

A Synopsis of Number/Types of Vehicles Involve In Road Traffic Accident in Lagos State, Nigeria

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Abstract

*The major objective of this study is to examine the number/types of vehicles involved in road traffic accident in Lagos State, Nigeria. The study used mostly secondary data: accident records and vehicular situations were obtained from Nigerian police force and federal road safety commission. The data were obtained for the period of thirty two (32) years. The analysis of the number and type of vehicles involved in road traffic accident showed that private cars, buses and taxis were the types of vehicles that are more prone to accidents in Lagos State. The reported vehicles involved in road traffic accidents in 9 local government areas selected for this study from 1970-2001 were compared using the Analysis of Variance (ANOVA). The result showed that for the two factors, Local Government Areas and years, the *f*-calculated of 10.34 and 22.51 respectively were higher than the *f*-tabular of 1.42 and 1.21 respectively at 0.05 level of significance. It then implies that the means for each of the factors, were significantly different. Based on the findings, recommendations were proffered on how to reduce the phenomenon of traffic accidents and its consequences in Lagos State.*

Keywords: Vehicles; number/types; traffic accident; synopsis; road; Lagos.

Introduction

At the global level, road accidents have been ranked as the 9th leading cause of mortality (World Health Organisation, 1998). The World Health Organisation (WHO) estimated that 1.17 million deaths occur each year worldwide due to road traffic accidents. Succinctly, this accounts for about 70% of deaths in developing countries such as Nigeria. The increased rate of fatal road traffic accidents worldwide has been attributed to population explosion and increased motorization (Atubi, 2008h). Increased motorization may be characterised briefly as the “automotive revolution”, that is, the motorizing of urban population especially in the developing countries.

In almost all countries of Africa, Asia and Latin America, road traffic crashes have become one of the leading causes of death in older children and economically active adults between the ages 30 and 49 years (Murray et al, 1996; Ross et al, 1991; Jacobs et al, 2000). Despite this burgeoning problem, little attention has been paid to road traffic injury prevention and treatment in most developing countries. Efforts to combat the problem of injuries have, in most cases, been hampered by paucity of funds and lack of relevant data.

In Nigeria, road traffic accident situation over the last three decades has been particularly disturbing. In 1976, there were 53,897 road traffic accidents resulting in 7,717 deaths. Although in 1981, the magnitude reduced to 5,114 accidents, but the fatality increased to 10,236 which means that there was an average of 96 accidents and situation in subsequent years has not been any better. The number of people killed in road accidents between 1990 and 2005 rose from 28,253 and the fatality rate remains consistently high (Atubi, 2009c).

When compared with the road traffic accidents in the more developed countries of the world, it can be observed that the situation in Nigeria is simply pathetic. For example, while the road accident was as high as 14.45 per thousand in 23.16 per thousand in 2002, it was about 0.3 and 0.45 for north America and western Europe around the same time. This confirms the statement that RTA rates of Nigeria are as much as 20 times those of Europe and north America.

Indeed Nigeria in the 21st century is in a far worse RTA situation than Europe and North America in 1930 and far worse than India, Pakistan, Thailand, Botswana, Niger, Kenya, Sri-Lanka and Tanzania in 2002 (Daramola, 2004; Atubi, 2006; 2012e).

According to Federal Road Safety Commission (2003), in 2002, the total cases of road traffic accidents in Lagos metropolis was 3319 (529 cases were fatal, 1543 were serious and 1247 cases were minor), in which 2011 people were injured (1448 were males and 563 were females) and 4478 vehicles were involved (103 were private cars, 1578 were buses and minibuses, 1412 were motor lorries and 642 were kit cars).

Human error is estimated to account for between 64 and 95% of all causes of traffic crashes in developing countries (Atubi, 2009b; 2012g). A high prevalence of old vehicles that often carry many more people than they are designed to carry, lack of safety belts and helmet use, poor road design and maintenance and the traffic mix on roads are other factors that contribute to the high rate of fatalities in less developed countries (Onakomaiya, 1991; Igbile, 1991; Ogunsanya and Waziri, 1991; Atubi 2009c; 2010a; 2012f and 2012c).

Road traffic accidents' statistics in Nigeria reveal a serious and growing problem with absolute fatality rate and casualty figure rising rapidly. In majority of developing countries, accident occurrence and related deaths are relative to either population or number of vehicles. Ironically, in Nigeria, studies have indicate that better facilities in terms of good quality and standardized roads have been accompanied by increasing number of accidents (Onakomaiya, 1988; Gbadamosi, 2002; Atubi and Onokala, 2009). This is totally contrary to the trends in countries were even the level of sophisticated road network and volume of vehicular traffic are much higher (Atubi, 2010a and 2012e).

In an effort to check this alarming trend, the Nigerian Federal Government inaugurated the Federal Road Safety Commission (FRSC) in 1988. The commission's functions include among others, the regular patrol of the highways with the aim of checking reckless driving. But for this function to be performed effectively, the FRSC and the police have to be familiar with the temporal distribution of road traffic accidents in the country. For instance, in our study area of Lagos State, the most accident prone Local Government Areas (LGAs) are Lagos Island, Lagos Mainland, Ajeromi/Ifelodun, Ikeja, Oshodi/Isolo, Apapa, Efi-Osa, Kosofe and Ojo. Thus, these are the LGAs that deserve urgent traffic accident mitigation attention because they are highly prone to road traffic accidents.

Study Area

Lagos State is a suitable case study because it hosts metropolitan Lagos, Nigeria's major traffic centre, fastest growing city, and most heavily motorized urban area in the country. Consequently, the state has one of the highest accident and casualty rates in the country (Federal Republic of Nigeria, 1997, p. 6). Moreover, the traffic situation in Lagos State is bad because of the absence of effective planning, vehicle-misuse, poor management, inadequate street parking, traffic congestion, delays and accidents among other contributory factors.

Lagos State is situated in the South Western corner of Nigeria. This elongated state spans the Guinea Atlantic coast for over 180km, from the Republic of Benin on the west to its boundary with Ogun State in the east (figure 1), while Lagos State is the smallest in Nigeria, it has over 5 percent (i.e. 9,013,534) of the country's estimated 140 million people (National Population Census, 2006). Its rate of population growth has been in excess of 9 percent per annum, or 25,000 per month or 833 per day or 34 per hours in the last decade (Lagos urban Transport Project, 2002). This population increase has been accompanied by a corresponding increase in motor vehicles and traffic accidents. However, accident rates in Lagos State are still very much on the high side compared to other states in the federation. But, fatalities and non-survival indices for the state are on the decline. This is attributable to its high level of traffic congestion (which reduces the probability of the high fatality accidents resulting from over speeding) and accessibility to good post – crash medical care in the Lagos metropolitan area.

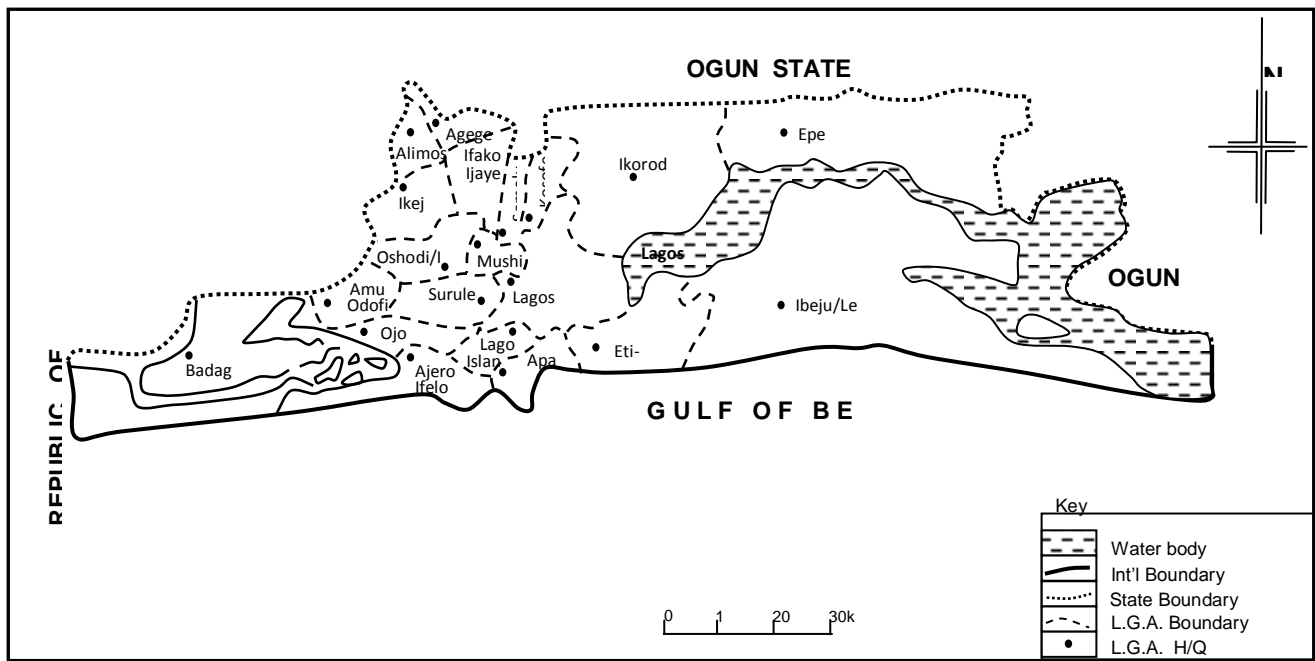


FIG. 1: MAP OF LAGOS STATE SHOWING THE 20 L.G.As

Source: Lagos State Ministry of Environment and Physical Planning (1999)

Research Methodology

The bulk of the information that were used in this paper came from secondary sources, this include number and type of vehicles involved in traffic accidents in Lagos State for a period of 32 years (i.e. 1970-2001). Also, analysis of variance (ANOVA) statistics was used to test for the significance of variability in reported number/type of vehicles involved in road traffic accident in Lagos State, Nigeria.

Analysis of variance allows us to compare simultaneously three or more sample means in order to determine whether the differences between the samples are significantly higher than the differences that can be observed within each sample.

Discussion of Results/Findings

The analysis of the number and types of vehicles involved in road traffic accident as shown in table 1, yielded important information. As shown in Ikeja Local Government Area, a total number of 1174 vehicles were involved in road traffic accident under the period of study (i.e. 1970 to 2001).

This comprised of 4076 (34.71%) Taxi, 4904 (41.76%) private cars, 2302 (19.60%) buses and 462 (3.93%) Lorries. This shows that private cars and taxis are the type of vehicles that are more prone to accident in Ikeja Local Government Area.

In Lagos Island, a total of 11466 vehicles were involved in road traffic accident, taxi, private cars and buses are the more prone. They accounted for 32.9%, 38.10% and 19.83% of the vehicles that involved in road traffic accident in the Local Government Area. Also, in Ajeromi/Ifelodun Local Government Area, a total number of 11040 vehicles involved in road traffic accident under the period of study. This is made up of 3815 (34.56%) taxi, 4587 (41.55%), private car, 1718 (15.50%), buses and 920 (8.33%) Lorries. This shows that private cars and taxi are more prone to road traffic accident.

In Lagos Mainland Local Government Area, a total of 10513 vehicles were involved in accident. Taxi, private cars, buses and lorries. They represented 39.20%, 45.14%, 10.43% and 5.41% respectively. This shows that private cars and taxi's are more prone to accidents in Lagos Mainland Local Government Area.

Furthermore, for Apapa Local Government Area, private cars and buses are more prone to accidents with values of 44.20% and 42.26% respectively. For Oshodi/Isolo Local Government Area, buses and taxi's are more prone to accidents with values of 45.90% and 38.78% respectively.

The reported road traffic accidents in the Local Government Areas in Lagos State from 1970 to 2001 were compared using the analysis of variance (ANOVA). The results are shown in table 2.

Table 2: Analysis of Variance for Reported vehicles involved in Road Traffic Accidents in Lagos State

Factor	Sources of variation	Sum of squares	Degree of freedom	Mean square	F.Cal.	F.Tab
L. G. A.	Between L.G.A.	1013223.2	13	50470.50	10.34	1.42
	Within L.G.A.	1553126.0	314	3501.62		
	Total	2566349.2	327			
Years (1970-2001)	Between years	1645611.1	26	52050.20	22.51	1.21
	Within years	5000371.3	290	1217.40		
	Total	6645982.4	316			

The result shows that for the two factors, Local Government Areas and years, the f-calculated of 10.34 and 22.51 respectively were higher than the f-tabular of 1.42 and 1.21 respectively at 0.05 level of significance. It then implies that the means for each of the factors, vehicles involved in road traffic accidents across the Local Government Areas and across different years, 1970-2001, were significantly different. In order to ascertain the means that were significantly different, Duncan New Multiple Range Test (DNMRT) was used for mean comparisons. The result for the mean comparisons for different Local Government Areas and for different years in Lagos State from 1970 to 2001 is shown in table 3 and 4.

Table 3: Means of Reported vehicles involved in road traffic accidents in Lagos State for the nine Local Government Areas in Lagos State

S/N	L.G.A.	Means	N
1	Kosofe	438a	13
2	Ojo	409ab	13
3	Eti-Osa	407abc	13
4	Ikeja	367cd	32
5	Apapa	365de	16
6	Lagos Island	358def	32
7	Oshodi/Isolo	349efg	32
8	Ajeromi/Ifelodun	345fgl	32
9	Lagos Mainland	329ghi	32

Table 4: Means of Reported vehicles involved in road traffic accidents in Lagos State for different years (1970-2001)

S/N	L.G.A.	Means	N
1	1985	8	416a
2	1998	20	411a
3	2000	20	407ab
4	2001	20	404ab
5	1999	20	401ab
6	1997	20	394abc
7	1995	20	390abcd
8	1992	20	385abcd
9	1996	20	383abcde
10	1993	20	383abcde
11	1994	20	382abcdef
12	1970	20	378abcdef
13	1984	8	377abcdef
14	1991	20	373abcdef
15	1989	20	370abcdef
16	1983	8	361bcdef
17	1988	12	352cdefg
18	1987	12	344defg
19	1986	12	335efg
20	1982	8	334fg
21	1981	8	314gh
22	1980	8	311gh
23	1979	8	286hi
24	1977	8	280hi
25	1978	8	276hij
26	1976	8	249ijk
27	1975	8	235jk
28	1974	8	235jk
29	1973	8	207k
30	1972	8	168kl
31	1971	8	158i
32	1970	8	143i

In tables 3 and 4, letters of alphabet shows means that are significantly different or not significantly different as given by Duncan New Multiple Range Test (DNMRT). Means with different letters of alphabet are significantly different while means with the same letters of alphabet are not significantly different. In tables 3 and 4 the means were arranged from the highest to the lowest. The letters of alphabet indicate significant difference, means with the same letters of alphabet are equal or not significantly different and significantly different from those with different letters of alphabet.

Policy Implications/Recommendations

By the serious road traffic accident situation in the study area, Local Government Areas like Lagos Island, Lagos Mainland, Ajeromi/Ifelodun, Ikeja, Oshodi/Isolo, Apapa, Efi-Osa, Kosofe and Ojo Local Government Areas can be described as accident prone areas, because they are all associated with high vehicular accident rate, high number of deaths, high number of injuries and so on. This trend therefore, suggest that these Local Government Areas of Lagos State are associated with the menace of road traffic accidents and these deserves urgent attention and appropriate policy intervention (See Fig. 2).

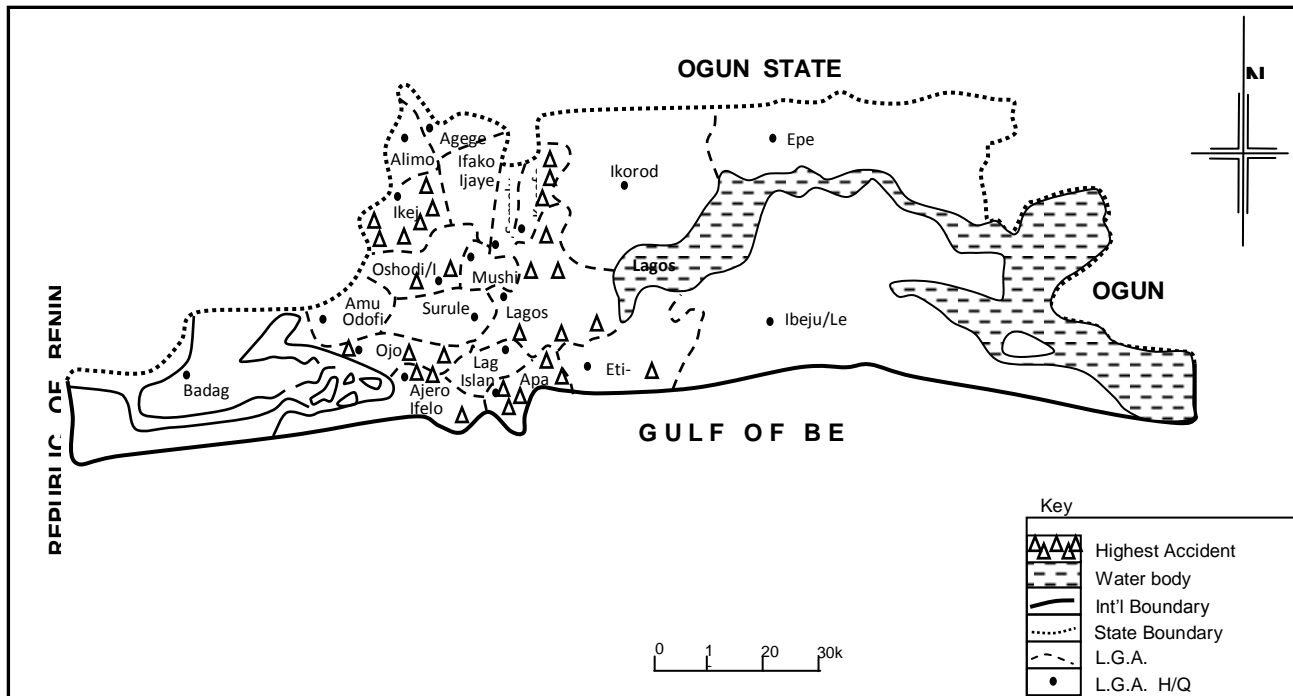


FIG. 2: MAP OF LAGOS STATE SHOWING THE ACCIDENT PRONE L.G.As

Moreover, the role of vehicle manufacturers is essentially one of providing safe, durable and well-designed vehicles. Considerable efforts should be made to ensure that their vehicles are as safe as possible. This aspect is, however, beyond the control of the government. However, technical and safety standards should be established for the vehicles purchased. With regards to the importation of second hand vehicles, while it is a very effective way for improving mobility for the low and middle income groups, it is pertinent to ensure that these vehicles meet pre-determined safety standards in order to curb the increase of accidents arising from vehicle mechanical failure. The implementation of this measure will require setting up some form of bureau standards to assess the quality of the imported vehicles.

Prevention measures should also be taken which would include proper design of road networks as well as the planning of the general public transport system to ensure that it runs in an effective and efficient manner as this would reduce the volume of vehicles plying the roads; these must be commenced in the early stages of urban planning.

These measures, if well executed, will contribute positively towards reducing the ugly incidence of road traffic accident in Lagos State and Nigeria in general. The current poor road safety record in Nigeria is not inevitable. As other countries like the U.S.A. and Britain have shown, population and vehicular traffic growth does not have to lead to increases in traffic crashes, deaths, and permanent injuries as these undesirable out comes can be minimized through adequate traffic accident control and injury prevention.

Conclusion

The most serious problem of road traffic and personal safety on the high ways all over the world today is the issue of road traffic accidents. In Nigeria, the incidence has become a very disturbing phenomenon as the country is presently ranked second highest in the world by World Health Organisation (WHO). Although the phenomenon is not completely inevitable, the fact that it is a leading cause of death and injury makes it a cause for concern to all. (Atubi, 2012f), observed a steady increase in all the parameters of road traffic accident in Nigeria. This is in spite of the efforts by all states in the federation to correct the rising trend by periodically organising road safety campaigns.

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