



Road Dualisation-Induced Land Use Change and Impact on Rental Values in Abeokuta

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Abstract

Infrastructural facilities are one of the important tools that government uses to achieve its goals in catering for the economic and social needs of its citizens. Construction of road or road expansion such as road dualization falls under infrastructural facilities provided by the government with resultant effects on the use and values of properties. The study, therefore, aimed at examining road dualization-induced land use change and impact on rental values in Abeokuta using Adigbe as a case study. The study adopted a purposive sampling technique and total enumeration of the sample size was done. Observation and personal interviews were also carried out. Thirty-Three (33) copies of questionnaire were distributed among the estate surveyors and valuers. Data collected was analysed using frequency tables, bar chart and mean score. The study revealed that change in the use of properties occurred as a result of road dualization in the study area and that residential use was majorly affected as majority of residential properties were converted to commercial use with the resultant effect of increase in rental values of properties. 95% increase in numbers of commercial properties was recorded after road dualization also, all the types of properties recorded increase in rental value but shops recorded the highest which is 100%. The study concluded that road dualization induced change in use in the study area as a result of improved accessibility and high demand for certain class of property thereby causing disruption of land use patterns. The study therefore recommends that planning authorities should be proactive in sensitizing the public on the implications of not seeking planning permission and obeying planning laws and regulations before carrying out redevelopment or change in use as this will prevent incoherent pattern of land use and disruption of spatial interaction.

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Introduction

The uses to which estate/land is put are varied depending on the motive(s) of the owner/developer, but there are some factors influencing the use at present and in the future resulting into land use change. Land use change refers to the process whereby an area with an existing use is converted to another use. A change in infrastructure, technology, climate among others can cause conversion of land from one use to another (Izah, Majid, Mohd Ariff and Mohammed, 2018). Changes in Land use patterns in different geographical and temporal

levels shows the interaction and conflict between human and environmental necessities that can be sometimes useful or harmful (Farajollahi, Asgari, Ownagh, Maboubi and Mahini, 2017).

Among the various factors responsible for land use change is the infrastructural development which is one of the important tools the government uses to achieve her goal in catering for the economic needs of its citizenry. One of the ways in which the progress or otherwise of successive governments are measured is in the provision of infrastructural facilities for its citizenry. Sustainable development



requires government to provide public facilities and infrastructures that ensure safety and security, health and welfare, social and economic enhancement, and protection and restoration of the natural environment (Tillema *et al*, 2012). Road dualization and maintenance being one of these tools is to aid the free flow of traffic within its location. Aderamo, (2003) opines that road network constitute an important element in urban development as roads provide accessibility to the different land uses in the urban area. Apart from the ease in vehicular movement, travelling hours are reduced, and subsequently productive hours are increased thereby increasing the nation's gross domestic product (GDP). Olagunju, (2011) defined road traffic congestion as a disparity between the flow of cars entering and exiting a specific space. Additionally, this is consistent with Ukpata and Etika, (2012) view of road traffic congestion as an issue when an urban road network becomes too congested to handle the amount of traffic on it. The resultant effect of traffic congestion could mean that businesses will relocate to where there is good and efficient road network thereby forcing property values in such areas to decrease.

Government provision of public amenities and infrastructure that ensures safety and security, health and welfare, social and economic advancement, and protection and restoration of the natural environment is necessary for sustainable development. (Mike 2015). Road dualization as one of the activities of man in the environment leads to change in the use of land and its resource has been considered to ease the movement of commuters to and fro the city or villages as the case may be as accessibility towards settlement area makes it easier to convert settlement area into commercial area. Igbinosa, (2011) is of the view that the impact of an improved road network on property value depends on the demographic segmentation of the neighbourhood.

On the other hand, land-use change patterns are the result of the complex interaction between human and physical environment. The continuous migration into urban settlements as a result of improved accessibility engenders competition

among the known urban uses, variously compatible, conforming or incompatible on the fixed supply of urban land as described by town planning tools.

The dynamics of urban land market informs the daily and continuous change in the pattern of land use on the surface of the urban land stock, the urban area is characterized by inadequate land supply to meet the land requirements of all urban land users-residential, industrial, commercial, recreational and institutional activities among others. However, since the supply of land is never regarded fixed from the view point of any one specific use, additional supply can always be met from the existing stock of other uses if proposed use has a higher value than the existing use. With the continuous economic and industrial growth in the city, residential housing, which is a social need always falls victim of the whims of the urban land market since the sector lacks the economic strength to resist the invasion into its existing units and location on the urban land space by commercial activities. Rent theory that was propounded by Alonso (1964). According to the theory, the patterns of urban land use which is determined by land values are as a result accessibility and transportation costs. The theory is premised on the thinking that the more accessible an area is, the higher the chances of experiencing change in use as well as earning more profit. A situation where land market is allowed to function in order to give room for the highest bidder to occupy the site, then both the allocation of the land to a particular use and intensity of that use are determined by the market (Chidi, 2019). In reference to the theory, commercial sectors are willing to pay more rent to locate close to business district since it is more easily accessible to a larger population.

Abeokuta, being the state capital and owing to its nearness to Lagos which is the major commercial hub of the country, is rapidly evolving as a commercial city. Due to the traffic congestion on the major road leading to the city centre of Abeokuta through the Ita- oshin along the Lagos- Abeokuta expressway, there was an urgent need to dualise the Panseke-Onikoko-Adigbe Road to relief the congestion around Ita-Oshin axis. The dualisation of the said road has eased the inflow and outflow of

vehicular movement into Abeokuta city center and at the same time led to the uncontrollable change of use, majority of residential property along this road.

Therefore, the paper examines road dualization induced land use change and impact on rental values in Abeokuta, Ogun State with the following objectives: to determine the numbers of properties and their use before and after road dualization; to determine the rental values of the properties before and after road dualization and; to identify factors responsible for change in use as a result of road dualization. The outcome of the paper will serve as a policy instrument for the policy makers in property market and guidance for urban planning.

Study Area

Adigbe is known to be a residential neighbourhood linked with a major road to panseke one of the commercial hubs in the city of Abeokuta, Ogun State, Nigeria. Panseke-Adigbe road is an alternative route linking Obada township to the central business district of Abeokuta. It cuts through two Local Government Areas (Abeokuta south and Obafemi owode). Owing to the regular traffic congestion along Ita- Oshin-Olomore-Brewery axis, Panseke- Adigbe road serves as an alternative road

to avoid the regular and incessant traffic congestion. Majority of travelers coming from the Lagos-Abeokuta Road use the road as a bye-pass to access Sagamu via Abeokuta expressway. Prior to the dualisation of the road, it used to be a single lane with moderate traffic, the two sides of the road were characterized with different types of properties namely, residential, commercial, industrial, recreational, institutional and special. Of all these properties, residential use is the highest. After the road dualisation, majority of the properties are giving way to commercial use with an increase in the volume of traffic flow.

Methodology

The study adopted a survey research design which involves collection and analysis of primary data. The primary data collection involves the use of questionnaire to solicit information from the Registered Estate Surveyors and Valuers in Abeokuta, Ogun State. The study adopted purposive sampling technique. Total enumeration of the sample size was done. Therefore, 33 copies of questionnaire were distributed while 29 copies of the questionnaire were returned. Data collected was analysed using frequency tables, bar chart and mean score.

Result and Discussion

Table1: Socio-economic Characteristics of the Respondents

	Respondents	Percentage
Academic qualification		
B.sc		
HND	8	27.6
M.sc	12	41.4
Phd	8	27.6
Total	1	3.4
	29	100
Professional qualification		
Probational		
Graduate		
Associate	1	3.4
Fellow	4	13.8
Total	19	65.5
	5	17.2
Years of service	29	100
1-10years		

11-20years		
21years and above		
Total	12	41.4
	14	48.3
	3	10.3
	29	100

Source: Field survey, 2020

Table 1 indicate the educational qualification of the respondents. It shows that 41.4% of the respondents were HND holders, 27.6% were B.Sc and M.Sc holders respectively, while 3.4% were Phd holders. The professional qualifications of the respondents shows that 65.5% were associate members, 17.2% were fellows, 13. 8% were graduate members while 3.4% were probational members. The number of years of service of the firms were also revealed. 48.3% have been in practice between 1year and 10years, 41.4% between 11years and 20years while 10.3% falls between 21years and above. This implies that majority of the respondents are HND holders, Associate members of the professional

body and had been in practice between 1 and 10years. This indicates that majority of the respondents are professionals and had been in practice for long to understand the workings of the property market.

Numbers of Property and Their Uses Before and After Road Dualization

The bar chart below shows the response of the respondents on categories of use and the numbers of properties within the study area before and after road dualization.

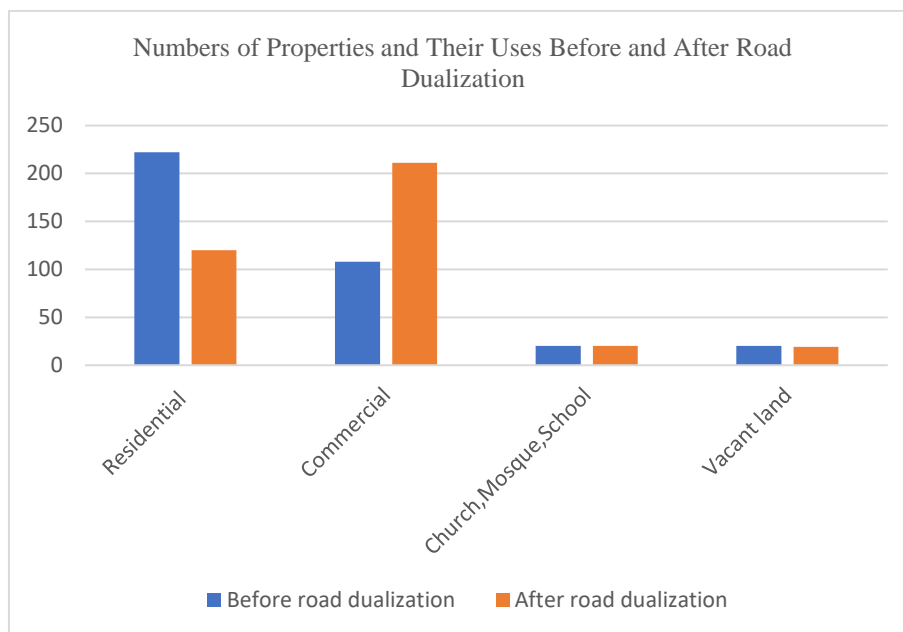


Figure 1: Numbers of property and their uses before and after road dualization

Figure 1 above shows that in the study area residential use was the highest use followed by commercial use before road dualization but, after road dualization a lot of residential properties were

converted into commercial properties and change in use of those that were not converted structurally. Thereby, making commercial use the highest use. Initially residential properties in the area were 222

while commercial properties were 108. After road dualization residential properties reduced to 120 while commercial properties increased to 211.

Table 2: Numbers of Properties and Their Uses Before and After Road Dualisation

Categories of Properties	Numbers before Road Dualization	Numbers After Road Dualisation	Increase in %
Residential	222	120	-
Commercial	108	211	95
Religious	20	20	-
Vacant Land	20	19	-

Source: Field survey, 2023.

Table 2 shows that only commercial uses increased in numbers after road dualization by 95%.

Residential properties were massively converted to commercial uses.

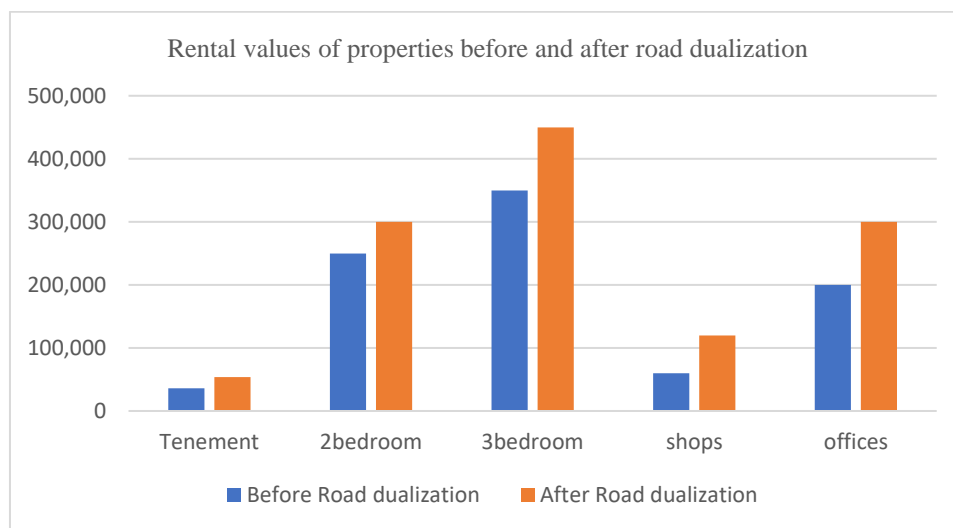


Figure 2: Rental Values of Properties Before and After Road Dualization

Figure 2 above reveals that road dualization process in the study area resulted not only into change in use of properties but also increase rental values of properties. This is in line with the submission of Olujimi and Bello (2011) that infrastructural

facilities are probable factors that can influence rental values of residential properties in Nigeria because they are factors that strengthen the social livelihood of human beings in the urban areas.

Table 3: Percentage Increase in Rental Values After Road Dualization

Types of Properties	Rental Values Before Road Dualisation	Rental Values After Road Dualisation	Percentage Increase in Value (%)
Tenement	36,000	54,000	50
2-bedroom	250,000	300,000	20
3-bedroom	350,000	450,000	28.6

Shops	60,000	120,000	100
Offices	200,000	300,000	50

Source: Field survey, 2023

Table 3 shows the percentage increase in rental values of major types of properties in the study area. Tenement buildings recorded 50% increase in rental values, 2bedroom apartment had 20%, 3bedroom recorded 28.6% increase while shops and offices recorded 100% and 50% increase in rental values respectively. This shows the reason residential uses were being converted to commercial uses and it implies that the demand for commercial properties in the study area is high.

Factors Responsible for Change in Use as a Result of Road Dualization

perceptions of the estate surveyors and valuers were sought on factors responsible for change in use of properties as a result of road dualization. A scale of 1 to 5 was adopted for questionnaire calibration, with 1 indicating strongly disagree (SD) 2 being disagree (D) 3 being indifferent (I), 4 being agree (A) and 5 being strongly agree (SA). Their response was processed using mean. The result is as presented in Table 4.

Table 4: Factors Responsible for Change in Use as a Result of Road Dualisation

S/N	Factors	Mean	Rank
1.	Increase in property values Accessibility	4.59	1 st
2.	Insecurity	4.24	2 nd
3.	Urgent need of money	3.83	3 rd
4.	Intensity of use (pressure on available facilities) Rise in maintenance cost of residential properties	3.76	4 th
5.	Increase in population Nearness to Centre business district	3.59	5 th
6.		3.31	6 th
7.		3.24	7 th
8.		3.10	8 th

Source: Field survey, 2023.

The result in table 4 shows that increase in property values ranked first among the factors responsible for change in use as a result of road dualization (4.59) followed by accessibility (4.24) while Insecurity (3.83) and urgent need of money (3.76) ranked 3rd and 4th. However, intensity of use (pressure on available facilities) (3.59), Rise in maintenance cost of residential properties (3.31), increase in population (3.24) and nearness to center business district (3.10) are the least factors respectively. It is evident in the study area that increase in property values is the response to improved accessibility and due to conversion in use from residential to commercial use the area becomes deserted at night and this poses security threat to the occupants of the

remaining residential properties thereby forcing the owners to convert it to commercial use. All these account for the disruption of land use in the study area.

From observation, it was also discovered that a large number of newly converted properties did not obtain planning permission before carrying out such conversions.

Recommendations and Conclusion

From the result, it was discovered that there is change in use of properties as a result of road dualization in the study area. However, residential use was majorly affected as majority of residential properties were converted to commercial use with

the resultant effect on rental values. Rental values of properties were increased owing to increase in demand for commercial properties and accessibility among other factors thereby causing disruption of land use pattern. The study therefore recommends that planning authorities should be proactive in sensitizing the public on the implications of not seeking planning permission and obeying planning laws and regulations before carrying out redevelopment or change in use of properties and erring citizens should be sanctioned as this will prevent incoherent pattern of land use and disruption of spatial interaction. Also, estate surveyors and valuers should endeavor to enlighten their client on the importance of complementarity of uses in order to promote healthy living and safe environment.

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