

An Examination of Road Infrastructures in Abuja Sheraton, Maiduguri

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***Abstract:** The study examined road infrastructures in Abuja Sheraton area of Maiduguri. It focuses on the the major characteristics of the infrastructure being, area coverage and length. Also, the street that houses the roads are also considered as a basis for the calculating the area and the total length. A satellite image from google maps repository was the major data collected for the study. This data was charted into ArcMap 10.6 window and digitised. This was used to obtain the area coverage and the total length of the roads. Descriptive statistics was used for the analysis. The result showed that majority of the streets are void of roads and only 11.13% of the street length was tarred. It was recommended to involve the private sector in the provision of roads and elevate public spending in the provision of road infrastructures.*

***Key words:** Road, Infrastructures, Development, Paved, Tarred*

Introduction

Infrastructure is the set of fundamental facilities and systems that support the sustainable functionality of households and firms (Demurger, 2001 Demetriades & Mamuneas 1998). Serving a country, city, or other area, including the services and facilities necessary for its economy to function (Easterly & Rebelo, 1993; Gordon, 2008). Infrastructure is composed of public and private physical structures such as roads (Okafor 2020), railways, bridges, tunnels, water supply, sewers, electrical grids, and telecommunications (including Internet connectivity and broadband access). In general, infrastructure has been defined as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions and maintain the surrounding environment. Especially in light of the massive societal transformations needed to mitigate

and adapt to climate change, contemporary infrastructure conversations frequently focus on sustainable development and green infrastructure (Adesoye, Maku & Atanda, 2010; Agenor, 2004). Acknowledging this importance, the international community has created policy focused on sustainable infrastructure through the Sustainable Development Goals (Barro & Xavier, 1995).

Is infrastructure so important to a nation's development? The answer is that once goods are produced, they need to be transported to the ports and airports for transportation to other states and countries (Berndt & Hansson, 1992). This means that excellent roads are needed to transport the goods or otherwise, they would be delayed leading to economic and reputational losses. Indeed, if a manufacturer produces goods quickly but is unable to transport them to the destination as fast as they can, then there is no point in making the goods in an efficient manner in the first place (Canning, 1999).

In an urban area like Abuja Sheraton in Maiduguri requires ample circulation where road condition and availability has become a major impediment to. Adedotun, Ogundahunsi & Oyeniyi (2016) asserted that some of the reasons for indiscriminate on-street parking is attributed to inadequate and road infrastructures. Access during wet seasons is another major issue. It is has become regular for roads and drainages to go hand-in-hand. The irregular nature of the streets is a clear indication of inconsideration for road infrastructures coupled with improper specifications and continuous encroachment into the access street. The study therefore examined the nature of road infrastructures in Abuja Sheraton considering the major characteristics such as tarred and untarred areas, the area coverage of these portions with the view to proffer physical planning measures for improvement.

The study area

Abuja Sheraton area has been in existence for the past 20 to 25 years. It is located in Jere local government of Borno State. It is located in the south eastern part of Maiduguri and covers a large area of about four-square kilometers (4sqkms). Abuja Sheraton is opposite Moduganari area. Abuja Sheraton area is a settlement under Jere local government area of Borno State. It is located in the south-eastern part of Maiduguri. It is bounded by Dala ward to the west, Maiduguri international airport to the north, and Bulumkutu ward to the eastern part. It is a 5 km journey from the Central Business District (CBD).

Methodology

Data for this study a satellite image covering the study area was obtained from google earth repository. Data on the standards for roads was also collected from secondary source (Obateru, 2010). The satellite image was georeferenced in ArcMap window to ensure its right location on the globe utilising a UTM WGS 33N projected coordinates system. The road network of the study area was further digitised to acquire the length and area covered by the roads in different categories. The area coverage and total length of each road category was automatically calculated in the attribute table of the individual shapes digitised for the road types. Descriptive statistics was further utilised to analyse the area and length which was presented in frequencies and percentages respectively.

Table1: Standard for Road Infrastructure

Road type	Street width	Metal portion	Central verge/ medium	Drainage type	Carriage type
Arterial	24	7-7.4	Yes	Double	Dual
Distributor	18	7-7.4	Yes	Double/ single	Dual/single
Access	12	7-7.4	No	Double/single	Single

Source: Obateru, (2010)

Discussion and findings

Table 2: Length of existing roads by category

Road length category	Length (m)	%
Tarred	5486.28	11.13
Untarred but paved with drainages	2297.22	4.66
Untarred	41497.14	84.21
Total	49280.64	100

Source: Field survey 2022

Table 3: Area of existing roads by category

Road area coverage category	Length (m)	%
Tarred	37612.51	5.86
Untarred but paved with drainages	15773.18	2.46
Untarred	589008.54	91.69
Total	642394.23	100

Source: Field Survey 2022

Table 2 showed that the majority of the streets constituting 84.21% are untarred, while only 11.13% is tarred. This is an indication of under provision of infrastructures in the area. Such a situation can be a serious problem during the wet season especially regarding the relatively flat terrain. Also, as small as 4.66% of the streets seems to have some construction work going on with pavements and drainages present. Table 3 showed also that only 5.86 constitute the total length of tarred roads in the area with 91.69% untarred. This is as a result of neglect or rather improper distribution of infrastructures in Maiduguri town. In some areas infrastructures are over provided while the reverse is the case for others such as Abuja Sheraton.

Road infrastructures in Abuja Sheraton Maiduguri is mostly not completed and majority of the road work has not even put in place. This means that the areas need immediate action regarding provision of road infrastructure.

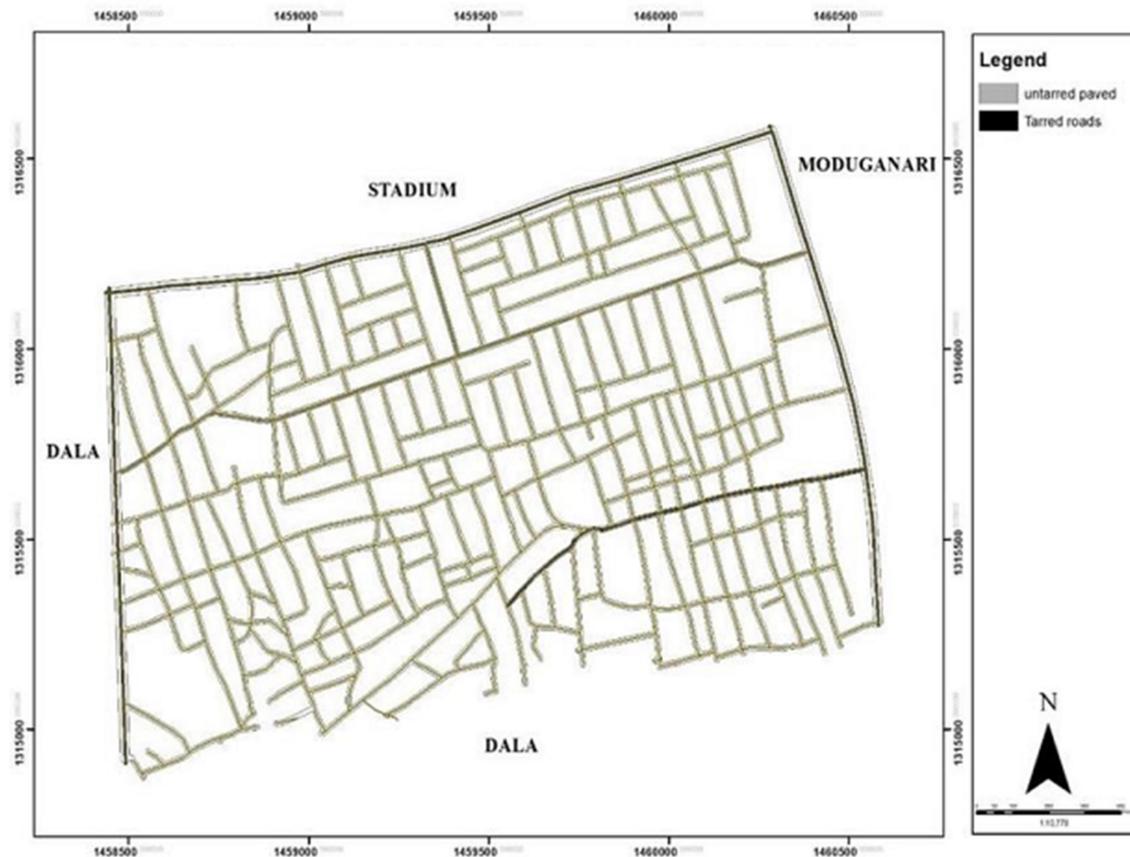


Fig 1: Distribution of Road Infrastructure Categories in Abuja Sheraton

Conclusion and Recommendation

it is obvious that without adequate infrastructure, the economy may not be able to overcome its structural challenges and achieve sustainable growth and development (Cullison, 1993; Hulton, Schwab, 2005). It will, therefore, be worthwhile for the government and policymakers to implement policies geared towards the development of infrastructure. Also, as the government cannot do it all alone, the private sector needs to be actively involved through the Public-Private Partnership (PPP), with the government creating an enabling environment for this to thrive (Munnel, 1990). Therefore, the government should effectively regulate the budgetary allocation for infrastructure spending in order of foster real sustains able growth. Likewise, the monetary authority should maintain their monetary stance and liquidity level from time to time. This to ensure that there is abundant availability to fund in the economy to take view capital intension. Lastly, since infrastructures are the major drivers of development (Mitsui, 2004) in urban areas, the public sector should finance higher capital-intensive infrastructure investment in order to make their growth contributions significant.

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