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Research Article

Socio-Economic and Infrastructure Impacts of Motor Parks in Kaduna Metropolis, Nigeria

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ABSTRACT

Motor parks are important hubs for the movement of goods and people across the country; however, their socioeconomic impacts have not been adequately studied. This study, therefore, assessed the socio-economic and infrastructure impacts of motor parks in the Kaduna Metropolis, Nigeria. Data were obtained through a structured questionnaire administered to 155 respondents using convenience sampling. The data was analysed using descriptive statistics on SPSS. The results revealed that 94% of respondents reported that motor parks have significant socio-economic impacts. Furthermore, 52% of respondents indicated motor parks provide business opportunities, while 32% reported they are a source of revenue for state and local governments. The study also found that buses were the dominant mode of transport, accounting for 61.3%. For accessibility, 67.7% of respondents acknowledged good connectivity to transport networks, while 32.3% reported poor access. The study concludes that motor parks in Kaduna are critical economic catalysts that also face infrastructural and accessibility challenges. The study recommends strategic infrastructure investment, enhanced regulatory oversight, and the integration of GIS in urban planning to optimize the benefits of motor parks while mitigating their negative externalities.

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1 Introduction

The motor parks in today's modern society are the most common first contact for people traveling from one destination to another, and in the past, were designed for reasons of prestige to promote governments or a company's image and to give the passengers a feeling of well-being and safety in their new destinations (Ahmed, 2015). Motor parks are vital to ensuring people have access to goods and services they need on roadsides or at commercial boulevards, and they play a significant role in a city's economy (Asiyanbola & Akinpelu, 2012).

Motor parks are a necessity in every nation and country; they serve as a source of day-to-day mobility, enabling movement within a country (Wachuckwu et al., 2024). In developed countries, motor parks are well known and shown on maps to help residents locate them (Atoyebi et al., 2015). However, in Nigeria, the rate at which motor parks are opened without certification or authorization to render services is alarming and quite disturbing, as it poses a security risk to the country (Nathaniel et al., 2013). Despite their importance, the proliferation of unauthorized motor parks poses safety and planning challenges.

Transport has built cities over the years in some cities/urban areas in Nigeria, and it has gradually destroyed them (Ogunsanya, 2002). Cities function as commercial and industrial centres worldwide where buses, trucks, and cars move goods and passengers in and out daily (Gao & Zhu, 2022). Motor-park lots are vital to ensuring people have access to goods and services they need at road sides or on commercial boulevards (Femi & Tolorunloju, 2020). The explanation so far of the roles transportation plays in cities worldwide suggests that transportation is a potent force shaping any city's growth and development (Rodrigue & Notteboom, 2010). However, what is being witnessed today in emerging cities like Kaduna and many others in Nigeria is beleaguered by mobility problems, and this is what Ogunsanya (2002) declared as a "negative externality" or the "maker or breaker of the cities".

Legal or authorized parks refer to areas specifically designated as parking spaces for inter- and intra-transportation systems within a city or town and are approved by the government and its agencies (Sani et al., 2025), which include the Federal Road Safety Corps (FRSC) across the country, and the Kaduna State Traffic Law Enforcement Agency (KASTLEA) in Kaduna State (Akorede, 2025; Muhammed et al., 2021). However, an area allotted as a motor park that is not served as a moderate breather or not approved by the government/agencies is regarded as 'an illegal or unauthorized park' (Nathaniel et al., 2013).

The existing literature on urban transport in Nigeria largely addresses general issues such as road infrastructure development, traffic congestion, vehicle-related environmental pollution, the operation of motorcycles and tricycles, and street hawking, among others. There seems to be little discussion on the socio-economic effects of motor parks, especially in the urban

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area in question, Kaduna Metropolis. While existing studies focus on transport infrastructure and congestion, empirical research on the socio-economic and infrastructural implications of motor parks remains limited, particularly in the Kaduna Metropolis.

2 Materials and Methods

2.1 Study Area

Kaduna metropolis is situated between latitudes 10°23′00″ and 10°39′00″ N and longitudes 7°20′16″ and 7°35′00″ E, with an estimated area of 3,156 km². Figure 1 shows the spatial extent and major transport corridors. It is strategically located along major transportation routes connecting northern and southern Nigeria, making it an important political, administrative, industrial, and commercial hub (Bununu et al., 2015). Kaduna has a tropical continental climate with distinct wet and dry seasons. It has an average annual rainfall of 1,400 mm. The mean temperature can reach 30 °C in the hottest months, and relative humidity ranges from 25% to 90% depending on the season (Muhammad & Abubakar, 2025).

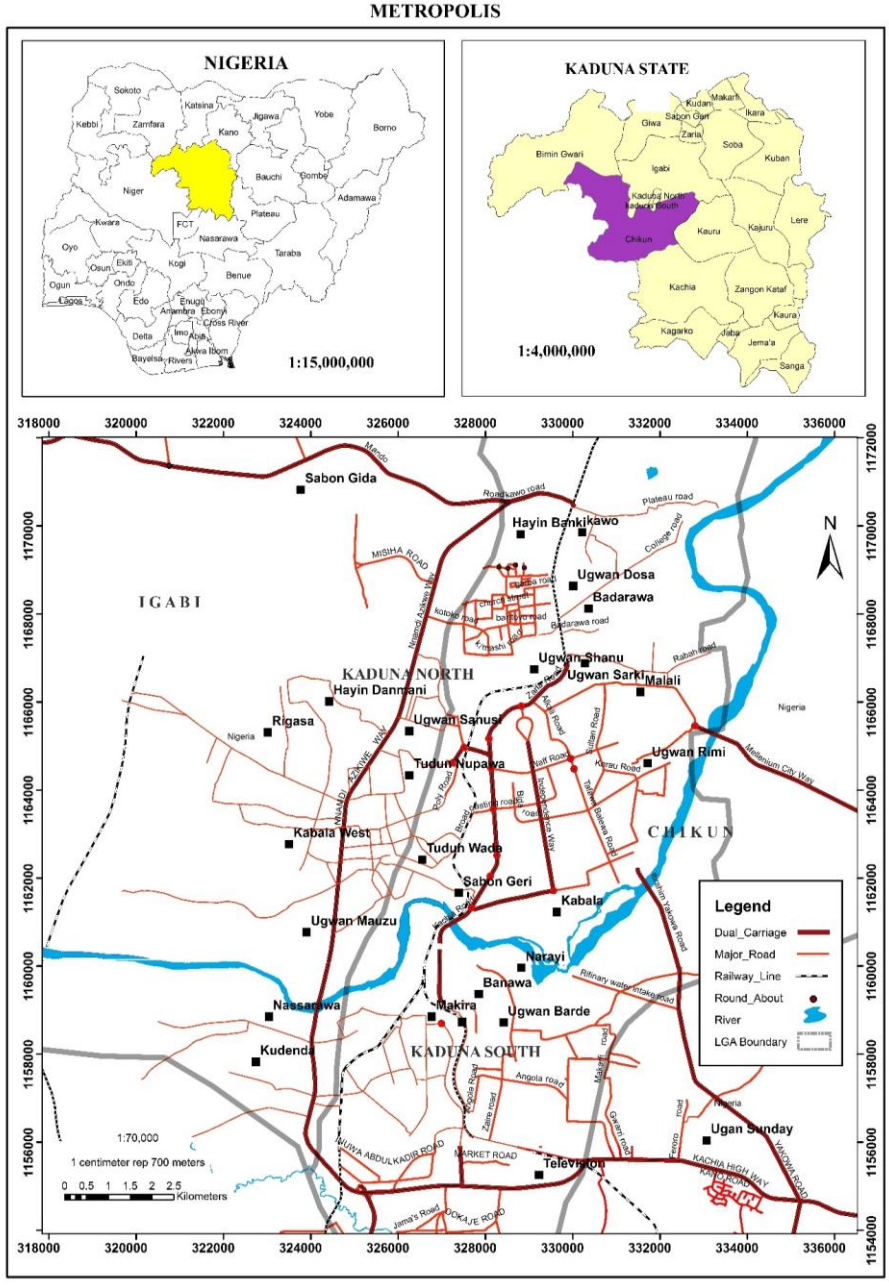


Figure 1: Study Area showing Kaduna metropolis

The vegetation is classified as Guinea savanna, with tall grasses intermingled with deciduous trees like *Isoberlinia doka*, *Daniellia oliveri*, and *Vitellaria paradoxa* (Mohammed & Mustapha, 2026). According to forecasts from the Kaduna Bureau of Statistics (2015), the population of the Kaduna Metropolis would top two million by 2026. It would continue to expand significantly due to urban migration and natural growth.

2.2 Data Acquisition

Data were collected using a structured questionnaire administered to respondents via convenience sampling at motor parks in Kaduna Metropolis. The respondents were selected based on their availability and accessibility at the time of data collection. The researcher approached potential participants directly at these locations, explained the study purpose, obtained informed consent, and administered the questionnaire until the target sample size of 155 was achieved.

2.3 Data Analysis

After the data collection, the quantitative data from the administered questionnaire were coded and entered into SPSS v27. Subsequently, the coded data were analyzed using descriptive statistics. Specifically, frequencies and percentages were used. Frequency counts the actual number of occurrences of each category, while percentage is calculated as Equation (1):

$$Percentage\ (\%) = \frac{Frequency}{Total\ number\ of respondents} * 100 \quad (1)$$

This provided proportional insights into the distribution of responses.

3 Results and Discussion

The results are presented as maps, charts, and graphs. The analysis of the data and results was carried out under the following: Analyze the socio-economic impact of motor parks in Kaduna metropolis.

3.1 Demographic Characteristics of the Respondent

Table 1 presents the demographic characteristics of 155 respondents surveyed. For age distribution, people aged 20-30 years made up the largest population with 51%, followed by those aged 30–40 years with 35.5%. Older groups were much smaller, with only 9.7% aged 40-50 years, and those aged 50+ accounted for only 3.9%. This indicates that younger adults overwhelmingly dominate motor park-related activities or interactions. This result aligns with the findings of Offiong et al. (2015) that young people overwhelmingly dominate motor-park-related activities.

Regarding the distribution of respondents by gender, the study found that the parks are male-dominated, with 153 respondents (98.7%) male and only 2 (1.3%) female. This gender imbalance highlights structural barriers to female participation in the transport sector, likely reflecting the predominance of men in roles such as drivers, conductors, loaders, traders, and other workers or users associated with transport hubs. The findings are similar to those of Mensah et al. (2023), who found that Nigeria's transport sector is male-dominated.

Table 1: Age Group of the respondents

Age	No of respondent	Percent
20-30 years	79	51
30-40 years	55	35.5
40-50 years	15	9.7
50 years 60Above	6	3.9
Total	**155**	**100**
Gender		
Male	153	98.7
Female	2	1.3
Total	**155**	**100**

Table 2 below shows that 32.3% of the respondents in the study area are civil servants, 7.7% are farmers, while 30% and 29% are traders and those who chose others, respectively. This reflects the integration of motor parks into informal and semi-formal urban economies. The result is similar to findings from studies in the Kaduna Metropolis, which revealed that the majority of residents were civil servants. This is supported by Abubakar et al. (2025) and Ojonuba et al. (2025). Similarly, Usman et al. (2020) reported that a significant number of the residents were traders.

Table 2: Occupations of the respondents

Occupation	No of respondent	Percent
Civil Servants	50	32.3
Farmers	12	7.7
Traders	45	29
Others	48	30
Total	**155**	**100**

Table 3 revealed that there are 15 government-operated motor parks or facilities, 17 privately operated ones. The dominance of private operators may explain inconsistencies in infrastructure and regulatory enforcement. This is similar to the findings of Atoyebi et al. (2015) on the presence of privately managed bus terminals in Lagos, Nigeria.

Table 3: Types of Motor Parks

Operator	Number
Government	15
Private	17
Total	**32**

3.2 Modes of transportation in motor parks in Kaduna Metropolis

Figure 2 revealed that 61.3% of the respondents believe buses are the most common modes of transportation in the motor parks in Kaduna Metropolis, while 38.7% believe taxis are more common. This agrees with Owoeye et al. (2022), who found that the common modes of public transport include buses, minibuses, and shared taxis. Agunloye et al. (2025) argued that public bus services are integral to urban infrastructure.

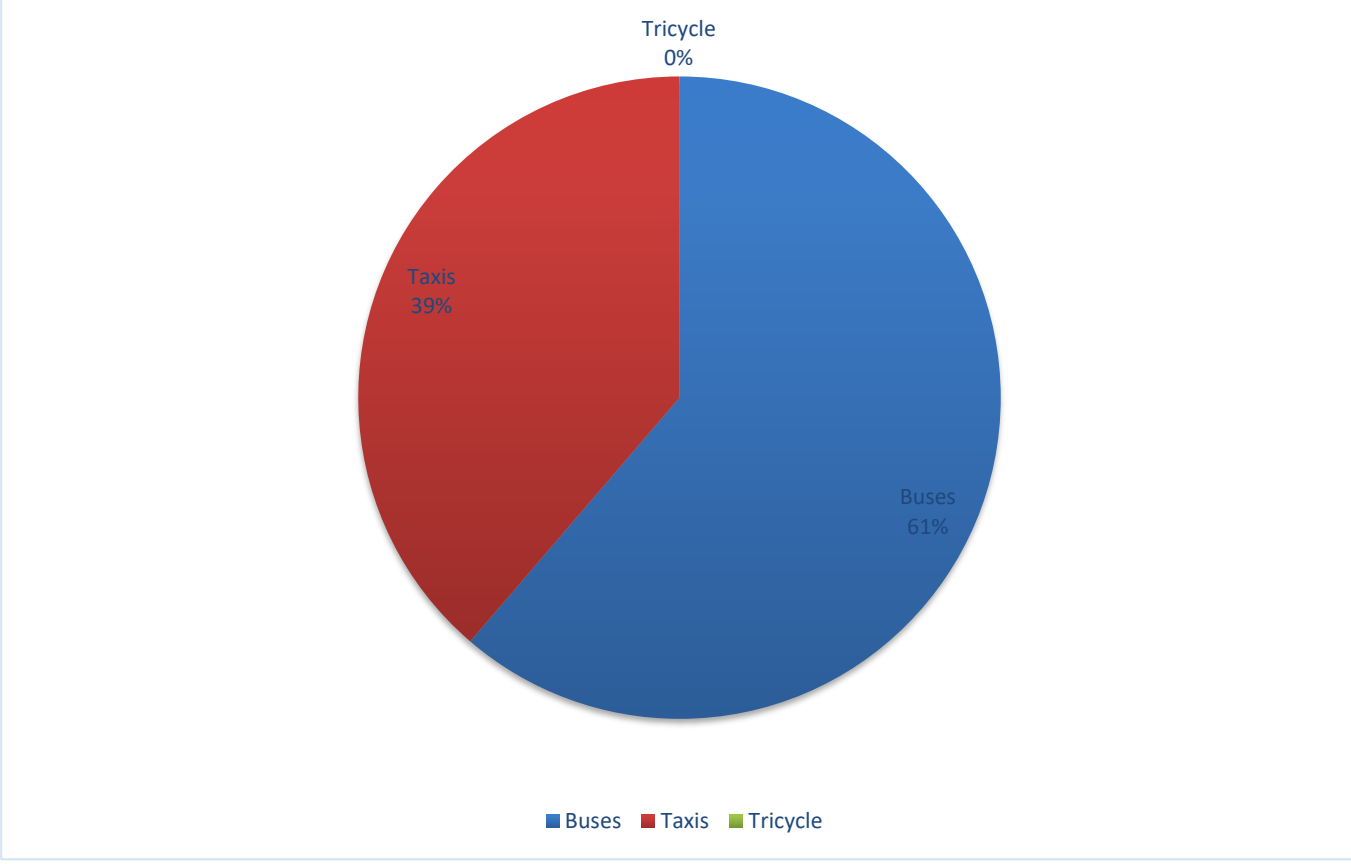


Figure 2: Types of Commercial Vehicles Commonly Found at Motor Parks

3.3 Socio-economic Impacts of Motor Parks in Kaduna Metropolis

This study examined the socioeconomic impacts of motor parks in Kaduna Metropolis. The result is shown in Figure 3.

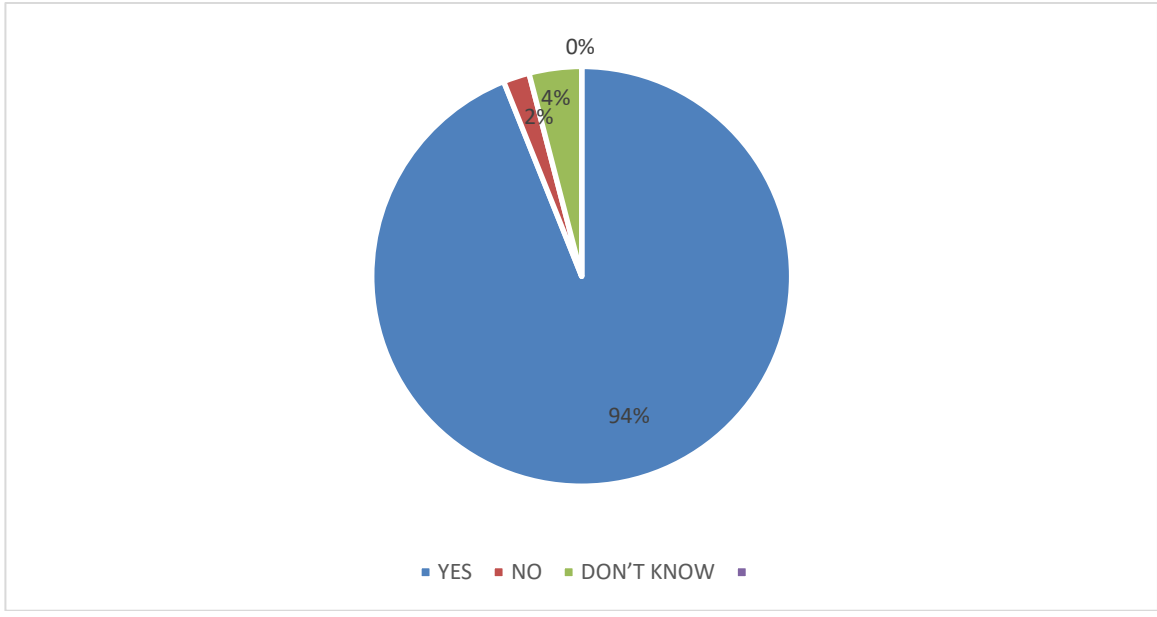


Figure 3: Socio-economic impact of motor parks on society

Figure 3 revealed that a large proportion of respondents perceived that motor parks in Kaduna metropolis have a socio-economic impact on society. In comparison, 2% agreed that it does not have a socio-economic impact, and 4% where of the opinion that they do not know. Oladokun et al. (2025) revealed mixed perceptions among residents about the socio-economic impacts of motor parks, particularly regarding employment opportunities and income generation.

The perceived socio-economic benefits of motor parks in Kaduna Metropolis are presented in Figure 4.

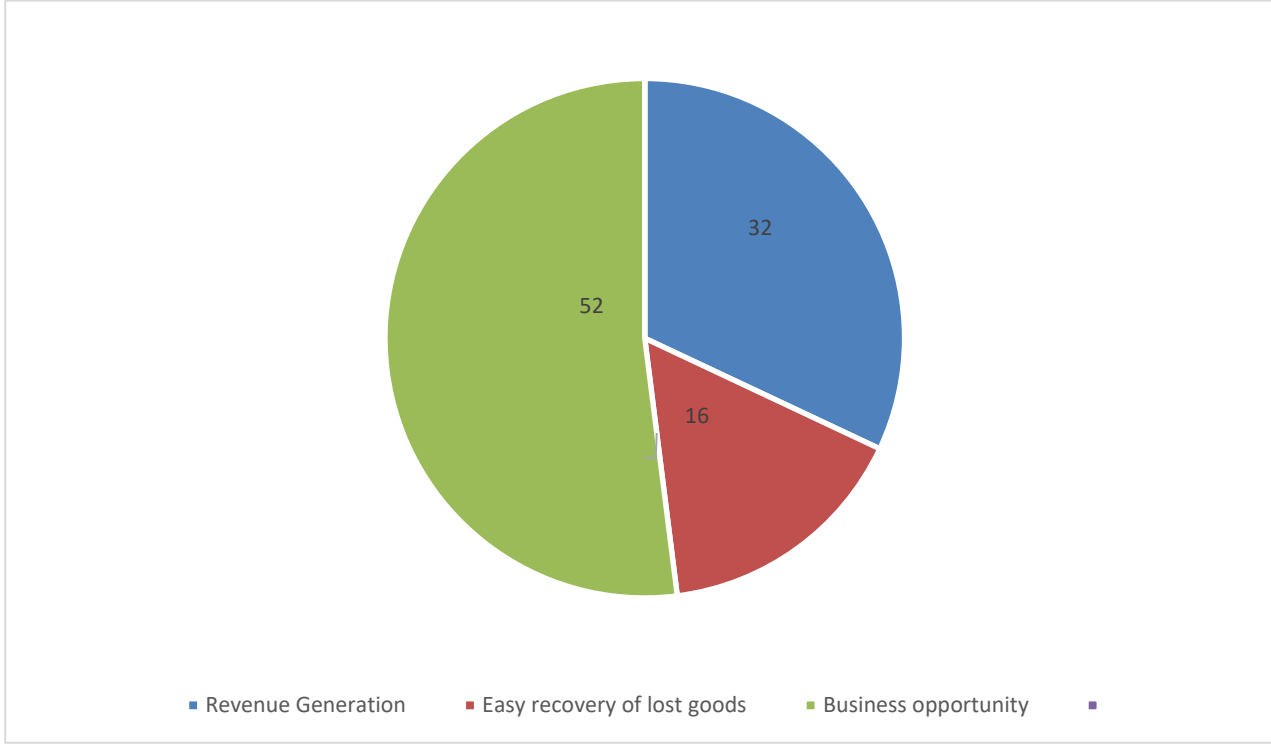


Figure 4: Perceived Primary Socio-Economic Benefits of Motor Parks in Kaduna Metropolis

Figure 4 revealed that 52% agreed that motor parks in the metropolis provide business opportunities, 32% agreed that they serve as a source of revenue. In comparison, 16% reported facilitating the easy recovery of lost goods. However, these benefits may be offset by challenges such as congestion, sanitation issues, and informal taxation. Olugboyega (2022) reported that state and local governments generate revenue from motor parks. Similarly, Oluwasanmi and Fagbadebo (2015) found that motor park managers help recover missing or forgotten items.

3.4 Commuter's Perception of motor parks in Kaduna metropolis

The perception of commuters concerning accessibility to the motor parks is presented in Table 4.

Table 4: Proximity from Major Roads

Answers	No of respondent	Percentage
Yes	105	67.7%
No	55	32.3%
Total	**155**	**100%**

Table 4 shows that 67.7% of the respondents interviewed and who answered the questionnaire replied (Yes) that the motor parks are well connected to the transportation network. In comparison, 32.3% replied (No) due to poor transport networks in their environment.

4 Conclusion

Motor parks represent critical nodes in urban informal economies but require structured planning integration. This study assessed the influence of motor parks on socioeconomic activities in the Kaduna Metropolis. The study revealed that motor parks are busy economic centers that provide jobs and influence the city's economy. Demographic profile of the respondents revealed a clear gender gap in the transport sector. Buses are the most common mode of transport, at 61.3%, while taxis account for 38.7%. The study also found that the overwhelming majority of respondents believe that motor parks have significant socioeconomic impacts in the Kaduna Metropolis. Similarly, the study concludes that motor parks provide business opportunities to residents and generate revenue for the government. Lastly, the study found that most motor parks are privately managed, which helps explain the inconsistencies and inadequate operations.

The study therefore made the following recommendations:

i. The government should improve road networks and access routes to parks, addressing the connectivity challenges identified by 32.3% of respondents.
ii. KASTLEA and planning authorities should intensify monitoring to curb unauthorized parks, ensure safety compliance, and streamline revenue collection.
iii. Policies should encourage women's participation in the transport sector through designated roles and safer park environments.
iv. Urban planners should adopt GIS for strategic siting of new parks to ensure optimal location and integration with the city's development framework.

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