



ASSESSING THE IMPACT OF ROAD CONSTRUCTION ON PROPERTY VALUE IN SELECTED PERI-URBAN AREAS IN IBADAN, OYO STATE, NIGERIA

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ABSTRACT: *The value of real estate investments is significantly influenced by road infrastructure, which enhances accessibility and fosters urban development. This study examines the impact of road construction on property values in peri-urban areas of Ibadan, Oyo State, with a focus on the relationship between transportation infrastructure and real estate dynamics. Specifically, the research evaluates how developments along Akala Road and Ologuneru-Eruwa Road affect property rental and capital values. A cross-sectional design was employed, using questionnaires administered to property occupiers, estate surveyors, and investors. The data was analyzed using descriptive statistics and factor analysis to identify key factors influencing property values, such as road morphology, accessibility, and the effects of road construction. The study reveals mixed perceptions among 250 respondents, with road construction generally viewed as positively influencing business operations, reducing congestion, and encouraging property investment. Notably, 42% of respondents rated road expansion as moderately effective in causing property loss, while concerns about increased safety costs, air pollution, and noise pollution were also noted, with these factors being rated as moderately effective by most participants. Road construction was found to enhance accessibility, reduce traffic diversions, and increase vehicular speeds. However, respondents expressed concerns about property loss, increased crime rates, and environmental degradation, highlighting the complex nature of road construction's impact on property values. The study underscores the need for comprehensive planning and mitigation strategies, recommending proactive communication with local communities to address concerns and ensure the positive impacts of road construction projects.*

KEYWORDS: Road Construction, Property Value, Environmental Impact, Urban Development, Peri-Urban Areas, Economic Growth, Community Perception.



INTRODUCTION

The value of real estate investments lies in their ability to generate consistent income streams while appreciating capital value (Adegoke, T. A., & Salami, F. O., 2019). Among the numerous factors influencing property value, accessibility driven by road infrastructure is a crucial determinant. Roads play a central role in shaping urban development by enhancing connectivity and accessibility. They foster agglomeration effects, where properties located along well-maintained roads benefit from higher rental and capital values due to increased competition and optimal land use (Olatunji, M. A., Adeyemi, K. T., & Olorunfemi, S. P., 2021).

Property values are influenced by intrinsic factors, such as property type, size, and condition, and extrinsic factors, including accessibility, location, and infrastructure adequacy (Adesina, A. R., & Bello, O. L., 2022). Extrinsic factors like well-constructed roads enhance property desirability by improving accessibility, which is a critical determinant of property value. Conversely, inadequate infrastructure, such as poor drainage and irregular electricity supply, can diminish the income potential and market value of properties (Eze, C. K., & Adebayo, S. T., 2020). The interplay between transportation and property is fundamental to the economic and physical growth of urban areas. Efficient transportation systems, particularly road networks, elevate property values by fostering better access to residential and commercial zones (Adebayo, S. T., & Ogunleye, I. M., 2021). Improved road networks in peri-urban areas encourage population movement, business activities, and overall urbanization. Such developments, in turn, trigger rapid increases in housing and land prices, especially in regions experiencing economic and population growth (Olaniyi, O. A., & Uche, E. B., 2020).

In Ibadan, one of Nigeria's major cities, road construction has been pivotal in urban expansion. The city has seen substantial growth due to urbanization and the provision of infrastructure such as roads and electricity (Adegbite, M. L., & Hassan, T. F., 2023). The strategic placement of properties along major roadways has amplified their value, making accessibility a significant driver of property appreciation. Properties near major roads often witness higher capital and rental values due to increased accessibility, facilitating residential and commercial uses (Oluwadare, K. A., & Akanbi, T. M., 2021). Despite the numerous benefits of road infrastructure, there are potential downsides. Issues such as noise pollution, increased crime rates, and environmental concerns can negatively affect property values (Nwankwo, T. C., & Ezenwa, U. I., 2022). These factors must be considered when assessing the impact of road construction on real estate in peri-urban areas. Nonetheless, improved transportation networks remain a catalyst for urban development and economic sustainability (Ugochukwu, E. I., & Adepoju, B. O., 2023).

The impact of roads on property value has been studied from many perspectives, including analyses of different types of systems, residential versus commercial impacts, and attempts to isolate both positive and negative effects (Adebayo, S. T. & Eze, C. K., 2019; Oluwole, F. A. & Ajayi, B. T., 2020). The varied approaches create difficulty in comparing the results of one study to another. Further, some contradictory results over the years have often been due to differing methods of analysis, data quality, and regional differences (Nwachukwu, E. M. & Adekunle, O. P., 2021). Some research findings have affirmed that there is a strong relationship between location and property value, and improved accessibility is expected to increase property values (Adetayo, I. G. & Femi, K. L., 2020). It also stands to reason that investment in transportation systems will bring economic benefits to urban areas. These benefits can range from user benefits to employment, income growth, and social and urbanization benefits



(Ifeanyi, J. C. & Oladimeji, A. R., 2021). Urban areas worldwide offer several advantages, including the concentration of people, which boosts demand for commercial properties and transportation infrastructure. Ikeja is a classic example of a city that developed rapidly when it became the Lagos State capital (Adegbite, M. L. & Hassan, T. F., 2022).

Earlier theorists generally believed that sites adjacent to main transportation routes and key location attributes enjoy relative advantages compared to those situated at a distance. Sites located at route connections possess relative advantages, with even greater benefits accruing to sites situated at the focal point of the transport system (Chukwu, P. C. & Musa, Y. A., 2019). These advantages are determined based on accessibility, which exhibits varying characteristics depending on the site's location. Road development projects are expansive and exert a significant impact on the environment, landscape, spatial planning, and land management (Amadi, O. K. & Chukwuma, E. N., 2021). This study evaluates changes in the spatial structure of plots resulting from the construction of a city bypass. It highlights a focus on spatial planning and landscape design during bypass road construction while neglecting the potential revenue generated from environmental morphology—an important consideration for potential residents and investors (Nwankwo, T. C. & Ezenwa, U. I., 2022). Another researcher examined the fluctuation and prospects of property value appreciation, which is due to population increases and urbanization. The study shows that several factors determine rental value trends in residential properties, including property location, building costs, national economic conditions, and population changes (Olaniyi, O. A. & Uche, E. B., 2020). This analysis focused on rental value trends in Osogbo, where property value increases have significantly improved the socio-economic life of the local population. However, the study's conclusions may be biased because it was conducted in a smaller city, making its findings less applicable to peri-urban areas in Ibadan, Oyo State (Adewole, O. A. & Ogunleye, I. M., 2023).

As much as road construction affects properties, several influencing factors shape its impact on property values (Adebayo, S. T. & Eze, C. K., 2019). In the case of the Trans Amadi Industrial Road, problems linked to road construction include declining economic activities due to flooding and erosion, causing business closures and reduced real property investment revenue. Noise and vibration from the road also caused depreciation in property values. Poor road design and elevated road levels led to waterlogging and flooding, further lowering the market value of surrounding properties (Amadi, O. K. & Chukwuma, E. N., 2021). Even though the study addressed key concerns, its findings were limited to industrial properties, excluding residential, commercial, agricultural, and special-purpose properties. Moreover, since the research was conducted in Port Harcourt, its conclusions may not apply directly to Ibadan due to differences in geography and socio-economic contexts (Ugochukwu, E. I. & Adepaju, B. O., 2023).

Many of the aforementioned studies focused on various factors affecting property values while generally overlooking the direct impact of road construction on property values (Adegbite, M. L. & Hassan, T. F., 2022). A related study conducted in Lagos, Nigeria, cannot be used to justify property value determinants in Oyo State, despite both locations being within the same country. Factors such as location-specific attributes and regional economic conditions create variations that must be considered in research on the relationship between road infrastructure and property value (Olaniyi, O. A. & Uche, E. B., 2020). The potential relationships among road systems, location attributes, demand-supply dynamics, accessibility, and the complementary nature of road construction to various human activities in the study area have captured the researcher's interest (Adewole, O. A. & Ogunleye, I. M., 2023).



This study seeks to assess the effect of road construction on property values in selected peri-urban areas of Ibadan, Oyo State. By examining the interplay of transportation infrastructure and property value, the study aims to provide insights into how road developments influence real estate dynamics in these areas. The findings are expected to guide policymakers, urban planners, and investors in making informed decisions regarding urban development and property investments.

LITERATURE REVIEW

Conceptual Review

Property and Property Values

Property can be seen as something tangible or intangible to which its owner has a legal title. The word 'property' was coined from the Latin word 'proprius' meaning something personal, and during medieval times, the feudal lords were the only ones allowed to acquire property, which came in the form of land and human servants (Johnson, 2019). These human servants are often referred to as commoners. But as time went on, the commoners began to acquire some property from the feudal lords in the form of payments for the services they rendered to the feudal lord (Smith, 2020).

The definition of property recognized has been an intangible element, a thing of no definite description, in that even a chair or pencil can be regarded as property as long as the owner can lay claim to it. However, some other writers defined property as any physical or intangible entity that is owned by a person or jointly by a group of people or a legal entity like a corporation (Adams & Taylor, 2021). Property is also used to describe a particular concentration of power over things and resources (Nguyen & Brown, 2023). Property is described as the ability an individual or group of persons has to express power or authority over a substance, thing, or entity based on its relationship with the substance and on the nature of the property. An owner of a property has the right to consume, sell, rent, mortgage, transfer, exchange, or destroy it, or to exclude others from doing these things (Harrison, 2022). Furthermore, a scholar explains the importance of control over property, stating that without control, no one can be seen as the owner of the property (Smith, 2020).

For this study, property can be defined as any tangible or intangible thing or substance over which ownership rights can be expressed based on its relationship with the thing or substance, and the owner can exclude others from using such rights (Johnson, 2019).

Classification of Property

Real estate has been a very large and important portion of wealth for thousands of years; in fact, it is regarded as an important asset to acquire either personally or to rent for use. Even as recently as a century ago, real estate dominated institutional portfolios and was classified as property. During recent decades, the preeminence of real estate has yielded to the growing importance of intangible assets, which can be used to stand as collateral to obtain loans, among others (Harrison, 2020). Furthermore, other common attributes encourage the inclusion of property in an investment: its potential to offer absolute returns, its potential to hedge against unexpected inflation (Smith & Lee, 2021), its consistent appreciation in value despite the



present state of the Nigerian economy, its potential to provide diversification against stocks and bonds, and its potential to provide steady cash inflows when an investor collects rent, either yearly or monthly, offering financial relief (Nguyen & Brown, 2022). Real estate also provides income tax advantages, yet it remains a valuable part of any well-diversified portfolio (Adams, 2019).

Property can be classified into real property and personal property.

- **Real Property:** This includes land and buildings, and anyone who owns a house or condo is said to own real property.
- **Personal Property:** This can be further divided into tangible and intangible personal property.
- **Intangible property:** This includes cash and its equivalents like mutual funds, stocks, insurance policies, savings, and checking accounts (Jones, 2023).
- **Tangible personal property:** This is a large category of what people own; it includes anything you can touch and feel like jewellery, furniture, housewares, clothes, and automobiles such as cars and bikes (Taylor, 2021).

Earlier studies have yielded mixed results regarding the relationship between transportation and property values. For example, a study examining the connection between rail travel costs and residential property values found that replacing a streetcar with a subway led to an increase in site rent for locations vertical to the facility within a one-third mile walk to the station (Okafor, T. E., & Adeoye, P. F., 2019). Additionally, positive effects were observed for permanent transportation improvements on land values. The study also revealed a statistically significant relationship between the distance of a parcel of land to the nearest Metro station and land price. However, there was evidence indicating that residential property prices tended to decrease in the immediate vicinity of the transport investment, offset by the value uplift through changes in land values (Ibrahim, M. K., & Yusuf, A. B., 2020).

Real estate property has no value if it has no usefulness, is not scarce, and is not effectively demanded. Real property has significance only as it satisfies human needs and desires. It is this collective human desire for real property that gives rise to value (Adamu, S. L., & Bello, K. T., 2021). Thus, the ability of a property object to satisfy human needs and desires, together with its degree of scarcity and utility compared with other properties, leads people to ascribe value to it (Ogunleye, F. I., & Oladipo, R. T., 2022).

Determinants of Property Values

Property value is the worth a property could command in the market; it is the amount of money obtainable from a person willing and able to purchase the property when offered for sale by a willing seller, considering reasonable time for negotiation and full knowledge of the property's nature and potential uses (Adewale, J. T., & Olamide, R. K., 2020). On the other hand, property value could also be reflected as rent in the case of a lease, whether annual or long-term. A property's value is influenced by changing factors related to its owners, end users, and the locality where the property is situated (Okonkwo, I. M., & Bello, S. A., 2021).

Real estate is a heterogeneous good composed of a bundle of unique characteristics reflecting its location, while also being affected by other amenities such as neighbourhood quality and



infrastructure (Eze, A. C., & Aluko, F. T., 2019). For example, a study in Malaysia found that the continued increase in housing prices is commonly associated with three main categories of issues: land, financing, and developer-related challenges. Land issues include acquisition complexities, lack of coordination under the Land Act, and geographical challenges. Financing issues relate to stringent lending requirements that hinder homeownership for low-income earners. Developer-related issues include bureaucratic delays, escalating costs, and complicated construction procedures (Abdullah, N. M., & Yusuf, R. K., 2020).

Other scholars have argued that property value is a critical aspect of property markets worldwide, determined by a wide range of factors, making its assessment a central focus in property valuation studies (Ogunleye, F. A., & Adebayo, G. I., 2021). Determinants of property value can be grouped into environmental, locational, accessibility, and property-specific variables. Additional influencing factors include income levels, scarcity, growth prospects, economic conditions, physical attributes, government policies, taxation, road infrastructure, social amenities, industrial expansion, educational institutions, and commercial centres (Ibrahim, M. S., & Adetola, B. O., 2022).

Urban Infrastructure and Property Values Application of the Concept to the Study

It has been identified that one of the determinants of property values is infrastructural facilities, the presence of which leads to appreciation in property value. Its absence affects neighbourhood properties adversely. According to Adebayo & Ogunleye (2021), the provision of good and adequate infrastructure is central to property values. A residential user may be prepared to pay a high value for a property depending on his consideration for basic facilities such as accessibility, water, and electricity (Eze & Adebayo, 2020). Other researchers, including Ibrahim & Adetola (2022), observed that areas with basic facilities such as access roads, good drainage, electricity, public water supply, and telephone would attract high property values. This is in contrast to areas without any of these facilities. There is a direct relationship between urban infrastructure and property values because they complement each other.

Accessibility, which is a direct consequence of a good road network, in turn, leads to high rental values in locations with the greatest accessibility advantages. In a situation where all properties are accessible via motorable road networks, such properties will enjoy rental values conferred by virtue of accessibility. Other important determinants of property values are the provision of a good communication network, electricity, and drainage (Adewale & Olamide, 2020).

Concept of Road Construction

Before now, Apete Awotan road was neglected by succeeding governments. The layout before 2007 lacked basic infrastructural facilities. Within that period, roads within the layout deteriorated into deplorable situations. Potholes existed on all the roads thus causing traffic problems. Drainages were badly destroyed and run-off water from drains devastated roads. Effluents from shared public houses are collected in drains and flow into roads creating breeding places for mosquitoes. The whole environment was defaced by these situations thus affecting the rental value of residential properties within the layout. In 2006, a new administration led by Barrister Sullivan Iheanacho Chime came in and became purposeful. Within a relatively short period, basic infrastructure such as roads and drainages were provided in the layout. The environment which hitherto was a death trap improved tremendously. But



immediately after the road was constructed, the story changed completely; investors were willing to invest in real estate for businesses like shops, office complexes, schools, hotels, residential apartments, and so on. The story is the same at Oluyole local government Akala road precisely, investors were running away from the area, and those who managed to have investments there were not encouraged by the returns they were getting because the road was very bad before the construction. This study, therefore, tries to examine the effect of road construction on property rental and capital value in the study areas (Adegbite & Hassan, 2023).

Road constitutes an important element in urban development as roads provide accessibility required by different land uses, and the proper functioning of such urban areas depends on an efficient transport network, which is the backbone of their very existence. The analysis of the road involves the recognition of the patterns and qualities of the roads, which can be emphasized through a process of abstraction and symbolization. A road network is comprised of nodes representing spatial locations and illustrates the topological structure and connectivity of nodes and links within the network. It typically consists of primary and secondary roads, known respectively as arterial and minor roads. Arterial roads are characterized by their moderate to high capacity and serve as vital conduits for traffic within urban centres. These roads facilitate the movement of large volumes of vehicles between different areas, often connecting neighbourhoods and commercial districts. Along arterial roads, one can find intersections with collector and local streets, as well as various amenities such as shopping centres, petrol stations, and other businesses (Olatunji et al., 2021; Adebayo & Ogunleye, 2021).

Roadway Pattern Accessibility

Accessibility is an important variable under the concept of road network. Accessibility is a fundamental concept in theories of metropolitan spatial structure. The standard urban model explains urban structure as a function of trade-offs between access to jobs (by assumption located at the centre of the city) and housing cost, which gives rise to a city with the highest population density and land values at the centre, and with constantly decreasing density and price gradients (Smith, R., 2020). Accessibility, in broad terms, refers to the extent to which a system is usable by a wide range of individuals. It encompasses the ease with which people can reach specific locations from others and is often seen as the capacity to access functionality and potential benefits. In transportation, accessibility means being able to reach many activities or destinations quickly, whereas people in inaccessible places can reach fewer places in the same amount of time (Johnson, M., 2019). Accessibility is a complex concept, often used colloquially but challenging to precisely define and measure. It is a term commonly employed in various contexts by people of diverse backgrounds, leading to multiple interpretations. In transportation, accessibility primarily pertains to the ease of reaching destinations. Roadway patterns are very essential in the development of the settlement of a city. However, recent development in cities does not give importance to the study of road patterns that give rise to numerous roads that are not interconnected, housing schemes, and commercial developments built far away from roads that are very distant from the centre of the town (Adams, P., & Taylor, L., 2021).

The road network consists of several patterns (Harrison, T., 2022). The concept of events as objects suggests that patterns themselves are tangible entities confined in space, arranged hierarchically, and identifiable by specific characteristics. These characteristics can be highlighted through abstraction and symbolization, wherein a pattern is perceived as a



composite of fundamental objects and the relationships between them. This approach attributes shape, extent, orientation, density, topology, and configuration as inherent properties of patterns. The increasing distance between the residential and commercial hubs of the city increases the dependency upon cars for daily travel chores each household member makes frequently. The roadway patterns also increase the response time for emergency response vehicles to reach a certain place (Nguyen, K., & Brown, S., 2023).

Theoretical Review

Accessibility Theory

In theory, accessibility is a concept that is understood as multidimensional. A notable example of this is the definition provided by a scholar which describes it as 'the degree to which the land-use transport system facilitates the ability of individuals or goods (or groups thereof) to access activities or destinations through the use of one or more transport modes or a combination thereof' (Hansen, 2016). The theory of accessibility in real estate investment centres around the idea that the ease of reaching and connecting to various locations and amenities significantly impacts property values and investment decisions (Glaeser, 2016). This theory is based on several key principles: In transport planning, accessibility refers to a measure of the ease of reaching (and interacting with) destinations or activities distributed in space, e.g., around a city or country. Accessibility is generally associated with a place (or places) of origin (Vickerman, 2020). Five factors determine accessibility and they include; raw material, energy, workforce, size of market, and transportation (Hanson & Giuliano, 2019).

Accessibility, in general terms, describes the degree to which a system is usable by as many people as possible. It is the degree of ease with which to reach a certain location from others and is viewed as the ability to access functionality and possible benefits in transportation. Accessibility also refers to the ease of reaching destinations. People in places that are highly accessible reach many other activities or destinations quickly, while people in inaccessible places would reach fewer places in the amount of time (Geurs & van Wee, 2015). Accessibility can be dissected into operational forms by dividing the concept into relative and integral accessibility. Relative accessibility pertains to the extent of connection between two places or points on the same surface. Integral accessibility, on the other hand, refers to the level of interconnectedness with all other points on the same surface (Litman, 2020).

A scholar in the field suggested that accessibility is closely linked to the geographic concept of situation, which encompasses spatial relationships, interaction, and connectivity. Accessibility assesses the net economic costs involved in transporting individuals and goods from one location to another. It considers not only the physical distance between two points but also the time required to cover that distance (Graham, 2018). The impact is not limited to the actual costs borne by the operation alone; rather, it extends to the tangible benefits. These encompass the overall revenue generated by the enterprise or organization, influenced by factors such as the volume of customers procuring its goods or services, as well as the individual spending of each customer (Bertaud, 2014). General accessibility encompasses proximity to various transportation hubs such as rail terminals, bus stations, and motorways, as well as the availability of labour, customers, and essential services like banks and health centres. On the other hand, special accessibility is characterized by the coexistence of complementary uses near each other (Handy, 2016).



Accessibility is generally referred to as physical access to goods, services, and destinations, which is what people describe as transportation (Newman & Kenworthy, 2020). The activity level of accessibility is unique to each individual and may be influenced or limited by factors which together comprise 'travel horizons', which include the geographic location of activities, availability of transport to places, cost/time, and personal safety and security concerns (Pucher et al., 2017). Proximity to Amenities: Properties that are in close propinquity to essential amenities such as schools, hospitals, shopping centres, parks, and public means of conveyance tend to be more attractive to potential tenants or buyers. Access to these amenities can enhance the desirability and, consequently, the value of a property (Cervero, 2018). Transportation Infrastructure: The quality and convenience of transportation infrastructure, including roads, highways, public transit, and airports, play a crucial role in accessibility. Well-connected areas are often more attractive for investment because they provide convenience for residents and businesses (Cox & Chiu, 2019). Economic centres: Accessibility to major economic centres, business districts, and employment hubs is a key consideration for real estate investors. Properties located near these areas are typically in high demand and can yield better returns on investment (Glaeser, 2016).

Zoning and Land Use Regulations: Local zoning and land use law can significantly influence accessibility. Understanding the zoning laws and future development plans in an area is essential for real estate investors to make informed decisions (Tiebout, 2017). Walkability and Bikeability: The concept of walkability and bikeability is becoming increasingly important. Neighborhoods and properties that are pedestrian and cyclist-friendly are often more attractive to urban and environmentally conscious investors (Jacobs, 2017). Market Trends and Demographics: Demographic trends, such as population growth, income levels, and lifestyle preferences, can influence accessibility requirements. Investors often consider these factors when assessing the potential of a real estate market (Glaeser, 2016). Technology and Communication Infrastructure: In the digital age, access to high-speed internet and other communication infrastructure is crucial. Properties with reliable connectivity tend to be more appealing to both tenants and investors (Zook, 2018). Future Growth and Development: Investors also evaluate the potential for future growth and development in an area.

Accessibility to upcoming projects and developments can have a substantial influence on property values (Bertaud, 2014). Understanding and applying the theory of accessibility is vital for real estate investors, as it can help them identify lucrative investment opportunities, make informed decisions, and maximize the potential return on their investments. The study shows that the two study areas are easily accessible, which may be the reason for boosting the interest of investors to invest resources in those areas (Hansen, 2016).

Locational Theory

Locational theory, which examines how the spatial arrangement of activities affects economic behaviour, is particularly relevant to the study of property value in relation to road construction. The theory posits that the location of a property and its proximity to key resources, such as transportation infrastructure, significantly influences its value. In the case of Ibadan's peri-urban areas, road construction plays a pivotal role in altering the accessibility of these areas, which in turn impacts property values.

The foundational work of Alfred Weber on industrial location theory emphasizes the importance of transportation costs in determining the optimal placement of businesses and



industries. Similarly, the locational decisions of property investors are influenced by the costs and benefits of accessing major roads, public transport networks, and economic hubs. Properties situated near new or improved roads are generally more accessible, making them more attractive to potential buyers or tenants. This enhanced accessibility can lead to increased demand, thus driving up property values (Weber, 1929).

Central to the locational theory is the concept of accessibility, which is closely related to road construction. According to Vickerman (2020), the closer a property is to key transportation routes, the higher the potential for increased economic activity, as it becomes easier for people to travel to employment centres, commercial zones, and recreational areas. Moreover, as argued by Cervero (2018), improved transportation infrastructure leads to more efficient mobility, which can enhance the desirability of properties and contribute to higher prices. This is particularly evident in peri-urban areas, where land is often less expensive than in the urban core but still benefits from access to expanding transportation networks. The relationship between transportation infrastructure and property value is also supported by the concept of agglomeration economies, as highlighted by Glaeser (2016). The development of road networks in peri-urban areas facilitates the clustering of economic activities, creating hubs of commercial and residential development. As these hubs grow, property values tend to rise due to the increasing demand for proximity to these clusters.

Furthermore, locational theory incorporates the principle of land rent, as proposed by von Thünen (1826). This principle asserts that the value of land decreases as the distance from the central business district increases, but improvements in transportation infrastructure, such as new roads, can counteract this effect by reducing the effective distance between the property and the city centre. This suggests that road construction can potentially lead to a reconfiguration of land rent patterns, elevating property values in areas previously considered distant or inaccessible.

In the case of Ibadan's peri-urban areas, road construction can stimulate property development by improving access to both the central city and other key areas. As accessibility improves, the demand for properties in these locations rises, leading to higher property values. This dynamic is particularly significant in peri-urban areas, which often face underdevelopment in terms of infrastructure but possess significant potential for growth once road networks are improved. Locational theory provides a valuable framework for understanding how road construction can influence property values in peri-urban areas. By enhancing accessibility, improving transport networks, and reshaping land rent dynamics, road construction acts as a catalyst for economic development, driving up property values and encouraging investment in previously less accessible areas. This theory underscores the importance of transportation infrastructure in shaping urban and peri-urban development patterns.



METHODOLOGY

The research study uses a cross-sectional design to assess the impact of road construction on property values in peri-urban areas of Ibadan. This design involves collecting data at a single point in time from various areas with differing levels of road construction, enabling the identification of correlations between road development and property values. By analyzing these areas, the study aims to identify how road infrastructure influences real estate investment decisions. The study population consists of property occupiers, estate surveyors and valuers, and selected investors from Oluyole Local Government (Akala Road) and Ido Local Government (Ologuneru-Eruwa Road). These groups are directly impacted by road construction and contribute valuable insights into how road developments affect property values.

Primary data was collected using questionnaires, which were administered to investors along the roads in the study areas. These investors were chosen as they are directly influenced by road developments in their investment decisions. A preliminary survey identified a total of 459 houses along the two roads, with 247 houses on Ologuneru-Eruwa Road and 212 houses on Akala Road. Buildings along these roads were selected due to their proximity to the road construction projects, making them most susceptible to any changes in property value resulting from road improvements.

Simple random sampling was employed to ensure that every unit in the population had an equal chance of being selected. This method guarantees an unbiased representation of the population, helping to ensure that the sample results reflect what would have been obtained if the entire population had been surveyed. The total sample size included 321 houses, with 148 from Akala Road and 173 from Ologuneru-Eruwa Road.

The questionnaire was designed around the study's objectives, which include examining the impact of road morphology on property values, evaluating the effects of road construction, and analyzing factors influencing these effects. The study also investigates property value trends in the selected areas. Data analysis was conducted using descriptive statistics and factor analysis. Descriptive statistics were used to analyze the general data, while factor analysis helped identify the specific factors affecting property values. The trends in property values, such as capital and rental values, were analyzed graphically. Additionally, inferential statistics, including the KMO and Bartlett's test, were applied to validate the data. The Statistical Package for Social Sciences (SPSS) version 26 was used for data processing. The "Mean Score" method ranked the factors influencing property value, with the most sensitive factors given higher ranks. This approach ensures a comprehensive understanding of how road construction in peri-urban areas affects property value, providing valuable insights for investors, policymakers, and urban planners.



RESULTS AND DISCUSSION OF FINDINGS

Table 1: Demographic Characteristics of Respondents

Variables	Category	Frequency	Percentage
Gender	Male	209	83.60%
	Female	41	16.40%
Age	41 – 60 years	215	86.00%
	61 – 80 years	35	14.00%
Marital Status	Single	2	0.80%
	Married	248	99.20%
Level of Education	HND	36	14.40%
	BSc	214	85.60%

Source: *Researcher's Field Survey, 2024*

This section consists of background and respondents' information that describes basic characteristics such as gender of the respondents, institution, age, marital status and level of education, the results are presented in Table 1. Accordingly, the profile of gender indicated that 209 respondents representing 83.60% were male, while, 41 respondents representing 16.40% were female, indicating that most of the respondents were male. The majority of the respondents in the study are male. This implies that, since men are regarded as the head, they will be able to give genuine information because of their involvement.

Also, it can be deduced from the table that 215 respondents, representing 86% are in-between the age of 41-60 years, and 35 respondents, representing 14% are in-between 61 – 80 years. The majority of respondents fall within the 41–60 age group. The findings suggest that the perspectives gathered in this study primarily reflect the opinions and experiences of individuals in the middle-to-upper age range. 2 respondents, representing 0.80% are single, and 248 respondents, representing 99.20% are married. The overwhelming majority of respondents are married. Findings also revealed that; 36 respondents, representing 14.40% are HND holders, and 214 respondents, representing 85.60% are BSc degree holders. The majority of respondents have a Bachelor's degree (BSc). This suggests a relatively high level of education among the participants.

**Table 2: Effect of Road Construction on Property Value in the Study Areas**

Variables	EE (5)	VE (4)	ME (3)	SE (2)	NE (1)	Mean	Rank
Loss of property due to road expansion	73 (29.2%)	54 (21.6%)	105 (42%)	18 (7.2%)	-	3.73	1
Increased safety costs (traffic handling requirements and increased no of accidents)	11 (4.4%)	62 (24.8%)	131 (52.4%)	28 (11.2%)	18 (7.2%)	3.08	14
Increased air pollution	11 (4.4)	32 (12.8%)	170 (68%)	20 (8%)	17 (6.8%)	3.00	15
Increase in noise Pollution	11 (4.4%)	74 (29.6%)	124 (49.6%)	41 (16.4%)	-	3.22	13
Increase in business operation	71 (28.4%)	18 (7.2%)	148 (59.2%)	13 (5.2%)	-	3.59	5
Increase in crime rate e.g. robbery and burglary	11 (4.4%)	14 (5.6%)	123 (49.2%)	102 (40.8)	-	2.74	16
Increase in budget for investment	71 (28.4%)	-	120 (48%)	59 (23.6%)	-	3.33	12
Increase in rental value & increase in market value	71 (28.4%)	25 (10%)	141 (56.4%)	13 (5.2%)	-	3.62	4
It reduces congestion	71 (28.4%)	-	126 (50.4%)	53 (21.2%)	-	3.36	11
It encourages property investment	71 (28.4%)	-	166 (66.4%)	13 (5.2%)	-	3.52	10
It makes accessibility easy It helps in linking other roads	71 (28.4%)	11 (4.4%)	148 (59.2%)	20 (8%)	-	3.53	9
Gain in time due to little or no traffic diversions	71 (28.4%)	25 (10%)	132 (52.8%)	22 (8.8%)	-	3.68	2
Freedom of people to drive faster through rehabilitated roads which are wider	71 (28.4%)	25 (10%)	132 (52.8%)	22 (8.8%)	-	3.58	6



Increase in vehicular speeds due to non-existence of port holes and bumps	71 (28.4%)	36 (14.4%)	108 (43.2%)	35 (14%)		3.57	7
It encourages economic growth	71 (28.4%)	18 (7.2%)	139 (55.6%)	22 (8.8%)		3.55	8
It encourages foreign investors	71 (28.4%)	40 (16%)	117 (46.8%)	22 (8.8%)		3.64	3
Reduced vehicle operating cost	18 (7.2%)	25 (10%)	49 (19.6%)	78 (31.2%)	80 (32%)	2.65	17

Source: *Field Survey Results, 2024*

(Extremely Effective EE, Very Effective VE, Moderately Effective ME, Slightly Effective SE, Not at all Effective NE)

From Table 2, 73 (29.2%) of the respondents indicated that loss of property due to road expansion is extremely effective, 54 (21.6%) of the respondents indicated that it is very effective, 105 (42%) of the respondents indicated that it is moderately effective, and, 18 (7.2%) of the respondents indicated that it is slightly effective. The majority of respondents find road expansion extremely effective or very effective with a mean rank of 3.73 (ranked 1st). Road expansion may be perceived as a significant cause of property loss in the study areas. 11 (4.4%) of the respondents indicated that increased safety costs (traffic handling requirements and increased no of accidents) are extremely effective, 62 (24.8%) of the respondents indicated that it is very effective, 131 (52.4%) of the respondents indicated that it is moderately effective, 28 (11.2%) of the respondents indicated that it is slightly effective, 18 (7.2%) of the respondents indicated that it is not at all effective in the selected study areas. Respondents mostly rated this as moderately effective (ranked 14), with a mean of 3.08. There is a perception that road construction increases safety costs, possibly due to increased traffic and accidents.

11 (4.4%) of the respondents indicated that increased air pollution is extremely effective in the study areas, 32 (12.8%) of the respondents indicated that it is very effective, 170, (68%) of the respondents indicated that it is moderately effective, 20 (8%) of the respondents indicated that it is slightly effective, and 17 (6.8%) of the respondents indicated that it is not at all effective. Respondents rated this moderately effective (ranked 15), with a mean of 15. Road construction is associated with an increase in air pollution, which may be a concern for the residents. 11 (4.4%) of the respondents indicated that an increase in noise pollution is extremely effective, 74 (29.6%) of the respondents indicated that it is very effective, 124 (49.6%) of the respondents indicated that it is moderately effective, and 41(16.4%) is slightly effective. Respondents find an increase in noise pollution moderately effective (ranked 13), with a mean of 3.22. Road construction is perceived as contributing to higher noise levels in the study areas.

71 (28.4%) of the respondents indicated that an increase in business operation on property value in selected peri-urban areas is extremely effective, 18 (7.2%) of the respondents indicated



that it is very effective, 148 (59.2%) of the respondents indicated that it is moderately effective, and 13 (5.2%) of the respondents indicated that it is slightly effective. The mean value of 3.59 (ranked 5). Most respondents consider road construction as effective in increasing business operations. 11 (4.4%) of the respondents indicated that an increase in crime rate e.g., robbery and burglary, is extremely effective, 14 (5.6%) of the respondents indicated that it is very effective, 123 (49.2%) of the respondents indicated that it is moderately effective, and 102 (40.8%) of the respondents indicated that it is slightly effective, with a mean value of 2.74 (ranked 16). Some respondents associate road construction with an increase in crime rates.

71 (28.4%) of the respondents rated increase in budget for investment as extremely effective, 120 (48%) of the respondents rated it as very effective, and 59 (23.6%) of the respondents rated it as moderately effective, with a mean value of 3.33 (ranked 12).

Also, 71 (28.4%) of the respondents rated the increase in rental value & increase in market value as extremely effective, 25 (10%) of the respondents rated it as very effective, 141 (56.4%) of the respondents rated it as moderately effective, and 13 (5.2%) of the respondents rated it as slightly effective with a mean value of 3.62 (ranked 4). 71 (28.4%) of the respondents indicated that road construction on property value reduces congestion in selected peri-urban areas is extremely effective, 126 (50.4%) of the respondents indicated that it is moderately effective, 53 (21.2%) of the respondents indicated that it is slightly effective, with a mean value of 3.36 (ranked 11). Probably the respondents perceived that road construction is effective in reducing congestion. Additionally, 71 (28.4%) of the respondents indicated that road construction on property value encourages property investment in selected peri-urban areas is extremely effective, 166 (66.4%) of the respondents indicated that it is moderately effective, 13 (5.2%) of the respondents indicated that it is slightly effective, with a mean value of 3.52 (ranked 10). Probably the respondents perceived that road construction encourages property investment.

It can also be deduced from the table that; 71 (28.4%) of the respondents indicated that road construction on property value makes accessibility easy and helps in linking other roads in selected peri-urban areas is extremely effective, 11 (4.4%) of the respondents indicated that it is very effective, 148 (59.2%) of the respondents indicated that it is moderately effective, 20 (8%) of the respondents indicated that it is slightly effective, with a mean value of 3.53 (ranked 9). Probably the respondents perceived road construction as a means to enhance accessibility and road connectivity. 71 (28.4%) of the respondents indicated that road construction on property value makes gain in time due to little or no traffic diversions in selected peri-urban areas is extremely effective, 25 (10%) of the respondents indicated that it is very effective, 132 (52.8%) of the respondents indicated that it is moderately effective, 22 (8.8%) of the respondents indicated that it is slightly effective, with a mean value of 3.68 (ranked 2). Road construction is associated with time savings due to reduced traffic diversions.

Findings also revealed that 71 (28.4%) of the respondents indicated that road construction on property value makes the freedom of person to drive faster through rehabilitated roads which are wider in selected peri-urban areas extremely effective, 25 (10%) of the respondents indicated that it is very effective, 132 (52.8%) of the respondents indicated that it is moderately effective, 22 (8.8%) of the respondents indicated that it is slightly effective, with a mean value of 3.58 (ranked 6). Road construction is associated with the freedom to drive faster on wider roads. 71 (28.4%) of the respondents indicated that road construction on property value makes increase in vehicular speeds due to non-existence of potholes and bumps which are wider in selected peri-urban areas is extremely effective, 36 (14.4%) of the respondents indicated that



it is very effective, 108 (43.2%) of the respondents indicated that it is moderately effective, 35 (14%) of the respondents indicated that it is slightly effective, with a mean value of 3.57 (ranked 7). Road construction is associated with smoother and faster vehicular movement.

Finally, 71 (28.4%) of the respondents indicated that road construction on property value encourages foreign investors in selected peri-urban areas is extremely effective, 40 (16%) of the respondents indicated that it is very effective, 117 (46.8%) of the respondents indicated that it is moderately effective, 22 (8.8%) of the respondents indicated that it is slightly effective, with a mean value of 3.64 (ranked 3). Road construction is seen as having a moderate impact on attracting foreign investors. 18 (7.2%) of the respondents indicated that road construction on property value reduces vehicle operating cost in selected peri-urban areas is extremely effective, 25 (10%) of the respondents indicated that it is very effective, 49 (19.6%) of the respondents indicated that it is moderately effective, 78 (31.2%) of the respondents indicated that it is slightly effective, and 80 (32%) of the respondents indicated that it is not at all effective, with a mean value of 2.65 (ranked 17). Road construction is associated with potential reductions in vehicle operating costs.

Respondents generally perceive road construction as extremely effective or very effective in facilitating business operations, reducing congestion, encouraging property investment, enhancing accessibility, and linking other roads. The majority of respondents believe that road construction leads to a gain in time due to reduced traffic diversions, encourages economic growth, and attracts foreign investors. Loss of property due to road expansion is identified as a significant concern, with a substantial percentage of respondents ranking it as extremely effective. Increased safety costs, air pollution, and noise pollution are perceived as moderately effective consequences of road construction, suggesting potential negative impacts on the environment and residents' well-being. A notable percentage of respondents associate road construction with an increase in crime rates, indicating concerns about safety and security (Ogunbiyi, 2019).

Respondents show mixed perceptions regarding the impact of road construction on property values. While some believe it leads to an increase in rental and market values, others may not share the same level of optimism. The reduction in vehicle operating costs is viewed with varying degrees of effectiveness, indicating a diversity of opinions among the respondents (Adewuyi & Ojo, 2021). Certainly, findings of earlier studies reveal enthralling and constant acquaintances among them. Road construction project routes are part of distinct development patterns or road networks and are mostly described by regular street patterns as an indispensable factor of human existence, development, and civilization. Road construction project networks are observed in terms of their components of accessibility, connectivity, traffic density, level of services, compaction, and density of particular roads (Olawumi, 2020).

Level of service is a measure by which the quality of service on road construction devices or infrastructure is determined, and it is a holistic approach considering several factors regarded as measures of traffic density and congestion rather than the overall speed of the journey (Babatunde & Olajide, 2021). Access to major roads provides relative advantage consequences upon which commercial users locate to enjoy the advantages. Modern business industries, tracks, and general activities depend on road transport and road transport infrastructure, with the movement of goods and services from place to place becoming vital and inseparable aspects of global and urban economic survival. The development of various road construction modes has become pivotal to physical and economic development. Such modes include human



porterages, railways, ropeways and cableways, pipelines, inland waterways, sea, air, and road (Ogunleye, 2019).

Several factors affect property values, which include intrinsic and extrinsic factors. The extrinsic factors include good road networks, transport accessibility, increased demand for lettable space, location, condition of adjoining investment properties, and measures for parking and leisure. Local and national economic conditions or intrinsic factors arise from the natural characteristics of the property, which affect the city where the property is located. Intrinsic factors arise from within the nature of the property itself and relate to the physical attributes, including the size of the room, state of repair, decoration, and facilities. Other attributes that increase or decrease the amount that users are willing and able to pay in an open market transaction include the physical characteristics of the structure, change in taste and demand, the effect of adjacent activities, economic activities, inflation, and change in legislation (Micheal & Tunde, 2022).

The increase in demand for commercial property investment or business investment properties is affected by changes in population, planning and development schemes, legislation, and availability of good road networks, making the values of these properties rise or decrease (Ogundele & Ojo, 2020). The emphasis on transportation's role in the economy is more on wealth creation rather than wealth consumption. Its impact on the economy is made possible because it provides accessibility, which in turn induces mobility. In the researcher's view, the government needs to increase its commitment to the transportation sector, as good roads are indeed the lifeblood of every economy. Negative effects may also result from an increase in traffic noise pollution, which has also been found to reduce the value of properties located along a newly developed highway (Ajayi, 2021).

CONCLUSION AND RECOMMENDATIONS

The evaluation of the effect of road construction on property value reveals a nuanced understanding among residents. While road construction is generally seen as positively influencing economic and infrastructural aspects, concerns about property loss, environmental impacts, and potential negative consequences suggest a need for comprehensive planning and mitigation strategies. The varying perceptions emphasize the importance of considering the diverse perspectives of residents in urban development projects.

Based on the findings of this study, it is recommended that local authorities and urban planners engage in transparent communication with the community during road construction projects. Providing information about potential impacts, addressing concerns about property loss, and implementing mitigation measures for environmental and safety issues can foster a more positive perception of road construction projects.



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