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TRANSPORTATION AND ACCESSIBILITY: PANACEA FOR URBAN GROWTH AND DEVELOPMENT (A CASE STUDY OF OBIO-AKPOR LGA, RIVERS STATE):

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Abstract

This research focused on the usefulness of transportation and accessibility in shaping the economic growth and development of urban areas, which Obio/Akpor Local Government Area is the study location. The aim of this work is to examine the relativity of accessibility to economic growth and expansion of an area. The population of the study area given by the National population Commission (NPC) 2006 was projected to 2020 and a special statistical model was used to extract the sample size which determine the basis for questionnaire administration to the respondents. The use of secondary data also assisted the researchers to complete the work on time. The retrieved questionnaire were analyzed using tables and percentage method. The chi square statistics was used to test the validity of the hypothesis. The research findings was favourable supporting the view that transportation and accessibility actually accelerates economic growth and development in the study area. The study recommends that existing road network be maintained even when new ones are to be created, since movement of goods and services even personal depend on good roads and concluded that economic and socio-political attainment is visible based on certain levels of development.

Introduction

The growth and development of cities in general, has been influenced by events that occurred during the periods of initial modern industrialization (Adeyemo, 1998). Urban growth and expansion coincided with that period of time when manufacturing rather than wholesaling trading activities were the major contributors to urban economic growth. Growth and development of urban areas resulted from larger units of production through transportation and accessibility associated with the application of power derived from fossil fuels to the driving of machine, thereby leading to the need for larger industrial workers, which propels population density to occur that enhances urban development. It is carefully examined by the researchers that lack of proper road network system for mass movement of goods and services constituted a bottleneck for the expansion and growth of urban centres.

A further restriction to the growth of urban areas was removed with the improvement of internal transport within urban centres, which allowed an increasing separation between place of work and place of residence. Economics activities provided by industries and other manufacturing outfit further extended the through transport and accessibility made urban centre an increasingly attractive location. Thus, the growth and development of urban centres made provision for external economies to be enjoyed by manufacturing plants, skilled and unskilled labour, provide close links with other manufacturers of similar products. The wide diversity of jobs and accessibility created by transport activities have attracted industries to urban centres hence there is continuing expansion, growth and development of new cities (Sule, 1995).

Statement of the Research Problem

Sustainable accessibility infrastructure is an important aspects of any urban centre towards achieving social, political and economic growth and development. It is observed that without efficient, reliable and dependable transport system to stimulate physical distribution, movement of people, goods and services would natively affect the growth and development of urban areas. Thereby such area is very likely to remain backward, undeveloped as well as being unable to realized the efficient use of its natural endowments and human capacity resources (Wole, 2017). Effective urban transportation and accessibility serves as one of the channels for the collection and exchange of goods and services, movement of people, dissemination of information and the promotion of urban growth and development. In the light of the above, it is key and pertinent that the topic will do justice to economic growth and development of urban and rural areas.

Aim and Objectives of the Study

This study aimed at assessing the contribution of transportation and accessibility in urban economic growth and development.

The following objectives will be employed;

(i) to identify the urban development activities in the area
(ii) to identify the types of transport and accessibility available in the area
(iii) to explore the relationship between transportation and accessibility to economic growth and development of the area

(iv) to identify what constitute accessibility problems in the area

Research Questions

(i) What are the urban development activities in the area?
(ii) What are the types of transport and accessibility available in the area?
(iii) What are the relationship between transport and accessibility to economic growth and development in the area?
(iv) What constitute accessibility problems in the area?

Research Hypothesis

Considering the above objectives and research questions, the research hypothesis was formulated to guide the study:

H_O: transportation and accessibility do not have any significant relationship between urban economic growth and development

The Study Area

Obio/Akpor Local Government Area is one of the 23 LGAs that constitute the present day Rivers State and its administrative headquarters is at Rumuodamaya. It lies between latitude $4^0$42N and $4^0$56N and longitude $6^0$53'E and $7^0$08'E and covers an area of about 63km2. It is located on the upland part of Niger Delta Region of Nigeria. The Local Government Area belongs to the people of Ikwerre ethnic nationality. It is bounded on the North by Etche and Ikwerre Local Government Areas, on the east by Oyigbo and Eleme LGAs, on the West by New Calabar River that separates it from Emohua LGA and on the south by Port Harcourt LGA. The area is endowed with petroleum and natural gas, fertile agricultural lands and has been the seat of most oil producing and servicing companies such as shell petroleum, development company limited, Nigeria Agip Oil Company, Halliburton, Schlumberger, Elf petroleum company etc. the local government is hospitable for people of different ethnicity and nationality.

The area displays climatic characteristics that are classified as humid semi – hot equatorial type with heavy rainfall. There are two types of season that are experienced in the study area namely; the rainy and dry seasons. The rainy season starts from the month of March and terminates in October that is; it lasts for about 8 months. The dry season commences from November and ends in February that is; 4 months of sunshine but these are not free from occasional rainfall (Gabo, 1990). The mean annual rainfall amount varies from 2500mm to 3000mm. Udo (1985) confirms that the rainfall amount decreases as one moves away from the coast to hinterland. The rainfall distribution pattern exhibits the double maxima phenomena during the year. Temperatures are dependent upon the cloud cover and air which is generally damped. Sunshine is generally very tense in the afternoon while evening is a bit cold. The mean monthly temperature for the area throughout the year ranges from 24^0C – 32^0C. The maximum mean monthly temperatures are recorded in the months of February and March just before the commencement of the rainy season. From the month of June – September, we have the lowest mean monthly temperatures and it falls within the peak of rainfall. The relative humidity is usually more than 80% in the morning hours and greater than 50% in the afternoon when the sunshine is high thereby reducing the amount of moistures in the atmosphere. This value can even be less during the dry season.

The vegetation in the study area according to Gabo (2004) are: mangrove

forest, fresh water swamp forest and dry land forest. Typography is a flat terrain, gently undulated sandy plains but not without areas of isolated depressions. The population of the LGA stands at 464,789 according to the National Population Commission 2006.

Literature Review

Badejo (2011) opined that accessibility efficiency contributes largely to the level of productivity, economic growth of urban centres, quality of life and development. Furthermore, transportation is seen as a necessary ingredient in all aspect of economic life and social development. It plays a key role in getting land into production, in marketing agricultural commodities, development of industries, expansion of trade, in the conduct of health and education programs including exchange of ideas. Improvement in transportation and accessibility stimulates economic growth, development of urban and rural areas through the expansion of opportunities for income and employment (Aderamo and Magaji, 2010).

Ikurekon and Jacob (2013) observed that the need for transportation and accessibility arises in any economy that is distributed over space, this need is particularly so in the context of urban development where transportation is considered as the engine of growth of such economy.

Aderamo (2003) transportation network constitute important element in urban development as roads provide accessibility required by different land uses and the proper functioning of such urban areas depends on efficient transport network, which is a backbone to their very existence. It structures the built environment, spurs urban growth and development, as well as orders relationship among cities in a national urban system (Yago, 1983).

Increase in transportation and accessibility leads to reduction in relative transport cost of a site directly through transport subsidy, increased demand that triggered land and property values, intensity of land, use urban expansion and economic stimulations (Henneberry, 1998).

Urban transportation and accessibility system consists of socio-economic environment with close relationship to land use and land value. The provision of transportation and urban development processes cannot be separated because accessibility creates convenience that propels landscape beautification, enhancement of economic activities, attraction of more investors, it brings about international recognition and partnership.

Accessibility, in general terms describes degree to which a system is usable by as many people as possible. It is the degree of ease with which to certain locations from other locations and viewed as the ability to access functionality and possible benefits (Handy and Niemeiere, 1997).

Activities of Urban Development

(a) Development of good and durable road networks.
(b) Establishment of industrial and manufacturing outfits
(c) Maintenance of urban infrastructures
(d) Provision of health education and employment generation
(e) Establishing internal and external relationships that bring about investment opportunities
(f) Observing and implementing environmental and physical planning laws.

(g) Establishment of government and privately owned businesses under development of residential and commercial buildings
(h) Strengthening the security architecture
(i) Electricity supply, provision of portable water supply, and proper management of wastes
(j) The development of residential and commercial buildings.

Types of Transport and Accessibility

(a) Cars
(b) Buses – minibases
(c) Vans and pick – ups
(d) Carrier and trucks
(e) Foot
(f) Cycles and Keke
(g) Good road (tarred or untarred)
(h) Rail lines, sea ports, airports, jetties

Relationship between Transport Accessibility to Economic Growth and Development

(a) Performing the role of linking supply and demand
(b) Contribution to the overall development of urban areas since it serves as essential means of collecting, moving, transferring and distributing people as well as goods from place to place
(c) Import and exports depends so much on transport and accessibility
(d) It brings about socio-political relationship between countries
(e) Enhancement of productivity and quality of life of a community if properly planned
(f) Revenue generation
(g) Promotes trade and commerce
(h) Promotes tourism
(i) Accelerates industrial development and infrastructural provisions
(j) Encourages rapid rate of urbanization and population growth.

Problems of Transportation and Accessibility

(a) Chances of accidents and breakdowns of vehicles on the road
(b) Lack of traffic control devices
(c) Lack of comprehensive and integrated urban mass transport system
(d) Poorly designed urban road networks
(e) Bad driving habits of motorists
(f) Inadequately funded and inefficiently managed publicly – owned mass transport services.
(g) Poor city planning
(h) Parking difficulties
(i) Atmospheric pollution
(j) Noise (traffic)

Methodology

The descriptive statistics was employed by the researchers, looking at the topic of the research and the nature of data obtained from the respondents in the study area. The use of questionnaire, personal interview was conducted to gain access to firsthand information about the study. Useful also was the secondary information harnessed from published books, journals, and relevant bulletin from the ministries of urban development, works and transport. The population of the area by the National Population Commission (2006) was fixed at 464, 789 projected to 2020.

The sample size of this study was extracted from the overall population using Taro Yamanes formula which determines the population or accessible population for the research. The Chi Square statistics was used to test the validity of the hypothesis formulated.

$$Pn = Pt\left(\frac{1 + r}{100}\right)^n$$

Pt = projected population
P = Existing population (464,789)
r = Growth rate (3:5)
n = Number of projected years (14)

Substituting the figure in the formula

$$Pn = 464789\left(\frac{1 + 3.5}{100}\right)^{14}$$

$$= 464789\ (1 + 0.035)^{14}$$

$$= 464789(1.035)^{14}$$

$$= 464789(1.619)$$

$$= 752.493$$

$$\therefore pt = 752.493$$

The projected population in the study area (Obio/Akpor LGA) is 752,493 persons in 2020.

The sample size was determined using Taro Yamene formula:

$$n = \frac{N}{1 + N(e)^2}$$

$$= \frac{752{,}493}{1 + 752493(0.05)^2}$$

$$= \frac{752493}{1 + 752493(0.0025)}$$

$$= \frac{752493}{1 + 1881.233}$$

$$= \frac{752493}{1882.233}$$

$$= 399.787$$

$$= 399$$

Results and Analysis

Table 1: Questionnaire Administration and Response Rate

Respondents	Questionnaire Distribution	Questionnaire Retrieved	% Response
staff of M.O.T	160	83	43.92
Staff of MUD	140	62	32.80
Lecture in tertiary institutions	50	26	13.76
Staff of some departmental stores	49	18	9.52
Total	**399**	**189**	**100**

Source: Author's Field Work, 2021

This table represents the opinions of respondents in the study area, regarding the distribution and retrieval of questionnaire. Meanwhile, staff of ministry of transport returned 83 copies representing 43.92%, staff of ministry of urban development returned 62 copies representing 32.80%, and academicians returned 26 copies representing 13.76% while staff of departmental stores returned 18 copies representing 9.52%. Staff of the two ministries responded more that transport

and accessibility contributed immensely to urban economic growth and development.

Table 2: What are the Urban Development Activities?

Activities	**(0)**	**(E)**	**(0 – E)**	**$(0 - E)^2$**	$\left(\frac{0 - E}{E}\right)^2$
Establishment of industrial and manufacturing outfits	80	63	17	289	4.59
Provision of health, education and employment	80	63	17	289	4.59
Strengthening the security architecture and electricity	29	63	34	1156	18.35
					X^2 = 27.53

H_o: Urban development activities does not have any significant contributions to the growth of urban centres.

X^2 cal. = 27.53

X^2 tab. at 5% degree of freedom

(n – 1) (3 – 1) = 2

(2, 0.05) = 5.99

Since the calculated value is greater than the tabulated value 27.53 > 4.99, H_1 is accepted that urban development activities have significant contributions to the growth and development of urban centres.

Table 3: Types of Transport and Accessibility Available in the Area

Transport and Accessibility	**(0)**	**(E)**	**(0 – E)**	**$(0 - E)^2$**	$\left(\frac{0 - E}{E}\right)^2$
Good roads	50	37.8	12.2	148.84	3.94
Buses	50	37.8	12.2	148.84	3.94
Air ports	20	37.8	17.8	316.84	8.38
Seaports	50	37.8	12.2	148.84	3.94
Cars	19	37.8	18.8	353.44	9.35
					X^2 = 29.55

H_o: There is no significant relationship between transport and accessibility towards the growth and development of urban areas

X^2 cal. = 29.55

X^2 rab. At 5% degree of freedom

(n – 1) (5– 1) = 4

(4, 0.05) = 9.49

Since the calculated value is greater than the tabulated value 29.55 > 9.49, H_1 is accepted that transportation and accessibility have significant relationship towards the growth and development of cities

Table 4: Relationship between Transport and Accessibility to Economic Growth and Development of the Area

Relationship	**(0)**	**(E)**	**(0 – E)**	**$(0 - E)^2$**	$\left(\frac{0 - E}{E}\right)^2$
Linking supply and demand	53	37.8	15.2	231.04	6.11
Productivity and quality of life enhancement	53	37.8	15.2	231.04	6.11

Income generation	50	37.8	12.2	148.84	3.94
Promotes trade and commerce	12	37.8	25.8	665.64	17.61
Industrial and manufacturing development	21	37.8	16.8	282.24	7.47
					X^2 = 30.02

H_o: There is no significant relationship between transpport and accessibility to economic growth and development of cities

X^2 cal. = 30.02

X^2 tab. at 5% degree of freedom

(n – 1) (5 – 1) = 4

(4, 0.05) = 9.49

Since the calculated value is greater than the tabulated value, 30.02 > 9.49, H_1 is accepted that transportation and accessibility have great significance to economic growth and development of urban areas.

Table 5: Accessibility Problems in the Area

Problems	**(0)**	**(E)**	**(0 – E)**	**$(0 - E)^2$**	$\left(\frac{0 - E}{E}\right)^2$
Lack of traffic control devices	50	31.5	18.5	342.25	10.87
Poorly designed urban road	43	31.5	11.5	132.25	4.19
Publicly –owned mass transport not properly managed and funded	40	31.5	8.5	72.25	2.29
Parking difficulties	20	31.5	11.5	132.25	4.19
Noise pollution	20	31.5	11.5	132.25	4.19
Accidents and breakdown of vehicles on the road	16	31.5	15.5	240.25	7.63
					X^2 = 33.38

Ho: There is no significant problems that transport and accessibility constitutes in urban settings

X^2 cal. = 33.38

X^2 tab. at 5% degree of freedom

(n – 1) (6 – 1) = 5

(5, 0.05) = 11.07

Since the calculated value is greater than the tabulated value. 33.38 > 11.07, H_1 is accepted that there is significant problems emanating from transport and accessibility in urban settings.

Discussion of Findings

The topic of this research was carefully choosen by the experts. Well drafted questionnaires were distributed to our cherished respondents that heralded firsthand information used to analyze data in this work.

From the analysis so far, table 2; shows that urban activities contributed so much to urban growth and expansion, where the calculated chi square is greater than the tabulated value 27.53 > 5.99. Then, table 4; anchored on the relationship that exists between transport, accessibility to economic growth and development of urban areas. From the available data when analyzed, the researchers discovered that in a strong term there exists a fabulous bond between transport and accessibility towards economic growth and development. Table 5 looks at some challenges of transportation despite its

benefits. And concluded that some problems do occurs during transferability period.

Conclusion

Road serves to bring in much needed expectations that will continually enhance the expansion and development of urban areas. Transportation and accessibility is fundamental to the development and operation of an industrial society. Accessibility helps in moving the raw materials to the industry as well as moving the finished goods or products to the final consumer. Economic growth of any society in any part of the world is directly related to the availability of transportation, then it becomes a key to urban development.

Recommendations

(i) There is need for the introduction of public transport system by government and supporting the privately owned ones so that urban and rural dwellers can convey their products to marketable places. That is the only way exchange of cash can be circulated to enhance economic sustainability.

(ii) In the study area, the researchers discovered that during peak periods of the day, industries Government parastatals, individuals experienced man hour loss due to traffic jam. Therefore, we are recommending that more link roads should be constructed to open up business activities.

(iii) The researchers also noted that economic growth and development does not happen in areas where there are crises, and so to utilize the opportunities available, the entire state should be devoid of crisis.

(iv) All existing road networks should be maintained even if new ones would be created. That alone brings investors, goods and services even personnel are carried from one point to another for economic purposes.

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