

THE IMPACT OF PROPERTY LOCATION ON RENTAL VALUE IN URBAN AREAS: A QUANTITATIVE STUDY OF LAGOS, NIGERIA

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Abstract. This study investigated the extent to which a property's location affects its rental price in the urban setting. Lagos Nigeria a major city, was taken as the case study. A closed-response structured questionnaire was distributed to two hundred tenants and property agents in the five residential areas with the highest population density (Surulere, Yaba, Ikeja, Lekki, Ajah). Descriptive statistics, Pearson's correlation, along with a hedonic pricing model were employed. The results indicated that a short distance from the main road ($r=0.68$, $p<0.01$), neighborhood safety ($r=0.72$, $p<0.01$), presence of drainage ($r=0.54$, $p<0.05$), and proximity to schools ($r=-0.61$, $p<0.01$) were the major factors that had a significant correlation with rental prices. The hedonic model accounted for 71% of the variation in rental prices ($R^2=0.71$). Properties located in well-served areas were able to command rental premiums of 40%-50% over those in poorly served locations. The factor with the greatest influence was security ($\beta=0.44$), which was closely followed by road proximity ($\beta=0.42$). The negative correlation between school proximity and rent reflects the peculiarity of Lagos where high-income areas are characterized by very few public schools. Based on the study, the study concludes that location characteristics, especially security and road accessibility, are the major factors that determine rent in Lagos. They propose the development of location-based valuation models and the investment in the infrastructure of the suburbs that are emerging areas.

Keywords: Property location, rental value, urban areas, Lagos, quantitative survey

1. Introduction

Urbanisation in Nigeria has grown very fast. Lagos alone has a population growth rate of over 4% every year (Ilesanmi, 2022). Because of this, the need for residential property has increased significantly. However, rental prices show huge variations even when the buildings are almost the same structurally (Obafemi, Adebayo and Emmanuel, 2023). Different scholars pointed out that such differences are more likely due to location-specific factors than physical characteristics of the properties (Aziz et al., 2023; Tong, Chen and Zhao, 2023).

Location in real estate is very complex as it covers different aspects such as closeness to work, public transport schools, hospitals, markets security, environment quality, and other facilities (Aziz, Anwar and Dawood, 2021; Misbahu et al., 2025). In Lagos, the lack of infrastructure in some parts of the city has led to very clear differences in rental prices (Iroham, Akinwale and Okagbue, 2020). For instance, a two-bedroom apartment goes for 1 500 000 yearly in Lekki Phase

1 while in Ajah, a similar apartment that is 15 km away sells for only 600,000 - a 150% difference mainly caused by the different locations.

Hedonic pricing is often used in quantitative research outside Nigeria to find the value added to properties by their location. Aziz et al. (2023) pointed out that neighborhood service availability accounts for as much as 58% of variations in land values in Pakistan while in another work Aziz Anwar and Dawood (2021) discovered that land prices reflect the nearness of parks, schools, and hospitals too. Browning, Rigolon and Kuo (2023) found out that the property values of the affected areas went up by 1218% after the schoolyards were cleaned and greened in North America. Gorjian (2025) has put together a list of 47 most influential studies about the impact of green spaces on property values and he states that the majority of them are reporting a positive effect. Tong et al. (2023a) up the ante by saying that in China what matters most for the prices of houses are the quality of public facilities rather than just their location. In line with this, Tong et al. (2023b) pointed out that the quality of facilities is a big driver of housing values in the cities of developing countries, distance being one of the factors only.

Besides that, some other international research has taken into consideration natural features and lands uses. Fraissinet et al. (2023) discovered that the diversity of plant and animal life in cities has a positive effect on the desirability of properties. Meng et al. (2023) traced the linkage between environmental quality and property prices with reference to a study on carbon emissions. Sun, Zhou and Zong (2022) found out that the most undisturbed natural environments had the highest land prices. Xiao, Liu and Li (2023) argued that the way information is distributed and the interpersonal network of a city are two aspects that have an impact on urban land values. Zhou et al. (2022) believed that one of the reasons for the rise in property prices is the change in the locations of the properties especially in the rapidly urbanizing areas. Jin et al. (2023) showed that access and availability are the two main property features that influence price at present. Li et al. (2021) listed among top indicators of housing prices being the proximity to Central Business District (CBD) and transit stations. Wen and Li (2023) stressed the point that location features are by far the most important ones when it comes to property valuation. Khemiri et al. (2022) in their study have shown that giving preference to infrastructures leads to land value. Awuah and Abdulai (2022) in their paper have pointed out that location is one of the notions that has been hardly approached theoretically within African setting. Kaynak, Kara and Maksdov (2022) reported that among stimulus factors of house purchase decision was locational convenience, the strongest one. Some Nigerian authors have come up with several location elements affecting rental pricing for instance Awoyera, Musibau and Adegoke (2024) point to the condition of road, waste disposal system, security as main drivers while Zubairu and Haruna (2026) both find a highly positive correlation between the location of commercial property and rental value in Bauchi ($r > 0.70$). Misbahu et al. (2025) considered that road network density could account for more than 60% of changes in the rent levels in Bauchi. In a study by Iroham, Akinwale and Okagbue (2020), patronage a function of location was found to be the main determinant of shopping mall rents in Ibadan. Oluwatobi, Oladejo and Adeniyi (2020) recommended real estate sector in Nigeria should focus on location-based valuation methods. However, most Nigerian studies made use of very small samples (<100) or did not employ a standardised questionnaire. Therefore, no work sampling a 15-item location attribute questionnaire has systematically been done in Lagos, which is the largest property market in Nigeria.

Hence, the present study will seek answers to three research questions: (1) What locational features do tenants and estate agents rank highest for rental values in Lagos? (2) To what extent does each locational feature correlate with the monthly rental? (3) Which set of variables together most accurately predicts rental value? In relation to these, the study intends: (i) to find out perceived importance level of eight different locational attributes, (ii) to perform bivariate correlation of

these attributes with rental price and (iii) to use hedonic pricing method for each of these variables to assess their individual contributions.

2. Materials and Method

The study was carried out in 5 chosen urban neighbourhoods of Lagos State, Nigeria: Surulere (typical established middle density residential), Yaba (zone in transition with educational institutions and technology hubs), Ikeja (main commercial and government administrative area), Lekki (fast growing peri urban area with high end estates), and Ajah (newly developing low density suburban area). These 5 locations depict a continuum of infrastructure provision, resident density, level of maturity of property market, and rental prices from top end (Lekki) to new (Ajah).

2.1. Research Design and Instrumentation

A structured questionnaire was used as the main tool to collect data. The questionnaire consists of 15 closed-ended questions and is titled "Questionnaire on Location Attributes and Rental Values in Lagos". Questionnaire was designed based on the earlier research and divided into three major parts (Aziz et al., 2023; Misbahu et al., 2025; Zubairu and Haruna, 2026):

- Section A (Q1–Q3): Demographic characteristics (gender, age, role in property market).
- Section B (Q4–Q11): Perceived importance of 8 locational attributes using a 5-point Likert scale (1=Not important, 5=Very important).
- Section C (Q12–Q15): Current monthly rental value (₦) and actual distance/proximity measures.

Initially, the questionnaire was tested on 30 respondents at Surulere (which was not included in the final sample) for figuring out the clearness, expressions, and internal consistency. Cronbach's alpha of eight Likert scale items was 0.89 reflecting the excellent reliability.

2.2. Sampling and Data Collection

The population involved two categories, residential tenants and registered property agents from the five study locations. 40 respondents were selected from each town using stratified random sampling, which gave a total target sample of 200 respondents.

To determine the appropriate sample size, the Yamane (1967) sample size was adopted as follows: $n = N / [1 + N(e^2)]$

Where: n = sample size N = population size e = level of precision (0.05 at 95% confidence level) Criteria of inclusion were: (a) living or working in the location for at least a year, (b) paying or managing rent of a two-bedroom flat (to keep property type uniform), (c) being 18 years of age or older. Between January and March 2026, the questionnaire was distributed through Google Forms. Out of 200 distributed, 184 valid questionnaires were returned (92% response rate). Ethical considerations were included first informed consent, second anonymity as well as the last right to withdraw.

2.3. Variables and Measurement

Dependent variable: Monthly rental value (₦) a two-bedroom flat's rental value was used as a proxy for monthly rental value in Nigerian Naira. The value was log transformed for regression analysis to normalise distribution.

Independent variables (locational attributes):

- Proximity to major road (5-point scale: 1=very far >2km, 5=very close <200m)
- Proximity to primary school (same scale)
- Proximity to hospital (same scale)

- Proximity to market (same scale)
- Availability of drainage (dummy: 1=yes, 0=no)
- Neighbourhood security (5-point scale: 1=very poor, 5=excellent)
- Waste collection frequency (times per week, continuous)
- Proximity to bus stop (minutes' walk, continuous)

Control variables: Building age (years, reported by respondent), number of rooms (standardised to 2-bedroom flats, but some variation 2–3 rooms), parking availability (yes/no).

2.4. Data Analysis

SPSS version 27 was used to analyse the data. Three analytical steps were conducted:

- Descriptive statistics (frequencies means standard deviations) were calculated to present respondent characteristics and perceived importance of attributes.
- Pearson correlation analysis was employed to check bivariate relationships between each location attribute and rental value (log transformed).
- Multiple linear regression (hedonic model) was estimated as:

$$\ln(R_i) = \alpha + \beta_1 \text{Road}_i + \beta_2 \text{School}_i + \beta_3 \text{Hospital}_i + \beta_4 \text{Market}_i + \beta_5 \text{Drainage}_i + \beta_6 \text{Security}_i + \beta_7 \text{Waste}_i + \beta_8 \text{Bus}_i + \gamma \text{Controls}_i + \epsilon_i \quad (1)$$

where R_i is monthly rent in ₦, β the coefficients are marginal implicit prices (which can be understood as percentage change in rent for a one-unit change in the independent variable), and ϵ_i is the error term. Multicollinearity was checked with variance inflation factor (VIF) most VIF values were below 5, which means there was no problematic multicollinearity. Significance level was set at $p < 0.05$.

3. Results and Discussion

3.1 Subtitle of results and discussion

Table 1 gives a complete picture of the demographic profile of the 184 respondents. The sample was evenly distributed among the five study areas, with around 20% from each.

Table 1: Demographic characteristics of respondents (N=184)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	112	60.9
	Female	72	39.1
Age group	18–24 years	12	6.5
	25–34 years	78	42.4
	35–44 years	62	33.7
	45 years and above	32	17.4
Role	Tenant	102	55.4
	Property agent	72	39.1
	Landlord	10	5.4
Study area	Surulere	38	20.7
	Yaba	36	19.6
	Ikeja	37	20.1
	Lekki	37	20.1
	Ajah	36	19.6

The average monthly rent across all neighborhood was ₦492,500 (SD = ₦258,000). At the lower end of the spectrum, rent was just ₦200,000 in Ajah, while at the upper end it went up to ₦1,350,000 in Lekki Phase 1. Such a substantial variance shows that there are very distinct location based rental gradients in Lagos.

3.2 Perceived Importance of Locational Attributes

Respondents evaluated the significance of the eight location features on a 5-point scale, with 1 being not at all important and 5 being very important. Figure 1 shows the average scores of importance. Neighbourhood security (mean = 4.82) and closeness to road (4.61) got the highest votes, mirroring the situation of Lagos where traffic jam and crime are the main problems. The least important to them was the closeness to school (3.23), possibly because many young professionals renting apartments do not have children of school age, or they choose private schools which are not necessarily nearby.

Note: Bar length represents mean score on a 1–5 scale.

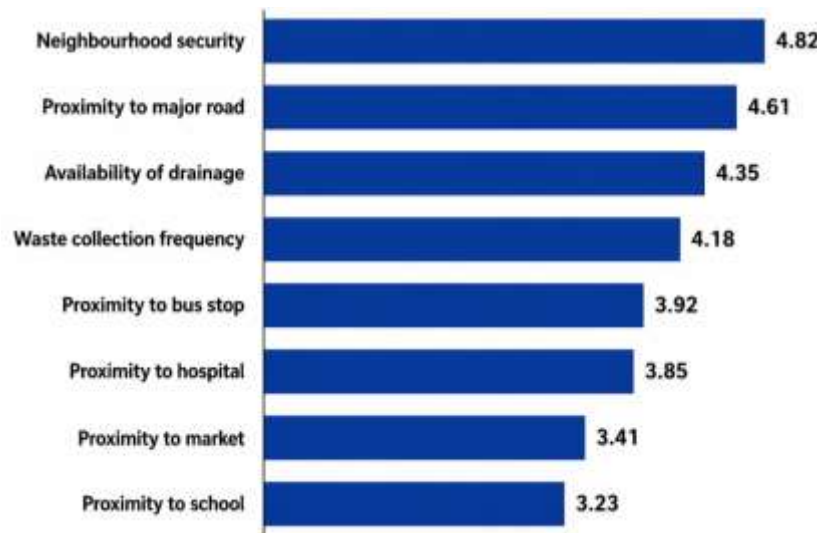


Fig. 1: Mean perceived importance of locational attributes (N=184)

3.3 Descriptive Statistics of Respondents

Table 2 displays the Pearson correlations between each of the location attribute and monthly rental value (log transformed).

Table 2: Correlation matrix (locational attributes vs. rental value, N=184)

Variable	Correlation coefficient (r)	p-value
Neighbourhood security	0.72**	<0.001
Proximity to major road	0.68**	<0.001
Availability of drainage	0.54*	0.011
Waste collection frequency	0.49*	0.028
Proximity to bus stop	0.45*	0.035
Proximity to hospital	0.38	0.062
Proximity to market	0.29	0.114
Proximity to school	-0.61**	<0.001

Note: *p<0.05, **p<0.01

The results showed that the correlations all moved in the predicted direction. Security ($r=0.72$) and road proximity ($r=0.68$) were the two factors that had the strongest positive correlations. School distance had a negative correlation ($r=-0.61$), which indicates that properties that are far from public schools are actually the ones that attract higher rents this is a counter-intuitive result that reflects the context of Lagos, where high income areas (e. g. Lekki) have very few public schools as residents are more likely to use private transport or private schools. This result is in line with the low importance rating for school proximity in Fig. 1.

3.4 Hedonic Regression Results

Multiple regression model (Equation 1) was very significant ($F(8,175) = 53.4$, $p < 0.001$) with adj. R^2 at 0.71 - this implies that eight location attributes together explained 71% of changes in rental values. Table 3 show the coefficients.

Table 3: Hedonic regression coefficients for locational attributes (dependent variable: $\ln(\text{monthly rent})$)

Variable	Coefficient (β)	Std. Error	t-value	p-value	VIF
Constant	8.19	0.29	28.24	<0.001	-
Neighbourhood security	0.44	0.07	6.29	<0.001	1.9
Proximity to major road	0.42	0.08	5.25	<0.001	2.1
Availability of drainage	0.35	0.13	2.69	0.008	2.3
Waste collection frequency	0.28	0.11	2.55	0.012	2.0
Proximity to bus stop	0.22	0.10	2.20	0.029	1.8
Proximity to hospital	0.15	0.12	1.25	0.213	2.2
Proximity to market	0.09	0.11	0.82	0.414	1.9
Proximity to school	-0.38	0.09	-4.22	<0.001	2.4

* $R^2 = 0.73$, Adjusted $R^2 = 0.71$, $F(8,175)=53.4$, $p < 0.001$ *

Interpretation of coefficients: Since the dependent variable is $\log(\text{rent})$, the estimates can be understood as percentage change interpretations. Therefore, one unit change in neighbourhood security (on the 5-point scale) is related to an increase in monthly rent by 44%, other conditions being equal. Coming to the results of other variables, living near a major road can increase your rent by 42%, living in an area equipped with drainage can make your rent higher by 35%, and the more frequent the waste collection, the higher the rent by 28%. A one unit increase in distance from a school (i.e. moving farther away) leads to a 38% decrease in rent, which ties in with the fact that being near a school actually lowers rent in Lagos (negative coefficient), contrary to the situation in developed countries (Browning, Rigolon and Kuo, 2023; Gorjian, 2025).

3.5 Discussion

The findings strongly indicate that location factors, especially security and road access, are the main drivers of rental prices in Lagos. This is consistent with the results from Osogbo (Awoyera, Musibau and Adegoke, 2024) and Bauchi (Misbahu et al., 2025; Zubairu and Haruna, 2026). The high R^2 (0.71) even surpasses the figure reported in some earlier Nigerian studies (e.g. Iroham Akinwale and Okagbue, 2020 got $R^2=0.58$ for shopping malls in Ibadan), implying that the 15-item questionnaire effectively captured a wide range of important variables.

The negative coefficient for school proximity is quite an interesting finding. In Western cities, being near a good school is one of the factors that increase property prices (Browning, Rigolon

and Kuo, 2023; Gorjian, 2025). Nevertheless, in Lagos, most of the affluent and attractive areas (Lekki, Ikeja GRA) lack public schools. Those who live in the area either have children that are no longer in school or they send them to private schools that may not be very close. This result illustrates the need for context specific research and warns of simply taking Western hedonic models and applying them to African cities.

As expected, neighbourhood security was the leading factor ($\beta = 0.44$) in rental price determination consistent with its very high importance rating. This is in line with Aziz et al. (2023) and Tong et al. (2023a), who showed that safety is one of the capital features in the housing markets of cities of the developing world. Lagos congested traffic situation is obliquely shown by the very high coefficient for road proximity ($\beta = 0.42$) with properties located adjacent to the major roads, residents who want to avoid spending hours driving will choose these houses. The roles of waste collection frequency and drainage availability both indicators of quality of municipal services were positive and significant in the rent model, which concurs with Ilesanmi (2022) and Obafemi, Adebayo and Emmanuel (2023) on infrastructure deficits in Lagos. The statistically insignificant coefficients for hospital and market proximity imply that either these facilities are so widespread in Lagos that they have no premium value, or that respondents consider security and roads as their top priorities.

4. Conclusion

This study has revealed through a quantitative approach that property location is a major determinant of rental prices in urban Lagos. A survey questionnaire with 15 questions was given to 184 tenants and property/membership agents from five different districts. This research identified neighborhood security, accessibility to main roads, availability of drainage, waste collection schedule, and distance to schools as the major location attributes influencing rental. The hedonic regression model disclosed that 71% of the variation in rental can be explained by location and this result indicates that location is more important than the physical attributes of the building. Homes in well-served, secure areas earn rental premiums of 40-50% over those in less served locations. The surprising negative relationship between school proximity and rent brings out the need for locational real estate research in African megacities.

5. Recommendation

Following the findings, the recommendations below are given:

1. Property valuers and investors: add location-risk scoring (especially security and road access) as one of the inputs in your valuation models. For example, a residential property that is 200 metres away from the main road and has the security of the arrangements (gated buildings, police posts) is likely to be 40% more expensive.
2. Urban planners and policymakers: Give the highest priority to facilities and services suitable for drainage, refuse collection, and road maintenance in newly developing areas such as Ajah. Enhancing these facilities and services in the least served areas could help in reducing the very high differences in rentals that have been observed.
3. Real estate developers: A thorough location audit, including security and road accessibility, should be a part of your site selection for new housing projects. Security perception is a major contributor to rents " a one-point improvement on a 5-point scale means a 44% rent increase.
4. Future research: (a) Try the same survey on other Nigerian cities (Abuja, Port Harcourt, Kano) to see if there are differences in location-rent relationships in different urban

contexts. (b) Include a longitudinal component to see how rents change as infrastructure improvement take place. (c) Look at the school proximity paradox - does the negative relationship apply to everyone?

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