Alcohol Consumption and Road Usage in the Republic of South Africa

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INTRODUCTION

This paper attempts to present a view of the South African road traffic accident situation as far as the role played by the consumption of alcohol is concerned. Some research findings are tendered and discussed briefly.

ROAD NETWORK AND POPULATION OF SOUTH AFRICA

The Republic of South Africa, as its name implies, is situated at the southern tip of the African Continent and covers 1 180 432 square kilometres. In 1974 the South African rural road network, excluding various minor roads, farm roads, etc. totalled nearly 186 000 kilometres, almost 40 000 kilometres being bitumen or concrete-surfaced roads. The latest estimates of population and motor vehicle population are 25 million and 3.4 million respectively.

The population of South Africa is racially heterogeneous and multinational. There are four main population groups, namely Blacks (Bantu or Africans), Whites (Europeans), Coloureds and Asians. According to the 1970 census, these four groups were represented in the total population as follows:

<table>
<thead>
<tr>
<th>Population group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacks</td>
<td>70.2</td>
</tr>
<tr>
<td>Whites</td>
<td>17.5</td>
</tr>
<tr>
<td>Coloureds</td>
<td>9.4</td>
</tr>
<tr>
<td>Asians</td>
<td>2.9</td>
</tr>
</tbody>
</table>

DRINKING AND DRIVING: SOME APPROPRIATE DATA

Estimates for the 1975–76 year ended in October, based on published figures and projections, show that the liquor business in South Africa has a turnover of some R2 000 million a year. As regards annual wine consumption, South Africans, at 91 litres per capita, rate fourth highest in the world — the Italians, French and Portuguese allegedly consume more wine.11

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1 National Institute for Transport and Road Research, South Africa. This paper is published with the permission of the Director, National Institute for Transport and Road Research, CSIR, South Africa. The research studies on which it is based were funded by The South African National Road Safety Council.

2 R1 = $A1.05.
According to crime statistics for the period July 1974 to June 1975, a total of 13,214 persons were convicted of the offence of driving while intoxicated, distributed population-wise as follows:

<table>
<thead>
<tr>
<th>Population group</th>
<th>Number convicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacks</td>
<td>4,104</td>
</tr>
<tr>
<td>Whites</td>
<td>6,539</td>
</tr>
<tr>
<td>Coloureds</td>
<td>2,201</td>
</tr>
<tr>
<td>Asians</td>
<td>370</td>
</tr>
</tbody>
</table>

Data for the year 1975 show that the annual fatal accident rate for the Republic of South Africa, is 19.1 (persons killed per 100 million vehicle kilometres). A total of 40,152 people were killed in all types of accident on South African roads during the five years 1971 to 1975. Of these fatalities, 18,140 or 45.2 per cent were pedestrians.

The South African National Road Safety Council undertakes periodical publicity campaigns to combat the problem of drinking and driving. These publicity efforts — in the form of short films, press releases, slogans, brochures and radio 'jingles' — are directed at the various population groups in the various appropriate languages.

The Liquor Act provides inter alia that a licensee shall be guilty of an offence if he permits any person under the age of 18 to be on his licensed premises; furthermore, that the holder of a bar licence, a wine and malt liquor licence, or an hotel liquor licence shall not sell or deliver liquor earlier than 1000 or later than 2300 hours.

**LEGISLATION**

South African legislation penalises driving while under the influence of intoxicating liquor or a drug having a narcotic effect, or with an excessive amount of alcohol in the blood, by providing as follows:

1. Any person who on a public road —
   (a) drives a vehicle; or
   (b) occupies the driver's seat of a motor vehicle, the engine whereof is running, while under the influence of intoxicating liquor or a drug having a narcotic effect, shall be guilty of an offence and liable on conviction to a fine not exceeding eight hundred rand or to imprisonment for a period not exceeding two years, or to both such fine and imprisonment.

2. Any person who on a public road —
   (a) drives a vehicle; or
   (b) occupies the driver's seat of a motor vehicle, the engine whereof is running, while the concentration of alcohol in his blood is not less than 0.08 grams per 100 millilitres, shall be guilty of an offence and liable on conviction to a fine not exceeding four hundred rand or to imprisonment for a period not exceeding one year or to both such fine and imprisonment.

Whilst existing legislation makes provision for a blood test only, the introduction and implementation of breath analysing procedures is at present under consideration.

A study, looking at the use of video tape as a possible enforcement aid during the clinical examination of persons arrested for driving while intoxicated, was carried out during 1974. It was decided, however, not to recommend such a procedure, because of some technical problems which were encountered, as well as evidential and procedural legal difficulties.
RESEARCH FINDINGS REGARDING THE PROBLEM OF ALCOHOL AND TRAFFIC SAFETY IN THE REPUBLIC OF SOUTH AFRICA

Research on alcohol and traffic safety has been carried out in the Republic of South Africa for some twenty years, and the National Institute for Transport and Road Research (of the Council for Scientific and Industrial Research) with the collaboration of, and with funding by, the National Road Safety Council, has become seriously involved in this field of work over the past three to four years. A brief description of some of the research undertaken by the aforementioned Institute, is given below:

**Roadside Surveys**

A total of 3900 road users — pedestrians, pedal cyclists and motor vehicle drivers — were breath-tested during the first alcohol roadside survey conducted on a countrywide scale during October-November 1975 and covering both urban and rural sites. This survey was carried out in and around the five major cities of the Republic of South Africa and was repeated at similar sites in five other cities in 1976. The surveys were conducted over ten consecutive days (including two weekends) daily from 1730 till 0130, the test sites and individuals tested having been selected on a random basis.

As regards pedestrians, the results of the 1975 survey showed that 33 per cent of this class of road user had positive alcohol readings and that 18 per cent of those tested had blood alcohol levels of 0.08 per cent or more. The survey also revealed that drinking pedestrians over the age of 40 were proportionately more often involved than other age groups, and that the proportion of drinkers amongst the pedestrians dropped percentage-wise as the level of education rose.

With reference to motor vehicle drivers, it was found in the survey that 20 per cent of these road users had positive alcohol readings and 8.6 per cent had readings at or above 0.08 per cent. Drivers in the age group 25-40 years were more inclined, proportionately, to drive after drinking, than drivers in other age groups. The survey found no significant difference between the proportions of, legally-speaking, intoxicated drivers over weekends and during the week, but showed that the legal limit was contravened by a greater proportion of drivers during the late night hours than earlier in the evenings. The same tendencies as in the case of drinking pedestrians were found amongst alcohol-contravening drivers as regards the over-representation of persons on the lower education level.

**Study of Driving-while-intoxicated (DWI) Cases:**

A study of 1971 persons convicted during 1974 of driving while intoxicated or with an excessive blood alcohol content, examined the age, race, sex and occupation of these persons, as well as their blood alcohol concentrations and previous convictions. The files of these persons who were convicted in the magistrates' courts of five major cities in the Republic of South Africa, were examined and the relevant data collected. It was found, inter alia, that persons in the age group 25–44 years were involved in 60 per cent of all DWI cases, and that one-third of the convicted drivers in the study had blood alcohol levels of 0.25 per cent or more.

This study disclosed that White drivers comprised 66 per cent of all drivers in the study, as compared to 22 per cent Blacks and twelve per cent Coloureds and Asians. It was also found that accidents were the circumstance which led to arrests and convictions in more than half of the cases, and that 17.4 per cent of the drivers in the study were drink-driving recidivists.

It was found, furthermore, that fewer than two per cent of those convicted were females; that the majority of arrests occurred over weekends, peaking on Saturdays, and that, as regards occupation, blue collar workers comprised 42 per cent of the drivers in the study and drivers...
in the transport business 17.4 per cent, whilst 13.6 per cent had administrative pro-
fessions.

Law enforcement practice in the case of DWI offences is mostly set in motion by an
accident, i.e. when one or both drivers are suspected of intoxication. Arrests after suspicious
behaviour — whether moving or stationary — occur occasionally, whilst apprehensions in
the course of police road blocks occur only rarely. On arrest, the accused is taken to a district
surgeon who takes a blood sample and carries out a clinical examination, consisting of simple
co-ordination and balance tests, as well as eye, reaction and memory tests.

Alcoholics as a Road Safety Risk

A group of 443 White alcoholics (383 men, 60 women, mean age 42 years) receiving treatment
in various rehabilitation centres, was involved in a study carried out during 1975.8 Particulars
regarding their age, sex, occupation, period of treatment, drinking habits, driving records
and previous convictions of any kind (the latter officially verified at a later stage) were
obtained by means of questionnaires.

It appeared that 44 per cent of the persons in the study had previous convictions of
some kind, 69.4 per cent of which were for DWI offences. On their own admission, 38 per
cent of the persons concerned had been involved in accidents (as drivers). The persons in
the study had, on average, twelve years' experience of drinking problems and 26 per cent
of them usually drove after alcohol consumption. Looking at the occupations of the persons
in the study, it appeared that 50 per cent of them were blue collar workers, compared with
22 per cent in administrative professions. The marital status of these persons was examined
as well and the study showed that 46.5 per cent were married; 26.6 per cent divorced; 18.1
per cent unmarried; 5.9 per cent widowed; and 2.9 per cent separated.

Regarding the alcoholics' accident records and previous convictions for DWI offences,
it would appear that these persons, by their use of alcohol, could be considered as presenting
a greater accident risk than a cross-section of the general public. This premise can, however,
only be confirmed or refuted when information from a proposed comprehensive survey, con-
taining inter alia the accident records of the general population, grouped according to age,
becomes available.

Accident Case Studies

In-depth investigations of road accidents carried out by the National Institute for Transport
and Road Research over a number of years in three cities in the Republic of South Africa,
revealed that the consumption of alcohol was a contributory factor in 42 per cent of the
driver and 53 per cent of the pedestrian accidents studied during the hours 1800 and 0600,
compared with respectively, 8 per cent and 21 per cent for the accidents investigated between
the hours 0600 and 1800.5

Alcohol Consumption and Fatal Road Accidents

Two studies8, 10 were undertaken from October 1972 up to September 1975 to investigate
the role played by the use of alcohol in fatal road accidents in the Republic of South Africa.
Data were used from all 7023 autopsies on road accident fatalities (carried out in the five
major mortuaries in the country), where the persons concerned — whether drivers, cyclists
(motor and pedal), pedestrians or passengers — were over 16 years of age and had died within
six hours of the accident occurrence. Police accident reports and statistical information were
also used.

It was found that alcohol tests had been carried out on a mere 33 per cent of all road
traffic fatalities covered by the study. The decision to take a blood sample for blood alcohol
analysis appeared to be somewhat arbitrary and varying — some pathologists performed these
tests routinely in all cases of unnatural death, whilst others only took blood samples in cases where circumstantial evidence suggested alcohol consumption, for example, when it was suspected by the investigating police officer or on account of the stomach contents of the body.

The studies showed, nevertheless, that at least 22 per cent of the total fatalities had had positive blood alcohol levels and at least 19.5 per cent of these had had blood alcohol concentrations above the 0.08 per cent limit. Sixty-six per cent of those tested had had positive alcohol levels and 58 per cent of these had been in excess of the 0.08 per cent limit. Pedestrian fatalities showed that 93 per cent of those with positive results had had blood alcohol levels in excess of 0.08 per cent and 40 per cent of these fell in the category of above 0.25 per cent blood alcohol concentration.

As regards the place, time of day and day of the week of the accident occurrences (where alcohol was involved), it appeared that 83 per cent of the road users with positive results had been involved in urban and 17 per cent in rural accidents, whilst 73 per cent of the fatal accidents had occurred between the hours 1800 and 0600, weekends accounting for 71 per cent of the fatalities.

The accident culpability of fatally-injured road users, i.e. the liability of impaired drivers (whether motor vehicles or cycles) for their own deaths or the deaths of others, and the liability of impaired pedestrians, was also determined. The studies showed that in 52 per cent of the cases no living person had been held responsible and here the deceased person had in 69 per cent of the cases a positive blood alcohol concentration.

**DISCUSSION**

In order to estimate the magnitude of the contribution of alcohol in a given area and period, it is essential that the type or types of accident, upon which the estimate is based, be clearly defined and competently studied. The data presented above seem to satisfy this requisite, but suffer from a lack of comparable control data for non-accident involved adult road users.

Some suspected tendencies, for example, the high involvement of alcohol in fatal nighttime road accidents, have been confirmed, but difficulties have been encountered as well. Inadequate data — the result of the current data-collecting system — as well as the fact that blood alcohol tests were only done in 33 per cent of the autopsies (a matter which may cause a distorted view of the actual position), were mainly responsible for these problems. Representations to the various authorities have since been made with a view to obtaining the highest possible proportion of blood alcohol tests in cases of road traffic fatalities.

Nevertheless, the research findings presented in this paper clearly indicate the magnitude of the problem associated with alcohol consumption in the road traffic situation in the Republic of South Africa. In contrast to these findings, police records describe alcohol consumption as a causative agent in a mere four per cent of the road accident cases. Lack of information, the legal process as regards DWI cases and the current law enforcement level may be responsible for this under-estimation of the role played by alcohol.

Law enforcement officers encounter various problems in obtaining convictions for DWI offences, because of the cumbersome blood testing procedures, insufficient case preparation and the resulting miscarriage of justice when acquittals occur because of some technical loophole. The advantages of breath analysis are well-known and outweigh the few limitations associated with this procedure. The need for breath-analysis legislation has been recognised and its implications are currently being examined.

Local traffic safety authorities are aware of the problems posed by pedestrians — in both alcohol-involved and non-alcohol-involved road accidents. Research on pedestrian behaviour in South Africa has shown that hazardous behaviour is rife and that there is an
obvious need for intensified road safety education. Whilst the lack of appropriate legislative measures to control the drinking habits of pedestrians is recognised — arresting for drunk and disorderly conduct seems to be the only available legal remedy at present — the need for effective traffic law enforcement has to be stressed as well.

REFERENCES


