SUICIDE AND ROAD CRASHES

Prepared by: Virginia Routley,
Monash University Accident Research Centre
June 2008

1 A BRIEF STATEMENT OF THE ISSUE

Most if not all road safety countermeasures assume that crashes are unintended events, with most crash databases excluding deaths that have been judged to be suicides. How big an issue is suicide or attempted suicide in contributing to the road toll?

2 AN ASSESSMENT OF THE ROAD SAFETY ISSUE

Road traffic suicides, which can be driver or pedestrian suicides, are a minor but underestimated component of road traffic fatalities. Driver suicides typically comprise single-vehicle, single-occupant collisions with a tree, pole or heavy goods vehicle. Pedestrian suicides commonly take the form of a pedestrian walking or jumping into the path of a heavy goods vehicle. For both categories, it is often difficult to identify suicidal intent, especially when there are confounding factors such as alcohol and/or lack of a suicide note.

Officially-recognised driver suicides have averaged 11 per year in Australia over the period 1997 to 2004, representing 0.8% of motor vehicle fatalities and 0.5% of all suicides (Australian Bureau Statistics, 2007). In New Zealand in 2003 there were 7 recognised suicides in road crashes, representing 1.8% of road traffic fatalities and 1.6% of all suicides (New Zealand Health Information Service, 2005).

3 CURRENT PRACTICES AND POLICIES IN AUSTRALASIAN JURISDICTIONS

In Australia and New Zealand the policy is to exclude recognised suicides from any official count of road deaths since to be included, a death must be inadvertent. The final recognition of suicides in New Zealand and in many Australian jurisdictions requires a coroner to report that on the balance of probabilities, the person intended to take his or her own life. This may be indicated by suicide notes, previous attempts at self-harm, reports of suicidal ideation and the victim's psychological condition including stress and depression, together with police reports of the crash investigation in regard to factors such as weather conditions, swerving from an obvious path and non-wearing of seat belts (Routley et al, 2003).

If an intended suicidal act results in another death that goes beyond the original intent, the unintended death is included in the road traffic fatality count. For example, if a truck driver is killed while swerving to avoid a collision with a pedestrian attempting suicide, the truck driver fatality will be included in the road count (Routley et al, 2003).

Although all Australian jurisdictions generally apply the same standards of inquiry, it is known that there are some inconsistencies in the subsequent methods used to identify and exclude suicide crashes. For example, suicide crashes are determined in some jurisdictions by data managers, some jurisdictions apply a criminal standard of proof, others rely on coroners' findings. While it is generally accepted that a percentage of suicide crashes do remain in the road safety databases, due to the difficulties in determining suicide, it is very difficult to quantify their presence (Routley et al, 2003).

Relying on coronial findings can be problematic since data may not be revised for some time, resulting in either inappropriate exclusions or inclusions of fatalities. There is also evidence that in some cases coroners have declined to make a finding of suicide, despite fairly substantial evidence indicating the contrary. A coronial decision is usually regarded as conservative, given the subsequent impact on family, friends and the community.

In addition, any assessment of suicide can only be as accurate as the information provided to the coroner by crash investigators, family and friends and in police, medical, autopsy and pathology reports. Potential informants may not always cooperate in the inquiry eg suicide notes not revealed where there are implications for insurance.

Road traffic suicides can best be identified in Australia in the Australian Bureau of Statistics publications or in the National Coroners Information System (NCIS). In New Zealand the best source is the Ministry of Health New Zealand Health Information Service. The resulting vital statistics data are usually based on death certificates and currently use the World Health Organisation's International Classification of Diseases (WHO ICD-10) coding system. Relevant codes are X81.4 "intentional self-harm by jumping or lying before a moving object on a street or highway" and X82 "deliberate crashing of a motor vehicle" (World Health Organisation, 1992).

The NCIS enables coroners, researchers and other approved persons access to more detailed and timely information on injury deaths than has previously been possible. Aside from aggregate data, the system enables text searches of findings, police circumstances, toxicology and pathology reports (NCIS, 2007[a]).

4 A REVIEW OF THE RESEARCH

Relative to other methods of suicide and injury, there appears to be only sparse and dated literature on road traffic suicide (and especially pedestrian suicide). The limited research available, commonly focuses on the difficulties in determining whether a death was a suicide, with most recommendations aimed at improving the identification process. In preparing this paper, only two Australian publications were located on this topic and both were essentially literature reviews and/or international data treatment policies (Routley et al, 2003; Cordova et al, 2001).

4.1 Driver suicide

International research shows suicides by motor vehicle crash to be a small proportion of the total road toll with estimates of between 1% and 7% of all motor vehicle crash fatalities. Official statistics suggest a lower proportion: 0.8% of motor vehicle fatalities in Canada, Australia and Sweden, (Routley et al, 2003).

Most cases of suicide by motor vehicle crash are male (approximately 90%) and the majority are in the 25-34 age group (Hernetkoski and Keskinen, 1998; Keskinen and Pasanen, 1990). Further, 24% had attempted suicide on at least one previous occasion and approximately one-half of the traffic suicide victims had a psychological state ranging from "mental disturbance" to "depressed" (Hernetkoski and Keskinen, 1998; Keskin and Pasanen, 1990).

4.2 Pedestrian suicide

Relative to suicide by vehicle crash, pedestrian suicide has received even less research attention. However, it has been shown that in many of these cases a history of mental illness and the presence of alcohol use had been identified (Edland, 1972; Kuroda and Ponder, 1994; Ford and Moseley, 1963).

4.3 Reducing road suicides

There appear to be no measures yet evaluated which have been directed specifically at road traffic suicides. However general suicide prevention measures, especially those directed at men, appear appropriate eg availability and promotion of professional counselling, the provision of substance abuse programs, crisis lines, suicide and depression information websites, media awareness that suicide and depression are common problems, improved identification of “at-risk” individuals and generally increased resources for mental health services (Beyond Blue, 2007).

A number of general road traffic injury prevention strategies were considered by Routley et al to have possible application to driver and pedestrian suicide. Road safety technological innovations currently in place to reduce driver suicides include: alcohol interlock systems; passive, non-tamperable vehicle design features such as airbags and survival cell design; plus improved and greater provision of roadside barriers. Automated emergency MayDay systems could assist in the survival of suicide attempters. For obvious reasons, measures requiring driver compliance are unlikely to be beneficial eg seat belts (Routley et al, 2003).

Road safety measures which have possible application to the prevention of pedestrian suicides include pedestrian-friendly car front features, anti-locking braking systems, all-wheel drive, night vision systems and automated MayDay systems (Routley et al, 2003).

5 POLITICAL, SOCIAL AND OTHER FACTORS

Road traffic suicides should be distinguished from road traffic fatalities since the prevention measures differ. Community resources can be wasted if unintentional injury prevention measures are based on data distorted by suicides.

However, improved ascertainment of suicide deaths is likely to occur in systems where: suicide is determined through comprehensive and objective assessment; there is little or no stigma associated with suicide; and there is no financial or other imperative for concealing the intentional nature of the death. Crash investigators have a valuable role particularly in assessing the likelihood of suicide and in this context, Nelson (1978) outlined the type of evidence from several crash investigations which led to the conclusion of suicide. The evidence factors included: the crash event itself could not have caused the subsequent vehicle fire; unnecessarily high impact speed; and the car having steered from its obvious course to line up with a bridge abutment, with no sign of braking.

6 CONCLUSIONS

Literature on road traffic suicides and especially pedestrian suicides, is scarce, with many road crash data systems excluding deaths and injuries which can be ascertained as suicides as well as deliberate crash events or crash events that do not arise from the normal use of the road network. While official statistics suggest that suicides are a small proportion of total road traffic deaths (approximately 1% of both total suicides and road fatalities), their frequency is almost certainly underestimated. Prevention measures currently are best drawn from more general suicide prevention strategies, since specific road traffic suicide prevention measures could not be identified in the literature.

REFERENCES

Australian Bureau of Statistics. Causes of Death Unit Record file Australia, Cat 3303.0. ABS data held at MUARC, accessed January 24 2007.

Beyond Blue. National Depression Institute, 2007. http://www.beyondblue.org/

Cordova S, Lyle G, Cercarelli L. A review of the literature on suicide and road crashes. Crawley, WA: Department of Public Health, University of Western Australia, 2001.

Edland JF. Suicide by automobile. *Albany Law Review* 1972;36(3):536-42.

Ford R, Moseley AL. Motor vehicle suicides. *Journal of Criminology and Police Science* 1963;54:357-9.

Hernetkoski K, Keskinen E. Self-destruction in Finnish motor traffic accidents in 1974-1992. *Accident Analysis and Prevention* 1998; 30(5):697-704.

Keskinen E, Pasanen A. Self-destruction in motor vehicle accidents: the proportion of suicides and negligent drivers in fatal motor vehicle accidents in 1974-75 and 1984-85 in Finland. *Journal of Traffic Medicine* 1990;18(4):179-85.

Kuroda N, Pounder DJ. Suicide on the roads. *Journal of Traffic Medicine* 1994; 23(2):67-70.

National Coroners Information System (NCIS)[a]. Victorian Institute of Forensic Medicine. http://www.ncis.org.au.

Nelson FL, Farberow NL, MacKinnon DR. The certification of suicide in eleven Western states: An inquiry into the validity of reported suicide rates. *Suicide and Life-Threatening Behavior* 1978;8(2):75-88.

New Zealand Health Information Service. Mortality and Demographic Data. In: Health Mo, editor, 2005.

Routley V, Staines C, Brennan C, Haworth N, Ozanne-Smith J. Suicide and natural deaths in road traffic - Review. *Monash University Accident Research Centre Report series*. Melbourne: Monash University Accident Research Centre, 2003:54.

World Health Organization. *ICD-10 Tenth Revision*. Geneva: World Health Organization, 1992.