Accessibility of Elderly Citizens to Basic Facilities In Akure Metropolis in Nigeria

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Abstract. This study examined the accessibility of elderly citizens to some basic services in Akure metropolis. This was carried out with a view to determine the patterns of distribution and accessibility of these services in the city. Primary and secondary data were employed for this study. Geographical Positioning System was used to capture the coordinates of important locations and of some basic facilities such as Public Tertiary Hospital, Primary Health care centre and banks in the city. Nearest Neighbour Analysis was used to calculate the mean distance travel to some basic services from 13 major localities in Akure metropolis. Descriptive and inferential statistics were employed to analyse the data. Finding reveals that some basic facilities are not evenly distributed across different localities in Akure. The mean distance travel to Public Tertiary Hospital is 3.36kms. The pattern of distribution of Public Tertiary Hospital is dispersed rather than random. More than 60% of the elderly rely on public transport services for their trip to access some basic facilities in the city. Traffic delay was ranked highest (66%) among the problems militating against the effective utilization of urban facilities in Akure metropolis. The study recommends that more basic facilities should be provided in localities where such services are lacking. This would reduce long distance trip to these facilities in the city. The study concludes that better transport services should be made available at reasonable transport fares in order to promote accessibility of the elderly and other segments of the population to urban facilities in Akure and similar other cities in Nigeria.

Keywords: Senior Citizens, Urban Services, Transport, Accessibility, Planning.

1. Introduction

The provision of efficient and reliable transport system is highly essential to the general populace, particularly the less privileged citizens, who include the poor, the elderly, the young and the disabled with less access to personal means of transportation for their day to day transactions (Adesanya, Adeniji and Daramola, 2002: p.239; Duvarci, Yigitcanlar, Alver, and Mizokami, 2010; Giuliano, 2005 as cited in Yi Zhang, Wei Wu, Qian He, and Chaoyang Li, 2018: p.702). Studies have shown that good mobility is associated with a better quality of life (Mussel White and Haddad, 2010). Mobility of senior citizens is highly imperative because they are becoming a larger proportion of the society and participate in different activities such as escorting their grandchildren to school, visiting health care providers or relatives, and providing voluntary services which require daily commuting(Mackett, 2014: p.5). Senior citizens need to have more access to basic facilities distributed over space and time, within short distance and at minimal cost in order to perform their civic responsibilities (Mengying Cui and David Levinson, 2018: p.661).

The concept of accessibility, with respect to transportation can be defined as ease with which an individual can reach valuable destinations. This can be measured in terms of the number of opportunities that can be reached within a given threshold (Mengying Cui and David Levinson, 2018: p.661). Many studies have used mode choice of transportation to determine the level of accessibility of people to some basic facilities located in geographical space

(Olawole and Aloba, 2014: p.110.,Owen and Levinson, 2014). Owen and Levison (2014) further affirmed that the number of destinations reachable within a given travel time is the most directly comparable across cities. This implies that locations of facilities reachable within a short time are more accessible than those reachable for longer time. Geurs and Wee (2004: p131) have observed that accessibility measures can be used as a social indicator if it shows the availability of social and economic opportunities such as jobs, foods, health and social services provided in any geographical space. Accessibility can be viewed in the dimensions of availability, accommodation, affordability and acceptability(Penchansky and Thomas, 1981 as cited in Yang Ya-ting., Iqbal Usman., Ko Hua-Lin., Wu Chia-Rong,. Chiu Hsien –Tsai Chiu., Lin Yi- Chieh., Lin Wender and Hsu Yi-Hsin Elsa Hsu, 2015: p. 223).

In a study of elderly accessibility to health care facilities in four cities of the United States of America in 2004, Fitzpatric., Powe., Cooper and Ives (2004), reported that the most common barrier to access health care services was the doctor's lack of response to concern, and this accounted for 32.9%. Medical treatment for their illness was ranked second (22.3%), while transport problem recorded 21.1%. Street safety accounts for 19.6% fear of discovering a serious illness and unneeded test accounts for 18.1% and 16.3% respectively. In a similar study in Montreal Island, Paez., Mercado., Farber., Morency .,and Roorda (2010) evaluated the accessibility of senior and non-senior residents to health care facilities. The findings revealed that older residents of Montreal Island tend to be significantly less mobile than people of other age cohorts. The combination of an average trip length estimates with the spatial distribution of health care facilities indicate that despite being more mobile, suburban residents tend to have lower levels of accessibility compared to central city residents.

In a study carried out by Srichuae, Nitivattanaon and Rnjith (2016: p.31) on factors determining elderly mobility in Bangkok, it was reported that short distances promoted mobility to access low order public spaces that serves activities of daily life and leisure (i.e daily shopping, religious activities, and recreation). On the other hand, long travel distances enabled access to essential activities in higher order public spaces such as hospital and stadium. In an assessment of elderly accessibility to socio-economic facilities in six geo-political zones in Nigeria, Adesanya et. al.(2002: p.240) affirmed that limited access to some urban facilities such as health care services, shopping malls or traditional markets, recreational centre, water supply and educational facilities is a major challenge of urban residents arising from inadequate access to transport infrastructure and transport services. According to them, poor urban residents including the elderly are affected by high cost of public transport, which in most cases are in short supply during peak transport period in first order cities like Lagos, Ibadan and Kano. The nature of road networks and transport services provided on them plays a prominent role in determining the level of accessibility of urban and rural dwellers to socio-economic facilities (Adesanya et., al (2002: p.261).

A careful search of literature on elderly accessibility to some urban facilities showed that focus is majorly on modes of transportation and distant travelled to access various locations. Most of these studies did not consider some important factors such as availability and patterns of urban facilities, distance travelled and transport fare in their studies on elderly accessibility to urban facilities. It is on this background that this study is designed to examine the distribution pattern of urban facilities and determine the extent of accessibility of senior citizens to health care providers and banks in a traditional but socially and economically developing city of Akure in South Western Nigeria.

2. Study Area

Akure metropolis is one of the ancient but economically developing cities in South Western Nigeria. The city is located on Latitude 7˚ 15ˊ of the Equator and 5˚ 12ˊ E of the Greenwich

Meridian. The city had a population of 239,124 in 1991 and increased tremendously to 269, 207 in 1996 (NPC, 1996) and also increased to 484, 798 in 2006(NPC, 2006, as cited in Ogunbodede and Ogundare, 2014). Shortly after Akure became the capital of Ondo State in 1976, the city witnessed rapid development in terms of population growth, economic activities and socio-economic facilities which include but not limited to traditional markets, ultra- modern markets, health care providers and banks (Ogunbodede and Ogundare, 2014). These soci-economic facilities can be regarded as urban facilities which are considered to be essential to the communities for human sustainable living.

Generally, the built up areas of Akure metropolis include Arakale, Ayedun Quarters, Ijoka and Oja-Oba which are located in the core area of the city. These areas consist of more than 200 persons per hectare. The low density areas in Akure comprises Ijagbo Quarters, Idofin, Igboba, Ibule and Onigari. Akure metropolis performs a number of functions to itself or neighbouring communities in South Western Nigerian. Some of these functions or services include education, commerce, social, recreation, financial institutions and health care delivery (Emenike and Ogunjobi, 2018). The accessibility of urban residents to some of these socio-economic facilities has led to high level of vehicular movement in the city which has in turn resulted in traffic delay and late arrival to various destinations (Emenike and Ogunjobi, 2018). In their study, Emenike and Ogunjobi (2018) further confirmed that Oyemekun and Arakale roads are the most congested routes in Akure, despite the fact that these routes were dualized in recent times with a view to accommodate more vehicular movement due to the fact that these two routes serve as distributors and collectors of traffic within Akure metropolis. The high traffic congestion in the city has made many of the urban commuters (children, adults and the elderly) to be less accessible to various destinations because of long distance travelled and time spent. Even though much research on travel behaviour of urban residents have been carried out in Akure, Ile-Ife, Osogbo, Lokoja and many other medium sized cities in Nigeria, a study of elderly accessibility to urban facilities in Akure is very scanty in literature. If it exists at all, it is lumped with other household trip purposes. It is on this background that this study is designed to examine in detail the accessibility of senior citizens to urban facilities in the medium sized city of Akure.
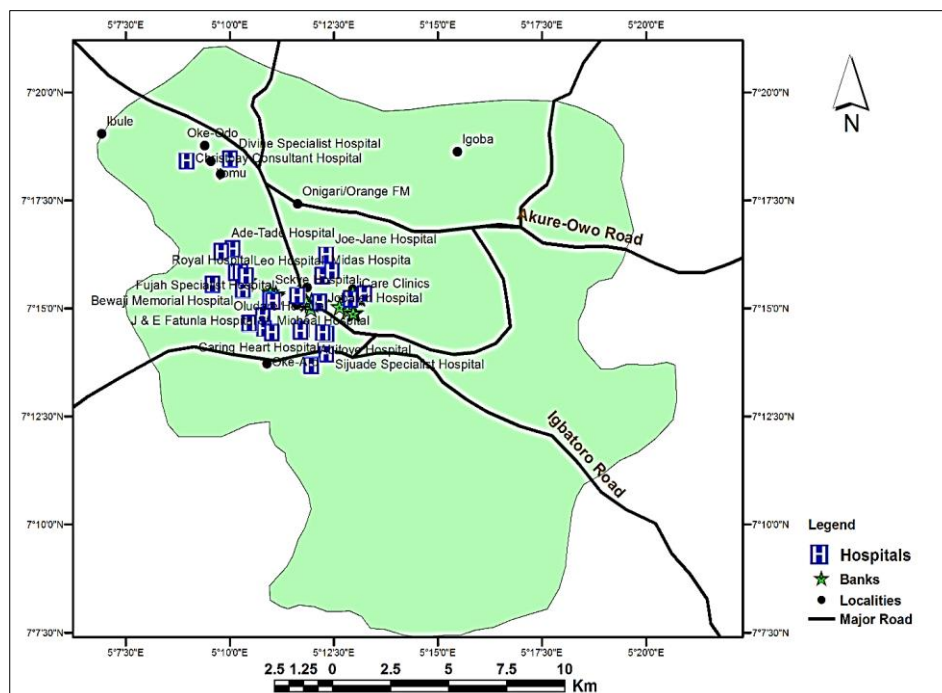

Figure 1: Distribution Patterns of Hospitals and Banks in Akure Metropolis

3. Materials and Methods

3.1. Materials

An administrative map of Akure metropolis comprising Akure North and South sourced from the Ondo State Ministry of Land, Ondo State. Other relevant data include (i) important locations in Akure metropolis (ii) major urban facilities provided in the city such as public and private health care facilities, financial institutions such as banks. Coordinates of these basic facilities were obtained using a hand held Geographical Position System (GPS). These coordinates were subsequently plotted to produce point maps using the UTM, Zone 31, Minna datum coordinate system. The point maps produced were overlaid on the scanned administrative map which was used to produce (i) map showing the locations of public health care facilities in Akure, (ii) map showing the locations of private health care facilities in Akure and (iii) map showing the locations of the distribution patterns of banks in Akure. Furthermore, the average distance of the nearest public and private hospitals as well as banks   to each of the important locations in Akure was measured using the 'Ruler' menu of ArcGIS 10.3.1. Furthermore, average nearest neighbourhood analysis was performed for the point data using the Spatial Statistics toolbox of ArcGis 10.3.1 software. Data on socio-demographic characteristics of senior citizens such as age, sex, possession of personal means of transport and income were obtained. Also, information relating to their travel patterns which included trip purposes, mode of transportation, cost of transportation and the challenges encountered during their journey purposes were solicited.

3.2. Methods

A Stratified sample technique was adopted to select thirteen different locations in Akure metropolis where elderly people mostly reside. A structured questionnaire was designed to elicit information on socio-demographic characteristics of elderly people and their travel behaviour as highlighted above. A systematic random sampling procedure was adopted in the administration of this questionnaire to the senior citizens. Elderly was selected for questionnaire administration in one in every fifth building along the major roads selected or sampled in the city. Once the initial household is selected others follows in a sequential manner.

3.3. Method of Analysis

Descriptive and inferential statistics were employed to analyse the data. Table of percentages and graphs were used to present the results of socio-demographic characteristics of the elderly and their travel patterns. Nearest Neighbour Analysis was employed to compute the average distance of the nearest urban facilities to important locations in Akure.

4. Results and Discussion

The age classification of older people sampled in Akure in Table 1a revealed that 60% are between 60 and 70years, 31.4% are between 70 and 79 years. 8.6% of the senior citizen who are above 80years of age responded to the questionnaire administration. Also, more men (55.1%) than women (44.9%) were interviewed in the city. Less than 50% of the elderly interacted with have personal means of transport to engage in different trip purposes. The ability to drive their personal means of transport varies significantly amongst the elderly in the city. The Analysis of Variance in Table 1b shows that it varies significantly across age groups among the elderly (F=4.134, <. 003).   Also, Table 1b revealed that between the ages of 60

and 69, 68.1% of the elderly indicated that they drive their personal vehicles to reach various urban facilities in Akure. Further analysis revealed that the elderly who are between the ages of 70 and 79, 30.7% claim that they drive their personal vehicles to urban facilities. An insignificant proportion (0.9%) of elderly who are older than 80 years claimed that they travel using their personal vehicles. In terms of educational qualifications, 39.8% of elderly do not have formal education, 11.7% have primary school leaving certificate. More than 40% of senior citizens have higher qualifications.

Table 1a: Socio-Demographic Characteristics of Elderly People in Akure (Author's Field Survey, 2019)

Variables	Frequency	Percentage
Age		
60-69 years	105	60.0
70-79years	55	31.4
More than 80year	15	8.6
Total	**175**	**100.0**
Gender		
Male	97	55.1
Female	79	44.9
Total	**176**	**100.0**
Educational Background		
Non-formal	68	39.8
Primary Leaving Cert.	20	11.7
Secondary Sch Cert.	34	19.8
HND/ B.Sc Degree	49	28.7
Total	171	**100.0**
Possession of Personal Means of Transportation		
Yes	79	**45.1**
No	96	**54.9**
Total	175	**100.0**
Ability to Drive Personal Means of Transport among Different Ages of Elderly		
60 - 69years	69	68.3
70 - 79years	31	30.7
>80years	1	1.0
Total	**101**	**100.0**

Table 1b: Analysis of Variance of Age Characteristics of Elderly and Driving Habit to   Different
Facilities (Author's Field Survey, 2019)

ANOVA					
Age	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.328	4	1.582	4.134	.003
Within Groups	60.073	157	.383		
Total	66.401	161			

4.1 Trip to various Urban Facilities

Senior citizens indicated that they engaged in different trips to some urban facilities in Akure metropolis. Table 2 reveals that 66.7% of the senior citizens engaged more in religious trips. This is because in African setting, elderly people move more closer to God than other age grouped because, they believed that they are moving towards their grave. Approximately 12.3% of the senior citizens escort their grandchildren to schools. Only 2.5% of the senior citizens claimed that they make trips to banks to withdraw their pension benefits or remittances from their relatives. Trip for shopping by the elderly is insignificant, as low as 1.3% of this category of people travel to the market. The result of this analysis is tangential to many studies on trip purposes by the elderly carried out in different parts of the world which reported that elderly people participated in different trip purposes(Olawole and Aloba, 2015; Ipingbemi, 2010, Mackkett, 2015).

Table 2: Urban Facilities most frequently Visited by Elderly Citizens (Author's Field Survey, 2019)

Trip Purposes	Frequency	Percentage
Health Care Providers	12	14.8
Shopping	1	1.3
Religious	54	66.7
Recreational Centre	2	2.5
Escorting Grand Children to School	10	12.3
Bank	2	2.5
Total	81	100.0

The accessibility of senior citizens to some facilities located in urban space varies tremendously from one locality to another. Some elderly people travel short distances to have access to certain facilities or services located close to their residences while some travel to distant places to enjoy the same facilities or services. Table 3 indicates that no elderly people have access to public tertiary hospitals within 1km radius to their residences. The mean distance travelled to public tertiary hospital in Akure metropolis is 3.36 km. This can be considered to be a long trip and can be classified as higher order service. Elderly citizens residing at Oke - Aro, Arakale, Lafe, Isolo and Adegbola Quarters have access to public tertiary hospitals within 2kms radius from their residences. Elderly citizens living at peri-urban areas of Akure metropolis particularly at Ijomu, Oke-Odo, Ibule and Igoba travel an average of 3.9 Km, 4.6 km, 7.3 km and 9.7 km to access public tertiary hospital services and facilities in the city respectively. The result of Nearest Neighbour Analysis in Figure (2a) (p.15) reveals that the Observed Mean Distance travel to access public tertiary hospital services and facilities at Akure metropolis is 1002.3346 metre, while the Expected Mean Distance travel is 585.2432 metres. The positive Z-Score= 3.339653 with P-value= 0.000839

indicate that public tertiary hospital facilities is dispersed rather than random, which accounts for long distance trip to access this health care facility in the city.

In terms of access to primary health care facilities in the city, Table 3 reveals that the Mean Distance Travelled is 1.60 km. Many of these primary health care facilities are owned by private individuals and organisations and are generally concerned with the provision of medical services to those patients with mild cases of illness. Senior citizens that live at Ijomu, Orita - Obele, Oja-Oba, Arakale, Adegbola, Isolo, Lafe and Champion localities have access to primary health care facilities within 1 km to their residences. Figure 2b reveals that the Observed Mean Distance travel to primary health facility is 690.1945 metres, while the Expected Mean Distance travel is 70.1707 metres and the Nearest Neighbour Ratio is: 0.981546. Given the Z-score of -0.169309, the pattern of distribution of primary health facilities available at Akure metropolis does not appear to be significantly different at random, hence elderly people travel short distances to access this facility. Although in few localities, particularly at Igoba and Ibule, the elderly citizens living in these areas are less accessible to neither public tertiary hospitals nor primary health facilities because the distance to any health care facilities in these localities are 9.7km and 7.3km respectively.

With respect to trip to bank, Table 3 reveals that the Mean Distance Travel to Banks in Akure metropolis is 2.42km. Senior citizens who reside at Oja –Oba, Arakale, Adegbola, Lafe, and Isolo Quarters have access to banking services to withdraw their pension benefits within 1km radius from their residences. Elderly citizens who live at Ijomu, Oke-Odo, Ibule and Igboba need to travel for more than 5kms to access banking services. This implies that some senior citizens are less accessible to banking services within walkable distances in Akure metropolis. It can be deduced that the provision of banking services can be regarded as higher order goods and services where prospective customers would commute long distances to access such services. Figure 2c reveals that the Observed Mean Distance travel to bank is 168.7686 metres, while the Expected Mean Distance is 213.8267metres, with Z-score of – 2.055551 and P-Value of 0.039826. This buttressed the fact that the pattern of distribution of banking facility in Akure seems to be more clustered rather than random.

Table 3: Distance to Some Urban Facilities (Author's Field Survey, 2019)

Location of Places	Public Hospital	Private Owned Hospital/ Primary Health Centre	Banks
Ijomu	3.889	0.9	5.3
Oke-Odo	4.584	1.03	6.1
Orita –Obele	3.312	0.8	4.7
Oja-Oba	2.239	0.4	0.1
Oke-Aro	1.335	1.5	2.9
Arakale	1.054	0.4	0.4
Adegbola	1.707	0.4	0.9
Ibule	7.312	3.948	8.9
Igoba	9.701	7.272	7.3
Lafe	1.138	0.8	0.6
Isolo	1.769	0.5	0.6
Champion	1.657	0.2	0.3
Onigari/Orange FM	3.933	2.6	3.9
Total	43.63	20.75	31.4
Mean Distance	3.36	1.60	2.42

The main mode of transport in urban centres in Nigeria is by foot particularly when short distances are involved (Olawole and Aloba, 2014). Table 4 reveals that 10.3 % of the elderly trek to reach many urban facilities in Akure metropolis. The purpose of trips determine to a large extent the mode of transportation used. Taxi and motorcycle recorded the highest (30.2% each) mode of transportation patronised by the elderly to reach various facilities in the city. Only 25% of the elderly travelled using their personal vehicles to reach urban facilities in the study area. More than 60% of the elderly rely on public transport services to access various urban facilities. The result of this analysis is at variance the some studies carried out in some developed countries where personal cars are the principal mode of transport that old people use for their trip purposes(Collia et al., 2003; Mercado and Newbold, 2009; Schmocker et al., 2008 as cited in Mifsud; Attard and Ison, 2017).

Table 4: Mode of Transportation by the Elderly to Different Urban Facilities in Akure   Metropolis (Author's Field Survey, 2019)

Trip Purposes	Walking		Motorcycle		Taxi		Tricycle		Bus		Personal Vehicles		Total
	No	%	No.	%	No.	%	No	%	No	%	No	%	
Health Care Centre	0	0.0	3	8.6	6	17.1	2	40.0	0	0.0	1	3.4	12
	No	%	No.	%	No	%	No	%	No	%	No	%	
Shopping	5	41.7	7	20.0	14	40.0	0	0.0	0	0.0	12	41.4	38
	No	%	No	%	No	%	No	%	No	%	No	%	
Religious Centre	5	41.7	23	65.7	13	37.1	1	20.0	0	0.0	12	41.4	54
Escorting Children to School	No 2	% 16.6	No 2	% 5.7	No 1	% 2.9	No 1	% 20.0	No 0	% 0.0	No 4	% 13.8	10
Banks	No 0	% 0.0	No 0	% 0.0	No 1	% 2.9	No 1	% 20.0	No 0	% 0.0	No 0	% 0.0	2
Total %	12 (10.3)		35 (30.2)		35 (30.2)		5 (4.3)		0 (0.0)		29 (25.0%)		116

In view of the distances travelled and modes of transportation used to reach various locations where various urban facilities are located, the transport fares differ. Public transport operators normally charge low transport fare for short distances. The longer the distance travelled, the higher the transport fare paid to reach such location and therefore the less accessible such destination may likely be. Table 5 reveals that 28.8% of senior citizens paid less than one hundred naira(₦100) as transport fare to reach various urban facilities in Akure metropolis. More than 50% of the senior citizens claimed that they paid between one hundred naira (₦100) and two hundred naira(₦200) for their trips to various locations. These transport fares paid by the senior citizens for their trips to various urban facilities can be considered to be very high because of the poor economic situation in Nigeria where 70% of the population live on $ 1.25 or less per day (World Bank, 2014). Besides, most elderly citizens are retirees and belong to the dependant age group. Such high transport fare to reach basic urban facilities may limit the accessibility of people especially the elderly to such facilities. Only 0.9% of the elderly indicated that they spent more than ₦300 on their trips to some urban facilities in Akure. These elderly people reside at low density areas of the city particularly at Igoba, Ibule and Oke Odo where some basic urban facilities are lacking.

Table 5: Transport Fares Incurred by Elderly for Different Journey Purposes
(Author's Field Survey, 2019)

Trip Purpose	Transport Fare							
	Less than ₦100		₦101 – ₦200		₦201 – ₦300		More ₦300	
Health Care Centre	No.	%	No.	%	N0.	%	No.	%
	1	2.2	9	13.2	1	50.0	1	100.0
Shopping Centre/Market	No.	%	No.	%	No.	%	No.	%
	23	51.1	15	22.2	0	0.0	0	0.0
Religious Centre	No.	%	No.	%	No.	%	No.	%
	17	37.8	36	52.9	1	50.0	0	0.0
School Trips	No.	%	No.	%	No.	%	No.	%
	4	8.9	6	8.8	0	0.0	0	0.0
Banks	No.	%	No.	%	No.	%	No.	%
	0	0.0	2	2.9	0	0.0	0	0.0
Total	45	(38.8)	68	(58.6)	2	(1.7)	1	(0.9)

The travel time taken to reach various locations is an important variable used to determine the level of accessibility of people to different destinations. Table 6 reveals that 29.2% of the elderly indicate that they spent less than 10 minutes to reach some basic facilities in Akure. Approximately 59.3% of the elderly spent between 10 and 30 minutes on their transit to different facilities. Table 6 further reveals that 11.5% of the senior citizens spend between 31 and 60 minutes to access some urban facilities in Akure.

Table 6: The Elderly Travel Time to Different Urban Facilities (Author's Field Survey, 2019)

Trip Purposes	Less than 10 mins		10-30 mins		31-60 mins		More than 60 mins	
Health Care Centre	No.	%	No.	%	No.	%	No.	%
	1	3.0	8	11.9	3	23.1	0	0.0
Shopping	No.	%	No.	%	No.	%	No.	%
	12	36.4	25	37.3	1	7.7	0	0.0
Religious Centre	No.	%	No.	%	No.	%	No.	%
	16	48.5	29	43.3	7	53.8	0	0.0
School Trip	No.	%	No.	%	No.	%	No.	%
	4	12.1	5	7.5	0	0.0	0	0.0
Banks	No.	%	No.	%	No.	%	No.	%
	0	0.0	0	0.0	2	15.4	0	0.0
Total	33 (29.2)	100.0	67 (59.3)	10.0	13 (11.5)	100.0	0 (0.0)	

Average Nearest Neighbor Summary

Average Nearest Neighbor Summary

Observed Mean Distance:	1002.3346 Meters
Expected Mean Distance:	585.2432 Meters
Nearest Neighbor Ratio:	1.712680
z-score:	3.339653
p-value:	0.000839

Dataset Information

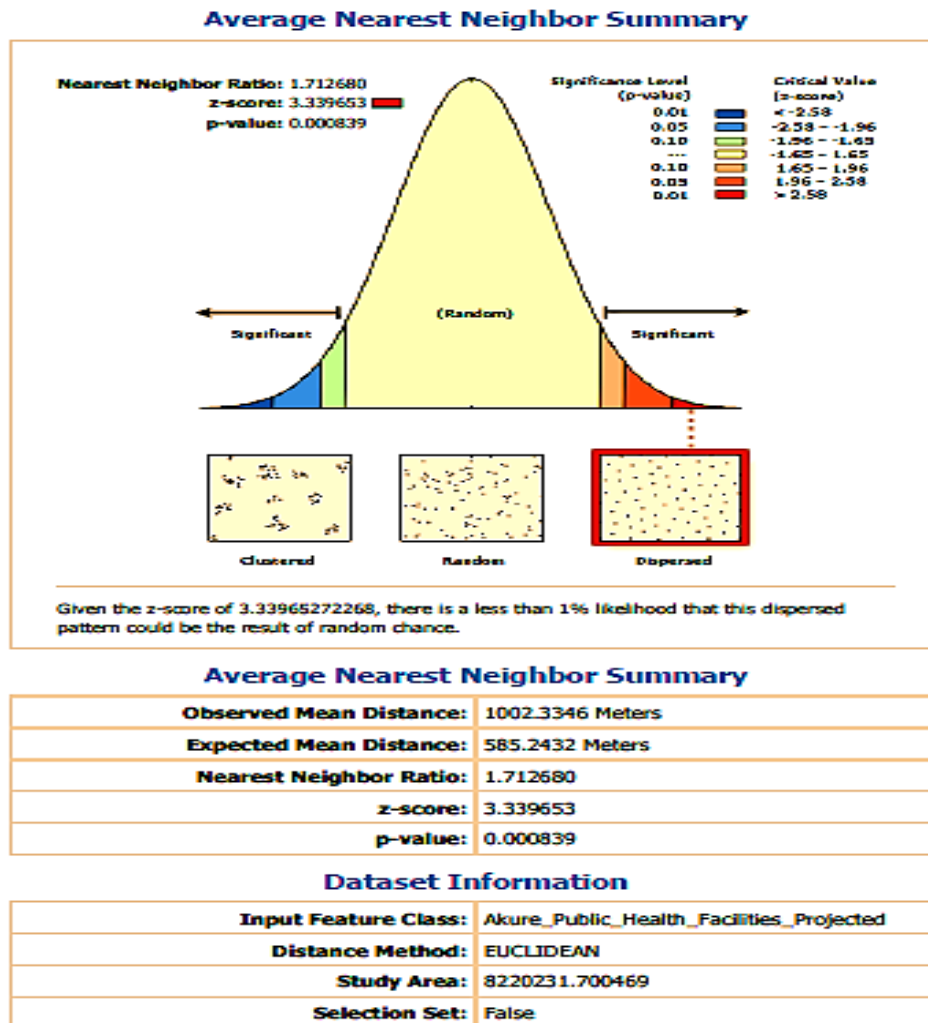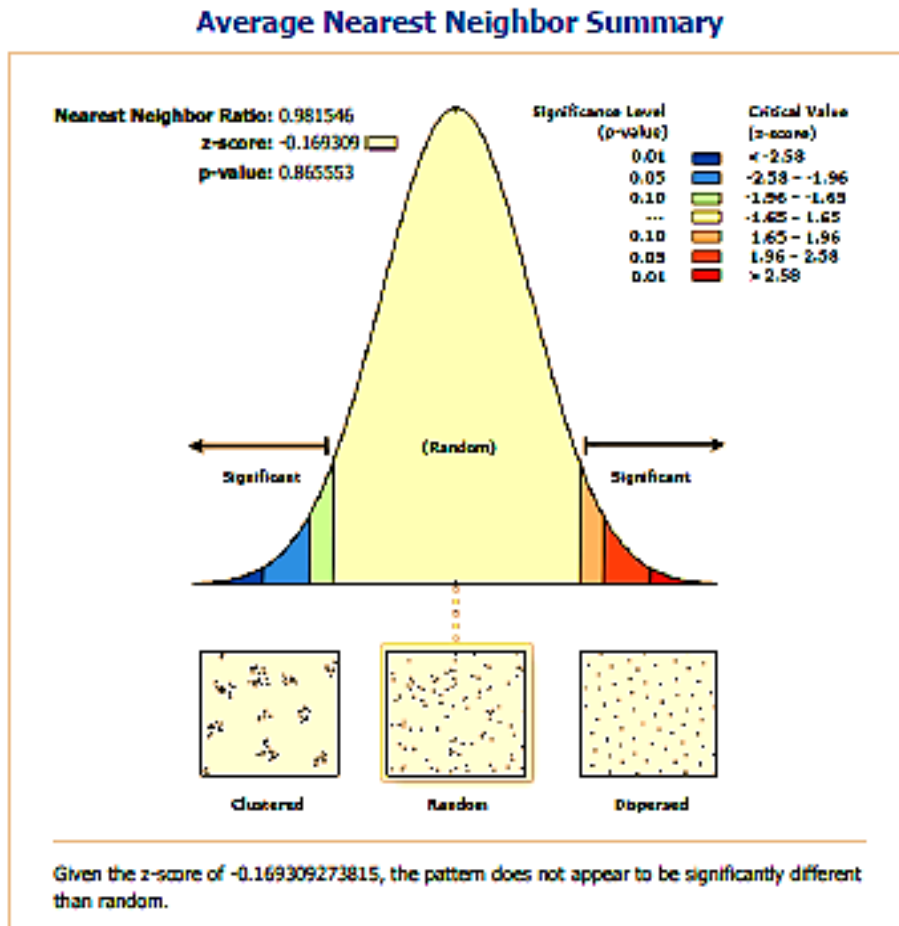|	
Input Feature Class:	Akure_Public_Health_Facilities_Projected
Distance Method:	EUCLIDEAN
Study Area:	8220231.700469
Selection Set:	False

Figure 2a: Pattern of Distribution of Public Tertiary Hospitals in Akure Metropolis
(Author's Field Survey, 2019)

Average Nearest Neighbor Summary

Nearest Neighbor Ratio: 0.981546
z-score: -0.169309
p-value: 0.865553

Significance Level (p-value)	Critical Value (z-score)
0.01	< -2.58
0.05	-2.58 – -1.96
0.10	-1.96 – -1.65
---	-1.65 – 1.65
0.10	1.65 – 1.96
0.05	1.96 – 2.58
0.01	> 2.58

(Random)

Significant   Significant

Clustered   Random   Dispersed

Given the z-score of -0.169309273815, the pattern does not appear to be significantly different than random.

Average Nearest Neighbor Summary

Observed Mean Distance:	690.1945 Meters
Expected Mean Distance:	703.1707 Meters
Nearest Neighbor Ratio:	0.981546
z-score:	-0.169309
p-value:	0.865553

Dataset Information

Input Feature Class:	Akure_Private_Hospital_Projected
Distance Method:	EUCLIDEAN
Study Area:	45489309.860237
Selection Set:	False

Figure 2b: Pattern of Distribution of Primary Health Care in Akure Metropolis
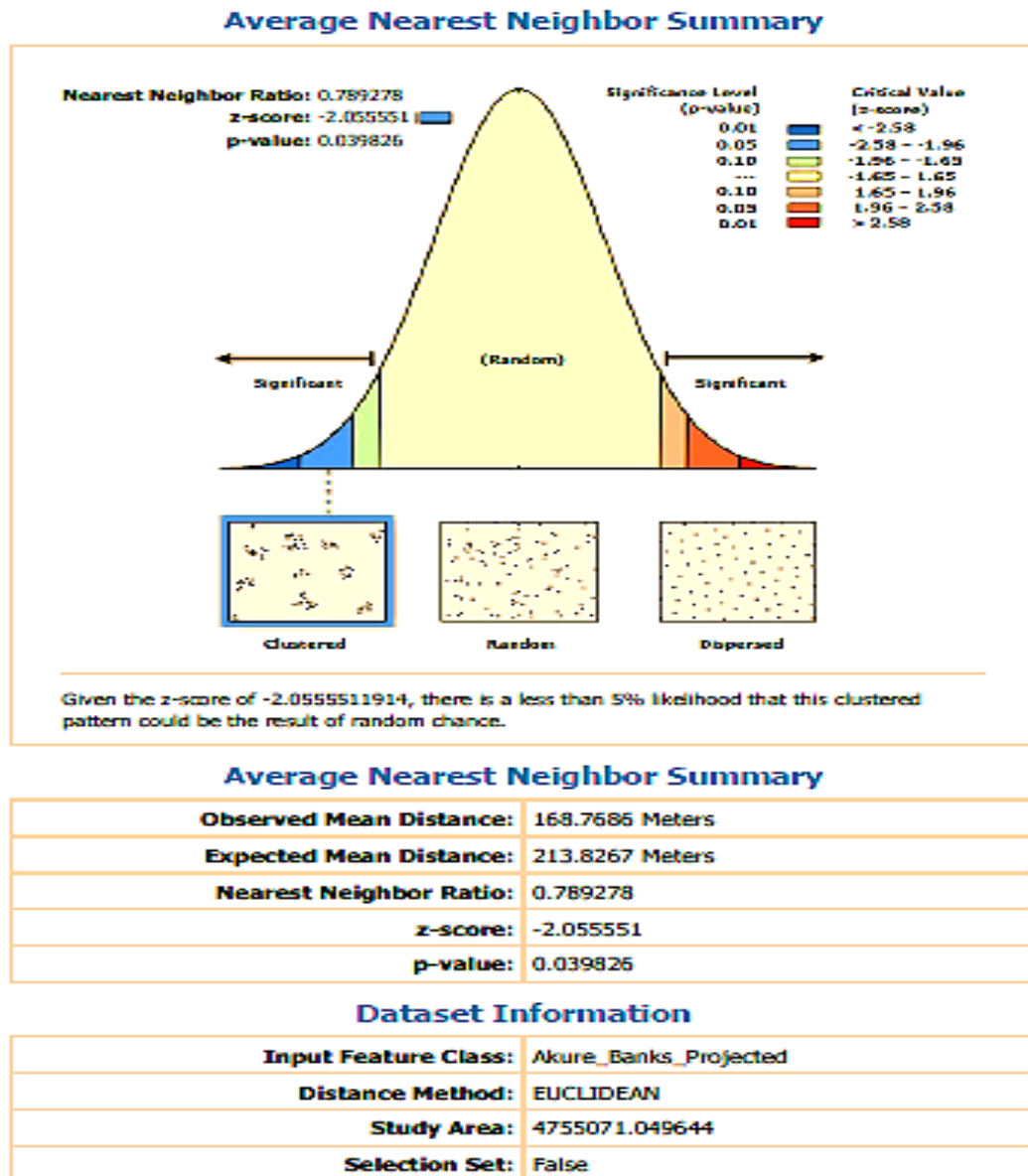(Author's Field Survey, 2019)

Average Nearest Neighbor Summary

Observed Mean Distance:	168.7686 Meters
Expected Mean Distance:	213.8267 Meters
Nearest Neighbor Ratio:	0.789278
z-score:	-2.055551
p-value:	0.039826

Dataset Information

Input Feature Class:	Akure_Banks_Projected
Distance Method:	EUCLIDEAN
Study Area:	4755071.049644
Selection Set:	False

Figure 2c: Pattern of Distribution of Banking Facility in Akure Metropolis
(Author's Field Survey, 2019)

4.2 Challenges Encountered by the Elderly on their Trips to Urban Facilities

Older people are faced with many problems during their trips to different activity centres. Studies have shown that senior citizens that rely on public transport suffer from social exclusion due to difficulties encountered when travelling to access facilities or services (Engel and Liu 2011; Shergold and Parkhurst, 2012). Other challenges faced by the elderly in accessing urban facilities or services are traffic delay, long waiting time to access public transport and environmental pollution. Table 7 reveals that 65.9% of older people in Akure metropolis claim that traffic delay is the major challenge they encounter in order to access basic facilities in the city. Heavy traffic delay occurs along the main arterial roads in Akure particularly on Oyemekun, Alagbaka and Arakale roads. This is because many urban facilities such as banks, markets and supermarkets are located along these routes. Emenike

and Ogunjobi (2018) reported that illegal parking, bad roads and vehicle break downs are major causes of traffic congestions in Akure. 10% of older people indicated that environmental problems such as indiscriminate use of horns by public transport operators to scare other road users during heavy traffic is the major challenge encountered during their trips to basic facilities in the city. Long period of waiting for public transport services and overloading of passengers during their trips accounted for 9.4% and 8.2% respectively. Road traffic crashes recorded only 3.5% of the problems raised among the factors affecting their accessibility to urban facilities.

Table 7: Problems Faced by the Elderly People in Effective Utilization of Basic Facilities
(Author's Field Survey, 2019)

Variable of Transport Problems Identified	Frequency	Percentage
Traffic Delay	112	65.9
Overloading	14	8.2
Road Traffic Crashes	6	3.5
Difficulties Boarding Public Transport Services During Peak Period	5	3.0
Long Waiting Time for Public Transport Services	16	9.4
Environmental Pollution	17	10.0
Total	170	100.0

5. Conclusion and Implications for Planning

The study assessed the accessibility of the elderly to some basic urban facilities in Akure metropolis. At the introductory part of the research, effort was made to review the existing literature on accessibility of senior citizens to facilities located in geographical space and discuss how efficient transport services can promote and alleviate transport burden of the elderly citizens in accessing facilities in urban areas. Primary and secondary data were utilised for the study. Geographical Position System was used to take the coordinates of some important facilities such as health care, facilities and banks. Nearest Neighbour Analysis was employed to compute the Mean Distance Travel to public tertiary hospital, primary health facilities and banks in the city. Findings reveal that the distribution patterns of public tertiary hospitals in Akure are dispersed rather than random. Hence, many urban residents including the elderly travel long distances in order to access these facilities. The Mean Distance Travel to access primary health facilities in Akure is 1.60km. This can be considered to be short when compared with public tertiary hospital with Mean Distance travel of 3.36km. More than 60% of the elderly rely on public transport services for their trips to access basic facilities in the city. Traffic delay was ranked highest (66%) among the problems militating against the effective utilisation of urban facilities in Akure metropolis. Environmental problems such as indiscriminate use of horns and emission of toxic substances from motorized vehicles was ranked second (10%) among the problems encountered by the elderly on their trip purposes. Other problems identified by the senior citizens are long waiting time for public transport vehicles, overloading and road traffic crashes. The study recommends that more basic urban facilities such as public tertiary hospitals, banks and markets be provided in localities where such facilities are lacking .This will reduce long distance trip to these facilities in the city. The study concludes that better transport services should be made available at reasonable transport fare. This will promote

effective utilisation of urban facilities by the elderly and other segments of the population in Akure and similar other cities in Nigeria.

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