

Road Investment and Traffic Safety in Nigeria

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ABSTRACT

This paper examined road investment and traffic safety in Nigeria; Nigeria has seen much of its transport network fall into disrepair in the wake of unprecedented recent economic and population growth as well as decades of under-investment in critical transport infrastructure. The terrible state of Nigeria's road networks has also continued to distort economic activities in the country. Nigerians believe that bad roads are the leading causes of road deaths and injuries. However, the goal of the safe systems approach is to ensure that even when crashes occur, they do not result in serious injury or death. It is proven that countries with a road safety strategy have better road safety records than those without a strategy.

Keywords: Road Investment, Transport GDP, Safety, Traffic, Consumer Price Index.

INTRODUCTION

Transportation is an essential part of human activity, and in many ways forms the basis of all socio-economic interactions. Indeed, on two locations will interact effectively without a viable means of movement.

The study of transportation is multi-disciplinary, involving various disciplines, each in a strict sense with its own area of emphasis. For instance, whereas pricing and regulation are the main areas of focus of economics, transport systems analysis is usually the interest of the engineer (Ikporukpo, 1998). It is generally recognized that the geographers' interest is essentially the spatial perspective (Hoyle and Knowles, 1992; Tolley and Turton, 1995).

There is hardly any human society or human settlement system that can function efficiently and effectively without adequate, reliable, safe and affordable transport systems. The most fundamental reason for this being the catalytic effect of transport development on socio-economic growth and development, transport can also play a significant role in territorial administration, political development, the defense of territories as well as in promoting regional cooperation (thought the flow of people and goods along the import-export corridors of neighbouring countries). Precisely, transport development is central in the developmental process for the economic and society to grow healthily. This is because transport influences and it is influenced by other sectors that make up, not only the total urban system (Stopher and Meyburg, 1975; NISER, 2001; Atubi and Opokala, 2004a and 2004b; Onokala and Atubi, 2007; and Atubi and Ali, 2008), but the entire human settlement system.

In many developing countries, inadequate transport facilities are often the norm rather than the exception. Thus, a good transport system is essential to support economic growth and development. Since the attainment of independence in 1960, the problems of Nigerian transport system include bad roads, inadequate and overcrowded trains and airplanes and congested ports. These are common features of the developing world. In line with these are physical problems such as dearth of suitably-trained transport managers and planners, capital restructuring bottlenecks, serious issues of institutional reforms and ineffective traffic regulations. The share of transport in Gross Domestic Product (GDP) is in the neighborhood of 3 percent (Proshare Transport Statistics, 2020).

Road transport is the most commonly used mode of transportation in Nigeria today. Road traffic depends on the pattern of human settlements, accounting for more than 90 percent of the sub-sector's contribution to the Gross Domestic Product (GDP). Road transport activities involve the conveyance of passengers en-masses 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 contributes tremendously to the importance of road transport in Nigeria. This is more predominant in Nigeria than in most other African countries because of the poor state of alternative means of transportation by which journeys could have

been made and also due to the psychological satisfaction offered by the possession of a car (Atubi, 2021a, 2020b; and Proshore Transport Statistics, 2020).

Nigeria has seen much of its transport network fall into disrepair in the wake of unprecedented fall in recent economic and population growth, as well as decades of underinvestment in critical transport infrastructure. Accounting for the majority of passengers and freight movements, Nigeria's road network plays a critical role in domestic transport and international trade, although the bulk of its network remains in poor condition and unpaved a challenge exacerbated by rising traffic volume (Atubi 2008e; Atubi, 2013d; Atubi, 2012h; Atubi, 2013c; Atubi, 2015b; Atubi and Suit, 2015).

Nigeria has remained behind in terms of its transport infrastructure across all sub-sectors. Population has constantly grown beyond the growth rate of deployment of capital on transport development. Nigeria currently has around 193,000km of roads – only circa 29,000km (15%) are paved and 30% of the paved roads have been assessed as being in poor or failed condition. Current neglect implies on N80 billion loss of net worth value and N35 billion additional operating cost each year (See Table 1).

Table 1. Comparison of Nigeria Transport Infrastructure with the BRICS Countries

Country	Population (million)	Length of paved network (km)	Length of road covered network (km)	Number of airports with paved runways	Length of waterways (km)
Nigeria	170.1	28,980	3,505	40	8,600
Brazil	199.3	96,353	28,538	713	50,000
Russia	142.5	776,000	87,157	593	102,000
India	1,205.1	1,660,205	63,974	251	14,500
China	1,348.2	3,056,600	86,000	452	110,000
South Africa	48.8	73,506	20,192	145	Unspecified

Source: CIA World Factbook, 2018

Annually, Nigeria loses billions to vehicle maintenance due to bad roads to the ton of over N133.8 billion. The value of losses has increased by almost 100 percent compared to 2003. In 2003, the central bank of Nigeria announced that, the annual loss of the Nigerian economy due to bad roads was N8 billion and the additional operating cost of vehicles due to potholes (bad roads) is N53.8 billion (CBN, 2003). The CBN (2021) is calling for asset managers for a new \$2.6 billion infrastructure investment company that aims to facilitate transport network projects and boost economic growth,

This call comes at a time when the country's economy suddenly came out of recession necessitated by the multiple factors like the global oil price slump and the Covid-19 (coronavirus) pandemic outbreak of 2020. Even though Nigeria has exited a recession, the economy is still very fragile. Therefore, the government is making this move to accelerate growth in the economy as transport infrastructure plays a vital role in the country's economy.

Building Sustainable Transport Infrastructure and Investment in Nigeria

Sustainable transportation is any means/mode of transport that does not impact negatively on the society or the environment but enhances economic growth, promotes trade opportunities, and improves access to basic facilities (Atubi, 2015b; Eromosele, 2020).

The United Nations (2016) defines it as a transport means that better integrates the economy while respecting the environment. For a transport system to be reckoned with as sustainable, it must be economically, morally and environmentally friendly.

Transportation infrastructure in Nigeria includes road and highways, railway, canal and navigable waterways, seaports and lighthouses, airports, mass transit system, bicycles and pedestrian walkways and ferries. Transportation infrastructure is very essential for the economic and social development of all countries as well as for supporting regional and global co-operations and economies.

Nigeria will lead other sub-Saharan African countries in transport construction with an investment portfolio rising from \$7.6 billion in 2019 to \$9.8 billion in 2020 (Alade, 2019).

The Nigerian government is investing \$1 billion on three flagship road projects in Nigeria. It has also approved executive order 7, which essentially mobilizes private investment through a tax credit scheme to encourage the private sector to invest in

road construction for tax rebates. The three flagship projects are: the Lagos-Ibadan expressway, second Niger bridge, and Abuja-Kaduna – Zaria – Kano expressway. This is a PPP (Public Private Partnership) programme to mobilise, at first over a trillion naira in private investment for the development and maintenance of 1,963km of 12 roads (Ugoeze and Daka, 2021).

Bad roads are a major problem in Nigeria. Traveling through major interstate highways, Nigerians have to endure bumpy rides along routes marked by twists, bends, flooding, potholes and traffic backlogs resulting from the closure of sections of highway. It was also observed that 82% of Nigerians believe that bad roads are the leading causes of road deaths and injuries. Also, 540 people died and 3,953 were injured in 950 road traffic accidents in January this year (Unah, 2021; FRSC, 2021).

Around 68.3% of Nigeria’s 194,200km network of roads are unreliable and in poor condition (National Integrated infrastructure Master Plan report, 2013). It was also found that only about 65,000km of the total national road network is paved in bitumen, even though 95% of passenger and freight traffic travels by road. Several factors have combined to increase the problem in Nigeria, including an explosion in the number of vehicles (from only 150,000 vehicles in 1983 to around 11.5 million now), poor road maintenance, and inadequate investment and neglect. Some highways are today on the brink of collapse. Unfortunately, budgetary allocation to road projects has repeatedly proven to be insufficient to meet road infrastructure demands.

Nigeria’s Gross Domestic Product from Transport Investment

Looking forward, it is estimated that GDP from transport in Nigeria will stand at 237369.00 in 12 months’ time. In the long term, the Nigeria GDP transport is projected to trend around 271317.00 NGN million in 2022 and 278871.00 NGN millions in 2023 according to econometrics models (National Bureau of Statistics, 2021).

Gross Domestic Product (GDP) from transport in Nigeria decreased to 231805.43 NGN millions in the first quarter of 2021 from 258748.42 NGN millions in the fourth quarter of 2020 (See Fig. 1.)

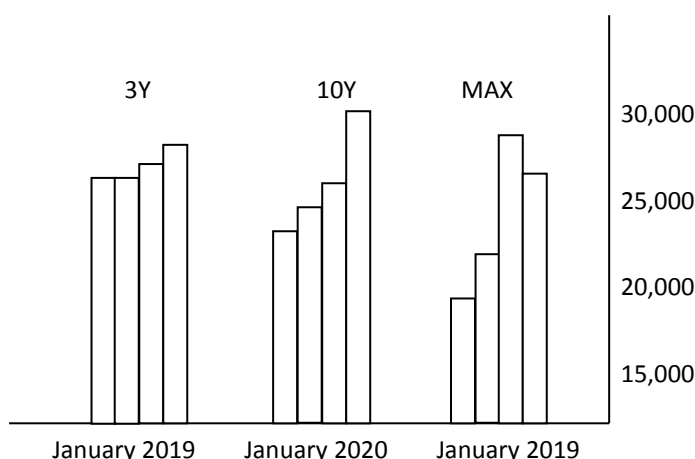


Fig. 1. Add figure captions

Looking forward also, it is estimated that consumer price index (CPI) transportation in Nigeria will stand at 376.65 in 12 months time. In the long-term, the Nigeria CPI from transportation is projected to trend around 402.83 points in 2022 and 441.10 points in 2023 according to the econometrics model (NBS, 2021) (See Fig. 2).

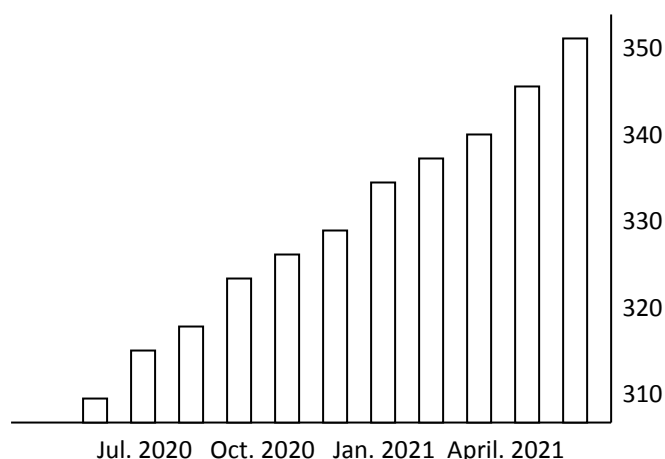


Fig. 2 Add figure captions

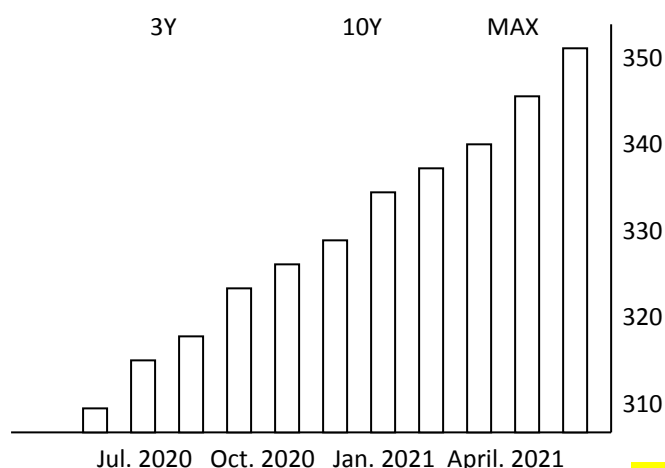


Fig. 3 Add figure captions

Transport and storage (TS) data was reported at 865,745,514 NGN million in March 2021. This records an increase from the previous number of 802,704,415 NGN million for December 2020. Nigeria GDP; basic prices: Services: Transportation and storage (TS) data is updated quarterly, averaging 348,994.999 NGN million from March 2010 to March 2021. The data reached an all time high of 953,991.119 NGN million in March 2020 and a record low of 115,847.319 NGN million in March 2011 (NBS, 2021).

The transportation sub-index of the CPI bracket in Nigeria increased to 334.80 points in May of 2021 from 331.20 points in April of 2021 (See Fig. 3 and Table 1).

Table 1: Nigeria – Consumer Price Index – CPI.

Month/Year	International	Accun. Since January	Monthly variation
May, 2021	14.9%	6.1%	1.1%
April 2021	14.9%	5.0%	1.1%
March 2021	14.7%	3.8%	1.3%
February 2021	14.1%	2.5%	1.3%
January 2021	13.6%	1.2%	1.2%
December 2020	13.1%	13.1%	1.2%
November 2020	12.6%	11.7%	1.2%
October 2020	12.1%	10.3%	1.2%
September 2020	11.7%	9.1%	1.2%
August 2020	11.2%	7.8%	1.1%
July 2020	10.8%	6.6%	1.1%
June 2020	10.4%	5.5%	1.0%
May 2020	10.1%	4.4%	1.0%

Source: NBS, 2021

CPI – Transport 2021

Investment Opportunities in Road Transportation in Nigeria

These include the provision of:

- Modern buses equipped with communication system
- Trams to facilitate passenger investment in both rural and urban areas

- Suitable haulage trucks for goods and services
- Service facilities at the terminals on both the highways and destinations
- Collection of tolls for the use of the service facilities provided to help sustain the system
- Computerization of services to enhance efficiency and control of operations
- Commercialization of terminal facilities
- Central terminals in various urban and rural locations in the country with service facilities

Traffic Safety in Nigeria

Driving in Nigeria will feel as foreign as the new foods travelers will taste. Road conditions are poor at best with potholes, poorly lit areas and a lack of signage and working traffic signals. All of these elements add up to one very dangerous driving situation for travelers. Because of the many difficulties one will encounter when driving the idea of using public transportation may be appealing. However, this is not the case in Nigeria.

Nigeria loses about 80 billion naira annually to road accidents of all subjects that are involved in road traffic accidents in Nigeria, 29.1 percent suffer disability, and 13.5 percent are unable to return to work (Labinjo et al, 2010, Atubi, 2012a and 2020a).

According to the latest WHO data published in 2018; road traffic accidents deaths in Nigeria reached 40,061 or 2.07% of total deaths. The age adjusted death rate 29.50 per 100,000 of population ranks Nigeria 41 in the world.

Although Nigeria's road traffic fatality rate has reduced dramatically in recent years, it is still high at a reported 6,450. The WHO estimates this number to be much higher, approximately 35,641. In response to the UN decade of action Nigeria has committed to fatality reduction target at 50% by 2020 and 2030 SDG 3.6 targets.

The causes of accidents has been listed to include speeding (4-5 percent), driving under the influence of alcohol and other psychoactive substances, non-use of motorcycle helmets, seat-belts and child restraints, distracted driving, unsafe road infrastructure, unsafe vehicles, inadequate post-crash care, and inadequate law enforcement of traffic laws (WHO, 2018; Okogba, 2018; Atubi, 2007b, Atubi and Onokola, 2007c; Atubi and Onokala, 2009; Atubi and Ugbomeh, 2009).

Virtually all of the causes are prevalent in Nigeria, especially, unsafe road infrastructure, most of the road networks are in decrepit state and can best be described as roads to hell where human lives are wasted daily.

However, some of the road safety approaches in Nigeria include;

i. Seat Belts

No matter how you will drive there is always a chance that you will be involved in an accident. You cannot predict when it may happen. From statistical analysis of road traffic accidents in Nigeria since independence the chance that one will be injured in an accident in his life time is 1:3; that he may be killed in an accident is 1:9. The best protection inside the vehicle is the use of seat belts (Federal Road Safety Commission Highway Code, 1997). Similarly, the use of seat belts in Nigeria was optional, hence many vehicle are not fitted with seat belts. In those that have them, they are not being utilized by drivers and passengers alike. But currently, the Federal Road Safety Commission has made the use of seat belts compulsory to all motorists with effect from July 1st 2005 (The Guardian Newspaper, July 2nd, 2005, p. 14). In most developed nations especially Britain, a lot of money has been sunk into the implementation of the use of seat belts. The seat belt is an example of an active intervention for occupants because it requires some action on the part of the users. Its effectiveness in preventing injury and death in motor vehicle collisions has been well established by many earlier research studies (Final rule, 1984; Mueller et al, 1988; Rivera et al, 2000).

ii. Motorcycle Helmets

Safety helmet worn in the correct way and properly fastened in the most effective way could increase your chances of surviving an accident (Federal Road Safety Commission Highway Code, 1997). In the time past, various laws were enacted by Federal, State and Local governments to curb the excesses of the riders. These include the National Road Traffic Regulation of 2004 and FRSC Establishment Act 2007 to mention but a few. The acquisition of motorcycle helmets is well within the budgets of the people who afford motorcycles in this country. In addition, promulgating helmet laws has been associated with significant decrease in mortality and injuries sustained from motorcycle crashes (Fasakin, 2000; Fasakin, 2002). When a motorcycle is acquired, purchase of an approved helmet should be encouraged or even mandatory in low-income countries (LICs) given the feasibility and potential sustainability of this intervention.

Just like seat belts have proven effective in motor vehicle crash related injury reduction, motorcycle helmets have proved effective in motorcycle crash related injury reduction making motorcycle helmet laws a strategy with proven effectiveness. Infact,

recent research findings in setting other than the United States corroborate the evidence for the effectiveness of mandatory motorcycle helmet laws (Tsai et al, 2000; Conrad et al, 2001; Atubi, 2006).

iii. Speed Limits

Drivers often think that the faster they drive, the more they impress themselves and others. They fail to remember that anybody's tyre can burst that accidents at high speed are more disastrous than accidents at low speed; that the vehicle is a machine and can fail at any time. At 100kmph, your vehicle moves at 28 metres per second, just imagine where you could be in only one second if you veer off the road which is usually less than 12 metres wide. (Federal Road Safety Commission Highway Code, 1997; Atubi, 2020b). The Federal Road Safety Commission also imposed speed limit for all categories of vehicles i.e. 100kmph maximum speed for all private cars, 90kmph for commercial vehicles and 60kmph for trucks. But common sense often dictates lower speed limits. Speeding on highways is a major cause of traffic crashes. The effect of speed on causing traffic related crashes, injuries and deaths has been documented in many settings (Farmer et al, 1999; Posada et al, 2000). For example, the 1995 repeal of the United States national maximum speed limit, allowing states to raise interstate speed limits, resulted in a 15% increase in fatalities in 24 states that raised speed limits. In Adelaide, Australia the risk of severe crash involvement was found to increase as vehicles speed increased (Moore et al, 1995). Infact, the over 20% reduction in traffic crashes and deaths in Brazil has been partly attributed to speed limits which have been posted on many roads since 1998 (Polidefigueiredo 2001).

iv. Public Education Targeting Motorists

Your safety depends on what you see and how you react. If you need spectacles to meet the official eye sight standard, wear them. It is an offence to drive with uncorrected defective vision. For example, a Nigerian study found a third of taxi drivers to have poor vision (Alakija, 2003). Although the findings from a 1999 study revealed the ineffectiveness of driver education for young drivers (Vernick et al, 2001), there is some evidence that general public education along with some behavioural modification that targets motorists may have some impact on road safety. One area is education of motorists on posted traffic signs. A recent study in three countries i.e. United States, Sweden and United Kingdom, showed that comprehension of 28 posted traffic signs for drivers were related to years of driving experience (Al-madani, 2000)

v. Traffic Control by Signs

A thorough knowledge of traffic signs, signals, road and markings together with signals by authorized traffic officers are to ensure a smooth and safe traffic flows. You must know them and be able to recognize them immediately. In the case of regulatory signs such as stop at intersection, stop police, stop highway survey, no left turn, no right turn, No "U" turn, No entry for lorries, no waiting, etc, you must obey them without hesitation.

CONCLUSION

Government policies will be critical in shaping the direction and prioritization of investment in transport infrastructure projects. Federal government must embark on a realistic and honest assessment of our national transport sector. Unfortunately, the nation has come under the burden of economic challenge of Covid-19 pandemic and the dwindling oil fortunes.

However, with every emerging problem, man is faced with the responsibility of getting a solution. Unfortunately, with the technical ability to solve such problem such as road traffic accidents more complex than ever before and despite all the method of movement, the problem is how to move safely.

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