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ASSESSMENT OF THE SOCIO-ECONOMIC IMPACTS OF URBAN ROAD CONSTRUCTION PROJECTS IN SULEJA, NIGER STATE, NIGERIA: 2023 - 2024

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Abstract

This study assessed the socio-economic impacts of urban road projects in Suleja, Niger state Nigeria. The study was aimed at assessing the externalities of the urban construction projects on the residents and businesses in the area. The study adopted a survey research design adopting questionnaire as data collection instrument. A sample size of 400 was calculated for the study and questionnaires of the same amount were distributed for data collection, out of which 376 were correctly filled and returned for analysis. Collected data was analysed using descriptive statistics such as frequencies, percentages and mean statistics. The findings from the study revealed that road construction activities resulted in reduced business patronage, reduced income levels, loss of job, increased congestion and breathing difficulties due to dust emission.The study further established that despite the externalities, the residents were mostly satisfied with the project. The study concludes that road construction had severe negative impact on the socioeconomic life of the respondents. The study therefore recommended that adequate traffic management should be put in place to curtail congestion during construction. To reduce dust emission, water should be sprayed around construction areas, whilecompensation should be given to affected businesses and individuals who have

suffered economic losses.

Keywords: Socioeconomic Impacts; Urban Road; Road Construction Projects; Suleja

Introduction

Urban road construction projects are important projects that can contributes immensely to a nations or city's development as they lead to improved mobility and accessibility thereby influencing economic growth and development (Ajiboye, Abdullahi, Ohida, Abdulsalam, Kolo-Abubakar & Jonathan, 2025). According to Adugbila, Martinez and Pfeffer (2023), road construction projects play a vital role in the development cities around the world. They have several positive impacts on the immediate environment and economic standing of the city. Offiong, Eteng, Atu and Offiong (2013) establish relationship between road transport development and economic and population growth. Khanani, Adugbila, Martinez and Pfeffer (2021) identify the improvement of connectivity, attraction of investment and improvement of a community or cities standing against others, improvement of economic stability and quality of life as some of the benefit derivable from road improvements.

Construction activities could range from repair, design, construction or general maintenance of roads. While the positive impacts of road construction projects are many and well recognized, the externalities and negative impacts also exists. These negative impacts could come in several forms ranging from economic, environmental, health and social impacts (Sackey, Quartey, Nortey, Obeng, Okyere & Kayoung, 2023). These externalities are mostly witnessed during the construction with few extending post-construction process. According to Sackey *et al*. (2023), road construction activities affect businesses, leading to reduced patronage, increased cost of commodities, limit accessibility, affect air quality due to emission and dusts, causes accidents among other externalities.

Since urban road projects have the potential to either benefit or harm the livelihoods as well as the social wellbeing of residents, there is a great need to devise ways of evaluating their impacts. This is because, without a solid grasp of the impacts of these projects, necessary policy decisions that could minimize or eliminate the externalities while enhancing the benefits will never be arrived at. Road construction projects in Suleja has undoubtedly brought positivity to the environment as is evident with most construction projects. These benefits as stated by Khanani *et al*. (2021) is usually accompanied with a cost which affects the social, economic or even

environmental system or life. Aiming to provide better planning and implementation strategies, this study attempts to fill in this gap by systematically looking at socioeconomic impacts of urban road projects in Suleja. Specifically, the study examined the economical impact of the road construction project, assessed the social impact of road construction projection, investigate the post construction impact of the project and also measured the level of satisfaction of the residents with the project.

Literature review

Research states that road infrastructure development in the has played a significant role on socio-spatial fragmentation which separates the various uses of the land such as residential, commercial and industrial land uses (Cobbinah, Gaisie & Owusu-Amposah, 2015). Aseidu (2018) note that improvement on road facilities is used to attract real estate developers giving rise to gated communities that contrast sharply with traditional housing types. Such developments add to socio economic divides, the wealthier still living in newly built properties along main roads while the low-income dwellers are still in inaccessible parts of the country (Briggs & Mwamfupe, 2000).Integration of communities not only symbolically, but functionally, can be realized by way of infrastructure development, with various consequences regarding individual satisfaction with local conditions.In Tanzania, for example, the enhanced road infrastructure has created visually different living environments separating and worsening inequalities and the quality of people's lives for the existing residents (Briggs & Mwamfupe, 2000). According to Khanani *et al* (2021) construction of roads can lead to social and spatial separation of communities and inequality which in turn destroys cohesion with the society.

Quality of life (QoL) is reflected as subjective perception of living conditions and objective circumstances (Senlier, Yildiz & Aktas, 2009). Road infrastructure projects sometimes result in land use changes which often break up the urban landscape in the way that it disrupts the cohesion and the general quality of life of different social groups (Landman, 2011). Road infrastructure can enhance connectivity and service accessibility to gated communities (Khumya & Kusakabe, 2015), but paradoxically reduce social relationships within them. Such developments are not only changing livelihoods but also reshaping residents' perception of their living environments (Khumya & Kusakabe, 2015).The impact of road development on QoL varies by location, with residents' experiences differing based on context (Khanani *et al*., 2021). The construction of new roads is

linked to declines in social networks and increased instances of gated housing, effectively segregating communities and attracting higher-income groups, which can lead to gentrification and displacement (Aseidu,2011).

Despite intensive focus on urban QoL within infrastructure development, including on road projects, little is understood of how changes to such projects affect residents' perceptions and satisfaction with their neighbourhoods (Khumya & Kusakabe, 2015). Researches show that investment in road infrastructure can spur both spatial and social transformation within communities (Adugbila *et al*., 2023).

Empirical Review

Ogunseye, Oyejola, Salisu, Momodu & Fasina (2020) studied the socio-economic impact of road infrastructure development during and after construction in Abeokuta, Ogun state, Nigeria. The research designs and hypothesis were formulated for the study. The study adopted a descriptive research design utilizing questionnaires as instrument for data collection. The study adopted a multistage sampling technique where stratified sampling technique was used to select two local government area namely Abeokuta North and Abeokuta south. A convenience sampling technique was then used to select one route each from each of the selected LGAs. The collected data were then analysed using descriptive statistics specifically frequencies, percentages while the hypotheses were tested using regression and paired sample 't' test. The study revealed that during the road infrastructure development, the effect of the construction was mostly negative as it negatively affected businesses, impacted travel time, property value, caused road accidents, increased fare rates, damaged vehicle condition, influenced commuting choice and affected community health. The impact after the construction was however mostly positive, as it was discovered that it increased business patronage, improved accessibility to workplace, reduced accident rate, reduced delay by decreasing travel time. It however increased the value of properties in the form of increased rentals, aesthetics and improved accessibility.

On the other hand, Khanani *et al*. (2021) assessed the impact of road infrastructure development projects on Local Communities in two peri-urban areas namely Kisumu in Kenya and Accra in Ghana. The study employed a mixed research design utilizing both qualitative, quantitative and spatial research methods to assess the impacts. Five data collection instruments were utilized namely: the Key informant interviews (KII), field observations, walking interviews,

questionnaires and Focus group discussions. The study focused on three dimensions of the impact on the communities namely the social, spatial and economic aspects. A total of 549 questionnaires were distributed at both communities in the different countries. Descriptive statistics such as mean and percentages were used to analyse the quantitative data while findings from the qualitative methods were explained and presented in prose form. The findings revealed that road infrastructure projects had several positive impacts especially in terms of increased property value, improved accessibility to facilities and services, improved residential development, and increased employment rate. The positive impacts were however discovered to benefit the rich and well to do with the poor bearing the negative impacts. The poor were left to carry the increased cost of rent of houses or properties owned by the rich. The study also discovered that the impacts were place and people specific, thereby indicating that a one-fit-all approach or solution was not appropriate for tackling these externalities. The study therefore recommended that targeted policies should be put in place by government to address the distinct challenges faced by different locations and different category of people.

Sackey *et al*. (2023) assessed the impact of the Atonsu lake road construction on the social, economic and health condition of the residents. The study focused on the effects before the construction and during the construction process. The study employed a mixed research method where quantitative method involving the use of questionnaire for data collection was used to survey the perception of the residents around the area of the construction activity. While qualitative method involving interview was adopted to collect information from health personnels. 400 questionnaires were used and collected data were analysed using descriptive statistics such as frequencies and mean statistics. The findings revealed that the road construction affected businesses, health and income level of residents. According to the study, the income level of businesses was negatively affected as the businesses witnessed reduced patronage and sales during the construction process as compared to before the construction.

Methodology

The study adopted a survey research design. A total population of 162,135 comprising of residents and business owners within Suleja was used for the study. A multi stage sampling technique comprising of stratified sampling and simple random sample techniques. The stratified sampling technique was used to select key areas within Suleja where road construction

activities had been carried out within 2022 – 2025 while simple random sampling was adopted to administer questionnaires to residents within the selected areas. A sample size of 400 respondents calculated using the Taro Yamane's formular was used for the study. Questionnaires were adopted as instrument of data collection. 400 questionnaires were administered to the respondents (comprised of residents and business owners) within the area. The collected data were then analysed using descriptive statistics such as mean, percentages and frequencies. Items with mean average of 2.50 and above were regarded as high was those below 2.5 were regarded as low. The 2.50 cutoff score was selected as it served as the mid-point of the mean results since variables were assessed using 5-point Linkert scale. T-test analysis was conducted to test the hypothesis.

Data Presentation and Analysis

Out of the 400 questionnaires distributed, 376 (94%) were fit for analyses as these were correctly filled. Table 1 presents information on the socioeconomic characteristics of the respondents. The study discovered that 65% of the respondents were males, 35% were female shared among a wide age distribution. 5% of whom were less than 15 years, 22% where 18 – 30 years, 26% were 31 – 40 years, 23% were 41 – 50 years, 16% were 51 – 60 years while 8% were above 60 years.

The study further revealed that 48% of the respondents earned less than N50, 000, 23% earned within the range of 50, 000 to N100, 000, 12% earned within the range of N100, 001 and 150, 000, 7% earned within the range of 150, 001 and N200, 000 while 10% earned above N200, 000. This finding indicates that majority of the respondents earned far below the minimum wage, suggesting that the majority were mostly prone to the negative effects of the road construction activities as pointed out by Khanani *et al*. (2021) who stated that the positive benefits of road construction are mostly enjoyed by affluent and well to do while the negative impacts tend to affect the poor.

The study further established that majority of the residents, accounting for 23% of the respondents were majorly traders or into trading, 18% were employees in the public sector, 20% were employees in the private sector, 9% were specifically in the transportation and logistics sector, 17% were majorly farmers or in agriculture related occupation, 10% were into other occupations asides the ones listed while 3% were unemployed.

The study also revealed that about 23% of the respondents, owned houses or structures in Suleja, 63% were living in rented apartments or lodgings while 14% neither owned properties nor rented properties.

These 14% were either living with others or living in public places like uncompleted buildings or below bridges.

Table 1. Demographic Characteristics of Respondents

Variables	Options	Frequency (percentages)
Gender (N = 376)	Male	244 (65%)
	Female	132 (35%)
Age (N = 376)	Less than 18 years	19 (5%)
	18 – 30 years	83 (22%)
	31 – 40 years	98 (26%)
	41 – 50 years	86 (23%)
	51- 60 years	60 (16%)
	Above 60 years	30 (8%)
Marital Status (N = 376)	Married	207 (55%)
	Single	169 (45%)
Income level (N = 376)	Less than N50, 000	181(48%)
	N50 000 – N100 000	86 (23%)
	N100 001 – N150, 000	45 (12%)
	N150 001 – N200 000	26 (7%)
	Above N200 000	38 (10%)
Occupation (N = 376)	Trader and Commerce	86 (23%)
	Public Sector Employment	68 (18%)
	Private Sector Employment	75 (20%)
	Transportation and Logistics	34 (9%)
	Unemployed	12(3%)
	Agriculture and Farming	64 (17%)
	Others	37 (10%)
Property Owner (N =376)	Owns Property	87(23%)
	Renting Property	238(63%)
	Neither	51 (14%)

Source: Authors' Survey

Socioeconomic Impacts Of Road Construction Projects

Economic Impacts During Construction Phase

The study established that the construction phase, road construction projects in Suleja has had severe economic and social impact on the residents and businesses in the area. As presented in Table 1, these impacts have been reportedly significant especially in areas of reduced patronage to businesses with a mean value of 4.53, destruction to businesses with a mean score of 3.78, increased cost of acquisition of products for business with a mean value of 4.44, reduced property value with a mean score of 3.35. While the impacts on job retainment was average, a mean value of 2.56 is an indication that it has resulted in some cases of loss of job. These agrees with the findings of Ogunseye *et al*. (2020) which established that the socio-economic impact of road projects during construction phase are usually negative. The findings are however not surprising as increased travel time, limited accessibility and increased fare rate as noted further in this study, could impact the ability of workers to reach workplaces thereby resulting in loss of jobs.

Table 2: Economic Impact of Road Construction Projects

Economic Impact	N	Mean
Road construction has resulted in reduced income	376	3.43
There has been reduced patronage on business	376	4.53
There has been an increase in cost of acquisition of products	376	4.44
Road construction has resulted in loss of job	376	2.56
Reduced value of property within construction areas.	376	3.35
Road construction has resulted in destruction of businesses structures	376	3.78
Increased cost of production	376	4.23
Reduced productivity	376	3.76
Grand mean	**376**	**3.76**

Source: Authors' Survey

Social Impacts During Construction Phase

As shown in Table 3, the social impacts of the construction projects were also noted to be lower than economic impacts with a mean score of3.61. These impacts were noted in areas of increased traffic congestion with a mean score of 4.88, limited accessibility with a mean value of 4.43, higher fare rates with a mean value of 4.22, longer travel time with a mean value of 4.67, disruption of basic services with a mean value of 4.32. This also agrees with the findings of Ogunseye *et al*. (2020)

The construction project was noted to also have severe impact on the health of the respondents as eye irritations due to dust with a mean value of 4.32 from construction activities also presented challenges for the residents, noise pollution from use of heavy machineries with a mean of 4.87, increased risk of accidents with a mean value of 4.21, breathing difficulties due to dust and emission with a mean value of 3.56, increased discomfort and stress during transportation with a mean value of 4.35. These findings are in agreement with the findings of Ajiboye *et al.* (2024) who noted similar impacts on health of resident in Minna.

Table 3: Social Impact of Road Construction Projects

Social Impact	N	Mean
Increased Traffic Congestion	376	4.88
Increased connectivity	376	4.22
Limited accessibility due to construction activities	376	4.43
Higher fare rate	376	4.22
Longer travel time	376	4.67
Resulted in displacement	376	4.22
Eye irritations	376	4.24
Noise Pollution	376	4.87
Increased rate of accident	376	4.21
Breathing difficulties due to dust and emissions resulting from construction activities	376	3.56
Increased discomfort and stress during transportation	376	4.35
Construction has resulted in disruption of basic services	376	4.32
Grand mean	**376**	**3.61**

Source: Authors' Survey

Post Construction Impacts

As shown in Table 4, the socioeconomic impacts of road construction in post construction phase (long term impact)have been noted to be largely positive with a mean score of 4.03. Specifically, road construction projects have resulted in increased business productivity with a mean value of 3.65, increased connectivity with a mean value of 4.31, increased accessibility with a mean value of 4.33, increased tourist attraction with a mean value of 3.65, improved environmental aesthetic quality with a mean value of 4.11 as well as improved overall quality of life with a mean value of 3.56.

The study also established that road construction projects also contribute positively to property value with a mean value of 4.52. This however benefits the house or property owners more than the tenants. As stated by Khanani *et al*. (2021), an improved property value tends to result in increased cost of rentage which further increases the cost of living for residents who rent these properties. The residents now need to pay more for rentage, which benefits the rich and property owners at the detriment of the poor or those on rentage.

Table 4: Post Construction Impacts of Road Construction

Impact	N	Mean
Increased connectivity	376	4.31
Improved aesthetic quality of the environment	376	4.11
Improved accessibility	376	4.33
Improved property value	376	4.52
Increase tourist attraction	376	3.65
Increased business productivity	376	3.71
Improved overall quality of life	376	3.56
Grand mean	**376**	**4.03**

Source: Authors' survey

Satisfaction With Road Construction Projects

Despite the negative impacts of the construction, findings from this study reveals that majority of the respondents were satisfied or very satisfied with the road construction. This can be tied to the benefit they have gained or tend to gain from the construction. As presented in Table 5, 21% of the respondents were very

satisfied while 36% were satisfied, 24% were neutral, 14% were dissatisfied while 5% were very dissatisfied. A chart showing the level of satisfaction of individuals who own properties, those who rent and those who neither owns properties nor rents is shown in figure 1. The result shows that the level of satisfaction vary across the different categories of residents.

Table 5: Level of Satisfaction with road construction projects in Suleja

Satisfaction Level	Total
Very Satisfied	80 (21%)
Satisfied	135 (36%)
Neutral	92 (24)
Dissatisfied	52 (14%)
Very Dissatisfied	17 (5%)
Total	**376 (100%)**

Source: Authors' survey

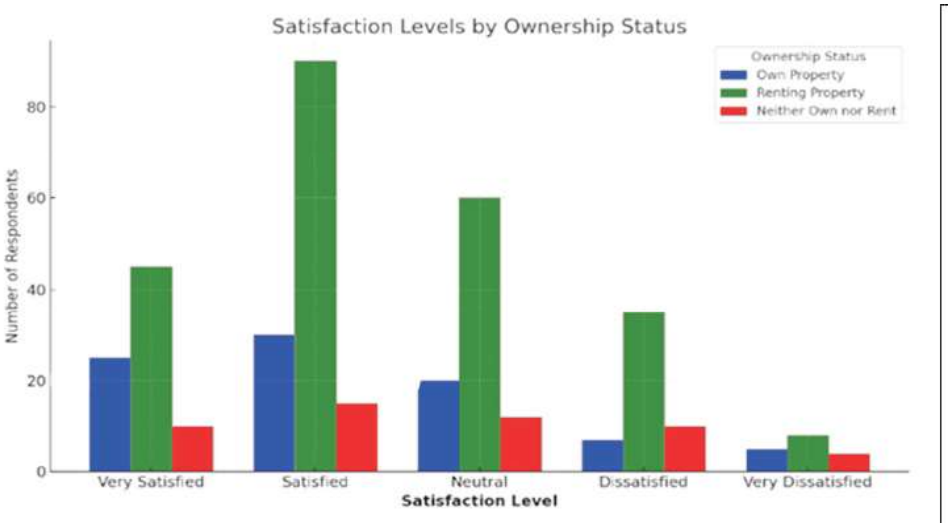

Figure 1: Level of satisfaction of residents with road construction project based on ownership status
Source: Authors' Computation

Hypothesis

A two-sample t-test was performed to compare the level of satisfaction of road construction between property owners and those who rent properties.

Table 5. t-test table

Levene's Test for Equality of Variances			T test for equality of means				
	F	Sig.	T	Df	Sig. (2 tailed)	Mean difference	Std. Error difference
Equal Variances assumed	0.314	0.576	1.581	323	0.115	0.180	0.114
Equal variances not assumed			**1.579**	**307.41**	**0.115**	**0.180**	**0.114**

Source: Authors' Computation

There was no significant statistical difference in the level of satisfaction between residents who own properties (M = 3.72, SD = 0.894) and those who rent (M = 3.54, SD = 0.948); t (323) = 1.581, p = .115. The null hypothesis is therefore accepted.

This indicates that the level of satisfaction of the residents is not majorly influenced by the possession of properties within the area. This further shows that the satisfaction is likely derived from the general benefit to the community.

Conclusion

This study assessed the socioeconomic impact of the road construction projects in Suleja, Niger state in order to identify the externalities and provide guided suggestions in tackling or limiting these externalities. Despite the several benefits derivable from road construction projects, the socio-economic effect of the projects on a community is disturbing. The findings showed that the effects of the construction stretch across economic, health and other social aspects of the residents. While the effects during the construction phase were mostly negative, the post construction effects were mostly positive. From the findings, it was discovered that reduced business patronage, business service disruption, destruction of properties, increased cost of acquisition of goods, increased property values and job losses were some of the economic effects witnessed. The construction activities also affected the social life of the respondents as effects were noticed in increased travel time due to congestion resulting from construction activities, limited accessibility as well as health impacts ranging from eye irritations, noise pollution and breathing difficulties. The study however, established that despite the externalities, the residents were mostly satisfied with the construction hoping for long term benefits.

Recommendations

The study recommends that measures should be put in place by government to minimize the externalities of construction during the construction phase by ensuing adequate traffic management, in terms of provision of traffic control personnel and alternative route to roads being constructed. Dust control measures such as spraying of water during dust generating processes It is also advised that support compensation should be given to affected businesses and individuals shown to have suffered economic losses. Regulations should also be made regarding property cost especially rentages in areas where construction activities have been carried out. Finally, the study recommends that proper planning should be put in place before commencement of similar projects to reduce the externalities especially in the areas of traffic management, health impacts and provision of alternative routes.

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