

LITERATURE REVIEW
Soul City
Soul Buddyz Four

Road Safety

Focus on perspective of 8 – 12 year-old children ...



and
their parents ...

**Three things that could
happen to you if you**

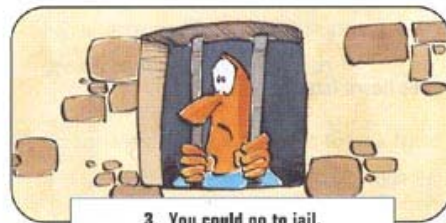
Drink and Drive



1. You could lose your life.



2. You could lose your driver's licence.



3. You could go to jail.

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1. Rationale:

Soul City is a non-governmental organisation (NGO), which was established in 1992 to harness the power of mass media for health and development. The Soul City philosophy encompasses the “Edutainment” or “Entereducate” model, which ensures that the media has the best reach possible, particularly to children and adults who have poor access to other sources of information.

Already in its fourth season, Soul Buddyz has developed a vehicle for the health and development issues of 8- 12 year olds. It consists of:

- *An 18-month research and development process to ensure appropriateness of the material*
- *A 13 part Television drama (30 mins) which is aired at prime time on the largest channel in South Africa (SABC1). It is a multi lingual programme set in the township areas of a large city, with a rural component.*
- *One full colour grade 7 book for use in the classroom as supplemental material for life orientation (accompanied by a teachers guide). One full colour booklet in 4 languages for parents covering the issues dealt with in the Soul Buddyz series.*
- *An advertising and marketing campaign to ensure the greatest possible audience and loyalty, and thus the greatest opportunity for learning.*

This literature review is an integral part of the research and development process adopted by Soul City, and is the first step in topic development for the forthcoming Soul Buddz Four series.

During the process of this literature it has been found that good road casualty information – especially on children, is not readily available. This in itself is an indictment – especially in view of the undoubted and ongoing carnage on South African roads. Respected global institutions such as the World Health Organisation (WHO), the Global Road Safety Partnership (GRSP), and the World Bank, advocate for a systemic and multi-sectoral approach to national road safety initiatives, where good data guide safety policy and implementation.ⁱⁱⁱ

It seems that Soul City’s approach which is fundamentally developmental and integrative – ‘seeking an environmental rather than an individual solution’,^{iv} could be viewed as contributing to such an approach.

A useful theoretical precedent for more comprehensive road safety conceptions can be drawn from the most progressive South African development theories on HIV/Aids intervention. For example in a paper published by Isandla Institute, Mirjam van Donk takes issue with the narrow conceptualisation of HIV/Aids in urban development planning as primarily (if not exclusively) a behavioural and health issue. Instead she calls for ‘A Broader Conceptualisation’, based on an understanding of HIV/Aids as a

complex and dynamic development issue. The paper explores factors in the urban environment that are associated with increased vulnerability to HIV infection and the likely implications of the epidemic for urban development. The paper concludes that 'good', equitable development possibly offers the most effective protection for individuals and urban areas against the spread of HIV and the consequences of the epidemic'.^v

Based on the information presented in this literature review, it seems logical that a similarly holistic and developmental approach should be used in the conceptualisation and implementation of road safety programmes.

2. Introduction/Scope:

Globally 1,2 million people are killed and more than 50 million are disabled as a result of road traffic crashes every year. While a number of countries have managed to decrease their rates of road traffic crashes, in many others - particularly in low- and middle-income countries - these rates are increasing.^{vi}

The 'Global Burden of Disease' study, undertaken by the World Health Organisation (WHO), Harvard University, and the World Bank, showed that in 1990, traffic accidents were estimated to be the world's ninth most serious health problem. The study forecast that by the year 2020, road crashes would move up to third place in causes of death and disability facing the world community.^{vii}

According to the Global Road Safety Partnership (GRSP), over seventy-five percent (75%) of estimated global road casualties occur in developing and transition countries, even though these have only 32 percent (32%) of total motor vehicles.^{viii} Furthermore, according to World Bank Data, 65 percent (65%) of deaths involve pedestrians, and 35 percent (35%) of pedestrian deaths are children. In low-income and middle-income countries children have much higher rates of road traffic death and injury than in high-income countries.^{ix} The majority of road crash victims - both fatalities and injuries - in developing countries are not the motorised vehicle occupants, but pedestrians, motorcyclists, bicyclists, and non-motorised vehicles occupants.^x

Road crashes cost approximately one to three percent (1 – 3%) of a country's annual GNP. These are resources that no country can afford to lose, especially developing economies. It is estimated that road crashes cost developing countries in the region of \$100 billion annually. This is almost twice as much as the overseas development assistance received worldwide by these developing countries.^{xi}

2.1 Children and road traffic injury – the global picture^{xii}

Child road trauma is a major problem worldwide. Children are especially vulnerable, as their physical and cognitive skills are not fully developed and their smaller stature makes it hard for them to see and to be seen. According to WHO estimates for 2002, there were 180 500 children killed in road crashes. Some 97% of these child road deaths occurred in developing countries. The level and pattern of child road injury is linked to differences in road use. In Africa, children are more likely to be hurt as pedestrians and as users of public transport. (In South-east Asia it is as pedestrians, bicyclists and on motor scooters, while in Europe and North America, it is as passengers in private motor cars, and as pedestrians that children are at greatest risk of road traffic injury.)

The burden of injury differs by gender: more boys are injured than girls, and children from poorer families have higher rates of injury. Even in high income countries, research shows that children from poorer families and

ethnic minority groups have higher rates of unintentional injury. This is particularly so in the case of child pedestrians.

2.2 South Africa

In South Africa the scale of death and injury due to road crashes is disastrous, and the country has been ranked 'fourth worst in the world'^{xiii}.

It is estimated that about 12 000 people die every year on the roads – about 36 people die every day and 100 are seriously injured. 7 000 people are maimed or permanently disabled every year. The estimated cost of these casualties annually is R38bn.^{xiv}

It is almost impossible to obtain accurate national data disaggregating South African road deaths in terms of age. The most reliable and current source for this literature review has been a report on fatal injuries by the Medical Research Council (MRC) and the University of South Africa (UNISA). This shows that in 2004 there were 60 000 'non-natural' deaths in South Africa. The leading manner of death amongst the 0 – 14 age group was 'transport' (38,4%)^{xv}

3. Statistics: global, comparative and national:

3.1 Global^{xvi}

The following data are drawn from research published by the Global Road Safety Partnership (GRSP):

- An estimated 30 million people have been killed in road crashes since the invention of the motor vehicle over a century ago;
- Between 750 000 and 880 000 people died in officially reported road crashes in 1999;
- Police records seriously under-report crash and casualty numbers. In some countries, the police do not record more than half of the deaths that happen as a result of a road crash;
- The World Health Organisation (WHO) forecasts that by 2020, road crashes will be the third most common cause of premature death in the world;
- Road crashes affect predominantly the young and middle aged with approximately 67 per cent (67%) of all deaths occurring to those under 45;
- Retired and elderly people account for 10 per cent (10%);
- Estimates indicate that, over the next 10 to 20 years, the number of people dying annually in road crashes may rise to 1 million and 1,3 million respectively, with the main increase occurring in developing and transitional countries;
- Road deaths are only the tip of the road casualty "iceberg". Conservative estimates indicate that between 30 and 45 injuries occur annually for every road death. Many involve permanent disability, and ongoing care and support requirements are an continuing cost to society, and
- Motor vehicle crashes remain the leading cause of unintentional injury-related death among children ages 14 and under. Unrestrained children are more likely to be injured, suffer severe injuries and die in motor vehicle crashes than children who are restrained.

3.2 Comparative/developing world data

The World Health Organisation (WHO) says that reliable information on road safety from developing countries is 'generally scant'.^{xvii} Given that caveat, the report does provide the following useful comparative data:^{xviii}

- Some 90% of road traffic deaths occur in the developing world, which comprises two thirds of the global population;
- More children died in Africa in 1998 from road crashes than from the HIV/Aids virus;
- The percentage of children under 15 killed in road crashes in developing countries is currently almost three times higher than that in highly motorised and industrialised countries;
- Road crashes kill more young adults (aged between 15 and 44 years) in Africa than malaria;

- In many Asian, African, and Middle Eastern countries between 40 and 50 per cent (40 – 50%) of people killed as a result of a road crash are pedestrians;
- Between 30% and 86% of trauma admissions in some low-income and middle-income countries are the result of road traffic crashes;
- The death of a breadwinner often pushes a family into poverty;
- Road traffic deaths will increase on average by over 80% in low-income and middle-income countries (and decline by almost 30% in high-income countries);
- Road traffic injuries will become the second leading cause of DALYs¹ lost for low-income and middle-income countries;

WHO reports that country estimates that are reliable and current are most difficult to obtain from the developing world. However the most recent comparative data indicates that African countries have some of the highest road traffic injury mortality rates. However, when examining data from the individual 75 countries that report complete data to the WHO, a different picture emerges. The highest country rates are being found in some Latin American Countries (42,2 per 100 000 population in El Salvador, 24,0 per 100 000 in Brazil, and 22,7 per 100 000 in Venezuela). High mortality rates are also present in several Eastern European countries.^{xix} (Complete data from South Africa has not been submitted to WHO so it is not possible to make a comparison here.)

¹ Disability adjusted life years

3.3 South Africa:

The first point that must be made about South African official road accident statistics is that they are both contradictory and out of date. The last national official statistics published were in 1998.^{xx}

Summary Table: Accidents and casualties according to degree ,1998										
RSA: According to nine provinces										
Degree	Total RSA	W/ Cape	E/ Cape	N/ Cape	Free State	KZN	N/ West	Gauteng	Mpuma-langa	N/ Province
Accidents										
Total	511 605	94 021	37 584	7 825	25 676	80 525	19 329	205 652	25 017	15 976
Fatal	7 260	1 064	704	236	615	1 169	537	1 728	798	409
Major	21 265	2 302	1 750	551	1 404	2 939	1 109	8 551	1 542	1 117
Minor	52 097	10 823	4 860	1 194	3 377	8 679	2 200	16 521	2 862	1 581
No injury	430 983	79 832	30 270	5 844	20 280	67 738	15 483	178 852	19 815	12 869
Casualties										
Total	129 672	20 619	12 159	3 451	9 407	20 649	7 019	40 328	9 978	6 062
Killed	9 068	1 286	911	306	817	1 432	685	2 010	1 074	547
Serious	36 246	3 505	3 040	970	2 718	5 347	2 120	12 905	3 287	2 354
Slight	84 358	15 828	8 208	2 175	5 872	13 870	4 214	25 413	5 617	3 161

There is no doubt that South Africa has an abysmal road safety record. Estimates vary between 10 000 and 12 000 people killed, and 150 000 people injured on roads annually.

In terms of researching the road safety issues that relate to children, it is almost impossible to obtain reliable national figures that are differentiated in terms of age.^{xxi} However road safety – or the lack of it – is well covered in the media, where figures are continually quoted. In the absence of a reliable and up-to-date source of official statistics, this review has drawn on a range of statistics from journals, the print media, and relevant websites.

While official road traffic statistics are not well differentiated demographically, a new report on fatal injuries by the Medical Research Council (MRC) and the University of South Africa (UNISA), shows that in 2004 there were 60 000 'non-natural' deaths in South Africa. The leading manner of death amongst the 0 – 14 age group was 'transport' (38,4%).^{xxii}

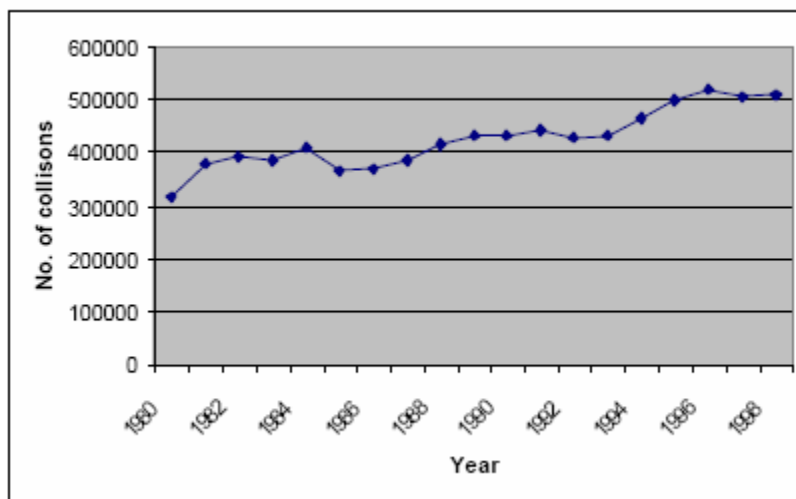
The following general data are drawn from the road safety website of South Africa's Centre for Scientific and Industrial Research (CSIR):^{xxiii}

- South Africa 's road safety rate ranks as the fourth worst in the world;
- The cost of traffic collisions in South Africa is approximately R16 billion per year;
- A person is killed every 48 minutes;
- An accident occurs every 4 seconds;
- There is 1 death per 570 vehicles;
- 60 percent (60%) - (6 out of 10) of motor accidents involve alcohol abuse;
- Not wearing a seatbelt (common in SA) means an over 80% chance of being killed or seriously wounded in a crash, and
- One out of every 45 road users will end up in a trauma unit at some point in their lives.

The WHO estimates the cost of road traffic collisions in South Africa at approximately R13,8 billion (US\$ 2 billion). On the assumption that 80% of seriously-injured, and 50% of slightly-injured road traffic collision victims would seek care at a state hospital, basic hospital costs alone for the first year of treatment were calculated to cost the government of the order of R321 million (US\$ 46,4 million).^{xxiv}

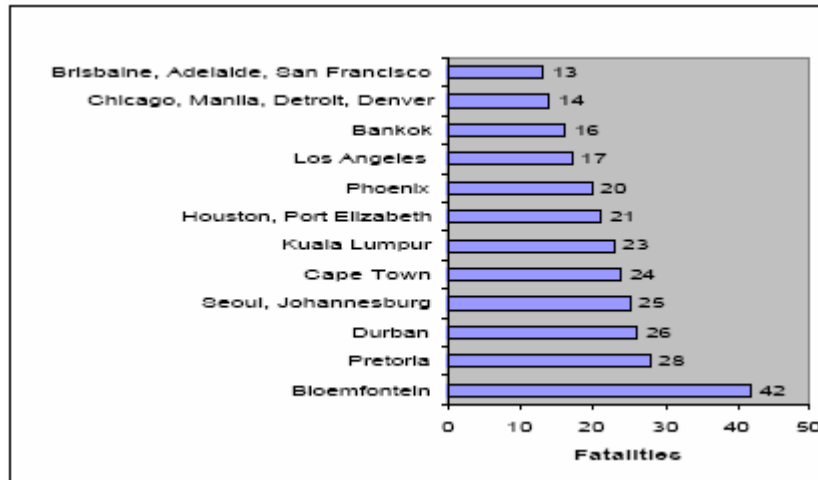
The following set of illustrative tables is taken from research consolidated in a paper presented in 2004 at an international conference on 'Entertainment Education'.^{xxv}

The first diagram shows the rise in road traffic collisions between 1980 and 1998.



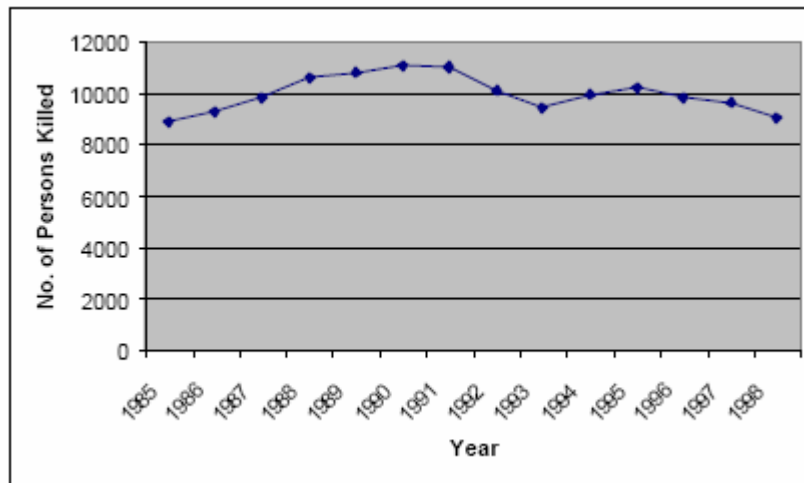
Incidence of Road Collisions between 1980 and 1998

The next diagram shows how the rate of South African city road death compares to other cities around the world. It is plain that South Africa's urban fatality rate per capita is disproportionately high.



International road fatality rates compared with South Africa

The diagram below shows how the number of fatalities in road collisions fluctuated around the 10 000 mark between 1985 and 1998.

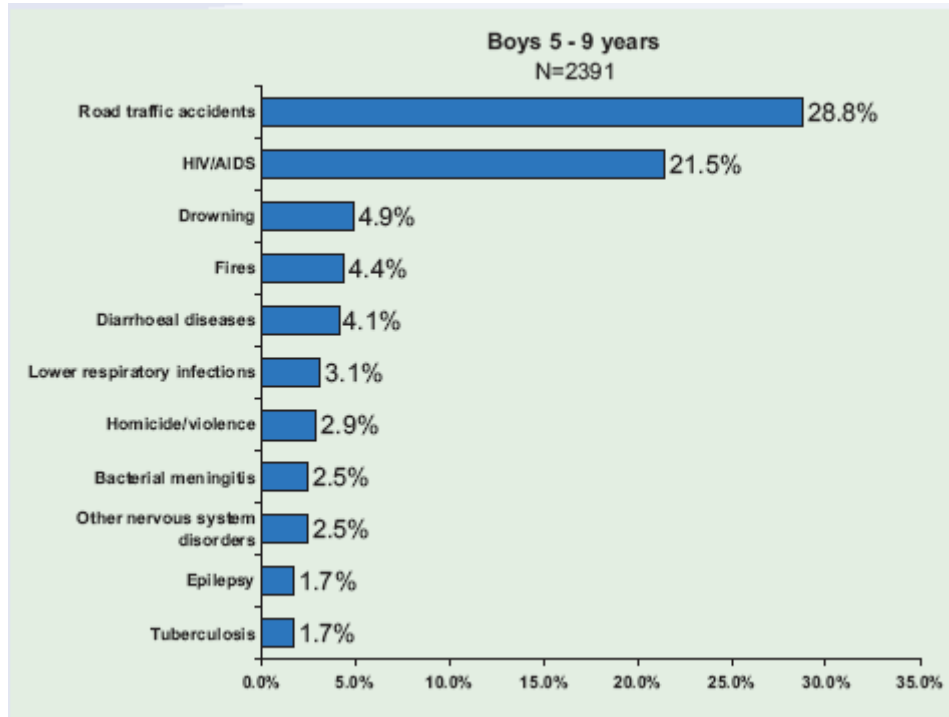


Number of fatalities in road collisions between 1985 and 1998

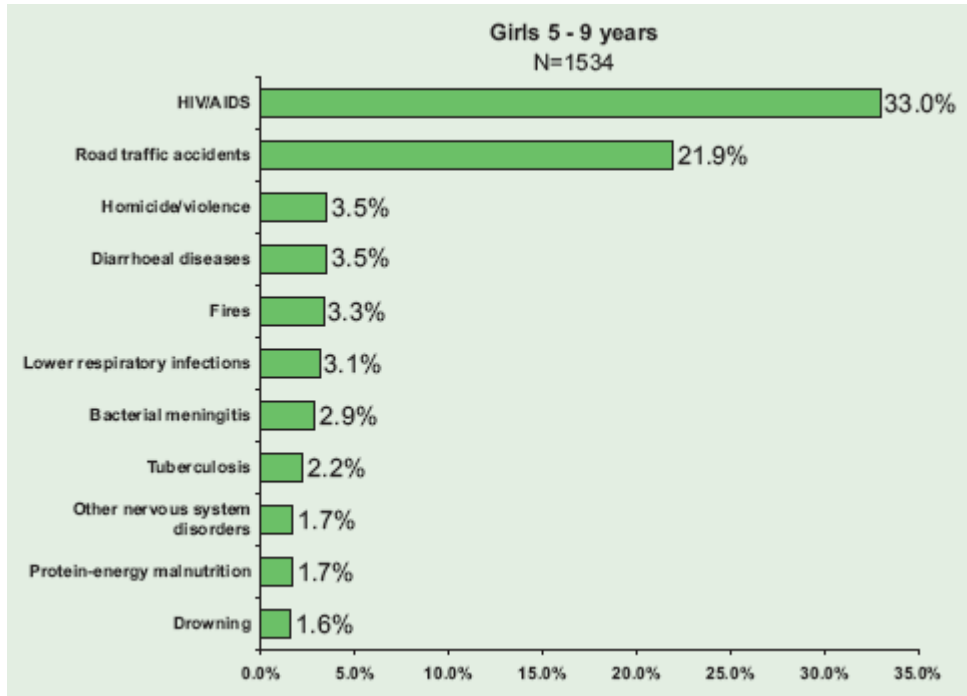
The following tables, which show the leading causes of death among South African children in the 5 – 9 and 10 – 14 year cohorts, are drawn from a Medical Research Council Policy Brief.^{xxvi}

There is little need for explanation of these tables. They show clearly that road fatality is the most common form of death within these age groups.

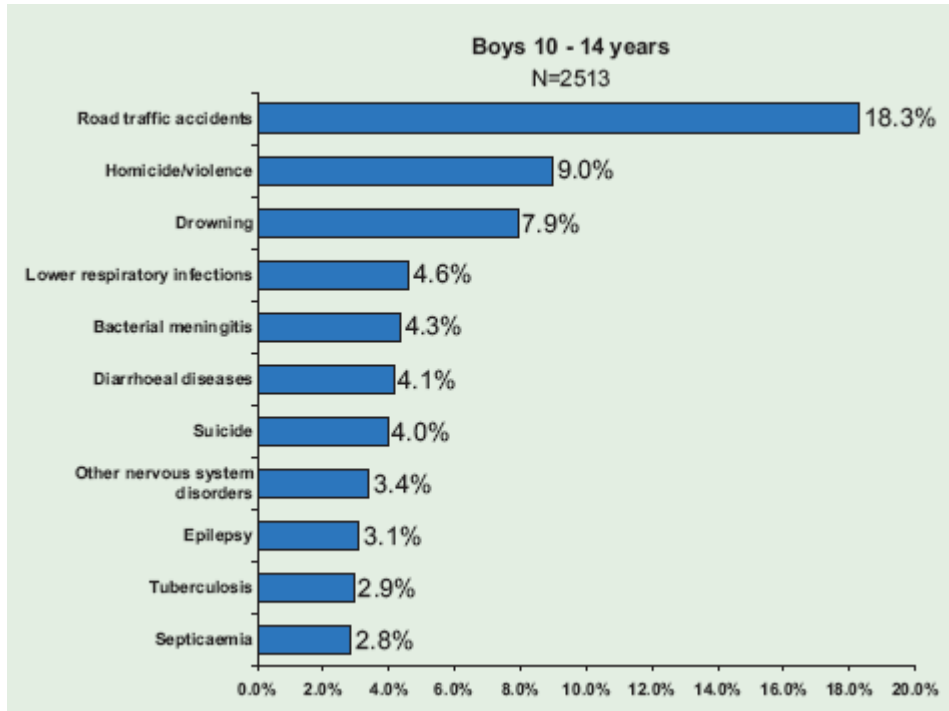
Leading causes of death among South African children – Boys 5 – 9 years



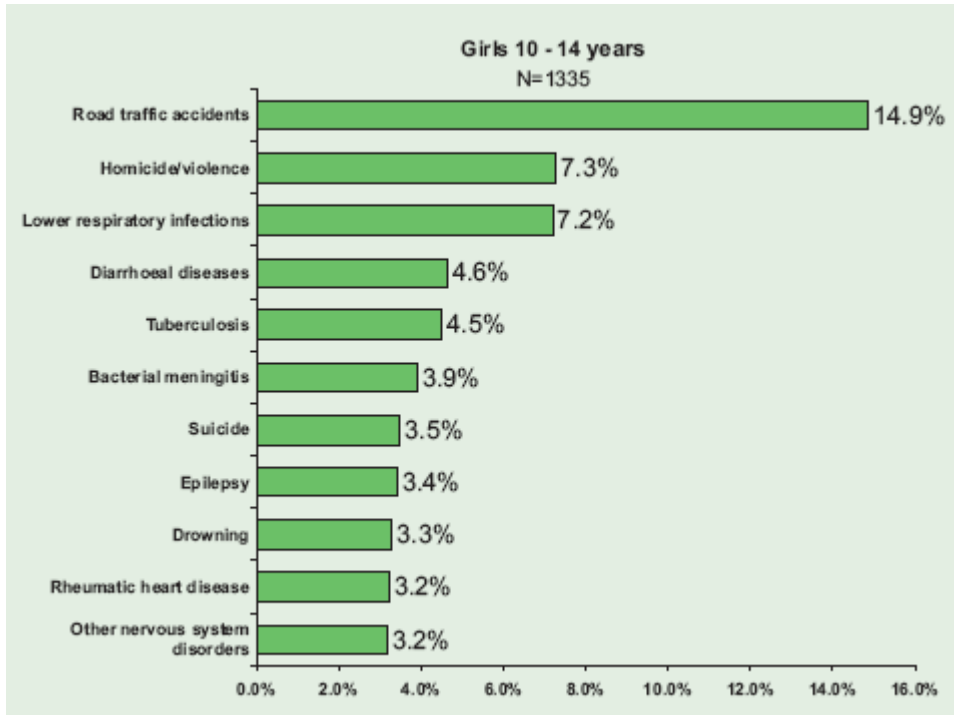
Leading causes of death among South African children – Girls 5 – 9 years



Leading causes of death among South African children – Boys 10 - 14 years



Leading causes of death among South African children – Girls 10 - 14 years

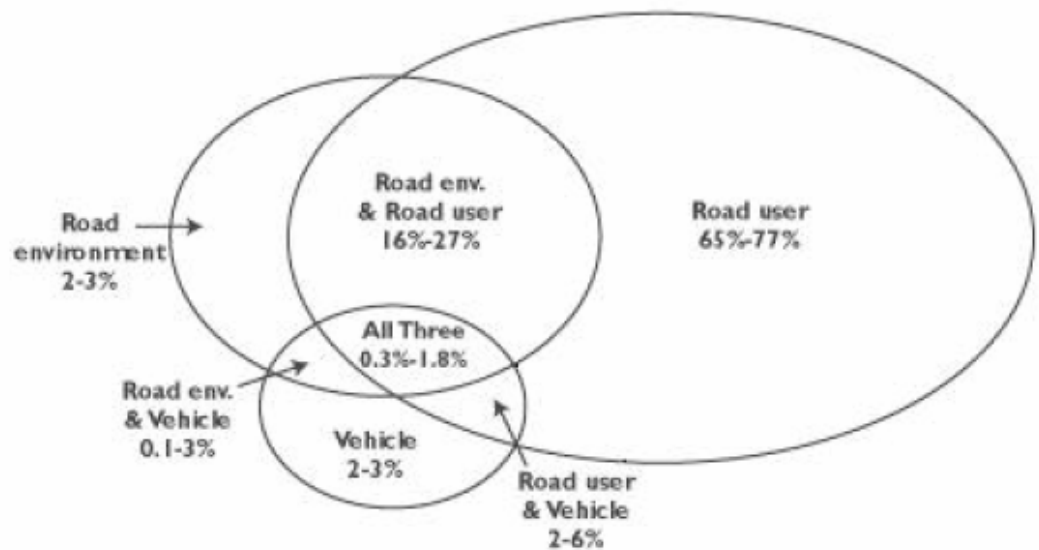


4. Key Issues of concern

To adequately address the problem of road safety, the causes of road casualties must be addressed. The GRSP has broken down the causes of road accidents into combinations of the following:

- Environmental factors (the road environment);
- Vehicle factors (problems with the vehicle/s involved), and
- Road user factors (behavioural deficits).^{xxvii}

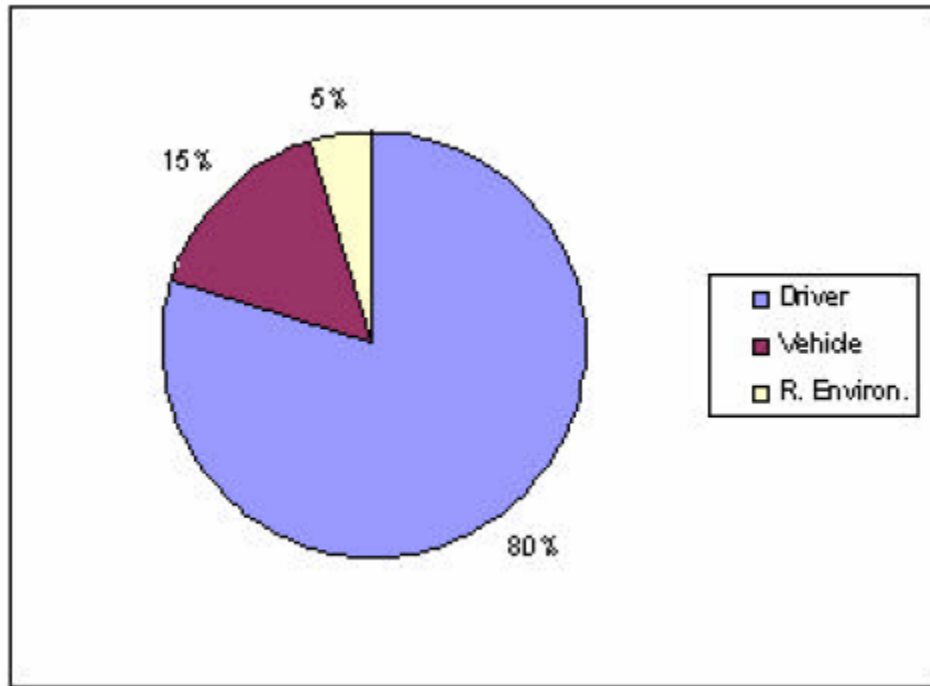
This interaction can be graphically illustrated as follows –



Global Analysis of the causes of road crashes (GRSP)^{xxviii}

This is significant as the road user is the sole cause of up to 77% of road accidents.

Although not as detailed as the global data - the South African data shows a similar trend:



Causes of road crashes in South Africa (estimates)^{xxix}

The diagram above shows that in South Africa about 80% of road crashes are attributable to driver error/fault. This driver error can be further broken down into:

- Speed;
- Driving under the influence of liquor and/or a narcotic drug;
- Fatigue, and
- Driver incompetence

Although many road safety concerns are globally comparative, the increasing severity of the situation in most developing world countries calls for a particular focus. This section therefore hones in on key low and middle-income country road safety issues, and on South Africa in particular.

Each one of these 'key issues' unfortunately affects children in some way. However as stressed (in point 3.3 above) there is very little reliable disaggregated information on children and road safety in South Africa (let alone information specifically on the 8 – 12 group). Some of the best information on the key issues affecting children and road safety is produced in Britain by TRL Ltd (formerly the Transport Research Laboratory)^{xxx}, and in the United States by the National Safe Kids programme^{xxxi}.

The following specific concerns regarding child road safety is drawn from the Safe Kids programme and seems to have immediate applicability to South Africa:

- The importance of law enforcement, as well as guidance to parents on child safety are emphasised by the statistical information available on child road casualties;
- Unrestrained children are more likely to be injured, suffer severe injuries and die in motor vehicle crashes than children who are restrained;
- Child safety seats and safety belts, when installed and used correctly, can prevent injuries and save lives;
- In addition to physical trauma, motor vehicle injuries can have long-lasting psychological effects. One study showed that 25 percent of children, who suffered from traffic injuries, and 15 percent of their parents, were later diagnosed with post-traumatic stress disorder;
- As of January 1, 2004, 141 children had been killed (in the USA) by passenger air bags. Approximately 92 percent of these deaths were among children either unrestrained or improperly restrained at the time of the crash, including 23 infants in rear-facing child safety seats in front of a passenger air bag;
- Rural areas have higher motor vehicle crash incidence rates and death rates than urban areas. In addition, crashes in rural areas tend to be more severe;
- In 2002, 22 percent (22%) of all traffic deaths among children ages 14 and under involved alcohol. Of the children killed in alcohol-related crashes, more than half were passengers in vehicles with drunk drivers;
- Child restraint use decreases as both the age of the child and the blood alcohol level of the child's driver increase;
- Approximately 14 percent (14%) of children ages 14 and under ride unrestrained. Riding unrestrained is the greatest risk factor for death and injury among child occupants of motor vehicles;
- Among children ages 14 and under killed as occupants in motor vehicle crashes in 2002, 50 percent (50%) were not using safety restraints at the time of the collision;
- Inappropriately restrained children are nearly three and a half times more likely to be seriously injured in a crash than their appropriately restrained counterparts (In South Africa children are often transported on the back of bakkies; mothers breast-feed babies in moving vehicles, buses and taxis do not have effective safety belts, etc);
- Incorrect use of child safety seats is widespread. Although 96 percent (96%) of parents believe they install and use their child safety seats correctly, it is estimated that 82 percent (96%) of child safety seats are not installed and used correctly;
- Driver safety belt use is positively associated with child restraint use. In a recent study, nearly 40 percent (40%) of children riding with unbelted drivers were completely unrestrained, compared with only 5 percent (5%) of children riding with belted drivers;
- The back seat is the safest place for children to ride. It is estimated that children ages 12 and under are 36 percent (36%) less likely to die in a crash if seated in the rear of a passenger vehicle;

- Restraint use is lower in rural areas and low-income communities. Lack of access to affordable child safety seats contributes to a lower usage rate among low-income families. However, 95 percent of low-income families who own a child safety seat use it.

According to Dr van As, director of the Child Accident Prevention Fund of South Africa, children are particularly vulnerable because, in comparison to adults, their heads are much larger in proportion to their bodies. As pedestrians, children's heads are the point of impact, whereas in adults, the body is the point of impact. This makes children vulnerable to head injuries, which tend to be more lethal than body injuries.

4.1 Road safety is a development and social equity issue

As the statistics (in section 3 above) demonstrate, poorer population groups bear a disproportionate burden of avoidable morbidity and mortality from road traffic injuries across the globe. The distribution of road traffic injuries is generally influenced by socio-economic factors. Poor countries bear a disproportionate burden of injuries and fatalities, and within countries, poor people bear an unequal burden of the suffering of road traffic injuries. Fatality rates for 0-4 and 5-14 year olds in low- and middle-income regions, measured as deaths per 100 000 population, were six times the rates for high-income regions, while within low- and middle-income regions the rates vary widely.

Within poor countries, poor people – represented by pedestrians, passengers in buses and trucks, and cyclists – suffer a higher burden of morbidity and mortality from traffic injuries. In rich countries, children from poor socio-economic classes suffer more injuries and deaths from road crashes than those from high-income groups.^{xxxii}

Professor Anthony Mbewu, one of the MRC's two research directors, addressed a World Health day seminar about the importance of health research and injury prevention in developing countries. "We need to spend money on this problem to create an integrated, evidence-based approach that is matched by strong political will. For this we need accurate and reliable data that will also help us to evaluate the effectiveness of our interventions." Professor Mbewu further observed that lack of supervision and road safety training contribute to the chilling fact that traffic accidents are the leading cause of death in the 5-14 years age group.

"This is a socio-economic problem," said Dr Sebastian van As, head of the Trauma Unit at the Red Cross Children's Hospital in Cape Town. "Children in townships don't have safe areas in which to play, so the road becomes their playground."

4.2 The Road Environment

Planning decisions regarding transport, land use and road networks have significant effects on road safety. The development of a network of roads –

and other forms of transport, such as railways – has a profound effect on communities and individuals. In the absence of integrated land-use planning, residential, commercial and industrial activity grows in a haphazard pattern, and road traffic acts to meet the dictates of bad planning. This produces heavy flows of traffic through residential areas, vehicles capable of high speed mixing with pedestrians etc. The consequent exposure to traffic injury is high for vehicle occupants, and even more so for vulnerable road users, such as pedestrians, cyclists and children.^{xxxiii}

When it comes to pedestrian deaths in South Africa, older persons are also high-risk groups, due to issues such as unplanned informal housing being largely erected near major transport routes, and 'drunk walking'. Crucially, it is behaviours such as this 'drunk walking' by adults, that has fatal consequences for children in their ambit.

4.3 Inadequate road management systems, corruption and traffic law enforcement

In the build-up to the 2005 holiday season, there was a media expose of 'shocking disclosures regarding licences and public transporters'. When asked to comment, Wendy Watson, general manager of Land Transportation Regulation in the Department of Transport, confirmed the estimate of 50% of South African drivers with fake licences. Furthermore Ms Watson said her department had serious doubts about the driving abilities of a large percentage of drivers.^{xxxiv} This situation is exacerbated by the fact that traffic police are inadequately trained and equipped to manage this and other road safety issues.

4.4 Road user/Behaviour Issues

4.4.1 Pedestrians

Pedestrian road casualty represents one of the most serious threats to children in the modern world. According to World Bank Data, 65 percent (65%) of deaths involve pedestrians, and 35 percent (35%) of pedestrian deaths are children. A striking feature of casualty lists worldwide is the marked sex difference: over twice as many boys as girls are involved in pedestrian accidents at all levels of severity. Crashes between vehicles and pedestrians constitute more than a third of all traffic-related deaths and injuries worldwide. Pedestrians sustain more multiple injuries, with higher injury severity scores and higher mortality rates.^{xxxv}

A key issue for road safety interventions is to explain these incidences and devise programmes to overcome them.^{xxxvi} According to the WHO report quoted above, in Africa, children are more likely to be hurt on the roads as pedestrians and as users of public transport. Injuries to children are most frequently to the abdomen, chest and head. Head injury is responsible for most pedestrian fatalities.

In crashes involving pedestrians in South Africa, jaywalking and walking under the influence of alcohol or drugs are the major contributing factors.

This is important for the social change professional as it places responsibility for road safety in the sphere of the driver and pedestrian, and shows that change interventions need to address behavioural deficits.^{xxxvii}

4.4.2 Driver behaviour: incompetence, speed and aggression

National minister of Transport Jeff Radebe publicly blames a worsening driver attitude and the poor road discipline of drivers for much of the carnage on South African roads.^{xxxviii} Drinking and driving, speeding, road rage and poor vehicle maintenance among driving age population are also clear contributors to child injury and death.

4.4.3 Alcohol and drugs

Alcohol is a major risk factor for all types of fatal road traffic injury in South Africa. In a study done in 2001 it was found that more than half (51,9%) of the victims tested for blood alcohol content (BAC) had elevated contents. Pedestrians, followed by drivers, were most likely to be BAC-positive. Pedestrian fatalities also had the highest mean BAC levels. Over 50% of drivers killed had elevated BAC levels and the mean level for drivers was over three times the legal limit for driving (currently set in South Africa at 0,05 g/dl.)^{xxxix}

4.5 Public transport issues

Public transport is not well developed in many low and middle income countries. This is a serious problem in South Africa. According to available statistics, 80 percent (80%) of South Africa's population is totally dependant on public transport for their mobility needs.^{xi} Because there is a serious lack of public transport, informal modes of transport, used largely by poorer people, have evolved to fill the gap. This is usually privately-owned buses, converted pick-up trucks, and minibuses. The low fares charged by these forms of transport are affordable to poor people. The vehicles are also convenient, as they will stop anywhere to pick up or drop off passengers, and they do not adhere to any fixed time schedules. Against these advantages there is a marked lack of safety.^{xii}

South Africa also contends with a serious issue of vehicle roadworthiness – or the lack thereof. Issues noted as direct causes of road injuries are mechanical faults, worn out tyres (especially of taxis), brake failure, brake lights and indicators not working, no mirrors, owners of vehicles forcing drivers to drive unroadworthy vehicles: 'Especially in the rural areas, people drive vehicles that are worn out (*dikorokoro*) – especially buses and taxis. When it comes to taxis it is worse ...'^{xiii}

4.5.1 Taxis:

Public outcry against the condition and behaviour of South Africa's ubiquitous mini-bus taxis has been ongoing for the past decade. This sector evolved to meet the transport needs of the (largely black) working class. While the taxi industry fills a necessary gap, it is beset by problems of vehicle safety,

aggressive and poor driver behaviour - most notably lack of respect for all road rules, and for other drivers. The industry is also the site of ongoing violence caused by competition between rival taxi owners. The vehicles are generally overloaded with passengers and goods. The long hours that drivers are forced to work result in fatigue, sleep deprivation and reckless driving.^{xliii}

Taxis are used extensively to transport children – between home and school, and on long-distance journeys between urban and rural homes.

4.5.2 Buses

Like taxis, buses provide vital transport services to (mainly) working class people in South Africa. They give mobility to millions of people who are dependant on 'public transport' to get to and from work, go shopping, seek employment, and transport pupils to and from school.

However the bus sector has been the focus of ongoing media outcry due to the high level of fatal accidents:

- 2001: 260 buses in fatal accidents, 325 persons died;
- 2002: 241 buses in fatal accidents, 305 persons died, and
- 2003: 230 buses in fatal accidents, 301 persons died^{xliv}

The role of bus operators in road safety efforts was highlighted by the Saulspoort Dam tragedy (among others). A Carte Blanche investigation on bus safety focused on a reduction of the speed limit applicable to buses, more stringent roadworthy tests, and the dangers of drowsiness amongst bus drivers.

5. Relevant policies that either help or hinder road safety

The key national road safety policy is the Department of Transport's '*Road to Safety*^{xlv} – launched on 20 November 2001, by the Minister of Transport and then Deputy President, Jacob Zuma.

The objective of the strategy is 'to reduce crashes, deaths and injuries on South Africa's roads by 5% year-on-year until the year 2005 – at a saving to the economy of R 770 million per annum – and then, based on the strengthened institutional platform, by at least 10% per year-on-year until the year 2009.'

In February 2002, an implementation business plan for the Strategy was approved by Parliament. This plan, the culmination of detailed planning and research, sets out an 'achievable plan of action, and identifies key deliverables' to ensure timeous delivery on the commitments made in the strategy.

The strategy has four key themes:

- traffic law enforcement and law compliance;
- operator, vehicle and driver fitness;
- infrastructure, management and information systems; and
- communication, public education and participation.

Nine project teams were established to implement the strategy:

- Arrive Alive;
- Driver Fitness;
- Vehicle Safety;
- Pedestrian Safety;
- Fraud and Corruption;
- Traffic Information Systems;
- Fleet Operations Management;
- Professionalism in the Traffic Fraternity, and
- National Traffic Information and Call Centre

Of particular relevance to this literature review is that The *Road to Safety* establishes two pillars to promote pedestrian safety. They are:

- Firstly, actions to be carried out as part of the *Arrive Alive* Business Plan 2000 - 2004 to reduce pedestrian casualties.

All nine provinces are mandated to work with local government and communities to implement a rolling programme of identification and prioritisation of hazardous pedestrian locations, and the application of multi-disciplinary solutions. In the *Arrive Alive Six* campaign, an amount of R1,5

million was allocated per province to improve hazardous pedestrian locations as identified during the National Pedestrian Workshop held in January 2001. This allocation from the DoT should be matched on a Rand-for-Rand basis by the provinces.

- Secondly, the establishment of a *National Pedestrian Action Plan* with the following objectives:
 - Training of government and local authority officials and community members to identify and remedy hazardous locations;
 - Community needs assessment and community-driven road safety programmes and projects, and
 - The development of dynamic partnerships between the private sector and national, provincial and local government.

As part of the medium term strategy, hazardous pedestrian locations were to be identified throughout South Africa (on national, provincial and metropolitan/municipal roads) for continuous improvement until the end of the strategy period in 2005.

The formal process of costing by all provinces resulted in a Business Plan enabling the National Minister of Transport to apply for additional funding over the full four-year period to improve the identified hazardous locations. Provinces and local authorities were expected to use some of their infrastructure allocation to support the programme.

The strategy emphasizes the necessity for cooperation in order to achieve the objectives planned. The National Plan therefore also spells out the forms and mechanisms for public-private sector partnership in the implementation of all the improvement schemes - both medium and long term. Gauteng and the Western Cape intended to implement full-scale provincial pedestrian management plans in collaboration with metro and local authorities. The positive impact that the first round of these programmes was expected to have on the local communities where they were implemented - and the extent to which the communities internalised and took ownership of them, was expected to be a solid indication of their sustainability in the longer run.^{xlvi}

6. Government strategies that exist to address the issue

6.1 Arrive Alive

The Department of Transport's (DoT) key strategy to address road safety is the Arrive Alive initiative. This has three components, education, communication and law enforcement.

The main goal is the promotion of road safety to effect a decrease in road accidents, fatalities and injuries, as well as contributing to a reduction in road traffic offences.

DoT states that this initiative can only achieve its aims through cooperation from state departments, individuals, various institutions and private business.

Today the Arrive Alive campaigns have become an important part of the Road Traffic Safety Projects of the Department of Transport. The death toll on the roads over the December 2002 – January 2003 holiday period led to increasing pressure on the Department of Transport, including allegations of failure of the Arrive Alive campaign. The Department of Transport responded saying that the merits of the campaign cannot be disputed. The view of the DoT is that the Arrive Alive campaign cannot be the function of one person or one department, but should be seen as an effort by the whole of South Africa to take hands in the promotion of Road Safety.^{xlvii}

Every festive season, DoT rolls out an awareness campaign in an attempt to educate road users on how to travel safely. The Arrive Alive Campaign of 2004 was launched with much enthusiasm and fanfare in early December but despite the commendable efforts of hundreds of people working on the campaign, the death toll on national roads during that holiday period exceeded that of 2003, and was judged tantamount to a national disaster.^{xlviii}

6.2 Improving Taxi and Bus Safety

As part of the "Road to Safety" initiative, a policy that regulates operational safety issues for all bus, taxi and freight operators was introduced. DoT decided to commence with development of a vehicle quality management system for bus operators. The South African Bus Operators Association had already initiated some development work for a quality management tool, which provided the groundwork. This effort has since laid a platform for a management system for the bus industry. This code is known as Sans 10399 (South African national standard – quality management systems : requirements for bus operators)

The objectives of this code are to provide a basic minimum quality standard that will promote the movement of passengers in a safe, efficient and reliable manner. The intention is to create a platform on which transport operators

can base their quality policies, and to ensure that the quality systems that are currently being managed by them, meet the highest standards.

6.2.1 Taxi recapitalisation programme

This programme was government's attempt to modernise and improve safety in the taxi sector. Based on the National Land Transport Transitional Act (2000), which stipulates that only mini- and midi-buses should be allowed to operate as taxis, all the existing unsafe vehicles were to be scrapped, and new mini and midi-buses would have been underwritten by South African taxpayers to the tune of R4-billion.

Faced with endless delays and mounting evidence of the failure of the programme in its original form, the government announced a review and scaling down in 2004. In a recent *Mail and Guardian* article,^{xlix} Jeremy Cronin (ANC member of Parliament), commented that even the scaled down model is not based on thorough research, and it is not possible to predict the impact of the revised programme. Cronin points out that the transformation of the taxi industry has to be integrated not just into a more seamless multi-modal approach to transport, but into a much broader programme of building sustainable communities, towns and cities.

6.2.2 KwaZulu Natal best practice road safety project:

All three tiers of government have road safety programmes. The provincial programme most frequently cited is that of KwaZulu Natal: The National Department of Transport sent a delegation from KZN in 1996/1997 to Victoria, Australia to investigate the "World's Best Practice" on road safety in that state. This was then introduced in KZN originally as Project Victoria, and then rolled out nationally as the Short Term Implementation Project (STIP) prior to Arrive Alive. The success in KZN of 31% reduction in road casualties between 1996 and 1999 was unprecedented in the developing world, according to Dr Wendy Watson, General Manager, Land Transport Regulation.¹

6.2.3 Limpopo Department of Roads and Transportation Road Safety Improvement Plan for the Dilokong Corridor (Route R37) at Tubatse

A specific section of Route R37 in the Tubatse area is notorious for the number of road accidents that occur. Over the period January 2002 to September 2004, 175 accidents were recorded, involving 27 fatalities and 104 injuries.

Along this section of road there are nine primary schools and four high schools. Most of the children attending these schools cross the road twice a day. The community from which these children come consists of about 23 000 people, of which 65% are youth. The language spoken is Sepedi and the people believe in traditional norms including initiation school. There is a high unemployment rate (65% not working).

The main features of the road casualty situation are:

- Vehicles travelling at high speed;
- Reckless driving;
- Ignorance and non-observance of road rules;
- Stray animals;
- Lack of road law enforcement, and
- Alcohol abuse including drunk pedestrians.

A partnership between Drive Alive, government, the CSIR and BP has resulted in this project, currently in pilot phase. The project consists of a set of initiatives aimed at improving road safety in the area. Relevant for this literature review is the Community Education and Communication segment of the project, including choir, drama, poetry and art competitions emphasising road safety.ⁱⁱ

6.3 Government Programmes specifically for childrenⁱⁱⁱ

6.3.1 The Child in Traffic programme (CITP)

This is aimed at the child pedestrian \pm 5-8 years. The programme can also be used successfully for older children in rural areas.

6.3.2 STEP

Developed specifically with the rural child from 5-8, in mind, this is an excellent school programme and teachers can use it well if they are trained in TSE (Traffic Safety Education).

6.3.3 Cycle Programme

This is for older children in the 9-12 group.

7. Known effective interventions and best practices, including environmental manipulation

7.1 International – ‘first world’

Many countries have made substantial improvements in child road safety. Western European countries seem to have the highest success rates. In the ‘south’, Australia and New Zealand are the leaders. For instance in Australia in the 25 years after 1970, the road fatality rate per 100 000 children fell by sixty percent (60%).

Key interventions to reduce specifically child casualties and death include:

- specially-designed child restraints – promotion and increasing use thereof;
- road environment improvements that have reduced the number of child pedestrian injuries (since these are associated with traffic volume and speed), and
- bicycle helmets are associated with reduction in head injuries.

However the success of prevention efforts is not uniform. As noted by an expert: ‘Injuries, both violent and intentional, are one of the most significant public health issues facing children today, but public outrage is absent. As a result, proven solutions go unused, and thousands of children die each year.’^{lviii}

7.2 Comparative/Developing World

7.2.1 The Global Road Safety Partnership (GRSP) Approach^{liv}

The GRSP works in many developing countries – including South Africa, on road safety initiatives. It emphasises road safety education in schools as a key intervention in dealing with child road death and injury. The GRSP notes that road accidents are a major and growing cause of death and injury to children in developing and transition countries. One reason why these accidents happen is that children do not have the necessary knowledge and skills that allow them to deal with the hostile traffic environment. Receiving road safety education as part of their normal school curriculum is suggested as one of the most effective ways of providing children with this type of knowledge.

Therefore road safety education should be given much more priority in developing and transition countries. Importantly, research has demonstrated that it can be highly effective when some principles of good practice are followed. However, to produce best results, the programme should be supported by other road safety measures -- driver training, providing safe crossing places and enforcing safe driver behaviour.

GRSP’s Road Safety Education involves teaching children to be safer road users. It does so by developing:

- Knowledge and understanding of road traffic;
- Behavioral skills necessary to survive in the presence of road traffic;
- An understanding of their own responsibilities for keeping themselves safe;
- Knowledge of the causes and consequences of road accidents, and
- A responsible attitude to their own safety and to the safety of others.

7.2.2 Examples of Emerging Good Practice^{lv}:

Ghana 'Safe Ways' Program. This resource provides opportunities for 11- 12 year old primary school children to learn about road safety in the classroom, playground and outside near real roads to facilitate safer journeys to and from school.

Nepal Road Safety Education Program. This was developed for areas with high illiteracy rates and uses a puppet show to illustrate the dangers associated with running into the road. This is followed by a discussion session and a demonstration near the roadside, or in the school grounds.

Papua New Guinea "Smart Smart" Road Safety Book. Presents a variety of road safety messages to school children in appealing and exciting ways.

India 'Safe Feet' Program. This resource provides a teacher resource aimed at children aged 6 - 7 just starting at primary school.

Uganda Primary Curriculum. This teaching program provides a curriculum and teacher's guide for all 7 years of primary education.

South Africa Road Safety Education Package. This package is being designed by GRSP South Africa to assist school teachers to create awareness and safe behaviour of children in traffic from ages 6 to 18.

7.3 South Africa

7.3.1 Road Traffic Safety Assessment and Improvement Model^{lvi}

The CSIR's Transportek programme has developed a traffic safety assessment model that enables provincial, metropolitan and local authorities to effectively manage road traffic safety in their respective areas. This is done within the framework of national objectives, with clearly stated goals and targets, based on best practices in the road safety field. A holistic approach is followed to ensure that all functional areas are covered and are operating effectively towards a common goal.

The model facilitates the planning, execution and evaluation of appropriate and cost-effective, site-specific and area-wide, road traffic improvement programmes.

7.3.2 Eastern Centre of Transport Development (ECOTD)^{lvii}

This centre is not a physical agency; rather it is a federation comprising the Department of Transport (DoT), and academics at tertiary institutions who deal with the teaching of, and research into, transportation issues. In the last seven years the emphasis has shifted from research to development of qualified people to work in the transport field.

DoT provides financial support for students undertaking research and/or courses in the field of transport at tertiary education institutions. When the ECOTD was first formed, only one student was being supported. By the end of its first year (in 1998), a total of twenty students were being funded – including honours, masters and doctoral students. During subsequent years the number has risen to about twenty- five.

A characteristic of this centre is that it encompasses a wide range of disciplines – economics, education, engineering, law, town planning and sociology. Mark Rieker, author of the paper on road safety and communication quoted in this review, is a recipient of ECOTD funds for research into the communication aspects of road safety. He is involved in examining the roles that social marketing and entertainment education can play and have played in educating and motivating people to change risk behaviours associated with high road deaths among at-risk demographics.^{lviii}

7.3.3 Child Accident Prevention Foundation (CAPFSA)

During 1978, due to the growing concern about the number of child injuries in South Africa, The Child Safety Centre was established as part of the Department of Paediatric Surgery at Red Cross Children's Hospital. By 1987 it became apparent however, that the knowledge and skills acquired and used by the Child Safety Centre on a local level were a national resource. Therefore during 1987, CAPFSA was established to prevent accidental deaths, injuries, disabilities and suffering amongst children in South Africa. CAPFSA joined other countries that regard preventative education as the way to combat childhood injuries.

Among the primary objectives of the foundation are:

- To raise community awareness about childhood safety and injury prevention;
- To reduce the frequency, minimise the severity, and prevent the occurrence of childhood injuries;
- To provide meaningful information and resources regarding childhood injuries and their prevention;
- To serve as a scientific body of knowledge regarding childhood injuries and preventative methods;

- To foster community involvement as a basis for childhood accident and injury prevention services, and
- To lobby and motivate for standards and legislation regarding children's products and safer environments.^{lix}

7.3.4 South African Petroleum Industry Association (SAPIA)^{lix}

This SAPIA website states that SAPIA directors have resolved to take action against the carnage on South African roads. (Social investment in road safety initiatives is an obvious interest for the motor vehicle and fuel industries, and most websites reflect investment in these initiatives.^{lxi}) For example SAPIA member companies also have their own Road Safety Initiatives, which include the Community Road Safety Forum (CORSAF).

SAPIA, in conjunction with Peninsula Technikon, is developing appropriate materials to supplement driver training and general awareness of good driving practice. Students gain valuable social and economic skills. About 4 000 students have participated in this programme over a 12-month period.

Support for Arrive Alive involves the emergency response vehicles having access to the SAPIA '1-Stop network', as bases from which to provide rapid response to accidents.

7.3.5 The University Of Natal Interdisciplinary Accident Research Centre (UNIARC)^{lxii}

This centre was established to undertake research into various aspects of road safety, from perspectives of human behaviour, and of road and vehicle conditions. It is the mission of UNIARC to 'contribute to a reduction in the frequency and severity of injury by the application of a scientific interdisciplinary approach'. Among its priority objectives are:

- Review of a crash data system and recommendations for reform;
- Investigate public perceptions of various road safety campaigns;
- Evaluate how perceptions and behaviour as regards alcohol have changed over a period of time as a result of the use of booze busses, emotive advertising, educational programmes and other campaigns;
- Assess major enforcement and communication campaigns aimed at speeding (such as the Traffic Camera Office (TCO) pilot project) for their effect on public perceptions, attitudes and behaviour;
- Examine law enforcement, resource deployment and utilisation of traffic officials;
- Inspect and assess issues involving heavy vehicles and public transport vehicles due to the proportion of fatalities associated with these, and
- Probe road safety issues relating to the minibus taxi industry.

7.3.6 The Centre for Traffic Safety Education, Potchefstroom University (CENETS)^{lxiii}

This is a research and teaching centre that works to develop road safety initiatives and specifically to integrate these within school and tertiary education programmes.

8. Community advocacy

8.1 Communities for Road Safety, Gauteng (CORSAF)

This is an example of a community-based initiative in partnership with the Gauteng Department of Transport. CORSAF is an umbrella body which co-ordinates road safety in the Gauteng North region, including Atteridgeville, Mamelodi, Laudium, Pretoria Central, Hammanskraal and Soshanguve. The organisation has committed itself to promoting safety among schoolchildren and communities. It has taken the initiative to educate communities in Gauteng North about the importance of using the road responsibly. BP Southern Africa is the main sponsor of this project and has been sponsoring it since 1996.

Projects include pedestrian safety for school children, establishment of junior traffic centres at schools, taxi-driver education, pedestrian safety issues and support of Arrive Alive projects.

The Gauteng Road Safety Promotion initiative, together with CORSAF, embarked on the establishment of junior traffic training centres to make people more aware of the importance of using the road safely. At these centres, children learn about safe pedestrian behaviour, traffic rules, signs and road markings, relevant pedestrian and driver skills, motor skills with regard to handling of push wheels, and a positive attitude in road usage. The aim is to continually expose children to traffic safety training in a way that will cultivate safe road usage as a way of life.

8.2 Community Traffic Safety^{lxiv}

The Traffic Management Programme of the CSIR has been actively involved in community development, since 1992, and has been instrumental in the establishment of community-based traffic safety forums.

Through their experience, they have embraced the following framework for facilitating community-driven traffic safety: *"Empowerment of people by enhancing their personal capacity and self-worth so that they can become aware of their potential to meet their needs through participation and ownership of the process of development."*

The CSIR Transportek has facilitated many community-driven traffic safety processes, namely Mamelodi Traffic Safety Forum; Atteridgeville Traffic Safety Forum, Soshanguve Traffic Safety Forum, Laudium Traffic Safety Forum; the Gauteng-North Traffic Safety Forum, and in the communities of Bronkhorstspuit (Gauteng); Mpumalanga (Kwa Zulu Natal); the Santa Safe Communities Forum and Wrenchville Community Safety Forum (Northern Cape) and in Botlokwa (Northern Province).

The CSIR has also developed a three-day training workshop, manual and toolkit for training in community-driven safety. Training has been provided

for road safety and traffic officers in Gauteng, Kwa Zulu Natal, Northern Province, Northern Cape, Eastern Cape and the Free State. Numerous training and planning workshops have also been presented in various communities with community members.

8.3 Drive Alive^{lxv}

Drive Alive is a non-profit organisation committed to creating a new environment in which the number of road deaths and casualties will be drastically reduced. Founded in 1989 by a group of civic-minded South Africans the organisation aims to:

- Create hard-hitting public education campaigns that encourage South African drivers to adopt safer driving habits;
- Keep the public constantly aware and informed about road safety;
- Lobby for stricter legislation against reckless and drunken driving, and
- Create a climate where the government recognises the necessity for increased traffic law.

Drive Alive runs the following programmes:

- **Children:**

Drive Alive educates and supplies reflective school uniforms to thousands of learners per year. According to the Drive Alive website, this initiative has resulted in a dramatic decrease in pedestrian fatalities in those areas.

The Drive Alive primary school outreach programme equips young children with basic road safety skills. This is achieved through an interactive play, song and art programme. With teenagers a different approach is taken as trained community facilitators present road safety issues and engage the learners in discussion.

- **Community Outreach:**

In collaboration with the post office and the WHO, Drive Alive launched a series of road safety postage stamps. Distributed nationally, these stamps subtly reinforce road safety messages.

In April 2004 Drive Alive launched three Remembrance Gardens, in Gauteng. These gardens provide comfort for traumatised and bereaved families who can plant trees in remembrance of loved ones killed in road accidents.

- **Global Networks:**

Drive Alive works with the World Health Organisation, the European Federation of Road Crash Victims, the Global Road Safety Partnership, and the National Road Safety Board.

9. Communication interventions – successful and unsuccessful

Campaigns on road injury prevention traditionally encompass a wide range of measures; however education has always featured as the mainstay of prevention. There is currently a shift in approach related to the findings of recent evaluative research, and application of the systems approach to road injury prevention. Many professionals in the field are now re-examining the role of education. They believe that when used in support of legislation and law enforcement, publicity and communication can help to create shared social norms, and even change behaviour. However it has been found that when used in isolation, education and communication do not really deliver tangible and sustained reductions in road collisions.^{lxvi}

Research undertaken at Monash University accident research centre concurs that communication is only really effective when used as part of a systemic approach and concludes that:

- persuasive or emotional campaigns are more effective than rational or informational style campaigns;
- using theoretical models to guide campaign development increases effectiveness, and
- use of public relations and associated publicity, are also associated with more effective campaigns.^{lxvii}

Given these caveats, below are some examples of road safety communication interventions:

9.1 International examples of communication interventions:

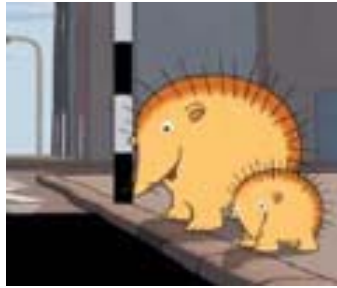
There are a great number and wide variety of communication interventions internationally. As usual, the most-often praised examples are those from first world countries.^{lxviii} While these are not necessarily appropriate for use throughout South Africa, there are definitely elements which can be adapted for the local context:

9.1.1 THINK! (UK road safety campaign/edutainment programme)^{lxix}

This UK government programme is one of the best examples. It consists of an integrated suite of communications interventions, film, television, radio, ambient media in pubs (branded beer glasses etc), print media, and interactive online edutainment. The programme uses brand partnerships with business (for example the liquor industry), and civil society groups to build multi-sector cooperation and strengthen the impact of messaging. The main messages aimed at adults are about speed and alcohol.

Children are targeted through the famous 'Hedgehog' ads, and other attractive media, including interactive websites. There are messages developed specifically for both child and teenage pedestrians, and for cyclists.

Visual images target emotions, and range from the endearing:



to the shocking:



9.1.2 Victoria State, Australia, and New Zealand approach to road safety communication

This is one of the good practice examples cited in the authoritative GRSP handbook *Road Safety Publicity Campaigns*. This handbook emphasises that '...a publicity campaign, by itself, has only modest impact on attitudes and behaviour. Campaigns work best when combined with other interventions, such as enforcement of traffic laws and regulations, or provision of other safety services and products.^{lxx}

The GRSP uses the Victoria State approach as an example because it takes a completely integrated and systemic approach, combining emotion, real consequences and enforcement:

The Victoria State, Australia, and New Zealand approach to road safety publicity.

- emotional appeals about realistic behavioural consequences about being penalised or injured
- stress enforcement activities
- adverts should be:
 - realistic;
 - non-judgemental;
 - convincing and not apologetic; and should
 - contain as much emotion as possible
- test concepts on target groups before proceeding
- track how audience is responding through
 - changes in attitudes;
 - recall and relevance; and
 - changes in crash patterns.

lxxi

9.2 South Africa

9.2.1 Soul City^{lxxii}

Although this literature review has been commissioned by Soul City itself, it would not be complete without inclusion of Soul City's own work. Soul City is undoubtedly the leader in communication/edutainment on road safety for children in South Africa. Soul Buddyz has isolated a number of reasons for children's particular vulnerability:

- Children are small and thus more difficult to see in traffic;
- Children in poorer and rural areas often have to walk long distances across busy highways or other roads at times of the day with poor visibility i.e. dawn and dusk. The situation worsens in the winter months;
- Children lack experience and aren't always able to judge distances well, both from a visual and auditory perspective, and
- There is a lack of play facilities in many, particularly black areas, often forcing children to play in the street. They are not always able to concentrate on their game and watch out for traffic.

Soul City's road safety advocacy campaign is ongoing and has two main aims:

- To secure legislation making it compulsory for reflector material to be incorporated into school uniforms, and
- To get scholar patrols into every primary school in the country.

Soul City embarked on this campaign in partnership with Drive Alive, a South African NGO dedicated to promoting road safety in South Africa. The campaign was developed to reinforce the road safety goals of Soul Buddyz, and was accompanied by a social marketing component which aimed to raise awareness around the value of reflector material and to popularise its use. With the support of BP, one of Soul Buddyz's major commercial sponsors, two million reflector bands were distributed to children across South Africa.

Assessment of the Soul Buddyz road safety element:^{lxxiii}

It is unclear whether Soul Buddyz had any immediate impact on the introduction of scholar patrols.

- 39.8% of children who owned a Soul Buddyz reflector band, wore their band "regularly or most of the time;
- 59.1% of children only wore their bands when it was dark or becoming dark;
- 40.9% of children wore the band at all times of the day.

The qualitative evaluation suggests that the reflector campaign was a success with the children in fashion terms, in the sense that children wanted or had a Buddyz Band, or had a selection in different colours. There did not seem to be a clear understanding as to the reason for wearing the bands.

As can be seen, the results were not as positive as could be hoped. There exists a need to push for a broader approach to road safety communication which will encompass all aspects of the field, and involve all relevant role players. According to the author of the paper quoted above, more needs to be done to catapult road safety into the development communication limelight. This represents an opportunity for Soul City, which could be taken during the planning and implementation of the forthcoming Soul Buddyz series.

9.2.2 Asiphephe^{lxxiv}

'Let us be safe' (Zulu) This project in KwaZulu Natal at first addressed drunk driving and speeding. It combined publicity based on dramatic television advertising (adapted from the Australian emotional advertisements) with strong enforcement and new technologies. It resulted in improved compliance and less public criticisms of police 'revenue raising'. In the two-year period following the start of the campaign, there was a 35% reduction in road fatalities in the province, compared with 17% for the rest of the country.

In the buildup to the 2005/06 holiday season, the programme was amplified through radio, beach festivals, communication in taverns, on taxis and billboards. There is a call centre and an active website.^{lxxv}

In spite of this programme, KZN continues to have tragic road casualty ratings.^{lxxvi}

9.2.3 Kids on Bikes^{lxxvii}

For some time, My Acre of Africa (an environmental education NGO), has been looking at ways to adapt and add additional value to their 'Kids in Kruger' programme, by adding road safety education to the existing environmental education programme. This organisation takes a holistic and developmental approach, believing that road safety education should be combined with social development and environmental considerations.

9.2.4 Arrive Alive

Of particular interest for this literature review is Arrive Alive's involvement in Ster-Kinekor mobile road shows, sponsored by PriMedia. Arrive Alive is featured at two thousand four hundred showings of movies within peri-urban and rural communities country-wide. In addition Primedia is working on the 'Rank TV' concept which may be used for commuter communication.^{lxxviii}

10. Barriers to change – Pointers for Advocacy and ‘Edutainment’

10.1 Macro Policy/Programme Issues

The authoritative WHO/World Bank report quoted in this review, the Global Road Safety Partnership (GRSP), and various other well-regarded international and local road safety initiatives,^{lxxix} concur on the necessity for holistic and integrated approaches at national level. While there are many interventions that can make some difference to the ongoing road carnage, without political will and commitment these will have no significant effect. It seems therefore that Soul City’s approach, which combines advocacy with ‘edutainment’ communication, is both appropriate and strategic.

The CSIR points out that countries which have been successful in reducing road casualty, have adopted holistic and developmental approaches. They have committed to a common vision and goal, with clear targets and performance indicators, based on sound information. Improvement programmes are executed systematically using comprehensive management models, allowing proper monitoring and evaluation of improvement programmes, with feedback to all role players to continuously improve performance of programmes. Unfortunately these good examples are all ‘first world’ countries (UK, Sweden, Netherlands, USA and Australia).^{lxxx}

10.2 Public Transport System

South Africa’s very unsatisfactory public transport system is a major issue. Until this is improved, road safety will be near impossible to achieve. The burning of metro trains, the upheavals over services, and continuing taxi violence threw the inadequacies of these systems into harsh relief during 2005. According to the *Mail and Guardian*, one of the biggest barriers to improved road safety remains an inadequate budget (R7,6 billion for the 2005/06 fiscal year).

10.3 Taxis and Buses

The stalling of the taxi recapitalisation programme has been a big setback for safer roads. Similarly the level of bus accidents continues to be a major concern.

10.4 Road Accident Fund

The highly problematic Road Accident Fund, which has been plagued by corruption (estimated to cost the country R500-million a year), was redesigned and new legislation drafted. But the new plan is not making a significant difference.^{lxxxi}

10.5 Behavioural/Individual Responsibility Issues

All the evidence in this literature points to the fact that behavioural issues are a major cause of South Africa’s very poor road safety record.

A 2000 study that reviewed road traffic crashes found that behavioural factors collectively represent the principal cause of three out of five, and contribute to the cause of most of the remaining.^{lxxxii}

A study on road traffic injuries and children in Dar es Salaam, Tanzania surfaced some of the inherent behavioural issues among poor people in developing communities. Communication and education programmes aimed at improving road safety should find ways to counteract these:

- Children are often unaware of safer ways of walking on the road;
- Parents and other caregivers are similarly unaware;
- There is a perception that risk of road traffic injuries is low;
- Parents and caregivers believe that collisions to children cannot be prevented, and
- It seems that personal responsibility for road safety is given a low priority – here there seems to be a combination of refusal of personal responsibility, and culture/fatalism/witchcraft (accidents are unpreventable – ‘ajali haina kinga’ in Swahili).^{lxxxiii}

In a recent address, Transport Minister Jeff Radebe again singled out three factors as causing 95% of the country's road accidents: poor levels of driver training, poor road discipline, and a general careless attitude of drivers.^{lxxxiv}

All the evidence cited in this literature review suggests that tackling road safety as a multi-sectoral development and social equity issue is not only appropriate, but very necessary in South Africa. Even in first-world environments, motor vehicle crashes have a disproportionate impact on the poor and vulnerable in society – especially children. Equal protection, together with accessible education on responsible road behaviour, should be guiding policy principles. Only in this way will it be possible to move away from the current inequitable burden of injury and death for poor and vulnerable people.

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- ⁱⁱⁱ www.grsproadsafety.org
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Global statistics in this section are also taken from Rieker, M.I., ‘Selling Safety – Marketing Road Safety in South Africa’, paper presented at Fourth International Entertainment education conference, Cape Town, 2004, pp 1 – 7 (This is apparently the most recent academic/research paper on road safety and communication in South Africa)
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- ^{xxi} ‘While there is a lot of information/statistics on road safety in South Africa, the data is not differentiated demographically to any meaningful extent. It is difficult to access reliable data specifically on children and road safety outside of the general "road safety awareness" initiatives.’ (e-mail correspondence with M.I. Rieker)
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^{xlix} *Mail and Guardian*, 29 November to 5 December 2005, p7

^l www.kzntransport.gov.za

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^{li} Project documents loaned by Moira Winslow

^{lii} The names of these programmes have been changed in some areas. This information was shared by Ebeth van der Merwe, a Road Safety researcher who helped develop the programmes and has worked with the CSIR

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^{lix} www.childsafe.org.za

^{lx} www.mbendi.co.za

^{lxi} ?examples of websites mv/petro BP et al

^{lxii} www.uniarc.ac.za It is the opinion of UNIARC that the leading role players in the world on child safety have been the US department of Transportation, as well as the National SAFE KIDS Campaign.

^{lxiii} www.cenets.ac.za

^{lxiv} /csir

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^{lxviii} A large part of the reason for this is that there is often not the budget or the will to document and evaluate campaigns in developing countries. In a telephone discussion with the writer, Dr Pieter Venter of the CSIR commented that the budget for road safety research and development from the DoT has declined sharply due to other perceived priorities.

^{lxix} www.thinkroadsafety.gov.uk

^{lxx} GRSP Focus: Road Safety Publicity Campaigns, p 3, www.grsproadsafety.org

^{lxxi} GRSP Focus: Road Safety Publicity Campaigns, p 3, www.grsproadsafety.org

^{lxxii} www.soulcity.org.za

^{lxxiii} Rieker, M.I., 'Selling Safety – Marketing Road Safety in South Africa', paper presented at Fourth International Entertainment education conference, Cape Town, 2004, p 11

^{lxxiv} GRSP Focus: Road Safety Publicity Campaigns, p 5, www.grsproadsafety.org

KZN is the province that has been most public about its 'Zero Tolerance' approach to road safety.

However (in spite of the fact that this project is cited as a success by the GRSP), KZN in fact continues to have a tragically high level of road deaths – mostly pedestrians.

^{lxxv} Life is worth living, KwaZulu Natal Department of Transport, www.kzntransport.gov.za

^{lxxvi} December/January 2005/06 road death toll not yet finalised at time of completing this review.

However of the nine provinces, KZN has the largest number of the estimated 1 300 deaths (various media reports)

^{lxxvii} www.myacreofafrica.org

^{lxxviii} Rieker, M.I., 'Selling Safety – Marketing Road Safety in South Africa', paper presented at Fourth International Entertainment education conference, Cape Town, 2004, p12

^{lxxix} Such as the International Red Cross, the Automobile Society, the Transport Research Laboratory in the UK., and locally the DoT (*Road to Safety*), CSIR, UNIARC, CORSAF, Drive Alive et al

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Fatalism/belief in spiritual intervention in road accidents is present at least in rural areas of South Africa. For example it has been noted in a study by Peltzer and Mashego on Perceptions of road traffic injury causes and interventions in the Limpopo Province ... and in the Drive Alive study currently underway in Limpopo (described in point 6.2.3 above)

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