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Challenges of urban transportation in Nigeria

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Abstract

Transport remains a non-negotiable instrument of city development and functioning as the urban centres worldwide rely on efficient transportation for functional efficiency. An important feature of urbanization in Nigeria is that of rapid growth and uncontrolled horizontal motion of city. All these, coupled with inadequate transport infrastructure and services has dramatized urban transportation into chaotic, complex and almost intractable nature. Generally, Nigeria's transport system revealed a sector suffering from a warped developmental approach thus constituting overwhelming challenges on urban transportation. The study suggested among others, a combined efforts and understandings of academia, transport practitioners and policy makers at various tier of government towards lasting solutions to urban transportation challenges in Nigeria.

Keywords: Urban Centre, Urbanization, Transportation, Challenges

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1. Introduction

Metropolitan cities in the recent time have grown to the point where they threaten to strangle the transportation that made them possible. Up to the 1970s in Nigeria, it was relatively easy to move from one part of the city to the other (Ikya, 1993). Within a period of two decades or so, urban transportation dramatized into chaotic, complex and almost intractable nature such that most cities almost reached a level of relative immobility.

In Nigeria of today, every urban centre is confronted with transportation challenges that seem to grow worse as these areas continue to grow. In this article, challenges of urban transportation in Nigeria are examined. The importance of transport in the functioning of urban centre, urbanization and attending transport problems are critically examined as prelude to the understanding of issues in urban transportation challenges in Nigeria. The suggested measures for better urban transportation in the country conclude the article.

2. Transport - The instrument of urban development and functioning

Transport has been described as the basis of how cities work (Ikya, 1993; Solanke 2005; Ademiluyi and Solanke, 2007). The city of today is very complex. It is made up of living, functioning and interacting parts. It covers large expanse of land and accommodates varied activities. In order to allow the necessary functional inter-relationships among the different land uses in urban areas, cities are served with transport facilities. Transport systems are the veins and arteries of urban areas; linking together social areas and functional zones. Intra-urban transportation in particular functions to integrate various parts of the city: work, school, recreation, etc into a unified whole. The urban centres as we know today are therefore not possible until transport allows the movement of people and goods that make them function.

There are overwhelming evidences to show that cities of today depend on transport for efficiency. For instance, food items and raw materials must be conveyed to the different land use types where they are needed. Food items are moved to residential areas, and raw materials to industrial land-use. Waste generated must be collected and removed. To pay for the food and manufactured materials, people must work. Manufactured goods produced must be distributed. The urban residents must be on the move constantly in order to make urban activities and functions among others possible; and this movement is allowed by a mechanism- Transport. Transport therefore remains a non-negotiable instrument of city development and functioning.

3. Urbanization process

Urbanization refers to a process of concentration of the population in large numbers in an urban centre and transformation of the society involving migration and economic changes. According to Oyesiku (2002), it is essentially a settlement process, in which a new set of settlement pattern emerges as a result of shift in

sectorial economy and changes in intra-sectorial composition of the economy. Urban centres are known to have been in existence for several thousand years, though their sizes were relatively small and varied spatially.

The world population was first estimated in 1650 to be about 500million people; rose to 1.1billion in 1850 and 2.5billion in 1950. Between 1950 and 1980, the population increased to 4.5billion and by the turn of the beginning of the last century there were estimated 6.25billion people on the world (Oyesiku, 2002).

Two important remarkable changes are noticed in the above world population growth pattern. The first is the increasing rate of urban population growth and the second is the increasing rate in the number and sizes of cities. As shown in Table 1, in 1950, 29.1% of world population was estimated to live in urban centres, this rose to 42.7% in 1990, 52.0% in 2010 and to reach 57.7% by 2020. By implication, the world population estimated at 6.3billion in the year 2000 had an urban population of about 3billion people. Furthermore, available evidence revealed that while the world population increased by about 69% between 1970 and year 2000, urban population increased by 115% (Oyesiku, 2002).

Table 1. Observed and Projected World Population (000's)

| Year | Total Population (000's) | Urban Population as % of Total Population |
|-------------|---------------------------------|--|
| 1950 | 2,515,312 | 29.1 |
| 1930 | 3,019,376 | 34.1 |
| 1970 | 3,697,918 | 37.2 |
| 1980 | 4,450,210 | 39.8 |
| 1990 | 5,292,178 | 42.7 |
| 1995 | 5,765,861 | 44.5 |
| 2000 | 6,251,055 | 46.6 |
| 2010 | 7,190,763 | 52.0 |
| 2020 | 8,062,274 | 57.7 |

Source: Oyesiku (2002:13)

In terms of number of cities, it is interesting to note that in 1950, there were 557 urban centres, each with a population of 100,000 or more in the more developed countries while 349 featured in less developed countries (Oyesiku, 2002).

The 1980 estimates revealed that out of the expected 2201 urban centres of the world, the less developed countries would account for 1140, an almost 52% of world total and a triple increase in thirty years, while the number for the more developed countries would have risen to 1061.

In a similar perspective, the United Nation's estimates of concentration of large cities across the world reveal that by year 2015, not less than 60% of millionaire cities would be in East Asia, 30% in America and 1% in Africa (Makinde, 2000; UNDP, 2001).

It is important to stress at this juncture that while the incidence of urbanization is a global phenomenon; its process is not the same across the developing and developed countries. For instance, while cities have emerged through the process of urbanization in the developed countries as a consequence of industrialization and economic development which brought about transformation of demographic composition and changes in intra sectorial composition of the economy, the urbanization and city growth in developing countries are characterized by rapidity of urban increase. Urbanization occurred partially as a result of industrialization and economic development but substantially by social and cultural factors (Oyesiku, 2010). Indeed, the pattern of urbanization in the developing world is adjudged to be faster than the level of industrialization and overall economic development leading to what scholars have described as over-urbanization.

4. Urbanization in Nigeria

In Nigeria, urbanization has a fairly long history. Historical perspective reveals that extensive urban development in Nigeria is a feature of 19th and 20th centuries. In other words, extensive urban development predates the advent of colonization. The Hausa-Fulani Empire of the Northern Nigeria for instance had some large cities, which served as administrative and religious centres of the emirate. According to Mabogunje (1968) Kano had a population of about 30,000 around 1855, while Zaria had a population of about 45,000 in 1925. Other noticeable cities in the 19th century in the Northern Nigeria include Yauri, Gumel, Katsina and Sokoto whose growth and development was attributed to trade and administration.

In the Southern part of the country, urban development began in the 18th century and is associated with the founding and growth of the Oyo and Benin Empires. As far back as 1857, Hinder, a missionary, estimated the population of Ibadan to be 100,000. Abeokuta 60,000, Ogbomosho, 50,000, Ilorin 70,000 and Isonyin 24,000. Trading, marketing and administration were major factors responsible for growth and development of these cities.

The second half of the 20th century witnessed rapid rate of urbanization. The introduction of wheeled transportation, particularly Railway and road; categorization of settlement into hierarchical order of township and introduction of monetized economy and consequently production of cash crops and

exploitation of mineral resources which led to the development of 'islands' of economic and administrative concentration such as Lagos, Ibadan, Kaduna, Jos and Enugu (Oyesiku, 1998). Other two important factors that can be linked with growth and development of cities in the country are: (i) continuous geopolitical restructuring, through creation of states and local governments and (ii) the industrialization process between 1960 and 1975, which was based on import substitution strategies and consumer market for imported goods and services.

The increasing level of concentration of people in urban centres of Nigeria is summarized in Table 2. Nigeria was 10.2% urbanized between 1952 and 1954. This increased to 19.2% in 1963 and jumped to 42% in 2002. Estimation also suggests further increase to 68% by 2020. The case of Lagos is particularly unique. It has one of the fastest growth rates in the world (between 5 and 8 percent per annum) and has become one of the 15 largest agglomerations in the world. In fact, it is expected to be the third most populous city in the world by 2015 (World Bank, 2003).

An important inference from the pattern and level of urbanization in Nigeria is that the rate of urban growth remains one of the highest in the world; and the rate of urbanization far outstrips the pace of economic development.

The increase in the rate of urbanization and the growth in the number of cities are not as alarming as the scaring and unsatisfactory situation in the cities. The alarming situation of urban transportation in the wake of ever increasing growth and level of concentration of cities in the country is of great concern and discussed next.

Table 2. Nigerian Population 1921-2020

| Year | Total population 000s | Urban Population as % of Total Population |
|-------------|------------------------------|--|
| 1921 | 18,720 | 4.8 |
| 1931 | 20056 | 6.7 |
| 1952/54 | 30,402 | 10.2 |
| 1963 | 55,670 | 19.2 |
| 1972 | 78924 | 25.1 |
| 1991 | 96684 | 33.0 |
| 2002 | 120.000 | 42.0 |
| 2020 | 160000 | 68.0 |

Sources: Population censuses of Nigeria, 1952, 1963 and 1991 and projections of same based on 5% annual growth rate for urban areas.

5. Urban transport situation

Urban transportation physically takes place on land, waterways and in the air. The movement on land is characterized by private automobiles, walking, bicycles, motorcycles, tricycles, buses and coaches. The rail system comprises of surface rail, tram, metro lines, subways and underground. The inland waterways are made up of the lagoons, creeks, ports and sometimes the lakes on which both ferries and hovercrafts are the major vehicles for mobility within the cities. City transport by air is usually by helicopter and, in mountainous areas, by overhead cables. The seaports serve as the interface between the land and the sea.

The above forms of vehicular movement as well as pedestrianization are function of trip purpose, spatial distribution and location of the places of residence of the people, the level of technological development in the city and the region, the size and characteristics of the population. The type of transport system that is used is dependent to a great extent on the level of technological development of the people and the society; how the people perceive the quality of life they want, the organizational structure of the city and also the available manpower for transport management. Irrespective of the transport system adopted, the reality is that the use of transport systems and modes is associated with one form of challenges or the other. It is indeed the management of these challenges that constitute herculean task for transport scholars and researchers. In what follows, the challenges of urban transportation are presented with reference to Nigeria.

6. Challenges of urban transportation

The transportation system in urban centres of Nigeria is beset with numerous challenges. Generally, the analysis of Nigeria's transport system revealed a sector suffering from warped or defective developmental approach (Badejo, 2011). There is evidence of skewed modal development tilted in favour of road transportation to the disadvantage of other means of transportation.

Demonstrating its predominance, road transportation accounts for about 90% of both freight and passenger transport in Nigeria; in a sharp contrast to its natural advantage of being good for short to medium distance freight haulage. Nowadays, road transport is almost solely responsible for the carriage of bulk goods throughout the length and breadth of the country. Whereas goods arriving by water are economically cheap to be transported from the port by rail or inland waterways, the ports, except in the case of Port Harcourt and Apapa ports have neither rail nor waterways connection leaving road as the only option. This obviously constitutes improper use of the road and unfortunately has translated into a huge national burden; affecting smooth flow of traffic in urban centres.

In a nutshell, the urban transport challenges in Nigeria today include traffic congestion, parking problems, accidents and environmental pollution. In some major cities, vehicles are seen crawling on the roads especially in both the morning and evening peak periods. This amounts to daily loss of time and energy in our various urban centres.

In most cities, majority of the urban populace depend on public transport for their mobility needs; This is dominated by the private sector operating such vehicles as taxi; para-transit mini buses, fare paying

passenger carrying private cars (also known as 'kabukabu') and motorcycles (two wheel) and three-wheeled motorcycles operated in most urban centres.

In most cities, demands for parking far outweigh available supply. According to Kombs (1988), inadequate parking space accounts for 34% of parking problems in Lagos. Noise pollution is also a noticeable feature in urban centres. According to Musisi-Nkambwe (1986) transport accounts for 50% of unwanted sounds in the city and create irritation, dissatisfaction and disturbance to urban residents.

Behind these challenges are some basic factors. Population and spatial forms of the city are growing at fast rate creating a greater demand for transport infrastructure and services. For instance, Nigeria's urban population has been growing at an annual rate of about 12% (Badejo, 2011), thrice more than the overall growth rate (3.4%) of the nation. While cities keep attracting droves of population from the peripheries, the cities, in turn are bursting at the seams. On spatial forms the example of two metropolitan cities; Ibadan and Lagos in Nigeria elucidates the realities of horizontal motion of cities.

Table 3. Successive Land Cover change in Ibadan 1930-2001

| Year | Extent of Growth (km²) |
|-------------|--|
| 1830 | 5.40 |
| 1934 | 12.50 |
| 1963 | 30.00 |
| 1970 | 103.80 |
| 1973 | 112.00 |
| 1981 | 136.00 |
| 1984 | 176.00 |
| 1988 | 214.00 |
| 1997 | 322.00 |
| 2001 | 348.46 |

Source: Bello, 2001

In the case of Ibadan, the area covered was about 5.4km² in 1830. This increased to 12.5km² in 1934. In 1963 it was 30km², an increase of about 52% in 30years. In 1970, the total land area enveloped by the city was 103.8km² which reached 136km² in 1984. In 2001, the total land area covered by development in Ibadan has reached about 348km² (see Table 3). In a nutshell, within a period of 68years, the city of Ibadan expanded by over 2,680%. This has a great implication on transport infrastructure and services.

The case of Lagos presents a more interesting feature. It covered about 3.97km² in 1866. This increased to 70km² in 1950. By 1976, the development had enveloped about 271.2km² and increased to 355km² by year 2000 (Table 4).

Table 4. Successive Land Cover change in Lagos 1866-2000

| Year | Land Area (sq.km) |
|-------------|--------------------------|
| 1866 | 3.97 |
| 1911 | 46.08 |
| 1921 | 51.64 |
| 1931 | 65.51 |
| 1952 | 69.68 |
| 1974 | 178.36 |
| 1988 | 264.18 |
| 1990 | 298.00 |
| 1995 | 302.10 |
| 2000 | 355.00 |

Source: Extracted from Oyesiku (2010)

The rapid growth of urban population and the horizontal motion of city put serious pressure on existing urban facilities and infrastructure of which the physical mobility is included. The issue therefore remains how to use available urban space to meet the conflicting and ever increasing demands for infrastructure and services and the overall development of the city.

7. Conclusion

It is an established fact that consequent upon rapid population growth and horizontal motion of cities, so widespread are the dimensions of transport challenges in urban areas; although each city/town has its own specific transport problems. Several measures had been attempted to improve urban transport challenges in the country (see Adeniji, 1987, 1993, Ikya, 1993, Solanke, 1994, Badejo, 2011). These solutions had not been able to relieve the cities of their overwhelming challenges due to complexity of the factors and seemingly ad-hoc nature of attempted solutions. Lasting solutions to urban transport challenges require a combined efforts and understandings of academia, transport practitioners and policy makers at various tier of government. The recent efforts to address transport challenges in metropolitan Lagos so far (Badejo, 2011) have shown that successful urban transport planning and administration requires sizeable capital investments and should be on long-term basis.

Towards improving urban transport challenges, there is also the need to ensure result-oriented integration of transport modes in the country. An integrated transport system implies the development of a seamless chain of connected and complementary transport means linking different modes of transport in such a way that every mode has the opportunity of fulfilling its distinct potentials in a partnering manner. A pragmatic transportation development plan, designed to ensure sustainable result, will only be intelligent if based on the principle of integrated and inter-modal transport connectivity. It is what the enormity of the transport challenges facing urban centres of Nigeria demand, and to which critical examination should be directed.

In the light of the above, issues that require priority attentions in urban transportation planning include:

- I. Legislative and policy frameworks that will enhance the entire transport sector.
- II. Guaranteed safety in every mode of transportation
- III. Result-oriented and didactic training, research and development on all areas of transportation, including transport policy administration and management.
- IV. Mitigation of pollution arising from all the modes of transportation.
- V. Making transportation affordable and accessible as a social right and to extend its benefit to the disadvantaged – the poor, elderly, school children, the physically challenged-including those with disabilities.

To address the above require improvement of virility of the urban transport system, ensure its people-centredness, which underlines a strategic conceptualization that sees Nigerian urban transport system as part and parcel of national development aspiration.

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