

Implications of the Locations of Intercity Motor Parks on its Adjoining Environment in Minna, Niger State

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Abstract

Nigeria's vehicular usage has increased as a result of rapid urbanization and transportation infrastructure development. With changes in the urban landscape, the location of motor parks has become a serious issue, affecting the free flow of traffic in urban areas. This study aims at assessing the distribution of intercity Motor Parks location within Minna Metropolis and determine the implications of the motor parks' location on the adjoining environment. The primary data were sourced from the residents within the area where the motor parks were located with the aid of questionnaire, while the secondary data sourced was the street guide map of Minna and Google earth map of the town. Ground Positioning System (GPS) was used to determine the coordinates' location of the motor parks. This street guide map of the town was digitized, and the location points were fixed on the map. A total number of 200 copies of questionnaire was administered across the neighbourhoods where the motor parks were located using stratified sampling approach. The analysis was done descriptively, and results were presented in table using percentage. In the study, eight (8) government-approved motor parks were identified: Nice Travel and Kpakungu Garage in the Kpakungu area; Abdulsalam Garage, NSTA Tunga Park, and Peace Mass-Transit in the Tunga area; Mobil Garage and Central Park in the Minna central area; and NSTA Shango in the Minna - Suleja area. Only one of these motor parks (Peace Mass-Transit) is privately owned, while the others are government-controlled. In terms of the environmental implications of location, five (5) of the eight (8) variables examined were more prevalent in all areas, and they are road-side parking, often high volume of traffic delay, blockage of drainage-way, hawking, and noise pollution. The study concludes that in the arrangement and development of city's landscape, planning and designing of motor parks should not be taken for granted being an important part of transportation infrastructure required for city development. The study, therefore, recommended that adequate designing, planning and development of motor parks in Minna should be considered, also, monitoring of the activities at the motor parks should be done to reduce to reduce traffic problem and other disturbance. The need for collaboration of the motor parks Management with the Niger State Environmental Protection Agency should be considered for cleanliness of motor parks and evacuation of blocked drainages with the areas of the motor parks.

Keywords: Development, Environment, Garage, Hawking, Location, Motor Parks.

Introduction

Rapid urbanization and transportation infrastructure development continually increases the rate of vehicular usage in

Nigeria. With the changes in the landscape of urban environment citing of motor parks have become a serious issue affecting the free flow of traffic in and out of urban

centres. motor parks are usually associated with transportation that involves the use of commercial vehicles by offering services for travelers boarding to different places of their choices or destination. Salami *et al.* (2020) admitted that motor park is an important part of the urban transportation fabric, which area designated by relevant authority to provide ease of intra and inter-state transportation for long and short journey passengers. motor parks motor plays an essential role in traffic management and congestion in cities. However, the activities of a motor park could pollute the air especially from exhaust pipes of vehicles coupled with the use of fossil fuel through incomplete combustion by the engine causing air pollution in the forms of smokes, and dusts. One of the major problem of the environment that has affected and is still affecting both developed and developing countries of the world today is air pollution and has recently been linked to increased morbidity and mortality rates (Anake, et al. 2018).

Motor parks activities have the potential to generate an unpleasant atmosphere in the environment they are located, which can range from the increase level of noise, hawking activities, level of touting/ theft, improper disposal of refuse, drinking and smoking by staff, improper parking of vehicles, beggars, increase in business activities, accident, dust (Ogbazi, 1992; Ibekwe, 2010). In some cases, emission, from combustion engines represents the largest air quality impact associated with motoring. The prominent air quality issues related to motor parks are CO², NO²PM and H²S. Although carbon dioxide is nontoxic to human but is a major greenhouse gas and motor vehicle emission are important contributor to the growth of CO² concentration in the atmosphere which causes severe environmental impact (Sax, 2001).

Motor parks are generally linked to the transport system by offering a place for commuters to board vehicles to their destination and these could be journeys such as intra-city or inter-city. Motor parks are

believed to have come into existence in response to the need to have a central collection points for passengers and goods as business activities and population increase (Adedayo & Zubairu, 2013). According to Onokala, (2001) the importance of transport in any given city to its inhabitants cannot be overstated, as it is responsible for the movement of people in and around the city. According to Adedayo & Zubairu (2013), the nature and environment of these motor parks often affect the users in various ways particularly in terms of comfort and functionality, and also affect the environment where the motor parks are located. A visit to some selected motor parks in Nigeria will show an environment that appears not conducive for commuters and operators. Due to the importance of motor parks to city dwellers and the image of the city, customer satisfaction is the desire of any service provider hence that of the commuter should be the desire of the motor park providers. According to Anable, (2005) for a transport system to be considered as providing good service it must ensure that commuters are satisfied with the quality of the service provided.

One of the main purposes for the construction of motor parks by various governments in modern times is to give room for orderliness and accountability in the transport business through a tripartite arrangement between transporters and the government on one hand, and between transporters and the public, on the other hand. But this purpose has been defeated by the various happenings in and Nigerian motor parks. The impacts, of motor parks on their immediate environment are quite much: These include increased level of noise, hawking activities, touting/ theft, release of CO², improper waste disposal, drinking and smoking, improper parking of vehicles, beggars, accident, and dust. The current rowdy state of motor parks in Nigeria makes it a haven for criminal activity to thrive (Salami et al. n.d).

This study will seek to examine the impact of intercity motor park's location on

adjoining land uses in some selected motor parks in Minna, Niger State. The aim of this study is to assess the impact of some selected motor park locations on the adjoining land uses in Minna, Niger state, Nigeria. The specific objectives are to examine the distribution of selected motor parks in Minna, examine the adjoining land uses around the selected motor parks in Minna and assess the impact of the motor parks on adjoining land uses in the study area.

The Study Area

Minna lies between Latitudes $9^{\circ} 33'$ and $9^{\circ} 40'$ North of the Equator and Longitudes $6^{\circ} 29'$ and $6^{\circ} 35'$ East of the Greenwich Meridian (Figure 1). The town spanned along the main spine road that separates the city into West and East. This road is from Chanchaga in the South to Maikunkele in the North, covering a distance of about 20km. The West - East pattern, spanned from Gidan-Kwano along Bida axis in the West, to Maitumbi to Gwada axis, in the East, over a distance of 15km (Figure 2).



Figure 1: Map of Niger State in respect to Nigeria
Source: URP Dept, FUT Minna

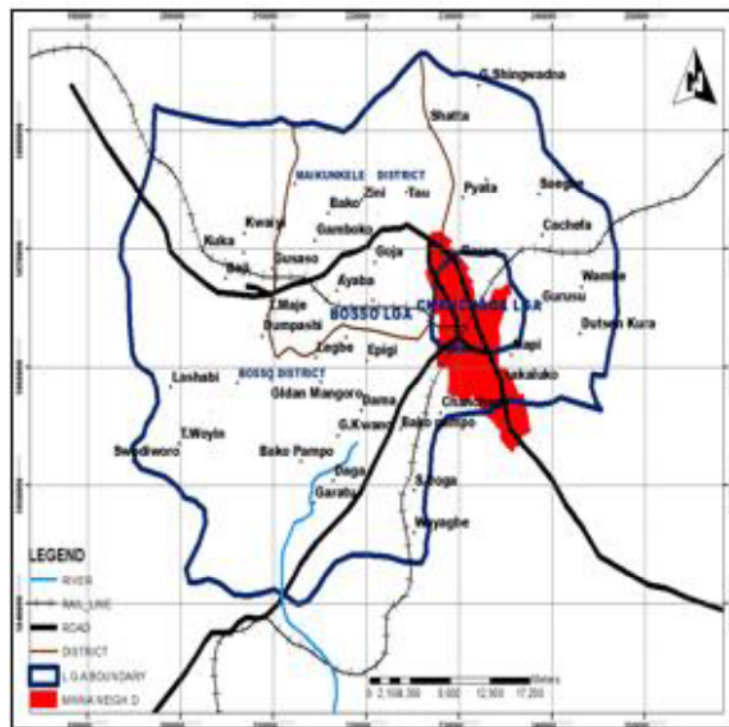


Figure 2: Location of Minna
Source: URP Dept, FUT Minna

Methodology

The primary data for this study were sourced from the residents of the areas where the motor parks were located in Minna. The street guide map of Minna, google earth image were employed in the study. A well-structured open and close ended questionnaire were used for data on the implications of the motor park's location on the adjoining land use. A total number of 200 copies of a set of questionnaire was administered within the adjoining environment of where the motor parks were location, this implies that 40 copies of the questionnaire were administered in the area. Stratified sampling method was adopted in the administration of the questionnaire. The data obtained were analyzed using descriptive method and the results were

presented using table and percentage value. This street guide map of Minna was digitized, and the location points using GPS were fixed on the map. The analysis of this study was done descriptively, and results were presented in table using percentage.

Result Discussion

Distribution of Motor Park Location

Investigation of the distribution of intercity motor parks within Minna metropolis have shown a total numbers of government designated and approved motor parks. These motor parks comprise of Nice Travel, Kpakungu Garage, Abdulsalam Garage, Mobil Garage, NSTA Tunga Park, Peace Mass-Transit, Central Park, NSTA Shango area of Minna (Table 1).

Table 1: The Locations, Routes, and Coordinates of Motor Parks in Minna

	Name of Motor Park	Area Located	Routes	Coordinates
1	Nice Travel	Kpakungu	Bida, Mokwa, Kanji/New Bussa	N 09°35.792' E 006°31.653'
2	Kpakungu Garage	Kpakungu	Lagos, Ilorin, Oshogbo, Kanji/New Bussa	N 09°35.837' E 006°31.883'
3	Abdulsalam Garage	Tunga	Abuja, Kano, Bauchi, Sokoto, Jos	N 09°35.310' E 006°33.979'
4	Mobil Garage	Mobile roundabout	Suleja, Abuja, Kaduna, Bida, Lagos, Ilorin	N 09°36.828' E 006°32.865'
5	NSTA Tunga	Tunga	Lagos, Kano, Jos, Sokoto, Kano, Benue, Kogi, and Kaduna.	N 09°35.792' E 006°31.653'
6	Peace Mass-Transit	Tunga	Lagos, Eastern part of Nigeria	N 09°35.713' E 006°33.769'
7	Central Park	Kwasua-Gwari	Lagos, Ilorin, Ibadan	N 09°35.792' E 006°31.653'
8	NSTA Shango	Shango	Lokoja, Eastern part of Nigeria and Ibadan (TCTC)	N 09°34.792' E 006°34.653'

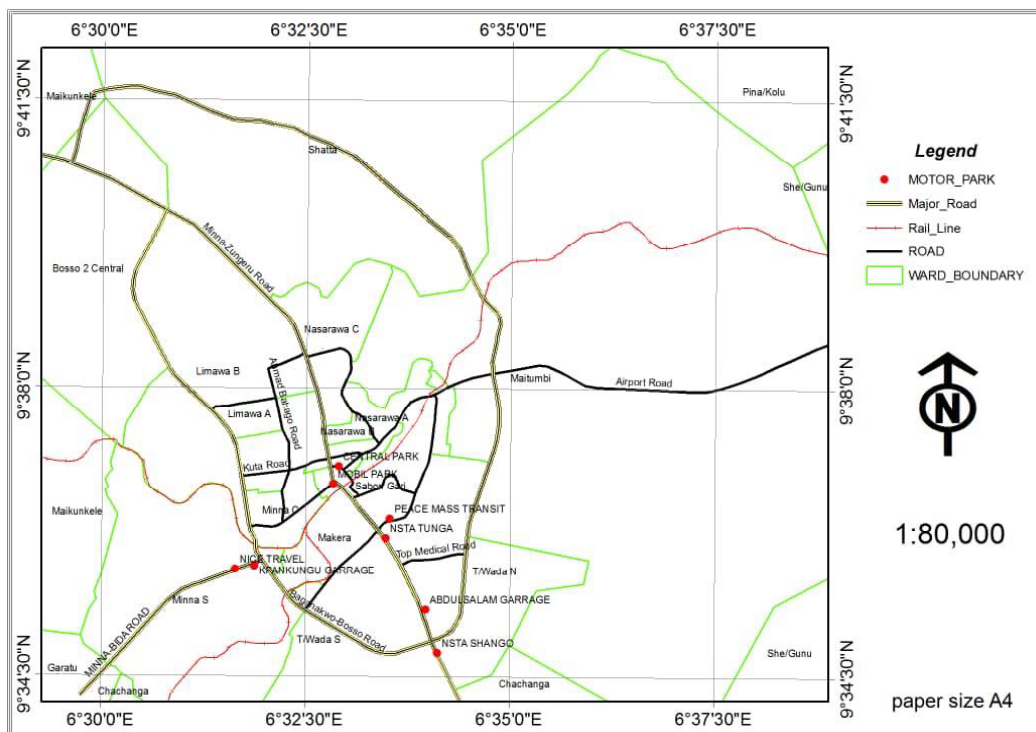


Figure 3: Location and Distribution of motor park in Minna

Motor Park Locations and the Adjoining Environment/Land uses

In presenting the location of these motor parks within the metropolis, the neighbourhood locations, the physical features, arrangements of facilities, the size of the parks and description of the adjoining land uses were presented in this section, and they are presented as follows:

Nice Travels Park

Nice travels motor park is located at Kpakungu, along Minna-Bida Road, it covers a total land mass of about 1300 square meters. Due to the current reconstruction of the Minna-Bida Road, which affected the axis where the park is located, there have been a lot of changes in and around the park. It is adjoined by the Oando gas station to the south, to the west, an open space, then residential buildings, to the north; stores and an illegal market, and to the east; the Minna-Bida Road, then other commercial shops, and residential buildings behind it. The area is characterized by on-street trading, and this is as result of the park bringing people from everywhere to the area.

Kpakungu Garage

This park is located at Kpakungu, along the Minna-Bida Road. It's about 150meters from the Kpakungu roundabout and covers about 5,602.38 square meters. It's been in existence for more than 20years, and its routes are Lagos, Ibadan, Ilorin, Ogbomosho etc. It is surrounded by residential buildings, and commercial activities such as on-street trading, shops, workshops, and also open spaces. On the right, it is adjoined with a commercial building that houses the APGA state secretariat, then the MRS gas station, before the Western by-pass. To the left, it is bordered by the Kpakungu police station, a pharmacy, and then an open space. Behind the park are residential buildings. Then in front of the park is the Minna-Bida Road, which demarcates the park from opposite commercial shops and workshops, that has residential buildings behind them.

Abdulsalam Garage

This park is located on the Minna-Suleja Road, it is about 1km from the city gate.

Adjacent it is Conoil gas station, opposite it are shops and supermarkets, there is a presence of a paint manufacturing industry, and they are all being separated from the by the famous Minna-Suleja Road. Behind the park is a service industry, for car repairs, and after that are residential buildings. To the left are food vendors, phone repairs shops, and both private commercial and government owned buildings (Abdulsalam youth center, Nigerian Union of Journalist secretariat) a pharmacy and a car dealers. Finally, on the right are residential buildings, with shops in front of them.

Mobil Park

This motor park is located at the center of the city of Minna, at the Mobil roundabout. It is characterized by all sorts of commercial activities such as on-street trading, Keke drivers, and commercial banks. Behind it is the Mobil gas station, where the name of the area was derived from. On the left-hand side is a public place (church). Opposite it are abandoned government owned buildings, and open spaces. To the right, are open spaces and the railway.

NSTA Tunga

This park is located at the commercial of the city of Minna, along the Minna-Suleja Road. It is about 150meters from David Mark junction, and it's bordered on the left by the Tunga market, to the right, Guarantee Trust Bank (GTB), then Newline Minna branch. Behind it are residential buildings, and opposite it is commercial activities such as supermarkets, shops, eateries (Ostrich bakeries). Opposite it are also traces of light industries, such as furniture and windows workshops.

Peace Mass Transit

This park is located along the David Mark Road. The area is majorly a residential and government owned public spaces. Opposite the park is the road leading to the Independent Electoral Commission (INEC) office, and residential buildings with shops in front of it. Behind the park are residential buildings. To the right is an open space, and a school, and to the left, are residential buildings with shops in the front.

Central Park

This park is located in a densely populated area, close to the Kwasua-Gwari market.

There is predominantly a residential and commercial area. It is bordered on every side by residential.

NSTA Shango

This park is located on the Minna-Paiko Road and is about 300meters from the city gate. It spans about 18,573.23 square meters. The area is not a residential area, as it is border by commercial, and government public places on the left and on the right. Behind the park, is an open space, and in front are various commercial activities like gas stations, supermarkets, shops, and light industries like block industry. This garage was originally for NSTA, but due to the ploy by Niger state government to reduce traffic in and around the city of Minna, First Tarzan motors, Young Shall Grow Motors be move from Sabon-gari to this garage, to convey passengers to the East.

Implications of Motor Parks Locations on Adjoining Environment Land use

Eight (8) variables were employed in the assessment of the implications of the location of intercity motor parks on the adjoining environment/land uses. These variables comprise of noise pollution, hawking, drainage blockage, selling of hot drinks/ alcohols and cigarette, road-side

parking, loitering dust pollution, and traffic hold-up.

At the Nice Travel motor park, Kpakungu, the prevalent implications of the Motor Park location have been observed to encourage road-side parking (20%); high rate of noise pollution (15.5%); hawking (15.4%); and traffic problem (14%) in the area in most of the time, due to high level of travelers/commuters along Minna - Bida Road to the Western part of the country. Also, at Kpakungu garage: road-side parking (22.7%); traffic hold-up (18.5%); and noise pollution (14.5%) were the prevalent implications of locating the motor park within the environment. These first two motor parks were located at the same axis of Minna, along the Minna – Bida Road, the high volume of vehicular movement along the road are due to multiple factors. For instance, this is the road linking the State Capital to the other part of the state such Bida, Mokwa, Jebba, New Bussa, as well as the southern part of the country, the presence educational facilities along the route attracts huge volume of traffic, and with the residential neighbourhoods located along the routes are bound to generates high volume of traffic, which the aftermath effects will be on-street parking and traffic hold-up or delay.

Table 2: Implications of Location of the Motor Parks on the Environment

S/ N	Park	Noise Pollut ion	Hawk ing	Draina ge blocka ge	Selling hot Drink	Road- side Parki ng	Loiter ing	Dust pollut ion	Traff ic Hold -up
1	Nice travel	15.5 %	15.4 %	12.6%	3%	20%	8%	3.8%	14%
2	Kpakungu park	14.5 %	11.5 %	13.8%	7%	22.7 %	8%	5%	18.5 %
3	Abdulsalam garage	9.5%	20.5 %	20%	5%	21%	10%	4%	15%
4	NSTA Tunga	15%	11%	11%	4%	20%	12%	8%	19%
5	Peace Mass- Transit	22%	31%	4%	0	10%	9%	7%	17%
6	Mobil garage	14.3 %	10.3 %	9.5%	8.1%	22%	8.3%	9.5%	18%
7	Central Park	8%	11%	14%	7%	17%	9%	8%	26%
8	NSTA Shango	22.3 %	17.4 %	9.5%	8%	7.8%	14%	11%	10%

Abdulsalam Garage, NSTA Tunga and Peace Mass-Transit Park were all located within the same area, Tunga environs. At Abdulsalam garage, road-side parking (21%); hawking (20.5%); drainage blockage (20%); and traffic delay were the major implications of location of the motor park. Also, at the NSTA Motor Park at Tunga road -side parking (20%); traffic delay (19%); and noise pollution (15%). The Peace Mass-Transit admitted that hawking (31%); noise pollution (22%); and traffic hold-up 17%. The analysis of these three parks indicate that traffic problems, road-side parking and noise pollution and hawking were prevalent among the issues affecting the motor park environment/neighbourhoods.

Mobil garage and Minna Central motor park are located at the core area of Minna. These two motor parks were the earliest to be located and developed in the city. At the Mobil garage, roadside (22%); traffic delay (18%); noise pollution (14.3%) was prevalent as complaints of residence of the neighbourhoods. In the case of central Motor Park, traffic hold-up (26%); road -side parking (17%); and drainage blockage (14%). The NSTA motor park at Shango is located adjacent the city gate along Minna – Suleja – Abuja Road. This residents of the neighbourhoods around the motor park have admitted noise pollution (22.3%); hawking (17.4%) and loitering (14%) are the prevailing implications of locating the Motor Park in the environment. From this analysis, road -side parking, traffic hold-up, noise pollution, hawking and drainage blockage are the prevailing implications on the environment where the motor parks are located.

Conclusion and Recommendation

In the arrangement and development of city's landscape, planning and designing of motor parks cannot be taken for granted being an important part of transportation infrastructure required for city development. The survey revealed the prevalent implications of the location of the intracity motor park's locations, which are road -side parking, traffic delay and hold-

up, drainage blockage, and hawking. All these activities pose serious impact on the adjoining environment/land uses. The study, therefore, recommended that the need for adequate designing, planning and development of motor parks away from heavy traffic routes, monitoring of the motor park's location that has adequate loading and parking space should be given consideration, so as to reduce traffic problem and other disturbance. The parks located within the core area of Minna Mobil motor park should be given a face-lift, by rebuilding and designate mainly for intercity usage to allow for free flow of traffic. There is need for sensitization of the motor park workers, the traders and even the commuters on importance of cleanliness in and around the motor parks. The need for collaboration of the motor parks Management with the Niger State Environmental Protection Agency should be considered for cleanliness of motor parks and evacuation of blocked drainages with the areas of the motor parks.

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Alternative Financing Models for Transport Infrastructure: Factors Influencing its Adoption and Challenges in Lagos State

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Abstract

Financing of infrastructure, be it social or economic, has always been a major problem for many governments in developing countries. This has made Africa, as a continent, to suffer shortage of critical infrastructure which hinders its productivity and competitiveness in the comity of nations. This challenge may however not be unconnected with the issue of finance and the approach employed in securing it. Like many other developing nations, Nigeria have remained loyal to traditional financing models despite the availability of alternative financing options. This research investigated the factors affecting choice of financing model to fund the provision of transport infrastructure as well as barriers militating against the acceptance of contemporary financing models in Lagos State. Data was obtained via questionnaire from 62 respondents, cutting across 3 groups, namely; staff of Lagos State Ministry of Works and Infrastructure, contractors and private investors in Lagos State and was analysed using relative importance index. Findings revealed that out of 16 factors identified from literature, economic development, environmental issues and sprawling growth and urbanisation amongst others are the most influential factors determining choice of financing approach. Meanwhile, from the 15 barriers affecting the adoption of the innovative financing models, excessive reliance on traditional sources of finance; inadequate knowledge of the innovative models and corruption issues are the three most pronounced impeding factors. In conclusion, Lagos State and by extension, other governments in Nigeria should not rely solely on federal allocations, internally generated revenue and external/internal loans to develop their transport infrastructure but rather explore all available avenues to meet a significant part of her infrastructure deficit from domestic sources through alternative financing options.

Keywords: economic infrastructure, transport infrastructure, innovative financing, infrastructure gap

Introduction

The bulk of literature on infrastructure deals with the impact of infrastructure on economic development with little attention being paid to financing of infrastructure in order to support the economic development. Estache (2006) opined that the poorest countries need to spend about nine percent (9%) of their GDP on operations, maintenance and expansion of their infrastructure if they are to reach the MDGs.

The financing of infrastructure, be it economic or social, has always been on the exclusive list of governments in developing countries. In the study of Ngowi, Pienaar and Akindele (2006), a review of infrastructure financing was traced to the Roman Empire when the master-contractor model was adopted to finance infrastructure. In developed countries like US, UK and France, the financing of infrastructure was

between the government and private investors while in developing countries, it was solely by the government.

The need for private investors in infrastructure financing arose as a result of falling government revenue, dwindling oil prices and urbanization. In the eighties, financing infrastructure projects in Nigeria was not a problem because of the oil boom. It was reported that one of the Heads of state said 'Money is not our problem but what to spend the money on'. This booming period could have been the best period to invest in infrastructure, but lack of foresight on what to do and to project for the future disenfranchised the unborn citizens and subjected us to the current infrastructural deficit being experienced presently in the country.

The need for innovative financing is based on the submission of Croce and Gatti (2014); that despite the theoretically ideal match between a large source of capital and an asset class in need of investment, the overall level of investment in infrastructure by institutional investors has been modest and insufficient to overcome the financing gap.

For the purpose of this research, efforts were directed towards investigating the factors affecting the adoption of innovative financing to fund the provision of transport infrastructure as well as barriers militating against the full realisation of its potentials in Lagos State.

Concept and Classification of Infrastructure

There are various definitions of infrastructure. According to Alm (2010), infrastructure is described as long-lived capital facilities used in providing certain types of services to households, and also in providing services that enhance private sector production. Infrastructure therefore includes services from water systems, solid waste management, sewer systems, power generating plants, roads, mass transportation, electricity generation, and telecommunication systems.

Infrastructure are public goods and services that go into the production process as complementary inputs for traditional factors of production such as capital, labour and entrepreneur. They help to increase returns on investment by reducing production cost and improving transition efficiency (Bello and Osinubi, 2012). Snieska and Simkunaite (2009) defined infrastructure as complex goods which are not consumed directly; they provide services only in combination with labour and other inputs. It can also be viewed from dictionary meaning to be "the basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communication systems, water and power lines, and public institutions including schools, post offices and prisons" (American Heritage Dictionary).

There are two major classification of infrastructure; economic and social infrastructure (Srinivasu and Rao, 2013; Brookings-Rockefeller, 2012). Economic infrastructure refers to facilities promoting economic activities that support other factors of production such as transport, power, telecommunication, water and sanitation, while social infrastructure refers to facilities promoting social objectives such as schools, libraries, hospitals, museums and parks (Mengistu, 2013). "Economic infrastructure" assets are those where the users (households, passengers, commercial entities, etc.) have the means and the will to pay for the service provided (Jain, 2008). The assets derive income majorly from consumers or corporate customers. Economic infrastructure is also referred to as critical infrastructure. The Board on Infrastructure and the Constructed Environment (BICE) has argued that five "lifeline" infrastructures are the most critical because all the others depend on them for survival. These are; power, telecommunications, transportation, water and wastewater systems (ASME, 2009).

Infrastructure Financing Gap

According to Ncube (2014) Africa suffers from a critical shortage of infrastructure

which hinders it from competitiveness and productivity, reaching the MDGs, and participating in the global economy. Africa has a large infrastructure gap in terms of access and quality. Closing it would require additional US\$50 billion a year and which will boost Africa's annual growth by 2%.

McKinsey Global Institute (2013) indicates that from 2008 to 2017, infrastructure spending is expected to be USD 9 trillion in China, USD 2.7 trillion in India, USD 2 trillion in Russia and USD 1 trillion in Brazil. Similarly, in Nigeria the required investment in infrastructure was broken down into the following by the Nigerian Institute of Quantity Surveyors (NIQS) during their 2014 Annual conference. Nigerian Government needs \$800 billion for transportation deficit, \$350 billion to fix the road infrastructure deficit, \$75 billion for the rail infrastructure deficit, \$50 billion to fix aviation facilities deficit, \$900 billion to fix energy infrastructure deficit, \$300 billion to fix ICT deficit, \$180 billion to fix the water infrastructure deficit and \$121 billion for Agric infrastructure deficit.

In an attempt to bridge the financing gap, a mixed finance approach is required to increase the overall funding available for infrastructure, and to match the timing of funds with when they are needed. A mixed approach strategically utilizes own-source revenue, grants, borrowing (loans and bonds), and equity. By leveraging these varied sources against one another, federal, state and local governments will be in a better position to fully finance their priority projects.

The existing financing scheme is becoming more reduced and inadequate to meet the required infrastructure and the available infrastructure become more congested and greenhouse gas levels increase. It is expected that the new financing mechanisms will reshape the financing patterns and government commitment to infrastructure investment and consequently changing the ways cities develop. Based on the existing studies, capacity increase of transportation infrastructure, provision of an

environmentally friendly transportation, and promotion of sustainable financing options are all important motivations for alternative financing mechanisms.

According to the department of Business Innovation and Skills (BIS, 2011) the design, construction and operation of infrastructure networks is a complex task that depends upon a network of public and private sector clients, financiers, suppliers, economic regulators and infrastructure users. United Nations Capital Development Fund (UNCDF) found out that infrastructure bottlenecks are key barrier to local economic development. These bottlenecks are the factors motivating the infrastructure providers and researchers to device means of alternative financing for infrastructure.

Mwangi (2007) examined factors influencing financial innovation in Kenya's securities market using listed firms on Nairobi stock exchange. The study identified regulatory factor, unstable foreign exchange rates and fluctuations of interest rates, technology and global financial competition and integration.

Schwartz, Corbacho and Koranchelian (2015) submitted that the use of innovative financing mechanisms have been motivated by tight government budgets and a desire to circumvent restrictions and controls that apply to traditional financing. Mostafavi, Abraham and Lee (2012) identified a range of factors for adoption of innovative financing to include enhancing public benefit, economic development, job creation and reduce project cost. Economic development is the primary economic benefits of infrastructure accrue to users over the life of the assets is one of the determining factors for the implementation of financing mechanisms that will close the financing gap. Pakkala (2002) identified aging infrastructures, cost escalation, limited resources, productivity, acute regional development, environmental issues, and sprawling growth as the strong incentives for seeking alternative and innovative means to procure the main

foundations of society and maintain economic stability.

Stakeholder's Perceptions of the Barriers of Innovative Financing for Infrastructure

According to the report of AIFWG, there are three main stakeholders in the demand and supply of infrastructure which are: the community, industry and government. In this study the group is classified mainly to Public (Government ministries) and Private organizations such as investors, financier, consortium.

Generally, every new idea has various degrees of challenges to its implementation. Authors have identified various challenges of innovative financing for infrastructure ranges from those that are peculiar to the infrastructure sector and to the choice of financing mechanisms. Business Innovation and Skills (BIS, 2011) identified lack of production capacity, timing issues and immature technology as part of the challenges of innovative financing mechanisms for infrastructure provision.

Badu, Edwards, Owusu-Manu and Brown (2012) identified fourteen (14) barriers to the implementation of innovative financing in Ghana to include; expectation of the populace, lack of revenue generation potential, adequacy of revenue, enforcement of laws, maintaining and replacing infrastructure assets, cost of inefficiency (delays/cost overruns), issues of how funds are spent, fiscal prudence, limited alternative sources, sustainability of the strategy in the long run, governance and institutional capacity issues, excessive reliance on traditional sources, corruption issues and lack of long-term financing at fixed interests.

African Business Review magazine (2014) identified knowledge of infrastructure and financing tools as another barrier to the development of infrastructure. The knowledge side of infrastructure development should be given the needed attention such that government can create Infrastructure Development Index (IDI) like

that of African Development Bank (AfDB) index. The Bank recently developed the Africa Infrastructure Development Index to monitor the state and progress of infrastructure development on the continent.

Similarly, economic, environmental and political issues are other challenges to the implementation of innovative financing. In the study of Paritha (2005) on innovative approach to Municipal infrastructure financing in Tamil Nadu, India, success was recorded on the level and percentage of the infrastructure that was achieved with the adoption of the new financing tools. However, litigations and frequent disruption by private transport companies and members of the society who take the toll road and bridges as social infrastructure reduces the anticipated revenue and elongate the period of recouping the money invested.

Research Methodology

Study Area

Lagos State is the most populous city in Nigeria and the second largest metropolitan area in Africa, after Cairo with a land area of about 3,577sq/km and projected population of 14.86 million in year 2021 (UN-HABITAT, 2010). Lagos State is a major African financial centre and is the economic hub of Nigeria at large. Lagos hosts the nation's major seaports, airport and the telecommunication gateways and houses over half of the Nigeria's industrial capacity (Lagos Statement, 2014). With its present population and expected growth, the need for robust and effective transport infrastructure development cannot be over emphasised.

Research Method

The study considered three study groups, namely: Lagos State Ministry of Works and Infrastructure, registered infrastructure-based contractors and private investors in Lagos state for the investigation and employed survey approach using questionnaire as data collection instrument. There were sixty-two (62) identified respondents in total and opinions of respondents were rated using likert scale

while data obtained was analysed using Relative Importance Index (RII).

Result and Discussion

From Table 1 above, the study groups responses were categorized into three: “Very Influential and Extremely Influential” as the top-most category, “Somewhat Influential and Slightly Influential” as the medium class and “Not Influential” as lower class. The result of the larger proportion of the respondents whose perception fall within the top-most category of influence indicates the following; sprawling growth or urbanization (78.6), economic development (75.0%), time and safety (78.6), value for money (67.9%), quality (69.6%) and regulatory factors (69.6). This implies that all the six (6) variables identified are vital, and influence the adoption of innovative financing mechanisms for transport infrastructure.

The essence of these factors is that they serve as an indicator that may be used to take decision on either to adopt alternative financing mechanisms as a means of financing or use budgetary allocation.

Organisations’ capacity to recoup the cost, and enabling law will be additional key factors that should be considered in adopting financing mechanisms.

The respondents whose perception falls within the middle level confirmed that three (3) major factors are not much important, they are; environmental issues (76.8%), job creation and reduced project cost (64.3%), and limited resources (67.9%) are not as significant as the other four (4) variables. This implies that not all the risks will significantly affect the adoption of innovative financing for projects development.

The respondents whose perception falls within the lower level indicated unstable foreign exchange (14.3%), value for money (16.1%), enhance public benefit (14.3). Generally, all the identified factors have impact in the use of innovative financing. However, the degree of influence varies significantly. In order to ensure a clearer focus on the findings, simple descriptive analysis, which ranks each variable orderly was analysed.

Table 1: Factor Determining the Use of Innovative Financing

S/ N	Factors	Not Influential (%) 1	Slightly Influential (%) 2	Somewhat Influential (%) 3	Very Influential (%) 4	Extremely Influential (%) 5	Mean Value	Ranks
1.	Economic Development			1 (1.8)	42 (75.0)	12 (21.4)	4.2000	1
2.	Environmental issues	3 (5.4)	2 (3.6)	43 (76.8)	7 (12.5)	-	3.8909	2
3.	Sprawling growth or Urbanization	2 (3.6)	3 (5.4)	3 (5.4)	44 (78.6)	3 (5.4)	3.7818	3
4.	Job creation and reduction of project cost	1 (1.8)	3(5.4)	36 (64.3)	6 (10.7)	9 (16.1)	3.3455	4
5.	Limited resources	1 (1.8)	3 (5.4)	38 (67.9)	3 (5.4)	10 (17.9)	3.3273	5
6.	Closing infrastructure financing gap	-	1 (1.8)	13 (23.2)	7 (12.5)	34 (60.7)	2.2364	6
7.	Decline in public fund	-	2 (3.6)	11 (19.6)	8 (14.3)	34 (60.7)	2.2182	7
8.	Enhance public benefit	8 (14.3)		1(1.8)	10 (17.9)	36 (64.3)	2.1636	8
9.	Value for Money	9 (16.1)	8 (16.1)	3 (5.4)	38 (67.9)	-	2.0909	9

10.	Technology and global financial competition	6 (10.7)	6 (10.7)	1 (1.8)	7 (12.5)	35(62.5)	1.9636	10
11.	Aging Infrastructure	4 (7.1)	2 (3.6)	4 (7.1)	8 (14.3)	37 (66.1)	1.9091	11
12.	Quality	3 (5.4)	1 (1.8)	3 (5.4)	39 (69.6)		1.8364	12
13.	Desire to circumvent restrictions and control over traditional financing	3 (5.4)	7(12.5)	2 (3.6)	7 (12.5)	36(64.3)	1.8000	13
14.	Unstable foreign exchange	4 (7.1)	8 (14.3)	1 (1.8)	5 (8.9)	37 (66.1)	1.7455	14
15.	Regulatory factor	2 (3.6)	7 (12.5)	2 (3.6)	5 (8.9)	39 (69.6)	1.6182	15
16.	Time and safety	2 (3.6)	3 (5.4)		6 (10.7)	44 (78.6)	1.5273	16

Relative importance index analysis of Table 1 shows that Economic development with mean value = 4.2000 was ranked first and was closely followed by environmental issues (Mean Value = 3.8909) which was ranked second while sprawling growth or urbanization (Mean Value = 3.7818) was ranked third. Ranked fourth was job creation and reduced project cost (Mean Value = 3.3455) and coming fifth, sixth, seventh, eighth, ninth and tenth respectively are limited resources (Mean Value = 3.3273), closing infrastructure financing gap (Mean Value = 2.2364), decline in public fund (Mean Value = 2.2182), enhancing public benefit (Mean Value = 2.1636), value for money (Mean Value = 2.0909) and Technology and global financial competition (Mean Value = 1.9636). In other words, economic development and environmental issues are the most influencing factors for innovative financing for transport infrastructure in the study area.

The high ranking of the first five factors could be as a result of the impact of infrastructure on economic development which has been established in literature that infrastructure has a positive impact on economic development (Snieska and Simkunaite, 2009). Economic development is the primary economic benefit of infrastructure accruable to users over the life

of the assets. It is one of the determining factors for the use of innovative financing mechanisms.

Table 2 presents the analysis of the respondents' opinion on the barriers to innovative financing for transport infrastructure. The larger percentage of the respondents agreed with the identified challenges. The following are the response rates of the sample population; Inadequate knowledge of innovative financing tools (85.7), Governance and institutional capacity issues (92.9), Expectation of the populace (75.0), Size of the finance required/Adequacy of the revenue (91.1), Lack of revenue generation potential (89.3), Enforcement of law (80.4) and Corruption issues (85.7) while a fraction of the aggregate population (64.3% and 76.8% respectively) strongly disagreed with Bureaucratic problem and Negative impact on government budget as challenges to implementing innovative financing mechanisms for transport infrastructure financing.

The relative importance index of the challenges of implementing innovative financing for infrastructure delivery in the State was analysed with the aim of determining the most impeding factor. Table 4 shows that Excessive reliance on traditional sources of finance and

Inadequate knowledge of innovative financing tools with mean values = 4.1273 each were ranked as first, and closely followed by Corruption issues (Mean Value = 4.1111) which was ranked third, while Lack of organized system for collection of taxes (Mean Value = 4.1091) was the fourth. Ranked fifth was Governance and institutional capacity issues (Mean Value = 4.0000) and ranked sixth are Size of the finance required/Adequacy of the revenue (Mean Value = 3.9273) and Expectation of the populace (Mean Value = 3.9273). Enforcement of law and Lack of willingness

to pay for infrastructure by users were each ranked eighth respectively, while Lack of revenue generation potential and Limited resources were ranked tenth and eleventh respectively. Fiscal prudence, Maintaining and replacing infrastructure assets, Bureaucratic problem and negative impact on government budget were the lowest ranked impediments to the implementation of innovative financing. The result of the findings shows that the first five challenges have a significant effect on the implementation of innovative financing for transport infrastructure in the study area.

Table 2: Challenges of Innovative Financing Mechanisms for Transport Infrastructure

S/N	Challenges of Innovative Financing	Strongly Disagreed (%) 1	Disagreed (%) 2	Neutral/ Undecided (%) 3	Agreed (%) 4	Strongly Agreed (%) 5	Mean Value	Ranks
1.	Excessive reliance on traditional sources			1 (1.8)	46 (82.1)	1 (1.8)	4.1273	1 st
2.	Inadequate knowledge of innovative financing tools	-	-	-	48 (85.7)	7 (12.5)	4.1273	1 st
3.	Corruption issues				48 (85.7)	6 (10.7)	4.1111	3 rd
4.	Lack of organised system for collection of taxes				49 (87.5)	6 (10.7)	4.1019	4 th
5.	Governance and institutional capacity issues		1 (1.8)		52 (92.9)	2 (3.6)	4.0000	5 th
6.	Expectation of the populace	6 (10.7)		6 (10.7)	42 (75.0)	1 (1.8)	3.9273	6 th
7.	Size of the finance required/Adequacy of the revenue		2 (3.6)	1 (1.8)	51 (91.1)	1 (1.8)	3.9273	6 th
8.	Enforcement of law		5 (8.9)		45 (80.4)	5 (8.9)	3.9091	8 th
9.	Lack of willingness to pay for infrastructure by the users	3 (5.4)			51 (91.1)	1 (1.8)	3.9091	8 th
10.	Lack of revenue generation potential		4 (7.1)		50 (89.3)	1 (1.8)	3.8727	10 th
11.	Limited alternative	1 (1.8)	6 (10.7)	1 (1.8)	44 (78.6)	3 (5.4)	3.7636	11 th

	funding sources							
12.	Fiscal prudence		8 (14.3)	3 (5.4)	43 (76.8)	1 (1.8)	3.6727	12 th
13.	Maintaining and replacing infrastructure assets	5 (8.9)	2 (3.6)	1 (1.8)	46 (82.1)	1 (1.8)	3.6545	13 th
14.	Bureaucratic problem	36 (64.3)	2 (3.6)		15 (26.8)	2 (3.6)	2.0000	14 th
15.	Negative impact on government budget	43 (76.8)	7 (12.5)		4(7.1)	1 (1.8)	1.4182	15 th

Conclusion and Policy Implication

In conclusion, government, contractors and investors in Nigeria should not rely solely on federal allocation for the development of transport infrastructure, but rather look inward to generate funds through sustainable means that will not only develop the needed infrastructure, but will provide for the maintenance and replacement of the existing infrastructure. Nigeria has the potential to meet a significant part of her infrastructure financing deficit from domestic sources, through alternative financing scheme without recourse to external funding. Some states are financially stable due to the volume of their economic activities. Specifically, Lagos State, if only the platform to obtain this fund can be developed and harmonized in a sustainable manner.

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