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ROAD TRAFFIC CRASHES IN NIGERIA: CAUSES AND CONSEQUENCES

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Abstract:

Accident don't just happen, they are caused. In other words, every accident in relation transport is not just a mere occurrence but has been instituted as a result of one factor or the other. The increasing magnitude of fatal road traffic accident globally has been attributed to population explosion and increased level of motorization. Motor vehicle crashes are the leading cause of death in adolescent and people in the prime age. There has been an upsurge in the proportion and absolute number of traffic fatalities witnessed in a number of developing countries while the industrial nations are witnessing downward trend in the occurrence of accident by more than 20% [13]. This paper examines road traffic accident problems in Nigeria. The causes of accidents and their general preventive measures are discussed. There is need to view road traffic accident as a very serious issue requiring urgent attention aimed at preventing untimely deaths, reducing the health, social and economic impacts it portends to the average Nigerian.

Key words:

Transport, Safety, Accident, Causes, Vehicle, Injury.

INTRODUCTION

Transport is an important element in economic development and it affords the social and political interaction that most people take for granted [8]. The provision of transport infrastructure has grown extensively across the globe through a range of networks of modes which have undergone technological improvements cutting across the motive power, the tracks as well as the means which serve as compartment for passengers and goods. It is also a key player in the transfer and distribution of goods from the input points through the manufacturing line to the customers [2]. Perhaps, this led to the assertion by [12], that there is no escape from transport since it is a key stone of civilization.

In Nigeria, road transport is the dominant mode of movement for both freight and passenger traffic. The impact of the railway has been dwindling and it eventually collapses about a decade ago. Air transport is unavailable to the urban poor while the potentials of water for inland transportation have not been fully exploited. The mono transport mode nature of urban mobility in the country has been responsible for the collapse of public transport and the concomitant suffering of commuter in urban centres [7].

The consequential effect of the negative externalities of transport is accident with its attendant injuries and fatalities capable of neutralizing its social and economic benefits if not well managed. Traffic fatalities from automobile crashes have been known to be high in developing countries in which Nigeria constitute an integral part despite the much lower vehicle ownership in relation to population strength [14].

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In Nigeria today, hardly a day goes by without the occurrence of a road traffic accident leading to generally increasing incidence of morbidity and mortality rates as well as financial cost to both society and the individual involved.

The aim of this research is to investigate into the possible causes of road traffic accidents in Nigeria with the set objective of recommending general preventive measures.

1. AN OVERVIEW OF ROAD TRAFFIC ACCIDENT OCCURRENCE IN NIGERIA

Transport is a critical sector of the Nigerian economy, whose catalytic effect, particularly on socio-economic development, cannot be, overemphasized. Over 80% of transportation in Nigeria is done by road [16].

Transportation safety implies the prevention of accidents and the minimization of accident losses. As Nigeria becomes more mobile, the possibility of accidents resulting in the death of people and the destruction of property on our highway becomes more of a critical factor. The consequences of accidents on our roads are immense. Accidents cause significant losses to present and future productive manpower of our country, as well as, in many cases, profound social problems, deaths or serious injury. Sometimes this results in loss of breadwinners, pushing the affected family into poverty, and jeopardizing educational upbringing of children. Accidents impose heavy costs on the health services [1].

The increasing magnitude of fatal road traffic accident globally has been attributed to population explosion and increased level of motorization. Motor vehicle crashes are the leading cause of death in adolescent and people in the prime age [5]. There has been an upsurge in the proportion and absolute number of traffic fatalities witnessed in a number of developing countries while the industrial nations are witnessing downward trend in the occurrence of accident by more than 20% [9].

Road traffic accident situation in Nigeria has been alarming and particularly disturbing ever since the first auto crash was recorded. Nigeria's effort at tackling the challenges of safety on our roads commenced in 1913 with the promulgation of the first transport law- the Highway (Motor Traffic) Ordinance whose main objective was "reducing the incidents of road traffic accidents to the barest minimum" in the southern protectorate." A nation-wide ordinance followed in 1916 with the amalgamation of the Northern and Southern Protectorate

in 1914. Subsequently in 1940 and 1945, the country-wide law was reviewed and adapted along the United Kingdom Road Traffic Act of 1930. Other legislations thereafter included the Road Traffic Act, the Federal Highway Act, the Law of Carriage, and the Federal Road Safety Commission Decree of 1988, which was later amended in 2007. But despite the several revisions of the transport laws and notwithstanding the multiplicity of agencies, with states having their traffic management agencies, the road traffic crashes kept increasing all over the country.

Nigeria Traffic accidents in Nigeria vary by states. Nigeria has been consistently been ranked as having the highest incidents of road traffic accidents in the world for obvious reasons in addition to known causes of accidents across the globe which include very bad road arising from poor maintenance culture and poor road management.

Tab. 1: Road Traffic Accident (RTA) Statistics in Nigeria 1990- 2012

Years	RTA			Total	Casualty		Total
	Fatal	Serious	Minor		Killed	Injured	
1990	6140	8796	6998	21934	8154	22786	30940
1991	6719	8982	6845	22546	9525	24508	34033
1992	6986	9324	6554	22864	9620	25759	35379
1993	6735	8443	6281	21459	9454	24146	33600
1994	5407	7522	5275	18204	7440	17938	25378
1995	4701	7276	5053	17030	6647	14561	21208
1996	4790	6964	6488	18242	6364	15290	21654
1997	4800	7701	4987	17488	6500	10786	17286
1998	4757	7081	4300	16138	6538	17341	23879
1999	4621	6888	4356	15865	6795	17728	24523
2000	5287	6820	4499	16606	8473	20677	29150
2001	6966	8185	5379	20530	9946	23249	33195
2002	4029	7190	3325	14544	7407	22112	29519
2003	3910	7882	2572	14364	6452	18116	24568
2004	3275	6949	4051	14275	5351	16897	22249
2005	2299	4143	2620	9062	4519	15779	20298
2006	2600	5550	964	9114	4944	17390	22334
2007	2162	4812	1503	8477	4673	17794	22467
2008	3024	5671	2646	11341	6661	27980	34641
2009	2460	6024	2370	10854	5693	27270	32963
2010	1178	2819	1333	5330	4065	18095	22160
2011	1764	2485	516	4765	4372	17464	21836
2012	1953	3106	1210	6269	4260	20757	25017
TOTAL	96563	150613	90125	337301	153853	454423	608277

Source [11]

1.1 Phases Of Accident

Accident as we all know are caused and as much they don't just happen, the critical evaluation of accident phenomenon clearly indicate three specific phases. The three phases is the total consumption of an accident at any point when it is record. The phases as a matter of fact are interwoven and occur sequently after each other. These phases are Pre-Accident phase, the Accident phase, and the Post-Accident phase of highway safety.

- i. **Pre-Accident Phase:-**The pre-crash phase groups together all preventive or precautionary measures stages aimed at controlling or abating road accidents. Under this phase, falls all the contributory factors like the environment, the vehicle, the road users/persons, and the preventive or precautionary measures taken to normally avert accident. It is an indication of several conditions that are capable of causing accident. In other words, it implies all situations and circumstances preceding the occurrence of an accident. We can as well evaluate certain conditions that are capable of causing an accident before they are recorded. In short, this phase is concerned with Accident avoidance.
- ii. **The Accident Phase:-**Once the pre-crash phase cannot be averted, the crash phase is the actual occurrence of the accident, when the mechanical device is involved in actual collision resulting in an accident. The type of outcome from the accident to the victim also belongs to this phase. Similarly, is the spot at which the accident occurred and the time of the day, which are all major indices of the crash phase. Research had demonstrated that up to 80% reduction in deaths of drivers and passengers can be achieved through the use of safety belts alone. The focus of this second phase, therefore, is on injury prevention.

The following actions should be taken during road traffic accident:

Assess the Situation:-

- Locate the victim
- Examine the victims quickly
- Prevent further risk of fire, explosion, road traffic
- Keep the vehicle stationary
- Switch off engine, fuel and battery connection
- Display warning signals
- Send for help.

Care of the Victim:-

- Rescue the trapped casualties
- Look for breathing, heart function and consciousness
- Care for unconscious cases first
- Take care of bleeding and fractures
- Use car first aid kit if available
- Transport the casualty to nearest hospital.

Care of the Vehicle:-

- Keep the vehicles immobilized and in safe custody
- Protect the property from damage
- Take help of local people
- Inform police.

- iii. **Post-Accident Phase:-** The post-crash phase can be described as the process of evaluating or assessing the consequences of road accidents. Such evaluation is based on socio-economic, environmental and political effects, using quantifiable and qualitative analytical tools. In these phase, we are concerned with saving those

who need not die, with reducing hospitalization, permanent disability and unnecessary deaths. Indeed, the focus is on accessibility to adequate and prompt emergency communications, transportation and medical care, that determine the livelihood of the continuing survival of the survivors of the crashes. Therefore, the concern of this phase is on severity reduction, which would include the availability and competence of ambulance drivers and attendants in handling victims at accident scenes and the receptivity of hospital staff to accident victims who are not accompanied by police officers.

1.2 Causes Of Road Traffic Accident

Accident is defined as anything which happens by chance, anything occurring unexpectedly. Road traffic accident is therefore an unexpected phenomenon that occurs as a result of the operation of vehicles [15]. Accidents can be fatal, resulting in the deaths of the road user or minor. Accident don't just happen, they are caused. In other words, every accident in relation transport is not just a mere occurrence but has been instituted as a result of one factor or the other. A good awareness and knowledge of causes of road traffic accidents will help us to avoid them. Eventually this will bring about the desired goal of safety consciousness of road users in our society.

The causes of road traffic accidents therefore fall under three major categories viz– Human factors, Mechanical factors and the Environmental factors.

Of these three categories, the human factors are said to be responsible for over 80 percent of all traffic crashes because the drivers' operational ability is very critical to the causes and prevention of traffic accidents.

i. The Human Factor: The human factors constitute about 80% of the cause of road traffic accidents recorded in the country. The major components of human factor are drivers, pedestrian, law enforcement agent and the engineer.

Most drivers on Nigeria road are very rude, discourteous and have scant regard for human life. This has led to daily avoidable carnage on Nigeria roads with many losses of lives. Almost to the point of indisputability is the fact that, of virtually all the significant factors contributing to the alarming proportion of accidents on Nigeria roads, the human factor tops the list. Indicators to verify the claim are evident:

- (a) Prevalent disregard of road traffic signs by road users;
- (b) Lack of proper training of drivers;
- (c) Irresponsible driving habit particularly among teenage drivers;
- (d) Inexperience and incompetent drivers;
- (e) Over speeding, dangerous driving and total disrespect of traffic regulations especially concerning speed limits;
- (f) Drink driving and/ or driving under the influence of drugs including herbal concoctions laced with spirit;
- (g) Lack of respect / consideration for other road users;
- (h) Impatience and negligence
- (i) Overloading of vehicles;
- (j) Fatigue;
- (k) Poor vision.

Tab. 2 Haddon Matrix Model

FACTORS				
PHASE		HUMAN	VEHICLE & EQUIPMENT	ENVIRONMENT
Pre-crash	Crash Prevention	Information Attitude Impairment Police Enforcement	Road worthiness Lighting Braking Handling Speed Management	Road design and road layout Speed limits Pedestrian facilities
Crash	Injury prevention during the Crash	Use of restraints Impairment	Occupant restraints Other safety devices Crash-protective Design	Crash-protective road side objects.
Post-crash	Life Sustaining	First-Aid-Skill Access Medicals	Ease of access Fire to Risk	Rescue facilities Congestion

Source [17]

- ii. The Mechanical Factor: The vehicle also constitutes one of the major factors of road traffic accident. Road safety however goes beyond periodic check or prompt repair of vehicles. It should be a daily routine of care and check of all components of a vehicle. The main vehicle factors are defects in tyres, brakes and inputs all arising from poor maintenance of the vehicle. The global economic recession have badly affected the quality of products in the Nigerian markets such that people now favour the use of sub-standard products like Tokunbo tyres, spare parts and Tokunbo vehicles. These, coupled with over speeding and reckless driving, negate the principles of safety when considered against the phenomenon of used vehicles. Any of those parts malfunction can eventually affect smooth driving, which in the end, can lead to serious accident. The different component of mechanical factor that resulted into accident are:
- Brake failure;
 - Burst tyres;
 - Engine failure;
 - Use of fake spare parts;
 - Defective and Dazzling lights;
 - Poorly maintain vehicles.

In essence, a deficient vehicle, an unserviceable car, or a poor maintained automobile are all dangers with high probability to cause accidents on the highways.

- iii. The Environment Factor: there is a strong debate within the context of Nigeria as to whether the high incidence of road accidents should actually be attributed to bad roads. Or, if they are not a paradoxical function of the good and modern highways that the country invested on so much. The contention is against the backdrop that despite the construction of new roads in the country, appreciable reduction has not been

witnessed in accidents rates but rather seem to be increasing. In other words, there is need to focus on other factors, particularly the human elements contributing to the disaster.

Environmental factor include:

- (a) Bad road;
- (b) Weather conditions;
- (c) Dangerous bend;
- (d) Broken down/ abandon vehicles
- (e) Animals not under control
- (f) Obstruction on the road.

2. SOCIO-ECONOMIC CONSEQUENCES OF ROAD TRAFFIC ACCIDENT IN NIGERIA

Nigeria has one of the worst scenarios of accident occurrence as it ranked high as one of the countries in Africa with high incidence of road traffic accidents. The level of fatality of road traffic accident in Nigeria is quite worrisome considering the extent of human and material losses suffered as a result of traffic accident fatalities. The situation with road traffic accidents in Nigeria is uniquely high as a result of the overdependence of spatial mobility demand of commuters on the road mode. The road transport sub sector has continued to grow much more than other transport sub sectors in terms of motor vehicles in operation size of road network. Not less than 90% of Nigerian mobility needs in terms of movement of goods and services are satisfied through the mode at the expense of the potential contribution other modes. The over reliance on the road system constitute the creation of unnecessary pressure on the highway in the country which more often than not resulted in regular occurrence of accidents, a situation that has been made worse by their deteriorating condition [11].

The effects of Road Traffic Accidents cannot be over-emphasized. Nigeria has a bad record of road traffic accident. Nigeria and Nigerians have had a fair share of losses in social and economic terms from road traffic accidents. Road accidents have taken away so many lives in Nigeria today that hardly does any single disease match its mortality prowess. People have died prematurely and properties worth several millions of Naira have been lost as a result of road traffic accident. While, losses arising from suffering, bereavement and social disruptions, which may be difficult to measure in monetary terms, are regarded as part of the basic social cost of accident. Social cost in terms of trauma i.e. loss of closed relatives, associates, friends, father, mother etc. which eventually lead to psychological depression. Other victims that might not have died may carry relics of handicaps such as loss of limbs, blindness, or even bound to wheel-chair for life. Such victims and families suffer severe psychological trauma, often from stigmatization or mental imbalances.

The negative chain reaction of road traffic accidents are of varied consequences. For instance, a student may drop out of school for lack of fulfillment of basic human needs as a result of the death of a breadwinner; the consequent reaction could lead to the child developing negative social life by becoming an armed robber, assassin, dupe, hoodlum or even advanced fraudster [9].

Consequences of Road traffic accidents range from the physical, social, and economic impact it has on man to the economic impacts it has on the national economy and the impact it has on the vehicle itself. Road transport has had a modest contribution to the Gross Domestic Product of the economy over the years. It normally accounts for not less than 80% of the portion to the GDP emanating from the transport sector as a whole [3].

Road accidents also sometimes lead to destruction of traffic infrastructure such as bridges thereby destroying publicly provided transport infrastructure. Road traffic accidents have also negatively affected Manpower resource of the country. Using accident cases

reported to the police, about one quarter of those involved in road accidents are killed while the remaining three – quarters sustain injuries.

Despite the overall impact of the human and material loss on road traffic accident it's unfortunate that the number keep increasing despite the effort make by the government in curbing the exercise on road traffic accident.

Solving the problem of road traffic accident injuries require a multi-dimensional approach which as a matter of fact will involve major stakeholders in the transport industry with the government playing a key role.

3. STRATEGIES AT MINIMIZING ROAD TRAFFIC ACCIDENTS

3.1 Driver Education and Training

The driver of a vehicle is the most important single factor in road traffic crash. The production of high quality drivers is consequently non-negotiable. The two basic requirements in producing high quality motor vehicle drivers is proper training and licensing programmes. Well-equipped driving schools should be licensed. Driving license should be issued only to those that have been certified by approved driving schools. It is also important to note that charges by Driving Schools should be kept within the means of the low or no-income earners. If possible Federal and State Governments could consider providing grants to licensed driving schools to encourage them to charge low and affordable fees.

3.2 Road Infrastructure

Just like vehicles, the condition of the road infrastructure is also very important when thinking of improving road safety records in Nigeria. The state of the federal roads in Nigeria, to say the least, is deplorable. Many lives have been lost due to bad roads. Moreover, the Federal and State Ministry of Works, The Police Nigerian Force, the Federal Road Safety Corps and other related agencies should regularly conduct surveys to identify and mark prominent traffic spots and accident prone road sections (black spot). This would help install advance warning signs to road users. Same goes for very dangerous pot holes especially on the highways. All roads should be well marked and traffic signs appropriately located.

3.3 Enforcement

This is the bane of road safety in Nigeria because when enforcement of traffic regulations is lax, violation of these regulations becomes a common practice and this could lead to complete disregard for the regulation in the long run. Hence, for traffic laws to be effective there must be enforcement. There is thus need to enforce the traffic regulations. But not before the relevant agencies publicize the laws and regulations of the road and the penalties for violating them. These must be adequate and known by the road users. Efforts should be made to test for drunk driving. If possible motorists should be compelled by law to buy and own their own breathalyzer as this will address the problem of non-compliance if a common breathalyzer is to be used [4].

3.4 Research and Development

The engine propelling growth in any society, organization or institution that intends to stay ahead in a way that makes it walk confidently into the future is research and development. Keeping Nigeria roads safe and making them to remain so will demand

deliberate investment on research and development from which every agency can tap into, and benefit from, whether at federal, state or local government level.

3.5 Effective Legislation

The lack of effective legislation and other regulations capable of ensuring safety on Nigeria roads constitutes a major challenge in redressing the unnecessary carnage on the country's highways and roads. For example, the traffic laws are not only outdated but do not reflect the contemporary safety needs of the public. There is an urgent need to update the existing laws and regulations. Urgent changes required include those relating to social, economic and political causative factors of road accidents.

3.6 Database Development and Information Sharing

Whilst each agency requires developing a data base for effective planning of its operations, inter-agency collaboration and information sharing are also important to widen the prism of evolving one big road safety net spread all over the country.

4. CONCLUSIONS

Accident is a common phenomenon. It does not segregate on the basis of time and place of occurrence. Road traffic accident in Nigeria is a very serious issue requiring a holistic attention and approach towards curbing its occurrence considering the magnitude of the problem it presents to every Nigerian road users.

Based on the findings of this study, it was concluded that human, mechanical and environmental characteristics are the salient factors that are responsible for road traffic crashes in Nigeria.

[10] To reduce and or prevent traffic accident occurrence in the country the following may be considered as part of a meaningful approach: There should be total enforcement of traffic rules and regulation to correct erring drivers and the Government and affected institutions should take the issue of road construction and maintenance more seriously. Driving schools should be made compulsory so that driving license holders will have a full knowledge of traffic rules.

[6] The idea of depending on a mode of transport for physical distribution/logistics and general mobility can no longer sustain economic development and transformation of the country. The idea of multi-modality consideration will assist in melting down the incidence of traffic menace in the Nigeria cities. The importance of safety in road transport industry warrants that the human elements should be given serious attention in Nigeria and beyond.

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