

COMBATING ROAD TRAFFIC ACCIDENTS IN KENYA: A CHALLENGE FOR AN EMERGING ECONOMY

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Abstract: Road Traffic Accidents (TRAs) are a major cause of death and disability around the world. Of the 23-34 million people injured in road accidents annually, an average of 1.24 million die. This makes road accidents the ninth ranked cause of death in the world and the ranking is projected to rise to third by 2020. An estimated 85% of the deaths occur in developing countries where 65% of the deaths are pedestrians, of which 35 % are children. In Kenya over 3000 people die through road accidents every year, most of them between the ages of 15 and 44 years. The cost to the economy from these accidents is in excess of US\$ 50 million exclusive of the actual loss of life. Studies show that the causes, frequency and severity of road traffic injuries attributed to a poor driving culture, badly designed and neglected roads, and inadequate enforcement of existing traffic laws. The objectives of this study are to 1) analyze the nature and causes of traffic accidents, 2) examine the evolution of government policy regarding public transport, and 3) identify the role of stakeholders in combating the menace of road accidents in Kenya. Although a lot has been done on policy formulation, implementation and regulation on road design and use, and full and meaningful participation by stakeholders still need to be stepped up in order to address the menace effectively.

Key Word: Road Traffic Accidents (RTAs), Kenya, Transport, Injuries, Deaths

Introduction

On average Road Traffic Accidents (RTAs) cause an estimated 13 million deaths and 20-50 million disabilities worldwide annually (WHO, 2012). It is estimated that in 2007 RTA injuries accounted for 23% of all injury deaths worldwide (WHO, 2007). The forecast for the year 2020 raises RTAs to third position, just behind heart disease and clinical depression, and ahead of respiratory infections, tuberculosis, war, and human immunodeficiency virus and the acquired immunodeficiency syndrome (HIV/AIDS) (Nantulya and Muli, 2009).

RTAs are emerging as a leading cause of death and disability in developing countries (Razzak and Luby 1998; Tercero *et al.* 1999). With only 52% of the world's registered vehicles, 72% of the world population, and 80% of road traffic accidents, these countries are shouldering a disproportionate share of the spoils.

The annual road traffic fatality rate for these countries now stand at 20.1 per 100 000 compared to 8.7 per 100 000 in the high income countries (WHO, 2012). Studies show that the risk of dying as a result of a road traffic injury is highest in the African Region (24.1 per 100 000 population), and lowest in the European Region (10.3 per 100 000). At 34.4 per 100 000 population, Kenya's rate ranks among the highest in the world.

The most vulnerable road users in Kenya are children, pedestrians, motorized two- or three-wheeled vehicles (cyclists) and the elderly (Ogendi *et al.*, 2013). According to the 2012 WHO Report this vulnerable group account for 57% of the deaths compared to 51% in middle-income countries and 39% in high-income countries (39%). Statistics also show that almost 60% of road traffic deaths in the world are among 15 – 44 year olds and more than three-quarters (77%) of all road traffic deaths occur among men. Unfortunately victims of non-fatal injuries who incur permanent disability, through amputation, head injury or spinal cord injuries etc. are poorly documented.

The cost of RTAs to the global economy is enormous. An estimated US\$500 billion a year, of which about US\$100 billion is lost in the developing and the transition countries of Eastern Europe (WHO, 2012). The annual losses in developing countries exceed the total annual development aid and loans received by these countries. It has been suggested that the cost to the economy due to RTAs is approximately 1% to 2% of a country's gross national product

(GNP). In Kenya, the cost to the economy from RTAs is in excess of US\$ 50 million exclusive of the actual loss of life. In the 1980s the annual economic cost of road traffic accidents was 5% of the country's GDP (Yerrel, 1984). In 2011 the WHO estimated that Kenya lost US\$4 billion annually due to road traffic fatalities, Given that the GDP in 2012 was \$37.23 billion, that means the loss was approximately 11% of the GDP.

Causes of Accidents

Based on the Accident Cause Code Classification, Kenya Police reports reveal that 85.5% of crashes are caused by poor driver behavior, of which driver error represents 44.4%, pedestrians and passengers 33.9% and pedal cyclists 7.2% (Odero *et al.*, 2003| Odero *et al.* (1997). Other proximal factors include vehicle defects 5.1%, road environment 2.9%, and other factors 6.4% (*ibid.*).

Table 1. Causes and percentages of traffic crashes in Kenya, 1990 and 1985-1990.

Causes(specific factors)	Particulars	1990	1985-90
Human -(speed, misjudgment, improper overtaking, alcohol, traffic violation)	Drivers and motor cyclists	44.4	44.3
	Pedestrian s	27.1	27.4
	Passengers	6.8	6.7
	Pedal cyclists	7.2	5.9
Subtotal		85.5	84.3
Vehicle - (overload, defective breaks, tires, steering system, headlights, tire burst)	Tires or wheels	2.5	2.2
	Other defects	2.6	3.9
Subtotal		5.1	6.1
Traffic Environment - (potholed, sharp/steep bends, slippery road)	Road defects	1.3	1.4
	Animals	0.7	0.9
	Obstruction	0.5	0.8
	Weather	0.4	1.4
Subtotal		2.9	4.5
Other Causes		6.4	6.2

Source: Odero and Garner, 1997. Based on data from NRSC, 1992.

Principle in bad driving habits is the total disrespect for the traffic rules (laws and regulations). It is estimated that intentional, out of habit driver errors account for over 70% of all fatal smashes and

serious injuries. Often the contributing factors include inexperience, speeding, intoxication (from drinking or drugs) or just plain recklessness. Other more subtle causes are fatigue from overworked drivers who doze at the wheel and lose control.

Historical Perspective on RTAs

Since independence (1963) road transport in Kenya continue to be the predominant mode of transport carrying about 93% of all cargo and passenger traffic. Available data show that the government has greatly improved the major road networks especially in the 1990s. As of 2012 the road network was estimated at 160,886 km of which 61,936 km is classified roads .On average, the increase in mileage is about 400%-600%, depending on which roads (Table 2Error! Reference source not found.) and where in the country.

Table 2. Road mileage in Kenya

Year	PAVED	UNPAVED	TOTAL
1972	3,300	43,300	46,600
1992	8,600	54,500	63,100
2012	11,189	149,689	160,878

From a low 548 vehicles in 1963 there were 333,300 vehicles registered in the country in 1990, 17,600 of which were matatu (Bhushan, 1993). By 2003, the numbers of matatu were estimated at 40,000 (Asingo, 2004). In 2009 there were 1,221,083 vehicles registered in the country. The highest growth has been in personal cars and motorcycles (Figure 1). The number that is rising fastest is the rider motorized 2-wheelers imported (from India and China) mainly for boda-boda taxi operations. According to the *Economic Survey* of 2010, the registration of new vehicles had increased from 45,000 units in 2005 to 161,000 units in 2009. Since 2005 the number of registered motorcycles in Kenya has increased almost 40 times, accounting for 70 percent of all newly registered vehicles in 2011(Xinhua, 2012).

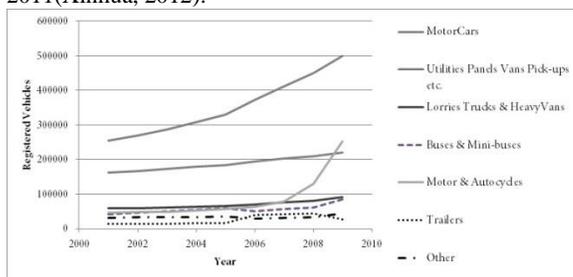


Figure 1. Number of registered vehicles
According to the Police Department a total of 582 cases of motorcycle crashes were recorded in 2011 representing more than seven percent of all road traffic crashes. The number of cases has continued to sour that several public hospitals have dedicated some wards to victims of boda-boda accidents. For instance recently Kenyatta National Hospital’s wards 6A, C and D have been converted into emergency wards to receive the swelling numbers of motorcycle victims. In 2012 the Head of Division of Non Communicable Disease in the Ministry of Health reported that between seven to ten percent of all those in surgical wards of public hospitals are injured in boda-boda accidents (Xinhua, 2012).

Looking at the big picture there is a correlation between road mileage, number of a vehicles and number of RTAs. At independence (1963) the number of deaths from RTAs in Kenya was 548. This

number rose to 3,158 in 2008, a 476% increase over a period of 45 years (Ogendi *et al*, 2013) (Figure 2). The numbers of RTAs increased from 10,300 in 1990 to 16,800 in 2000 and 17,400 in 2009 (Odero *et al*, 2003). Based on first seven months reports of each year there were 17,657 RTAs in 2011, 14208 RTAs in 2012 and a projected 13,714 RTAs in 2013. The estimated mean annual fatality rate from RTAs in Kenya now stands at 50 deaths per 10 000 registered vehicles (Ogendi, *et al* 2013).

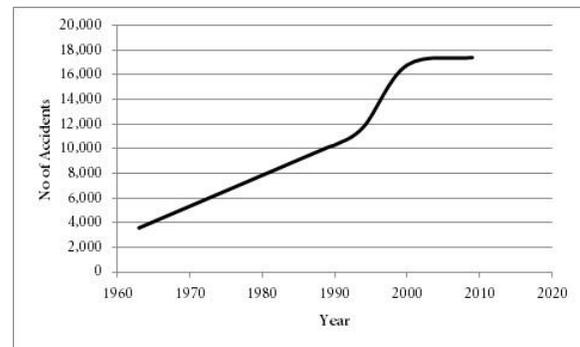


Figure 2. Trend in RTAs

Kenya Police reports indicate that on average one in ten people involved in a RTA die instantly. Equally significant is the fact that every other person who dies is a pedestrian (Table 3 and Table 4). As of 2013 the average number of deaths on Kenya roads was about 3000 a year (Figure 3).

Category	Percent
Pedestrians	47%
Passenger 4-wheeled cars and light vehicles	24%
Drivers 4-wheeled cars and light vehicles	10%
Cyclists	8%
Riders motorized 2- or 3 wheelers	7%
Drivers/passengers buses	4%
Driver/passengers heavy trucks	<1%

Table 3. . Percent Deaths by categories.
Source: Kenya Police, 2010.

Category	Number	Percent
Pedestrians	835	46.7%
Passenger (4-wheeled vehicles)	452	25.3%
Drivers (4-wheeled vehicles)	166	9.3%
Motor Cycle Riders	175	9.8%
Bike Passengers	81	4.5%
Pedal Cyclists	79	4.4%
TOTAL	1788	100.0%

Table 4. Deaths on Roads: Jan-July 2013.
Source: GOK, July 2013.

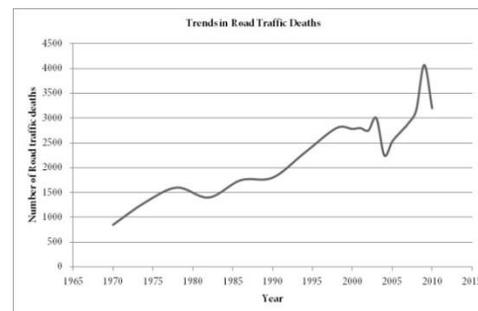


Figure 3. Trend in number of deaths

Mitigating RTAs

In its 2012 report the WHO identified five key road safety risk factors: speeding, drunk-driving, non-use of helmets, non-use of seat-belts and the absence of child restraints. According to the report only 7% of the world's population is covered by comprehensive legislation for all five risk factors. Although the Kenya law addresses all the aforementioned factors, the challenge is in implementation.

Speeding

According to the Kenya law (**Section 70 of Cap 403**) the speed limit in urban areas, built up areas and near schools is 50km/h. It is 110km/h on major roads. Speeding drivers or owners of speeding cars are responsible for any penalties that may accrue in the event of a violation. It must be stated that for most parts of the country, road conditions are such that speeding is not even realistic. There are far too many potholes, roads are poorly designed roads with sharp curves and often unnecessary, illegal and unauthorized road bumps.

The government has regulations regarding the use of speed governors as a deterrent especially for PSVs. Every public service vehicle (except taxi cabs) and commercial vehicle over 3048kg purchased after 31st December, 2003 is, by law, required to be fitted with a speed governor in conformity with ministry specifications. All such vehicles must have a certificate issued by a certifying officer to the effect that it is fitted with the speed governor complying with the prescribed specifications. At all times, and in any road condition, such a vehicle cannot exceed the speed of 80 kph.

What has emerged over time is that even for the vehicles that have the speed governor fitted, drivers insist on having a switch somewhere in the bus or matatu to tinker with it. The switch could either be hidden anywhere within the driver's cabin, including on the hazard light switches and the air-conditioning system, or be an after-market electronic device that renders the governor useless.

The other deterrents to curb speeding are road (speed) bumps. Speed bumps are universally accepted as a means to caution drivers on reduced speed. According to the *Kenya Standard 774*¹, the legal limit for the height of a speed bump is in most cases 10 cm and, in exceptional circumstances, 15 cm. More significantly, the height-to-width ratio (the sharpness of the bump) should normally be about 1:40 or more. In some special cases the sharpness of 1:20 is permitted. But this is rare.

Kenyan roads are laden with bumps with ratios of 1:10 or worse which is akin to placing a tree-trunk across the road. A number of these 'non-engineered' bumps are erected by locals and/or local authorities who may find a section of the road dangerous to the community. Such bumps are often large and usually unmarked mounds unduly obstruct traffic, damage vehicles, cause unwarranted discomfort to motorists and can even loss of vehicle control. In parts of the country these speed bump represents sufficient hazard on an otherwise regular road surface. In essence making the situation worse.

The other twist to speeding is that even though the law requires that speed is kept, a traffic police officer cannot issue a speeding ticket without tangible evidence that indeed a driver/rider was moving at a speed higher than permitted. For this reason speeding as an offence has not been enforced on Kenyan roads very well. Unfortunately an attempt to mobilize the police in the use of speed guns and speed cameras was abused as police used the gadgets to

intimidate motorists. As of 2013 there were talks that the use of speed guns may be reintroduced soon.

Drunk-driving

The Kenya Law (**Section 44 and Section 45**) requires that a motor vehicle operator blood alcohol content (BAC)² be about 0.34. According to the new regulations, those found drunk while driving risk a fine of up to Sh100, 000 or a jail term of one year or both. At the same time the Mututho Law (*Alcoholic Drinks Control Act, 2010*) restricts drinking hours from 5 pm to midnight on weekdays and 2 pm to midnight on weekends and public holidays.

In the mid-2000s the government gazetted the use of the alcohol-blow. The Breathalyzer where were last used in and around Nairobi before they were taken off the road in January 2006 after motorists complained that it was a violation of their constitutional rights. Concern was raised about their proper usage owing to complaints of bribery. There were claims of the alcohol-blow being a cash cow for the police in roadblocks. According to ministry officials, Breathalyzer is making a comeback soon.

Helmets and Reflector jackets

The proliferation of boda-boda demanded that helmet use was a major piece of legislation as amended in *Traffic (Amendment) Act, 2012*. The law (**Cap 405 Section 103B (1)**) states that a person, including a passenger, shall not ride on a motor cycle of any kind, class or description without wearing a helmet and a reflector jacket or jacket that has reflectors. The penalty for violating this law is stiff (Sh.10, 0000). Unfortunately a non-scientific investigation with the boda-boda shows that very few (<20%) riders use helmets and almost none has a helmet(s) for their passengers. The few who use a helmet do so to shelter themselves from the weather elements especially rain and wind, and from bugs interfering with their vision. A much smaller number of those who wear helmets do so for safety and legal reasons.

A study on boda-boda habits in central and Rift Valley indicated that less than one third of riders use helmets. This is so despite the fact that studies show that correct use of motorcycle helmets decrease the risk and severity of injuries by about 72 percent and decreases likelihood of death by up to 40 percent (Xinhua, 2012). Unfortunately traffic police more often than not do not bother with boda-boda, they are focused on the big catch, the matatu operators.

Besides helmets, the use of reflector jackets is the lowest among operators. This situation becomes extremely dangerous at night when boda-boda operators risk being hit by moving vehicles or they themselves knocking someone down because they are invisible. It is worse when the boda-boda is ridden with lights off!

Seat-belts

The *Traffic Act* stipulates that no motor vehicle shall be used or driven on a road unless it is fitted with seat belts (**Section 22(1)**) and no person shall be in a motor vehicle which is in motion on a road and occupy a seat in that vehicle in respect of which a seat belt is fitted in accordance with this rule without wearing the seat belt.

Scientific evidence shows that wearing a seat-belt reduces the risk of being ejected from a vehicle and suffering serious or fatal injury by between 40%-65% (DC, 2004). Overall, deaths in traffic collision are cut by 60% if occupants wore seat belts (Abbas *et al*,

² Also called blood alcohol concentration, blood ethanol concentration, or blood alcohol level is most commonly used as a metric of alcohol intoxication for legal or medical purposes. A 0.33 BAC is roughly two and half regular 500ml lager beers.

¹ The Kenya Standard 774 has the authority of Act of Parliament.

2011). It is mind-boggling how often Kenyans do not bother with the seat belts at all even in their own personal cars.

The last time Kenyans took seatbelts seriously was in 2002. After the National Rainbow Coalition (NARC) won the 2002 polls, one of its pledges was to make Kenyan roads safer. The annual death rate from traffic accidents was in excess of 3,000. The transport minister at the time, John Michuki – a key Kibaki ally – proposed the tough measures, dubbed the *Michuki rule*, in his first year of office.

Among the key requirements of the Michuki rule was that seat belts were to be fitted for all seats in buses and matatu. Standing passengers in city buses were banned. Meanwhile, the passenger capacity of matatu minivans was reduced from 18 passengers to 13. For a while it appeared as though sanity was returning on the Kenyan roads, at least with the PSVs. A sustained adherence to the rule held for about a year. Then it all declined to the old norm.

Michuki rules failed not because they could not be enforced sustainably but because the tough measures were driven by factors other than road safety. Some have argued (see Nairobi Chronicles, January 27, 2009) that John Michuki never really meant to cut down road accidents in the country. The rules were intended to bring down established bus operators especially Kenya Bus Service (that had operated since 1934) and replace them with a monopoly (*City Hoppa*) whose ownership was linked to powerful figures close to the President. It was also seen to be merely focused on punishing bus and matatu operators (Muchangi, 2012). A study published in the *East African Medical Journal* revealed no significant statistical differences in injury severity from PSV crashes among patients before and after the enforcement of the rules (Muguku *et al.*, 2010)

Child restraints

There is no child-restraint law in in the *Traffic (Amendment) Act, 2012*. **Section 100 paragraph 4(b)** states a child who is under the apparent age of five years *and who does not occupy a seat* shall not count as a person. Then part (c) adds that any two children, each of whom is over the apparent age of five years and under the apparent age of twelve years, shall count as one passenger.

It is unfortunate that the 2012 Act did not find it necessary to address this issue despite the fact that about half of those killed on the roads in Kenya are children or young adults. Infants and children need child restraint systems that can accommodate their size and weight, and that can adapt to different stages of their development. Studies show that child restraints reduce the likelihood of a fatal crash by approximately 70% among infants and between 54% and 80% among young children (WHO, 2013).

Government Responsibility

Penalties for traffic offences

Based on the *Traffic (Amendment) Act, 2012* one of the ways to cap the traffic menace is stiff penalties. Unfortunately the penalties passed in 2012 are too stiff that they are counter-productive. For instance the law on pillion riding (**Section 60**) states that the penalty for contravention of the law is a fine of KSh.10, 000. The penalty for over-speeding for any automobile is KSh.100, 000. Given how much PVS drivers and riders earn these laws are far from the reality of the ordinary citizen's livelihood. When business is good, a boda-boda operator makes a net income of close to KSh. 500 - 1,000 daily. A new motorcycle costs about KSh80, 000 and KSh40, 000 for second-hand ones in good condition. Note also that most riders are hired on commission. In such arrangement, the boda-boda owners expect KSh.300-500 daily. The difference is for the biker, fuel and loan repayment. A matatu driver, according to the most recent (revised)

minimum wage list makes about KSh.6500. Does the law make any sense? Who is to blame for bribery on the highways?

State of the Roads

For all practical purposes well-designed and maintained roads are critical for road safety. However, when the government issues and expresses concern about TRAs rarely are roads mentioned as the cause, the blame is passed to the driver, the condition of the vehicle in question, the weather or some other combination of factors. Badly designed (narrow roads, uneven, steep slopes, and sharp turns/curves) and neglected roads with potholes and no road signs increase the vulnerability of road users. Far too often the issue of overtaking is attributed to no warning signs or centerline markers. Similarly the country has had a burst of new roads especially during President Kibaki's tenure (2002-2013). Unfortunately, some of the 'new' roads are already in poor state because of poor design and non-existent maintenance. They are as much a contributing factor to accidents on Kenyan roads.

Public Responsibility

The public that use the PSV and pedestrians are all at risk in road use. Beck (2010) observed that in the USA, pedestrians were 1.5 times more likely than passenger vehicle occupants to be killed in a car crash on each trip. In Kenya about 47% of those killed on the roads are pedestrians, a majority of whom are children and young adults.

The challenge for Kenyans is how to prevent pedestrian deaths and injuries. There are old school solutions;

- Pedestrians should increase their visibility at night by carrying a flashlight when walking and by wearing retro-reflective clothing.
- Whenever possible, pedestrians should cross the street at a designated crosswalk.
- It is much safer to walk on a sidewalk, but if pedestrians must walk in the street, they should walk facing traffic.

Unfortunately, most streets are not pedestrian friendly; they have no sidewalks and/or designated pedestrian crossing. The problems with Kenya roads and streets are that rarely are sidewalks constructed for pedestrians. People, including school children, are therefore forced to share the road with vehicles and the consequences are obvious

It used to be that schools offered Road Safety lessons. A lot of these basic precautionary drills are no longer taken seriously or offered at all. At the same time there is a culture of pedestrians competing or trying to beat on-coming vehicles. People are in a hurry!

Another area that will require vigilance is the culture of boarding already overloaded PSV (including motorcycles). In some parts of the country, as seen with the salon taxi (locally known as '*Olwenda*' in Kisii and Nyamira) passengers are willing to rider in the boot of a taxi or on the carrier. In the event of an accident, innocent lives are lost in the most careless senseless manner. People make these choices.

There are many other aspects of road use and vigilance on road and vehicle misuses that can help reduce the risk of RTAs including:

- The public reporting unlawful use of vehicles including drunk drivers.
- Boarding and alighting at unspecified points instead of the designated bus-stops.
- Personal safety; walking or crossing the roads more cautiously.

- Reporting those who vandalize road barriers meant to restrict pedestrian crossing at dangerous points.
- Hawking too close to busy streets and highways.

World Health Organization officials in Geneva are calling on governments to take concrete actions to improve the safety of pedestrians. Under the banner "Make Walking Safe," nearly 70 countries, are taking measures to contribute to achieving the goal of the *Decade of Action for Road Safety 2011-20* to save 5 million lives. The *Pedestrian Safety: A Road Safety Manual for Decision-Makers and Practitioners*, produced by WHO and partners, promotes a focus on combined enforcement, engineering and education measures, which include:

- Adopting and enforcing new and existing laws to reduce speeding, curb drinking and driving, decrease mobile phone use and other forms of distracted driving.
- Putting in place infrastructure which separates pedestrians from other traffic such as sidewalks, raised crosswalks, overpasses, underpasses, refuge islands and raised medians; lower vehicle speeds and improves roadway lighting.
- Creating pedestrian zones in city centers by restricting vehicular access.
- Improving mass transit route design.

Some of these ideas can be modified to suit local environments.

Situation analysis

With 34.4 fatal crushes per 100,000 in 2009, Kenya ranked 18th worldwide. A year later it was ranked 42nd with 28.2 fatal crushes per 100,000 of the population. A slight improvement but still not good enough as the number of deaths from RTAs has remained consistently over 3000 a year.

The Kenya case is not unique in a historical or contemporary context. Neighboring countries are not overly different either given that Africa has majority of the lead countries in deaths and injuries related to TRAs. According to the Sudanese Minister of Interior (Ibrahim Mahmoud Hamid) over 2,000 people in Sudan die each year in traffic accidents. It is a typical trend among developing countries with fewer vehicles but proportionally more accidents.

The population of Kenya at about 40 million is slightly more than the population of California (USA) which is slightly over 30 million. When statistics for these states are matched, it shows that before 2009, California had more deaths on roads than Kenya. Since 2009 Kenya has surpassed California. The problem with this scenario though is that California has more cars and a longer road mileage than Kenya.

Today, Britain has one of the best road safety records in Europe and the world. But it never used to be like that. In the 1980s the number of deaths on British roads hovered around 5000-6000. In 2012 it was 1754. There more vehicles in Britain than they are in Kenya. The only factor that is constant is that as in Kenya, the most common cause of RTAs is driver error; speeding, drunk-driving, loss of control, failure to judge the other persons path, inexperience, carelessness, etc. In short Kenya has similar historical evolution of its road safety record as some of the more developed economies only it should learn from others to do a better job at reducing or better, eliminating road carnage.

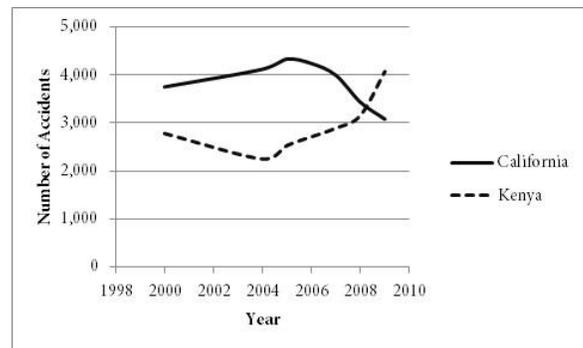


Figure 4. Comparative number of Deaths on Roads, Kenya vs California.

The Way Forward

Kenya has enough legislations and lawsⁱ that if properly applied the country should not be in the mess as seen on Kenyan roads. Unless properly designed and implemented new traffic rules (and/or highway codes) may not necessarily reduce the intensity of accidents on Kenyan roads. The Michuki rule failure has already been alluded to. Another case in point is that of the use of instruments in enforcing the law. On October 27th, 2011 the use of the alco-blow, speed cameras & speed guns went into effect. However, however the availability and meaningful use of these gadgets is wanting. At the same time it became a requirement that every vehicle has to be equipped with two red reflecting warning triangle signs. The usefulness and effective of these will be time-tested.

Other areas that were proposed but whose impact is elusive include the police and the judiciary strict observance including highway Mobile Courts, pedestrian education, public participation and continued review of the new rules. The problem with many of these proposed rules and regulation is that they tend to be knee-jerk reactions to dreadful grizzly road accidents like the one that occurred on July 13, 2013 near Narok Town in which 41 people perished in a night bus-accident. At the time the Minister for Transport and Infrastructure said the ministry would come up with a law to ensure buses are not allowed to carry passengers at night. The wisdom informing such a decision is questionable.

Sometimes the problem Kenya faces is that the pace of legislative change is too slow. For instance Kenya has a law that controls the maximum age of eight years for vehicles that can be imported into the country, but none on the maximum age of vehicles allowed on the roads or roadworthiness of an automobile.

The amended *Traffic Act 2012* has drastic increase in fines by more than 900 per cent in some cases. According to the chairman of the Matatu Operators Association, Mr. Kimutai, the amended law raised the fines and prison terms so high it was unrealistic the ordinary motorist or motorcycle rider can afford. In short, the new law would negatively affect the public transport industry due to increase in bribery of traffic police officers who nab rogue drivers.

Even the former traffic licensing board chairman Hassan Ole Kamwaro who has worked at the helm of the industry for many years, opposes the new laws saying they will not stop accidents. He argues that the current problem in Kenya is that there is shortage of regulations but a deluge of illegally acquired driving licenses, substandard speed governors and drunk driving.

More recently the Minister (Secretary) of Transport and Infrastructure announced that Speed Governors will be mandatory effective august 21, 2013 while seatbelt installation and use will be inspected as from September 01, 2013. At the same time no traders will be transacting business on the road. He however asked that they

operate within a safe distance from the road. It is not clear what is safe for people who already felt they were 'safe' traversing roads - including the new Thika Highway - with impunity!

Other areas of concern with regard to how the government handles RTAs are the accident reports. In the form they exist today they are unacceptable in a number of ways. First of all only one cause is assigned to each accident. Ideally the blame should be distributed in various proportions between; road conditions, the road user, the vehicle and both parties involved in the collision. Secondly, the system of police reports on road accidents is often inadequate. The form needs to be revised to provide more details. Thirdly, the vehicles are sometimes so damaged that it is impossible to say whether they were defective or not. Part of the problem is that rarely are records available from the owners and the government to help determine the state of an automobile on the road. Worse still, there are so many institutions with duplication of responsibilities that there lacks an agreed general principle on which way the Ministry of Transport and Infrastructure ought to proceed. There is need for a

common database, an integrated transport administrative system which will consolidate vehicle/driver information. The reality of the matter is that if road conditions and quality of the automobiles was unimpeachable, the total of accidents would not be appreciably high.

Conclusion

The nature and causes of RTAs have been analyzed. The myth of purely behavioral explanation on part of the driver/rider for the growing burden of road traffic accidents in Kenya is inadequate. Systematic corruption by the traffic police, overprotection by the Matatu Operators Association, poor state of the roads and lack of alternatives for public transport are root causes of the problem. Rather than fall back on putative and ineffective efforts to influence driver behavior through crippling fines, the government should recommend a variety of policies aimed at engaging stakeholders and tackling the structural antecedents of the problem.

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¹ Several institutions exist that deal with matters touching on road safety (). These institutions include the; Traffic Police, the Ministry of Transport, the Transport Licensing Board, the Ministry of Local Authorities, the Registrar of Motor Vehicles (RMV), the Insurance industry, the Kenya Roads Board, the Ministry of Roads, the Motor Vehicle Inspection Unit (MVIU) and the recently reconstituted National Road Safety Council (NRSC) among others. There also exist several legal instruments that deal with road safety matters. These include the Traffic Act Cap 403, the Transport Licensing Act Cap 404, the Kenya Road Board Act Cap 408 and the Local Government Act Cap 265 among others (Appendix V).

Over time a number of legal notices have been introduced to address the challenges of road accidents. Examples include Legal Notice No. 161 of 3rd October 2003, Legal Notice No. 173 of 2nd December 2009, Legal Notice No.209 of 31st December 2010, Legal Notice No. 139 of September 2011, Legal Notice No. 138 of 5th October 2011 and Legal Notice No.78 of 3rd August 2012. Legal Notice No.161 of 2003 provides for the fitting of speed governors and safety belts to all public service vehicles, reduction of carrying capacity of vans used for public transport from eighteen to fourteen passengers and outlaws transportation of standing passengers. The Legal notice also provides for wearing of uniforms by PSV drivers and conductors.