ROAD SAFETY REPORT

Profile of Road Safety Among Indigenous Australians

Draft discussion paper prepared for the Indigenous Road Safety Forum and Working Group

Alice Springs,
27-28 September 2004

Australian Government
Australian Transport Safety Bureau

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ALICE SPRINGS, 27-28 SEPTEMBER 2004

This broad profile of road safety among Indigenous Australians was prepared as a draft discussion paper for the Indigenous Road Safety Forum and Working Group held at Alice Springs, 27-28 September 2004. It comprises two distinct sections:

1. *A demographic profile of Indigenous road fatalities based on ABS mortality statistics.*
2. *A profile of crash types and risk factors for Indigenous road fatalities in the Northern Territory based on coronial data held in the ATSB's Fatal Road Crash Database.*

1. DEMOGRAPHIC PROFILE OF INDIGENOUS ROAD FATALITIES

This section presents a demographic profile of Indigenous road fatalities over the four calendar year period 1999 – 2002 based on fatality counts obtained from ABS mortality statistics. The ABS statistics are the only data on Indigenous road fatalities available for most jurisdictions.

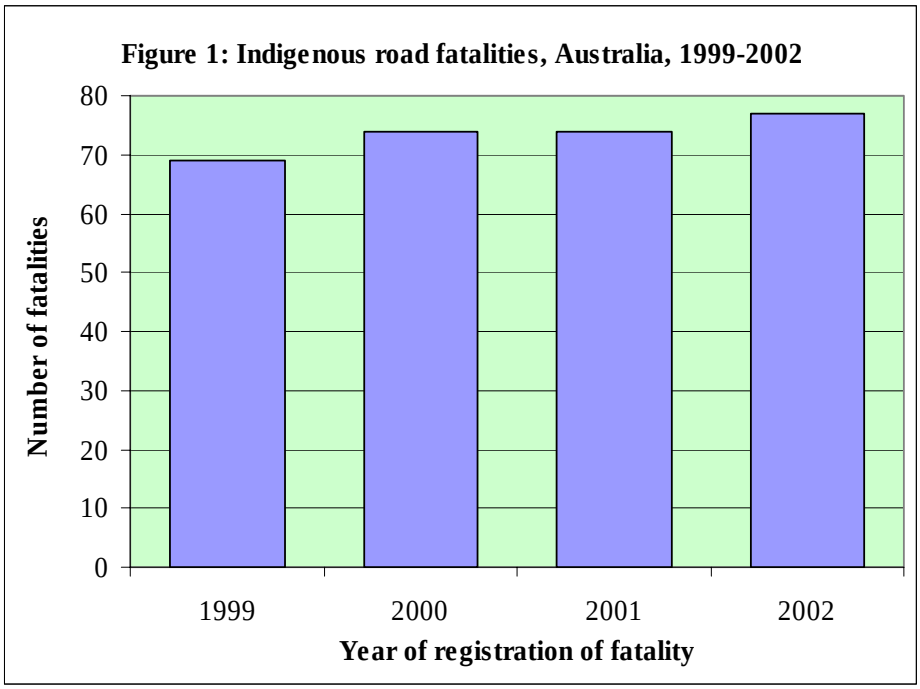
The ABS statistics are based on information recorded on death certificates. A uniform question is now used Australia-wide for recording Indigenous status on death certificates. "Was the deceased of Aboriginal or Torres Strait Islander Origin?"

The ABS counts are known to undercount Indigenous deaths. The person completing the certificate (usually a doctor or funeral director) may not know if the deceased was of Indigenous status, and may be reluctant or unable to ask the relatives. ABS estimates of Indigenous deaths based on census data and life tables indicate that their mortality statistics have probably identified only 55% to 60% of Indigenous deaths nationwide from all causes over the period covered here (about 85-90% in the Northern Territory, about 70% in Western Australia and about 55% in Queensland.).

The ABS counts may also contain inaccuracies due to differing definition of a 'road crash' and from inclusion of deaths outside the standard requirement of death within 30 days of the crash.

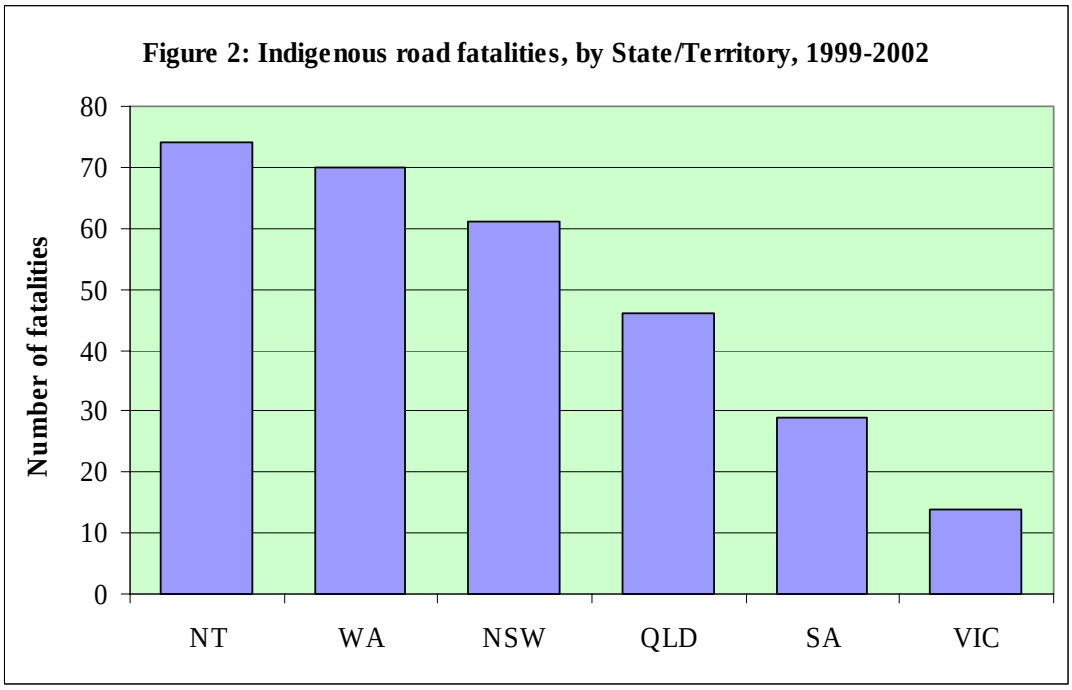
1.1 Fatality counts

Figure 1 shows Indigenous road fatalities registered Australia-wide between 1999 and 2002.



Source: most recent available years of ABS mortality statistics

Figure 2 shows aggregate Indigenous road fatalities registered in each State and Territory between 1999 and 2002.



Source: most recent available years of ABS mortality statistics

In the Northern Territory and Queensland alternative Indigenous road fatality counts are available from information recorded on police crash reports, and the ATSB has been provided with these counts for recent years by the Northern Territory Department of Infrastructure, Planning and Environment and by Queensland Transport.

In Table 1 these counts are compared with the corresponding ABS counts. For the Northern Territory the police counts routinely exceed the ABS counts. In view of the above comment that ABS mortality statistics have probably identified about 85% to 90% of Indigenous deaths in the Northern Territory and about 55% of Indigenous deaths in Queensland over the period covered here, it would appear that most Indigenous road fatalities are being correctly identified on the Northern Territory police crash reports but not on Queensland police crash reports.

Table 1: Comparison between Indigenous road fatality counts obtained from police crash reports and counts obtained from ABS mortality statistics, NT and Queensland, 1999 - 2003

	1999	2000	2001	2002	2003
Northern Territory					
Police count	17	18	25	28	25
ABS mortality statistics #	10	17	22	25	na
Queensland					
Police count	0*	4*	4	17	9
ABS mortality statistics #	7	16	10	13	na

Sources:
(i) Most recent available years of ABS mortality statistics.
(ii) Police counts provided by Northern Territory Department of Infrastructure, Planning and

Notes:
The ABS counts refer to deaths registered within the year in question.
* In Queensland, the recording of racial appearance was introduced via a revised police crash report form in late 1999, and the police counts for 1999 and 2000 can therefore not be considered complete.
'na' denotes not yet available.

1.2 Fatality rates

Figure 3 shows the average annual road fatality rates for the Indigenous and non-Indigenous populations in each State and Territory over the four calendar year period 1999 - 2002.

The rates are based on (i) Indigenous road fatality counts during 1999 - 2002 obtained from ABS mortality statistics (ii) total road fatality counts during 1999-2002 obtained from ATSB road crash databases and (iii) the estimated Australian population and 'experimental' estimates of the Indigenous population during 1999-2002 obtained from ABS demographic statistics.

Figure 3 shows that:

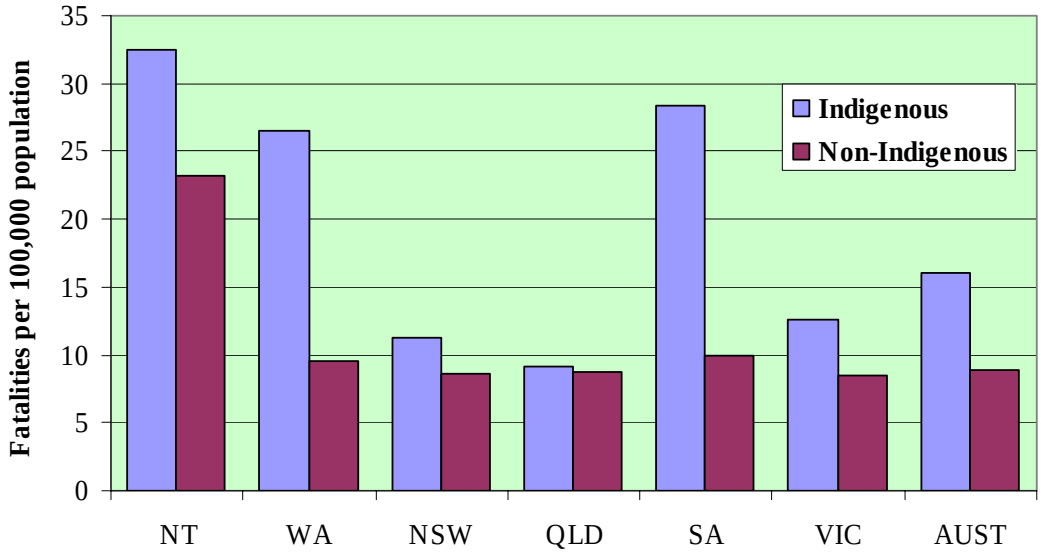
- Australia-wide, between 1999 and 2002, there was an average of 16.0 fatalities per 100,000 Indigenous population compared with an average of 8.9 fatalities per 100,000 non-Indigenous population.
- This represents a national Indigenous per-capita road fatality rate 1.80 times that of the non-Indigenous population.

  Based on the level of under-identification estimated to exist nationally in ABS Indigenous mortality statistics for all causes of death, the national Indigenous road fatality rate may be closer to three times the national rate for the non-Indigenous population.

- Substantial discrepancies are apparent between jurisdictions in the extent to which the Indigenous fatality rate exceeds the non-Indigenous rate.

  This comparison is clouded by differences between jurisdictions in the extent to which Indigenous status is identified on death certificates. Based on ABS estimates of the under-identification present in their counts for the individual States and Territories, the Indigenous road fatality rate in the Northern Territory is perhaps 1.6 times the already-substantial rate of the non-Indigenous population in that jurisdiction and the Indigenous road fatality rate in Western Australia is perhaps 4 times the rate for the non-Indigenous population there.

Figure 3: Average annual road fatalities per 100,000 population, by ethnicity and State/Territory, 1999-2002



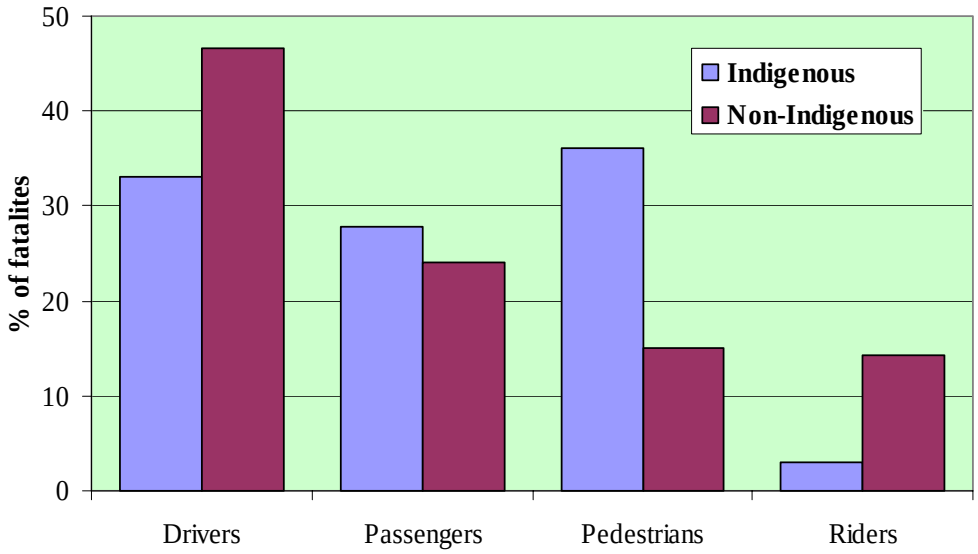
Source: most recent available years of ABS mortality statistics

1.3 Road user profile

Figure 4 compares the average road user profile of Indigenous fatalities between 1999 and 2002 with that of non-Indigenous fatalities. Figure 5 presents the average road user profile of Indigenous fatalities over the period for individual States and Territories. It is apparent that:

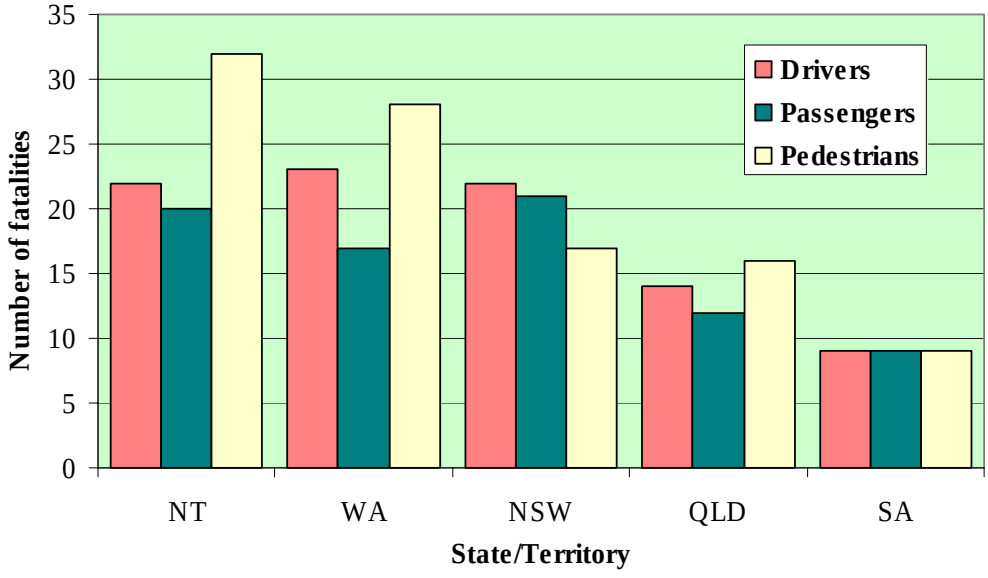
- pedestrians comprised a much larger proportion of Indigenous road fatalities than of non-Indigenous fatalities, particularly in the Northern Territory, Western Australia and Queensland; and
- the Indigenous road toll featured a correspondingly-lower representation of drivers but not a lower representation of passengers (which perhaps reflects higher vehicle occupancy levels in the Indigenous population).

Figure 4: Road user profile of Indigenous and non-Indigenous road fatalities, Australia, 1999-2002



Source: most recent available years of ABS mortality statistics

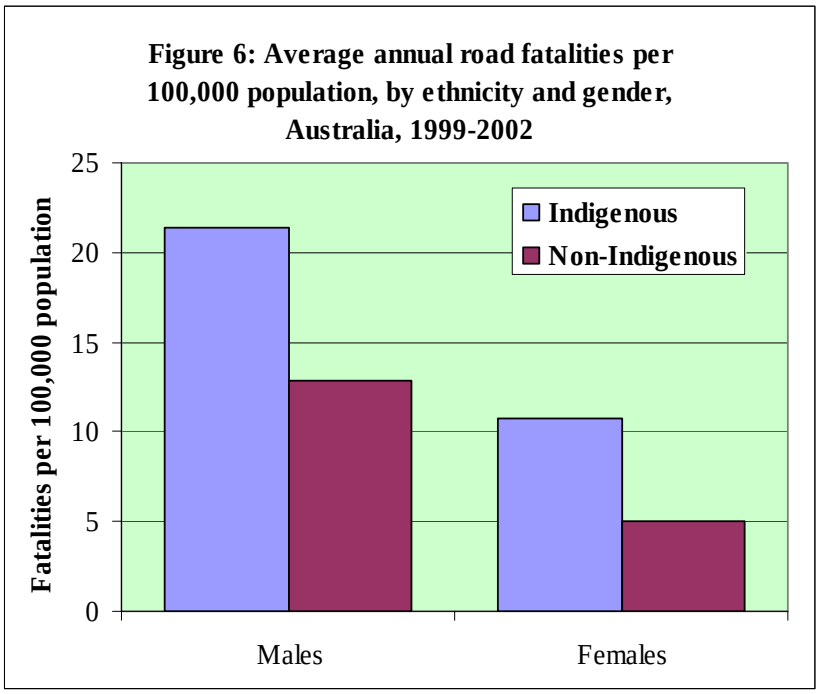
Figure 5: Road user profile of Indigenous road fatalities, by State/Territory, 1999-2002



Source: most recent available years of ABS mortality statistics

1.4 Gender profile

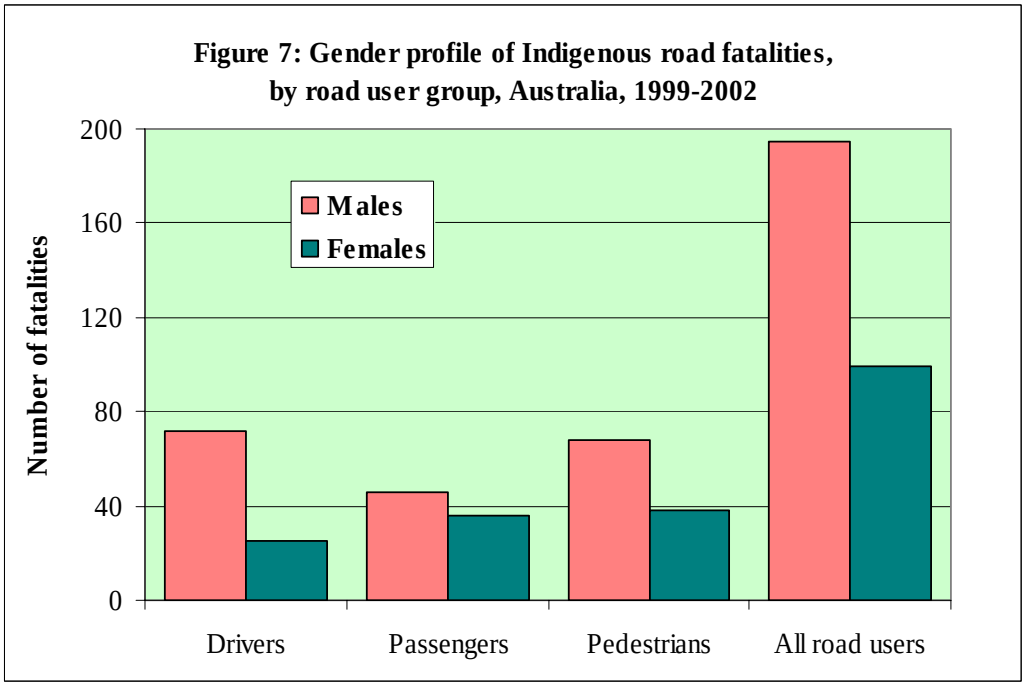
Figure 6 presents the average annual road fatality rates for Indigenous and non-Indigenous males and females over the four calendar year period 1999 – 2002. It shows elevated rates for both Indigenous males and Indigenous females.



Source: most recent available years of ABS mortality statistics

Figure 7 presents the average gender profile over the four calendar year period 1999 - 2002 for each major road user group of Indigenous fatalities.

This gender profile is very similar to that observed for all Australian road fatalities, with females featuring more prominently among passenger fatalities than among driver and pedestrian fatalities.



Source: most recent available years of ABS mortality statistics

2. CRASH TYPES AND RISK FACTORS IN INDIGENOUS ROAD FATALITIES IN THE NORTHERN TERRITORY

This Section presents a profile of crash types and risk factors for Indigenous road fatalities in the Northern Territory over the four calendar year period 1996 - 1999.

This material derives from the latest available years of the ATSB's Fatal Road Crash Database, compiled from coronial documents sourced Australia-wide each year. These documents provide a rich source of crash information at the cost of a fairly protracted compilation process.

The identification of the Indigenous status of road fatalities included in the database is reliant upon the extent to which Indigenous status is mentioned in the coronial documents. The present analysis has been restricted to the Northern Territory as it is only in that jurisdiction that coronial documentation consistently provides reliable identification of Indigenous status.

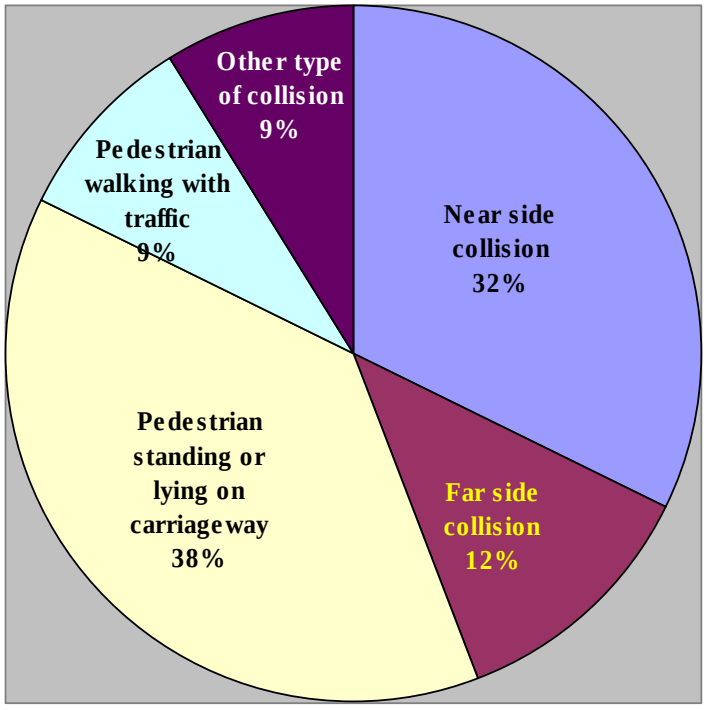
2.1 Crash types

Two crash types predominate in Indigenous road fatalities in the Northern Territory - collisions with pedestrians and single vehicle rural crashes.

Figures 8 to 11 indicate that Indigenous pedestrian fatalities in the Northern Territory:

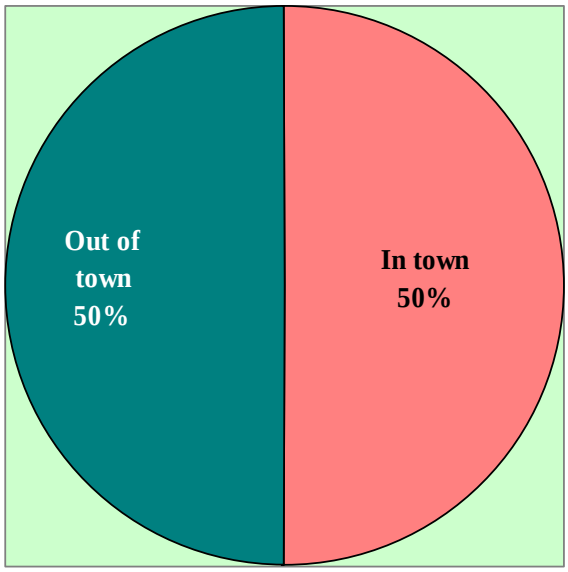
- involved people who had in many instances been standing or lying on the carriageway rather than crossing the road or walking alongside the road;
- occurred equally in town and out of town;
- occurred predominantly at night; and
- mainly involved males aged 20 to 29 and males and females aged 30 to 39.

Figure 8: Indigenous pedestrian fatalities, by collision type, Northern Territory, 1996-99



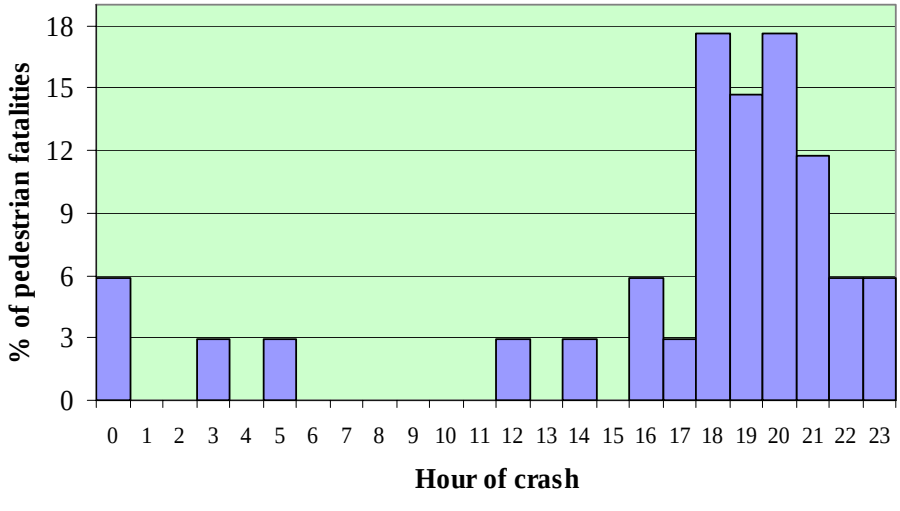
Source: ATSB Fatal Road Crash Database

Figure 9: Location of fatal collisions with Indigenous pedestrians, Northern Territory, 1996-99

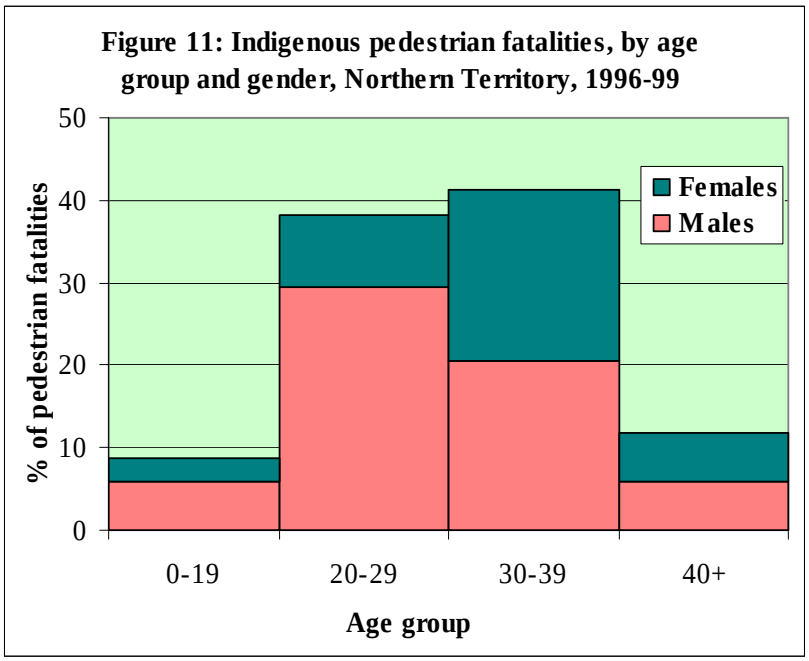


Source: ATSB Fatal Road Crash Database

Figure 10: Time of day of fatal collisions with Indigenous pedestrians, Northern Territory, 1996-99



Source: ATSB Fatal Road Crash Database



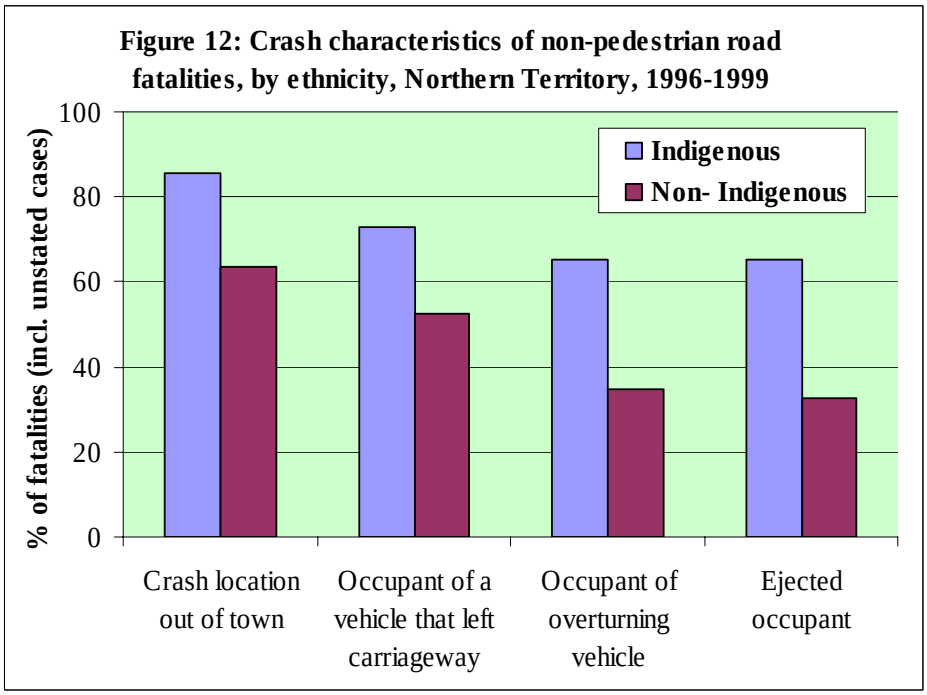
Source: ATSB Fatal Road Crash Database

Figure 12 examines non-pedestrian road fatalities in the Northern Territory. It shows that compared with their non-Indigenous counterparts Indigenous non-pedestrian fatalities were more commonly:

- out of town (86% and 64%, respectively, of Indigenous and non-Indigenous fatalities);

  A greater proportion of the Indigenous population lives out of town than does the non-Indigenous population.

- in a vehicle that had left the carriageway (73% and 53%);
- in an overturning vehicle (65% and 35%); and
- ejected (66% and 33%).



Source: ATSB Fatal Road Crash Database

2.2 Behavioural risk factors

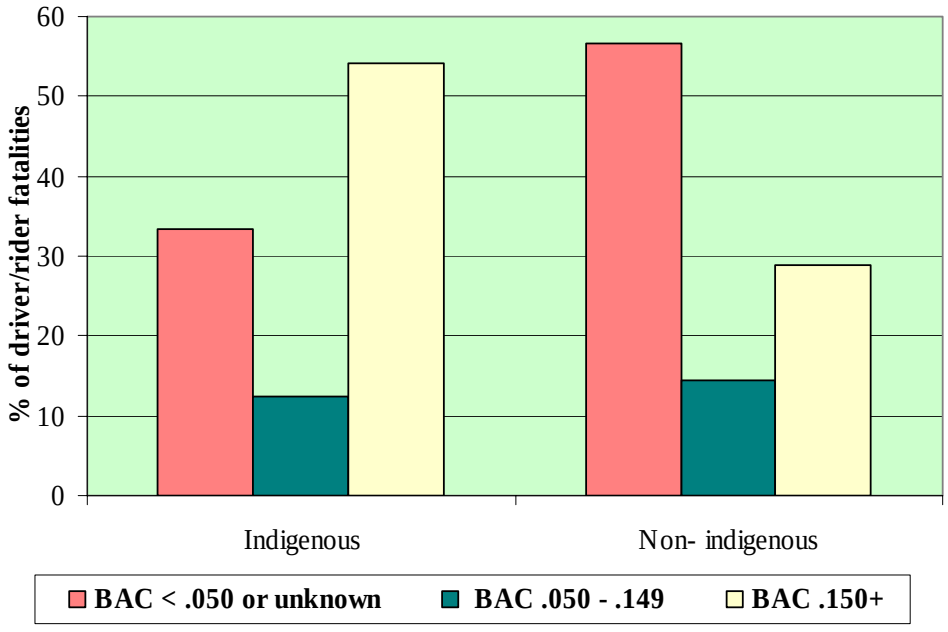
Alcohol intoxication is the predominant factor in road fatalities among both the Indigenous and non-Indigenous populations of the Northern Territory.

Figures 13 compares alcohol intoxication among fatally-injured Indigenous and non-Indigenous drivers and motor cycle riders in the Northern Territory. Figure 14 compares alcohol intoxication among fatally-injured Indigenous and non-Indigenous pedestrian fatalities.

The figures indicate that:

- alcohol intoxication was higher among Indigenous drivers, riders and pedestrians than among their non-Indigenous counterparts;
- alcohol intoxication was particularly striking among Indigenous pedestrian fatalities;
- a large proportion of the cases of intoxication among both the Indigenous and non-Indigenous driver, rider and pedestrian fatalities involved high-range BACs.

Figure 13: Driver and rider fatalities, by alcohol intoxication status and ethnicity, Northern Territory, 1996-99



Source: ATSB Fatal Road Crash Database

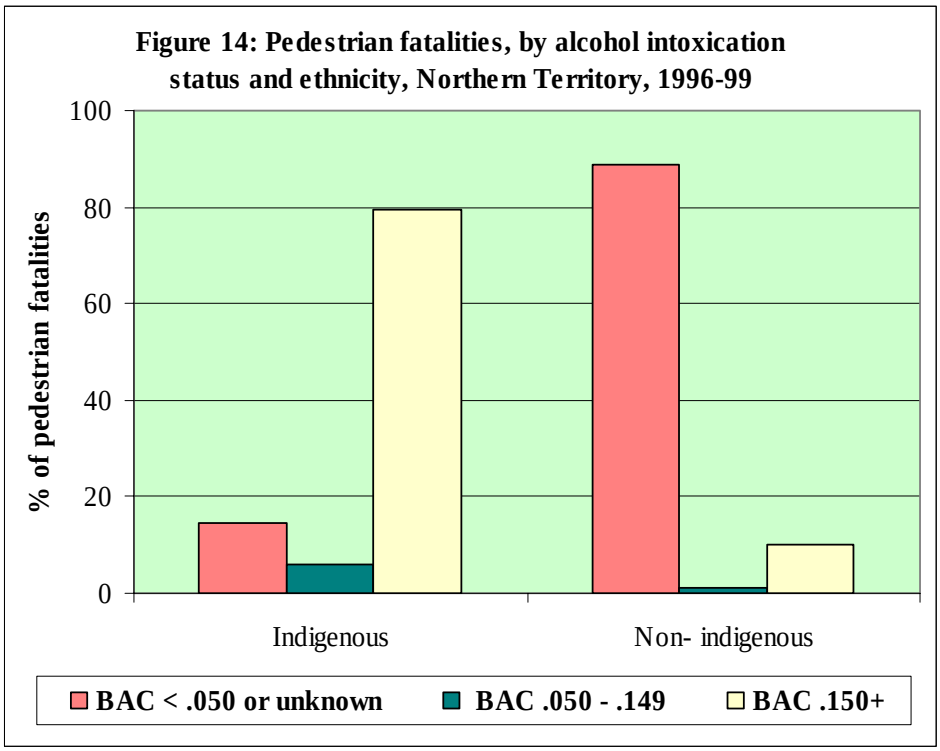
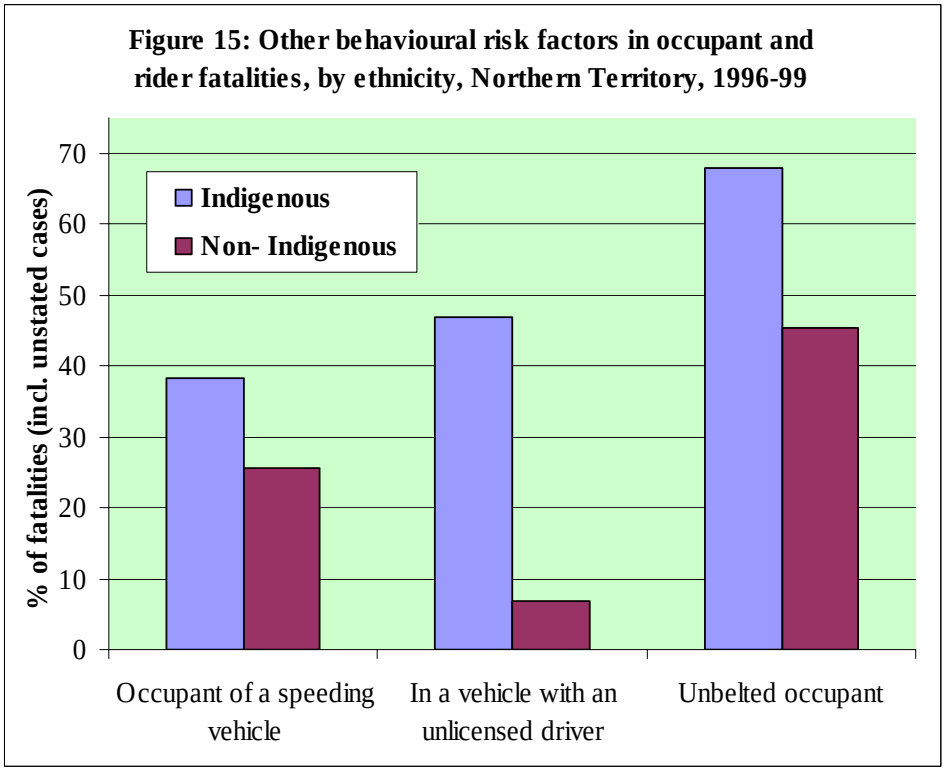


Figure 15 examines other important behavioural risk factors in fatal road crashes in the Northern Territory. It shows that compared with their non-Indigenous counterparts, fatally-injured Indigenous vehicle occupants and motor cycle riders were more commonly:

- in vehicles that were speeding or travelling too fast for conditions (38% and 25%, respectively, of Indigenous and non-Indigenous occupant and rider fatalities);
- in vehicles that had an unlicensed driver or rider (47% and 7%);
- a vehicle occupant who had been unbelted (68% and 46%).



Source: ATSB Fatal Road Crash Database

2.3 Environmental risk factors

A comprehensive account of environmental risk factors encountered by Indigenous road users is given in a report to the ATSB by ARRB Transport Research *(Macaulay, J., et al. (2003) Australian Indigenous road safety. ARRB report RC2321.)*

The report points out that a large proportion of Indigenous Australians live in non-metropolitan areas, which exposes them to numerous environmental risk factors specific to rural and remote Australia. These factors include:

- increased exposure through greater distances travelled;
- higher speeds;
- poorer road quality;
- increased diversity of vehicle types; and
- delay or unavailability of medical treatment.

Figure 16 highlights one of these factors - the reduced access to medical treatment for residents of rural and remote Australia involved in road crashes.

For Northern Territory road fatalities for which details of ambulance attendance were reported:

- an ambulance attended within 30 minutes of the crash for 63% of non-Indigenous fatalities and only 36% of Indigenous fatalities;
- an ambulance did not attend for 3% of non-Indigenous fatalities and for 36% of Indigenous fatalities.

ATSB Fatal Road Crash Database

2.4 Vehicle risk factors

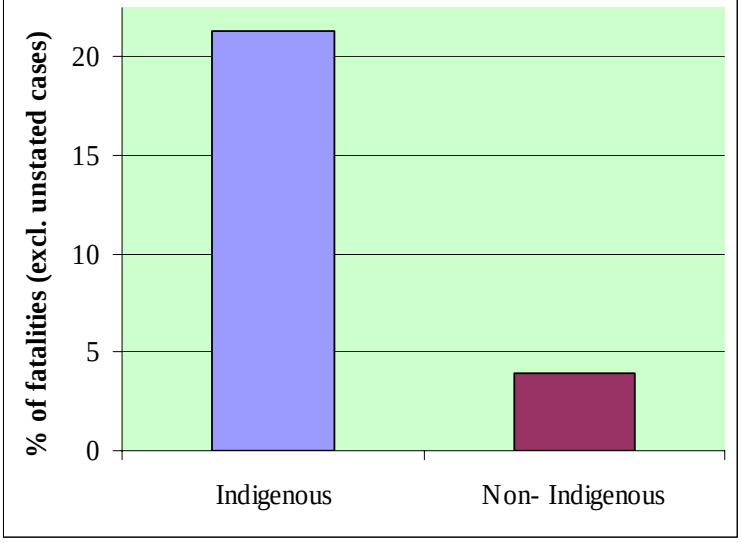
The ARRB report also points to a number of important vehicle risk factors pertaining to Indigenous road users:

- Because of their socio-economic status, rural residents usually have older vehicles than their urban counterparts despite having to travel greater distances on poorer roads.
- For the same reason, Indigenous drivers also tend to have lower levels of vehicle maintenance.
- The poorer condition of many rural roads may also damage vehicles to a degree.

The report points to evidence that vehicle choice and vehicle defects are indeed significant contributors to rural and remote road trauma.

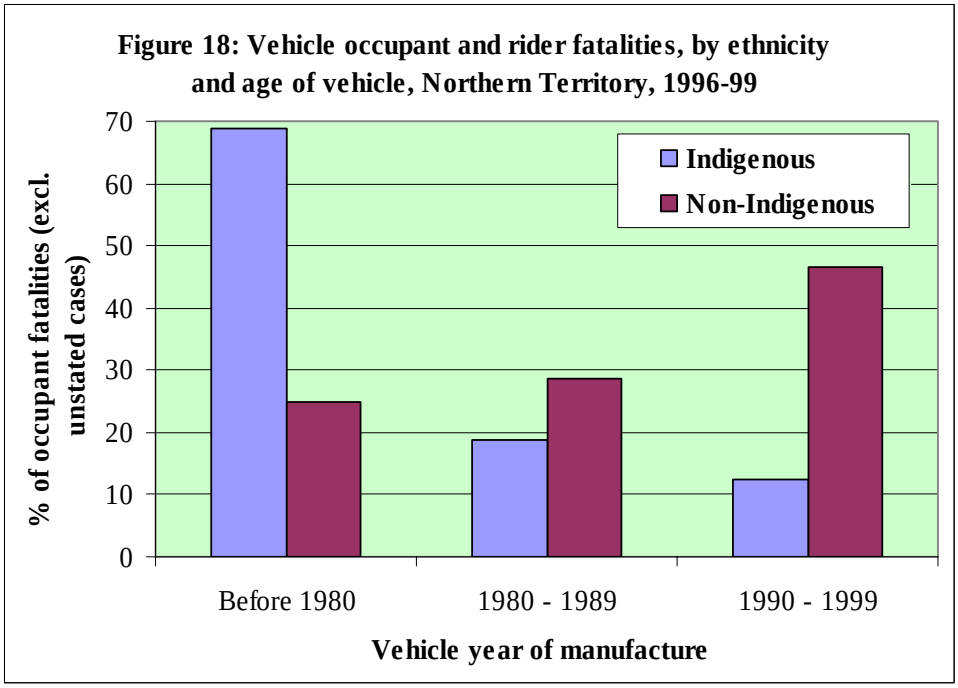
Figure 17 examines the role of critical vehicle malfunction in fatal road crashes in the Northern Territory. It shows that 21% of fatally-injured Indigenous vehicle occupants and motor cycle riders had been in a vehicle that crashed following a critical malfunction compared with 4% of their non-Indigenous counterparts.

Figure 17: Involvement of vehicle malfunction in occupant and rider fatalities, by ethnicity, Northern Territory, 1996-99



Source: ATSB Fatal Road Crash Database

Figure 18 examines the age of vehicles involved in fatal road crashes in the Northern Territory. It shows that 69% of fatally-injured Indigenous vehicle occupants and motor cycle riders were in pre-1980 vehicles compared with 25% of their non-Indigenous counterparts.



Source: ATSB Fatal Road Crash Database

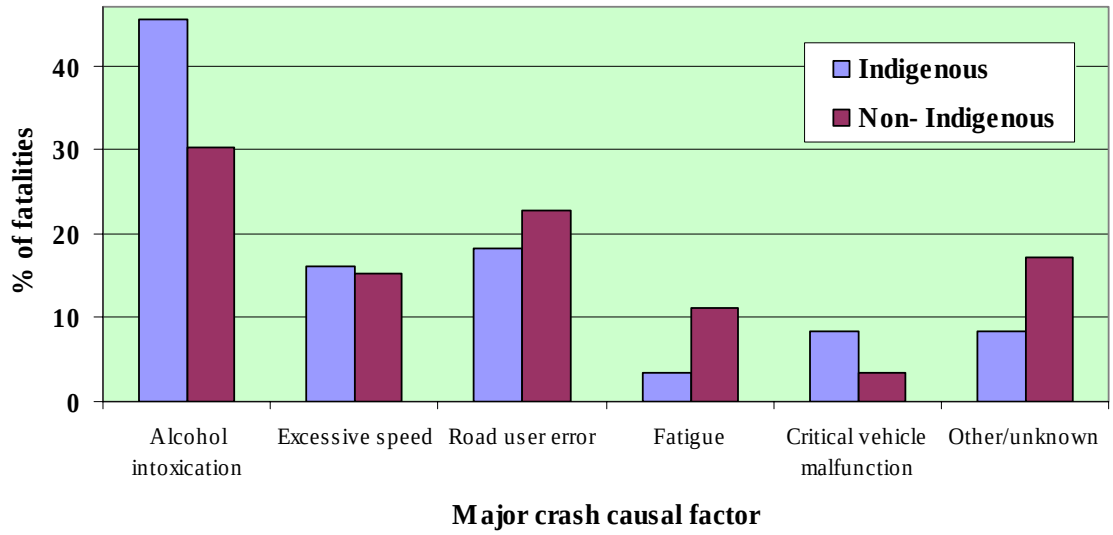
2.5 Crash causal factors in aggregate

Figure 19 identifies the major causal factors involved in road crashes in the Northern Territory that lead to Indigenous and non-Indigenous road fatalities. The ATSB database identifies up to three causal factors for each crash.

Compared with their non-Indigenous counterparts, the Indigenous fatalities stemmed:

- more commonly from alcohol intoxication;
- more commonly from critical vehicle malfunction;
- less commonly from road user error; and
- less commonly from fatigue.

Figure 19: Road fatalities, by ethnicity and major crash causal factor, Northern Territory, 1996-99



Source: ATSB Fatal Road Crash Database

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