AN ASSESSMENT OF THE SOCIOECONOMIC EFFECTS OF ROAD CONSTRUCTION/ REHABILITATION IN SELECTED LOCAL GOVERNMENT AREAS OF CROSS RIVER STATE

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Abstract

The study carried out an assessment of the socioeconomic effects of road construction and rehabilitation in selected Local Government Areas of Cross River State**.** One hundred and sixty copies of a structured questionnaire was administered to respondents residing around and within newly rehabilitated and constructed roads in Calabar Municipality, Ugep, Akamkpa and Abi Local Government Areas of Cross River State. Result showed that 93.1% of the respondents were conscious of road development in their areas. The result identified job creation opportunities, establishment of new businesses and increased mobility and interaction as the principal impacts of road construction. Pearson's correlation result indicated a significant relationship between road construction/rehabilitation and provision of employment opportunities ($r = 0.403, \leq 0.05$). Bivariate regression result indicated that road construction/rehabilitation was responsible 36.4% (.364) of the change in mobility of persons and goods in the LGAs. Furthermore, One-Way ANOVA result revealed that road construction/rehabilitation facilitated mobility of persons and goods ($F = 90.295, \leq 0.05$). Based on the obtained results, the study suggested that more roads and by-passes should be constructed across the state in order to open up new areas for socioeconomic development as well as rehabilitate existing road network to accommodate the increasing population of vehicles and improve mobility.

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Introduction

Transportation problem in Cross River State has become critical due to the increase in vehicular volume and human activities. Problems of serious concern include inadequate terminal facilities, which create traffic problems and urban mobility stand still. The effects of inadequate maintenance and renewal of equipment and facility is another problem visible in the state. This includes inadequate maintenance and rehabilitation of deplorable roads resulting in environmental degradation and associated traffic problems of increased cost and increased travel time among others (Asian Development Bank, 2002). The issue of urban transportation system has attracted the attention of scholars in the past. Studies abound on the benefits of transportation on economic development and in Nigeria, studies have also been undertaken. Inadequate transportation system limits a nations ability to utilize its natural resources distribute food and other finished goods. The lack of road access across the state, for example, has its effects on the agricultural sector. Road access is crucial for agricultural development. Farmers will have to transport their produce to the market and agricultural inputs and extension services will have to be supplied to them on a regular basis. Access to agricultural inputs and markets is difficult in most rural areas in the state because of the general lack of roads and the poor state of the existing road network.

More specific examples could be quoted for the other sectors, for example schools which have no teachers because schools are not accessible by road, or of health centers which have no staff or medicines because they are inaccessible. The Worldbank suggests that "given the critical importance of infrastructure to raise rural incomes and alleviate rural poverty and the severe infrastructure bottlenecks in large areas, increased investments in the development of infrastructure, particularly road access and farm to market roads must be an essential part in achieving economic development. Of late, the Commissioner for Works, Mr. Legor Idagho, disclosed this to newsmen at the end of the weekly State Executive Council meeting that the Cross River State Executive Council has ratified contracts for the construction of 46 roads under phase two of the Urban Renewal Programme in some urban towns of the state. The towns are Ikom, Ugep, Obudu and Ogoja as well as the reconstruction of Diamond Road in Calabar Municipality. According to Idagho, the contract sums for the 46 roads under the phase two of the Urban Renewal Programme are as follow Obudu N1.2 billion, Ikom N921 million, Ugep N1.35 billion, Ogoja N840 million while that of Diamond Road is N179 million. Idagho

explained that the phase one of the Urban Renewal Programme which was executed in Calabar metropolis was successful though it did not achieve what it was intended for which prompted government to extend the programme to other urban cities across the state. Mr. Idagho argued that the Diamond Road, which is one of the oldest roads in Calabar, is to be reconstructed with kerbs, drains and walk way because currently, it is in a state of disrepair as part of it has caved in due to erosion.

Roads are of vital importance in order to make a nation grow and develop. Especially in the third world, good maintained roads also will enhance poverty reduction by improving access between regional and rural communities and, ultimately, enhancing socio-economic growth and development (Levik, 2012). Road networks form vital links between production centres and markets. In addition its multiple function of providing access to employment, social, health and education services makes road network crucial in fighting against poverty by opening up more areas and stimulating economic and social development. Thus, improving the road network across the state will improve the accessibility of district centers, provincial centers and other important locations. It is therefore likely to have a positive effect on the accessibility of high schools, dispensaries, pharmacies and hospitals, markets and shops, government services and employment centers (Donnges, 1998). Generally, investment in road projects is intended to improve the economic and social welfare of people. Increased road capacity and improved pavements can reduce travel times and lower the costs of vehicle use, while increasing access to markets, jobs, education, and health services and reducing transport costs for both freight and passengers. For all the positive aspects of road projects, they may also have significant negative impacts on nearby communities and the natural environment (Tsunokawa and Hoban, 1997).

The Worldbank suggests that "given the critical importance of infrastructure to raise rural incomes and alleviate rural poverty and the severe infrastructure bottlenecks in large areas, increased investments in the development of infrastructure, particularly road access and farm to market roads must be an essential part in achieving economic development. However, the socio-economic changes associated with investments in transport infrastructure in developing countries have been subject to intensive scrutiny for almost four decades and there are a number of summaries of findings (World Bank 1994; Oni, 2006). A related literature has focused on the socio-economic changes associated with general public works programmes that include investment in roads, in which characteristically emergency relief and employment creation have

been the major objectives. The focus on poverty alleviation has both a more recent origin and restricted literature. However, due to variations in the scope of the enquiries, and methodological differences, the outputs from these literature sets offer a confusing collection of findings and opinions, with respect to the road sector. This study therefore attempts to evaluate the socioeconomic effects of road construction and rehabilitation in selected Local Government Areas of Cross River State.

Materials and methods

Research design

Population of study

The population of study comprised individuals residing around and within newly rehabilitated and constructed roads in Calabar Municipality, Ugep, Akamkpa and Abi Local Government Areas of Cross River State

Sampling technique

The study employed the purposive and systematic random sampling techniques in choosing the sampling communities and in the administration of questionnaire. Purposive sampling technique was used to select only Local Government Areas (LGAs) in Cross River State where road rehabilitation and construction had been carried out in the past three years. The purposively selected LGAs included Calabar Municipality, Ugep, Akamkpa and Abi. After this, the systematic random sampling was used to administer copies of structured questionnaire to inhabitants of the areas as well as motorcycle riders (Okada). One hundred and sixty copies of questionnaire were administered to residents in these selected LGAs in relation to their population. Systematic sampling technique was used due to the poor numbering of houses in the area. As such, the 1st and the fifth building in each street were chosen, the interval between each sampled building was four (4). Also, for the Okada people, they were approached at their relaxation spots.

Method of data collection

The method used to collect data was through a structured questionnaire. The questionnaire was self-administered with the assistance of a native speaker in each LGA. The native assistant enabled made communication in local language to be understood. For illiterate respondents, they were assisted by the researcher in filling the necessary questions.

Method of data analysis

Data obtained from the administered questionnaire were analyzed using both descriptive and inferential statistical tools. The descriptive tools used included simple percentages, charts and tables, while the inferential tools included Pearson's correlation and bivariate regression.

Results

Socio-demographic characteristics of respondents

The sex of respondents showed that 61.9% were males, while 38.1% were females. This implied that males dominated the survey, which may be attributed to the dominance of males in income generation jobs and businesses as well as the cultural placement of males as the heads of families and sole bread provider. **T**he ages of respondents revealed that 26-35 year group constituted 43% of respondents and was the highest number of respondents followed by 18-25 years with 29% and then the 36-45 year group which made up 19% of the respondents. The lowest number of respondents was within the group greater than 45 yrs. which constituted 9%. From the pattern that emerged, it could be said that majority of employees are adults between the ages of 26 – 45 years old. These groups of individuals constitute the active population who are mostly affected by the constructed/rehabilitated roads as it creates employment opportunities to them in diverse ways. Information on the educational qualifications of respondents indicated that 10% of the respondents had masters' degrees and other advanced/additional qualifications; 44% were holders of first degrees, while 15% had post-primary education. Interestingly, only 8.1% of the respondents had primary, while 22.5% had OND/NCE certificates. This therefore implies that the entire respondents are literates and composed of respondents with degrees. The additional degrees have positive implications on respondents' ability to make reasonable decisions towards utilizing the developmental opportunities inherent in road construction and rehabilitation. **T**he occupational profile of respondents showed that civil servants constituted 30% of respondents

and was the highest number of respondents followed by others (students, professionals etc.) with 24.4% and then public servants which made up 18.1% of the respondents. The lowest status of respondents was fishing which constituted 3.1%. This information therefore implies that the respondents are engaged in different employments to make ends meet and are also influenced by the newly constructed and rehabilitated roads in their domains.

Awareness of road construction/rehabilitation

Respondents' awareness and knowledge of road construction and rehabilitation in their various places of residents are depicted in Table 1. The Table 1 shows that one hundred and forty-nine constituting 93.1% of the respondents were aware of road construction and rehabilitation, while an infinitesimal proportion of respondents were insensible to road construction or any form of road rehabilitation in their various residents. In all is that, majority of the respondents are conscious of road development.

Table 1 Consciousness of road construction and rehabilitation

Options	Frequency	Percent
Yes	149	93.1
No	11	6.9
Total	160	100.0

Mobility effects of road construction and rehabilitation

The mobility effect of road construction/rehabilitation is shown in Figure 1. The Fig. reveals that 18.8% of the respondents were of the opinion that road construction results in the reduction in travel time. This is obvious as trip to work, school, market and places of choice that usually take long time as a result of the bad road, has substantially reduced with the repairs and construction of new roads. 11.9% of the respondents believed road construction has make interaction easier as well as reduced traveling cost. In all, 34.4% of the respondents held the opinion that mobility-related situations are improved upon as a result of road construction and rehabilitation. The

information on the Figure therefore indicates that road construction and rehabilitation improves the movement of persons, goods and information (increases mobility).

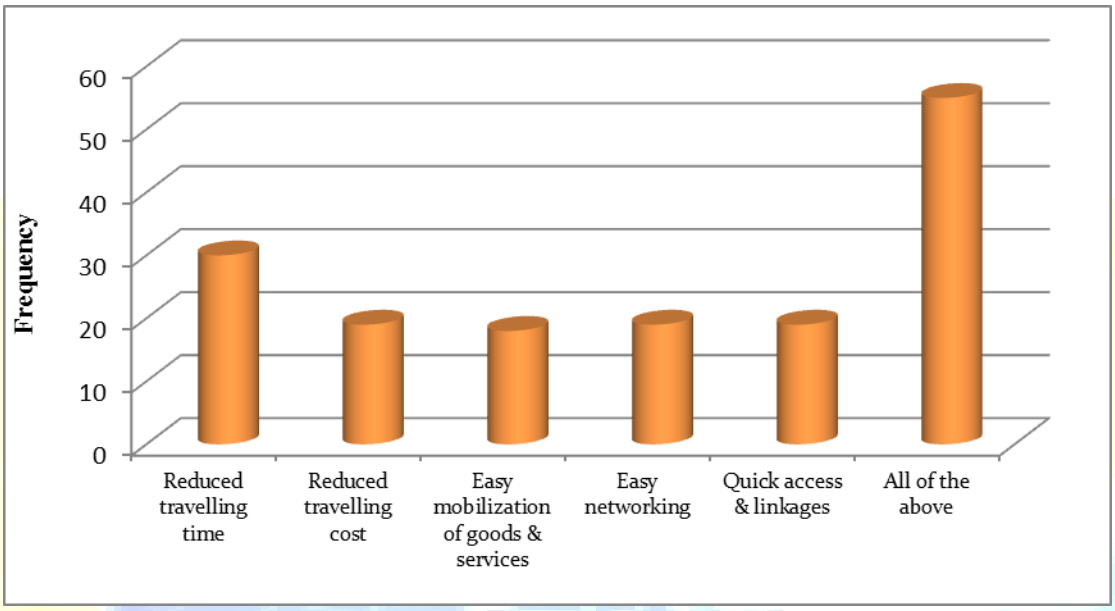

Fig 1 Effects of road construction on mobility

Respondents' assessment of road construction/rehabilitation on mobility

Respondents' were asked to assess the impact of constructed/rehabilitated road networks on mobility, and the responses obtained are shown in Table 2. It reveals that 11.9% of the respondents assessed the impact of the constructed roads on mobility as excellent, 38.8% alleged it is very good, 28.1% felt is good, 14.4% of the respondents believed it is moderate. On the contrary, 25 of the respondents felt the impacts of the constructed roads on mobility is non-satisfactory, as 11.3% assessed its impact as poor, while 5.6% assessed it as very poor. To this group of individuals, the mobility issues have not been completely resolved. In concise, the Table reveals that majority of the respondents (83.2%) adjudge the road's impact on mobility as satisfactory.

Table 2 Assessment of road construction/rehabilitation on mobility

Options	Frequency	Percent
Excellent	19	11.9
Very good	46	28.8
Good	45	28.1
Moderate	23	14.4
Poor	18	11.3
Very poor	9	5.6
Total	160	100.0

Effects of road construction and rehabilitation socioeconomic activities

The socioeconomic effects of road construction and rehabilitation on the lives of people are presented in Table 3. The table identifies job creation opportunities, establishment of new businesses and increased mobility and interaction as the principal impacts of road construction. Other noticeable impacts included increased in income as a result of ready market and fast sales of goods. This is evident as the road construction or the rehabilitation of existing roads springs up development as it attracts investors into the areas thereby creating jobs for the people. It also facilitates social interaction between and among individuals. Little businesses such as shops and roadside trading blossom when roads are constructed, as commuters stop by to buy the goods for their household; as well as create jobs to *Okada riders.* The table therefore shows that road construction has a lot of socioeconomic impacts on the lives of the people in such a developed place, as it opens up unlimited opportunities thereby resulting in the development of the area concerned.

Table 3 Socioeconomic effects of road construction/rehabilitation

Options	Frequency	Percent

Establishment of new businesses	31	19.4
Fast sales of goods	19	11.9
Creation of Jobs/business opportunities	54	33.8
Increased in income	27	16.9
Increased mobility & interaction	29	18.1
Total	160	100.0

Assessment of road construction/rehabilitation on employment opportunities

Respondents' were asked to assess the impact of constructed/rehabilitated road networks on employment opportunities. The responses obtained are shown in Fig 2. The Fig indicates that 18% of the respondents assessed the impact of the constructed roads on employment opportunities as very high, 36.3% supposed it is high, 24.4% said it is fair. On the other hand, 50 of the respondents did not see any impact of the constructed roads on employment opportunities, as 20% assessed its impact on employment opportunities as low, while 11.3% assessed it as very low. The Fig therefore shows that majority of the respondents (68.8%) are of the opinion that road construction opens up employment opportunities.

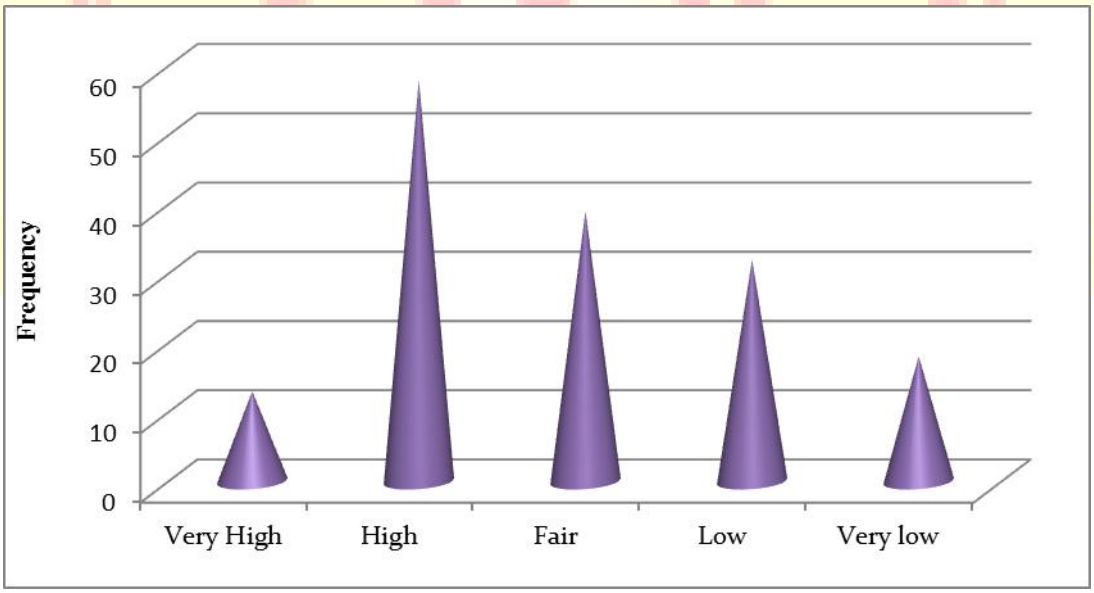

Fig 2 Assessment of road construction on employment opportunities

Landscape effects of road construction and rehabilitation

Table 4 gives vital information on the effect of road construction and rehabilitation on landscape development. This effect is viewed in terms of structural settings. The table indicates that increased in environmental aesthetic (visual beauty), building of shops and plaza for businesses as well as the building of hotels/recreational centres are some of the main landscape features associated with road construction/rehabilitation. This is true as road construction is usually followed by structural design such as drainages, culvert and bridges as well as landscaping informs of grass/tree planting; all these combine to give environmental beauty. Also, immediately roads are well constructed and designed, shops and plazas are built for businesses thereby making landscape feature more attractive and complex. The availability of all these attract holes and other recreational centres to cater for tourist and non-tourist delights.

Table 4 Landscape development of road construction/rehabilitation

Options	Frequency	Percent
Increased in environmental aesthetic	43	26.9
Establishment of schools	8	5.0
Building of houses	18	11.3
Building of hotels & recreational centres	26	16.3
Construction of shops/plaza	32	20.0
Establishment of eateries	21	13.1
Establishment of health centres	12	7.5
Total	160	100.0

Relationship between the road construction/rehabilitation and the provision of employment opportunities

The relationship between road construction/rehabilitation and provision of employment opportunities was tested using Pearson's correlation. Before the analysis was carried out, the data used for descriptive analysis were transformed into dummy variables. The result obtained is presented in Table 5. The r-Value result in Table 6 indicates there is a positive and significant association (0.403) between road construction/rehabilitation and employment opportunities ($p<0.01$). With this, the hypothesis that "there is no significant relationship between the road construction/rehabilitation and the provision of employment opportunities is rejected", while the hypothesis that "there is a significant relationship between the road construction/rehabilitation and the provision of employment opportunities is upheld. This decision is consequent upon the p-Value of 0.000 being less than 1% level of significance. This further implies that the road construction/rehabilitation is directly related to employment opportunities; in that an increase in one variable would bring about a resultant increase in the other and vice versa. This result is factual as road construction/rehabilitation usually creates avenues for little businesses to thrive; this provides employment opportunities for people living close to the road.

Table 6: Pearson's correlations of the relations between road construction/rehabilitation and employment opportunities

Test statistic	Rehabilitation	Opportunities
Pearson Correlation	1	.403**
Sig. (2-tailed)		.000
N	160	160

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Window Output Version 17.0

Influence of road construction/rehabilitation on mobility

The influence of road construction/rehabilitation in facilitating mobility of persons and goods was tested using bivariate regression. A usual, before the analysis was carried out, the data used for descriptive analysis was also transformed into dummy variables. The results obtained are presented in Tables 7 to 9. The correlation result in Table 7 reveals a strong association between road construction/rehabilitation and mobility of persons and goods; it indicates that 36.4% (.364) of the change in the dependent variable (mobility of persons and goods) was caused by the independent variable (road construction/ rehabilitation). The result implies that road construction/rehabilitation and mobility of persons and goods are positively related.

Table 7: Summary of regression result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.603	.364	.360	.301

Predictor: (Constant), Road construction/rehabilitation

The One-Way ANOVA result in Table 8 shows that road construction/rehabilitation facilitates mobility of persons and goods. This therefore implies that road construction/rehabilitation facilitates mobility of persons and goods. This decision is also contingent on the p-Value of 0.000 being less than the 0.05 per cent (5%) significance level. The result obtained here is evident as road construction or the rehabilitation of existing road networks facilitates mobility. It brings about reduction in travel time and cost as well as makes spatial interaction possible. All mobility related problems are somehow resolved with the existence of good road network.

Table 8 ANOVA result between road construction/rehabilitation & mobility

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.162	1	8.162	90.295	.000
	Residual	14.282	158	.090		
	Total	22.444	159			

Source: SPSS Window Output Version 17.0

Moreover, the significance and variance of the predictor variable is depicted in Table 9. The Table shows that the predictor variable (road construction/rehabilitation) exert substantial effect on the dependent variable (mobility of persons and goods), and the effect is significant ($t = 9.502$, $p<0.01$). It further indicates that a unit increase in road construction/rehabilitation will bring about 89.3% (0.893) of the improvement in the mobility of persons and good across the selected LGAs.

Table 9Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.107	.183		.587	.558
Road construction/ rehabilitation	.893	.094	.603	9.502	.000

Source: SPSS Window Output Version 17.0

Discussion of result

The analysis reveals that males dominated the survey, which may be attributed to the dominance of males in income generation jobs and businesses as well as the cultural placement of males as the heads of families and sole bread provider. The study shows that majority of the respondents are adults between the ages of 26 – 45 years old. These groups of individuals constitute the active population who are mostly affected by the constructed/rehabilitated roads as it creates employment opportunities to them in diverse ways. The occupational profile indicates that the respondents engage in different employments to make ends meet and are also influenced by the newly constructed and rehabilitated roads in their domains. The study also reveals that majority of the respondents are conscious and aware of road construction/rehabilitation in their respective areas.

The analysis further indicates that road construction and rehabilitation improves the movement of persons, goods and information (increases mobility). Majority of the respondents (83.2%) adjudge road's impact on mobility as satisfactory. This result is in agreement with the assertion of MCA (2012) that the rehabilitation improves connections between the population living in the rural areas with the neighboring communities; the access to rayonal centers and the capital of the country and also to the social infrastructure outside the project implementation areas. The rehabilitated road will improve road safety, reduce the transportation costs, in particular for the low-income population, like women, youth, the elderly, and will facilitate the access to social facilities. Similarly, Ozment (2007) posited that economic development occurs when the income level (high income level) and productive output (increase in productive output) of an area increase. The benefits of transportation improvement are related to the reduce cost associated with transportation that is, if a transportation improvement is provide, the area, job creation cabs among other reduce transportation cost should then lead to greater productivity and increased economic growth. That transportation has been viewed as enabling, but insufficient factors leading to economic development.

The study indicates that road construction has a lot of socioeconomic impacts on the lives of the people in such a developed place, as it opens up unlimited opportunities thereby resulting in the development of the area concerned. To this end, 68.8% of the respondents are of the opinion that road construction opens up employment opportunities. This corroborates the findings of Badejo (2009) that the importance of transportation on the socio-economic and political development cannot be undeniably overemphasized. As transport has been described severally as the engine of development, and the level of economic development, attained by many nations is often measured by the level and attainment of its transport infrastructure development process. Badejo further argued that transport is sin - qua - non for development to occur. This implies that without transport no development can take place. As wherever transport infrastructure is provided, obviously development will strive and accelerate, irrespective of whether there are resources or other economic contributions that may be required to complement the transport infrastructure. Also, in its yearly publication, LAMATA (2010) maintained that the socio-economic benefits provided by road and highway projects include all-weather reliability, reduced transportation costs, and increased access to markets for local produce and products, access to new employment centres, employment of local workers on the project itself, better

access to health care and other social services, and strengthening of local economies. The study identifies increased in environmental aesthetic (visual beauty), building of shops and plaza for businesses as well as the building of hotels/recreational centres as some of the main landscape features associated with road construction/rehabilitation.

This is true as road construction is usually followed by structural design such as drainages, culvert and bridges as well as landscaping informs of grass/tree planting; all these combine to give environmental beauty. The analysis reveals that road construction/rehabilitation is directly related to employment opportunities; in that an increase in one variable would bring about a resultant increase in the other and vice versa. This result is realistic as road construction/rehabilitation usually creates avenues for little businesses to thrive; this provides employment opportunities for people living close to the road. The study shows that road construction/rehabilitation does not often results in landscape development**;** as landscape development or areal development of a place can take place without any quality road network, this is evident in many parts of Calabar Metropolis and across the whole state. Notwithstanding, road construction to some extent bring about landscape development. According to Shuaeeb (2012), the road construction and rehabilitation will enhance both economic viability and environmental sustainability within the country. As it is an attempt to transform the urban environment through structured large-scale control of existing urban areas to enhance both the present and future operations of urban populace.

In fact, most times, the already existence of hotels, residential houses and other structural features usually calls for government intervention. Through government's intervention, such areas become more habitable as well as centres of attraction. In addition**,** the study indicates that road construction/rehabilitation facilitates mobility of persons and goods. This is evident as road construction or the rehabilitation of existing road networks facilitates mobility. It brings about reduction in travel time and cost as well as makes spatial interaction possible. As such, all mobility related problems are somehow resolved with the existence of good road network. In a related study, the Asian Development Bank (2006) observed that development of roads and improvement in road network reduces vehicle operating cost (VOCs) for vehicle providers, more providers will be attracted to the route, and more competition and a variety of available transport services will result.

Conclusion

The study evaluates the socioeconomic effects of road construction and rehabilitation in selected Local Government Areas of Cross River State. Analysis of data collected shows that road construction and rehabilitation has several impacts on the host communities, particularly on socioeconomic and mobility. The study indicates that road construction/rehabilitation facilitates mobility of persons and goods; it reduces travel time and cost as well as makes spatial interaction possible. The study further indicates that road construction/rehabilitation is directly related to employment opportunities; as road construction/rehabilitation usually creates avenues for businesses to thrive; thereby providing employment opportunities for people living adjacent the road. Based on the obtained result, study suggests that more roads and by-passes should be constructed across the Metropolis in order to open up new areas for socioeconomic development as well as rehabilitate existing road network to accommodate the increasing population of vehicles and improve mobility.

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