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Sustainable Approaches for Surface Transportation Mortality in Nigeria

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Abstract

The paper examines sustainable approach for surface transportation road mortality in Nigeria. Road transportation as a major mode of transportation and is the most used mode of transportation for the movement of people, goods and services from one place to another. As a result of this, major obstacles and problems have been confronting the mode. In Nigeria, the main mode of transportation that contributed immensely to accidents is the road transportation mode. Thus, the paper is trying to find a remedial strategy for reducing the rate of accident on our major roads by providing sustainable approaches to our transportation system. Also, the paper engulfs the causes of road mortality (accident), strategies for reducing the rate of accident on our roads, traffic safety education to both pedestrians and other road users, road accidents profile in Nigeria as well as the statistics of road accidents. The paper suggests recommendations by which road accidents can be reduced if not eradicated completely.

Introduction

Transportation is the movement or conveyance of people, goods, ideas and information from one place to another. It is a very important system in the society, since not all areas are equally endowed or gifted by nature; hence the need for interaction through transportation is necessary. Adenniji (1985) defined transportation as a measure of relationship between areas, while Onakomaiya (1980) defined it as the movement of people, goods and facilities. Adeniji also stated that it is the essential element in the functioning of a society which influences the creation of essential economic activities, such as production of goods and services, residences, leisure and social facilities. In short, transport influences the quality of life in the society, as there is hardly any aspect of development which does not involve transport. There is always the need to collect, assemble, move and transfer and also distribution of people and goods/services. Transport also serves as catalyst for other forms of development.

Thus, broadly speaking, the objective of transport is basically the safe arrival of goods and people at the given destination and in good condition too (Adeniji, 2000). The function of transport is to move goods to where their relative value and importance are greater. It is very important that passengers and goods get to their destination safely and without damage. Safe arrival is the product of transport industry, just as the product of a tailor is a well-fitting dress or suit, for example. This, then, is the primary objective of transport, which is rather different from the "business objectives"-that is, profitability and sustainability of the organization. For obvious reasons, people work to earn a living; they work for the reward that they would receive. Business are built and run for the same reason. Thus, the business objective of any transport organization should be to make profit and remain in the market.

Overview of road transportation in Nigeria

Road transport is the most commonly used mode of transportation in Nigeria and account for more than 90% of the sub-sector's 3% contribution to the Gross Domestic Product (G.D.P). Road transport activities involve the conveyance of passengers en masse or in small numbers; the transportation of animals, farm produce and merchandise and the rendering of mobile services (clinics, libraries, and banks). The optional use of motor cars for pleasure also contribute tremendously to the importance of road transport in Nigeria

given the poor state of alternative means of transportation and also due to the psychological satisfaction offered by the possession of a car.

Nigeria has the largest road network in West Africa and the second largest south of the Sahara, with the national network is currently estimated to be 194,200km of which 34,120km (17.6%) are federal roads, 30,500km(15.7%) state roads and 129,580km(66.7%) local and rural roads. However, the federal roads network carries 70% of freight in the country (Adeniji, 1985). Nigeria roads networks are poorly maintained and over use as alternative modes of transport are poorly developed. After various failed interventions to address the need for the maintenance of the federal roads network, the federal road maintenance agency (FERMA) was created in November 2002 (Establishment Act 2002) to monitor and maintain the federal road network.

FERMA, along with the highway Department of the federal ministry of transport are responsible for looking after the federal road network. The highway Departments is charged with the construction of new highways, and the reconstruction and rehabilitation of badly damaged highways while FERMA is charged with maintaining the highways at acceptable level of usability (Adeniji, 1985). FERMA began patching of federal roads network in 2004, and has outlined a short, medium and long term strategy to carry out its work.

- Short term road maintenance strategy (STRMS): This focused on making the roads accessible;for the movement of people and goods. under this strategy,the agency adopted the direct labour, retainershipcontract and regular contract type of method to carry out its activities.
- Medium term road maintenance strategy (MTRMS): This is a form of output and performance-based road contract (OPRC). Under the scheme, contractors who are responsible for the maintenance of the roads will be paid for their based on agreed service levels at which the contractors has to maintain the road over a long period of time.
- Systematic road strengthening and enhancement (SRCE) programme: This approach is the same with MTRSMMS with the cope of works expended include periodic maintenance. The strategy will be used to recover the 30% of the network that required over lay and strengthening over a period of 8 to 10 years.

Importance of a good road network has not been lost to many of the emerging economics, especially in china, which did not have an inch of expressway in 1998 and now has the second largest network of expressways only after the US. Nigeria can learn from china, India and Malaysia about developing a network of expressways which provide a real boost for the economy. This can be done by federal government merging the Department of highways and FERMA to form a singular agency which will be responsible for the growth and maintenance of the federal roads networks (Adeniji, 1985).

Road accident profile in Nigeria

Nigeria has one of the most dangerous roads in the world, itsunpaired and not teared highways make travelling across the country an hectic task. The country is geographically connected by land which enables all forms of land transportation but the government's inability to provide sustainable road network both in the rural and urban sectors make every individual travelling by land vulnerable to tragedy. Nigeria has lost reputable men and women in road accidents; there was an incident of a professional football team in which 15 members of the team perished in a motor accident. The casualties in any road mishap in Nigeria is not something to write about, it devastate like a suicide bombs (Onakomaiya, 1998).

Reckless driving also contributes to this ugly menace but above all 90% of all the accidents are caused by poor conditions of roads. In year 2000, there was a recorded, 11,788 road accidents and a total number of 6,055 deaths. Subsequently, in 2001, there were 7,768 recorded road accident deaths.

Between 2007 and 2009, there were 17,000 road accident deaths. Furthermore, the major highway that connect the western part of the country and the eastern part via Edo State and known as the Benin-Ore federal highway, this is a notorious one where many lives have been lost due to its poor condition. This bad road's condition doesn't affect just the lives of innocent citizens but business has lost so much as well. Nigerians keep lamenting everyday about the failure of the federal government, of course, the federal government is a failed institution because good road is a basic component of good government but what we see all over the federation is unpaired, uncared, unconcerned killer roads. This situation shows that the

government has failed the masses in every aspect one can imagine (Alake, 2001).

Sustainable Approaches

1. Traffic safety education at school

Adherence to safety rules in the science of transport is vital to the effective maintenance of road discipline among children and adult alike-but especially among children of school going age. This is because the inculcation of values on safety education by all the stakeholders in the education sector, to a large extent shapes the behavioural and attitudinal pattern of most pupil and students with regard to safety consciousness. It is important, therefore, that road safety education be introduced at the primary and secondary school levels, so as to produce a discipline society and, especially, a crop of well behaved road users at all times (Wikipedia, 2010).

Right from the primary school pupils should be taught the proper way to cross major road and highways. Such inculcation of values and virtues of safety consciousness through well-articulated safety education programmes at schools will go a long way in orientating the minds of the young ones on road usages: hence a lot of people would have gone of road traffic accident be spared. By the time they get to secondary school, this principle of safety would have become a part of their lifestyle, so much that the general society and, especially, the motoring public would benefit greatly from the efforts at educating them early on safety. Thus, primary and secondary school curriculum should include safety education (Un-Eca, 1994).

2. Pedestrian safety and education

Pedestrianization refers to the movement of people through road walkways or footpath to their destination. Pedestrians are the group of people that walk through a path to their destination, through the application of some road which vehicles are supposed to run. In most advanced countries of the world, roads are demarcated for various modes of transport ply without disturbing the movements of others. A pedestrian is expected to walk in designated path and ensure the application of all safety rules guiding his movement (Bhadmus, 2001).

Pedestrian's education connotes the proper enlightenment and guidance of the people on the rules and regulation of walking and moving along the streets for the purpose of creating or establishing orderliness in the society.

They are taught the rules guiding the right of way while on the road and how they are supposed to apply these rules to movement on the roads and streets. Pedestrian's education is the means through which the government and most private organizations issue out safety rules and regulations regarding walking in the street. It also serves as a form of enlightenment and sensitization to pedestrians on what is expected of them while on the road, and through it, pedestrians know what to do and how to do it-hence, walk on the road becomes a veritable and valuable choice of travel regardless of age or ability (Salawu, 2008). Pedestrian education is mostly targeted at the post elementary school children, adult, drivers and other road users (in that order).

3. Regulations guiding pedestrian education to school-going children

It is expected that children are taught or enlightened about how to use roads for their benefits and safety and that of the society. Some of the regulations are explained below.

a. Children should walk by the side of the road that oncoming vehicles use. In Nigeria, they should take a suitable footpath or walkway on the left side of the road. It is presumed safe to walk facing oncoming traffic (e.g. cars and buses) and keep as close as possible to the left side of the pedestrian walkway.

b. Whenever children walk on the road, especially during peak hours (mostly early in the morning and late afternoon), they must keep to the extreme left to the pedestrian walkway, so as to able to see the oncoming vehicle.

c. Children should know that before they cross the road, they must first look towards the right, left, and right sides of the road to make sure that the road is free from danger and that the traffic is not too heavy for them to quickly cross the road.

d. Children should not run when crossing the road, whether the traffic is heavy or light.

e. In crossing the road, mostly the highway, a child should be patient enough to wait and make sure that the road is clear of heavy traffic before crossing such road.

f. Children and adults must obey traffic control lights and rules when an authorized person is controlling/directing traffic, children and adults must obey them and not try to cross the road against his instruction, even when the road seem clear of traffic. They must wait until they are told to cross the road or move. The traffic controller is therefore the safety of everyone.

g. Children should be encouraged to join safety clubs at school.

h. School curriculums have provision for safety education.

Pedestrian facilities

a. Pedestrian precinct: This is an area or point in a street, usually at the centre of a city, where motor traffic is not allowed any form of entrance or crossing. Such as area is called a pedestrianized area.

b. Pedestrian crossing: It is special place or point in middle of a busy traffic way, meant for the pedestrian to cross the road. The aim of this is to ensure the safety of the pedestrian. It is usually a marked place or point on the road, where people or pedestrians can cross easily. Even when a pedestrian is crossing this marked place is heavy traffic, the motorists is expected to respect the rights to way of the user. The pedestrian crossing is usually painted with white and black colours and is also known as **Zebra crossing.**

c. Pedestrian Bridge: This is a form of overhead bridge built across a busy road, specifically meant for pedestrians. Most of such pedestrian bridges are used in trunk 'A' roads, ie. Most highways or roads of federal government, in which vehicles are not by law expected to wait or make a sudden stop. Most of these roads are usually in 3, 4 or 6 lanes. The use of pedestrian crossing is often difficult in this part of the globe, where road users have not formed such a culture. This, most time, renders the infrastructure useless, unimportant and an economic waste (Bhadmus, 2001).

d. Street lights: These road infrastructures give illumination to the environment and road users mostly in the night. They are an important facility to vehicles especially during night hours.

e. Traffic Lights: These are very essential road and traffic infrastructure that are used in the control of traffic, mostly vehicles, at different junctions in urban area. Traffic lights involve different colours with different meanings. The most common colours are green, yellow and red.

- The red light indicates "stop".
- The yellow indicates "get ready to move".
- The green light indicates "move or go".

Findings

Nature and causes of road accidents

Nigeria is currently experiencing rapid urbanization. One of the results of this is the adverse effects on urban mobility. Compared to most developing countries, Nigeria has an abundance of good roads and cars and the traffic density is not as high as in many European countries. Paradoxically, however, the incidence of road accidents in the country is alarmingly high. Should we then conclude that neither improvement of roads nor increased sophistication of cars can alone lead to drastic reduction in accidents rates. There is virtually no family in Nigeria today that has not suffered from the scourge of road traffic accident (RTA). Incontrovertible statistics shows that a lot of Nigerians have been killed through road traffic accidents in recent years.

Most road accidents are caused by one or more of the following factors:

a. The driver.
b. The vehicle.
c. Road, traffic and weather conditions.

It must be noted that the vehicles and road/traffic/weather conditions alone are not often capable of leading to road accidents: it is the driver's reaction or response to road accidents, the most important the driver, almost all accidents are directly or indirectly derived from improper driving habits, poor mental and physical conditions of the driver, the lack of knowledge of

and attention to the vehicles' performance, ignorance of and disregard for traffic regulation, wrong response to varying road and traffic signs and, most of all, the lack of consideration and tolerance for other road users.

The following are the summation of some of the causes of road accidents in Nigeria:

- Overtaking driver'scutting back to the inner right lane without trafficating and not being careful to look ahead of the road just before overtaking.
- Tail gating by motorist who are impatient to overtake even where there are insufficient gaps ahead of them.
- Failing to stop for pedestrians who want to cross the road, even on Zebra road crossing.
- Failure to obey road signs, traffic warden, especially at busy junctions.
- Jumping queues and risking the consequences of multiple overtaking, sometimes 'blindly making move at sharp bends.
- Racing competition by drivers on public roads.
- Tiredness, sleeping. Making phone calls while driving.
- Drunkenness and lack of concentration and absent mindedness of driver.
- Speed and overloading of vehicles-good road conditions sometimes 'tempt' drivers to run beyond the required speed limit.
- Illegal and too numerous police checkpoint and road-blocks.
- Potholes and bad curves on the highways.
- Vehicles malfunction due to the lack of maintenance.

Recommendation

To reduce the rate of transportation road mortality, the following recommendations are made:

1. Strict enforcement of legislation against street trading, hawking and spreading of wares on highways.
2. Massive public enlightenment for improved public awareness to the members of the public and school children alike.
3. Prevention of teenage drivers.
4. Proper licensing system.
5. To prevent brake failure, vehicles inspection procedures to be streamlined to ensure that only safe vehicles ply the road

6. Provision of Zebra crossing.
7. Installation of relevant road signs/speed limits along urban routes.
8. Government should introduce the orientation and re-orientation of driver in terms of mastery of road signs.
9. Inclusion of the road safety education in the curricula of primary and secondary schools as well as tertiary institutions.
10. The issues of driver'slicense should not be issued anyhow unless a particular driver passed out through a particular driving school.
11. Public rallies at motor parks, markets for vehicle drivers and motorcycle riders.
12. Setting up of driving schools to teach details of the revised Highway Code, vehicles maintenance, e.t.c.
13. Media campaign through drama sketches, musical concerts, e.t.c.
14. Training and re-training programmes for drivers.
15. Standard vehicle design to reduce possibility of brake failure,and loss of control by driver leading to knock down of pedestrian school children.
16. Construction of speed breaker along highly congested highways in front of shopping complexes, schools, churches, mosques, e.t.c.
17. Construction of overhead/foot bridges along all highways.

Conclusion

The role of road transportation in any economic development cannot be over emphasized. This is so, because road transportation is a pivot to any successful movement of people, good and services from one place to another. The issue of road transportation in Nigeria still needs urgent attention and a way forward to improve its modalitymodalities and functionalities. Also, the state and nature of Nigerian roads is apolling and chaotic. These urgent attentions must be synthesized.

To this end, the agencies responsible for regulating and maintaining the Nigeria roads must be improved upon. The federal road safety commission (FRSC) must have accurate data and statistics of road accidents.

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Victims of Road Accident 1990-1999

YEAR	CASE		ACCIDENTS
	Reported Number of People Killed	Number of People Injured	
1990	21721	8154	23687
1991	22498	9525	22686
1992	22909	9620	24508
1993	21412	9454	25759
1994	18218	7420	24146
1995	17000	6647	17938
1996	16793	6364	14554
1997	9034	3616	15290
1998	16046	6538	10786
1999	12424	5429	17341

Source: Federal Office of Statistic, 2010

Victims of Road Accidents 2000-2010

YEARS		ROAD USERS					
		DRIVERS	PEDESTRIANS	CYCLISTS	PASSENGERS	OTHERS	TOTAL
2000	KILLED	173	235	72	155	6	641
	INJURED	1,779	2,116	629	2,398	38	6,960
2001	KILLED	192	253	94	163	4	706
	INJURED	1,878	2,141	614	2,435	35	7,103
2002	KILLED	194	239	94	162	8	697
	INJURED	1,951	2,091	699	2,651	35	7,427
2003	KILLED	216	218	85	176	14	709
	INJURED	1,952	2,051	604	2,519	137	7,263
2004	KILLED	229	262	87	166	7	751
	INJURED	2,199	2,159	663	2,806	50	7,877
2005	KILLED	231	256	85	195	6	773
	INJURED	2,482	2,165	715	3,064	38	8,466
2006	KILLED	230	241	68	201	20	760
	INJURED	2,615	2,123	573	3,023	0	8,334
2007	KILLED	251	235	73	176	5	740
	INJURED	2,474	2,058	560	2,925	25	8,042
2008	KILLED	156	175	38	127	3	499
	INJURED	1,771	1,640	432	1951	24	5,818
2009	KILLED	121	121	34	87	7	370
	INJURED	1,323	1,333	378	1380	45	4,459
2010	KILLED	95	106	24	67	8	300
	INJURED	1,269	1,246	346	1,334	133	4328

Source: Nigerian Police/Federal Road Safety Commission