

Contract Report

Australian Indigenous Road Safety

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Australian Indigenous Road Safety

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Executive Summary

Introduction

Indigenous Australians are over-represented in road fatalities by approximately 3.5 times¹. Until recently, there has been a lack of research in this area, and quantification of the road safety problem has been difficult due to poor reporting of crashes and complexities with the identification of Indigenous people.

The Australian Transport Safety Bureau commissioned this scoping study on behalf of a working group of the National Road Safety Strategy Panel, which is the Indigenous Road Safety Working Group. The study seeks to identify current databases and research, gaps in information, and future research requirements in Indigenous road safety. While a national Indigenous road safety strategy has not been championed, it is intended that the research outcomes will ultimately provide core information for the development and implementation of culturally sound solutions to Indigenous road safety problems in Australia.

The study has involved: (i) a comprehensive literature and research review; (ii) crash statistics analysis; and (iii) consultation with road safety authorities and Indigenous authorities in each jurisdiction.

The study also draws heavily on a recent review of Indigenous road safety in South Australia conducted by Graham Brice (2000) and consultation with members of the Aboriginal and Torres Strait Islander (ATSI) Injury Prevention Action Committee (a subcommittee of the ATSI Working Group of the National Public Health Partnership).

Literature Review

This literature review acknowledges the significance of Indigenous road trauma as a health issue and outlines the results of a systematic investigation of the characteristics of road crashes involving Indigenous populations. Firstly, the review has identified data sources and limitations, such as defining 'Indigenous status' and estimating base populations. Secondly, the review highlights Indigenous road safety trends in Australia, focusing specifically on known risk factors such as alcohol-impairment and misuse, single-vehicle roll-over crashes, overloading and roadworthiness of vehicles, pedestrian crashes, and non-compliance with seatbelt and restraint legislation.

Through the literature, priority research and intervention areas for Indigenous road safety have been identified, drawing heavily on the recommendations of the recent Brice (2000) report. Examples of successful Indigenous interventions have been identified, which may assist in the development of guidelines for Indigenous-specific road safety countermeasures. Throughout, the importance of following a community capacity building and engagement process when working with Indigenous communities and embracing Indigenous perspectives on health/injury and the acquisition of health knowledge is acknowledged.

¹ Brice G.A. (2000). *Australian Indigenous Road Safety*. Transport SA: Adelaide, SA.

Guidelines to improve the understanding of Indigenous road safety and develop culturally appropriate interventions, as identified through the literature review include:

- improving the quality of Indigenous road safety data
- cultural understanding of Indigenous perspectives on health/injury, the acquisition of health knowledge, 'road safety' and transportation
- research protocol in Indigenous communities
- tailored education and community engagement strategies
- empowerment through road safety knowledge and training
- legislation addressing known risky practices
- accessible licensing systems for offenders and remote populations, and
- sustained funding and Government commitment.

Crash Analysis

Indigenous road crash data were sought from all jurisdictions, although only databases for Western Australia, Queensland and Northern Territory identify Indigenous involvement in road crashes. Data from Queensland and Northern Territory have been analysed. Data from Western Australia were drawn from reports by Cercarelli (1999) and the Aboriginal Road Users Taskforce (2002). The Australian Bureau of Statistics (ABS) provided data on national Indigenous road fatalities. Data were also sought through other means, mainly hospital records, although no additional data have been forthcoming to date.

Australia-Wide Fatality Data

Analysis of the ABS data for the period from 1997 to 2000 shows the yearly trend in Indigenous road fatalities. There was a substantial increase in Indigenous road fatalities, from 59 in 1997, to 92 in 1998. There were 62 road fatalities in 1999 and 68 in 2000. Car occupants and pick-up occupants make up over half of road fatalities (57%), with pedestrians also a large proportion of road fatalities (40%).

An examination of Indigenous road fatalities by state, for the same period, revealed that Western Australia and Northern Territory had the highest Indigenous road fatalities.

Rural and Urban Comparisons

Analysis of the Northern Territory Indigenous crash data for the period from 1996 to 2001 revealed that the number of casualty crashes in rural and urban areas was similar (49% and 51% respectively). However, 67% of fatal crashes occurred in rural areas. Western Australian data for the period between 1988 and 1996 suggested that fatality rates per 100,000 people were similar for rural indigenous and urban indigenous residents, but that rural residents were more likely to have been hospitalised due to a crash. Although the Queensland data did not allow for direct urban/rural comparisons, a breakdown of casualty accidents by speed limit revealed that around half (54%) of all crashes occurred on roads with a limit of 60

km/h (ie. typically urban roads), and over one-quarter (29%) occurred on roads with a 100 km/h limit (ie. typically rural roads).

Queensland Data

Analysis of the Queensland Indigenous crash data for the period from 2000 to 2001 showed that the 30-39 year age group was over-represented in the road user casualties. A high proportion of crashes were single vehicle run-off road crashes (off path straight and off path curve) (40%) and pedestrian crashes (23%).

Northern Territory Data

Analysis of the Northern Territory Indigenous casualty crash data for the period from 1996 to 2001 showed that a high proportion of crashes involved a pedestrian (33%) or vehicle overturning (25%), with other single vehicle crashes accounting for a further 18%. Males were over-represented, making up 70% of the total number of casualties.

Some 36% of casualty crashes and 74% of fatal crashes were alcohol related. Where the data were recorded, the numbers of casualties wearing and not wearing restraints were similar. However, 54% of fatalities were not wearing a restraint compared to 8% wearing a restraint.

Western Australian Data

The Western Australian data for the period between 1988 and 1999 reported by Cercarelli (1999) and the Aboriginal Road Users Taskforce (2002) showed that Indigenous Males were over-represented in crash casualties, almost doubling the rate of female hospitalisations and almost tripling the rate of female fatalities.

Nearly half of the Indigenous people hospitalised as a result of a crash were either passengers (27%) or pedestrians (19%). Over three-quarters of the crashes that resulted in the hospitalisation or death of an indigenous person were 'Hit Pedestrian' (25% deaths, 30% hospitalisations), 'Hit Object' (19% deaths, 26% hospitalisations), or 'Non-Collision' (33% deaths, 24% hospitalisations).

Consultation

Consultation has been undertaken with road safety authorities and Indigenous organisations in each jurisdiction, and sought to identify:

- Indigenous crash data: availability, recording and reliability issues.
- Key road safety issues for Indigenous populations in each jurisdiction.
- Past, present and/or future road safety programs in place, including program details, implementation and evaluation.
- Past, present and/or future Indigenous road safety research.
- Gaps in Indigenous research.
- Promising initiatives to address Indigenous road safety issues.

Promising Initiatives

Initiatives that have been or are currently being undertaken in jurisdictions were identified during the consultation process. These include:

General Road Safety

- Aboriginal and Torres Strait Islander Road Safety Strategy: Remote Communities Project - Queensland Transport
- Kick a Goal for Road Safety Program – NT Department of Transport
- Aboriginal Road Safety Program – WA Police Road Safety Section and Office of Aboriginal Health
- Aboriginal Road Safety in the Kimberley Mass Media Campaign - RoadWise
- National Aboriginal Road Safety Video

Community Development Programs

- Injury Prevention through Community Development Initiatives in Central Australia project
- Community-based resource development - Queensland Transport Far Northern Region
- Community, Action Planning and Information Resource (CAPIR) – Queensland Transport

Licensing Programs

- Remote, isolated and Indigenous area driver licensing programs - Queensland Police
- Flexible licensing for prison inmates – Queensland Transport Northern Region
- Western Cape all age driver education – Queensland Transport Northern Region
- Remote Areas Driver Training Program – Northern Territory University

Alcohol

- Australian Alcohol Guidelines

Restraint Wearing

- Aboriginal Seat Belt Campaign – Transport SA
- Development of restraint wearing video – East Gippsland Aboriginal Co-op

Pedestrian Safety

- The Crossing Aboriginal Pedestrian Safety Project – RoadWise

Vehicle Purchasing and Condition of Vehicles

- Kooris and Cars project – RTA NSW and Department of Fair Trading
- Increasing knowledge of car roadworthiness – Queensland Transport
- Teaching car maintenance – Centre for Appropriate Technology, NT

Legislation

- Open load space legislation

Recommendations for Future Research and Priority Areas

Recommendations for future research and priority areas with regard to Indigenous road safety include:

1. Improve the quality of Indigenous road safety data: develop consistent and valid practices for identifying Indigenous status and establish accurate estimates of Indigenous populations. Geo-coding of crash sites and other location details to enable crash analyses to include spatial characteristics of the crash environment, providing a more complete description of the causal factors.
2. Research the historical and cultural factors influencing the beliefs and perceptions Indigenous people hold regarding health/injury, the acquisition of health knowledge, road safety and transportation.
3. Undertake formal evaluations of road safety initiatives undertaken at the local level.
4. Develop protocols for undertaking research in Indigenous communities.
5. Develop tailored education and community change strategies: community participation in developing road safety initiatives.
6. Facilitate empowerment to achieve improved road safety outcomes through road safety knowledge and training: increase knowledge of road safety issues in Indigenous communities, ie. through workshops. Facilitate more Indigenous people in road safety related positions.
7. Introduce and enforce restrictive legislation to address known risky practices.
8. Provide accessible licensing systems for offenders and remote communities: initiatives have already been undertaken in NSW, Queensland and NT.
9. Ensure a national co-ordinated approach to future research, with knowledge being distributed to all jurisdictions.

Sustained funding and government commitment will serve to promote the occurrence of many of the above-recommended actions but the development of a national Indigenous road safety strategy and large scale national initiatives is not necessarily appropriate to address Indigenous road safety.

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1 Introduction

1.1 Background

Indigenous Australians are over-represented in road fatalities by approximately 3.5 times². Until recently, there has been a lack of research in this area, and quantification of the road safety problem has been difficult due to poor reporting of crashes and complexities with the identification of Indigenous people.

1.1.1 Formation of the Aboriginal and Torres Strait Islander Road Safety Working Group

A meeting of representatives of transport agencies on the Austroads convened National Road Safety Strategy Panel was held in August 2001 to discuss Indigenous road safety. At this meeting it was decided to establish an Aboriginal and Torres Strait Islander Road Safety Working Group (ATSI RSWG).

At the inaugural meeting of the ATSI RSWG, held in November 2001, it was agreed that it was not necessarily appropriate to have large scale Indigenous road safety national initiatives, and the idea of a national Indigenous road safety strategy was not endorsed. However, the need for a 'scoping study' to identify current knowledge and resources, gaps in available information, and future research needs for Indigenous road safety was recognised. The Australian Transport Safety Bureau (ATSB) agreed to fund such a study. The outcomes from the study were expected to provide core information for the development and implementation of culturally sound solutions to Indigenous road safety problems in Australia.

1.2 This project

1.2.1 Project objectives and tasks

This scoping study investigates Indigenous road safety issues in rural and urban environments in Australia. The objectives of the project are to:

- Establish road safety trends and crash characteristics of Indigenous Australians.
- Identify previously conducted research into road safety issues relevant to Indigenous Australians.
- Identify gaps in current information and research associated with road safety and Indigenous Australians.
- Recommend areas for future research into road safety issues relevant to Indigenous groups.
- Identify promising initiatives to identified road safety problems.

The study has involved: (i) a comprehensive literature and research review; (ii) crash statistics analysis; and (iii) consultation with road safety authorities and Indigenous authorities in each jurisdiction.

² Brice G.A. (2000). *Australian Indigenous Road Safety*. Transport SA: Adelaide, SA.

The study also draws heavily on a recent review of Indigenous road safety in South Australia conducted by Brice (2000) and consultation with members of the ATSI Injury Prevention Action Committee (a subcommittee of the ATSI Working Group of the National Public Health Partnership).

1.2.2 Overview of methods

The method was broken into several parts, which are described below in general terms. Detailed accounts of the methods are given at the start of the corresponding sections of the report.

1.2.2.1 Literature Review and Internet Search

The first task was to undertake a comprehensive review of literature, and past and present research into road safety issues relevant to Indigenous people in Australia. Where possible planned research was also identified. The review drew upon recent work undertaken by Brice (2000) on Australian Indigenous road safety, which focused on South Australia.

1.2.2.2 Crash analysis

An analysis of crash statistics was undertaken to establish the magnitude of the road safety problem, trends and characteristics of crashes involving Indigenous Australians. The crash analysis focussed on both rural and urban crashes, and where possible aimed to:

- Identify nationally road safety trends over the past 5-10 years, and, depending on data availability, compare the trends across Australian jurisdictions.
- Identify characteristics of Indigenous Australians involved in road trauma (eg. age, sex,) for driver, pedestrian, motorcyclist, and bicyclist casualties.
- Identify types of crashes involving Indigenous Australians (eg. run off road crashes, pedestrians, etc.).
- Identify factors involved in the crashes (eg. alcohol, speed, non-use of restraints).

The crash analysis was limited by the availability of road crash data that identifies Indigenous casualties.

1.2.2.3 Consultation

Consultation has been undertaken with road safety authorities and Indigenous groups in each jurisdiction. The consultation sought to identify Indigenous road safety issues, current and planned research, gaps in knowledge, and road safety initiatives to address identified Indigenous road safety problems.

1.2.3 Project team

The project was undertaken by ARRB Transport Research Ltd (ARRB TR), who sub-contracted the Centre for Accident Research and Road Safety – Queensland (CARRS-Q) to carry out several key tasks.

ARRB Transport Research Ltd was responsible for managing the project, analysing the crash data, consulting with stakeholders from Victoria, Tasmania, South Australia and Western

Australia, and the final reporting to ATSB. CARRS-Q's role was to complete the literature review and consult with road safety authorities and stakeholders in Northern Territory, Queensland, New South Wales and the Australian Capital Territory.

2 Literature Review

In accordance with recent reviews of Indigenous road trauma (Brice, 2000; McFadden, McKie & Mwesigye, 2000), this literature review acknowledges the significance of Indigenous road trauma as a health issue and outlines the results of a systematic investigation of the characteristics of road crashes involving Indigenous populations. Firstly, the literature review outlines the review process and identifies data sources and limitations (Section 2.1). Secondly, the review highlights Indigenous road safety trends in Australia, focusing specifically on known risk factors such as alcohol-impairment and misuse, single-vehicle rollover crashes, overloading and roadworthiness of vehicles, pedestrian crashes, and non-compliance with seatbelt and restraint legislation (Section 2.2). Following this detailed review, priority research and intervention areas for Indigenous road safety are identified. The review draws heavily on the recommendations of the recent Brice (2000) report and cites examples of successful Indigenous interventions to provide guidelines for the development of Indigenous-specific road safety countermeasures. It acknowledges the importance of following a community capacity building and engagement process when working with Indigenous communities and embracing Indigenous perspectives on health/injury and the acquisition of health knowledge (Section 2.3). A summary and future directions for Indigenous road safety policy development conclude the review (Section 2.4).

2.1 Review Process and Data Sources

This section emphasizes the importance of having accurate data on Indigenous injury rates to provide policy-makers with sound knowledge on risk factors and priority areas for interventions and research. Inherent in this discussion are recommendations to improve data consistency and linkages and methods of estimating Indigenous populations. A more accurate denominator will inevitably lead to better estimates of comparative crash risk, thus highlighting road safety problems in which Indigenous people are over-represented.

2.1.1 Key data sources

The literature review brought together data from a variety of sources, including:

- An internet search of Indigenous health and transport-related databases (ie. Australian Transport Index, Road Research in Australia, etc.) and relevant academic literature. Some of the key academic journals included: Accident Analysis and Prevention; Injury Prevention; and the Journal of Traffic Medicine.
- Preliminary findings of the Parliamentary Travelsafe (2000-2001) inquiry into 'Rural Road Safety in Queensland'.
- National and state crash trends extracted from the Australian Transport Safety Bureau (ATSB) injury and fatality files.

- Government reports regarding road safety policy and the broader health status of Indigenous populations.
- Recent reviews of Indigenous road safety initiatives and policy (eg. Brice, 2000; McFadden et al., 2000).

2.1.2 Limited focus of previous Indigenous road safety research

Although road crashes constitute one of the main causes of death among Indigenous Australians, the literature pertaining to Indigenous road trauma is very under-developed, primarily due to data limitations and difficulties estimating Indigenous populations. National estimates of the incidence of Indigenous road trauma are derived solely from Western Australian, Northern Territory, and South Australian data (Brice, 2000; McFadden et al., 2000).

Prior to 1988, Indigenous road trauma was only reported briefly in reports pertaining to either: mortality in general (Hicks, 1985; Gray, 1993; Veroni et al., 1994; cited in Brice, 2000); substance use (Brady & Palmer, 1984; cited in Brice, 2000); qualitative studies of alcohol abuse (Brady, 1995; cited in Brice, 2000); or brief road safety reports (Herbert, 1980; cited in Brice, 2000). Brice (2000) reports that, until a few years ago, detailed studies were not conducted outside WA and NT because they were the only jurisdictions to identify 'Indigenous status' in road crash statistics before 1996 (Rae, 1995).

With regard to interventions, most community-based Indigenous road safety programs have focused on alcohol abuse (Howat et al., 2001; Watson et al., 1997), probably due to its presence as a major risk factor, to reduce the number of alcohol-related road crashes. However, the impact of alcohol harm minimisation on road trauma remains unclear (Brice, 2000). In contrast, interventions designed to increase compliance with restraint use (Robinson et al., 1999) and open load-space legislation (Mabbott, 1999) have been minimal. Furthermore, irrespective of the content or focus of individual initiatives, very few Indigenous road safety programs are informed by local Indigenous knowledge or systematic research with Indigenous groups (Brice, 2000). Together, these shortcomings have contributed to the relative ineffectiveness of Indigenous road safety strategies and policies.

2.1.3 Data limitations

2.1.3.1 Data availability, consistency and linkage difficulties

One of the major problems plaguing road safety research has been the availability of appropriate and consistent data from which to draw meaningful conclusions about risk factors facing Indigenous populations, particularly in rural and remote areas. For example, hospital and health data have been shown to be more accurate than police and transport data for ascertaining visits to hospital accident and emergency departments and subsequent hospital admissions after road crashes (Cercarelli et al., 1994). Traditionally, with the exception of Western Australia, health, transport and police data systems have not been linked, so details connecting injury outcome and the crash-related cause are not easy to extract (Moller & Cantwell, 1999). Cameron and Oxley (1995) recommended combining existing data in police, ambulance and hospital databases for greater accuracy. Based on the Western Australian experience, database linkages have the potential to greatly increase the quality and consistency of road crash data.

“Linked police, hospital and death records of road crash casualties provide accurate outcome information for casualties in crashes reported to the police. In addition, estimates of under reporting of different road user groups ... (eg. Indigenous populations)... can be made by comparing hospital records with and without a matching police record” (Rosman, 2001, p.81).

The Queensland Chapter of the Australian College of Road Safety is currently examining ways to link Queensland Ambulance Service (QAS), Queensland Health, Queensland Injury Surveillance Unit (QISU), Queensland Police Service (QPS), Motor Accident Insurance Commission (MAIC) and Queensland Transport databases to provide road safety professionals with a more holistic picture of road trauma in the state.

Cameron and Oxley (1995) also called for the inclusion of certain critical variables in health and police (traffic incident) reporting systems, such as age, sex, Indigenous status, type of crash, nature of the injuries sustained and treatment received. After comparing different methods of computer-matching hospital data to police records, Rosman (1995) concluded that the casualty surname was the optimal identifier for matching records from different sources. Links to vehicle manufacturer records (ie. Vehicle Identification Numbers) would also allow injuries to be correlated with specific equipment fitted to individual vehicles and could provide valuable insight into vehicular factors contributing to both the incidence and severity of rural and remote crashes, including those involving Indigenous persons (Cameron & Oxley, 1995).

2.1.3.2 Problems with classifying and defining Indigenous status

The problems associated with cross-referencing or linking data from different sources are further exacerbated by the lack of a standard definition of Indigenous status. While it appears conceptually simple to differentiate between Indigenous and non-Indigenous populations, there are virtually no tools available to accurately classify Indigenous status. Classification of individuals as Indigenous or non-Indigenous is typically determined through self-report means with definitions broadly including: (i) persons of Aboriginal and Torres Strait Islander descent; (ii) persons who identify as Indigenous; and (iii) persons who are accepted as such by the community in which they live (Office of Economic and Statistical Research, 2002).

2.1.3.3 Critical analysis of official population statistics (Census data)

Estimates of Indigenous populations are based on Census data, estimated resident populations, or ABS experimental population projections. However, the accuracy of these data sources is questionable (especially at the small area level) and, as such, estimates must be treated with caution (Benham, 1993; Benham & Howe, 1994; Gray & Tetfaghiorghis, 1993). Moller (1996), for example, argued that Census figures clearly underestimate the Indigenous population as evidenced by post enumeration surveys.

More recently, the Office of Economic and Statistical Research (OESR, 2002) showed that Census data are subject to much fluctuation. Based on Census counts, there was a 33% increase in the number of Indigenous Australians in 1996 compared to 1991. OESR (2002) reports that just over half of this increase can be explained by: births and deaths; migration; changes in transmission rate (ie. more intercultural marriages); and Census edits. However, the remaining difference is not related to changes in demographic profile and reflects an increase in “propensity to identify as Indigenous”. The OESR (2002) reported that based on Census data there was a 3.3% increase in propensity to identify as Indigenous Australia-wide between 1991

and 1996 although, increases were not uniform throughout the nation. The increase in persons identifying themselves as Indigenous were: New South Wales (+5.2%); Victoria (+2.4%); Queensland (+3.3%); South Australia (+2.2%); Western Australia (+2.0%); Tasmania (+7.5%); Northern Territory (+0.8%); and Australian Capital Territory (+6.9%).

With increasing transmission rates, the variation in the propensity to identify across collections and time is likely to increase. As a result, Moller (1996) and the OESR (2002) have urged government and Indigenous injury prevention policy-makers to view official ABS population statistics critically, especially if used at a small area level, and cross-check with other sources where possible.

2.1.3.4 *Shortcomings of health data and injury classification systems*

Concerns regarding the validity and overall reliability of hospitalisation separation and health data for Indigenous populations have also received much attention (Brice, 2000; McClure, 1995; Moller, Dolinis & Cripps, 1996; Tiong, 1997).

“Several validation studies have shown that Aboriginal and Torres Strait Islander peoples are often significantly under enumerated in health related data collections and that the extent of under enumeration varies between State and Territories, regions, even between different hospitals ...”
(Woodward & Bhatia, 1996; cited in Moller, Dolinis & Cripps, 1996, p.6).

Even a carefully planned National assessment conducted by the ABS (AHMAC & AIHW, 1999) found variations in accuracy ranging between 55% and 100%. McClure (1995), in particular, pointed out the inadequacies of hospital data. He warned against using it to extrapolate community estimates of injury because in practice many Indigenous crashes occurring in rural and remote areas are attended by paraprofessionals, general practitioners, Indigenous health workers, the Flying Doctor Service or friends/relatives, as opposed to dedicated hospital staff.

Harrison and colleagues (2001) also highlighted the shortcomings of current injury classifications systems used by hospitals. The tenth revision of the International Classification of Diseases (ICD-10) provides several hundred injury categories relating to land transport which describe: the mode of transport; road user status (ie. driver, passenger, etc.); and crash circumstances (National Centre for Classification in Health, 1998). However, the categories provided are not particularly relevant to transport injury affecting Indigenous Australians. Notable examples include injuries sustained by persons travelling in the open load-space of trucks/utilities and cases involving overloaded vehicles (Brice, 2000). This criticism was illustrated by a recent review of South Australian Indigenous road crash hospitalisations. Of the 551 cases, Tiong (1997) reported that: 22 percent (n = 121) had unspecified “user types”; and 36 percent (n = 200) of hospitalisations could not be identified by “crash type” (eg. loss of control, roll-over, collision with pedestrian, etc.).

2.1.3.5 *Measuring trends: Improving Indigenous population estimates*

The problems associated with injury data and estimating the Indigenous population subsequently impact upon the ability to measure road crash injury trends. In a personal communication, Professor James Henderson (1999; cited in Brice, 2000) commented that:

“(Data) ... may not be good enough to show whether (the problem) is increasing or decreasing. Changes in crash counts may be due to changes in recognition of people as Indigenous in the Coroner and Deaths registration systems as well as because of true changes in incidence. Rates may be distorted for the same reasons, and also due to problems with population estimates (incomplete and/or changing recognition of people as Indigenous)” (p.14).

In simple mathematical terms, Indigenous crash rates are determined by dividing the number of crashes involving Indigenous people (numerator) into the total Indigenous population (denominator). Therefore, any increase/decrease in the denominator or numerator (which are subject to great fluctuation due to underreporting and propensity to identify) will affect trends significantly. As a result, it is extremely difficult to accurately assess real trends in road crash injury rates for Indigenous Australians.

In response to this problem, the Office of Economic and Statistical Research and CARRS-Q have examined the feasibility of developing and trialing an alternative method for estimating Indigenous populations at the small area level. The new formula to estimate Indigenous populations (shown below) addresses key criticisms of ABS population statistics including: timeliness; the ‘usual residence concept’ (ie. Indigenous residents staying elsewhere on Census night); underreporting of infants and young children; and mobility/migration at the local level due to seasonal variation. Unlike Census data collected five yearly, the estimation tool will draw on “live” databases making it possible to deduce an approximate population at any point in time. Estimates will then be statistically adjusted to reflect changes in transmission rates and a population’s propensity to identify across collections and time.

Equation to estimate the Indigenous population: $P_{t+I} = P_t + B_t - D_t + NM_t$

Where:

P_{t+I} is the population we are estimating

P_t is a previously ‘known population’ (based on Census data – ‘usual residence’)

B_t is births occurring between t and $t+I$

D_t is deaths occurring between t and $t+I$

NM_t is net migration between t and $t+I$

The formula is soon to be trialed in the Cape York region as part of the ongoing Cape York Justice Study (Bell & Taylor, 2001) with inputs including: perinatal data (0-1 year age group); Education Queensland school enrolment data (6-12 year olds); Centrelink data (births via Maternity Allowance and Abstudy/Youth Allowance records); and the ‘well persons health check’ monitored by Queensland Health. Comparisons between the new estimate and official population statistics will obviously be made. The transferability of this estimation tool remains unclear. However, at the small area level, it has the potential to provide better estimates of Indigenous populations (denominator), thus increasing the accuracy of risk assessments and crash trend analyses. This, in turn, should highlight priority areas, inform policy development, and guide the distribution of Indigenous road safety funding and resources. The theme of data improvements is revisited in *Section 4.1.1*.

2.2 Indigenous Road Trauma: Overview of the Problem

The profile of road trauma among Indigenous populations vastly differs from mainstream road crash trends (Cercarelli, 1999; Cercarelli et al., 2000; Garrow, 1997; Harrison et al., 2001). Firstly, this section draws on available data to demonstrate the increased crash risk faced by the Indigenous population. Secondly, it profiles the characteristics of crashes involving Indigenous people compared to other road users to examine causality.

2.2.1 Comparative crash risk of Indigenous Australians

In general, morbidity and mortality rates of Indigenous Australians are significantly higher than in the non-Indigenous population (AIHW, 1998; Harrison & Moller, 1994; Moller, 1996; Mooney, Wiseman & Jan, 1998; Ring & Firman, 1998). Anecdotally, this health differential would seem to reflect the large proportion of Indigenous Australians living in rural and remote areas of Australia. While this might be the case in highly remote areas, Harrison et al. (2001) argue that the Indigenous population is not large enough in metropolitan and rural zones to affect the health differential. The AIHW report (1998) states clearly that "... *the proportion of Indigenous people is not high enough in the rural zone to have an impact on differences in health status between people living in metropolitan and rural zones* ..." (AIHW, 1998, p.ix). Furthermore, the Indigenous population across all rural and remote areas has higher mortality and hospitalisation rates than the non-Indigenous population (AIHW, 1998). From this, it can be assumed that patterns of Indigenous road trauma are a product of lifestyle, cultural and behavioural factors as well as environment. For a more detailed review of the impact of the rural environment on road safety outcomes for both Indigenous and non-Indigenous Australians see Edmonston, Dwyer and Sheehan (2002, in press).

Like in other health domains, Indigenous Australians are recognised as a high-risk road user group (Titulaer & Bhatia, 1997; cited in AIHW, 1998). Data limitations aside, there is a large body of evidence to suggest that the road fatality rate of the Indigenous population is 2½-3 times higher than that of the non-Indigenous population (Cercarelli, 1997; Harrison et al., 2001; Moller, 1996; Moller et al., 1996). Moreover, road crash-related hospitalisation rates have been shown to be about 1½ times higher for the Indigenous population in South Australia than for the non-Indigenous population (Brice, 2000).

2.2.1.1 ATSB report: Estimating road trauma in the Australian Indigenous population

Using available Indigenous road fatality data (from Western Australia, South Australia and the Northern Territory) and ABS estimates of Indigenous populations for all States and Territories, McFadden et al. (2000) estimated the comparative Indigenous road toll Australia-wide. Two estimation methods were employed: (i) a simple pro-rata method; and (ii) a (preferred) method taking into account potential differences in fatality rates between States and Territories.

"Using the second method it is estimated that in 1997 there were 31 Indigenous deaths per 100,000 population. This is three times the estimate for the non-Indigenous population (10 deaths per 100,000 population). The simple pro-rata method results in a slightly higher estimate of Indigenous deaths (35 deaths per 100,000 population)" (McFadden et al., 2000, p1).

A further examination of road crash data from the three abovementioned jurisdictions for the period 1994-1997, revealed that road crashes accounted for 1.7% of all deaths, but 5.6% of all

Indigenous deaths. This figure was comparable to other major causes of death among the Indigenous population, such as diabetes (6.7%) and stroke (6.3%) (Brice, 2000; McFadden et al., 2000).

While the ATSB report provides a valuable synthesis of ABS and Indigenous road crash data, the authors acknowledged that inconsistency in the definition and identification of Indigenous Australians is almost certain to have resulted in underestimations of true death rates in Western Australia, Northern Territory and South Australia. Consequently, the extrapolation of these rates to the rest of Australia does not allow for localised differences in risk factors and mortality patterns in other jurisdictions.

2.2.1.2 Interrogation of the Western Australian Road Injury Database

The Western Australian Road Injury Database was set up in 1987 and houses accurate information about road crash injuries. The database achieves this through the ongoing linkage of crash details from police incident reports with injury and casualty details contained in hospital and Coronial records (Rosman, 2001). Western Australia is the only Australian jurisdiction which has such linkages.

These linkages enable the Road Accident Prevention Research Unit (University of Western Australia) to examine patterns of crash involvement by Indigenous people because Indigenous status is documented on hospital records. Cercarelli (1997) examined Western Australian road crashes which occurred from 1988 to 1994 and found that Indigenous people are highly over represented in hospitalisation rates in rural and remote areas, especially as a result of single-vehicle and pedestrian crashes. During the study period, approximately one in every 3,000 non-Indigenous road users was hospitalised, compared with about one in every 1,000 Indigenous road users.

A more recent report by the Road Accident Prevention Research Unit (Cercarelli, 1999) citing data between 1988 and 1996 showed: (i) the fatality rate for Indigenous Western Australians (at 34.7 per 100,000 population) to be 2.5 times higher than that for non-Indigenous; and (ii) the hospitalisation rate for Indigenous Western Australians to be 679.8 per 100,000 population, almost 3 times higher than for non-Indigenous Western Australians. Cercarelli (1999) added that Indigenous people accounted for 7% of road injury-related hospital separations between 1988 and 1996, but only represented 3% of the population during that time.

Once again, Rosman (2001) acknowledged the problems associated with the Indigenous population. However, the linkage process required to develop and maintain the Western Australian Road Injury Database has provided road safety researchers and practitioners with “ *a much better understanding of the problems of underreporting and misclassification and widespread acceptance ... of the benefits of linking all available information about road crashes and their consequences*” (p.87).

2.2.2 High-risk modes of transport

The two most common types of crashes involving Indigenous people are single-vehicle crashes (as passengers) on remote roads and crashes involving pedestrians both in and out of towns (Cercarelli, 1994; Cercarelli, 1997; Harrison et al., 2001). For example, Indigenous Australians comprise 22.4% of the Northern Territory population, but were involved in 53% of the 108 fatal

vehicular rollovers in the Northern Territory in the five-year period from 1987 to 1991 (Rae, 1995).

In an interrogation of the Western Australian Road Injury Database, Cercarelli (1999) reported that the highest proportion of fatal crashes involving Indigenous Western Australians were as a result of 'hit pedestrian injuries' (24.6%) and 'non-collisions' (33.1%). The 1999 reported road crash data for Western Australia revealed that 21% of non-Indigenous people hospitalised were passengers in a vehicle while just over 29% were drivers. For Indigenous road users, 38% were passengers and 13% were drivers (Kirov et al., 2000). These crashes are generally characterized by alcohol involvement, over-loaded vehicles, and lack of use of seatbelts (AIHW, 1998; Brownlow, 1998; Williams & Maisey, 1991).

Moller et al. (1996) provided a comparison of Indigenous and non-Indigenous road transport injury hospitalisations for 1991/92. Once again, Indigenous Australians were more likely to be injured as pedestrians and motor vehicle passengers and less likely to be hospitalised as drivers or motorcyclists (see Table 1).

Table 1: Comparison of Indigenous and non-Indigenous road transport hospitalizations, Australia (except NT), 1991/92

Mode of Transport	Indigenous persons	Non-Indigenous persons	Ratio of age-adjusted Indigenous persons to non-Indigenous persons
	<i>Age-adjusted rate per 100,000 population</i>	<i>Age-adjusted rate per 100,000 population</i>	
Motor vehicle driver	40	53	0.7
Motor vehicle passenger	77	40	1.9
Motorcyclist	26	44	0.6
Pedal cyclist	33	31	1.1
Pedestrian	69	25	2.7

Source: Moller, Dolinis & Cripps (1996).

2.2.3 Behavioural risk factors

In an attempt to identify the causal factors underpinning the over-involvement of Indigenous populations in road trauma, Brice (2000) examined Colonial records in South Australia in the 1990's and "... discovered that alcohol intoxication together with night-time occurrence (in the case of pedestrian deaths), and alcohol intoxication of drivers together with the lack of use of seat restraints (in the case of other crash fatalities), accounted for the majority of deaths ... Indeed, the results of this investigation were startling as over 60% of non-pedestrian fatalities resulted from 'no restraint – deceased ejected' type crashes – some at low speed" (p.vi).

Williams and Maisey (1991) conducted statistical and spatial examinations of Indigenous and non-Indigenous road crashes in Western Australia through the 1980's. During this time, 177 Indigenous Australians were killed in road crashes in WA at a rate of 47 deaths per 10,000 people, compared with a non-Indigenous fatality rate of 16 per 10,000 people. These authors identified the major risk factors as:

- non-compliance with road laws, such as drink driving
- non-wearing of seatbelts or restraints
- overcrowding and illegal seating positions in vehicles
- road quality and inappropriate speed, especially in rural areas
- carelessness with regard to general road safety practices, especially by intoxicated pedestrians

The significance of these behavioural factors as contributors to Indigenous road trauma, combined with vehicular characteristics and the rural environment, are discussed below.

2.2.3.1 *Increased levels of alcohol consumption*

The effects of alcohol on road safety are well documented (Evans, 1990) and there is a large body of Australian data (Alati, Peterson & Rice, 2000; Brice, 2000; Brownlow, 1998; Harrison et al., 2001) demonstrating a strong link between alcohol consumption levels and Indigenous road trauma. Rae (1995, p.77), for example, noted that alcohol is "*a major factor in many aboriginal fatalities*" and underpins a large proportion of fatal single-vehicle rollover incidents and pedestrian fatalities in the Northern Territory.

Not surprisingly, high levels of blood alcohol concentration are usually involved in pedestrian crashes. The investigations of Western Australian Indigenous road fatalities (Cercarelli, 1994; Williams & Maisey, 1991) revealed that the majority of pedestrians killed were intoxicated, with two-thirds having a Blood Alcohol Concentration (BAC) of 0.15% to 0.29%. A further 20 percent registered a BAC in excess of 0.30%. Similarly, the Northern Territory Road Safety Council (1990; cited in Brice, 2000) reported that during 1985-1989 more than four out of every five (82%) Indigenous pedestrian fatalities had a BAC level greater than 0.15%. Even more alarming was the fact that 13 of the 38 pedestrian fatalities in the five-year period from 1987 to 1991 in the Northern Territory occurred when the person was run over while asleep upon a roadway (Rae, 1995). The extent to which 'problem drinking' reflects broader social issues (Alati et al., 2000; Brice, 2000; Kunitz & Levy, 1994) and the subsequent implications for intervention development are discussed in *Section 2.3.2*.

2.2.3.2 *Overloading and non-compliance with seatbelt/restraint legislation*

The over representation of Indigenous Australians in passenger crashes reflects issues such as overcrowding of vehicles and non-compliance with seatbelt/restraint regulations, including riding in the open load-space of vehicles (Road Safety Council of Western Australia, 2000). Based on the Western Australian studies carried out by Williams and Maisey (1991) and Cercarelli (1994), Brice (2000) concluded that "... *only 11% of Indigenous fatalities had correctly used protective devices (such as seatbelts and helmets) and this fell to just 7% in*

remote regions, compared with over 50% of all non-Indigenous fatalities” (p.31). Kirov et al. (2000) and Tiong (1997) reported that Indigenous children (11%) are more than twice as likely to be involved in a serious casualty crash than other children (4%) and, more often than not, the injury is the result of not wearing a seatbelt or restraint. The South Australian experience was similar with 16 of the 27 fatal crashes (59%) between 1990 and 1998 involving at least one fatality where seatbelts were not worn and the deceased was ejected from the vehicle (Brice, 2000).

Garrow (1997) pointed out that passengers riding in the open load-space (OLS) of utility trucks comprised 18% of fatalities in road crashes in the remote north (Kimberley region) of Western Australia. *“Aboriginal people comprised 86.7% of the Kimberly OLS fatalities and 64% of the total motor vehicle crash fatalities in the Kimberley from 1990-97 for whom race was known”* (Garrow, 1999, p.341). The reduction of OLS passenger fatalities and injuries has since become a road safety priority for Western Australia, however limitations with the state crash database have made it difficult to draw a sound comparison of the relative risks facing Indigenous people in this context. Legislative reform with regard to OLS restrictions in both Western Australia and Northern Territory is discussed in more detail in *Section 4.2.6*.

2.2.3.3 *Unlicensed driving*

The limited data recorded on the involvement of Indigenous persons in motor vehicle offences suggests that Indigenous people are over represented in driving offences, particularly unlicensed driving. Of the 5,937 receptions into Western Australian prisons in 1999, Buxton et al. (2000) report that the most frequent reason (17.5%) was for driving offences. Significantly, 53.3% ($n = 556$) of the ‘driving offence’ category were Indigenous persons and the two most common index offences were drink driving and unlicensed driving. Even with a smaller base population, 54 (11.9%) of the 453 people in prisons in NSW in 1997 for driving or traffic offences were Indigenous and, once again, drink driving and unlicensed driving figured predominantly (New South Wales Bureau of Crime Statistics, 1999). Community-based programs implemented in NSW and Queensland to increase licensing rates among Indigenous populations are examined in *Section 4.2.7*.

Following a two-year qualitative research study in Queensland, Dawes (2000) identified car theft in order to joyride (stealing cars for short-term transport or for non-utilitarian purposes) as a major problem among young people, particularly those from low socio-economic backgrounds, such as Indigenous and rural youth with limited access to public transport. This research provided recommendations and intervention strategies to reduce joyriding by addressing the issues of marginalisation and exclusion from public places (*see Section 4.2.7*).

2.2.4 **Environment risk factors**

According to Cercarelli et al. (2000), about 70% of Indigenous Australians live in non-metropolitan areas and are therefore exposed to numerous cultural and environmental risk factors specific to rural and remote Australia. These include: increased exposure through greater distances travelled; higher speed limits and poorer road quality, often unsealed; increased diversity in types of vehicles; and delays in retrieval and accessing medical treatment and rehabilitation (AIHW, 1998; Armour & Cinquegrana, 1990; Cercarelli, 1994; Harrison et al., 2001; Hasson, 1999; Honor, 1995; Moller, 1995; Pettitt et al., 1994; Ryan et al., 1988; Ryan et al., 1992).

The role of the environment as a contributor to Indigenous road trauma was demonstrated by Williams and Maisey (1991). Of the Indigenous road fatalities in Western Australia through the 1980s, nearly three-quarters (73%) occurred outside townships and “... seven out of every ten fatal Indigenous crashes took place in ‘remote’ regions despite only approximately one-quarter living there” (Williams & Maisey, 1991; cited in Brice, 2000, p.30). Garrow (1997) noted that these figures often fail to recognise the extent of off-road travel and its dangers, simply because statistics are not collected for crashes occurring on ungazetted roads. As Indigenous communities are heavily reliant on off-road travel, it could be assumed that a sizeable proportion of their crashes go unreported.

Geo-coding of crash sites and other location details would enable crash analyses to include spatial characteristics of the crash environment and is subsequently recommended as method for improving the quality of both Indigenous data and rural road crash data in general (see Section 2.3.2.1).

2.2.5 Vehicular risk factors

The contribution of vehicle characteristics to the incidence and severity of Indigenous road crashes remains unclear. However, there is evidence to suggest that vehicle choice and defects are a major contributor to rural and remote road trauma (Hasson, 1999; Pettitt et al., 1994; Ryan et al., 1998).

As previously mentioned, a substantial proportion of the Indigenous population reside in rural and remote areas and therefore rely more than most Australians on motorised transport. As such, they are more reliant on transportation to access goods and services. Despite having to travel greater distances on poorer roads than their city counterparts, socio-economic status dictates that rural residents usually have older vehicles (Elkington, 1999a; 1999b).

Lower vehicle ownership rates are also likely to contribute to the incidence of Indigenous road accident casualties. Based on 1996 Census data, Radford et al. (1999) indicated that Indigenous people average one vehicle per household compared with 1.4 per non-Indigenous household. So, faced with the task of travelling long distances to meet daily needs, Indigenous persons often overstep carriage recommendations and drive older (often unroadworthy) vehicles. As a result, Indigenous Australians are typically injured as passengers in rural areas, often overloaded in inappropriate vehicles for the situation, such as the open load-space of trucks and utes (Ryan et al., 1998).

The poorer condition of many roads in remote areas may also damage vehicles to a degree (Cercarelli et al., 2000) and Chew et al. (1998) reports that vehicles driven in rural areas are often improperly maintained. Low levels of vehicle maintenance by rural Indigenous drivers are likely to reflect the socio-economic circumstances of the vehicle owner/driver, and possibly a lack of knowledge.

2.2.6 Post-crash risk factors

“Greater distance from and reduced access to emergency health services are also likely to contribute to mortality due to road injury in remote ... (Indigenous)... populations” (Harrison et al., 2001, p.50).

The treatment of persons involved in a road crash involves many levels of care ranging from first-aid and emergency response and mobilisation, right through to rehabilitation. The large proportion of Indigenous Australians living in rural and remote areas (Cercarelli, 1994; Cercarelli et al., 2000) poses obvious retrieval and trauma management problems in the event of a crash (OECD, 1999). The delayed crash notification period (Brodsky, 1990; Stewart, 1990) is further exacerbated by slower emergency response and retrieval times following rural crashes (Brodsky, 1990; Evanco, 1999; National Road Trauma Advisory Council, 1993).

In contrast, the effect of health care and rehabilitation on the subsequent recovery of Indigenous people injured in road crashes remains unclear as hospital staff are not always the primary caregiver. In many cases road trauma injuries are treated at remote Indigenous clinics and/or community controlled health services, only some of which have their own resident doctors. In South Australia, Brice (2000) suggests that only critical cases would be evacuated to a major hospital (see Nganampa Health Council 1997). As community-based health information is patchy at best, only tentative conclusions regarding Indigenous rehabilitation and health outcomes can be drawn.

Harrison et al. (2001) argued that more accurate information on the extent of Indigenous road injuries and their characteristics, as well as rehabilitation outcomes, could be obtained by examining more local and regional data sources. These sources are generally not published and include: intervention program records; local hospital records as opposed to state records; clinic records; and special one-off studies and collections. Additionally, secondary data sources such as those listed below could prove useful:

- *Australia' Health* periodical - Medline
- *Australian Indigenous HealthInfoNet* - www.healthinfonet.ecu.edu.au
- *Aboriginal and Torres Strait Islander Health Bulletin* - published by the Commonwealth Department of Health and Aged Care's Office for Aboriginal and Torres Strait Islander Health
- *Australian Injury Prevention Database* - www.sph.uq.edu.au/ipg/aipd
- *Australian Indigenous Health Promotion Network* - www.health.usyd.edu.au/achp/aihpn.html
- National Drug Research Institute's *Indigenous Australian Alcohol and Other Drug Databases* - www.db.ndri.curtin.edu.au

There is a growing body of evidence, however, to suggest that Indigenous people in rural areas are reluctant to utilise organised health care services even when they are available. Some of the generic barriers to utilising health care services in rural areas include: cost; lack of insurance coverage; travel distance to services; transportation problems; difficulty in taking time off work; traditional rural values, such as self-reliance; reduced referrals; and a lack of knowledge about the potential benefits of specialised medical care (Casey et al., 2001; Schur & Franco, 1999; Strickland & Strickland, 1996). In addition, there are a number of historical and cultural factors influencing the beliefs and perceptions about health and injury treatment held by Indigenous persons (ATSIWG, 2002). Harrison et al. (2001, p.71) identified "*rehabilitation and long term effects of injury*" and "*future patterns of health burden*" as priority areas when examining Indigenous road trauma. The importance of understanding Indigenous perspectives on health and the acquisition of health knowledge as an initial step in intervention development is stressed in *Section 2.3.2.2*.

2.3 Research and Intervention Priority Areas

While there have been numerous efforts at a community level to implement road safety interventions specific to Indigenous populations, formal evaluations of such initiatives are highly uncommon. As such, this section draws heavily on the recommendations of the recent Brice (2000) report and cites examples of successful Indigenous interventions to provide guidelines for the development of Indigenous-specific road safety countermeasures. The consultation component of the project expands on this section by providing a comprehensive discussion of unpublished (and unevaluated) road safety initiatives in individual Indigenous communities around Australia.

The recommendations provided in this section complement a review of rural road safety presently being conducted by ARRB TR for Austroads. Its scope was much broader as it cited the potential of innovative strategies utilising: community engagement and capacity building (encouragement); targeted education; enforcement regimes; vehicle design and infrastructure management (engineering); intelligent transport systems (ITS) and emergency trauma systems to increase road safety for both Indigenous and non-Indigenous populations in rural and remote Australia.

2.3.1 Recommendations of the Brice (2000) review

According to Moller and Cantwell (1999), there needs to be increased resources channelled into identifying unique road safety problems in Indigenous communities and harnessing their local knowledge to develop culturally-appropriate interventions. These suggestions were recently highlighted by leading researchers in the area of Indigenous road safety in both South Australia (Brice, 2000) and Western Australia (Cercarelli et al., 2000). Brice's (2000) suggestions are particularly compelling because they are based on both national and international literature on Indigenous road safety and countermeasures. The report includes 18 recommendations covering improvement of information availability and quality, potential collaboration between government and Indigenous community sectors, community-based initiatives and research strategies. While the recommendations listed specifically refer to South Australia, some could have national applicability. The South Australian government has not implemented any of the recommendations to date. Transport SA see the report as an information tool, to inform the SA government as to the status of Indigenous road safety throughout Australia.

Brice's recommendations were supported by a number of successful examples of Indigenous interventions highlighting the importance of social context and values. For example, in Navajo Nation (USA), Sexton (1996; cited in Brice, 2000) reported that in the early 1980's less than 5% of drivers and passengers wore seatbelts. However, in 1988, the Navajo Nation Tribal Council modified its motor vehicle safety code to require all motor vehicle occupants to use seatbelts and infant car seats for children of appropriate ages. An extensive public health information and advertising campaign was sponsored by Government to strictly enforce the new tribal law. The results were impressive. *"By 1992, seatbelt use had increased dramatically to almost 70% and motor vehicle collisions requiring hospitalisation fell by greater than 25% since 1988"* (Sexton, 1996; cited in Brice, p.51). Similar success was achieved by the Whariki Maori research team's *'Uru Atu: Community Action to Reduce Alcohol Related Traffic Injury Among Maori'* (www.aphru.ac.nz/whariki/default.htm). The intersectoral three-year collaborative project targeted Maori males 20-30 years and raised awareness of, and support for, culturally viable strategies to reduce drunkenness in public and strategies complementing compulsory breath testing (Brice, 2000). *"The importance of Maori as providers of the program, both as deliverers*

and as the umbrella organisation, heightened the acceptability and effectiveness of the message. It was perceived to reflect the community. 'Street credibility' was vital to this acceptance" (p.54).

Brice's recommendations are reproduced in the following pages in Table 2.

Table 2: Brice's recommendations.

No	RECOMMENDATION
1	<p><i>Reporting Indigenous Status - accuracy</i></p> <p>The system of reporting on road accidents in South Australia be reviewed with regard to the reporting of Indigenous status to improve all road crash data.</p> <p>That this be done also to take full advantage of the new National Coronial data system. Further that the limitations of the 'scope' of the types/locations of accidents that feed into official Motor Vehicle statistics, be reviewed, eg access roads crashes on Aboriginal Lands, and the like.</p>
2	<p><i>Indigenous Status - consistency.</i></p> <p>That in South Australia at least, further consideration be given to ways to improve the accuracy of the recording of Indigenous status along the 'chain of evidence' from the road crash site, to (in the case of fatal incidents) post mortem, to Coronial Summary (which should have a mandatory field to record Aboriginality), and official notification of death.</p>
3	<p><i>Reporting - methodology.</i></p> <p>The system of reporting on road accidents in South Australia be reviewed with regard to improving the quality of crash data through the possible inclusion of a narrative about how the incident is believed to have taken place.</p> <p>Although the pressures upon police at crash scenes must be acknowledged, consideration should also be given to the costs and benefits of recording key details such as occupant positions, the wearing of seat restraints, the colour of pedestrian clothing, whether the person (pedestrian or driver) was alone at the time of the incident, and their employment status. Further, that any evaluation of existing systems used to record crash data in SA take in to account comparison with systems in place in countries with significant Indigenous populations such as NZ, Canada, and USA.</p>
4	<p><i>Cross-cultural training.</i></p> <p>That culturally sensitive issues such as traditional Indigenous conceptions of, and attitudes to, death and dying be incorporated in training of road crash investigative teams, Coronial staff, and police in remote areas wherever possible, and that Indigenous leaders/elders be invited to contribute advice, information, and tutorship in that regard.</p>

Table 2: Brice's recommendations (Continued).

5	<p>That formal <i>links</i> be established between any new South Australian Indigenous road safety strategy and bodies such as Roadwatch WA, University of Western Australia, and the Research Centre for Injury Studies together with other interstate strategies with an Indigenous orientation.</p> <p>Further, that Transport SA enter into a formal cooperative arrangement such as a 'memorandum of understanding' with the Aboriginal Health Council (AHCSA) and the Aboriginal Drug and Alcohol Council (ADAC) to advance injury prevention initiatives in South Australia, and that resources be directed to assist that process.</p>
6	<p><i>Review of SA Strategic Plan.</i></p> <p>The former SA strategic plan (1995-2000) for road safety in SA contained no specific reference to Indigenous road safety. This report recommends that the future review of that Plan, [or, of any others focussed upon Indigenous injury prevention such as the strategic and complimentary approach being developed between OATSIH and NACCHO as part of a new draft <i>National Injury Prevention Strategic Plan</i>] takes account of this and other related reports, which directly address Indigenous trauma issues.</p>
7	<p><i>Community research.</i></p> <p>That further community research be commissioned in partnership with particular Aboriginal communities in South Australia (ensuring transference of research skills to communities) along the lines of the report commissioned from ADAC (Watson et al. 1997). This research should have an 'action' component. See Recommendation 8.</p>
8	<p>That such research (see Recommendation 7) be linked with community-based campaigns to raise the awareness of road safety issues generally, and in particular, the serious risks associated with rollover accidents when seat restraints are not worn. One of the many recommendations of the National Aboriginal Health Strategy report (1989) that has only recently begun to be implemented highlighted '<i>safety in motor vehicles with an emphasis on the installation and promotion of the universal use of car restraints</i>'. This requires further implementation and expansion/adaptation to other language-groups besides Pitjantjatjara, promotion and monitoring to ensure they 'ended up' with the right people in the right communities, and evaluation to see how they have been used and if they have made a difference.</p>

Table 2: Brice's recommendations (Continued).

9	<p><i>Organisational capacity.</i></p> <p>That resources be provided to increase the capacity of key community-based Indigenous organisations to engage with Transport SA to develop strategic alliances for joint planning to reduce the impact of road trauma.</p>
10	<p><i>Sustainability.</i></p> <p>That any new planning-related initiatives or arrangements be sustainable.</p>
11	<p><i>Further community-based initiatives:</i></p> <p>That in conjunction with Aboriginal youth leaders, peak bodies, and elders, young Indigenous men in particular, be the focus of an effort (steered by Aboriginal agencies) through schools, Community Development Employment Programs, TAFE, sporting associations and community colleges etc., to raise awareness around road safety generally – in culturally appropriate, non-punitive, ways.</p> <p>Consideration should be given especially to ways in which elders might be invited and supported to convey the cost to particular Aboriginal communities and their likelihood of long-term survival if death rates continue unabated (from all causes but especially injuries and other external deaths).</p> <p>Further, that all community-controlled or community-based Aboriginal health services be financially supported through the Federal Government to enable them to address this issue as an injury-prevention, social health initiative, in whatever way they decide, and which might like to highlight:</p> <ul style="list-style-type: none"> • the likelihood of further accidents and deaths associated with excessive drinking of alcohol, driving under the influence of alcohol, and walking near or on major roads while intoxicated • the dangers of wearing dark clothing while walking at night • the dangers of passengers riding in cargo areas • the importance of wearing seat restraints and wearing them properly - for everyone but especially drivers on dirt roads, children, and babies • the sense of false security apparently felt while driving on dirt roads even at low speeds (hence the tendency not to 'belt up') • the extreme price which often paid for 'risk-taking' on the roads (eg., non-wearing of seat-belts, letting a 'mate' drive who has been drinking, riding in the back of utilities etc). <p>That in order to do this, funding be provided to enable those Indigenous organisations to create high quality, culturally appropriate, information resources to disseminate and 'workshop' with communities.</p> <p>In this context, consideration should also be given to ways reports such as this can be used to support both, community efforts to establish effective control over the sale of grog in the vicinity of declared 'dry' Aboriginal communities, and 'substance misuse' programs generally.</p>

Table 2: Brice's recommendations (Continued).

12	<p><i>Pedestrian incidents - hotel industry.</i></p> <p>In order to reduce pedestrian deaths generally, consideration be given to the possibility of the hotel industry being involved in an awareness campaign to encourage greater responsibility toward late-staying, heavy-drinking customers, particularly on Friday and Saturday nights in country areas.</p> <p>Further, that they be supported to become aware of agencies which may be able to assist in that regard including Aboriginal-specific agencies and committees; and, that the issue of providing liquor licenses in the vicinity of Aboriginal communities be continually re-evaluated in the light of road trauma issues and statistics and the opinions of Aboriginal community leaders.</p>
13	<p><i>Forum or conference</i></p> <p>That in SA, peak Indigenous community bodies such as the Aboriginal Health Council of SA (AHCSA) and the Aboriginal Drug and Alcohol Council of SA (ADAC) be invited to a forum to advance road safety and discuss relevant Indigenous Road Safety and 'substance use' policy/strategic documents. Experienced interstate Indigenous road safety personnel should also be invited. [However, this should perhaps only take place after a report prepared on remote Aboriginal trauma and safety in Far West SA in 1997 by ADAC is updated and made available to such a forum].</p> <p>Further, this be used to showcase the variety of culturally relevant road safety resources that have been developed in an ad hoc fashion across the Nation since the early 1990's.</p>

Table 2: Brice's recommendations (Continued).

14	<p><i>Scholarships.</i></p> <p>That Indigenous post-graduate public health, arts, and social science students be encouraged to further research road safety issues, particularly through qualitative or 'action research' around 'risk-taking', community perceptions of safety, class, age and gender - in rural and remote areas and on Aboriginal Lands (with appropriate approvals). That consideration is given to the establishment of scholarships to that end, perhaps through ATSIC and the Australian Research Council.</p>
15	<p><i>Road quality.</i></p> <p>That road quality on Aboriginal lands in SA be investigated and a feasibility report prepared (in conjunction with ATSIC) taking in to account needs, both capital and recurrent, and the question of responsibility for funds. (Though not a subject of this inquiry, it is well known that some roads on Aboriginal lands are in a very dangerous state while being subject to the harshest of weather conditions).</p>
16	<p><i>Implement earlier recommendations.</i></p> <p>That the recommendations for developing a National strategy arising from the <i>Aboriginal and Torres Strait Islander Road Safety</i> meeting held in 1999 be implemented. Further that the process underlying the development of this strategy be picked up by a suitable national road authority such as the Australian Transport Safety Bureau.</p>
17	<p><i>Community information systems.</i></p> <p>In order to provide sound baseline data from a community perspective in SA, expert assistance should be provided to the Aboriginal Health Council to audit and subsequently enhance the capacity of Aboriginal community-controlled health Services' information systems to monitor all forms of injuries presenting at community clinics across South Australia.</p>
18	<p><i>Working with families that have suffered considerable losses and supporting the workers.</i></p> <p>That 'Emotional Social Well-being' Centres and counsellors be invited to contribute to discussion about this issue - and that 'stress' levels amongst Indigenous persons involved in <i>local</i> strategies/programs to reduce road trauma be monitored [NT Recommendation (see R & M Consultants 1999: 4)] as part of an overall evaluation strategy.</p>

Source: Brice, G. (2000). *Australian Indigenous road safety: A critical review and research report, with special reference to South Australia, other Indigenous populations, and countermeasures to reduce road trauma.* Walkerville: Transport SA. (pp.8-12).

2.3.2 Guidelines for the development of Indigenous-specific road safety interventions

In short, Brice's (2000) recommendations aim to improve the development of Indigenous-specific road safety countermeasures and the availability and quality of Indigenous crash data. The following guidelines endorse the sentiments of Brice (2000) and couch Indigenous road safety within its historical and social context. They are designed to address research and intervention priority areas and high-risk behaviours characteristic of Indigenous road users. From a process perspective, the guidelines acknowledge the importance of following a community capacity building and engagement process when working with Indigenous communities and embracing Indigenous perspectives on health/injury and the acquisition of health knowledge.

2.3.2.1 Improving the quality of Indigenous road safety data

“Reliable data on the extent of road trauma are required to develop adequate road safety countermeasures. There is a clear need for improved information on the extent of involvement of Indigenous people in serious road crashes” (McFadden et al., 2001, p.1).

Section 2.1 of this report provided a comprehensive summary of limitations with Indigenous road safety crash data. Based on those comments and the Brice (2000) review, there is a pressing need to improve both the availability and quality of Indigenous road fatality and injury data. According to Moller et al. (1996), the immediate challenges are to:

- Develop consistent and valid practices for identifying Indigenous people in hospital collections.
- Establish accurate estimates of Indigenous populations by smaller geographic areas.
- Use classification systems that permit culturally appropriate reporting of injury among Indigenous people.

The Western Australian Road Injury Database (WARID) links hospital separation data (which identify Indigenous status) with police crash reports (which do not). Western Australia is the acknowledged leader in this field as other jurisdictions do not yet have this capacity. The value of the WARID for examining Indigenous crash patterns is unquestionable, however, there is potential to improve its analytic capacity through the collection of additional information such as occupant position and use of restraints and VINS (Brice, 2000; Cameron & Oxley, 1995). It is recommended that other Australian jurisdictions look to establish similar collaborative links between government databases and learn from the lessons of the WA experience.

An increased understanding of the environment risk factors underpinning rural Indigenous road crashes could also be gained by building a geo-coding function into crash databases (Rosman, 2001). Geo-coding of crash sites and other location details would enable crash analyses to include spatial characteristics of the crash environment, thus providing a more complete description of the causal factors.

2.3.2.2 *Cultural understanding of Indigenous perspectives on health/injury, the acquisition of health knowledge, 'road safety' and transportation*

Brice (2000) also requested that future analyses go beyond the identification of proximate factors (such as intoxication and non-compliance with restraint laws) to seek an understanding of why such factors are prevalent among Indigenous people. To do this, researchers need to look broader than road crash data and examine the historical and cultural factors influencing the beliefs and perceptions Indigenous people hold regarding health/injury, the acquisition of health knowledge, 'road safety' and transportation (ATSIWG, 2002).

Indigenous languages do not contain words or expressions for health (NAHS Working Party, 1989; cited in ATSIWG, 2002). While there are subtle differences between the health beliefs held by Indigenous communities, the National Aboriginal and Islander Health Organisation (1989; cited in ATSIWG, 2002) generically defined Indigenous health as “... *the well-being of the individual and the social, emotional and cultural well-being of the whole of the community. This is a whole-of-life view and includes the cyclical concept of life-death-life*” (p.29). As such, an Indigenous person's injury is often interpreted in relation to its effect on the individual's ability to fulfil social and other community commitments. So, when the impact is negative, injured Indigenous people are likely to refuse or discontinue treatment. It is recommended that any Indigenous-specific road safety interventions being developed need to be cognisant of how health decisions are made in Indigenous communities so that policy-makers can implement strategies to maximise the groups exposure to supportive education.

According to Alati et al. (2000), a failure to contextually define Indigenous 'alcoholism' by mainstream policy-makers has resulted in the relative ineffectiveness of Indigenous substance misuse interventions. They call for more attention to be given to tertiary level intervention, including Indigenous notions of 'rehabilitation' and interpretations of the disease model of alcoholism. A more in-depth discussion of community-based Indigenous alcohol programs can be seen in Section 2.3.2.4.

The way in which health knowledge is acquired in Indigenous communities also differs greatly from mainstream society. Morgan et al. (1997) reports that Indigenous people do not relate to many abstract concepts and have “... *a preference for concrete knowledge recognizably related to the immediate context of their lives ... actual, tangible things experienced directly or indirectly*” (p.598). Turton (1997) added that Indigenous cultures learn about health issues through: stories from oral tradition; authoritative knowledge of elders; spiritual knowledge (knowing oneself); and commonsense models of illness and health. So, for a new initiative to be successful, it should tap into one of these means of dissemination. Morriss, Mann and Byrnes (2000) provided a recent example of one such program. They described an injury prevention initiative implemented in schools in Noarlunga, South Australia, to address community safety hazards. Indigenous safe community practices were imparted to students through 'dreamtime stories' that encouraged them to identify safety hazards in their school area. In addition to safety benefits, the program fostered increased understanding and respect for the Indigenous culture.

Finally, inherent in all Indigenous road safety interventions there needs to be a cultural understanding of the role that transportation and 'road safety' play in Indigenous communities. Knowledge of these concepts will provide valuable insight into the feasibility of modal-shift solutions to Indigenous-specific problems. Coggan et al. (2000), for example, suggests that road safety should be addressed within the broader domain of injury prevention to improve outcomes.

2.3.2.3 *Research protocol in Indigenous communities*

Undertaking research in Indigenous Australian communities requires careful attention to ethical guidelines. Firstly, in the preliminary stages of any Indigenous research project, be it aimed at intervention development or simply a data collection exercise, the research team must: gain informed consent from the appropriate figurehead in the Indigenous community; develop mutual rapport; and acknowledge the individual community's ownership of the data. Secondly, throughout the duration of the project, the research team needs to "... undertake extensive community consultation, negotiation, and collaboration to ensure that the research is beneficial to the Indigenous community" (Dunne, 2000, p.6). Commitment to these key process criteria will maximise the validity of the research and the community's ownership of any research products (eg. interventions or legislative reform).

2.3.2.4 *Tailored education and community change strategies*

Brice (2000) strongly advocated community research projects with an 'action' component. In Australia there has been a rapid expansion of community participation in road safety initiatives and preliminary evaluations suggest they are highly effective (Howat et al., 2001). According to Howat et al. (2001) and Stockwell et al. (2001), community engagement and ownership of programs are the most important ingredients for successful health interventions. For an intervention to be effective, the target population (ie. Indigenous road users) needs to be actively involved in the both the development and implementation of road safety strategies to ensure that they are directly related to local culture.

In the late 1990s, Queensland Transport (Brownlow, 1998) drafted a strategy document to address Indigenous road safety issues using a community engagement approach. The five key principles underpinning the strategy were:

- community-managed road safety planning
- interagency collaboration
- a developmental approach
- cultural effectiveness. and
- sustainability.

A précised version of this document is shown in Attachment 1 and highlights the typical problem-solving cycle of community-based approaches.

Excessive alcohol intake has long been recognised as major problem for Indigenous Australians and, as such, provides the focus for the majority of Indigenous community-based injury prevention and road safety programs (Gray et al., 2000). Arguably, the most successful example of an Indigenous community change initiative with road safety outcomes in Australia is the Northern Territory's "Living With Alcohol" program (Stockwell et al., 2001). In April 1992, a comprehensive population-based alcohol harm reduction program funded by a five cents per standard drink levy was introduced by the Northern Territory Government and key stakeholders. The program included a range of initiatives such as: increased alcohol and drug related services in hospitals; high profile mass media education programs about drink driving and responsible

service of alcohol; the introduction of a 0.05% BAC for drivers in 1994; and restrictions on hours of trading for licensed premises. During the first four years of the "Living With Alcohol" program, the Northern Territory has experienced significant health and safety benefits. After its inception, "*there were reductions in estimated alcohol-caused deaths from acute conditions (road deaths 34.5%, other 23.4%) and in road crash injuries requiring hospital treatment (28.3%). In addition there were substantial reductions in per capita alcohol consumption and self-reported hazardous and harmful consumption via surveys. These reductions were evident immediately...and were largely sustained throughout the four years studied*" (Stockwell et al., 2001, p167).

In Queensland, the Department of Social and Preventive Medicine (University of Queensland) developed, in conjunction with Magistrates, Community Corrections, Queensland Transport, TAFE, Queensland Police and Queensland Health, an 11 week drink driving prevention and rehabilitation program – Under the Limit. The program commenced in January 1993 and is offered through Magistrates' courts as a probationary requirement. The intersectoral nature of the development team ensured that the program was tailored to the target group and was based on current best practice models in the areas of problem drinking and drink driving. Since its inception, nearly 4,000 people convicted of a drink driving offence have participated in the program which is delivered through TAFE colleges throughout Queensland or via distance education. The content and flexibility of the program has ensured its applicability to Indigenous populations and accessibility to rural and remote areas. A follow-up evaluation of offenders participating in the program in Central Queensland between January 1993 and December 1995 revealed that 85.2% (n = 757) successfully completed the program. Furthermore, successful completers had an overall reduction in reoffence rates of approximately 15% compared with controls. For the most serious offenders (those with both prior drink driving offences and high BAC at the index offence), completion of the Under the Limit program reduced recidivism by 55% (Siskind et al., 2000).

Rae (1995, p.79) interviewed over 150 Indigenous community members in rural Northern Territory in 1994 and highlighted the importance of using tailored public education campaigns to support community-based programs. Once again, he acknowledged that Indigenous people hold "*vast cultural differences and attitudes, not only to road safety but also to the areas of life and death, and past and future concepts*" (p.79). Consequently, Indigenous campaigns need to be informed by Indigenous people and contextually appropriate, preferably showing quite graphically the consequences of unsafe road user behaviour for individual Indigenous role models. Initially, it is recommended that Indigenous pedestrians and restraint use be targeted as a priority areas for Indigenous public education campaigns.

Internet and related technologies are increasingly providing an effective mechanism for the delivery of government services and health care resources and are rapidly becoming an Invaluable tool for Northern Territory and Queensland local councils (Morrison, 2000). So, as part of the review, a search was carried out to identify electronic community capacity building resources suitable for rural communities with limited resources and lower levels of socio-political efficacy. In Queensland, two interactive multimedia have been developed to achieve these ends: (i) the Community, Action Planning and Information Resource (CAPIR) developed by Queensland Health (2000); and (ii) Pathways developed by the Queensland Road Safety Researcher's Network. The two resources are highly complementary and together provide a sound springboard for local communities to launch into community engagement as a means of improving road safety. Firstly, the CAPIR CD-ROM targets the social determinants of health

(ie. equity and access) and helps communities to identify available individual capital and barriers and facilitators to change. Originally designed to address broader community health issues, the CAPIR is not content-specific and walks users through the stepwise process to achieve change: *Reflecting* → *Interpreting* → *Deciding* → *Acting* → *Evaluating*. Pathways, on the other hand, provides an inventory of road safety information and contacts and encourages communities to draw on both internal and external resources/expertise to solve local problems. In baking terms, CAPIR outlines the recipe, while Pathways provides the ingredients. At present, Pathways is still undergoing beta testing and CAPIR has not yet been evaluated so conclusions about their effectiveness cannot be drawn. Early feedback does suggest though that the packages are “user friendly” and culturally appropriate for both rural and Indigenous populations. So, as the push to provide ‘whole-of-government’ service delivery gains momentum, it seems logical to trial community capacity building technologies (like CAPIR and Pathways) across disciplines to improve the knowledge transfer process and avoid duplication.

2.3.2.5 Empowerment through road safety knowledge and training

In recent years, there has also been a call for the provision of tertiary studies in road safety to unify the body of knowledge and increase the professionalism of transport practitioners (Grigg, 1993). In response, the Australian College of Road Safety has called for road safety to “... be part of the learning programmes not only of engineers and educators but also other professionals, eg. ambulance officers, lawyers, medical practitioners (primary care and specialists), occupational therapists, police officers and town planners” (Grigg, 1993, p.15). Jarvis, (1983, p.17) suggested that professional basic education should be available to “... a new recruit to the profession ... (and) ... may be in the form of a formal course and/or on-the-job training”. Since then, several universities throughout Australia have developed specific road safety courses and/or related modules for the broader psychology, health and engineering curricula. For example, CARRS-Q, in conjunction with the Queensland University of Technology School of Psychology and Counselling, and School of Civil Engineering, offers a Graduate Diploma and Graduate Certificate in Road Safety.

Unlike other university programs, the entry requirements to these courses tend to be based on previous experience and not academic history, making them suitable. The courses will soon be available via distance education, which should also ensure their accessibility to Indigenous populations in rural and remote areas. The effectiveness of programs of this nature in reducing road trauma is unclear, however, the potential to filter sound road safety knowledge and practices into Indigenous communities and to rural practitioners is considerable.

Indigenous communities have not traditionally been empowered by mainstream society to engage in road safety decision-making and there is consensus that workshops to foster these skills are long overdue. Cercarelli et al. (2000) conducted a series of interviews with the 13 Chairpersons of the largest Indigenous communities in remote Western Australia (Fitzroy Valley region) to examine attitudes to road safety problems and priorities for change. Interestingly, the interviewees identified poor road conditions as a far more important problem than the high-risk behaviours, such as drink driving, speeding, riding in the back of open vehicles and inadequate seatbelt use. This implies that basic infrastructure improvements are seen as issues of greater importance and demonstrates the need for greater road safety awareness-raising in Indigenous communities. With increased knowledge of the issues, will inevitably come a greater involvement of Indigenous stakeholders in road safety decision-making processes.

Finally, there is a need for more Indigenous people in road safety-related positions. For example, in New Zealand, the Te Wananga o Aotearoa's Rotorua branch of police have started a 20-week national certificate in police and security duties to encourage more Maori people to join the police force (Nga Korero, 2000). The course, for which there are no entry requirements, prepares students to sit the police entry examination, and is guided by the principle that "*Maori police officers understand the cultural background of their people*" and, as such, are in the best position to inform crime prevention and road safety directions. The feasibility of using similar programs in the Australian context with Indigenous populations warrants attention.

2.3.2.6 *Legislation addressing known risky practices*

As previously mentioned, road crashes occurring from riding in the open load-space (OLS) of vehicles is a major problem for Indigenous populations (see Section 3.3.2). In response, the Northern Territory passed legislation in 1994 to prohibit such behaviour unless the vehicle is fitted with a prescribed roll-frame. Since the reforms, "... all of the deaths and all but one of the serious injuries to OLS passengers ... occurred in vehicles not fitted with prescribed roll-frames" (Garrow, 1999, p.108).

Following the success of the NT initiative, Western Australia passed a regulation that will eventually ban any people from traveling in the open load-space of a vehicle. From 1 January 2001, carrying people in the open load-space of vehicles will only be permitted if the vehicle has an approved roll-over protection device fitted. Furthermore, roll-over protection devices will no longer be approved as at 1 January 2004, and all open load-space travel will be prohibited from 1 January 2006 (Mabbott, 1999; Transport WA, 2000).

In Queensland, the local police are working with Indigenous communities in the Far Northern region of Queensland to increase community awareness of the dangers of riding in the cargo trays of utes and not wearing seatbelts in vehicles (Queensland Police Service, 2000). Based on the WA, NT and Queensland experience, there is strong evidence to suggest that restrictive legislation, coupled with enforcement, has the potential to greatly reduce the number of injuries sustained by OLS passengers.

2.3.2.7 *Accessible licensing systems for offenders and remote populations*

Despite limited data, Indigenous people do appear to be over-represented in Australian motor vehicle offence rates, particularly unlicensed driving (*see Section 3.3.3*). In the last few years the Roads and Traffic Authority (RTA) in New South Wales has implemented three key initiatives to reduce the number of Indigenous persons imprisoned for motor vehicle offences (NSW Bureau of Crime Statistics, 1998):

1. A substantial financial contribution (\$250,000) has been made available to contribute to the training and recruiting of seven new Indigenous positions in motor registries with a large Indigenous client base in NSW.
2. A pilot Licensing Program has been implemented in conjunction with Corrective Services to enable inmates to undergo training to assist them in obtaining a licence before their release. The pilot is being conducted at Bathurst jail and targets offenders with previous driving offences.

3. The resources devoted to the Community Based Knowledge-Testing Program (CBKT) are increasing. The program targets people who are unlicensed because of access issues or have problems reading and understanding the knowledge test. It is run at Broken Hill, Menindee, Wilcannia, Bourke, Brewarrina, Dubbo, Forbes and Orange at accessible locations, such as TAFE Colleges, Skillshare, and the Aboriginal Land Council Office. Indigenous people have been accredited to translate the test in local communities and hundreds of people have participated in the program thus far.

Similar programs (eg. an integrated education program and motor projects) to reduce the incidence of joyriding behaviour amongst Indigenous and rural youth have been proposed by Dawes (2000). However, to date, they have not been implemented.

Not unlike the directions of the RTA, Queensland Transport (Powell et al., 2001) started a six-year Indigenous Road Safety Remote Communities Project in 1997. This project is cognizant of the access barriers facing remote Indigenous populations and has empowered local Indigenous communities to contribute to a Rural Road Safety Action Plan. This plan outlines the means to increase: (i) Indigenous knowledge and access to obtain driver licences; and (ii) public education with regard to the safety standards of vehicles and high-risk behaviours.

2.3.2.8 Sustained funding and Government commitment

Mooney, Wiseman and Jan (1998) acknowledge the major advances that countries like New Zealand, Canada and the United States have made in reducing the gap in health status, including road trauma, between Indigenous and non-Indigenous populations. For Australia to follow suit, it is recommended that policy-makers take on board the key principles underscoring the overseas successes – sustained funding and Government commitment.

“Substantially greater investment in research into health services for Indigenous people is required. The epidemiology of many areas of Indigenous health has been investigated, but there is now a need for a change in research emphasis. We know far too little about the most cost-effective way of delivering culturally appropriate health services to Indigenous communities. Certainly, any policy involving a substantial increase in resources should have a major evaluation component built into it” (Mooney et al., 1998, p.509).

2.4 Summary: Goals for Indigenous Road Safety

This literature review acknowledges the significance of Indigenous road trauma as a health issue and outlines the results of a systematic investigation of the characteristics of road crashes involving Indigenous populations. Firstly, the report outlines the review process and identifies data sources and limitations, such as defining ‘Indigenous’ status and estimating base populations (Section 2.1). Secondly, the report highlights Indigenous road safety trends in Australia, focusing specifically on known risk factors such as alcohol-impairment and misuse, single-vehicle roll-over crashes, overloading and roadworthiness of vehicles, pedestrian crashes, and non-compliance with seatbelt and restraint legislation (Section 2.2).

The review identifies priority research and intervention areas for Indigenous road safety and draws heavily on the recommendations of the recent Brice (2000) report. It also cites examples of successful Indigenous interventions to provide guidelines for the development of Indigenous-

specific road safety countermeasures. Throughout, the report acknowledges the importance of following a community capacity building and engagement process when working with Indigenous communities and embracing Indigenous perspectives on health/injury and the acquisition of health knowledge (Section 2.3).

Guidelines to improve the understanding of Indigenous road safety and develop culturally appropriate interventions include:

- improving the quality of Indigenous road safety data
- cultural understanding of Indigenous perspectives on health/injury, the acquisition of health knowledge, 'road safety' and transportation
- research protocol in Indigenous communities
- tailored education and community engagement strategies
- empowerment through road safety knowledge and training
- legislation addressing known risky practices
- accessible licensing systems for offenders and remote populations, and
- sustained funding and Government commitment.

3 Crash Analysis

3.1 Obtaining Data

Indigenous road crash data was sought from all jurisdictions, although only databases for Western Australia, Queensland and Northern Territory identify Indigenous involvement in road crashes. Data from Queensland and Northern Territory have been analysed. Data from the Western Australian database were not available for use in this report. As such, the Western Australian data presented here were drawn from Cercarelli's (1999) report on road accident related casualties in Western Australia and the Aboriginal Road Users Taskforce's (2002) discussion paper on Aboriginal road user safety in Western Australia. The Australian Bureau of Statistics (ABS) provided data on national Indigenous road fatalities. Data were also sought through other sources, mainly hospital records, although no additional data have been forthcoming to date. A list of the potential data sources that were contacted during the course of the project is given in Appendix A.

3.2 Inconsistencies in Data

As discussed in Section 2, there is considerable inconsistency in the Indigenous casualty data, largely due to difficulties in defining and identifying 'Indigenous' status. The ABS data are based on the national registry of deaths. The literature review (Section 2) has warned of the fluctuations in Census data with regard to the Indigenous population, and that the ABS data should be viewed critically. In the Queensland database, the police decide on Indigenous status based on racial appearance, which is fraught with reliability and consistency issues.

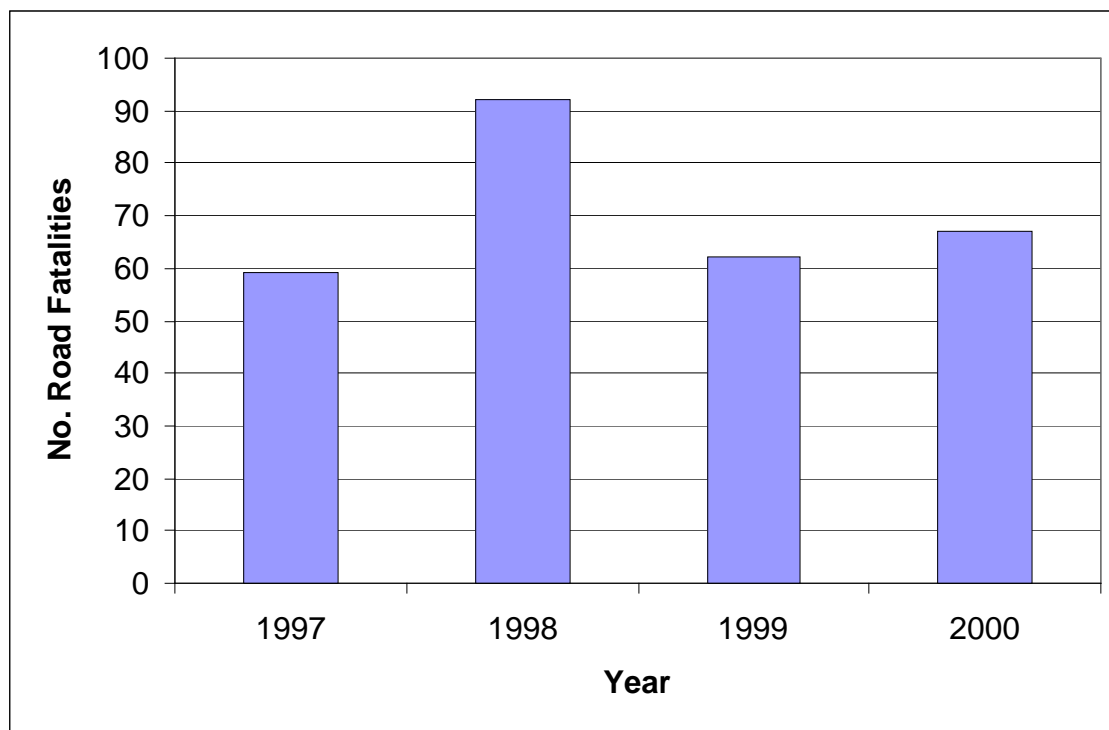
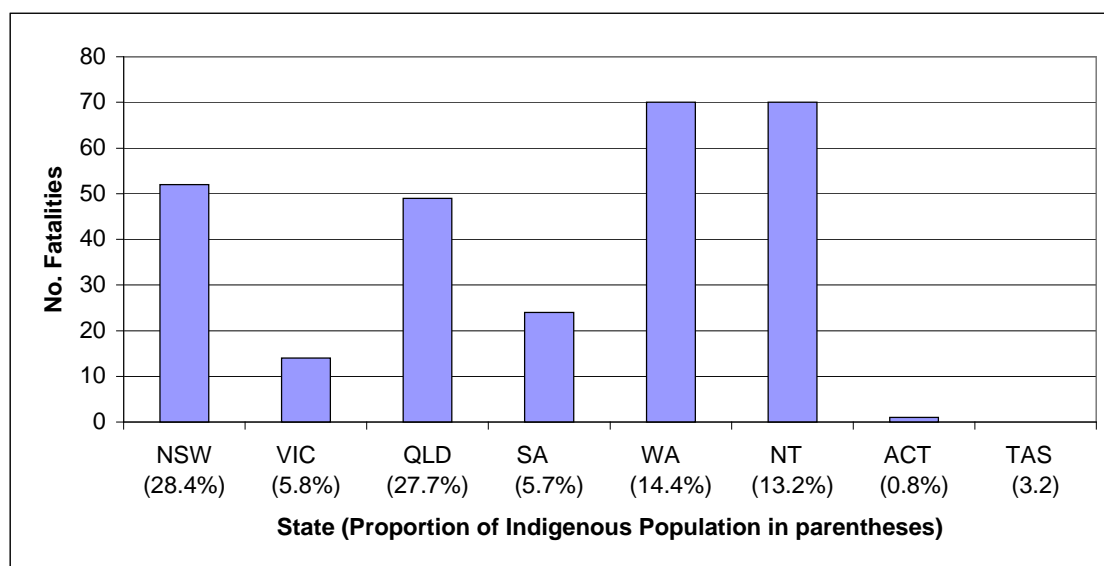
3.3 Australia-Wide Fatality Data

This section details a crash analysis of the Australia-wide Indigenous road fatalities data provided by the Australian Bureau of Statistics for the period from 1997 to 2000 inclusive.

Figure 1 shows the yearly trend in Indigenous road fatalities, from 1997 to 2000. Yearly fatalities were between 59 and 68, except for 1998 when they totalled 92.

Figure 2 shows Indigenous road fatalities by state, with Western Australia and Northern Territory having the highest Indigenous road fatalities. It is interesting to note, also, the Indigenous population for each state (shown on the graph in parentheses), with NSW and Queensland having the highest proportions of the total Indigenous population (28.4% and 27.7% respectively), followed by Western Australia and Northern Territory (14.4% and 13.2% respectively) (Source: Australian Bureau of Statistics, 1998: Estimated Indigenous population, Australia, by jurisdiction, 30 June 2002).

Statistics for Indigenous fatality crashes in urban versus rural areas was not available Australia-wide. However a comparison was able to be made for Indigenous casualty crashes in urban/rural localities in Northern Territory (see Section 3.5, Figure 19). In addition, a comparison of Indigenous casualty crashes in Queensland by speed limit, gives an indication of the proportion of crashes that were likely to have been in urban and rural areas (see Section 3.4, Figure 11).

Figure 1: Indigenous Road Fatalities by Year: Australia-Wide 1997-2000**Figure 2: Indigenous Road Fatalities by State: 1997-2000**

Note: Proportion of Indigenous population estimates from Australian Bureau of statistics 1998: Estimating Indigenous population, Australia, by jurisdiction, 30 June 2002.

Figure 3 shows Australian Indigenous road fatalities by month, with peaks evident around May and October.

Figure 3: Indigenous Road Fatalities by Month: Australia-Wide 1997-2000

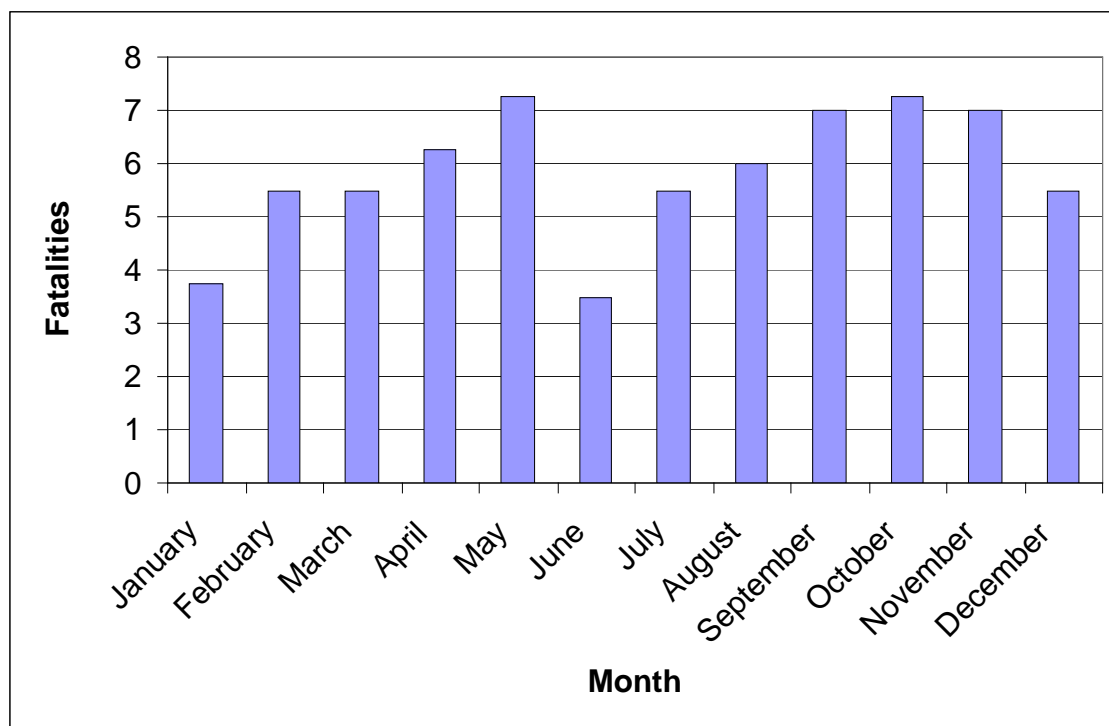


Figure 4 shows Indigenous road fatalities by user type. Car occupants and pick-up occupants make up over half of road fatalities (57%), with pedestrians also a large proportion of road fatalities (40%). Figure 5 shows a comparison of all Australian fatalities and Indigenous fatalities by road user type. While Indigenous road fatalities make up some 4% of all Australian road fatalities, Indigenous pedestrian fatalities make up approximately 9% of all Australian pedestrian fatalities.

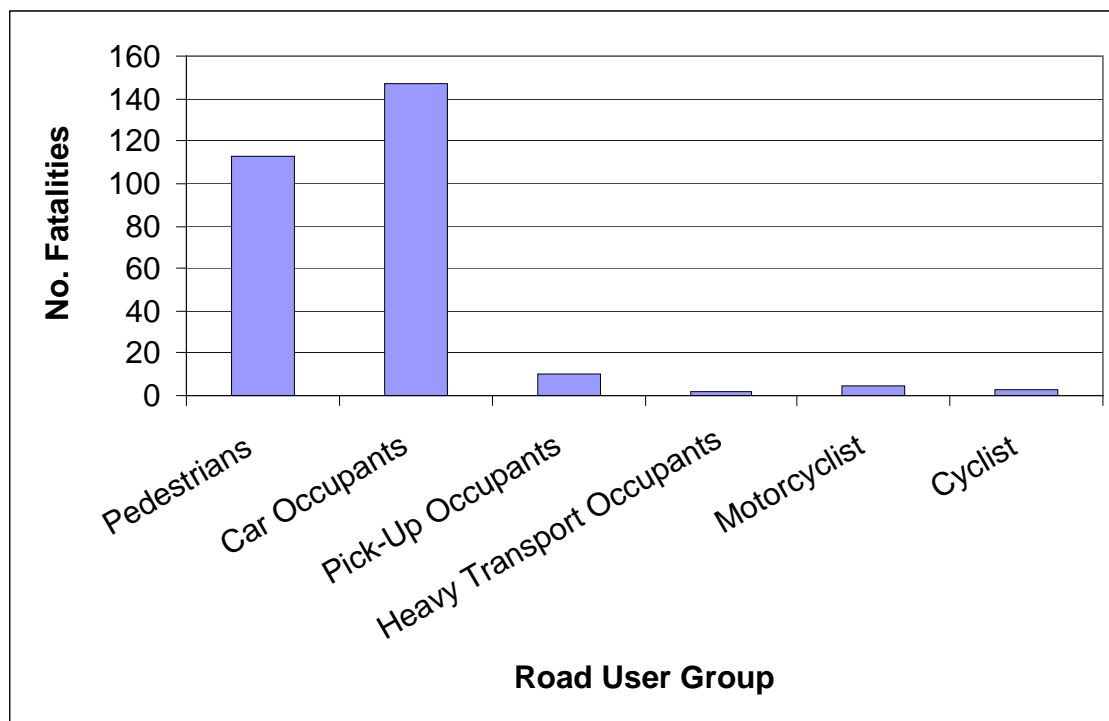
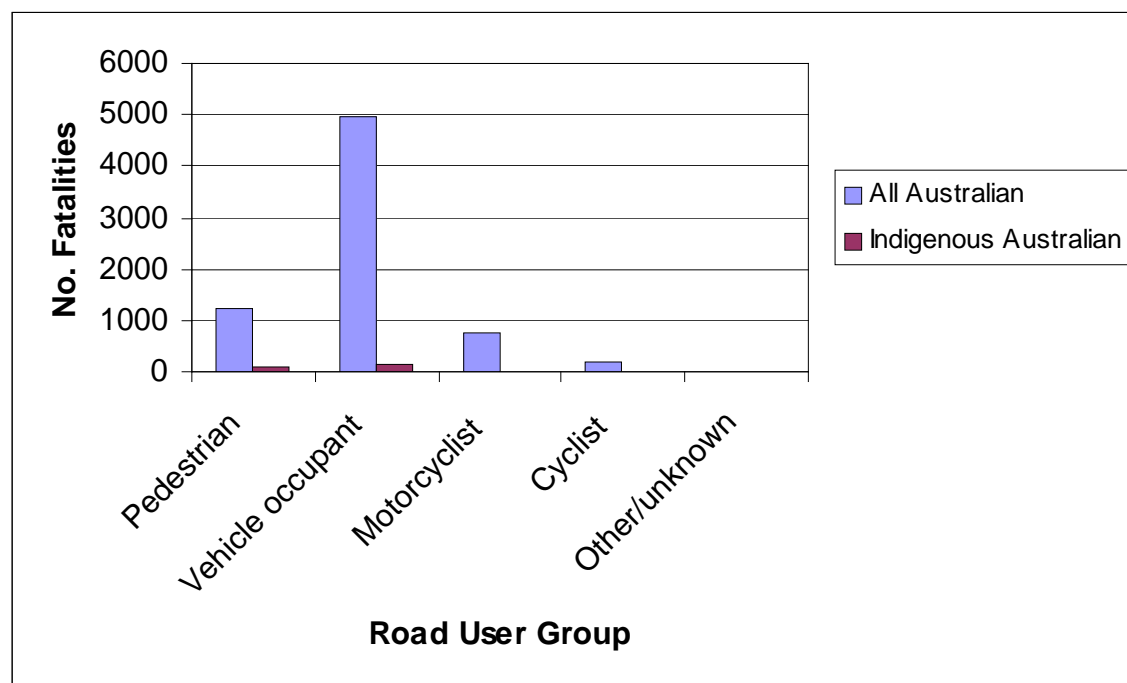
Figure 4: Indigenous Fatalities by Road User Group: Australia-Wide 1997-2000**Figure 5: All Australian Fatalities and Indigenous Fatalities by Road User Group: Australia-Wide 1997—2000**

Figure 6 shows Indigenous road fatalities by age and sex, for the period from 1997 to 2000. Males are predominant with the 15-24 years age group particularly over-represented, followed by the 25-39 years age group. Of the female fatalities, the 35-39, 20-24, and 0-4 years age groups are most represented. For comparison, Figure 7 shows all Australian road fatalities by age and sex, for the period from 1997 to 2000. Males are predominant with the 15-29 years age group particularly over-represented, followed by the 30-39 years age group, which is similar to Indigenous male fatalities. Of the female fatalities, the 15-24 years age group, followed by the 25-39 and 70-79 years age groups are most represented.

Figure 6: Indigenous Road Fatalities by Age and Sex: Australia-Wide 1997-2000

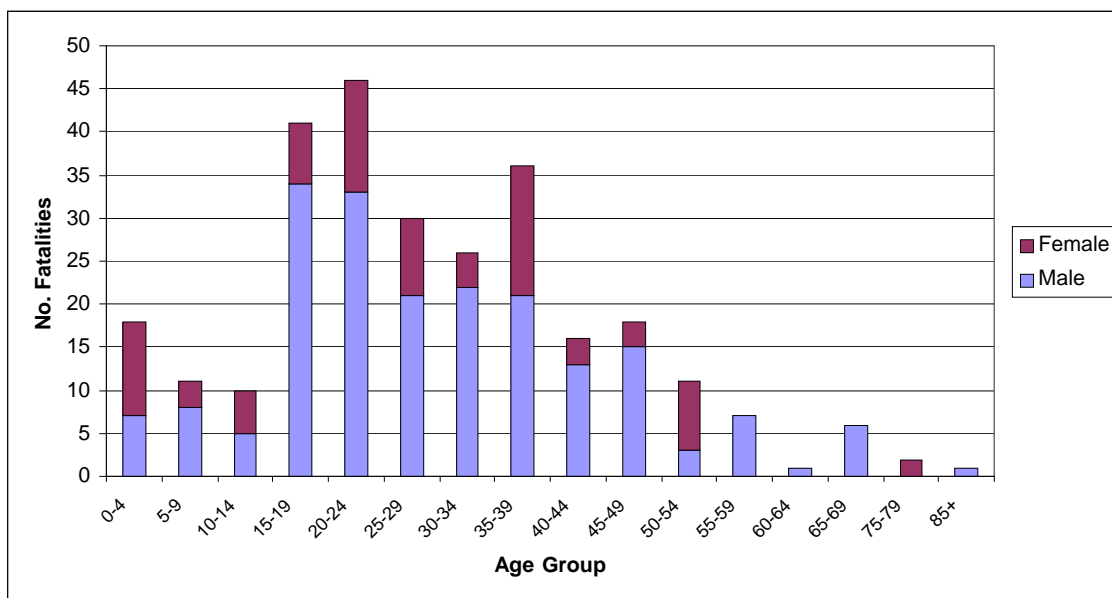


Figure 7: All Australian Road Fatalities by Age and Sex: Australia-Wide 1997-2000

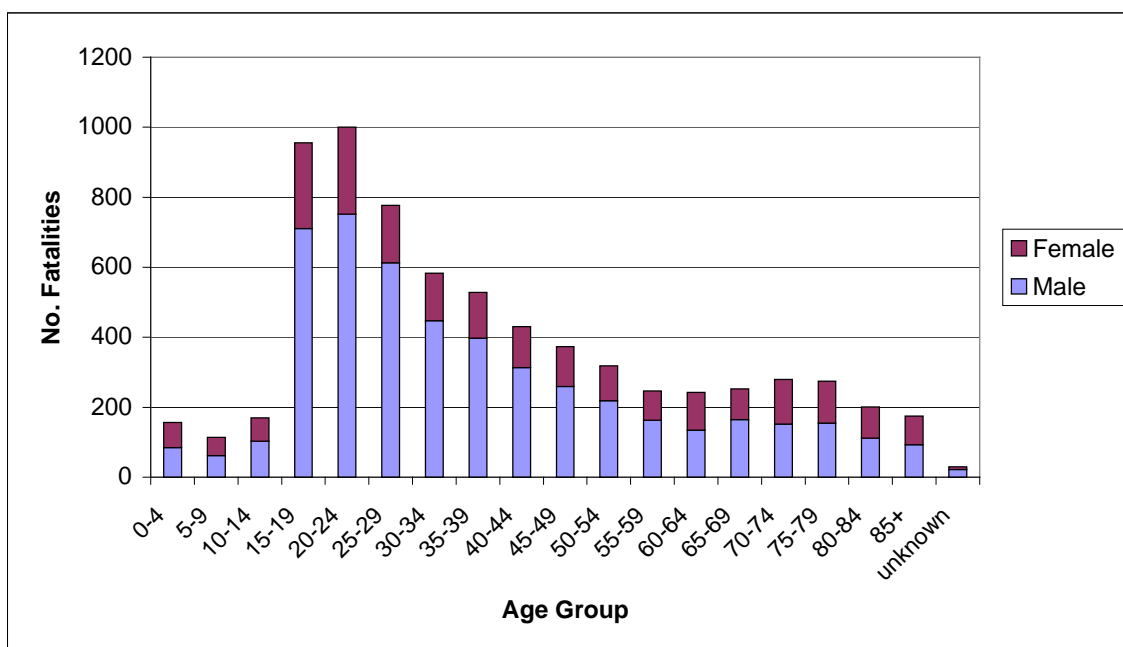


Figure 8 and Figure 9 show Indigenous car occupant and pedestrian fatalities respectively, by age and sex. Males are predominant in both, although less so in pedestrian fatalities. Figure 8 shows that the greatest number of occupant fatalities are in the 15-24 years age group. Figure 9 shows that the greatest number of pedestrian fatalities is in the 35-39 years age group, many also occurring in the 0-4 and 15-34 years age groups.

Figure 8: Indigenous Car Occupant Fatalities by Age and Sex: Australia-Wide 1997-2000

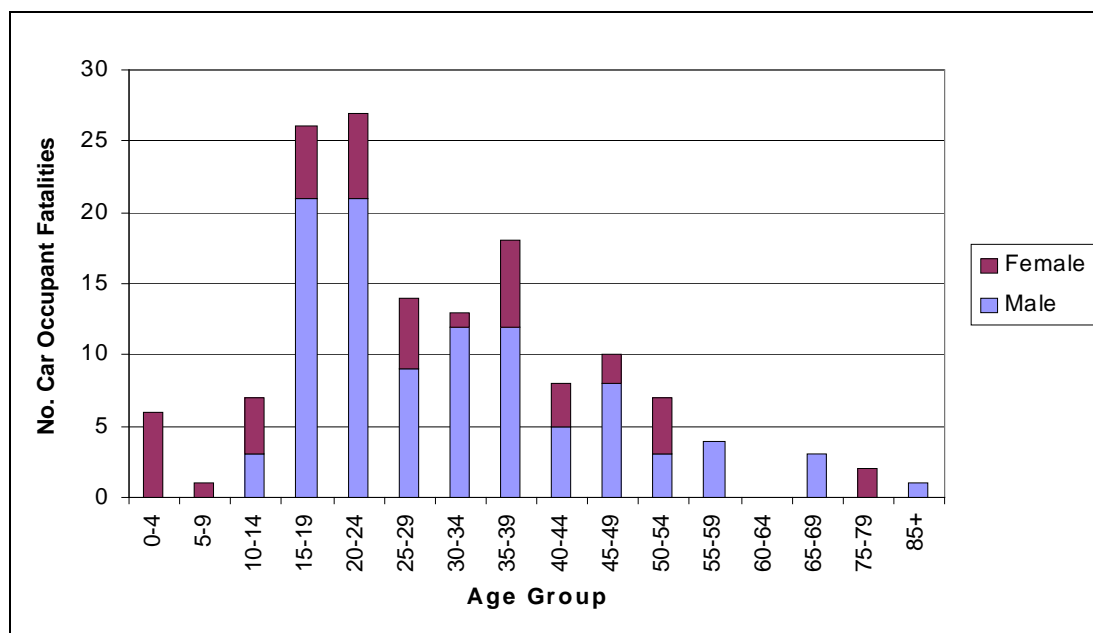
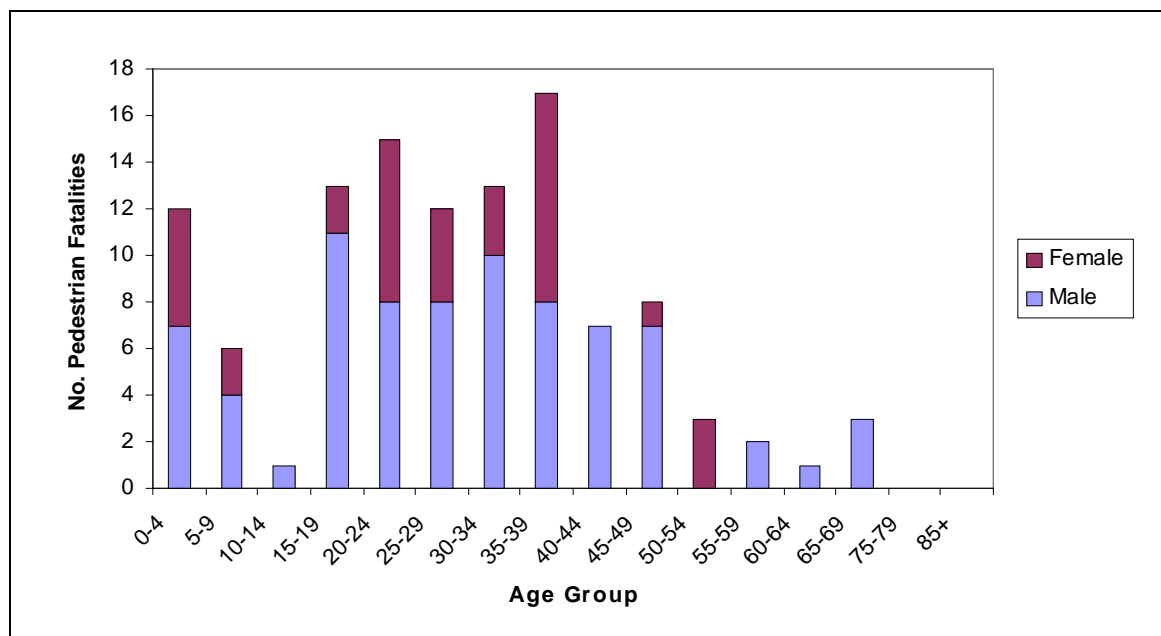


Figure 9: Indigenous Pedestrian Fatalities by Age and Sex: Australia-Wide 1997-2000

3.4 Queensland Data

This section details a crash analysis of the Queensland Indigenous road casualty data provided by the Land Transport and Safety Division of Transport Queensland for the period from 2000 to 2001 inclusive.

Figure 10 shows the yearly trend in Indigenous road casualty crashes, for 2000 and 2001. It can be seen that the number of crashes increased from 2000 to 2001. The number of crashes involving minor injury, medical treatment and hospitalisation increased, although the number of crashes involving fatalities decreased from 6 in 2000 to 4 in 2001. As discussed earlier, there are issues with identifying and defining 'Indigenous status' when recording road crashes, which may have resulted in an under reporting of Indigenous crashes, particularly in 2000 when reporting of Indigenous status had only been recently introduced.

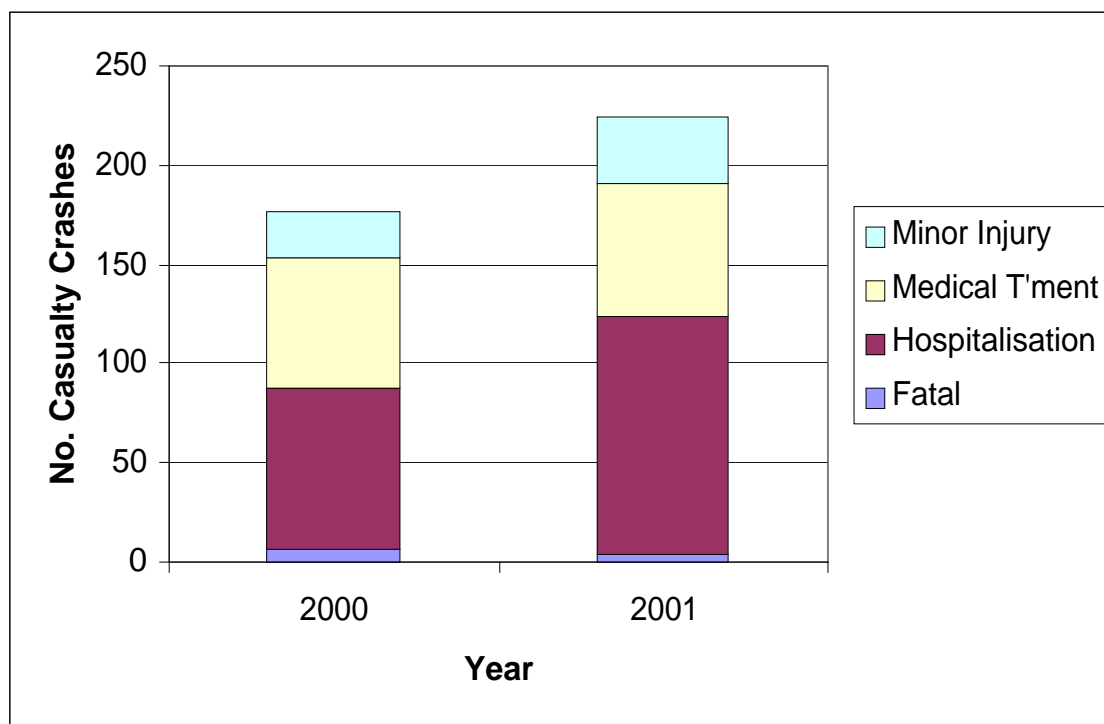
Figure 10: Indigenous Casualty Crashes by Year and Severity: Queensland 2000-2001

Figure 11 shows Indigenous road casualty crashes for 2000-2001 by month, with a peak evident in August, and a low in January. This is not dissimilar to the ABS data for all jurisdictions.

Figure 12 shows Indigenous road casualty crashes by time of day for the period from 2000 to 2001. It can be seen that the peak period for Indigenous casualty crashes was between 4pm and 6pm, with a low between 12 midnight and 2am.

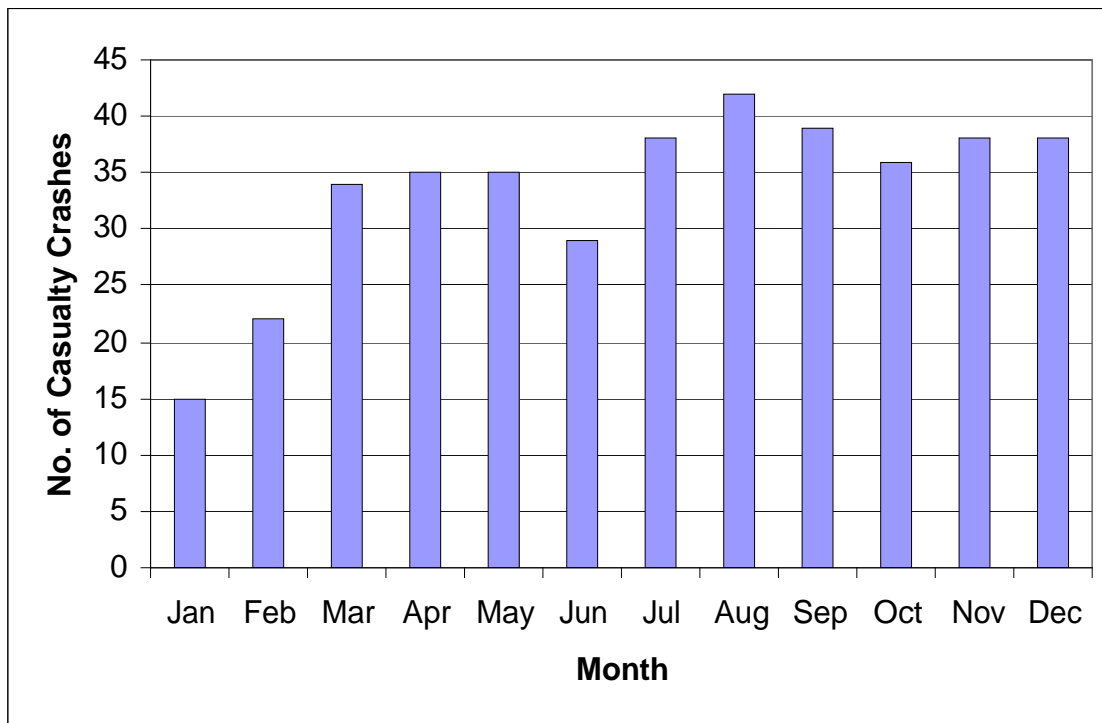
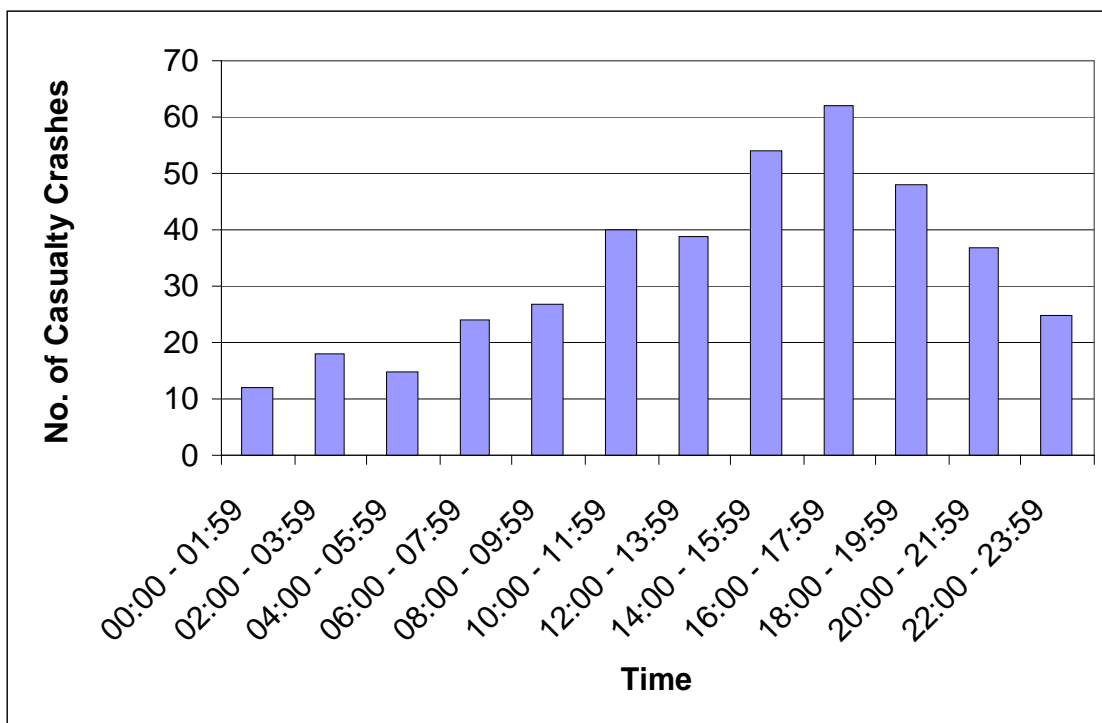
Figure 11: Indigenous Casualty Crashes by Month: Queensland 2000-2001**Figure 12: Indigenous Casualty Crashes by Time of Day: Queensland 2000-2001**

Figure 13 illustrates the number of Indigenous casualty crashes in Queensland between 2000 and 2001, according to the speed limit of the road on which they occurred. As can be seen, around half (54%) of all crashes occurred on roads with a limit of 60kph (ie. typically urban roads), and over one-quarter (29%) occurred on roads with a 100kph limit (ie. typically rural roads).

Figure 13: Indigenous Casualty Crashes by Speed Limit

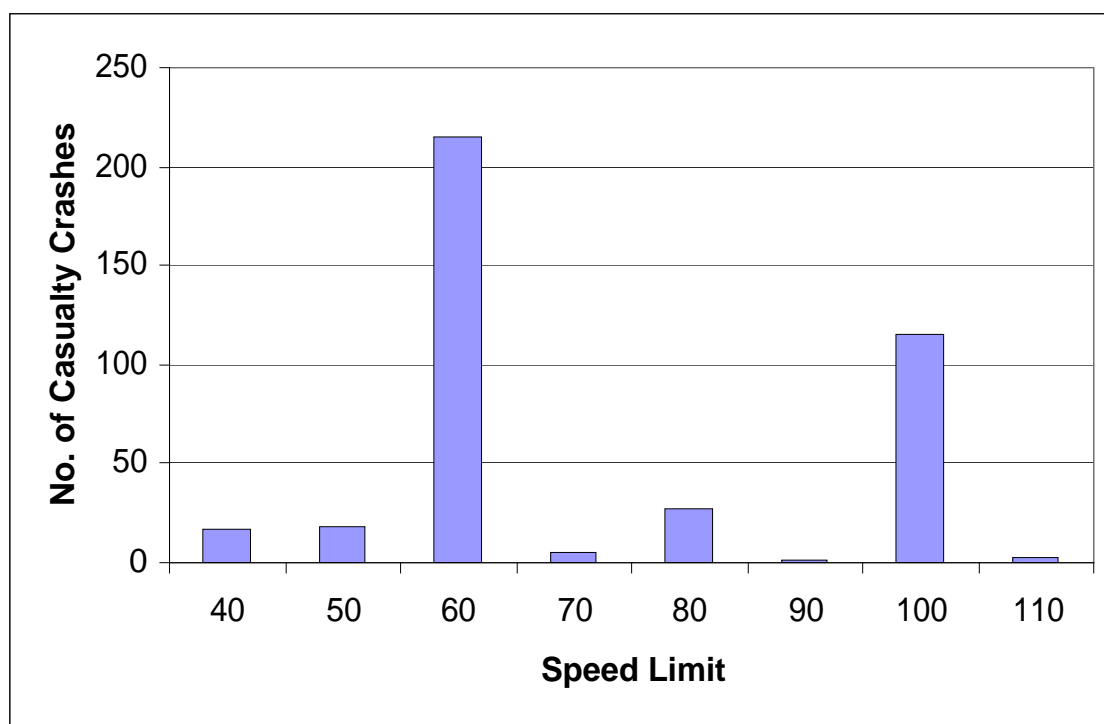


Figure 14 below shows Indigenous casualty crashes in Queensland according to the Definitions of Classifying Accidents (DCA) grouping. It can be seen that a high proportion of the casualty crashes were in the following DCA categories:

- 'Off Path – Straight' and 'Off Path – Curve' (ie. single vehicle crashes) - 40%
- 'Pedestrians' - 23%

Figure 14: Indigenous Casualty Crashes by DCA: Queensland 2000-2001

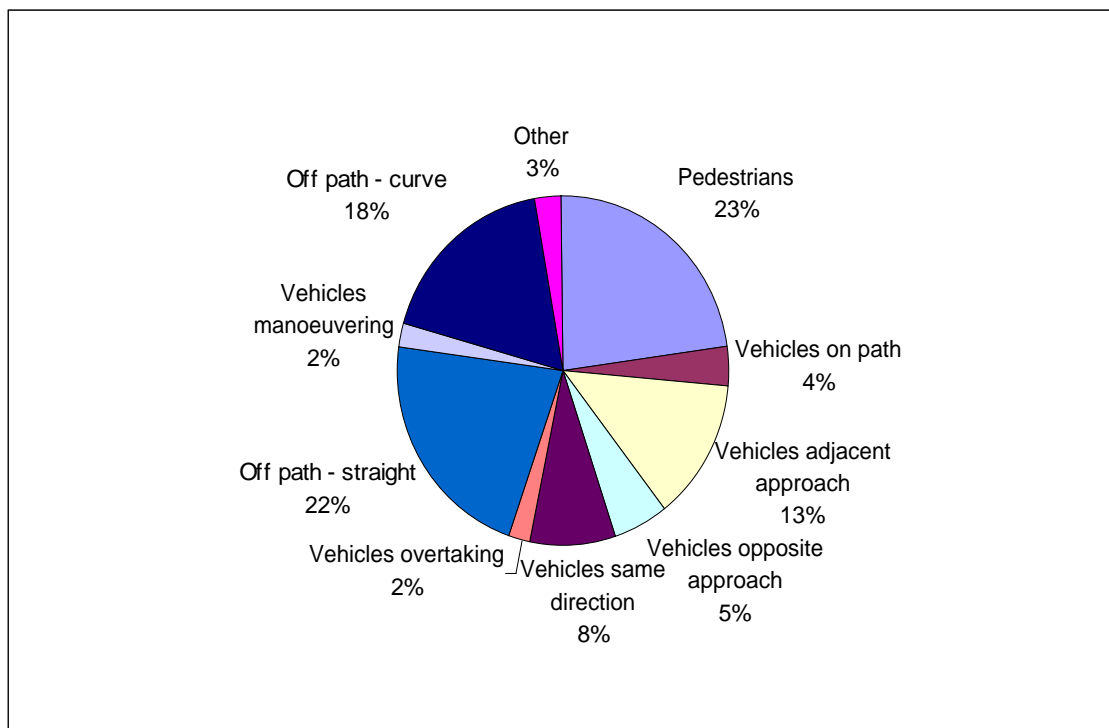
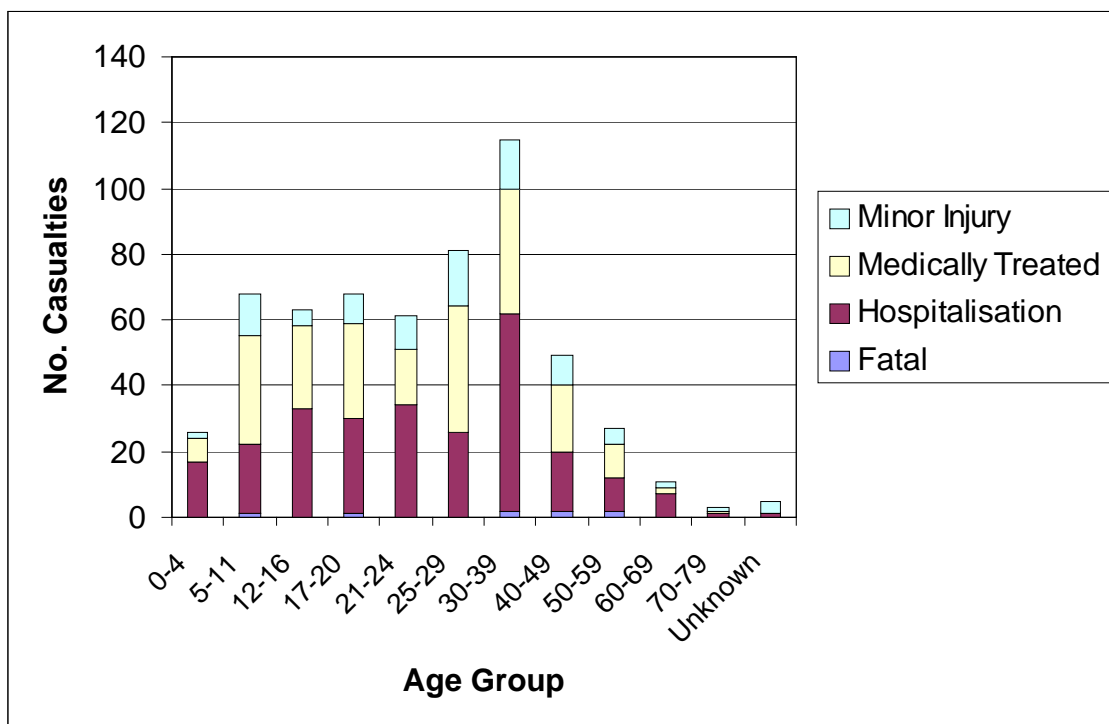


Figure 15 shows Indigenous road casualties in Queensland by age and severity, for the period from 2000 to 2001. It is evident that people in the 30-39 age group make up a large proportion of road user casualties.

Figure 15: Indigenous Casualties by Age Group and Severity: Queensland 2000-2001



3.5 Northern Territory Data

This section details a crash analysis of the Northern Territory Indigenous road casualty data provided by the Northern Territory Government for the period from 1996 to 2001 inclusive.

Figure 16 shows the yearly trend in Indigenous road casualty crashes between 1996 and 2001. It can be seen that the number of casualty crashes involving Indigenous people was generally between 160 and 180, peaking at 193 in 1999 and decreasing in both 2000 and 2001.

Figure 16: Indigenous Casualty Crashes by Year: Northern Territory 1996-2001

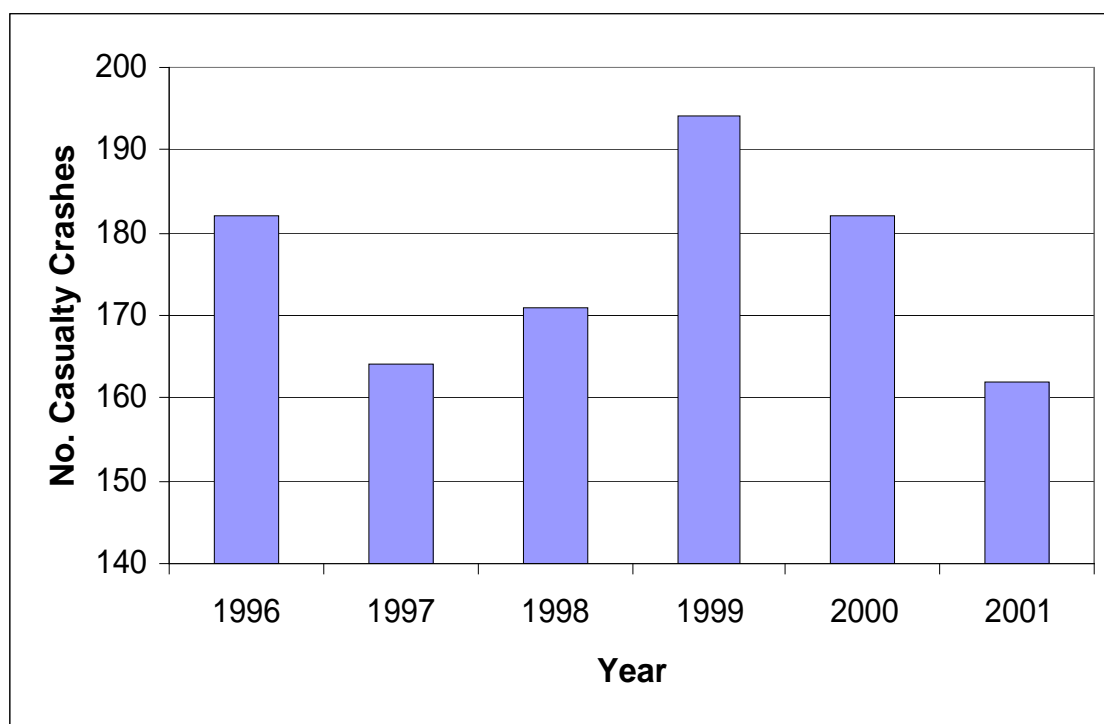


Figure 17 shows Indigenous road casualty crashes for the period from 1996 to 2001 by month. It is evident that the number of casualty crashes was fairly consistent over the months. Figure 18 shows the number of Indigenous crashes by day of the week. The graph shows that the highest numbers of crashes occurred between Thursdays and Saturdays, with the lowest number occurring on Sundays. Figure 19 shows Indigenous road casualty crashes by time of day. It can be seen that the peak period for casualty crashes was between 6pm and 8pm, with a low between 4am and 6am.

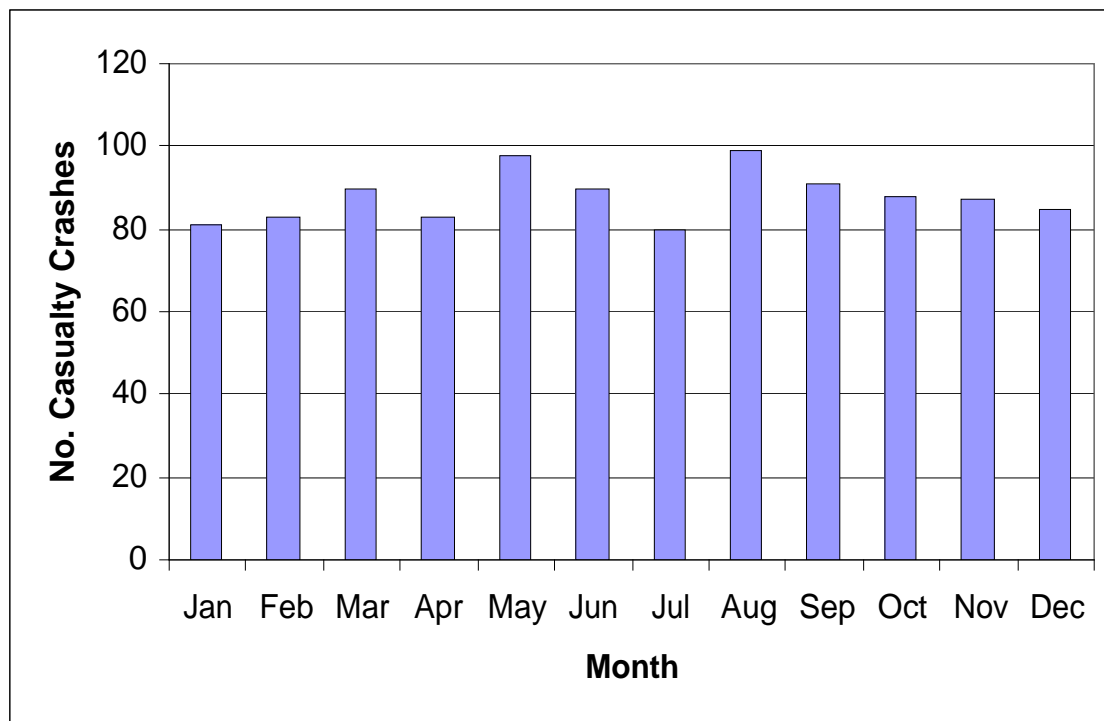
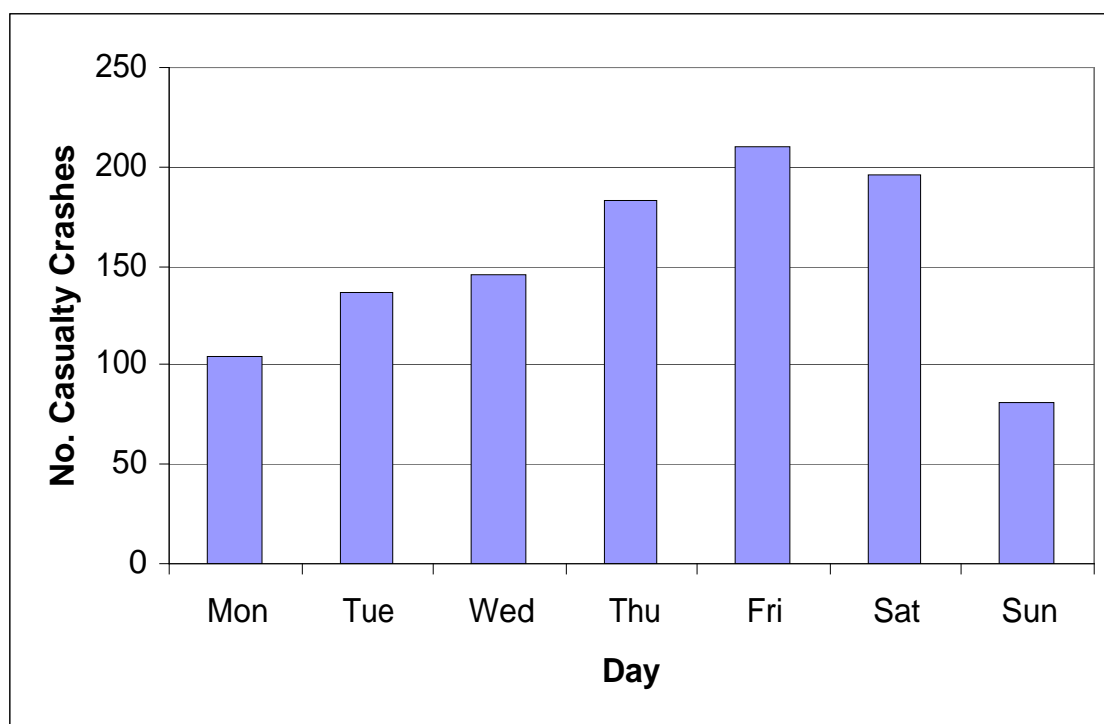
Figure 17: Indigenous Casualty Crashes by Month: Northern Territory 1996-2001**Figure 18: Indigenous Casualty Crashes by Day of the Week: Northern Territory 1996-2001**

Figure 19: Indigenous Casualty Crashes by Time of Day: Northern Territory 1996-2001

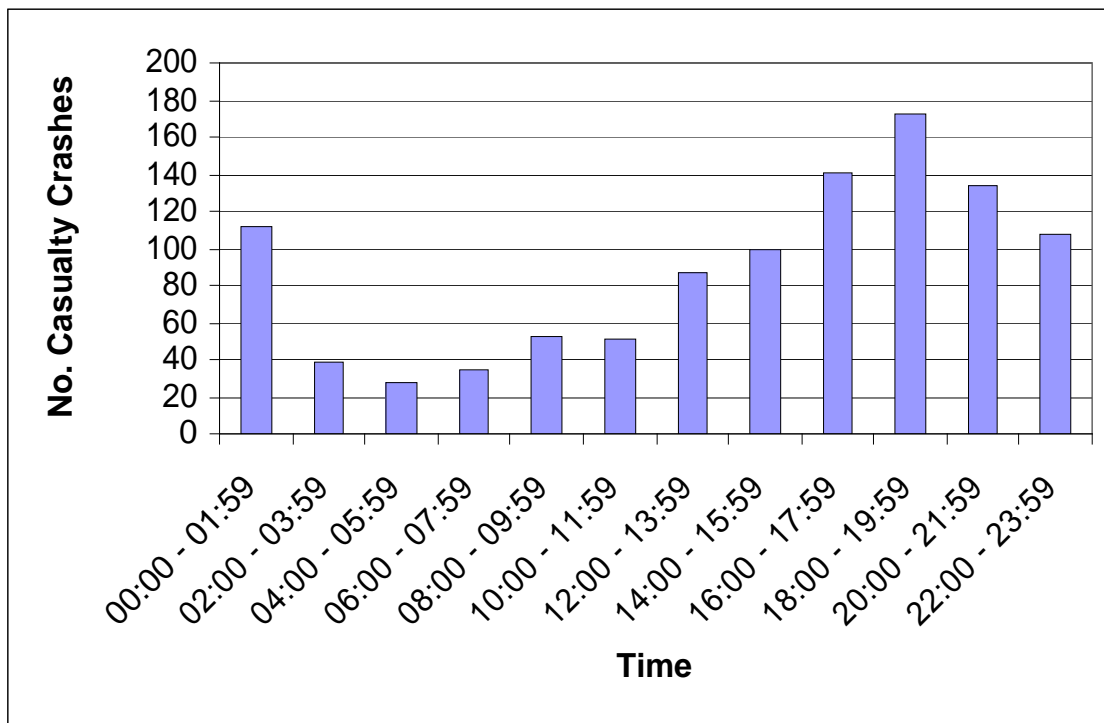
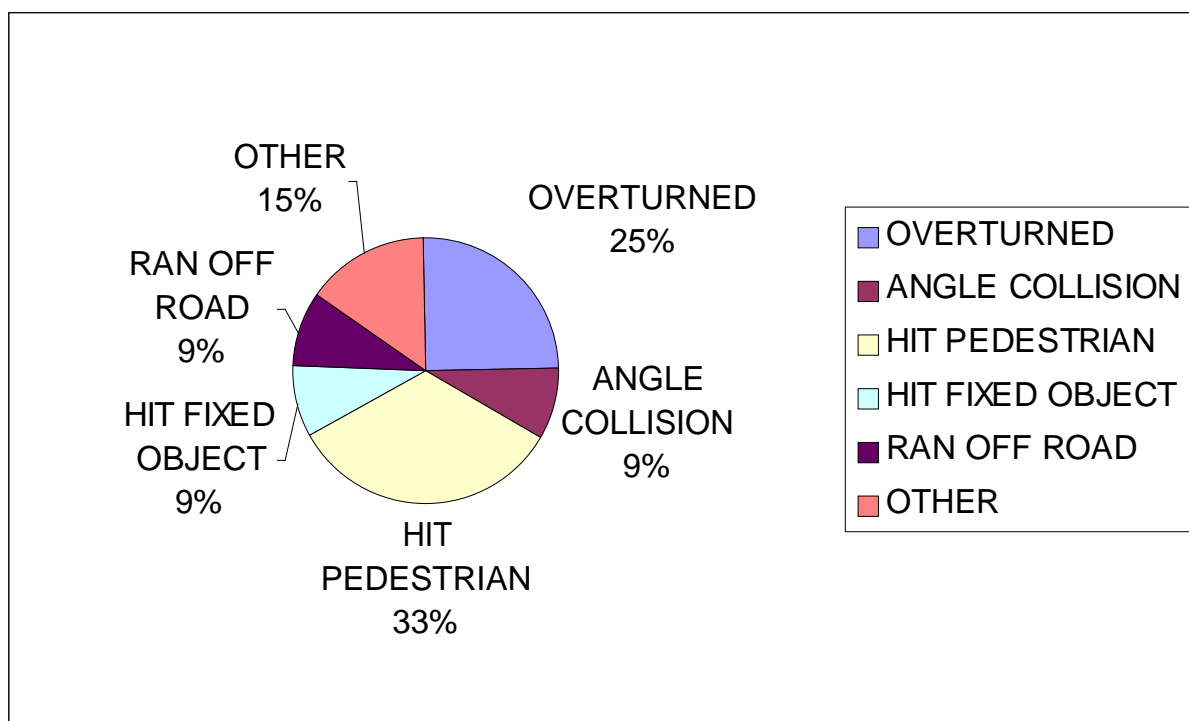


Figure 20 shows the Indigenous casualty crashes in Northern Territory by crash type. It can be seen that a large number of crashes involved a pedestrian being hit (33%), followed by a vehicle overturning (25%). Other single vehicle crashes, ‘ran off road’ and ‘hit fixed object’, accounted for a further 18% of crashes.

Figure 20: Indigenous Casualty Crashes by Type: Northern Territory 1996-2001



The number of casualty crashes involving Indigenous people by location and severity is shown below by Figure 21. This shows that there were only slightly more crashes in urban areas (51%) compared to rural areas (49%). However, of the fatal crashes, 67% were in rural areas and 33% in urban areas. There were more crashes in each of the other categories of severity (treated admitted, treated not admitted, and injured not treated) in the urban areas.

Figure 21: Indigenous Casualty Crashes by Location and Severity: Northern Territory 1996-2001

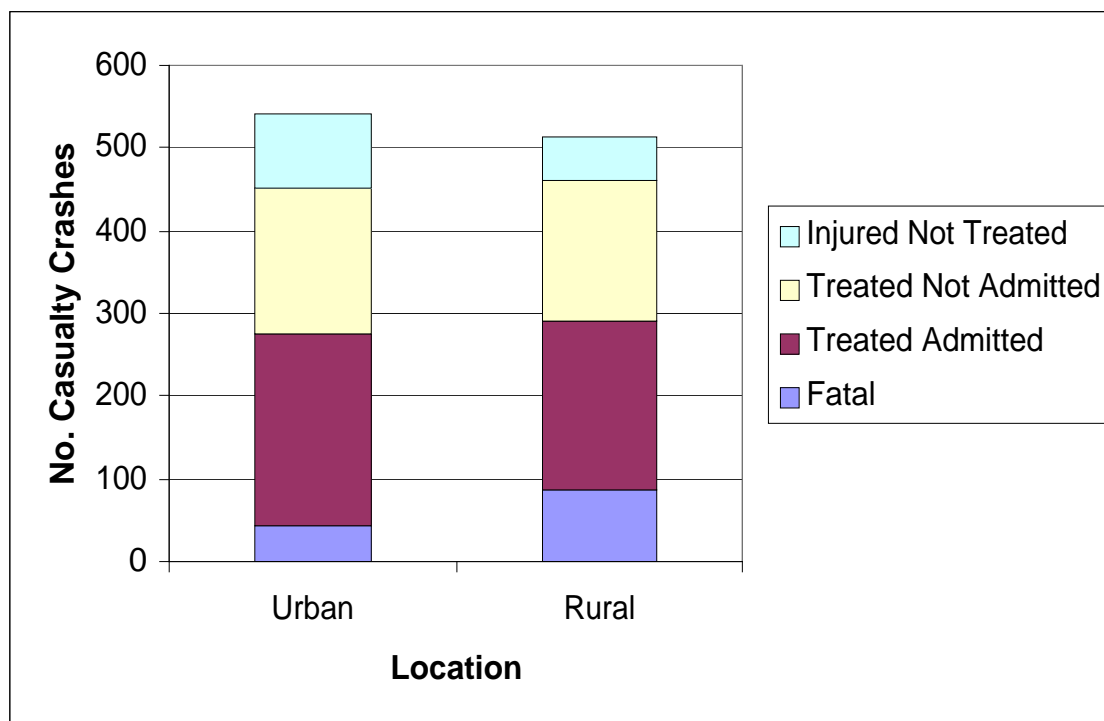


Figure 22 shows the Indigenous casualty crashes according to whether they were alcohol related. Of the total number of crashes, a greater number were not alcohol related (60%) than were alcohol related (36%). However, of all fatal crashes, considerably more were alcohol related (74%) than not alcohol related (25%).

Figure 22: Indigenous Casualty Crashes by Involvement of Alcohol: Northern Territory 1996-2001

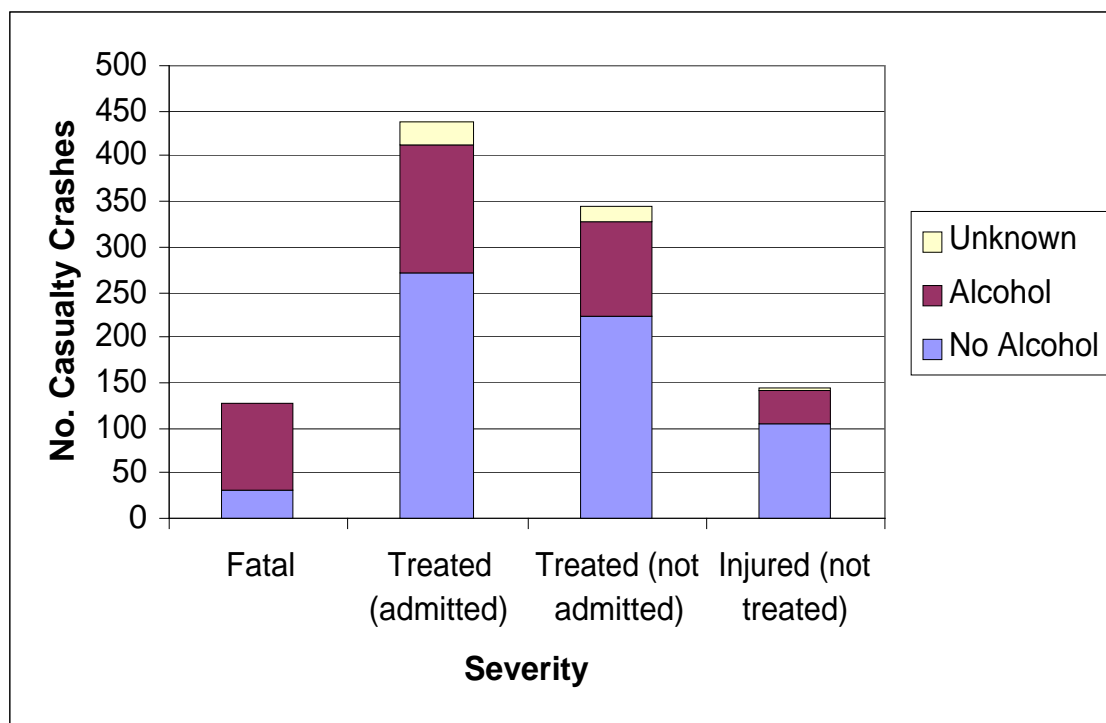


Figure 23 shows the number of casualties involved in Indigenous casualty crashes, according to their sex and severity of injury. Males were over represented in each category of severity, making up 70% of the total number of casualties.

Figure 23: Casualties Involved in Indigenous Casualty Crashes by Sex and Severity: Northern Territory 1996-2001

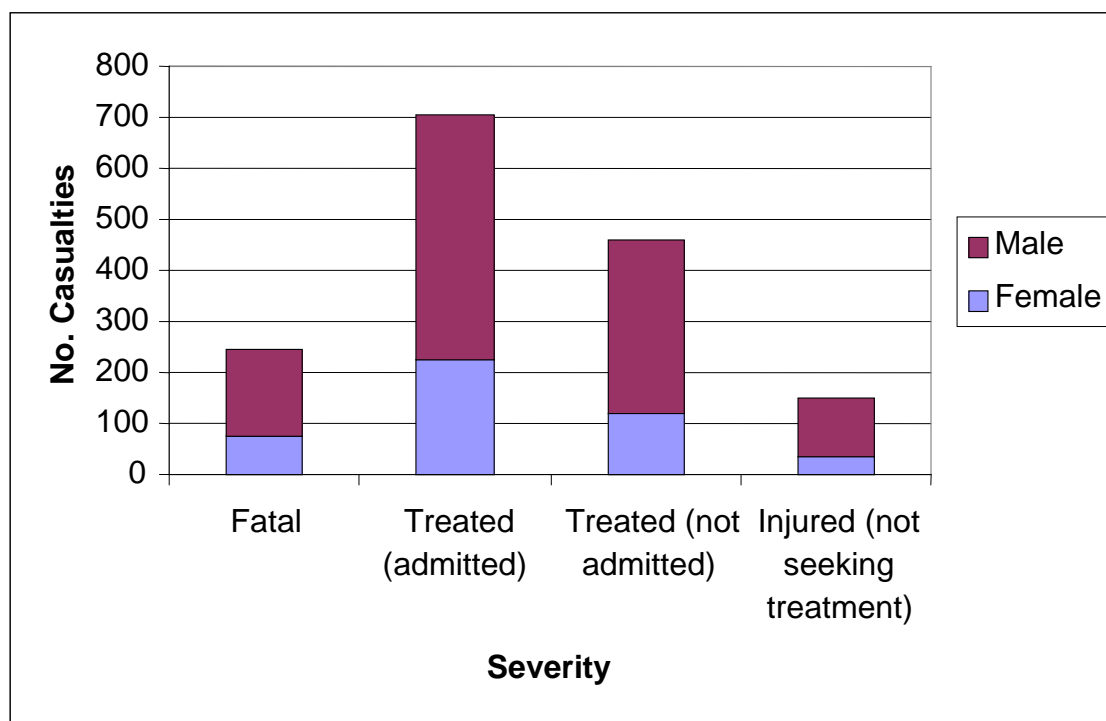


Figure 24 shows the number of Indigenous casualties according to road user type. The highest number of casualties were drivers (34%), followed by car passengers (28%) and pedestrians (23%). While only making up a small percentage of casualties (3%), there were a considerable number of injured passengers without a seat (51).

Figure 24: Casualties Involved in Indigenous Casualty Crashes by Road User Type: Northern Territory 1996-2001

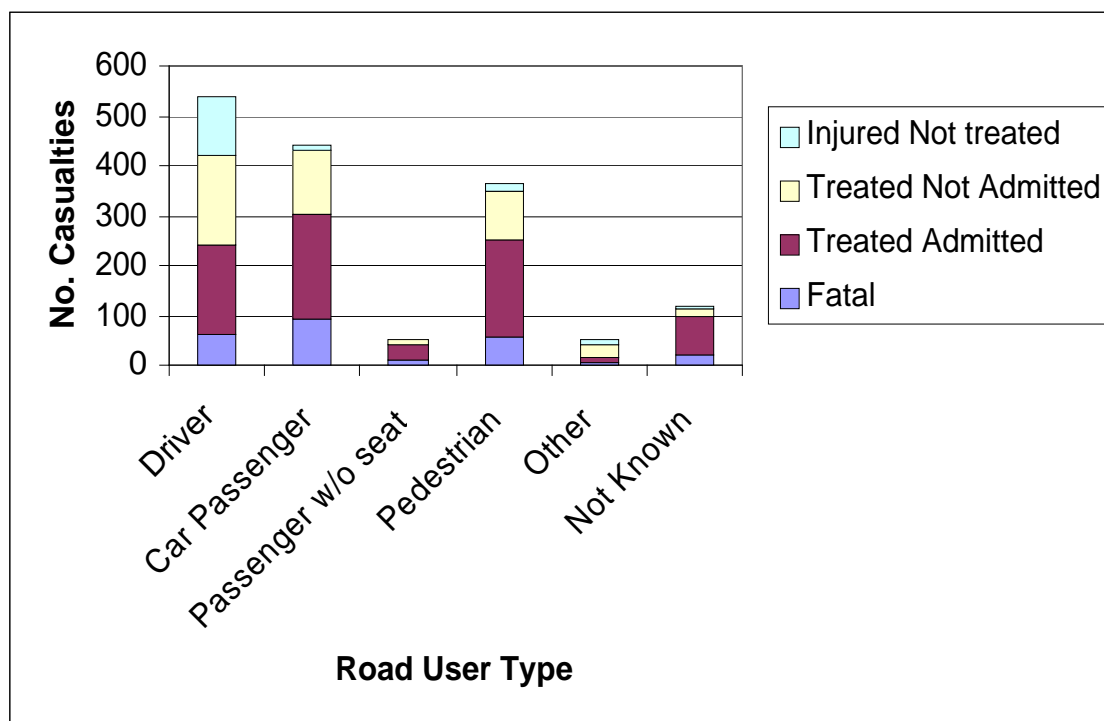


Figure 25 shows Indigenous casualty numbers according to whether a restraint or helmet was worn. It can be seen, that for those casualties for whom it was recorded, the numbers wearing and not wearing a restraint were almost identical. However, of the total number of fatalities, 54% were not wearing a restraint compared to 8% wearing a restraint.

**Figure 25: Casualties Involved in Indigenous Casualty Crashes by Restraint Wearing:
Northern Territory 1996-2001**



3.6 Western Australian Data

Because Western Australian data were not available in a form that allowed ARRB to conduct crash analyses most of the statistics presented in this section were drawn from Cercarelli's (1999) report on crash-related hospitalisations and deaths occurring in Western Australia between 1998 and 1996 inclusive. The University of Western Australia's Road Accident Prevention Research Unit provided the data presented in Cercarelli's report. The data from 1997 through to 1999 that are presented was drawn from a discussion paper drafted by the Aboriginal Road Users Taskforce, who based their statistics on data provided by the University of Western Australia's Injury Research Centre.

Figure 26 shows that the hospitalisation rate for Indigenous people due to road injury has fluctuated between 1988 and 1999, but has remained considerably higher than the hospitalisation rate for non-Indigenous people.

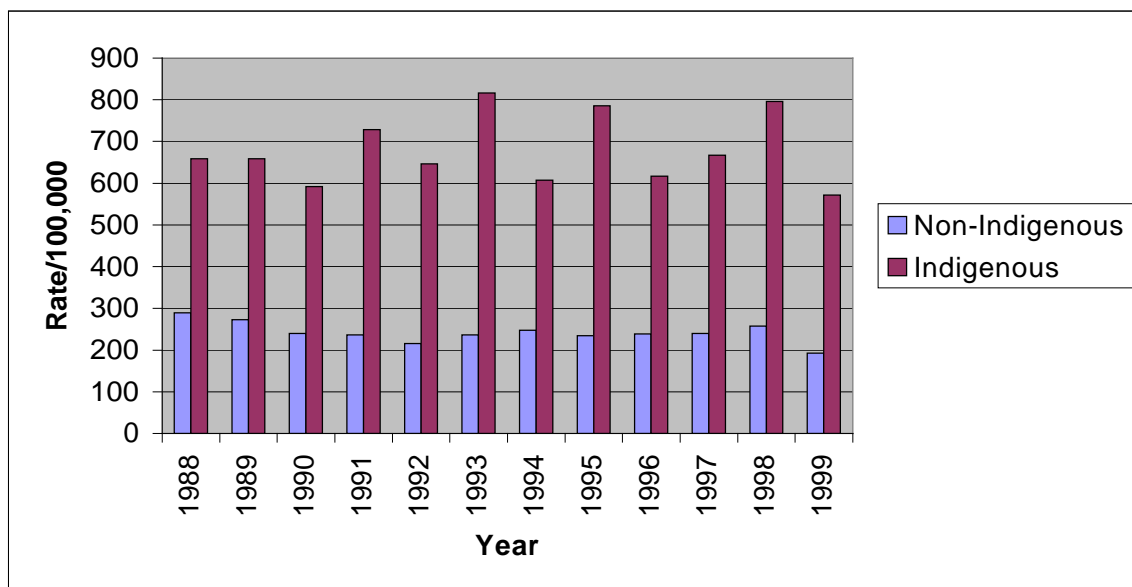
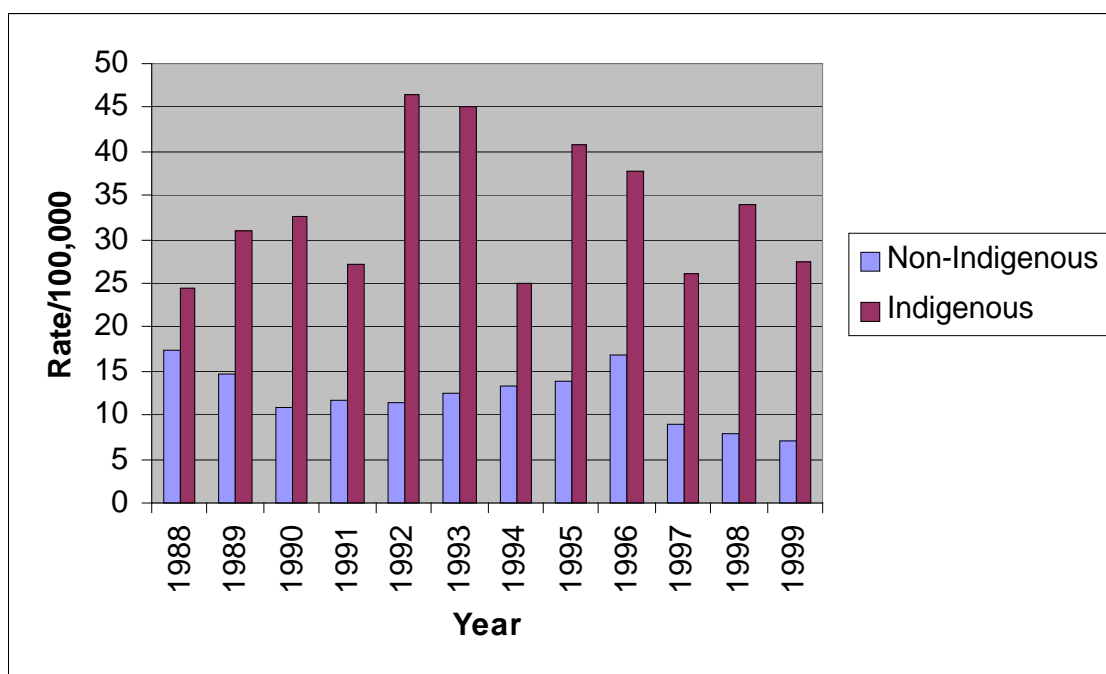
Figure 26: Road Injury Hospitalisations in Western Australia, 1988-1996

Figure 27 reveals that, like hospitalisation rates, road injury death rates for Indigenous people in Western Australia fluctuate considerably but remain higher than the rate for non-Indigenous people.

Figure 27: Road Injury Deaths in Western Australia, 1988-1999

Figures 28 and 29 show that males of both Indigenous and non-Indigenous status are over-represented in road crash related hospitalisations and fatalities. Indigenous males are almost twice as likely to have been hospitalised as a result of a crash, and almost three times as likely to have been killed, as Indigenous females.

Figure 28: Indigenous Road Injury Hospitalisations by Sex: Western Australia, 1989-1999

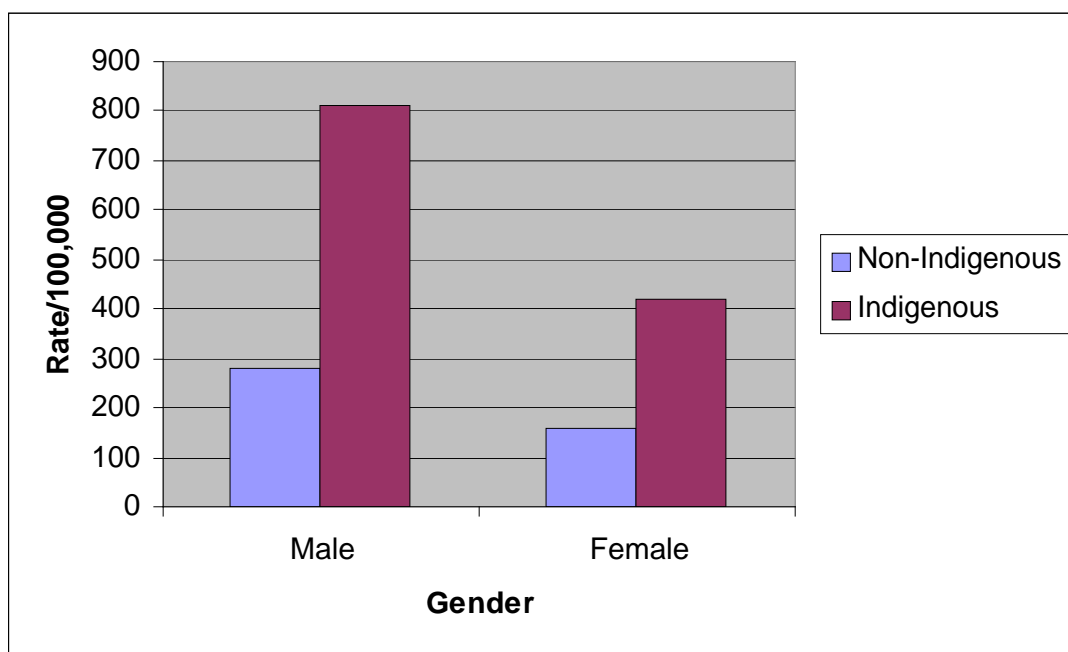


Figure 29: Indigenous Road Fatalities by Sex: Western Australia, 1989-1999

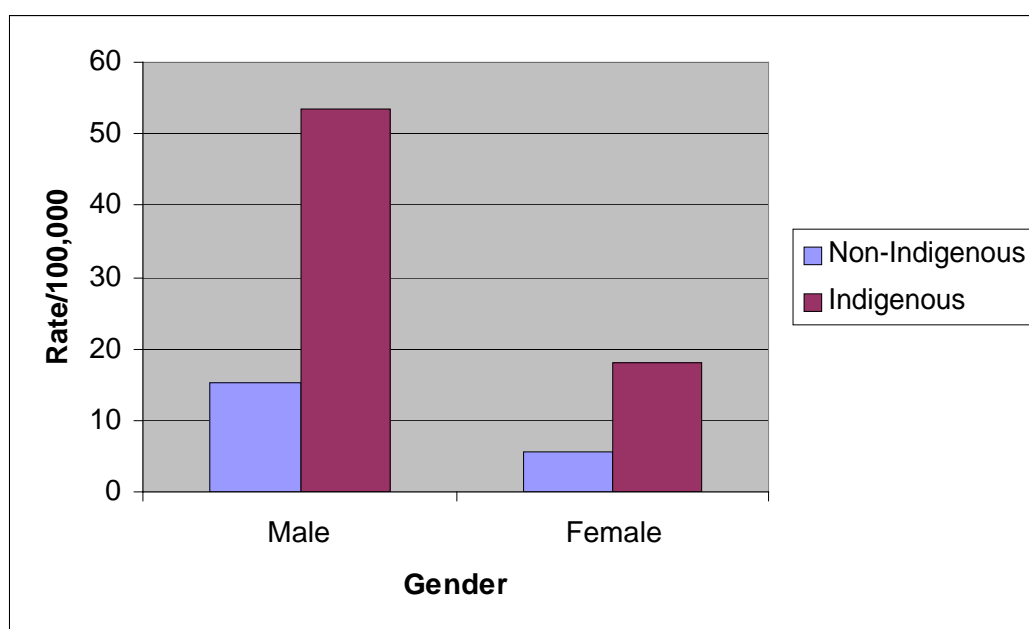


Figure 30 shows that Indigenous people in all age groups are more likely to have been hospitalised as a result of a road crash than non-Indigenous people. Figure 31 shows a similar trend for road crash fatalities, although Indigenous people over 65 years of age are less likely than their non-Indigenous counterparts to have been killed in a road accident. Figures 30 and 31 also indicate that the Indigenous people in the 15-24 age group were most likely to have been hospitalised or killed as a result of a road crash, although those in the 45-64 age group were only slightly less likely to have been killed.

Figure 30: Road Injury Hospitalisation Rates by Age and Indigenous Status: Western Australia, 1989-1999

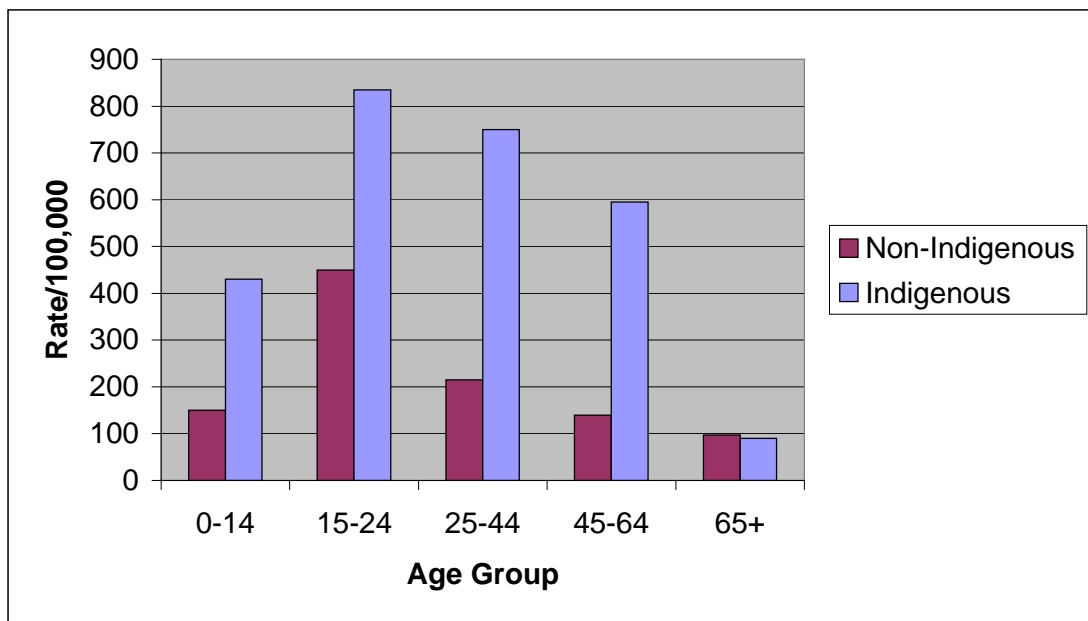
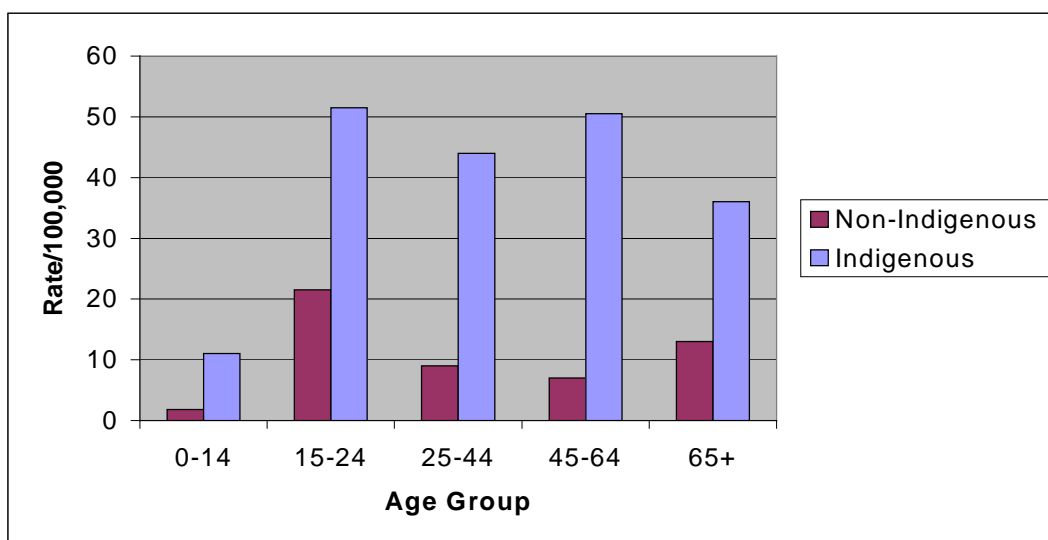


Figure 31: Road Fatality Rates by Age and Indigenous Status: Western Australia, 1989-1999



Figures 32 and 33 suggest that more rural Indigenous residents have been hospitalised as a result of a road crash when compared to metropolitan residents. Indigenous people are over-represented as casualties among both rural and metropolitan residents.

Figure 32: Road Injury Hospitalisation Rates by Location and Indigenous Status: Western Australia, 1988-1996

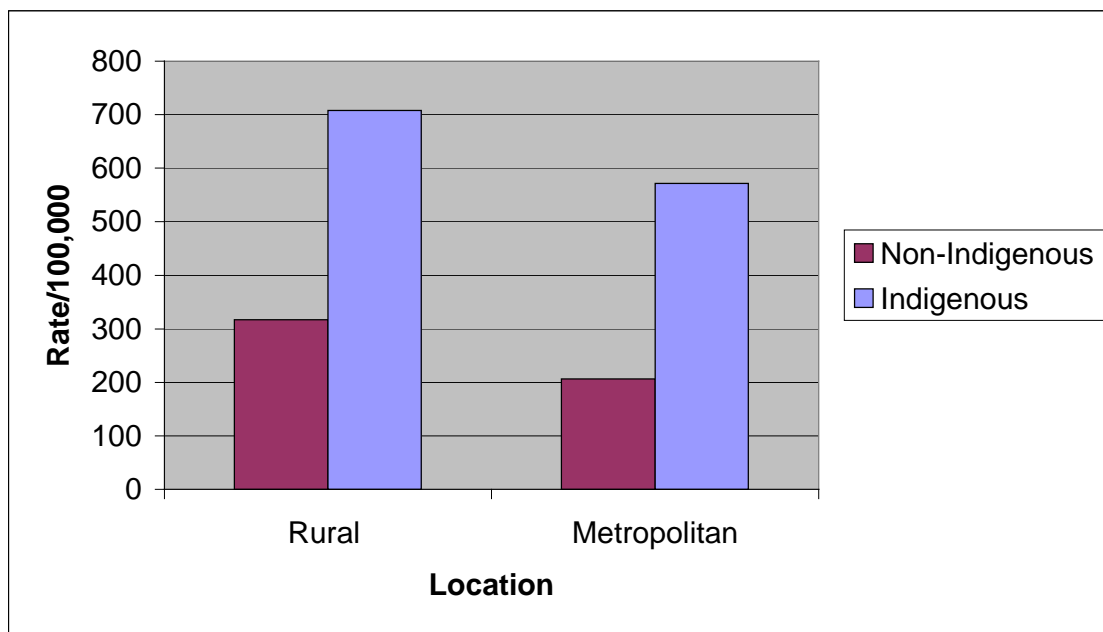


Figure 33: Road Fatality Rates by Location and Indigenous Status: Western Australia, 1988-1996

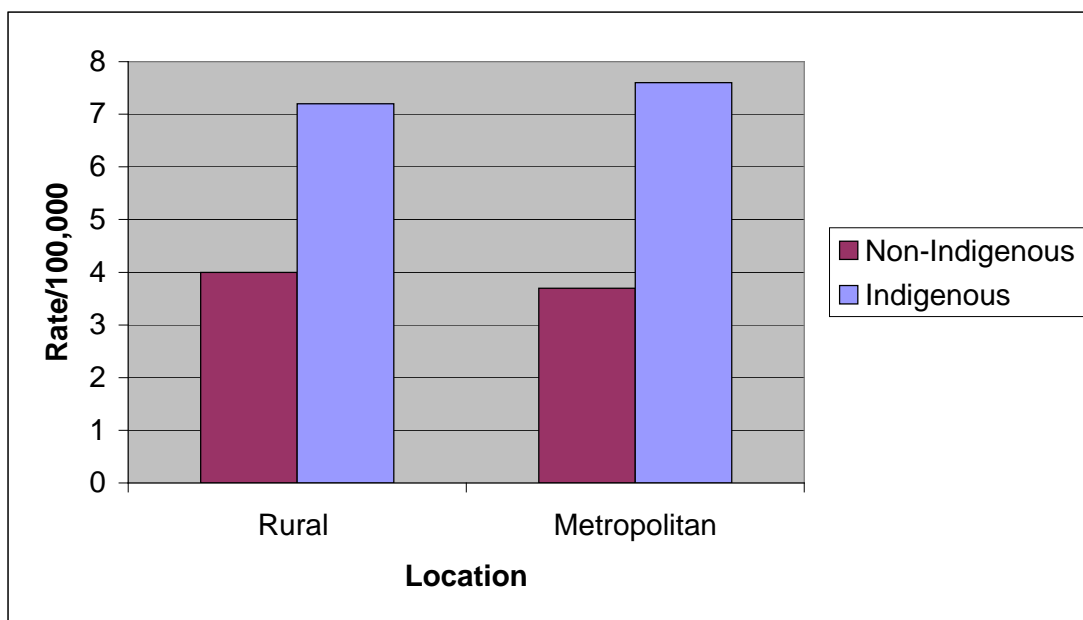


Figure 34 shows that most hospitalisations of Indigenous people were a result of 'Hit Pedestrian,' 'Hit Object,' or 'Non-Collision' crashes. Figure 35 also suggests that crashes of the same nature are responsible for most crash-related fatalities among Indigenous people.

Figure 34: Nature of Crashes Resulting in the Hospitalisation of Indigenous People in Western Australia, 1988 – 1996

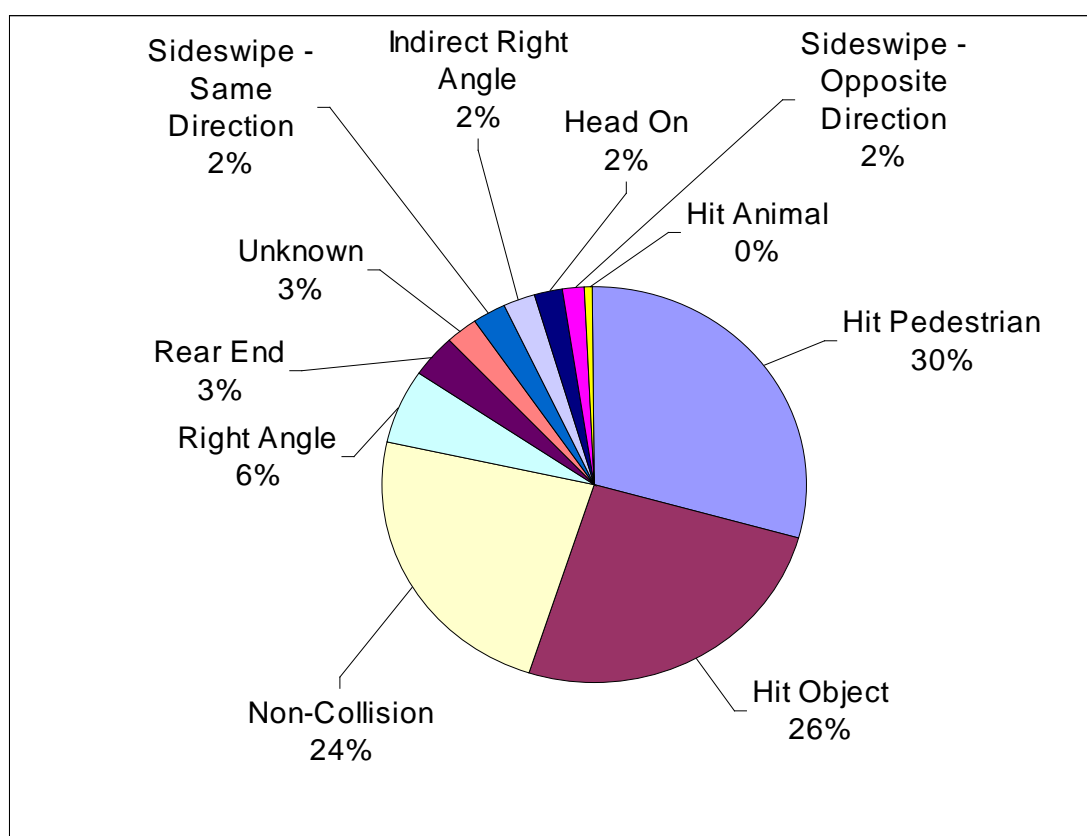


Figure 35: Hospitalisations of Indigenous People by Road User Type: Western Australia, 1988-1996

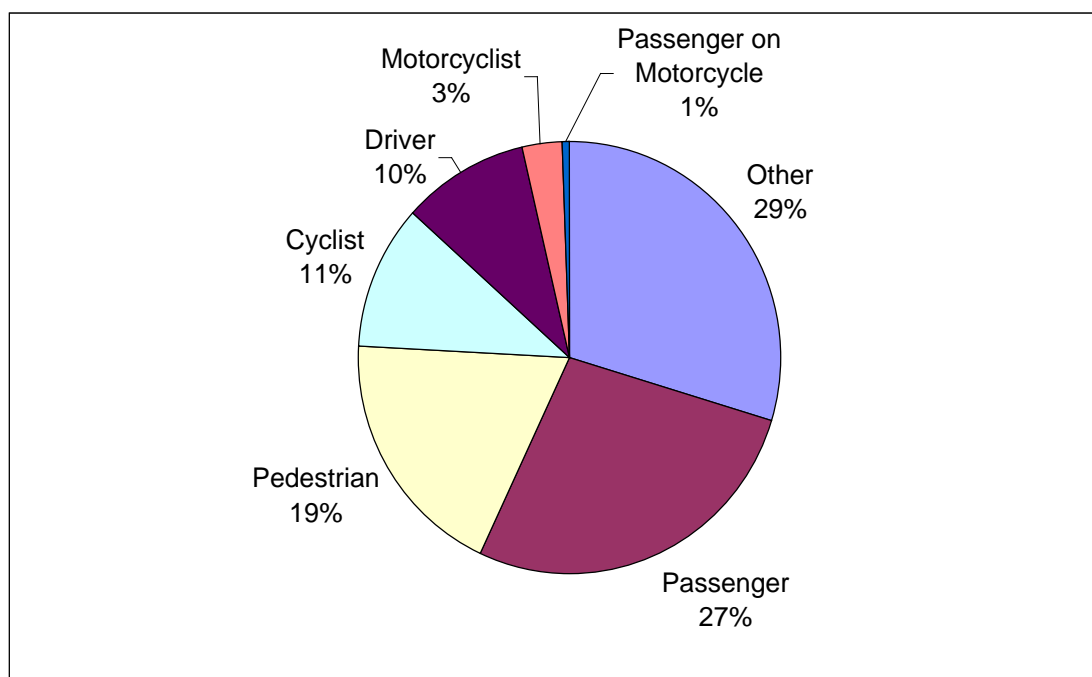
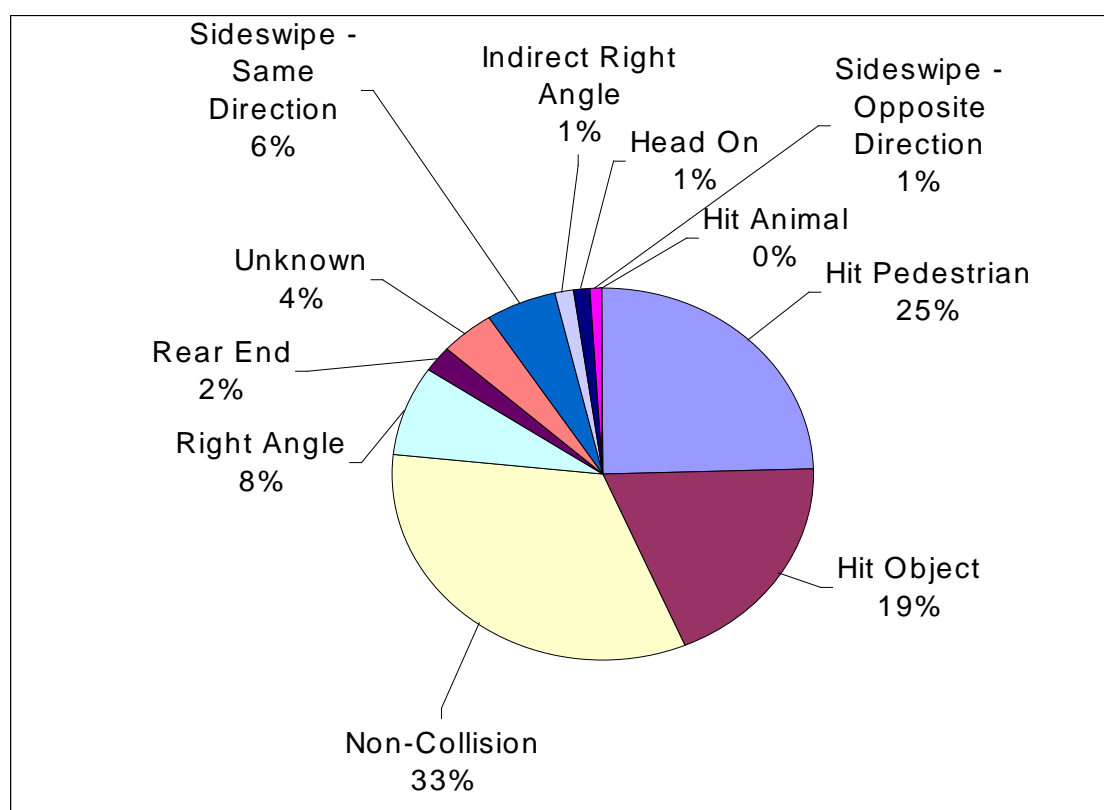


Figure 36 indicates that most Indigenous people hospitalised as a result of a crash were either passengers in a vehicle or pedestrians at the time of the crash.

Figure 36: Nature of Crashes Resulting in Deaths of Indigenous People in Western Australia, 1988 – 1996



4 Consultation

Consultation has been undertaken with road safety authorities and Indigenous organisations in each jurisdiction. Consultation was undertaken by means of face to face interview, telephone interview, or correspondence. A list of contacts is provided in Appendix B. The consultation sought to identify:

- Indigenous crash data: availability, recording and reliability issues.
- Key road safety issues for Indigenous populations in each jurisdiction.
- Past, present and/or future road safety programs in place, including program details, implementation and evaluation.
- Past, present and/or future Indigenous road safety research.
- Gaps in Indigenous research.
- Promising initiatives to address Indigenous road safety issues.

4.1 National

4.1.1 Office of ATSI Health, Health and Community Strategies Branch

Contacts:

Sue Gordon, Director, Alcohol, Substance Misuse and Injury Prevention Section

Dr Anna Herceg, Medical Advisor

The Health and Community Strategies Branch of the Office of ATSI Health (OATSIH) is not a direct stakeholder in the determination of Indigenous road safety policy. However, they are the Commonwealth body responsible for national Indigenous alcohol, substance misuse and injury prevention policy development. Specifically, they developed the current *National Alcohol Strategy*, which provides rationale for the implementation of individual alcohol harm reduction programs in the various jurisdictions. Addiction and alcohol help lines are operated by the jurisdictions while the OATSIH acts as a “*co-ordination link*”.

Another primary focus is to support epidemiological and medical research with Indigenous persons and promote programs that improve Indigenous persons’ equity and access to preventive medical and safety programs. More recently, the OATSIH worked with the National Health & Medical Research Council (NHMRC) to develop *Australian Alcohol Guidelines* (available at www.health.gov.au). These guidelines specify “*safe levels of alcohol consumption for special groups*”. A mass public education campaign is currently being undertaken by the OATSIH to inform communities of these guidelines. The preliminary success of this campaign is not yet known, but any initiatives targeting problem drinking and Indigenous populations should have positive road safety spin-offs.

With regard to Indigenous-specific health data, the OATSIH do not house an injury database and refer to data provided by the Australian Institute of Health and Welfare and the National Injury Surveillance Unit (Flinders University) to provide insight into injury trends. The interviewees commented that these sources are “... *arguably the best in Australia*”.

4.1.2 Commonwealth Department of Health and Aging, Population Health Section; Member of National ATSI Road Safety Working Group

Contact:

*Kerry Smith, Acting Assistant Director, Alcohol, Substance Misuse and Injury
Prevention Section, Commonwealth Department of Health Aging and Population
Health Section*

The Commonwealth Department of Health and Ageing, Alcohol, Substance Misuse and Injury Prevention Section is currently co-ordinating the development of a National Indigenous Injury Prevention Plan. While road safety is not a primary responsibility, the Department is a member of the National Aboriginal Road Safety Working Group – a committee run by ATSB.

Alcohol related crashes are considered to be a key Indigenous road safety issue.

National statistics

The Australian Institute of Health and Welfare (AIHW) collates data from jurisdictions on hospital separations data (morbidity) and the Australian Bureau of Statistics (ABS) collates deaths data (mortality). These are currently coded to ICD 10-AM 2, but version 3 will be coded from 1 July 2002. However the quality of this data for the identification of Indigenous people relies on either the coder or on the injured person identifying himself or herself as Indigenous. This does not always occur. Research from NSW suggests that many Indigenous do not identify themselves as such because of perceived and actual prejudice. Therefore, it seems likely that the extent of Indigenous involvement in motor vehicles crashes is substantially under reported.

National Health and Medical Research Council

The National Health and Medical Research Council (NHMRC) is currently funding the Injury Prevention through Community Development Initiatives in Central Australia project – Tangentyere Council in Alice Springs in partnership with Flinders University. While this is not a specific road safety project, it will include road safety initiatives.

4.2 Queensland

This section provides summaries of the consultations conducted with road safety authorities and Indigenous stakeholders in Queensland.

4.2.1 Queensland Police Service

Contacts:

*Peter Kolesnik, Senior Research Analyst
Senior Sergeant Allan Pryde, State Traffic Support Branch*

The key roles of Queensland Police with regard to Indigenous road safety issues are to:

- provide driver licensing programs (actual & practical) to isolated and remote areas and Indigenous communities;
- conduct actual practical licence testing procedures for persons within these communities; and

- work with the local police and judicial system in areas of traffic related matters.

Indigenous crash data, through the traffic incident reporting system, are considered to be adequate, although more information would be desirable from the Courts regarding traffic offences and related matters.

Queensland Police consider one of the key road safety issues for Indigenous populations is having a drivers' licence (ie. not driving unlicensed). This would dramatically reduce the number of Court appearances and avoid a large number of custodial sentences from other traffic-related matters.

Therefore, as a local police initiative with the support of the State Traffic Support Branch in Brisbane, remote, isolated and Indigenous areas driver licensing programs are currently being run. Licence testing consists of practical and verbal testing. Verbal tests are in a language and speech that is understood, and practical testing is conducted in the local environment. The program has been a success and is going from strength to strength. The Magistrate Court (Innisfail) is joining in the program and it is being introduced into the Yarrabah Community (where all previous attempts and programs, by other Government Departments, have failed).

Monitoring of the program and its results, in terms of crashes and impacts on the judicial system and court process, is proposed. A spin-off of the program is as an avenue for further assistance to the communities in the areas of domestic violence and alcohol abuse.

Indigenous communities are contacting Queensland Police to ask for assistance and support and are requesting implementation of the program in their local areas. The program is cost efficient and the results have been far in excess of any other government initiative or program to date. The Courts have indicated their support for the program and others that are aimed at directly solving the problems associated with Indigenous persons entering into custodial sentences.

Queensland Police suggest that the people of remote isolated areas and Indigenous communities no longer believe in the system of committees, working groups and fact finding missions coming to their areas and talking with 'representatives' of their clan/tribe/group, who in most cases don't have the right of representation or speech, and then departing back to the city promising great things with no results. According to Queensland Police, the simplest plan is the best ... We know what is needed, where it is needed, how it needs to be provided, so let's just get in and do it. If it needs modification, then modify as we go and be prepared to change as circumstances or factors arise that need changes. There has been enough 'research' and committees. The problems have been identified, the plans have been available and now they all need to be implemented practically into the communities.

4.2.2 Queensland Transport

Contacts:

Doug Brownlow, Community Programs Officer

In 1998, Brownlow and Guthrie drafted a strategy document to address Indigenous road safety issues using a community engagement approach – *“The Development and Implementation of an Aboriginal and Torres Strait Islander Road Safety Strategy for Remote Communities”*. The five key principles underpinning the strategy were:

- community-managed road safety planning;
- interagency collaboration
- a developmental approach;
- cultural effectiveness; and
- sustainability.

They provided an outline for conducting research in Indigenous communities and stress the importance of cultural understanding. *“Researchers in Indigenous communities need to know community power structures and the way in which communication takes place in individual communities. ... We need to know who has the right to respond. Only then, can researchers hope to be asking the right questions of the right people. ... It is equally important that researchers are appropriate and accepted by the community to get meaningful information. ... Finally, story-telling and auditory information is highly important to Indigenous populations and, where possible, information should be gathered using these means as opposed to more rigid literacy-reliant processes”*.

The major concern voiced relates to the high incidence of alcohol involvement in both Indigenous road crashes and other crime in Northern Queensland. In response, the *Cape York Justice Study* has called for problem communities to adopt a “no alcohol” policy. The underlying assumption is that abstinence will lead to less crime and road injury and an improvement to Indigenous decision-making and health across the board.

With regard to the high levels unlicensed driving and driving of unregistered vehicles among Indigenous populations, Brownlow (2001) points out that: “... The present situation is characterised by disincentives, lack of incentives, and impediments to accessing the regulatory regime. It is failure to access or comply with this regime that chiefly results in breaches of the law and subsequent imprisonment.”

Section 4 of the Cape York Justice Study Report (November 2001) specifically highlights recommendations addressing the management of crime and justice (including alcohol and licensing issues) in Cape York Indigenous communities.

4.2.3 Queensland Transport – Far Northern Region

Contacts:

June Powell, Road Safety Manager

Stuart Wright, Senior Advisor, Indigenous Communities Project

The key road safety issues for Indigenous populations in Queensland are:

- Riding in the Back of Utes (Compliance to ARR 268)
- Unlicensed driving
- Unrestrained driving
- Unroadworthy vehicles

One of the major difficulties has been the collection of meaningful Indigenous crash data. Prior to 1999 Indigenous status was not included on police crash records. Even now, many crashes do not occur on gazetted roads or in areas, which are easily identifiable and therefore sometimes are missed in crash statistics. This would appear consistent with other states. Indigenous Deed of Grant in Trust (DOGIT) boundaries are not included in crash data.

With regard to future research, it is considered that Australia-wide research needs to be undertaken in a co-ordinated manner between all states and territories with knowledge from research being distributed to all appropriate parties.

Aboriginal and Torres Strait Islander Road Safety Strategy: Remote Communities Project

Queensland Transport has conducted the Aboriginal & Torres Strait Islander Road Safety Strategy: Remote Communities Project since 1996. This project has aimed to raise the level of awareness of road safety within remote Indigenous communities and reduce the over-representation of Indigenous people involved in road trauma. The project is currently being implemented throughout Cape York and Torres Strait Island communities. Queensland Transport employs two specialist staff to undertake the development and implementation of this program. Key components of the project are:

- The development of a community-managed approach to road safety planning in the Cape York communities of Hopevale and Kowanyama.
- The appointment of Indigenous road safety officers in these two remote communities, who co-ordinate the identification of local road safety issues. The second phase of the project will extend coverage to all 34 Indigenous communities in Queensland, of which 32 are in the department's Northern Region. (Note that the Aboriginal Co-ordinating Council supports the appointment of Indigenous road safety officers, however, submits that the long-term funding and training requirements of these positions need to be carefully planned and properly resourced. Otherwise, creating positions without adequate support structures is setting people up to fail (ACC, Submission, No.10, p15)).
- The project employs a Senior Advisor (Indigenous Communities Project), who provides on-the-ground support to remote Indigenous communities.
- A Community Road Safety Grant Scheme - communities can apply for funding of up to \$2000 to support their local road safety initiatives (Queensland Transport, Correspondence, 15 November 2000).
- The inauguration of a community workshop with key stakeholders from Kowanyama, Hopevale, Cunnamulla and Queensland Transport in August 1998, which developed community work plans that identified four major areas requiring action – licensing, resourcing, training and legal issues.
- Facilitation of the participation in road safety planning by member of North Queensland Aboriginal Communities.
- The appointment of a steering committee of stakeholders from Queensland Health, QPS, Education Queensland, Bluecare, the Department of Aboriginal and Torres Strait Islander Policy and Development, and a community representative to over-see the trial project (Queensland Transport, Correspondence, 28 February 2001).

In September 2001, a formal evaluation was conducted of the program and the outcomes of that evaluation are currently being used to implement future strategies. As part of the ongoing project, Queensland Transport conducts minimal research at the local community level.

Resource Development

Queensland Transport are currently involved in a community-based initiative to develop and build an interactive CD-Rom that will be used in remote communities to assist Indigenous people with low literacy skills to learn the road rules and the practical applications of those rules. The CD-Rom, titled 'Kids Have Their Say', is being developed utilising a series of animated Indigenous characters that will overcome problems of taboo's should any 'real people' pass away.

Other resources that have been developed include posters, postcards and bookmarks and a road safety animated video, and a Low Literacy Training Package.

Students from Yarrabah Aboriginal Community undertook two weeks of multimedia training and assisted in the development of road safety animations and messages.

Licensing Program

Through the Indigenous road safety project, communities identified a need to assist their people obtain licences and understand the road rules. With literacy a major issue for Indigenous people, the first time pass rate for most Indigenous populations attempting the learner's licence test is around 10%. However, with an external provider undertaking the licence tests in Hopevale, Mossman, Kennedy and Old Mapoon, using a hands-on method of teaching, the pass rate for the first attempt was raised to 85%.

The Townsville Correction Centre (TCC) approached Queensland Transport to assist with the delivery of learner licence training to inmates. Using a combination of resources including the Low Literacy Training Package, Correctional staff provided the training and Queensland Transport staff undertook the testing and licence issuance. Following on from the TCC pilot, and acknowledging the need to prevent incarceration for driving/licensing offences, Queensland Transport developed a school-based curriculum to assist Indigenous students in remote areas. Learner licence training is due to commence at Western Cape College, Weipa, in July 2002, shortly followed by practical driver training. Similarly, training is also expected to commence in the Yarrabah Aboriginal Community in July 2002.

Since commencing the TCC pilot, the word has been spreading throughout Cape York communities. Queensland Transport now receives regular requests for assistance in delivery of similar programs. They are currently working with Palm Island and Townsville CDEP organisations to deliver training to all employees through the Barrier Reef TAFE.

Other Initiatives

From 1 December 2002, it will be illegal for any person to ride in the back of utilities and trucks in Queensland. A new road sign has been developed to depict the new prohibition. Posters, postcards, and bookmarks have also been produced to promote the new rule.

Queensland Transport's Tropical Public Health Unit (TPHU) is trialing a transport injury surveillance system in the remote Indigenous communities of Yarrabah, Pormpuraaw, Wujal Wujal and Aurukun. Queensland Transport has supported the trial in order to ascertain the level and impact of transport related incidents in the communities. Initial data from the trial confirms the over-representation of Indigenous people in remote communities in transport-related

crashes, with one community recording incidents at a rate six times higher than the wider Queensland community over a ten month period (Queensland Transport, Correspondence, 28 February 2001).

4.2.4 Queensland Transport – Southern Region

Contact:

Noel Smith, Road Safety Manager

Most of the Indigenous road safety initiatives implemented by Queensland Transport are focused in the northern region. However, in the southern areas of Queensland there is an education campaign about the impact of alcohol on road safety, and the continued development of more culturally appropriate materials and delivery methods to aid Indigenous people obtain a licence. It is considered that providing support for low literacy users and encouraging Indigenous people to obtain a licence should allow their behaviour on the road to be better monitored.

There are also access issues for remote Indigenous communities in southern Queensland and it was suggested that Queensland Transport should move towards providing increased access to services for remote Indigenous communities.

4.2.5 Queensland Transport – Northern Region

Contact:

Noel Rumble, Regional Director

There are a number of Queensland initiatives with the goal of “... *handing Indigenous populations ownership of road safety issues through increased involvement in decision-making processes*” (personal communication Rumble 2002). The initiatives are described below.

Restraint/overcrowding legislation

The first initiative targets the high-risk behaviour of riding unrestrained in the back of tray-backs/utes. Following the lead of Northern Territory and Western Australia, Queensland has now implemented legislation to ban the problematic practice of riding in the back of tray-backs/utes. Exemptions have been given until the end of 2002, after which time the law will be enforced. In the interim, complementary community education campaigns and awareness programs in schools are encouraging Indigenous people to choose alternative vehicles such as troop carriers and vans.

Flexible licensing for prison inmates

The second initiative is in the trial phase and is currently being run through Stuart Prison. Stuart Prison has about 450 inmates, of which over half are of Indigenous descent, with a large majority serving time for traffic offences. The initiative trains inmates to pass an oral (as opposed to written) driver's test while incarcerated. Then, upon leaving prison, they are issued with a learner's permit, which has in theory: (a) increased the inmate's knowledge of road rules; and (b) reduced their possibility of reoffending for unlicensed driving. With ethnicity now recorded in the Traffic Incident Reporting System, an evaluation of the effectiveness of this program will be carried out in three to four months.

Western Cape all age driver education

A somewhat larger driver education program runs in the Western Cape region (ie. five to six communities around Weipa) through the Western Cape TAFE College. Programs are offered to both traffic offenders (through the court system) and the broader public. The content and delivery of the program is guided by an intersectoral reference group comprising representatives from: Queensland Police Service; Queensland Transport; Education Department; Magistrates; and Indigenous communities. *“The program recognises that nine out of 10 ATSI persons currently do not understand the written driving test with Creole being the primary language in the Cape (and more than 1000 different dialects spoken by Indigenous groups)”* . As such the knowledge component of the test is oral and tailored for the individual, thus catering for those with low literacy levels. The practical component of the program requires driver training in a dual control vehicle with an Indigenous police officer (QATSIP) or via a simulated CD-ROM test of the Cairns driving environment. By using a QATSIP officer (with no power of arrest) from the Yarrabah region, it is hoped that some of stigma held by Indigenous persons towards mainstream officers (known as *“bully men”*) can be overcome. This, too, should increase licensing rates but once again should be monitored.

Increasing Indigenous knowledge of car roadworthiness

For the past 12 months, Queensland Transport has been providing Indigenous populations in the Cairns region with knowledge about roadworthiness vehicles and what to look for when purchasing vehicles. QT is working with the Department of Corporate Affairs to randomly audit car yards distributing unroadworthy vehicles with the option to revoke trading licences.

4.2.6 Queensland Health

Contact:

Sue Smyllie, Community Development Officer

Queensland Health has developed an electronic community capacity building resource suitable for rural communities with limited resources and lower levels of socio-political efficacy, such as Indigenous populations. The Community, Action Planning and Information Resource (CAPIR) CD-ROM targets the social determinants of health (ie. equity and access) and helps communities to identify available individual capital and barriers and facilitators to change. Originally designed to address broader community health issues, the CAPIR is not content-specific and walks users through the stepwise process to achieve change: Reflecting → Interpreting → Deciding → Acting → Evaluating. During each phase, the user can document their processes for recording purposes or simply to inform other communities experiencing similar problems as to possible solutions.

CAPIR complements a resource under development by CARRS-Q and QT (ie. Pathways) which provides an inventory of road safety information and contacts and encourages communities to draw on both internal and external resources/expertise to solve local problems. Early feedback does suggest that both the packages are “user friendly” and culturally appropriate for both rural and Indigenous populations. So, as the push to provide ‘whole-of-government’ service delivery gains momentum, it seems logical to trial community capacity building technologies (like CAPIR and Pathways) across disciplines to improve the knowledge transfer process and avoid duplication.

A copy of the CAPIR CD-ROM can be obtained from Queensland Health upon request and Pathways will soon be online as a free service.

4.3 New South Wales

4.3.1 Roads and Traffic Authority of New South Wales

Contact:

Keith Hall, Manager, Aboriginal Programs and Mr George Shearer, Aboriginal Road Safety Officer

In the past, the Roads and Traffic Authority (RTA) has tended to focus heavily on constructing roads in such a way as to minimise their impact upon any aspect of the environment that may constitute Aboriginal heritage. However, since the establishment of an Aboriginal Road Safety Strategy Reference Group in late 2000, there has been a move for increased attention to be paid to Indigenous road safety.

In accordance with the National ATSI Road Safety Strategy and the Aboriginal and Torres Strait Action Plan 2001-2006, the RTA has recently (three months ago) established an Aboriginal Programs section with a Manager and four ATSI Program Consultants based in the Western (Parkes), Northern (Lismore), Southern (Nowra) and Sydney (Parramatta) regions. These positions are for a period of 12 months with an option to renew.

With regard to crash data, RTA and police, due to privacy legislation do not record "ethnicity", so an accurate understanding of the extent of Indigenous road trauma in NSW is not clear. It was suggested that databases focusing on injury surveillance are more accurate and "road safety profiles of Indigenous involvement in road crashes are linked to state health databases". Furthermore, health databases also provide additional information about access to treatment and the impact of treatment. This once again supports for argument for increased database linkages as specified in the preceding literature review.

Key Indigenous road safety issues identified by the RTA included:

- licensing (making the process more culturally-appropriate);
- re-licensing and licence loss ("a large proportion of Indigenous people in custody are there for a licensing or driving offence, and at least 25% of those people re-offend");
- pedestrians (not always with alcohol, particularly elderly Indigenous pedestrians);
- overloading;
- seatbelt and restraint compliance.

The RTA is cognisant that a "whole-of-government" approach is required to improve road safety outcomes for Indigenous populations and some of the research and intervention priority areas include: (1) process and outcome evaluations of the licensing process; and (2) addressing the problem overloading and non-compliance with restraint legislation.

Some of the initiatives currently being run by the RTA include:

1. ***Kooris and Cars*** – Run in conjunction with the Department of Fair Trading and focuses on consumer protection by providing Indigenous population with safety and roadworthiness knowledge for selecting vehicles. This is described in greater detail below.
2. ***“Driving for Employment”*** – The South Sydney Council is running a project which focuses on the importance of having a license for employment. Through literacy training and a public education program, the project aims to increase Indigenous licensing rates.
3. ***Courts Diversion Program*** – In Nowra, the Department of Corrections and transport authorities are working together to look at alternatives to jailing licensing offenders. The program forces the offender to not only get the appropriate vehicle licence but also encourages them to get an additional licence (eg. forklift licence). Once again, there is an emphasis on improving employment prospects.
4. ***TOPS (Traffic Offender Programs)*** – Drink drivers are referred to the program through courts and participate in an education/rehabilitation course over a number of weeks. Similar in nature to the “Under the Limit” program run by CARRS-Q in Queensland.

Kooris and Cars Project

The Kooris and Cars project is a joint initiative by the Department of Fair Trading (DFT) and the Roads and Traffic Authority (RTA) customer service and community liaison officers. The program is aimed at assisting Indigenous car buyers understand their basic consumer rights when purchasing or financing vehicles.

The Kooris and Cars program is a free service that is run at venues throughout NSW. Participants are given a hands-on demonstration that covers basic mechanical and safety checks, including how to detect dangerous or sub-standard body repairs. Information sessions give practical information on how to avoid purchasing a ‘lemon’ and what guarantees and warranties apply to new and used vehicles. Another session covers current changes to L & P plates, the computer based licence knowledge test and everything anyone needs to know about licence applications, cancellations and renewals. Another session discusses options for borrowing money to finance a car, how to shop around for the best deal, and what rights and responsibilities are available under the Consumer Credit Code.

The program was launched in May 2001, and a further 31 Kooris and Cars sessions were conducted in 2001, with over 550 Indigenous people attending. Feedback from the community and participants has been very positive. Both DFT and RTA staff have expressed their continued support of the program.

4.3.2 Aboriginal Health and Medical Research Council of NSW

Contact:

Pat Delaney, Program Manager, Aboriginal Health and Medical Research Council of NSW

The Aboriginal Health and Medical Research Council of NSW was consulted for this project. A record of this consultation is not presented here however, because the Aboriginal Health and Medical Research Council tend to deal with research relating to Indigenous health in general rather than road safety specifically.

4.3.3 Mid North Coast Aboriginal Injury Surveillance Project

Contact:

Pam Albany, Project Officer, Mid North Coast Aboriginal Injury Surveillance Project

This project is essentially gathering data on, and following up, trauma cases in the Mid North Coast and Shoalhaven areas. "It is a monitoring exercise that will hopefully lead to better health planning".

A "17 to 1 disparity in trauma presentation" at health clinics/hospitals favouring Indigenous populations was reported in the consultation. It was considered that Indigenous road safety data are not accurate due to high rates of under reporting, and that health data are probably more reliable than transport data where ethnicity is not recorded. Alcohol is considered to be, arguably, the largest factor.

Another interesting factor identified was the role of planning when providing services for Indigenous communities. An example was cited in the Mid North Coast region, where it was decided to provide public (bus) transport for an Indigenous community. Unfortunately, "... the bus route circled the community with only one respite off-ramp. Often the bus would not use the ramp or stop in the community and Indigenous persons were forced to cross a 5-6 lane highway to get access to the service, placing pedestrians at high risk".

4.3.4 STAYSAFE New South Wales Parliamentary Road Safety Committee

Contact:

Ian Faulks, Director, STAYSAFE NSW Parliamentary Road Safety Committee

The Joint Standing Committee on Road Safety (the STAYSAFE Committee), is responsible for monitoring, investigating, reviewing and reporting to the New South Wales legislature on road safety issues in New South Wales. Issues of Indigenous road safety in New South Wales are captured by these terms of reference.

The STAYSAFE Committee has not conducted any specific inquiry into Indigenous road safety. It is noted, however, that in 2000, the STAYSAFE Committee resolved to conduct an inquiry into social, cultural and community issues in road safety. The terms of reference for the inquiry were negotiated with the Minister Assisting the Premier on Citizenship, the Hon. Morris Iemma MP, and with the Chairman and executive of the then Ethnic Affairs Commission of New South Wales (now the Community Relations Commission for a Multicultural NSW). The terms of reference, as drafted and discussed, were for an examination of:

- current community characteristics across New South Wales, with particular emphasis on characteristics associated with use of the road transport system;
- the capacity of current statistical data collections to identify social, cultural and community issues in road safety;
- differences in risk perception and risky behaviour associated with road use across New South Wales communities;
- successful injury prevention and public health programs associated with different communities in New South Wales;

- the effectiveness of cross cultural educational programs in road safety, including driver licensing and school-based programs;
- the role of local council road safety officers in addressing social, cultural and community issues associated with road safety;
- social, cultural and community influences in effective traffic policing;
- post-crash issues associated with different cultural communities in New South Wales, including access to trauma care and rehabilitation services;
- the promotion of and education in road safety in ways that are relevant to current social, cultural and community characteristics of New South Wales; and
- any other relevant matters.

The Committee has not, however, commenced this inquiry and is unlikely to do so before the dissolution of the 52nd Parliament for a general State election in March 2003. At prorogation or dissolution of Parliament, the inquiry will lapse. Nevertheless, social, cultural and community issues in road safety remain of concern for the Committee.

From the STAYSAFE Committee's perspective, the main issue with respect to Indigenous road safety issue is ensuring that government policy and measures are commensurate to the needs of this group in the New South Wales community.

In the STAYSAFE Committee's view, Indigenous road safety is one aspect of the bigger issue of the relationship between various social indices and road safety. Over the last 30 years, massive gains in road safety have been achieved in New South Wales and throughout Australia, mainly as a result of increased regulation of road users (speed limits, seatbelts, drink driving initiatives, etc.), better enforcement mechanisms (random breath testing (RBT), fixed and mobile speed cameras), and increased safety in the design of vehicles and traffic conditions. Whilst research in this area is by no means exhausted, it is imperative that road safety research examines new areas of research, such as ethnicity and other cultural factors, socio-economic status, etc..

Indigenous road safety issues, as with wider issues of multiculturalism and ethnicity on the road, should take into consideration the following factors:

- the relationship between individuals within Indigenous communities and those charged with enforcing road safety categories. Issues such as hostility, poor communication and stereotype from both sectors will impact the effectiveness of road safety initiatives;
- the interrelationship between Indigenous status (or ethnicity) and economic factors – the impact that this has on being able to maintain vehicles in a safe and roadworthy manner; the ability to afford sufficient driver instructions whilst on learner permits; the ability to obtain a license in the first place (raising the wider issue of unlicensed drivers on New South Wales roads) etc;
- other social factors including the use of alcohol and other drugs whilst operating vehicles;

- literacy and English linguistic skills – being able to read and appropriately interpret road signs for example;
- the maintenance of roads, signage and other safety factors (such as railway level crossings) in remote and rural areas with Indigenous communities; and
- how to effectively target this demographic for the purpose of road safety campaigns.

Individuals of Indigenous descent are targeted, along with all other road users in general road safety campaigns and programs. As well, in New South Wales the STAYSAFE Committee is aware of a number of significant road safety initiatives specifically geared at the Indigenous community.

The view of the STAYSAFE Committee is that sufficient research needs to be taken into this area before initiatives can necessarily be developed.

There has been a reluctance to focus on Indigenous status or ethnicity in road safety for fear of inciting racial cultural or ethnic tensions. This apprehension needs to be overcome so that this very pertinent area can be addressed, and further gains made in diminishing morbidity and mortality from road crashes.

4.4 Australian Capital Territory

4.4.1 ACT Urban Services

Contact:

Robin Anderson, Road Safety Manager

The Australian Capital Territory has a relatively small Indigenous population, representing approximately 1.2% of the ACT's population. ACT Urban Services indicated that, as far as they knew, Indigenous Australians are not over-represented in road crashes in the ACT, and therefore are not singled out as an at-risk population in this jurisdiction. Accordingly, mainstream road safety initiatives are applied to all groups within the ACT community.

4.5 Victoria

4.5.1 VicRoads

Contact:

Jeff Potter, Manager Road User Behaviour

VicRoads does not have any specific programs or campaigns to address Indigenous road safety issues. Rather, the road safety issues of Indigenous Australians are treated implicitly by treating road safety issues facing the population. To the extent that there is a higher representation of Indigenous Australians within other groups (e.g. alcoholics, homeless) their specific road safety issues may be treated through those groups.

Indigenous crash data are not recorded by VicRoads and doing so is not considered to be necessary, due to the relatively small population of Indigenous Victorians. VicRoads is not pursuing any research into Indigenous road safety issues.

4.5.2 Department of Aboriginal Affairs

Contact:

Karen Milward, Director Planning and Development

Contrary to VicRoads, the Department of Aboriginal Affairs considers that Indigenous road crash data should be recorded. The main Indigenous road safety issues, as they see it, are:

- alcohol and drugs and driving (chroming, marijuana, heroin);
- speeding – especially amongst the young (18-21 years);
- trying to fit too many people into cars – seatbelts are often not worn when large families and pets travel together in a car;
- lack of roadworthiness of cars and inadequate maintenance of vehicles;
- lack of child seats, due to expense - babies are often carried on knees; and
- driving without a licence.

Some recent research undertaken by the Melbourne Fire Brigade in relation to fire safety had links to the road safety of Indigenous Australians, specifically in relation to unregistered vehicles.

Suggestions for future programs in Victoria include education of young Indigenous Australians in relation to driver safety, for example in schools. There is considerable respect for elders in the Indigenous community, and it would be beneficial for Indigenous elders to deliver road safety education. When learning to drive, young males could be instructed by a male elder, and young females by a female elder. ATSI already run camps for young males and females, and road safety education could be incorporated into the camp programs.

The Department of Aboriginal Affairs suggested future research into the safety of passengers travelling with Indigenous drivers, as a common safety issue is too many people/pets travelling in one vehicle.

4.5.3 East Gippsland Aboriginal Co-op

Contact:

Chris Walker

The East Gippsland Aboriginal Co-op is currently producing a video on restraint wearing. The video is being funded by the Department of Human Services and the East Gippsland Community Road Safety Council, and features Indigenous people.

4.6 Tasmania

4.6.1 Department of Infrastructure, Energy and Resources

The Department of Infrastructure, Energy and Resources (DIER) were consulted in relation to Indigenous road safety. In Tasmania, specific Indigenous road safety issues have not been identified or segregated from broader road safety issues, but are considered to be in line with road safety issues affecting other groups, eg. young drivers, at-risk youth programs, rural road safety, older driver safety. There are no road safety programs that specifically address Indigenous populations.

4.7 South Australia

4.7.1 Transport SA

Contact:

Trevor Bailey, Senior Project Officer, Safety Strategy, Strategy and Investment Management Group

Development of National Indigenous Road Safety Strategy

Transport SA is concerned about the development of a National Indigenous Road Safety Strategy and the implementation of national initiatives. The Indigenous Road Safety Working Group, for example, suggests that localised initiatives that are culturally tailored and address community-specific issues might be more appropriate. This is the approach that Queensland has taken with the development of a "Road Safety Operational Plan for Aboriginal and Torres Strait Islander Communities" (see attached). This plan allows practitioners, policy-makers and local Indigenous communities the flexibility to identify and address local issues using culturally-appropriate means, rather than adhering to a National Strategy that would often be out of touch with immediate local problems.

Response to Brice (2000) recommendations

To date, the Brice (2000) recommendations have not been implemented by the SA government. It is envisaged by Transport SA that this report will inform the SA government as to the status of Indigenous road safety throughout the rest of Australia. As government funding is competitively sought after, the SA Government is highly cautious about implementing programs/initiatives/strategies that are costly (millions of dollars) without first: (i) distinguishing between road safety priorities and broader injury prevention (social health) priorities; and (ii) consulting other jurisdictions about what Indigenous road safety programs are available elsewhere and their transferability.

Aboriginal Seat Belt Campaign

The Aboriginal Seat Belt Campaign was developed by Safety Strategy Transport SA, in conjunction with:

- ATSI Northern Areas Regional Office and Nulla Wimila Kutju Regional Council
- Kunga Tjutaku Ngura Aboriginal Women's Centre
- Pika Wiya Health Service

- Umeewarra Aboriginal Media Association
- Royal Flying Doctor Service
- Royal Automobile Association of SA Inc. (RAA)

The campaign targets Indigenous communities and provides information on child restraints. It includes brochures and stickers featuring Indigenous artworks and illustrations to facilitate the safety message to the Indigenous community.

A series of brochures have been developed and are presented in English and a local Indigenous language. The series include:

- seat belts and pregnant women
- baby capsule
- child safety seat
- booster seat
- child safety harness

All the brochures promote that:

“Every person travelling in a motor vehicle must use an approved restraint (seat belt or child restraint), where one is available, properly fastened and adjusted.

Infants under 12 months of age travelling in a motor vehicle manufactured on, or after, 1 July 1976, must use an approved child restraint, properly fastened and adjusted.”

4.8 Western Australia

4.8.1 RoadWise

Contact:

Louise Sphere, Regional Road Safety Officer, Kimberley

The Crossing Aboriginal Pedestrian Safety Project

The Crossing Aboriginal Pedestrian Road Safety Project is a road safety project targeting Indigenous pedestrians in Fitzroy Crossing, located in the Kimberley region. The project was initiated in response to three Indigenous pedestrian fatalities in Sandford Road, Fitzroy Crossing, between 1998 and 2001. Two of the fatalities occurred after dark and one at dusk. The contributing factors appeared to be:

- lack of footpath
- lack of lighting
- poor road environment
- alcohol
- dark skin/dark clothes

The project involves co-operation between a number of organisations – Healthway (funding body), RoadWise, Fitzroy Crossing Police station, Fitzroy Crossing Aboriginal Medical Service, Hotel Licensee, Fitzroy Crossing District High School, Kimberley Public Health Unit, and the Kimberley Aboriginal Law and Cultural Centre.

The project includes the following actions:

- Distribute reflective wristbands to hotel patrons. The use of reflective wristbands to assist pedestrians being visible at night is being trialed.
- Disseminate education materials to increase Indigenous peoples perceived risk of being involved in a crash. This will include an update of the “Kimberley Kids” road safety educational kit.
- Erect at least 4 Walk Safe signs, painted and designed by local school children. This is to be part of school art competition.
- Broadcast informational messages on local and tourist radio to promote and inform of the need to be aware of pedestrians on roads after dark in the Fitzroy Valley. Educational radio advertisements will be in the local language.
- Achieve local media coverage.
- Train bar staff in participating licensing premises in the responsible serving of alcohol.
- Erect solar powered lighting and improve delineation on Sandford Road.

Evaluation of the project will also be undertaken. Evaluation criteria will include:

- number of reflective wrist bands distributed
- number of bar staff trained
- number of entries in art competition
- number of radio advertisements broadcast
- observational survey of persons wearing wrist bands
- number of pedestrian fatalities/serious injuries reported during the project
- survey of self reported attitudinal changes and acceptability of wrist bands
- survey of bar staff, taxi drivers and teachers to assess any observed behaviour change in participants.

Note that the project was due to commence in July 2002 and run through to December 2002.

Indigenous Road Safety in the Kimberley – Mass Media Campaign

This project is being jointly funded by RoadWise and the Shire of Broome, with support from the Broome Police Station. The objective of the project is to use mass media to change Indigenous people's behaviour and attitudes to drink driving, wearing of restraints and walking safely in the Kimberley.

Commercials have been locally produced and filmed, and address drink driving, restraint wearing (including child restraints), and pedestrian road safety issues. The commercials use Indigenous role models – Indigenous people, Aboriginal Police Liaison Officers, and a well known local Indigenous role model (Baamba). The target audience is primarily 17-39 year old Indigenous males, with Indigenous women and mothers a secondary target group.

The commercials are being broadcast on a local Indigenous television station for three months, and on a regional television station at peak viewing times for the target audience.

Evaluation of the campaign will be conducted in August 2002. Evaluation criteria will include:

- number of broadcasts
- commercial share analysis data (for target group)
- a random survey of target group to assess self-reported attitudinal and behavioural changes
- survey of target group to assess the commercials' impact and coverage.

National Aboriginal Road Safety Video

The National Aboriginal Road Safety Video has been developed as a joint initiative between three states – Western Australia, Northern Territory and South Australia

The video has been developed with Indigenous people for Indigenous people, to raise awareness of the issues of road safety and to help save lives on the roads. The purpose of the video is to be used as a teaching resource by teachers, driving instructors, police, community health workers, or anybody than wants to explain how we can increase safety on our roads.

The video was developed in stages that were shot on location in Western Australia, the Northern Territory, and South Australia, and involves only Indigenous people. They tell the story of road safety and provide the messages of how to be a safe road user for all Indigenous people throughout Australia.

The video is provided free of charge to any organisation that will use it to disseminate road safety messages.

4.8.2 WA Police Road Safety Section

Contact:

Senior Sergeant Jack McGillivray – Aboriginal Liaison

The WA Police Road Safety Section, in conjunction with the Office of Aboriginal Health and other key stakeholders, co-ordinates a committed Aboriginal Road Safety Program, which is delivered state-wide in metropolitan, rural and remote communities by Aboriginal Police Liaison Officers.

The following strategies and actions have been implemented as part of the program:

- Road Safety Camps – for ‘at-risk’ Indigenous adolescents.
- Education program to assist Indigenous people obtain a driver’s licence.
- Early intervention programs with Indigenous children through the *Bike Ed* program.
- Co-producer of Aboriginal Road Safety Video (tri-state initiative).
- The Western Australia Fines Enforcement Legislation effectively results in the suspension of a driver’s licence for non-payment of fines. This is a critical issue within Indigenous communities in obtaining and maintaining a current valid licence.

In addition, the WA Police Road Safety Section recognises the importance of empowerment of Indigenous communities and individuals with regard to rural and remote road safety issues on a local level, to achieve and accept ownership of related issues and problems.

4.8.3 Department of Premier and Cabinet

Contact:

Gemma Brown, Project Officer

Rural and remote areas of Western Australia have very high rates of death and injury from road traffic crashes, with Indigenous people in particular having very high rates of death and hospital admission from road crashes.

Single vehicle and pedestrian crashes are the most frequent type of crashes and have the highest rate of serious injury. A major safety issue for Indigenous people is riding in the open load space of a vehicle and riding unrestrained in a vehicle.

There are problems associated with detecting crashes in remote areas due to isolation and a lack of other road users travelling on the roads who can report the crash. Lack of reporting within Indigenous communities occurs because of the lack of police presence and access to medical assistance, and also because some of these crashes occur on pastoral leases and not on gazetted roads.

4.9 Northern Territory

This section provides summaries of the consultations conducted with road safety authorities and Indigenous stakeholders in the Northern Territory.

4.9.1 Department of Transport

Contacts:

Craig Cawood, Road Safety Officer – Aboriginal Education

Michael Mills, Road Safety Officer – Aboriginal Education

The two officers responsible for Indigenous road safety and Indigenous education in the NT Department of Transport indicated that “... *the most successful road safety initiative in the NT in recent times has been open load-space legislation which has resulted in a 75% decrease in the number of serious injuries/fatalities in the Kimberley region*” (personal communication, Cawood and Mills, 2002). In addition to educating and “*raising public awareness*” about such legislation and enforcement issues, the officers deemed their job to be one of “*fostering community ownership of road safety in ATSI communities. ... This requires community involvement in all aspects of road safety from problem identification, right through to the implementation of an appropriate solution*”.

The two high-risk behaviours associated with Indigenous populations being targeted by the NT Department of Transport are: (a) pedestrians (with and without alcohol); and (b) non-wearing of seatbelts. The officers also cited a range of media campaigns which aim to educate Indigenous persons about the effect that alcohol has on road safety. “*The types of issues addressed in communities do vary somewhat though ... Indigenous communities are often 200km apart and experience very different problems*”.

Other major programs targeting Indigenous road users have been the “*Kick a Goal for Road Safety*” program (for which the NT Department of Transport and Works won a Windscreens O’Brien Community Award). The program is loosely based around the notion of a team and that change requires teamwork. Indigenous police officers present road safety messages to schools and clinics on a regular basis with the hope of increasing the profile of road safety in the broader health domain. Workshops are also run with Indigenous night patrol staff to identify practical solutions to both crime-related and road safety-related problems (eg. pedestrians falling asleep on the roadway). Craig Cawood is currently seconded to the NT police for six months to facilitate this process.

The officers claim that the quality of Indigenous crash data in the Northern Territory is better than most other jurisdictions because of the high Indigenous population and increased propensity to identify. “*Ethnicity is well recorded with defined Indigenous markers in the transport and police reporting systems and there is little to no time lag*”. The NT crash database is not presently linked to hospital or health data. Transport and police authorities are currently working together to improve the quality of the police database (with regard to policing practices – eg. number of hours performing various enforcement and education tasks) to facilitate better evaluations of police processes.

While there is no research currently planned for the NT transport authority, they did acknowledge the contributions of the recent Brice report and its applicability to other jurisdictions.

4.9.2 Centre for Appropriate Technology

Contact:

Trish Morrow, Manager

At present the Centre for Appropriate Technology is working principally in the area of teaching Indigenous people to maintain their own cars. This contributes indirectly to a reduction in motor vehicle accidents through improved roadworthiness of vehicles.

4.9.3 Northern Territory University

Contact:

Eve Somssich, Manager Driver Training & Education Unit, Faculty of Technology & Industrial Education

Remote Areas Driver Training Program

The Northern Territory University (NTU), in conjunction with the Territory Insurance Office (TIO), established the Remote Areas Driver Training program in 1997. The primary goal of the program is to deliver and facilitate driver training in rural and remote communities in the Northern Territory that have not had access to driver training in the past, through isolation, cultural and/or financial constraints.

Initially, the NTU was contracted to deliver heavy vehicle driver training in these communities. However, this opened a minefield in training needs as many people were found not to possess a "C" Class car licence, let alone be able to gain a higher level of licence. Thus the first task was deliver "C" Class driver training and licensing.

A driver training program was developed, bearing in mind that services developed for mainstream populations are not always successful when applied to Indigenous communities. The remoteness and distance of Indigenous communities makes traditional mainstream driver training expensive, non-viable and unsustainable.

Issues that were identified in the remote communities, contributing to the seemingly lack of importance of driver training, were:

- the need to possess a driver's licence didn't seem relevant; and
- unawareness of the high road toll experienced by Indigenous population.

Guidelines and procedures were implemented between the Motor Vehicle Registry and NTU to ensure legality and consistency of training and licensing. After an audit and quality checks, the NTU was given authority to undertake assessments for motor vehicle licences. Two week courses are now delivered, with assessments undertaken at the same time. The completion rate has greatly improved with very little attrition.

A major advantage of the course is that students are assessed by their trainer in their own environment with culturally appropriate resources. This is a huge benefit to students as it eliminates the need for them to go to the police for assessing, which can be uncomfortable or inappropriate (for women). Assessments are conducted with varying levels of literacy and English as a second language in mind, using both verbal and written assessments. The

assessments have been designed to be both relevant and easy to understand, using graphics and eliminating the confusing multiple choice method traditionally used in testing.

Aboriginal Community Police Offices (ACPO's) are informed of courses being run in their area and are invited to participate or give presentations to the classes. Other support is through NT road safety councils, schools that may be able to deliver theory for courses, police and the community in general. Successful partnerships have also been formed with the WA Roadwise, WA Police road safety and SA Police. This partnership has led to a tri-state video being produced on road safety/driver training, as well as other planned resources.

One of the initiatives for making the driver training viable and sustainable in communities was to train community based driving instructors, which would also allow communities to take ownership of their driver training programs. A training course was developed which consists of 78 hours on instruction that covers both theory and practical application. Instructor training has been delivered in communities throughout NT, from Arnhemland to Central Australia. Courses have recently commenced in the Darwin Correctional Centre, with a view of training a permanent trainer to continue driver training and enable offenders to obtain their learner's licence before release.

Tennant Creek is a good example of the success of this program. Over the last two years, NTU, in partnership with Julalikari Training, has delivered Driving Instructor programs. Since June 2000, Julalikari have enrolled nearly 90 students in their driver training program, they have been contracted by Industry Training Services to deliver driver training to 60 students, and predict that they will have another 100 students enrolling within the next year. The enthusiasm has led to the local Toyota dealer donating a new Camry to their Driver Ed unit.

5 Summary

5.1 Past, Present and Planned Research

Past, present and future research is tabulated in Table 3. Past research has been identified through the literature review. Present and planned research has been identified through the consultation process. Note that full references are provided at the end of this report.

Table 3: Past, present and future research on Indigenous Road Safety (Continued over page).

Researchers	Description
<i>Past research</i>	
Problem Identification	
Cercarelli (1999)	Road crash hospitalisations and deaths in Western Australia involving Aboriginal and non-Aboriginal people, 1988 to 1996.
Cercarelli, Ryan, Knuiman, & Donovan (2000)	Road safety issues in remote Aboriginal communities in Western Australia.
Dawes (2000)	The culture of joyriding in Queensland: The offender's perspective.
Evanco (1999)	The potential impact of rural mayday systems on vehicular crash fatalities.
Garrow (1997)	Vehicle crash mortality in the Kimberley Region 1990-1994: The role of open load-space passengers in utility trucks.
McFadden, McKie & Mwesigye (2000)	Estimating road trauma in the Indigenous population.
Pettitt, Baade, Low Choy, Darnell & Haynes (1994)	Analysis of single vehicle rural crashes.
Moller & Cantwell (1999)	Paradigm shift: Injury: From problem to solution: New research directions.
Ryan, Cercarelli & Mullan (1998)	Road Safety in the Rural and Remote Regions of Western Australia.
Ryan, Wright, Hinrichs & McLean (1988)	An in-depth study of rural road crashes in South Australia.
Watson, Elliot, Kinsella & Wilson (1997)	Aboriginal road safety issues report of the far west of South Australia.
Williams & Maisey (1991)	Aboriginal road crash fatalities in Western Australia 1980-89.
Interventions & Evaluation	
Aboriginal and Torres Strait Islander Working Group (2002)	Guidelines for the development, implementation and evaluation of National Public Health Strategies in relation to Aboriginal and Torres Strait Islander peoples: Approaches and recommendations.
Brice (2000)	Australian Indigenous Road Safety – A critical review and research report.
Brownlow (1998)	Aboriginal communities tackle their road safety issues.
Coggan, Patterson, Brewin, Hooper & Robinson (2000)	Evaluation of the Waitakere Community Injury Prevention Project.
Gary, Saggars, Sputore &	What works? A review of evaluated alcohol misuse interventions among Aboriginal Australians.

Bourbon (2000)	
Howat, Cross, Hall Iredell, Stevenson, Gibbs, Officer & Dillon (2001)	Community participation in road safety: Barriers and enablers.
Morrison (2000)	A pilot implementation of Internet access for remote Aboriginal communities in the 'top end' of Australia.
Siskind, Sheehan, Schonfeld & Ferguson (2000)	The impact of the "Under the Limit" Drink Driving Rehabilitation program on traffic safety: An outcome evaluation of "Under the Limit".
Stockwell, Chikritzhs, Hendrie, Fordham, Ying, Phillips, Cronin & O'Reilly	The public health and safety benefits of the Northern Territory's Living with Alcohol program.
Rae (1995)	Aboriginal road safety communications study.
Research Methodology	
Dunne (2000)	Consultation, rapport and collaboration: Essential preliminary stages in research with urban Aboriginal groups.
Harrison, Miller, Weeramanthri, Wakerman, & Barnes (2001)	Information sources for injury prevention among Indigenous Australians: Status and prospects for improvement.
Present research	
ARRB Transport Research and CARRS-Q	Rural and remote road safety.
ARRB Transport Research and CARRS-Q	Australian Indigenous Road Safety (current report).
Future research	
RoadWise	Evaluation of the Aboriginal Road Safety in the Kimberley Mass Media Campaign.
RoadWise	Evaluation of The Crossing Aboriginal Pedestrian Safety Project.
STAYSAFE Parliamentary Committee of NSW	Inquiry into social, cultural and community issues in road safety.

Note that the study has identified little current or future research on Indigenous road safety related issues.

5.2 Promising initiatives

Initiatives that have been or are currently being undertaken in jurisdictions were identified during the consultation process. A summary of promising initiatives is presented below. More detailed descriptions of the programs can be found in Section 4.

5.2.1 General road safety

- *Aboriginal and Torres Strait Islander Road Safety Strategy: Remote Communities Project - Queensland Transport*

Queensland Transport has conducted the Aboriginal & Torres Strait Islander Road Safety Strategy: Remote Communities Project since 1996. This project has aimed to raise the level

of awareness of road safety within remote Indigenous communities and reduce the over-representation of Indigenous people involved in road trauma. The project is currently being implemented throughout Cape York and Torres Strait Island communities. Queensland Transport employs two specialist staff to undertake the development and implementation of this program. The program has a community development approach to identifying local road safety issues and initiatives to address them.

- *Kick a Goal for Road Safety Program – NT Department of Transport*

The program is loosely based around the notion of a team and that change requires teamwork. Indigenous police officers present road safety messages to schools and clinics on a regular basis with the hope of increasing its profile in the broader health domain. Workshops are also run with Indigenous night patrol staff to identify practical solutions to both crime-related and road safety-related problems (eg. pedestrians falling asleep on the roadway).

- *Aboriginal Road Safety Program – WA Police Road Safety Section and Office of Aboriginal Health*

The road safety program is delivered statewide in metropolitan, rural and remote communities by Aboriginal Police Liaison Officers. It includes road safety camps for 'at-risk' adolescents, an education program to assist in obtaining a driver's licence, and early intervention with children through the *Bike Ed* program.

- *Aboriginal Road Safety in the Kimberley Mass Media Campaign - RoadWise*

The objective of the project is to use mass media to change Indigenous people's behaviour and attitudes towards drink driving, wearing of restraints and walking safely in the Kimberley. Commercials have been locally filmed and use Indigenous role models. Evaluation of the campaign will be conducted in August 2002.

- *National Aboriginal Road Safety Video*

The video, which was a joint initiative between three states – Western Australia, Northern Territory and South Australia - has been developed with Indigenous people for Indigenous people, to raise awareness of the issues of road safety and to help save lives on the roads. The purpose of the video is to be used as a teaching resource by teachers, driving instructors, police, community health workers, or anybody than wants to explain how we can increase safety on our roads.

5.2.2 Community development programs

- *Injury Prevention through Community Development Initiatives in Central Australia project*

Being undertaken by Tangentyere Council in Alice Springs in partnership with Flinders Univeristy, and funded by NHMRC. While this is not a specific road safety project, it will include road safety initiatives.

- *Community based resource development - Queensland Transport Far Northern Region*

Road safety resources have been developed in conjunction with remote communities, including a road safety animated video, posters, postcards and bookmarks.

- *Community, Action Planning and Information Resource (CAPIR) – Queensland Transport*

This is an electronic community capacity building resource suitable for Indigenous communities. Although originally designed to address broader community health issues, CAPIR is not content specific. CAPIR complements a resource under development by CARRS-Q and QT (Pathways) which provides an inventory of road safety information and contacts and encourages communities to draw on both internal and external resources/expertise to solve local problems.

5.2.3 Licensing programs

- *Remote, isolated and Indigenous area driver licensing programs - Queensland Police*

Licence testing consists of practical and verbal testing. Verbal tests are in a language and speech that is understood, and practical testing is conducted in the local environment. The program has been a success and formal monitoring of the program and its results, in terms of crashes and impacts on the judicial system and court process, is proposed.

- *Flexible licensing for prison inmates – Queensland Transport Northern Region*

Currently being trialled through Stuart Prison, where inmates are trained for an oral (not written) test and are issued with a learner's permit when they leave prison.

- *Western Cape all age driver education – Queensland Transport Northern Region*

Programs are offered to traffic offenders and general public. The knowledge component of the test is oral and tailored for the individual, catering for those with low literacy skills. The practical component of the program requires driver training in a dual control vehicle with an Indigenous police officer or using a simulated CD-ROM test of the Cairns driving environment.

- *Remote Areas Driver Training Program – Northern Territory University*

The main goal of the program is to deliver and facilitate driver training in rural and remote communities in Northern Territory, who have not had access to driver training in the past, through isolation, cultural and/or financial constraints.

5.2.4 Alcohol

- *Australian Alcohol Guidelines*

The guidelines, developed by the OATSIH and NHMRC, specify “safe levels of alcohol consumption for special groups”. The OATSIH is currently undertaking a mass public education program to inform communities of the guidelines.

5.2.5 Restraint wearing

- *Aboriginal Seat Belt Campaign – Transport SA*

The campaign targets Indigenous communities and provides information on child restraints. It includes brochures and stickers featuring Indigenous artworks and illustrations to facilitate the safety message to the Indigenous community.

- *Development of restraint wearing video – East Gippsland Aboriginal Co-op*

A video on restraint wearing is currently being developed, featuring Indigenous people.

5.2.6 Pedestrian safety

- *The Crossing Aboriginal Pedestrian Safety Project – RoadWise*

The project targets Indigenous pedestrians in Fitzroy Crossing, in the Kimberley Region. It consists of a number of initiatives including the distribution of reflective wrist bands to hotel patrons to increase their visibility at night, dissemination of education materials, erection of WalkSafe signs, broadcasting pedestrian awareness messages on local and tourist radio, and installation of lighting on the main road. The project is being run from July to December 2002. Evaluation of the project will be undertaken.

5.2.7 Vehicle purchasing and condition of vehicles

- *Kooris and Cars project – RTA NSW and Department of Fair Trading*

The project is aimed at assisting Indigenous car buyers understand their basic consumer rights when purchasing or financing vehicles. Participants are given a hands-on demonstration which covers basic mechanical and safety checks, including how to detect dangerous or sub-standard body repairs. Information sessions give practical information on how to avoid purchasing a 'lemon' and what guarantees and warranties apply to new and used vehicles, the computer based licence knowledge test, licence applications, cancellations and renewals, and options for borrowing money to finance a car, how to shop around for the best deal, and what rights and responsibilities are available under the Consumer Credit Code.

- *Increasing knowledge of car roadworthiness – Queensland Transport*

Queensland Transport is providing Indigenous communities with knowledge about roadworthiness of vehicles and what to look for when purchasing vehicles.

- *Teaching car maintenance – Centre for Appropriate Technology, NT*

The Centre for Appropriate Technology is working in the area of teaching Indigenous people to maintain their own cars. This contributes indirectly to a reduction in motor vehicle accidents through improved roadworthiness of vehicles.

5.2.8 Legislation

- *Open load space legislation*

Queensland Transport has followed the lead of Northern Territory and Western Australia and introduced legislation to prohibit travel in the open load space of vehicles. Exemptions have been given until the end of 2002, after which time all open load travel will be prohibited. In the interim, complementary community education and awareness programs in schools are being run. NT Department of Transport has indicated that open load space legislation in the NT resulted in a 75% decrease in the number of serious injuries/fatalities in the Kimberley region.

5.3 Recommendations for Future Research and Priority Areas

Recommendations for future research and priority areas with regard to Indigenous road safety include:

1. Improve the quality of Indigenous road safety data: develop consistent and valid practices for identifying Indigenous status and establish accurate estimates of Indigenous populations. Geo-coding of crash sites and other location details to enable crash analyses to include spatial characteristics of the crash environment, providing a more complete description of the causal factors.
2. Research the historical and cultural factors influencing the beliefs and perceptions Indigenous people hold regarding health/injury, the acquisition of health knowledge, road safety and transportation.
3. Undertake formal evaluations of road safety initiatives undertaken at the local level.
4. Develop protocols for undertaking research in Indigenous communities.
5. Develop tailored education and community change strategies: This implies community participation in developing road safety initiatives.
6. Facilitate empowerment to achieve improved road safety outcomes through road safety knowledge and training: increase knowledge of road safety issues in Indigenous communities, perhaps through workshops. Facilitate more Indigenous people in road safety related positions.
7. Introduce and enforce facilities to acquire licences restrictive legislation to address known risky practices.
8. Provide accessible licensing systems for offenders and remote communities: initiatives have already been undertaken in NSW, Queensland and NT.
9. Ensure a national co-ordinated approach to future research, with knowledge being distributed to all jurisdictions.

Sustained funding and government commitment will serve to promote the occurrence of many of the above-recommended actions which fit comfortably with existing State road safety strategies and action plans. The development of a national Indigenous road safety strategy and large scale national initiatives is not seen to be appropriate to address Indigenous road safety.

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Appendix A

Potential Indigenous Road Safety Data Sources

The following organisations were contacted during the course of the project to source additional Indigenous road safety data. No further information was forthcoming.

- Office of Aboriginal Affairs, Victoria
- VicRoads, Victoria
- School of Surgeons, Victoria
- Department of Human Services, Victoria
- Office of Aboriginal Affairs, NSW
- Roads and Traffic Authority of NSW
- Aboriginal and Torres Strait Islander Issues Unit, ACT
- Department of Urban Services, ACT
- Office of Aboriginal Affairs, Tasmania
- Department of Infrastructure, Energy and Resources, Tasmania
- Aboriginal and Torres Strait Islander Health and Welfare Unit
- Australian Institute of Health and Welfare
- Aboriginal and Torres Strait Islander Commission

Appendix B

Consultation Contacts

National

- Sue Gordon, Director Alcohol, Substance Misuse and Injury Prevention Section, Office of ATSI Health
- Dr Ana Herceg, Medical Adviser, Health & Community Strategies Branch, Office of ATSI Health
- Kerry Smith, Acting Assistant Director, Alcohol Substance Misuse and Injury Prevention Section, Commonwealth Department of Health and Aging, Population Health Section
- Noel Baxendell, Health Policy Officer, ATSIC National Policy Office
Doug Brownlow (Authors of: The Development and Implementation of an Aboriginal and Torres Strait Islander Road Safety Strategy for Remote Communities)

Queensland

- Doug Brownlow (Authors of: The Development and Implementation of an Aboriginal and Torres Strait Islander Road Safety Strategy for Remote Communities)
- June Powell & Stuart Wright, Queensland Transport, Far Northern Region
- Noel Smith, Queensland Transport - South Western Region
- Peter Kolesnik / Sargeant Allan Pryd, Queensland Police Service
- Des Lavery, Research & Development Officer, Townsville ATSI Service
- Debra Blumel, Public Health Law & Indigenous Health Project, Queensland Health
- Stanley Nangala / Sue Smylie, ATSI Health Unit, Queensland Health

New South Wales

- Keith Hall, Manager Aboriginal Programs, RTA
- George Shearer, Aboriginal Road Safety Officer, RTA
- Ian Faulks, Director, STAYS SAFE NSW Parliamentary Road Safety Committee
- Pat Delaney, Programs Manager, Aboriginal Health and Medical Research Council of NSW
- Pam Albany, Project Officer, Mid North Coast Aboriginal Injury Surveillance Project
- Geraldine Wilson, Senior Project Officer of Aboriginal Health Branch, NSW Department of Health
- Pam Mitchell, Coomealla Health Aboriginal Corporation
- Grace Beetson, Brewarrina Aboriginal Health Centre Ltd

ACT

- Robin Anderson, Road Safety Manager, Department of Urban Services

Northern Territory

- Craig Cawood, ATSI Road Safety Education Officer, Department of Transport and Works
- Trish Morrow, Centre for Appropriate Technology in Alice Springs
- Dr John Boffa, Public Health Medical Officer, Central Australian Aboriginal Congress
- Darren Armitage, Health Promotion Manager, Territory Health Services

Victoria

- Jeff Potter, VicRoads
- Karen Milwood, Department of Aboriginal Affairs

Tasmania

- Department of Infrastructure, Energy and Resources

Western Australia

- Gemma Brown and Gary Kirby, Department of Premier & Cabinet
- Senior Sergeant Jack McGillivray, Road Safety section, WA Police Service
- Hyacinth Adie, ATSIC
- St John Ambulance

South Australia

- Trevor Bailey and John Spencer, Transport SA
- Roger, Zeuner, SA police
- John Evans, Aboriginal Health Council
- SA Ambulance