

# The Role of Road Transportation in Local Economic Development: A Focus on Nigeria Transportation System

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## Abstract

The transport sector is an important component of the economy; impacting on development and the welfare of populations. Road transportation penetrates further into the nooks and cranny of the human environment than other means of transportation. This study probes again into the relationship between a viable transport system and economic development. Specifically, the intertwine between local economic development and road transportation is revealed. It pinpoints the unique functions and the associated benefits of road transportation in the development of local economies in Nigeria. Furthermore, a brief assessment (involving issues of road condition, adequacy and maintenance) of the road transport system in Nigeria is carried out. Drastic measures which include a holistic or integrated approach to road transportation planning and management are suggested in order to move the economy of the nation forward.

**Keywords:** economy, economic development, road, transportation, Nigeria

## 1. Introduction

The presence of an adequate, reliable and efficient transport system is a critical factor in local economy development. A well developed transportation infrastructure provides adequate access to local communities, which in turn is a necessary condition for the efficient operation of manufacturing, retail, labour and housing markets. Transportation is a wealth creating industry on its own as well as the life-line of an economy. By “lifeline”, it means that transportation is extremely important for the survival of the economy (Olubomehin, 2012).

Indeed, the provision of a high quality transport system has been identified as a pre-condition for the full participation of remote communities in the benefit of national development (Camemark, 1979). Road transportation opens up new areas of economic activities, increases agricultural production, revitalizes trading activities and impacts positively on urbanization process. Although, there are other means of transportation such as air, rail and water, these means of transportation would have been greatly incapacitated but for the complementary role played by road transport in the economy. Road transportation is indeed the lifeline of the economy in the local regions (Olubomehin, 2012).

Inadequate transportation limits a nation’s ability to utilize its natural resources, distribute food and other finished goods, integrate the manufacturing and agricultural sectors; and supply education, medical and other infrastructural facilities. There is the need therefore to maintain and improve the existing road transportation and build new infrastructure for national wealth. On the impact on local economies, highway expenditures have been found to help increase rural employment, particularly in manufacturing and retail industries, and studies have shown that new highways tend to benefit rural counties near metro areas (Brown, 1999). These reasons necessitated the devotion of this paper majorly to road transportation with a view to examining its role in local economic development from the Nigeria transportation system’s perspective.

## 2. Fundamental Issues

### 2.1 Transportation and Road Transportation

Generally, transportation is the actual physical movement of people and goods from one place to another (Ahukannah *et al*, 2003). Several means of transportation exist for both man and goods. These means have evolved through the length of time of man’s existence on the planet. Air transportation is a relatively more recent means of transportation with the invention of air travel in the last century. Prior to this time, man had transported himself and goods on land with the aid of animals, on wheels (aided by animals) and most recently automobile and trains.

Water travel is as old as civilization with the invention of the ships to sail at the time of the earliest cities in hundreds of centuries BC. Trade and exchange were greatly facilitated between regions across the globe through water transportation. This did not go without its own evils such as slave trade and the problem of sea pirates. Air travel has not only aided movement of man and goods but also importantly man’s exploration to space to study the operations of the universe and aid communication. It is not to be overlooked that pipelines have equally

assisted in transporting raw and finished liquid materials such as crude oil which is a major economic resource and one of the most lucrative foreign exchange earner across the globe.

Road transportation has its own history. Its flexibility and ability to create accessibility to the smallest units of land uses gives a great advantage and helps in the development of local economy. In Nigeria, road transportation is the commonest and most extensively used form of transportation. It involves the use of bicycles, motorbikes, carts, cars, buses, lorries, trailers, tankers, etc, in moving people, goods and services from one location to another where they are needed (Anyanwu, 1997).

### *2.2 Historical Development of Road Transport in Nigeria*

Drawing upon the account of Anyanwu (1997), the historical development of road transport in Nigeria can be traced to 1940, when Lord Lugard attempted the construction of a mule road Linking Zaria and Zungeru both in the Northern state of Nigeria. The road was later extended from Zaria to Sokoto, Katsina and Maiduguri. However, the road linking Ibadan and Oyo constructed in 1906 was recorded to be the first motorable road ever constructed in Nigeria.

In 1925, the Central Government of Nigeria set up a Road Board that proposed a skeletal trunk road system to link the major administrative centres in the Country in 1926. These roads were designed as a frame upon which the network of secondary roads could be built thus, enabling the general road system to be considered as a coordinated whole rather than as a jigsaw of small disjointed sections. The total length of roads maintained by the government rose from 6,160 km to 9,453km.

At independence in 1960, the Nigerian landscape was dotted with a skeletal network of trunk roads as well as secondary and feeders roads that exhibited the characteristics which reflected the purpose of their construction. They were narrow and winding, being simply meant to facilitate the evacuation of agricultural produce from the interior to the ports for export in addition to serving as links between scattered settlements thus permitting ease of administration.

The various data published by the Federal Office of Statistics in Nigeria, show that as at 1951, out of the total of 44,414km of road in Nigeria, 1,782km were surfaced, though the roads were lacking in standard designs and were single lane with sharp bends and poor drainage system. By 1980, the total length had increased from 44,414km in 1951 to 114,768km, while tarred roads increased in length from 1782km in 1951 to 28,632km in 1980, and earth/gravel road increased from 4,232km in 1951 to 8,613km in 1980. According to the Central Bank of Nigeria (2003) the estimated total road network length in Nigeria was about 200,000km.

### **3. Economic Growth and Economic Development**

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). According to (Litman, 2010), economic development refers to progress toward a community's economic goals such as increased employment, income, productivity, property values and tax revenues. For economic development to occur there must be sustained quantitative and qualitative improvements in almost all the sectors of the economy. Many 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. In other words, economic growth occurs whenever there is a quantitative increase in a country's input and output over a period of time. 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 refers 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, etc. Unlike economic growth, economic development reflects growth in all the sectors of the economy and this must be sustainable. Mabogunje (1981) sees development in such a perspective that includes economic growth, modernisation, distributive justice and socio-economic transformation (see Table 1). Falodun *et al*, (2010) asserts that economic development is more than just economic growth. Growth is necessary for any economy, but far from being a sufficient condition for real development. Development means growth plus change. This implies not only the economy becoming richer, but also the majority of the people are involved in the process which will ensure that standards of living will continue to improve in the future as well as income per person.

### **4. Relationship between Road Transport System and Local Economic Development**

There is no doubt that a relationship exists between transportation and economic development. Local economies

need strong national networks (TCPA, 2010). TCPA further emphasizes that “If we are to achieve a thriving national economy, with all areas playing their part, we need a national framework that connects cities, regions and sub-regions across the country”. This further affirms that road transportation has a link with economic development. Various studies have revealed interesting and varied relationships between these two concepts. In certain quarters, it has been seen as a win-win situation for economic development when there is improved transportation. However, recent studies have revealed various dimensions to the relationship between road transportation and economic development. In the actual sense, the variations have been based on the scale of road projects involved, whether a developed or developing economy is involved and whether local, regional or national economy is in focus.

According to Litman (2010), Transport policy and planning decisions often have significant economic development impacts by affecting government and consumer expenditures, employment opportunities, resource consumption, productivity, local environmental quality, property values, affordability and wealth accumulation. However, research in his report suggested that the relationship between mobility and economic development is not always direct. His findings indicate that beyond an optimal level, marginal economic costs exceed marginal benefits. He affirmed that in industrialised countries, economic productivity tends to increase with less motor vehicle and higher fuel prices; implying that excessive dependence on automobile can reduce economic productivity. Rather, policy reforms that reduce per capital vehicle travel and increase system efficiency (called mobility management or transportation demand management) often support economic development.

In furtherance of the above, efficiency of a road transport system is more important than the scale of the road infrastructure. For example, a high quality inter-regional highway supports economic development, but once it exists, expanding its capacity to reduce congestion has positive as well as negative impacts because it stimulates automobile dependency (fewer travel options) and sprawl which tends to increase cost and reduce efficiency.

Poverty is very often far worse in rural areas than in urban centres, as a result of lack of integration with urban centres due to lack of adequate accessibility and mobility; and local roads and tracks are often impassable, thereby proving it very difficult and in some cases nearly impossible for rural families to have access to the local rural economy. Therefore, intra-regional road linkages may always bring development within the region and improve market system and local economies especially in the developing countries. However, the moment an interregional highway is introduced, weak indigenous businesses and firms are open to strong competition from the multinational and well-established companies (from outside the region) which may overrun the market. In all, going by the words of Litman (2010), high quality public transport provides many economic benefits and so can be cost effective provided there is sufficient consumer demand and supportive land use policies.

In Africa, roads are the primary mode of transport for both freight and passengers. For example, in the Southern Africa Development Community (SADC) region, road transport carries over 80% of the region’s goods and services (Pinard and Greening, 2004). However, the road network in Africa is characterized by several constraints that limit economic growth and development within the countries. The work of Food and Agriculture Organization (2002) indicates that apart from North Africa, Africa’s rural infrastructure is generally inadequate and underdeveloped, with the lowest density of paved roads of any of the regions in the rest of the world.

A World Bank research (World Bank, 2001) indicated that a significant improvement in socioeconomic living conditions was estimated with rural roads investment. The estimated benefits include improved accessibility to social infrastructure (schools and health centres), increased opportunities to access education and health facilities and improved social interaction and mobility, which are important for social and economic development. Additionally, there is improved access to markets by reducing transport costs; improvement of the marketability of perishable goods through timely and cheaper transport that will provide a direct incentive for more market-oriented agriculture; and with more profitable cash crops, an increase in rural income and also additional employment opportunities.

Usually, benefits of road investments are direct, indirect or induced. The direct benefits include travel time savings, savings in vehicle operating costs and reduced accidents costs among others while indirect benefits are in form of employment opportunities that are related to the road investment. The induced benefits come from the local economic development – towards poverty alleviation – resulting from the road investment. This include enhanced self sufficiency, increased production and efficiency, improved access to market, social services (such as healthcare and educational facilities) and increase in household income and a more equal distribution of income (Lombard & Coetzer, n.d.). But, just like Litman, Wallis (2009), also said that there is nothing ‘special’ about investment in transport infrastructure from a regional perspective. While there is some evidence regarding the responsiveness of growth to investment in transport infrastructure, this is no less true than other forms of public spending. It is unlikely that investment in transport infrastructure will have dramatic effects on regional economies.

In general, development of transport infrastructure is a necessary but not sufficient condition for national and regional economic development and growth. The incremental economic gains of further investment in transport

infrastructure especially in developed economies are likely to be small. Arguably, there is a spectrum within which some developed economies may experience greater gains than others, but solid evidence to this effect is lacking.

In conclusion, as earlier implied, the link between road transport improvement and economic development depends on complementary regional infrastructure and specific contextual considerations.

### **5. Impact of Road Transportation on Local Economic Development in Nigeria**

The Nigerian economy is a developing one. The inter-connection between her road transport system and her local economy has long been recognized as it has impacted her severally. The process of development requires goods, services and people to be moved for one reason or the other and from one place to another. As the people move, they help to generate economic activity which enhances economic development. This assertion is justified by Ighodaro (2008) who affirmed that the potential significance of road development for investment, trade, growth and poverty alleviation has long been recognised. Not only does road transport infrastructure facilitate the direct provision of services to consumers, it also provides intermediate inputs that enter into the production of other sectors and raise factor productivity. This is exemplified by the opening of many residential areas across the nation as a result of road construction or improvement.

Road transport services facilitate and help to maintain an economic balance through the distribution of resources (such as labour, equipment and raw materials) and finished goods across the nation. According to Carapetis *et al* (1984), adequate, reliable and economic transport is essential for the social and economic development of rural areas especially in developing world. They further noted that the absence of regular and reliable transport services condemn remote communities to subsistence production in perpetuity. Moreover, Mallon (1960) argues that transportation has an important role to play not only in serving the productive sectors such as agriculture and industry but also in bringing about economic growth. He points out that it was no coincidence that the period of intensive railway construction in Britain, the USA, Pre-Soviet Russian, Italy and other countries were also their periods of most rapid economic development.

Unlike other means of transport such as rail (train), water (ship) and air (aeroplane), the flexible nature of road transportation facilities opens up remote and rural areas, making them more and easily accessible, thereby stimulating economic growth. The items of trade (whether raw materials or manufactured goods) need to be moved from the areas where they are produced to the area where they are demanded. Farm products are usually produced in the rural areas and traded in the cities. Where there is a good transport link between the producing areas and the market, the prices of products are reduced. Otherwise, they become expensive and middlemen usually capitalize on the poor transportation to inflate prices of agricultural products to the urban markets (Ahukannah *et al*, 2003). This advantage extends to delivery of goods to the door-step of consumers.

An efficient transport system lowers the cost and reduces the time of moving goods and service to where they can be used more efficiently. Since roads penetrate more into such areas (with relative greater flexibility) their development adds value and spurs growth. Overtime, this process has resulted in increasing the size of market which is a pre-condition for realizing economies of scale. Good road projects have clearly contributed to poverty reduction in the country by improving the living conditions of people and by augmenting the opportunities available for trade and employment. The economic development of Nigeria has reflected the development of her transport systems. This is particularly true of the road transport system, which is by far the most widely used mode of transport in the country. Of all commodity movements to and from the sea-ports, at least two thirds are now handled by road transport while up to 90% of all other internal movement of goods and persons take place by roads (Onakomaiya, n.d.).

In a study on the impact of transportation on agricultural production in a developing country which focuses on kolanut production in Nigeria, it was revealed that an improved transportation will among other things have positive impact on farmers' productivity, income, employment and reduce poverty level in the rural areas (Ajiboye and Afolayan, 2009). Transport infrastructure is critical to sustain economic growth because people want to improve their standard of living and they see increased income as the way to achieve that goal. Transportation system enhancement is in turn a means of maintaining or improving economic opportunities, quality of life and ultimately income for people in a particular region. Investment in transport infrastructure is critical to sustain economic growth. Mobility studies show that transportation is absolutely essential to economic productivity and remain competitive in the global economy. An international study found that for every 10 percent increase in travel speed, labour market expands by 15 percent and productivity by 3 percent.

It is universally recognized that road transport is critical for sustained economic growth and modernization of a nation. Adequacy of this vital infrastructure, Muktar (2011) reiterates, is an important determinant of the success of a nation's effort in diversifying its production base, expanding trade and linking together resources and markets into an integrated economy. It is also necessary for connecting villages with towns and market centres and in bringing together remote and developed regions closer to one another. Road transport, therefore, forms a

key input for production processes and adequate provision of transport infrastructure and service helps in increasing productivity and lowering production costs in Nigeria.

The provision of road transport infrastructure and services helps in reducing poverty. It needs no emphasis that various public actions aimed at reducing poverty cannot be successful without adequate road transport infrastructure and service. It is difficult to visualize meeting the country's targets of universal basic education and health care without first providing adequate transport facilities.

## **6. Assessment of Road Transport System in Nigeria – Condition, Adequacy and Maintenance Issues**

The Nigeria road system is classified into four broad categories. These are trunks "A" "B" "C" and "F" roads. The trunk "A" roads are under the ownership of the Federal Government which develop and maintain them. The trunk "B" roads are owned and controlled by the component states, while 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. Table 2 shows the structure of road ownership in Nigeria. Each tier of government has the responsibility for planning, construction and maintenance of the network of roads under its jurisdiction (Ighodaro, 2008).

From Table 2, it is obvious that the local government roads ownership accounts for about 67%. This therefore implies that the local government controls about 130,600km of roads; State government, 30,500km and federal government, 32,100km.

The Federal Road Safety Corps (FRSC) in a paper presented in 2011, stated that Nigeria has the largest road network in West African sub-region and the second largest in the South of Sahara with 198,000km of roads; 3,500km of railways; 8,600km of inland waterways and 22 airports. He further argued that the dominance of road transportation in our economy could be discerned from the fact that in 2010 while 88 million people travelled from commercial motor parks, air transportation accounted for less than 14 million local and international air passengers (Chidoka, 2011).

Commenting on road transportation Nigeria, the American Government thinks that Roads in many parts of Nigeria are generally in poor condition causing damage to vehicles and contributing to hazardous traffic conditions. Additionally, some traffic control officers may occasionally seek to obtain bribes when citing drivers for traffic violations (Chidoka, 2011). He further reiterated that excessive speeding, unpredictable driving habits, the lack of basic maintenance and safety equipment in many vehicles and the absence of any official inspection for road worthiness present additional hazards. Motorists seldom yield to the right of way and give little consideration to pedestrians and cyclists. Public transport vehicles, such as buses and motorbikes are unsafe due to poor maintenance, high speed and overcrowding.

Although, road transport remains the dominant means of transportation in the country and contributes significantly to Nigeria's socio-economic well being, it still poorly funded. It is on record that Sweden's decade of investment in road infrastructure alone is equally to half of a decade of the total budget for Nigeria (Chidoka, 2011). Moreover, relating to inefficiencies and lack of good transportation network in Nigeria, Muktar (2011) asserted that poor government policy on transportation (lack of regulation of fees charged by private transporters), inadequate fuel, lack of spare parts, and the prevalence of bad roads and poor security have succeeded in trimming down the transport system and this has a negative effect on economic growth.

Due to the various shortcomings in the Nigerian road transport system, the level of efficiency is very low with associated risks involved. The aspect of corruption transcends the unethical behaviour of road marshals to the award of road construction projects which reveals poor execution of such projects with low quality delivery; such that most projects do not last till the expected project life.

## **7. Recommendations and Conclusion**

The problems which have been identified from the above assessment of the Nigerian road transportation system include poor road conditions (which causes loss of lives, man-hour and vehicles), corruption in the execution of road projects and in the process of checking traffic violations (such as over-speeding, drunk-driving, overloading and lack of basic safety equipment to mention a few) and lack of roadworthy vehicles. Others include poor funding, poor transportation policy, poor security and poor maintenance culture. In order to address, the above certain measures need be taken as suggested below.

Policy makers in Nigeria need to develop strategies towards achieving a more efficient transport system which will definitely reduce money, time, land, and other resources which are lost in any inefficient system. It will also reduce the risk involved in transportation. An efficient transport system will promote economic development. Such system will increase vehicles loads (larger trucks, shifts to rail, higher load factor); promote more efficient operation (faster loading, reduced downtime); lower equipment cost (less expensive and more durable vehicles, higher fuel efficiency) and reduce labour cost (automation, lowers wages and benefits). Other benefits are reduced shipping distance and volume (better distribution, reduced packaging and stores locating closer to

consumers); higher travel speeds (faster vehicles and reduced congestion delays); truck and heavy vehicle lanes; and efficient road pricing (leading to higher-value trips).

Improving transportation options (improving walking, cycling, ridesharing, public transit, taxi, car sharing, delivery services, telework and more accessible land use) can increase economic efficiency if demand exists (new facilities and services are used sufficiently), and provide particularly large economic benefits if they substitute for more costly modes such as automobile travel (Litman, 2010).

Furthermore transportation planning reforms promotes efficiency through the engagement of accessibility-based planning which expands transport solutions to include improvements to alternative modes, mobility management, more accessible land use, and mobility substitutes such as telecommunications and delivery services. Transportation planning reform will equally involve comprehensive cost-planning such that the gain of improved transport system will not amount to high cost (or loss) in social and environmental terms. Least-cost planning will equally help to consider the gains of conventional transportation planning (which deals with automobile transportation improvement and facility expansion) in the light of engaging in other modes of transportation and demand management programmes.

The need to create employment and improve local economy also encourages public transport system. Transportation policies that allow households to reduce their vehicle ownership and fuel consumption tend to increase local and national employment. Large employment gains tend to result from policies that expand high-quality public transportation systems, partly because of transit service employment and partly due to reduction in automobile expenditures.

Management of commuters will require effective punitive measures which existing enforcement agencies lack and will need to implement without encouraging or implying corrupt tendencies. The problem of overloading and over-speeding is still prevalent in the country and unless drastic measures are taken to address the menace, much will still be lost economically in the nation to such things as road accidents. There is need for a system reform in the Federal Road Safety Corp which will bring about an ideal practice in the issuance of the Driver's licence. This requires a total overhaul and the recruitment of more staff to speed up the operations of the agency. The current patrol on Nigerian roads by the police force will require greater commitment to interregional roads which have experienced series of crimes in recent times.

Lack of proper supervision of construction projects and lack of monitoring performance for a stipulated period either implies a deliberate attempt to look the other way by government officials. Such corrupt tendencies if not checked would equally continue to hinder local and regional economic development. Hence there is need for attitudinal change by the various agencies of the government at all levels in charge of road projects.

It is hoped that the implementation of the above recommendations will go a long way in moving the transportation system of Nigeria forward and equally help to improve the economy of regions and the nation at large.

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Table 1. Properties of Economic Growth and Economic Development

<i>Economic Growth</i>	<i>Economic Development</i>
Economic growth emphasizes increase in output.	Economic development emphasizes equitable distribution of produced goods and services.
Economic growth alone cannot lead to improved well-being of the people	Through the development process, goods, services and income are equitably distributed leading to an increase in the well-being of the people.
Growth can only be achieved with an increase in output.	Development can be achieved not only with increased output, but also through equitable redistribution of existing goods and services.
Growth is applicable to both developed and underdeveloped economies	Development is a change from the stage of pure underdevelopment to the stage of developed economies.

Source: Falodun *et al*, 2010

Table 2. Structure of Road Ownership in Nigeria

S/N	ROADS	Federal Roads	State Roads	Local Government Roads	Total	Percentage
1.	Paved Main Roads	26,500	10,400		36,900	19%
2.	Unpaved Main Roads	5,600	20,100		25,700	13%
3.	Urban Roads			21,900	21,900	11%
4.	Main Rural Roads			72,800	72,800	38%
5.	Village access Roads			35,900	35,900	19%
	Total	32,100	30,500	130,600	193,200	100%
	<b>Percent</b>	<b>17%</b>	<b>16%</b>	<b>67%</b>	<b>100%</b>	

Source: Central Bank of Nigeria (2003)



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