casualties (Table 76). Of Aboriginal motor vehicle controller casualties in Rural Rest of NSW, 15.1 per cent had an illegal blood alcohol concentration was also more than double the 6.5 per cent for non-Aboriginal motor vehicle controller casualties.

Table 76: Number and proportions of Aboriginal and non-Aboriginal motor vehicle controller casualties by controller blood alcohol concentration 2011-2015

Controller BAC	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Illegal	78	8.8	132	15.5	86	15.1	296
Legal	663	74.9	572	67.4	404	71.0	1,639
Unknown	144	16.3	145	17.1	79	13.9	368
Total	885	100	849	100	569	100	2,303
Non-Aboriginal							
Illegal	1,645	3.8	810	6.9	605	6.5	3,060
Legal	33,322	76.4	9,208	78.1	7,343	79.0	49,873
Unknown	8,649	19.8	1,766	15.0	1,350	14.5	11,765
Total	43,616	100	11,784	100	9,298	100	64,698

6.14 Controller fatigued

One-tenth (10.3 per cent) of Aboriginal motor vehicle controller casualties in the SNW Gtr conurbation were fatigued, slightly higher than non-Aboriginal motor vehicle controller casualties (6.7 per cent) (Table 77). Of Aboriginal motor vehicle controller casualties in Rural Rest of NSW areas, 21.4 were fatigued, slightly higher than the 18.7 per cent of non-Aboriginal motor vehicle controller casualties.

Table 77: Number and proportions of Aboriginal and non-Aboriginal motor vehicle controller casualties by controller fatigue 2011-2015

Controller fatigued	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Yes	91	10.3	105	12.4	122	21.4	318
No or unknown	794	89.7	744	87.6	447	78.6	1,985
Total	885	100	849	100	569	100	2,303
Non-Aboriginal							
Yes	2,933	6.7	1,077	9.1	1,742	18.7	5,752
No or unknown	40,683	93.3	10,707	90.9	7,556	81.3	58,946
Total	43,616	100	11,784	100	9,298	100	64,698

6.15 Controller speeding

One-fifth (22.1 per cent) of Aboriginal motor vehicle controller casualties in the SNW Gtr conurbation were speeding, more than double that of non-Aboriginal motor vehicle controllers (9.7 per cent) (Table 78). Of Aboriginal motor vehicle casualties in the Rural Rest of NSW areas, 38.3 per cent were speeding, higher than the 27.5 of non-Aboriginal motor vehicle casualties.

Table 78: *Number and proportions of Aboriginal and non-Aboriginal motor vehicle controller casualties by controller blood alcohol concentration 2011-2015*

Controller speeding	SNW Gtr conurbation	%	Urban Rest of NSW	%	Rural Rest of NSW	%	Total
Aboriginal							
Yes	196	22.1	238	28	218	38.3	652
No or unknown	689	77.9	611	72	351	61.7	1,651
Total	885	100	849	100	569	100	2,303
Non-Aboriginal							
Yes	5,657	9.7	2,803	18.4	3,240	27.5	11,700
No or unknown	37,959	64.8	8,981	58.9	6,058	51.5	52,998
Total	58,607	100	15,259	100	11,761	100	85,627

Appendix: Additional data tables

Chapter 2 Tables

Table A1: Age-standardised casualty rates (per 100,000 population) for Aboriginal and non-Aboriginal people using ever identified method by severity, reporting year NSW 2005-2015

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
Aboriginal				
2005	4.3	249.2	165.3	418.8
2006	3.7	272.3	222.5	498.4
2007	7.2	233.4	255.6	496.2
2008	10.9	245.0	224.8	480.6
2009	5.2	271.0	218.5	494.7
2010	7.6	245.5	222.1	475.2
2011	11.2	274.1	220.0	505.3
2012	8.7	306.3	221.7	536.7
2013	9.0	298.6	250.4	558.0
2014	10.0	301.0	226.0	536.9
2015	10.3	291.4	194.1	495.8
Average	8.0	220.1	155.7	383.7
Non-Aboriginal				
2005	7.6	174.8	160.8	343.1
2006	7.4	180.4	172.0	359.8
2007	6.5	179.8	204.0	390.3
2008	5.3	161.8	178.6	345.7
2009	6.4	158.8	178.0	343.2
2010	5.5	158.1	172.1	335.7
2011	4.8	158.9	165.4	329.0
2012	4.8	164.3	159.0	328.1
2013	4.3	167.2	151.1	322.6
2014	3.8	161.0	141.0	305.8
2015	4.3	155.0	114.4	273.8
Average	5.5	90.3	163.3	259.2

Table A2: Age-standardised casualty rates (per 100,000 population) for Aboriginal and non-Aboriginal people using ever identified method by road user group, reporting year NSW 2005-2015

Reporting year	Road User					Total
	Driver	Motorcyclist	Passenger	Pedal Cyclist	Pedestrian	
Aboriginal						
2005	171.8	45.9	83.5	55.2	47.3	403.8
2006	217.5	60.0	106.5	54.6	46.3	484.9
2007	227.4	55.3	84.0	63.5	45.7	475.9
2008	224.2	62.6	83.2	45.9	46.0	461.8
2009	233.8	67.2	78.7	51.9	42.3	474.0
2010	234.4	60.0	81.2	52.2	27.9	455.8
2011	237.3	63.3	102.6	57.3	33.5	494.0
2012	269.2	72.3	92.2	52.4	41.3	527.4
2013	282.5	73.5	92.5	56.3	33.8	538.6
2014	255.6	76.5	94.4	54.8	36.1	517.4
2015	257.3	69.3	75.9	40.1	39.7	482.4
Average	237.4	64.2	88.6	53.1	40.0	483.3
Non-Aboriginal						
2005	169.2	44.5	57.0	29.4	31.2	331.3
2006	182.3	48.9	55.3	27.9	32.1	346.6
2007	194.3	49.3	65.3	31.8	35.7	376.4
2008	176.0	50.9	49.9	27.0	30.8	334.6
2009	174.3	52.7	49.1	25.5	31.5	333.1
2010	174.6	49.1	46.3	25.5	30.1	325.7
2011	172.3	49.5	44.3	24.4	29.6	320.1
2012	169.8	52.5	43.2	23.2	31.8	320.5
2013	164.4	52.4	41.0	22.7	34.6	315.0
2014	156.0	49.6	37.8	21.6	33.2	298.1
2015	136.9	43.8	36.1	19.8	30.4	267.0
Average	170.0	49.4	47.8	25.3	31.9	324.4

Chapter 3 Tables

Severity of injury: Age-standardised rates

Table A3: Age-standardised rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people using MoH algorithm by severity and year NSW 2005-2015

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
Aboriginal				
2005	3.7	221.9	133.6	359.1
2006	3.7	222.7	183.6	409.6
2007	7.2	210.2	208.3	425.7
2008	8.0	218.9	184.0	410.9
2009	4.7	239.2	186.0	429.8
2010	7.0	215.8	185.7	408.5
2011	10.1	251.9	184.3	446.2
2012	8.7	276.5	194.2	479.5
2013	7.3	271.1	222.9	501.3
2014	9.4	274.6	194.8	478.7
2015	10.3	272.6	173.5	456.4
Average	7.3	243.2	186.4	436.9
Non-Aboriginal				
2005	7.6	175.5	161.6	344.7
2006	7.4	181.6	172.9	361.9
2007	6.5	180.5	205.2	392.2
2008	5.3	162.5	179.7	347.5
2009	6.4	159.5	178.9	344.7
2010	5.6	158.9	173.1	337.5
2011	4.8	159.4	166.3	330.5
2012	4.8	165.1	159.8	329.7
2013	4.3	168.0	151.9	324.3
2014	3.8	161.7	142.0	307.4
2015	4.3	155.5	115.1	274.9
Average	5.5	166.2	164.2	335.9

Road user group: Age-standardised rates

Table A4: Age-standardised rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people by road user group and year NSW 2005-2015

Reporting year	Road User					Total
	Driver	Motorcyclist	Passenger	Pedal Cyclist	Pedestrian	
Aboriginal						
2005	140.6	41.2	74.8	45.7	41.6	344.1
2006	171.2	48.5	92.5	43.8	41.7	397.7
2007	186.4	46.0	72.4	60.5	42.2	407.4
2008	185.2	52.2	71.9	41.4	43.8	394.6
2009	197.0	57.6	72.1	44.8	38.1	409.7
2010	197.2	52.7	71.7	47.8	24.0	393.3
2011	203.6	55.8	90.0	53.0	32.6	434.9
2012	238.9	64.1	86.1	46.5	36.0	471.6
2013	249.0	65.7	85.7	49.7	32.4	482.5
2014	226.1	70.8	80.5	47.5	35.6	460.6
2015	230.7	63.0	73.4	36.4	39.4	443.0
Average	202.4	56.2	79.2	47.0	37.0	421.8
Non-Aboriginal						
2005	169.9	44.7	57.3	29.6	31.4	332.8
2006	183.3	49.3	55.7	28.1	32.3	348.6
2007	195.1	49.5	65.7	32.0	35.9	378.3
2008	176.8	51.2	50.3	27.1	30.9	336.3
2009	175.1	53.0	49.4	25.6	31.6	334.7
2010	175.6	49.3	46.7	25.7	30.2	327.4
2011	173.2	49.7	44.6	24.5	29.6	321.6
2012	170.6	52.8	43.4	23.4	31.9	322.0
2013	165.3	52.6	41.3	22.8	34.7	316.7
2014	156.8	49.8	38.1	21.8	33.3	299.7
2015	137.6	43.9	36.2	19.9	30.4	268.1
Average	170.9	49.6	48.1	25.5	31.0	326.0

Chapter 5 Tables

Casualties: Age-standardised rates

Table A5: Age-standardised rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people by severity and year NSW 2011-2015

Reporting year	Fatality	Injury severity			Total
		Serious injury (Matched)	Serious injury (Unmatched)	Moderate injury	
Aboriginal					
2011	10.1	138.1	113.8	184.2	446.2
2012	8.7	162.4	114.1	194.2	479.5
2013	7.3	154.8	116.2	222.9	501.3
2014	9.4	152.1	122.4	194.8	478.7
2015	10.3	136.3	136.3	173.6	456.4
Average	9.2	148.7	120.6	193.9	2362.1
Non-Aboriginal					
2011	4.8	90.0	69.5	166.3	330.5
2012	4.8	92.2	72.9	159.8	329.7
2013	4.3	91.6	76.5	151.9	324.3
2014	3.8	88.2	73.5	142.0	307.4
2015	4.3	81.0	74.5	115.1	274.9
Average	4.4	88.6	73.4	147.0	313.4

Age: Number of casualties by year

Table A6: Number of casualties for Aboriginal and non-Aboriginal people by year and age group NSW 2011-2015

Age group	Reporting year					Total
	2011	2012	2013	2014	2015	
Aboriginal						
0-9	53	57	77	72	60	319
10-19	243	266	277	238	205	1,229
20-29	225	280	272	282	271	1,330
30-39	160	158	164	165	170	817
40-49	117	116	134	128	129	624
50-59	60	60	80	78	75	353
60-69	27	27	34	28	33	149
70-79	7	12	14	15	16	64
80+	3	5	2	4	4	18
Unknown	0	1	1	1	1	4
Total	895	982	1,055	1,011	964	4,907
Non-Aboriginal						
0-9	578	654	637	555	490	2,914
10-19	3,219	3,210	2,950	2,717	2,415	14,511
20-29	5,407	5,304	5,304	5,075	4,496	25,586
30-39	3,793	3,790	3,799	3,643	3,308	18,333
40-49	3,496	3,456	3,413	3,260	3,002	16,627
50-59	2,773	2,836	2,998	2,971	2,686	14,264
60-69	1,770	1,861	1,935	1,911	1,816	9,293
70-79	1,135	1,205	1,165	1,224	1,145	5,874
80+	824	872	939	924	870	4,429
Unknown	35	28	33	25	23	144
Total	23,030	23,216	23,173	22,305	20,251	111,975

Age-specific rates of casualties

Table A7: Age-specific rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people aged 0 to 19 years by severity and year NSW 2011-2015

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
Aboriginal				
2011	2.0	166.2	129.9	298.1
2012	6.0	182.9	133.9	322.8
2013	2.0	216.5	133.1	351.6
2014	0.0	170.6	135.1	305.8
2015	3.9	172.6	83.3	259.8
Average	2.8	181.8	123.1	307.6
Non-Aboriginal				
2011	2.3	113.6	103.8	219.6
2012	3.1	116.7	101.8	221.6
2013	2.0	114.1	87.4	203.6
2014	2.1	95.4	86.5	184.0
2015	2.2	94.8	64.9	161.9
Average	2.3	106.9	88.9	198.1

Table A8: Age-specific rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people aged 20 to 29 years by severity and year NSW 2011-2015

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
Aboriginal				
2011	9.2	396.1	285.6	690.9
2012	11.8	450.6	362.2	824.6
2013	11.3	369.7	386.6	767.6
2014	29.9	393.6	342.0	765.4
2015	7.8	392.8	304.4	705.0
Average	14.0	400.6	336.2	750.7
Non-Aboriginal				
2011	7.9	243.1	295.5	546.5
2012	7.2	242.7	283.5	533.4
2013	6.8	250.1	272.9	529.8
2014	4.5	232.7	262.5	499.8
2015	5.3	231.3	200.7	437.3
Average	6.3	240.0	263.0	509.3

Table A9: Age-specific rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people aged 30 to 59 years by severity and year NSW 2011-2015

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
Aboriginal				
2011	20.5	269.1	240.8	530.3
2012	10.8	305.1	201.3	517.2
2013	6.1	305.7	263.1	574.8
2014	11.9	318.9	222.1	552.9
2015	14.6	310.0	222.3	546.9
Average	12.8	301.7	229.9	544.4
Non-Aboriginal				
2011	4.7	163.2	184.3	352.2
2012	4.1	173.1	172.2	349.5
2013	4.3	176.2	169.8	350.4
2014	3.7	177.6	154.1	335.4
2015	4.3	167.0	131.3	302.6
Average	4.2	171.4	162.4	338.0

Table A10: Age-specific rates (per 100,000 population) of casualties for Aboriginal and non-Aboriginal people aged 60+ years by severity and year NSW 2011-2015

Reporting year	Injury severity			Total
	Fatality	Serious Injury	Moderate Injury	
Aboriginal				
2011	0.0	221.8	61.2	283.0
2012	7.2	187.2	122.4	316.8
2013	20.4	196.9	122.2	339.5
2014	0.0	211.9	89.9	301.8
2015	12.1	211.7	96.8	320.6
Average	7.9	205.9	98.5	312.3
Non-Aboriginal				
2011	6.6	148.8	104.4	259.9
2012	7.1	152.3	108.1	267.6
2013	5.9	160.2	1008.0	267.0
2014	6.0	164.3	90.7	261.0
2015	6.9	156.1	76.9	239.9
Average	6.5	156.4	96.2	259.1

Two-hour time period of crash for casualties: Age-standardised rates

Table A11: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal casualties by two-hour time period of crash NSW 2011-2015

Two-hour time period	Aboriginal	Non-Aboriginal	Total
00:00-01:59	16.2	6.9	11.6
02:00-03:59	12.9	4.4	8.6
04:00-05:59	11.5	6.3	8.9
06:00-07:59	19.4	17.8	18.6
08:00-09:59	32.8	26.9	29.8
10:00-11:59	35.6	26.4	31.0
12:00-13:59	46.1	28.4	37.2
14:00-15:59	50.5	34.2	42.4
16:00-17:59	50.5	37.1	43.8
18:00-19:59	34.4	25.1	29.7
20:00-21:59	24.1	15.1	19.6
22:00-23:59	19.9	11.7	15.8
Average	29.5	20.0	24.8

Alcohol involved in motor vehicle controller casualties: Age-standardised rates

Table A12: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal motor vehicle controller casualties by illegal alcohol indicator and year NSW 2011-2015

Reporting year	Alcohol indicator			Total
	Illegal	Legal	Unknown	
Aboriginal				
2011	28.9	160.0	25.9	214.9
2012	28.8	184.5	33.4	246.6
2013	31.1	192.2	42.9	266.1
2014	31.3	181.8	34.9	248.0
2015	27.3	154.0	52.3	233.6
Average	29.5	174.5	37.9	241.9
Non-Aboriginal				
2011	9.6	152.6	32.6	194.7
2012	8.9	152.2	32.6	193.6
2013	8.9	150.4	28.0	187.3
2014	8.7	138.7	29.7	177.1
2015	8.2	101.3	40.4	149.9
Average	8.8	139.0	32.7	180.5

Fatigue involved in motor vehicle controller casualties: Age-standardised rates

Table A13: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal motor vehicle controller casualties by controller fatigue and year NSW 2011-2015

Reporting year	Controller fatigued		Total
	Yes	No or unknown	
Aboriginal			
2011	26.0	188.9	214.9
2012	36.8	209.8	246.6
2013	33.1	233.0	266.1
2014	37.5	210.5	248.0
2015	31.1	202.5	233.6
Average	32.9	208.9	241.9
Non-Aboriginal			
2011	16.4	178.4	194.7
2012	17.4	176.3	193.6
2013	16.3	171.0	187.3
2014	16.3	160.8	177.1
2015	13.6	136.3	149.9
Average	16.0	164.5	180.5

Speeding involved in motor vehicle controller casualties: Age-standardised rates

Table A14: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal motor vehicle controller casualties by controller speeding and year NSW 2011-2015

Reporting year	Controller speeding		Total
	Yes	No or unknown	
Aboriginal			
2011	57.5	157.4	214.9
2012	67.7	179.0	246.6
2013	62.1	204.1	266.1
2014	72.5	175.5	248.0
2015	68.9	164.7	233.6
Average	65.7	176.1	241.9
Non-Aboriginal			
2011	34.5	160.2	194.7
2012	33.3	160.3	193.6
2013	35.2	152.1	187.3
2014	35.0	142.1	177.1
2015	28.7	121.1	149.9
Average	33.3	147.2	180.5

Restraint use for drivers and passengers

Table A15: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal motor vehicle occupant casualties by safety belt usage and year NSW 2011-2015

Reporting year	Restraint usage		Total
	Restraint worn#	Restraint not worn*	
Aboriginal			
2011	216.6	15.3	231.9
2012	233.7	17.9	251.7
2013	256.1	9.8	265.9
2014	223.9	10.7	234.6
2015	203.7	13.3	217.0
Average	226.8	13.4	240.2
Non-Aboriginal			
2011	182.1	4.8	186.9
2012	176.3	4.9	181.2
2013	171.4	3.2	174.6
2014	157.1	5.0	162.1
2015	132.5	3.3	135.8
Average	163.9	4.2	168.1

Includes 'Belt worn' and 'Child restraint' values. * Includes 'Belt not worn' and 'Belt not fitted'.

Helmet use for motorcyclists

Table A16: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal motorcyclist casualties by helmet use and year NSW 2011-2015

Reporting year	Helmet usage		Total
	Yes	No or unknown	
Aboriginal			
2011	21.1	3.5	24.6
2012	21.5	4.0	25.4
2013	23.4	5.5	28.9
2014	28.3	6.5	34.8
2015	25.3	3.4	28.8
Average	23.9	4.6	28.5
Non-Aboriginal			
2011	27.5	0.7	28.3
2012	29.1	0.9	30.0
2013	29.1	0.7	29.8
2014	28.4	0.6	28.9
2015	23.5	0.7	24.2
Average	27.5	0.7	28.2

Helmet use for pedal cyclists

Table A17: Age-standardised rates (per 100,000 population) of Aboriginal and non-Aboriginal pedal cyclist casualties by helmet use and year NSW 2011-2015

Reporting year	Helmet usage		Total
	Yes	No or unknown	
Aboriginal			
2011	4.4	2.8	7.1
2012	3.3	10.0	13.3
2013	4.3	5.8	10.2
2014	5.0	5.3	10.3
2015	2.6	5.6	8.2
Average	3.9	5.9	9.8
Non-Aboriginal			
2011	7.5	1.5	9.0
2012	7.6	1.4	9.0
2013	7.8	1.7	9.5
2014	7.4	1.6	8.9
2015	6.4	1.1	7.5
Average	7.3	1.5	8.8