

Accessing the Impact of Rail Infrastructural Development in Abuja (Nigeria)

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Abstract— over the years Kaduna-Abuja high way has been recording traffic accident cases due to the poor condition of the high way , however the need to reduce the pressure of traffic from the high way have necessitate the need to revitalize the Abuja - Kaduna rail line and commenced the operation around 2016,the paper seeks to analyse the impact of road infrastructure and development along the Abuja-Kaduna route and the impact on the Kaduna – Abuja highway, the paper also discussed the problems associated along the Abuja -Kaduna highway, analyse the economic benefits of the impact of the road infrastructure and analyse the impact of rail infrastructure on the Kaduna – Abuja high way, the paper looked into secondary source of information and extracted reliable data which was analyzed and from the information obtained there is significant reduction of road passengers from 2016, this can be attributed to the commercial operation of railway on July 2016 and also a direct relationship to the road traffic accident along the route, the paper recommends that the government should upgrade the highway by installing traffic management systems and also introduce additional rail lines on the Abuja-Kaduna rail line in other to accommodate the increasing demand of passengers.

Index Terms— Road, Rail, Transportation, Accident, Passenger, Infrastructure

1 INTRODUCTION

Transportation can be described as actual physical movement of people and goods from one point or place to another in respect of the means (Ahukannah et al, 2003), in this regards, different means of transportation have been existing and have been moving both humans and goods since human's existence. In the last five-decade (50 years) Nigeria rail infrastructure has been neglected which lead to the non-existence of the rail system in the public transport network of the country.

The rail infrastructure is one of the safest modes of transportation and its absence in the transportation system in Nigeria have impacted heavily on other mode of transportation such as: Road and Water ways however efforts to revitalize the deteriorated rail infrastructure. The research is expected to access the impact of rail infrastructure and development along the Abuja-Kaduna route and the impact on the Kaduna – Abuja highway, to address this research the problems the paper will discuss the problems associated along the Abuja -Kaduna highway, analyse the economic benefits of the impact of the road infrastructure and analyse the impact of rail infrastructure on the Kaduna – Abuja high way

The need to achieve total development in the transportation sector have necessitated the government to review the nation rail infrastructure deficient among the rail infrastructure is the construction of the Abuja -Kaduna new line, these is to solve the frequent accident along Abuja -Kaduna route due to poor condition of the highway. The effect of this has resulted to the loss of significant time and also possess security treat to travelers thus it is vital for the government to provide alternative mode of transportation to solve these problems.

The government needs to review the nation rail infrastructure deficient among the rail infrastructure is the construction of the Abuja -Kaduna new line, it is vital for the government to provide an alternative mode of transportation to solve these lingering problems by enforcing the law and upgrading other mode of transport system in the county.

Traffic accident along the Kaduna – Abuja highway has been on the increase and this have cause loss of life, time and money, according to the road accident statistics of Nigeria, there were 715 of accident case in 2016 ,507 of road accident case in 2017.while 250 cases of accident was recorded in 2017, the research also shows that 25 accident cases were caused by bad roads in 2016 while 11 accident was recorded in as a result of bad condition of road in 2017, this shows that the state of the high way is a factor to frequent accidents however there

is a decrease in the rate of accident along the highway, hence is there a significant relationship in the reduction of road accident due to the operation of commercial train transport system that started in July 2016 along the Kaduna – Abuja route.

2 METHOD: EMPIRICAL FRAMEWORK AND LITERATURE REVIEW

In 2006, the government of Nigeria in partner with the Chinese government signed an MOU to revitalize, upgrade and construct modern rail infrastructure, however there was no significant progress recorded between 2006 -2007 this was caused by the inappropriate financial appropriation. In 2009 the project was revived and upgraded to cover new states in the country, subsequently project was awarded in 2010. The project is expected to reduce the impact of vehicles on the nation high way and decongest the traffic prone areas along the busy route of country.

Transportation in a General Perspective - Air, Water, Road and Rail Transportation: Transportation can be described as actual physical movement of people and goods from one point or place to another in respect of the means (Ahukannah et al, 2003), in this regards, different means of transportation have been existing and have been moving both humans and goods since human's existence.

Rail transportation is a relatively more recent when compared with road or dirty pathways tracks, these means of transportation was invented in the Eight century (Ancient Greece) however before this period, man moved and transport goods on land with the aid of animals on cart and most recently automobile and trains.

The navigation of the Water ways is as old as the history of man, it has been reported that the Egyptians were the first to use a seagoing vessel in the 1500BC, with progressive development in the use of ships and port Infrastructures to sail, people and exchange of goods were greatly achieved between territories across the globe through water ways. The advent of aircraft in the 19th century has not only reduced the time spent travelling on the road but has also enhance the man's scientific discovery of the universe.

Road transportation has its own beginning. Its flexibility, affordability and ability to transverse the smallest units of territories to provide services and goods over the years and also its socio - economic importance have generated into the steady development of Road infrastructure in the world. In

Nigeria, road transportation is the commonest, cheapest and most extensively used form of transportation. The use of motorbikes, bicycles, Tricycles, carts, cars, buses, lorries, trailers, tankers, in moving people, goods and services from one location to where they are needed cannot be overemphasized. (Anyanwu, 1997).

Historical Development of Road Transport in Nigeria: According to Anyanwu (1997), the historical development of road transport in Nigeria can be traced to 1940, when the then British Governor General Lord Lugard began the construction of a mule way connecting Zaria and Zungeru both in the Northern state of Nigeria. The road was later upgraded and expanded to Sokoto, Katsina and Maiduguri road these were to connect the North eastern part to the North Central. However, the Ibadan road linking to Oyo was constructed in 1906, was the first motorable road in Nigeria. In 1925, the Central Government of Nigeria established an agency called 'Road Board' that is responsible in the construction and maintenance of Road in the Country thus it proposed a skeletal trunk road system to link the major administrative centers in the Country in 1926.

The Emergence of rail way in Nigeria: According to (Ekanem and Onakomoya, 1977; Muktar, 2011 and Oni, 2000) the development of railway infrastructure began in Nigeria in 1898, the first railway track (Infrastructure) was laid from the South West (Lagos to Ibadan) by the colonial administrators this was to aid the movement of Agricultural goods from the hinterland to the commercial centers of Lagos and Ibadan. Nigerian railway system was among the first era of railway systems in the world. According to Nevil Miller in an article titled "Nigerian Island Tramway – The erstwhile Lagos Steam Tramway and its unique locomotives" (1996) while the Lagos Government Railway started in 1895 from Iddo on the mainland, to Ibadan, and was opened six years later on March 4, 1901.

Carter Bridge was completed the same year, construction having commenced in 1896, to connect Lagos with the mainland.

The nation's railway Infrastructure was designed in a North-South style mainly to facilitate the flow of Agricultural goods, such as groundnut, cocoa and cotton from the inlands to the coast for shipment to Europe. During the early years of its operation and up till late 1970s, the railway system was generally efficient and effective (Adesanya, 2002). Although the single-track narrow-gauge network transverse across the country, it was able to haul agricultural products from the north to seaports in Lagos, Ibadan and Port Harcourt.

The discovery of crude oil in commercial quantity in the 1956 and the subsequent transformation of Agricultural driven economic to a Petro-dollar propelled economy, Large scale agricultural activities came to an end and stopped been the main source of the economy. Consequently, the development of the nation's rail infrastructure began to decline as there was little significant in upgrading and constructing new rail infrastructure as crude oil is mainly transported by pumping into the vessels for shipment and not transported through railway since crude oil was produced in the coastal areas (Enebeli Uzor, 2012).

By 1970s to the early 1990s, both the volume of passengers and goods carried by the Nigerian Railway had started to drop dramatically. Also, the economic viability of the rail transport sub-sector has declined tremendously due to the unstable government policies that challenged it (Adesanya, 2002).

Challenge of Kaduna- Abuja Express High way: The Kaduna – Abuja road is one of the most best route in Nigeria not only do travelers commute to engage in commercial activities it is also serve as a link between the Northern part of the country to the Federal Capital Territory, Abuja and to the East and West and Southern Part of Nigeria hence the importance of this road is enormous for the transportation of services and Agricultural goods to other part of the country, thus this road was categories as Trunk “A” this means that all Trunk “A” roads are at the ownership of the Federal Government which develop and maintain them , other Categories of Roads are “B” “C” and “F” roads.

The trunk “B” roads are owned and controlled by the states and the trunk “C” roads are under the local government ownership and management. The federal trunk “F” roads were formerly under the state ownership but were taken over by the federal government with a view to upgrading them to federal highway standards and transferred back on an arrangement.so, all the tiers of government has the responsibility for planning, construction and maintenance of the network of roads under its jurisdiction (Ighodaro, 2008), however one of the challenges that faces this roads are the poor condition of the road, these have cause a number of accidents and lost of lives and property alone the road. It is believed that the misappropriation of funds budgeted for maintenance and poor standard of construction are the main issues confronting the poor state of the highways.

Other factors that has been observed is the use of the road by herdsman and the littering of animal waste on the surface of road leads to quick

deteriorate of the surface pavements known as wearing course of the road as the animal waste form a rich compose for plant growth on the road surface and subsequently the growth of plants on the road surface thereby exposing the base lay and sub base layer to water and over time due to direct weathering process expand the sub base and create cracks on the surface of the road these gradual process has contributed to the poor condition of the road in most roads across the country .

Economic Impact: In 1893, railway construction was found to be the best form of transportation to link up the Nigerian coast to the hinterland this was expected to enhance the economic resources of the region to create economic development. Railway employment was very attractive after the construction of the first Lagos -Ibadan line, this project impressed the people by the desirability of having the railway line pass through their town not only to tap economic resource but also to provide jobs for their youth. Oyemakinde, W. (1974).

National development encompasses social, political as well as economic development which is defined as the attainment of a number of ideals of modernization such as a rise in productivity, social and economic equity, improved institutions and values. Economic development is thus an important aspect of general development in any nation (Falodun et al, 2010). In a research paper (Litman, 2010), economic development refers to progress toward a community's economic goals such as raise in employment rate, income, productivity, property values and tax revenues.

For economic development to take place there must be sustained quantitative and qualitative advancement in almost all the sectors of the economy. Most people use economic growth and economic development interchangeably. However, there is a difference between these two concepts. Economic growth means the increase in the quantity of goods and services produced in a nation which raises her national income. Lewis, W. (2003).

In other words, economic growth occurs whenever there is a quantitative increase in a country's input and output over a period of time or over years.

Economic growth can occur in a nation without economic development. In other words, a nation's economy can grow without maturing. However, development will not be possible without and cannot be isolated from economic growth since it is the engine on which other aspects of development run. Economic development will occur when people go on working, competing, investing and innovating even when they no longer need to do so to be rich

and also leads to the maturity of the quality and quantity of goods and services produced in a country, the transformation of her economy from primary to secondary sectors, changes in the citizens' creative energies and acquisition of special creative skills, Unlike economic growth, economic development reflects growth in all the sectors of the economy and this must be sustainable. Mabogunje (1981).

The economic impact of the intra-regional road linkages always brings development to the region and upgrade the commercial structure of the economies of the immediate users and impact on the state economic growth in general. It is evident that when movement of goods and services are hindered by poor road infrastructure there will be a direct impact on the local economy of the consumer of these services and goods as such rise in prices will be experienced, sustainable public transport gives numerous economic advantages to the country moving goods and service to where they can be used more efficiently. The operation of the rail way infrastructure started operation in July 2016, it was observed that movement of goods and service increase by 35% and have attracted small scale commercial activities into the rail station this have directly created

3 RESULT

The data was obtained from a secondary source that was used for the study. In writing this paper the use of existing literatures was adapted in developing the body of the paper also available Data was drawn from some of the existing literatures.

Table 1: The table above shows the passenger that travelled along the Kaduna – Abuja Road from 2015 -2018.

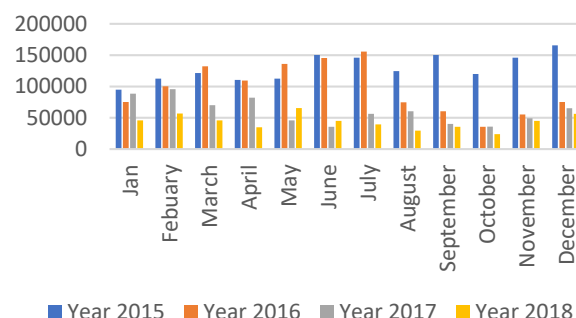
Month	Year	Year	Year	Year
	2015	2016	2017	2018
Jan	95000	75250	88530	4596
February	112455	100250	88530	5687
March	121560	132045	88530	4594
April	110500	109345	88530	3504
May	112450	135967	88530	6563
June	150245	145432	88530	4523
July	145900	155600	88530	3956
August	124600	74650	88530	2967
September	150246	60450	88530	3560
October	120000	35650	88530	2398
November	145954	55275	88530	4523
December	165450	75254	88530	5632

Source: Federal Road Safety Corp. Digest (2018).

Fig 1: The table above shows the passenger that travelled along the Kaduna – Abuja Road from 2015 -2018.

4 DISCUSSION

Background of the road to be reviewed –Kaduna – Abuja road is one of the most best route in Nigeria not only do travelers commute to engage in commercial activities it is also serve as a link between the Northern part of the country to the Federal Capital Territory, Abuja and to the East and West and Southern Part of Nigeria. According to Federal Road Safety Corp. (2018). The average number of users of the road 43757 passengers per Month.



Source: Author's (2019)

Fig 2: The Bar graph above shows the passenger that travelled along the Kaduna – Abuja Road from 2015 -2018.

5 CONCLUSION

The period under review is significant because the railway began its operation on July 27th 2016, hence it is necessary to study the significant change in passenger pattern in the use of both mode of transportation. From the information on the bar chart shows that there is significant reduction of road passengers from 2016, this can be attributed to the commercial operation of railway on July 2016. Also, the state of the road which leads to frequent accidents is one of the factors that discourage the users from plying the route and also the security situation have made passengers to opt for the railway service.

Presently, additional tracks are been constructed to increase the capacity of the rail service. The Economic benefit cannot be over railway emphasis as this has directly provided about 5000 jobs and 4000 indirect jobs within the rail transport sector. Finally, in other to reduce the pressure of the Kaduna – Abuja route, it is necessary for the government to develop a sustainable policy for the rail transport system so as not to lose the attention of subsequent government.

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Notes on Contributor

Prof Chunho Yeom, Ph.D. teaches Research writing, in the University of Seoul, Seoul, South Korea and his knowledge in research writing have contributed to this research paper.

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