One for the road?

by Alex Irving

It is just 100 years since the German inventor Gottlieb Daimler produced the first commercial automobile. Since then motor vehicles have grown from being the playthings of the rich few to constituting a trans­

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in the lives of most people on this planet. The benefits in terms of con­

venience and personal mobility have been immense. But there is a price to pay in terms of the lives lost and suffering caused through accidents. And one factor that has consistently been identified as increasing the likeli­

hood of being involved in a road accident is the use of alcohol by road users, whether drivers or pedestrians.

Recognition of the problem is not new. In fact it preceded the motor vehicle itself, in the form of laws introduced in the nineteenth century to deal with drunken drivers of horse­

drawn and steam-powered vehicles and with drunken behaviour on the highways in general.

The first few decades of this century saw increasing numbers of road accidents and a growing realisation that alcohol could be playing a significant part in causing them. Governments reacted to the problem by enacting laws and imposing quite harsh penalties, including fines, licence with­

drawal and imprisonment. The difficulty was how to judge the point at which a drinking driver became an unacceptable risk on the road.

During the 1920s and 1930s it was determined that the amount of alcohol present in body-fluids could most conveniently be measured by taking and analysing small amounts of blood, urine or even breath, which could readily be obtained from drivers.

Courts which accepted body alcohol levels as evidence soon began to relate alcohol levels to the likelihood of the driver having been responsible for an accident or committing a serious traffic offence. Alcohol levels were usually defined for convenience as the amount present in the blood, which could be directly related to the amounts in the other fluids. The important levels for driving ranged from about one half part to two parts of alcohol in one thousand parts of blood, which may be written as 0.5 per mill and 2.0 per mill. At levels of alcohol in the blood amounting to greater than one part in one thousand parts (1.0 per mill) a driver would be very likely to be convicted.

Findings from the many studies made in recent decades seem to be universally applicable; the relative risks to drivers who drink are the same whether in Bangladesh, Belgium, Botswana or Brazil. The absolute numbers of accidents involving drinking in any one country will depend on other factors, including driver training, experience and attitudes, and the general road traffic situation. Neverthe­

less there was now an accepted yard­

stick by which the accident risk due to alcohol could be judged.

For legal purposes, two approaches emerged; in one the use of alcohol by drivers was effectively forbidden, and in the other a maximum allowable level of 0.8 per mill became the most popular choice. The 0.8 per mill level received support from international organizations, such as WHO, and from various country groupings.

Today, enforcement procedures are relying more upon accurate breath­

test machines, simple enough to be used by trained policemen but which provide legally acceptable evidence, rather than blood testing which in­
volves medical attendants and costly analysis.

The use of alcohol by road users is the largest single identifiable contributory factor to road accidents, and in theory should be relatively easy to prevent. In practice, the problem is surprisingly robust and resistant to treatment, especially in the developed countries, where both drinking and driving are integral social fea­

tures of long standing.

The developing countries may be in a much better position, and most of them have either imposed a complete ban on alcohol when driving, or have set maximum alcohol levels for drivers at about 0.8 per mill or lower.

The experiences of the developed countries are being studied with some advantage and important lessons have been learned to benefit the Third World. During the early period of motor transport growth, the emphasis was on detection and punishment of offenders. With hindsight, it might have been more appropriate to con­

centrate on public health education and reinforcing of social pressures against drinking and driving.

Further reading: The influence of alcohol and other drugs on driving (1981), EURO Reports and Studies No. 38; Alcohol Policies, by Marcus Grant (1985), wHo Regional Publication, Euro­

pean Series No. 18.