



**FIA Foundation**  
for the Automobile and Society

## Counting the cost: road crashes and the poor

A global road safety briefing in advance of the 2005 G8

# Counting the cost: road crashes and the poor

## 1. The economic cost of road traffic injuries

There are at least 1.2 million road deaths and up to 500 million road traffic injuries around the world each year. Ninety per cent of these road traffic deaths and injuries occur in low and middle income countries, predominantly affecting vulnerable road users: pedestrians, cyclists and motor cyclists.

Road traffic crashes have a devastating emotional impact on the families and communities involved: every death represents the loss of a father, wife, son, daughter, brother or sister. And there is an equally devastating economic impact: the sudden violence of a road death often robs a family of its only breadwinner. Road injuries can impose a life long cost of caring for severely disabled family members.

But the economic burden of road traffic injuries is felt not just by individual households, but by the economies of developing nations.

Low and middle income countries are disproportionately affected by road crashes. Despite having lower levels of motorisation than developed countries, developing countries have generally very poor road safety records. While there has been a downward trend in road fatalities in rich countries over the past thirty years, developing nations are experiencing dramatic increases in road traffic injuries.

More than 1.2 million people are killed and 15 million seriously injured each year in road crashes. In total, up to 500 million people may be injured in road crashes annually, according to the World Health Organisation (WHO). The majority of these, about 85%, occur in those countries classified by the World Bank as being low or middle income.

Traffic injuries are estimated to cost low income countries roughly 1% of their Gross National Product (GNP), middle income countries roughly 1.5% of GNP and high income countries roughly 2% of GNP (WHO). However, there are considerable variations by country in the range 1% - 5% of GNP.

The Transport Research Laboratory (TRL) has estimated that the direct economic costs of global road crashes amounted to US\$ 518 billion. The European Transport Safety Council (ETSC) in Brussels estimates that annual costs of road crash injuries in the EU alone exceed €180 billion (US \$ 207 billion). In the US the National Highway Traffic Safety Administration (NHTSA) published a report in 2000 that estimated the human costs of road crashes in America alone at US \$230 billion. The TRL estimate may be considered conservative, but due to inadequacies in data collection in much of the world, and serious underreporting of road traffic injuries in most of the developing world, it is difficult to provide a precise global figure.

The World Bank recently estimated that developing countries lose approximately US\$ 100 billion every year due to road crashes. This figure is twice the amount of all development aid provided by donors to developing countries.

Africa bears a huge economic burden from road traffic crashes. Despite the continent accounting for only 4% of the world's registered vehicle fleet, 10% of global road fatalities occur in the region. Road fatalities are very conservatively estimated to cost Africa approximately US\$ 3.7 billion a year, based on an across the board attribution of 1% GNP economic cost.

However, the estimated cost of road crashes as a percentage of GNP in most African countries ranges from about 0.8% in Ethiopia and 1% in South Africa to 2.3% in Zambia and 2.7% in Botswana to almost 5% in Kenya and Malawi. Furthermore, the economic cost of road crashes in Africa is expected to increase by 80% over the next seven years according to projections by the WHO.

This is a financial drain that these countries can ill afford and which inhibits social and economic development. Africa is paying a huge price for its poor road infrastructure, old and badly maintained vehicles and its lack of road safety policies and laws to govern safety measures such as the use of seatbelts and helmets. Where governments attempt to improve governance and enforce traffic laws fairly and consistently, as was attempted in Kenya recently, road safety improvements can be achieved. Yet maintaining this type of focus on the road traffic system over a long period is vital if improvements are to be consolidated, and this has proved difficult for many governments struggling with competing priorities.

There are proven economic benefits from investing in national road safety programmes. To cite one example, in Mauritius, where road crashes cost the country approximately £20 million a year, a series of road safety improvements implemented over a period of 5 years were estimated to cost around £500,000. Within one year of improvements being made, the country saw a 1000% rate of return on investment, i.e. a benefit to cost ratio of about 10 to 1.

## **2. The impact of road crashes on poor families**

The heavy economic burden of road traffic crashes on individual households should also be considered. Commonly, in low and middle income countries road crashes involve the loss of or injury to the main breadwinner. In Kenya, for example, more than 75% of road traffic crashes are among economically productive young adults. Amongst young men, road traffic injuries are second only to HIV/AIDS as a cause of premature death.

A recent study carried out by the Transport Research Laboratory (TRL) for the Global Road Safety Partnership (GRSP), which includes the FIA Foundation, took a closer look at the direct economic impact of road traffic crashes resulting in death or serious injury on individual urban and rural households in Bangladesh and Bangalore, India.

For the purpose of the study victim questionnaires were undertaken in households where a road death had occurred in the previous five years or where a road traffic crash resulting in serious injury had occurred in the previous year.

Though it may be only one person that is involved in a road crash, the whole household can be affected. Costs to families include funeral costs, loss of work time, loss of the person generating the main, or a substantial proportion, of household income. Often debt is incurred by the bereaved family as a result of loans being taken out to pay funeral costs or to cover lost earnings.

Where a road crash results in serious injury to a family member, costs include medical costs, costs of searching for new work (often lower paid), expenditure on long term care and rehabilitation and the value of lost earnings of the carer if a family member – the vast majority of households with a serious injury had to have at least one family member give up work to care for the injured. Again many of the poorer households (over 60%) borrowed in order to cope with costs.

The study shows that road deaths often act as a trigger for poverty. The majority of households suffering a road death saw a decline in household income after the crash. For those families in a precarious economic position, a road crash can be the unexpected event that topples them back below the poverty line.

It is safe to assume that there is a large hidden impact from road crashes amongst the poorest sections of populations. A study, again in Bangladesh, estimated that only one third of road fatalities and 2% of serious injuries were being recorded by the police. For many of the poorest, without access to health care or social support, death on the road will be a lonely end, and injury will be a burden on already burdened family members.

### **3. Road deaths in poor countries: bad and getting worse**

The past thirty years have seen a steady decline in road traffic injuries in the Western world, even as traffic levels have risen. Take some of the G8 members: Canada has seen a reduction in road deaths of some 63%; France, 42%, USA, 27%, Japan, 24% and UK around 50% since the early 1970s.

In the developing world, by contrast, the trend is one of dramatic, and continuing, increase in road fatalities and injuries. Botswana has seen a 380% increase in road deaths over the same 30 year period; Lesotho has seen a 192% increase. These are perhaps less dramatic increases than they seem because both countries started with a very low traffic base (but still remain relatively low). Perhaps more alarming is the experience of countries with rapid motorisation and growing economies – because these countries hold a model for what could happen in poor countries as their economies grow. India has seen an increase in road fatalities of 79% over the past 30 years; China a massive 243% increase.

Forecasts for future developments are extremely worrying. Sub Saharan Africa is forecast to experience at least 80% more road deaths in 2020 than in 2000. South East Asia could see road deaths rise by 144% - India's road deaths, based on no significant remedial action, are not expected to begin to decline until 2042. In other words, it will only be in the middle of this century that many developing countries will begin on the improving trend experienced in the West since the 1970s. Road deaths are predicted to rise above 2 million a year by 2020, and to move from 10<sup>th</sup> to 3<sup>rd</sup> overall in the grim table of causes of premature death and disability.

#### **4. What needs to be done?**

The scenario outlined above is likely, but not inevitable. Yet the international community needs to act now to prevent the situation from worsening. Aside from the human and social impacts, the economic costs of road traffic injuries alone justify action: poor road safety eats up between 1-5% of GNP, equivalent to twice the current international donor aid. Unsafe roads are fundamentally economically inefficient.

Many road safety improvements in developing countries can be made at relatively low cost. The benefits of road safety investment can be in the order of a 10 -1 return. These include:

- including road safety audits in road building projects funded by international donors;
- introducing road traffic laws and improving police enforcement;
- driver licencing and vehicle inspection regimes;
- requiring seat belt and motorcycle helmet use;
- building pedestrian crossings, tunnels or bridges;
- introducing road markings and crash barriers;
- raising awareness and encouraging road safety education.

To achieve these changes, political interest at the top is vital. Yet it was only recently that major UN agencies and regional development banks began to address road safety in anything like a systematic way. Without signals from institutions such as these, and active concern from major development NGOs, it is little wonder that road safety is a very low priority for many developing country governments: barely on the radar screen.

It is time to dispel the myth that road safety is something that rich countries and people driving cars need to worry about. The majority of deaths on the roads are in poor countries, and pedestrians are by far the greatest proportion of road users killed or injured. Road crashes are destroying the precious wealth of poor nations.

The G8 has never even discussed road safety. The time to start is now.