

IMPROVED ROAD TRAFFIC ENVIRONMENT FOR BETTER CHILD SAFETY IN NIGERIA

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ABSTRACT

The deplorable and unsafe state of road traffic environment in Nigeria renders children the most helpless, vulnerable and endangered class of road users in the country. Practically, other road users such as the motorists and cyclists are psychologically reckless and unmindful of children safety. Also, the pronounced disorderliness in the admixture of various components of road traffic units such as motor-vehicles, bicycles, tricycles, motorcycles, pedestrians on narrowed, poorly maintained road network further aggravates the confusion, tension, danger and crisis experienced by children.

These problems, however persist because of the divergent focus of the feeble and ineffective national transport policy and road safety framework, as well as the poorly integrated institutional arrangement in road safety apparatus; and the spatio-temporal discontinuity trend in road design, maintenance and classification. Also the disintegrated state of traffic system management, especially in the urban centres, as well as the inexistence of rural road traffic environmental integration, man agreement and planning further complicates the unsafe state of road traffic environment in Nigeria.

This paper, consequently agitates for the application of users-friendly road traffic environmental concepts like sustainable traffic system management, enhanced and integrated road traffic environment (design, supply and maintenance) prioritization of road traffic safety educational programmes; introduction of road safety fund, with emphasis on children, as well as a functional and dynamic national road safety policy. This is with a view to maintaining a safer road traffic environment for children, aged and disabled in Nigeria, in this millennium.

INTRODUCTION

The central theme of this paper is the presentation of an overview of the current knowledge about the problems encountered by children in the road traffic environment in Nigeria, with a view to forming a basis for integration of the road traffic environment in practical use, towards a sustainable and safer road traffic environment for children as well as other road users in Nigeria

It starts with a vivid account of the historical background to road network development in Nigeria; the characteristics of the road traffic environment in Nigeria; comparable road traffic accident data analysis; recommendations and prospects for the enhancement of child safety in Nigeria road traffic environment is given.

BACKGROUND

Road network development in Nigeria dates back to 1906. By 1914 the total kilometre of motorable roads across Nigeria were 3,200km. However in 1992, the total kilometre of motorable federal and state roads rose to 51,428km.

These roads are classified into 3 categories thus:

- Trunk A → tarred road that links regions. It is controlled by and managed by the Federal Government. It links regions.
- Trunk B → It is controlled by States Government. It links cities.
- Trunk C → Rural roads. Usually untarred. It is controlled by the local authorities.

In the early days of road network development in Nigeria, vehicular traffic was sparingly distributed across the available road network. Also all components that make a functional road traffic environment such as road signs, marking, paintings, cycle paths, pedestrian walkways, and zebra/pelican crossing; were not only adequately provided; but are also maintained regularly by the authorities especially in urban centres.

However, priority given to road network maintenance gradually dropped immediately after the political independence of Nigeria in 1960. Although more roads were contrasted, but without the components that make traffic environment safe as listed above. And wherever these components are provided they are rarely maintained. For instance, traffic signs, road marking and paintings are conspicuously absent from all roads, and wherever available they are over-shadowed by bushy road environment and often time pull down by run off vehicles respectively. They are also defaced due to irregular maintenance activities.

Components Of A Functional Road Traffic Environment

A functional road traffic environment should have the following characteristics:

- good tarred road surfacing
- with road signs, signals, markings and paintings.
- as well as street light (where necessary)
- also lanes are appropriately apportioned/segregated.
- pedestrian walkways, cyclist paths are distinguished accordingly.

This arrangement is further enhanced by a strictly enforced road traffic regulations and laws, by the Traffic Police/Safety officials, where, speed limits, as well as obedience of traffic signs and light are religiously implemented by the state authorities and abide with by all road users.

In contrary, road traffic environment in Nigeria is scarcely provided with these inevitable and paramount components enumerated above. Rather, several kilometres of roads are characterised by bushy road environment; pot-holes; black-spots; poor visibility due to lack of street light at night. Traffic signs as well as traffic lights are not adequately available. Often time, pedestrians, cyclists and motorists compete jealously, especially in the urban centres, for right of way along highways. This is as a result of the poor planning structure of the roads immediate environment.

Also, in most cases the limited road spaces are not often optimally utilised. For example, disabled vehicles are often abandoned along roads, thus create traffic bottleneck which often encourages road traffic congestion, accident, air, visual and noise pollution. Moreover, pedestrian bridges and walkways are illegally occupied by street/road side vendors and/or petty traders. Thus deliberately forced the pedestrians to share the limited space of the road

with the moving vehicular traffic. This admixture of traffic are often time responsible for some of the accident in which children are involved.

Hence, the extract below culled from a daily newspaper further explains better the deplorable and unsustainable state of road traffic environment in Nigeria, especially when children safety are considered. The paper reads thus:

“13 CRUSHED TO DEATH IN LAGOS”

About 13 persons, including 2 policemen, a pregnant woman and school children were killed on Wednesday, while more than 40 others sustained injuries when a trailer lost control at Ketu-Alapere Bus-stop ...”

“The Punch” Newspaper, March 09, 2000.

This is disheartening indeed. For, it is fast becoming a daily occurrence. Many lives are thus lost because road traffic environment integration are treated as secondary issue, in Nigeria. Ad-hoc and piece meal approach to road traffic safety issues in Nigeria further aggravates child safety in the country.

Child Purpose On The Road In Nigeria

According to the 1991 census in Nigeria about 44.9% of the Nigeria total population of 88.9 million were children between 0 – 14 years. And numerically children between this age bracket amount to 39.9million. Indeed, these are the future of Nigeria nation. However, it is in this harsh and user-unfriendly traffic environment they observe the following trips on daily basis either as pedestrians or occupants of moving vehicles in transit.

Child purpose of travels are: sight-seeing, sports, entertainment, walking, eating, shopping, carrying loads, visiting people; hospital community, school community, greeting people and playing as well as religious purposes etc.

Primarily, some of these trips are observed within the immediate neighbourhood. Meanwhile, others may warrant travelling a few kilometres away from home either in company of an elderly person or alone. And, among the most vulnerable road users are children between age 0 – 10. Severally, children within this age bracket have been crushed to death in Nigeria by motorists and cyclist, especially while strolling and/or jay walking across neighbourhood of major roads. Sometimes, they are victims of errant or run-off vehicles.

The following are further ways by which children are exposed to road traffic danger by adults:

- by strolling along side the road with the child backing traffic;
- keeping child at the traffic side of the road;
- conveying an infant in the front seat of a tricycle, car and other brand of vehicle without seat belt.
- Backing and/or carrying a child on motorcycle without safety helmet

These pronounced laxities among adults as stated above, further aggravates the deplorable state of children safety in the road traffic environment in Nigeria.

CHILD BEHAVIOUR AND ATTITUDE ON ROADS

Lavalette (1995) stated that child capacities are poorer than adults to perform the task of crossing the streets, particularly in scanning the environment as a whole. It is stated further that the more the complexity of the traffic environment, the more the task will be difficult to be performed by children. Therefore, the density of urban fabrics (e.g. the number of streets at crossing places, number of crossing places, traffic density, shops etc), often make the task more difficult for children, thus often resulted in errors and accident. Also, Salifu (1996) quoting Robertson et al observed similarly that the assessment of risks and appreciation of their surroundings are qualities that are not fully developed in children and youth.

Vurpillot (1971) in Lavalette (1995), also asserted that children up to age 9 search for visual information without structuring in relation to what is required of them. This is unreliable in traffic, where there are also many details, they are unable to see because of their small size, failure to structure when searching for visual information that can be of use when crossing could certainly be a vulnerability factor. The unique vulnerability of children (0 – 10 years) is not because they are more exposed than others. Their over-involvement is probably due to the fact that the average child does not attain the requisite degree of maturity as a pedestrian until he/she is above the age of 10. Prior this age, children are generally of a diminutive stature which is hardly an asset in the road traffic environment. For example, they are unable to concentrate on more than one happening at a time. They also tend to play on or by the road and most of them seem to believe that the safest way to cross the road is to run.

All these conclusions go to emphasise the point that child pedestrians under 10 years need some form of assistance to cope with the complex traffic environment without endangering their lives.

The Attitude Of Motorists Towards Children In Road Traffic Environment In Nigeria

Conventionally, traffic safety is achieved by reaching harmony between people, roads and vehicle, which altogether make the road traffic environment. However, the grace disharmony within the road system in Nigeria renders the road environment unfriendly. And, thus, make auto accident the second most important cause of death in Nigeria. At least, road accidents account for half of all death in Nigeria. (Urban Edge, 1990).

Onakomaiya (1988), Salifu (1996) aptly painted the picture of the road traffic environment in Nigeria and Ghana respectively as: an environment dominated by abundant combination of largely illiterate or inexperienced or drunk or over-confident drivers, unconcerned about the lives of other road users, know nothing more than rudiments of moving a vehicle and sounding their horns with reckless abandon, ostensibly to attract the attention of passenger, meanwhile, operating poorly maintained vehicles, on high quality but poorly designed and ill maintained roads. In a society that is devoid of traffic law enforcement services, and that is ill-equipped with emergency road safety facilities, where government, police and military drivers flout traffic laws with impunity, where para-medical personnel are sometimes cold and unconcerned about the agonies of road accident victims, and where the relevant governmental authorities merely pay lip-service to road safety.

Thus, children transiting in this unpredictable and unsafe traffic environment without guidance from an elderly individual is primarily doomed.

Table 1 evident corroborate this inadequacies. It gives a comparative illustration about road expenditure in the most populous city in Nigeria, Lagos comparatively with other cities of the world. The expenditure on roads in Lagos is put at US\$.04 while that of Cairo in Egypt is put at US\$5.70, and Paris, France US\$248.00. This comparative disparity in expenditure is the evidence of the poor state of the road traffic environment in Nigeria, as well as the need for an integrated road environment.

Table 1: Per-Capital Expenditure On Cities Road And Other Indicators.

| Cities | Travel Time Min. | Car Ownership Cars/1000 | Road Expenditure (\$ Capital) |
|----------------|------------------|-------------------------|-------------------------------|
| Lagos, Nigeria | 85.00 | 4.30 | .04 |
| Cairo, Egypt | 59.50 | 50.10 | 5.70 |
| Paris, France | 35.00 | 426.00 | 248.00 |
| New York, USA | 36.50 | 232.00 | 123.22 |

Source: UNCHS (Habitat) Global Urban Indicators Database, 1996.

INSTITUTIONAL ARRANGEMENT AND CHILD SAFETY IN NIGERIA

The Nigerian Police Force (Traffic) and the Federal Road Safety Commission (FRSC), now merged with the Police are the major institutions responsible for the maintenance of road traffic safety in Nigeria. They perform the following functions among others:

- apprehension of erring drivers;
- clearance of disabled and accidented vehicles off the road;
- provision of first aid treatment to accident victims;
- enforcement of speed limit;
- collection and collation of accident data;
- issuance of drivers licence vehicle registration, etc.

However, it is regrettable that these two bodies rarely have comprehensive collaborative affairs with the following institutions, towards enhancement of a safer road traffic environment.

- Universities/research institutes;
- Non-government organisations (NGO) that are traffic safety bias;
- Community based organisation (CBO);
- THE road Administrators/Designer in Nigeria (e.g. Ministries of Works, Transport and Housing).

Rather, road safety issues are approached unilaterally in different quarters. Hence, the continual deplorable trends of road traffic accident in Nigeria.

Trends Of Road Traffic Accident Among African Children

As a result of this neglect of road traffic environment, ODA funded studies have shown that pedestrians account for over 40 per cent of road accident fatalities in African and Middle East countries. However, many of these are young people in the under 15 age group with children representing more than 25 per cent of road accident in Africa. Another factor that is responsible for this is the inadequacies in children's road safety knowledge in the under-developed nations of the world.

International Comparative Road Traffic Accident Data

In spite of the sophistication of the road traffic environment in developed countries like Japan, fatal road accidents are recorded annually and children are on many occasion victims of road accidents. In other words, the application of Intelligent Transport System (ITS), has not been able to eradicate completely the fatalities and injuries caused by road accident to children in developed countries.

For instance, in the member state of the European Union, road accident are the cause of approximately 45,000 fatalities and more than 1.6 million injuries each year. Road accidents at junctions constitute a major problem. In Sweden, for example, approximately one out of every four accidents on rural roads occurs at a junction; while the figure for urban areas is

more than one out of every two. Many of these accidents are serious and involve a high percentage of pedestrians and cyclists. Interestingly, the number of traffic accidents in Sweden reached its highest point in 1971 with over 27,6000 injured persons. However, by 1980, the cases fell to 15,800. As far as Japan is concerned, the trends in fatalities by age (0 – 15 years) between 1987 – 1988, gradually nose-dive due to adaptation and application of series of measures that make the road traffic environment user-friendly. The fatality rate of 600 cases in 1987 was brought down to 295 in 1997. This is a remarkable reduction in the fatality rate, especially among the youth. See fig. 1.

Contrarily, road traffic accident data in Nigeria suffers paralysis of analysis. It is not synthetic, rather indexes are severally muddled up. Thus, renders a comprehensive sectoral analysis impossible. Table 2 shows the trends of the road traffic accident in Nigeria between 1992 – 1996. From the table, it is obvious that cases of reported accident in Nigeria decreases yearly. This should not be taken seriously as an evidence of enhanced road traffic environment. Rather, it is as a result of the non-chalant attitude of accident victims in reporting cases of accident to the authorities. However, reverse is the case in developed countries such as Japan, where accident data are serialized. For example, the number of children victims within space and time are noted (See fig. 1) for better planning and safer road traffic environment.

Table 2: Reported Road Accident Casualties In Nigeria 1992 – 1996.

| Year | Reported Accident Cases | Nos. Of Person Injured | Nos Of Persons Killed | Total Nos Of Casualty |
|-------|-------------------------|------------------------|-----------------------|-----------------------|
| 1992 | 22,489 | 25,495 | 9,386 | 34,881 |
| 1993 | 21,734 | 24,455 | 9,680 | 24,135 |
| 1994 | 18,523 | 18,960 | 7,640 | 26,600 |
| 1995 | 15,830 | 13,329 | 6,185 | 19,414 |
| 1996 | 14,587 | 12,422 | 5,517 | 17,939 |
| Total | 83,163 | 94,661 | 38,408 | 122,969 |

Source: Federal Office of Statistics (1997).

The tendency that children will suffer greatly as victims is not contestable, notwithstanding that the percentage of child involvement is unknown. As a result, road traffic accident data in Nigeria could be regarded as incomplete. Therefore, it could not be versatile for planning for a safer road traffic environment for Nigerian children in the new millennium.

The Structure And Characteristics Of Road Traffic Accident Data In Nigeria

Conventionally, the sets of standard and qualitative data required for planning for a safer road traffic environment are in two categories stating thus:

- i. The total number of accident at a given period and the number of people that died, and seriously injured. Also causative factors such as human error, environment condition, vehicle and road poor condition etc.
- ii. Secondly, the caliber of victims (e.g. children, aged, sex etc). The number of people that were killed, property damaged, people seriously injured, level of education and occupation of victims, climatic condition, total number of accident victim per kilometer, per vehicles, total number of non-seat belt users victims etc.

Road traffic data are rarely distinctively categories in Nigeria as stated above. To buttress this Wiredu (1990) stated that the problem associated with data on accident victims in Nigeria is that they are often scanty and sketchy when accidents are fatal. Moreover,

detailed analysis is often sought from hospitals as regards accident victims. It is stand further that very often those who died on the scenes far outnumbered those who died in the hospitals, and sometimes such reports are never made known. For example, he asserted that of those who died in the hospital, the only data available are age and sex. And the format used to record accident never include level of education and occupation.

Furthermore, going by the available scanty, disjointed, and negligible quantity and quality of road traffic accident data in Nigeria, Onakomaiya (1988) stated that Nigeria is still faced with the problem of attaching value to the need for comprehensive road traffic accident data, so as to reflect the degree of true risk of the monetary value of the losses involved. In other word, "Nigeria is yet to start computing the monetary losses involved in road accidents, which largely accounts for the low priority accorded accident research and preventive measure in the country. This has been so because there are no broad-based and comprehensive road traffic accident database in the country.

Future Matters at Stake

The percentage of children casualty in road traffic accident in Nigeria, for long has been unknown. This is as a result of the unilateral approach used in data collection processing and management. A broad base and comprehensive database that will demographically synthesise all road traffic accident data is never available in Nigeria.

Undoubtedly, there is an urgent need for inter-disciplinary research approach in the area of child safety in Nigeria. But there is little or nothing that could be achieved if the quality and quantity of available data are questionable.

The future implications of the present generation of Nigerians non-chalant attitude towards child road safety research would be:

- gradual extermination of leaders and technocrats of future Nigeria;
- increasing gradually the number of disabled and handicapped individual in future population of Nigeria,
- Socio-economic implications in terms of dependency, hospital bill etc.
- Sovereign nation security effect can be grievous.

Lessons From Other Lands

The improved road traffic environment in developed countries like Japan, Sweden, UK, and even South Africa, is a result of the proper integration of the road traffic environment, through adequate supply of the following infrastructural facilities as well as a national road traffic safety policy, that are implanted and obeyed conscientiously by the government agencies officials, as well as individual road users across these countries.

The following components are not only provided abundantly but their efficiency and reliability are monitored in developed countries:

- road signs
- road marking and paintings
- inter-sections management
- traffic island control
- lanes restructuring\ partitioning
- highway lighting
- speed limit regulation
- safety education and training
- automation of road traffic environment.

In addition, the adoption of Intelligence Transport System (ITS) in conjunction with the above listed road traffic environment apparatus, further consolidate and enhance the traffic environment in developed countries such as Japan, Sweden, UK, USA among others. Thus minimised tremendously the spatial child casualty trend in road traffic accidents.

Recommendations

This paper, agitates for shaper and user-friendly approaches in road traffic environmental management, towards enhancing the deplorable states of child safety on Nigerian roads in the new decade as follows:

- road safety fund, with emphasis on children, will help in solving the problem of financial crunch in all aspect of maintenance of safer road traffic environment in Nigeria. Collaborative research projects between Universities. Road safety Commission research institutes and Police, NGO, CBA< CBO will help in identifying the safety needs of children in Nigeria.
- International child traffic safety standards should be strictly ensured by Inter-governmental organisation like UNICEF, UNESCO.
- Sidewalks, cyclists' paths, traffic signals, defective streetlights and roads signs above ground or underground pedestrian crossing, as well as road signs should be improved upon for children, especially along the prominent school routes.
- Also, the creation of zone-regulated traffic control in residential areas, including the construction of wide sidewalks with adequate level of pleasant walking space will further help in enhancing the level of children safety on Nigerian roads.
- Proper junction design will help simplify traffic situation and thus prevent unsuitable movement among children. It will further help reduce vehicle speed in conflict area, thus reduce accident.
- Utilisation and/or introduction of reflectorised (cat-eyes components) and advanced simulators for illustration on the road will enhance children safety.
- Road safety education should be organised within a framework of lifetime, that is, by using aggressive public information campaigns, such as promotional activities and all forms of public media.
- Advanced traffic educational Package, whereby adult will see it as right to assist children in the road traffic environment.
- The use of set bells, safety helmet, and child restraints should be introduced and enforced strictly.
- Inter-modal transport solutions should be encouraged by government so as reduce road traffic towards saving lives of children on the roads.
- Enforcement of traffic laws and regulations in Nigeria should be reorganised. For instance, enforcement logistics towards the most dangerous and socially unacceptable traffic offences such as those that threaten pedestrians, especially children on highways should be re-visited summarily.
- Bus transport, should be made free of charge for the children, especially when schools are in session. The local and state authorities should subsidise it.
- Installation of speed reduction devices as a traffic calming measure should be developed in neighbourhoods and fronts of schools across the country.

- New technology such as “Active Speed warning sign” (ASWS), that will always activate and motivate drivers to be conscious of children presence on the road should be adopted.

CONCLUSION

In sum, bundling together of proactive and proactive and versatile local initiatives such as Community Based Organizations (CBO); Community Based Agencies (CBA); Non-Governmental Organizations (NGO); that comprehensive grass-root data about the deplorable plight of children on Nigerian roads, by Nigerian government and inter-governmental agencies like UNDPO, UNICEF, UNESCO is urgently needed in Nigeria. This coalition and/or broad-based networking will act as third-eye that will strictly ensure government compliance with the international standard in road traffic environment integration, rules and regulations implementation, as well as provision and development of practical traffic safety devices and research apparatus, for the sake of children in Nigeria.

Also the adoption of the 3D concept (i.e. diversity, design and density) in urban transport/housing planning whereby public buildings/institutions such as schools, hospitals, shopping complexes are located within the close range of residential quarters will reduce the kilometer coverage of children. And thus help in minimizing the menace of road traffic accident especially among the children populace in Nigeria. This is with a view to alleviating the present disheartening dilemma of the entire generation of about 40 million Nigeria school age children, who are future of this nation, but unfortunately trapped in the existing unfriendly and unsustainable road traffic environment.

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