

# Road Transportation Network

## Inadequate road network: Opportunities for public-private-partnership investment

Moses Ojo  
moses.ojo@panafricancapitalplc.com

Infrastructure development is critical to delivering growth, reducing poverty and addressing broader development goals. Lack of access to basic infrastructures continue to undermine standard of living of people in the country, aspiration for growth is fuelling the expansion of infrastructure network across the country. Nigeria has made important progress in improving the state of its infrastructure in the recent past, compared to a number of countries in sub-Saharan Africa. Unlike some other countries in the West Africa region, Nigeria has developed infrastructure backbone that have a national reach, however the condition of the road network is poor and as a result, connectivity is impaired due to lack of financing. There is annual infrastructure financing gap of US\$8.0 billion and a sum of US\$2.9 trillion will be needed over the next thirty years to bring the state of infrastructure to the minimum international standard. Similarly, road project financing is estimated to be about ₦500 billion annually over the next ten years; the yearly budgetary allocation will be inadequate for the financing need. At the time of independence in 1960, the road network in Nigeria was about 6,500 km and in 2010 it was estimated to be 197,000 km and about 18% of it was paved. The Federal primary road network accounts for 9% of the total roads in the country, while all the State Governments are managing secondary roads which accounts for 24%. The balance of 67% is tertiary and feeder roads which are under the jurisdiction of Local Governments.

The road network in Nigeria is responsible for about 90% of the internal and cross-border freight in the country; however major traffics are being generated in main towns, state capitals, sea ports and inland ports, however approximately 30 km of the total road network is located in the urban areas of the country. Nigeria has road density of 0.21 km per sq. km of land area compares with an average of 0.06 km per sq. km for West Africa and Central Africa regions combined. The road density for Nigeria is roughly the same as that of South Africa, Mexico, Brazil, Indonesia and Pakistan. However, the peculiar issue with Nigeria is that the quality and quantity of road service is inadequate due to lack of maintenance which has led to the dilapidated state of road networks. Significant portions of the road network are in poor condition subjecting the process to capacity constraint, with a poor road safety record and weak traffic and safety law enforcement. It was estimated that about 40% of the Federal primary road network is in poor condition and therefore are in need of rehabilitation; 30% is in fair condition and in need of periodic maintenance and about 27% is in good condition. In addition, States and Local Government's road networks was estimated to be about 160,080 km 85% of which was adjudged to be in good condition while 9% needs constant maintenance and rehabilitation and only 6% was considered to be in good condition.

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### Road Transportation and Urbanisation

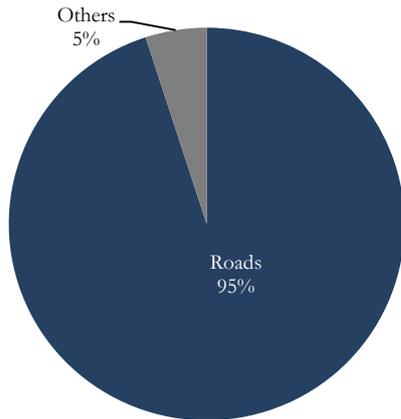
A number of problems have emerged in the Nigerian urban transport system which includes; bad roads and inadequate fleet of buses and trucks, also there are other institutional issues such as dearth of well-trained transport managers and city planners, lack of coordination and ineffective regulation of traffic also exists. The population of Nigeria's large cities like Port Harcourt, Kano, Lagos and Kaduna are characterised by high growth rates driven by both migration from rural areas and natural growth. For example, the rapid urbanisation of Lagos metropolitan area combined with inadequate or poorly executed development plans has given rise to numerous transportation challenges which include increasing traffic congestion, worsening bad state of roads, lack of adequate vehicle parking facilities, walk-ways and public spaces, rising level of road accidents, increasing rates of traffic-related emission and the growing menace of motorcycle (okada) and tricycle transporters.

In 2010, the total number of vehicle fleet in the country was estimated to consist of 5.2 million four-wheel vehicles and 5.3 million two-wheel vehicles; the fleet was growing at about 10% annually in the last one decade. Nevertheless, in 2007 there were only 31 four-wheel vehicles per a thousand persons in Nigeria which is low compared with 79 for Indonesia, 165 for South Africa and an average of 270 for Brazil, Mexico and Russia. The road transport sub-sector of transport industry is currently consists of large numbers of small-scale operators of goods and passengers vehicles. Furthermore, the number of large buses in Lagos is small relative to other African cities whereas the minibus fleet in Johannesburg and Nairobi are comparable with Lagos after adjusting for the population size of each city. Mini-buses and shared taxis also accounts for a large share of the passenger traffic movement; taking together the two modes of transportation represents 77% of passenger traffic in Lagos compared with 68% in Nairobi, 56% in Johannesburg and 52% in Abidjan. The share of passenger traffic accounted for by large buses was 2% in Lagos compared with 13% in Abidjan. Moreover, the number of seats per 1,000 persons for private cars, large buses and mini-buses in Lagos are only three large bus seats per 1,000 persons. This is lower than in comparable cities, but there are 137 mini-bus seats per 1,000 persons in Lagos which is the highest among comparable cities.

Lack of maintenance has been the most important factor contributing to the deterioration of road infrastructure in the country, other factors such as lack of enforcement of axle loads for roads and bridges have also accelerated the deterioration of the quality of transport infrastructure. In addition, large volume of heavy duty trucks plying the highways with heavy and bulky loads are contributing to the speedy deterioration of roads in the country.

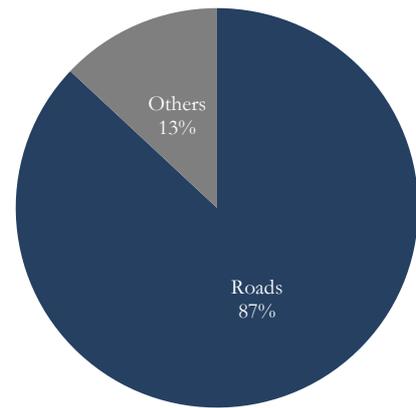
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**Fig. 1: Proportion of road transportation in Nigeria**



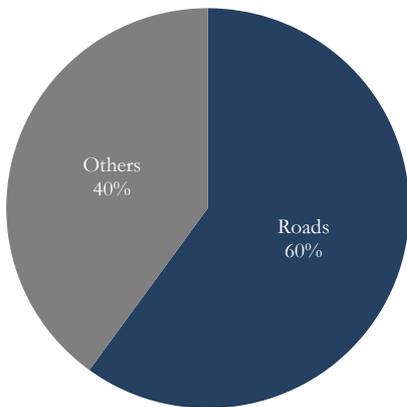
Source: Pison Housing Company, PAC Research

**Fig. 1: Proportion of road transportation in South Africa**



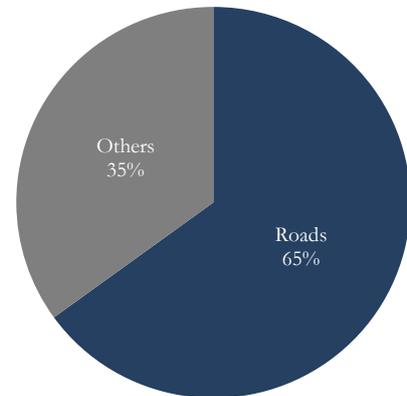
Source: Pison Housing Company, PAC Research

**Fig. 1: Proportion of road transportation in the United States**



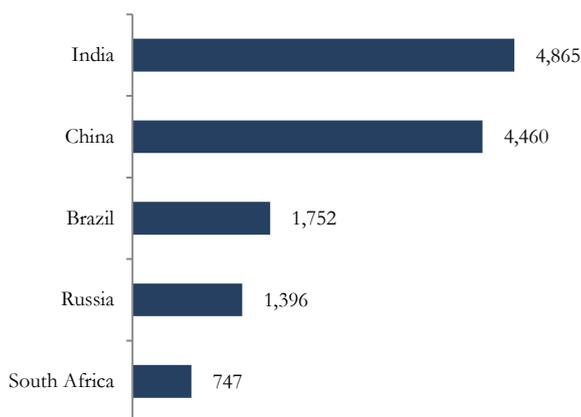
Source: Pison Housing Company, PAC Research

**Fig. 1: Proportion of road transportation in the United Kingdom**



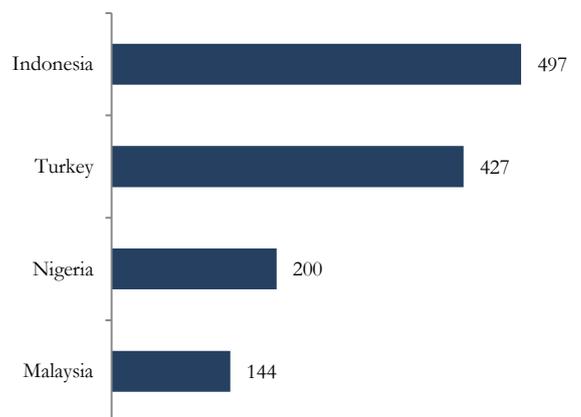
Source: Pison Housing Company, PAC Research

**Fig. 1: Length of road networks in BRICS countries (000' km)**



Source: CIA Fact Book, PAC Research

**Fig. 1: Length of road networks in MINT countries (000' km)**



Source: CIA Fact Book, PAC Research

### Road construction and maintenance financing in Nigeria

Over the years, the financing of road projects has been through a meagre annual budgetary allocation which has proved inadequate to fund road infrastructural development. On the average, the annual funding requirement for road projects was estimated at ₦500 billion over the next ten years against actual spending of about ₦102 billion in 2012 and about ₦15 billion in 2015. Consequently, the funding gap between the actual amount of money being spent annually and the required amount has proven to have negative consequences on the development of road infrastructure in the country. Furthermore, it has become imperative for both the Federal and State Governments to source for alternative means of funding in order to achieve the objective of keeping roads in good condition as well as planning for construction of new roads.

Public-private-partnership is an instrument to crowd-in the private sector participation in infrastructure development; this has in recent decades boosted both the coverage and efficiency of infrastructure delivery. In the past one decade, private participation in infrastructure has proved to be the game changer in infrastructure financing and it reached US\$160 billion globally in 2010. The following models are available for PPP transaction in Nigeria:

- **Design-Build or Turnkey Contract:** The private sector designs and builds infrastructure to meet public sector performance specifications
- **Design-Build-Operate:** The private sector designs, finance and construct a new facility under a long term lease and operates the facility during the term of the lease and transfer the asset to the public sector at the end of the lease
- **Build-Operate-Transfer:** A private entity receives a franchise to design, finance, build and operate a facility for a specified period after which ownership is transferred back to the public sector
- **Buy-Build-Operate:** The transfer of a public asset to a private entity usually under contract that the asset is to be upgraded and operated for a specified period of time.
- **Build-Own-Operate:** The private sector finances, builds, owns and operates a facility or service in perpetuity
- **Build-Own-Operate-Transfer:** This is an extended version of Build-Own-Operate model where the private sector builds, owns and operate a facility for a specified period as agreed in the contract and then transfer the asset to the public.

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