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Socio-economic Characteristics of Commuters and Travel Demand in Ikeja Metropolis, Lagos

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Abstract
This paper examines the structural relationship between socioeconomic characteristics and travel demand of commuters within Ikeja-Lagos. Data used were obtained from primary and secondary sources. The primary data focused on commuters within four purposively selected routes in Ikeja in order to capture their socioeconomic and travel demands characteristics. A total of nine (9) registered bus stops were identified for the study from which an average total count of 38,196 commuters was obtained between the peak periods (7-9am, 12-2pm, 4-6pm) on Mon, Wed and Sat. A sample size of 234 was used and this represented the total number of questionnaires that were administered through convenience sampling to the commuters within the studied route. The study adopted the use of descriptive and inferential data analytical tools. Travel purpose showed that98.3% of the commuters travelled for work, commercial and educational purposes. On frequency of travel, 74.2% made more of daily trips than weekly trips (22.3%), with a slight preferential increase for private cars (40.2%) over conventional buses (36.8%) as modal choice. The Correlation Analysis for the study reveals a positive relationship between age of commuters and purpose of travel (travel demand). This was further supported by the multiple stepwise regression analysis. The study concluded that socioeconomic characteristics and travel demand should be further improved upon to make commuters trip making and distribution flexible within Ikeja-Lagos.
Keywords: Socioeconomic characteristics, Travel Demand, Traffic Purpose, Traffic congestion
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1. Introduction

Transportation is a key driver of the development of cities by providing safe, efficient, and reliable transportation for people, goods, and services. When a city experiences rapid population growth, it will exert pressure on existing economic, social, and environmental structures including transportation and mobility (Choi and Loh, 2013). When countries are developing, most of economic activities are focused in urban cities. As the population of urban cities increases rapidly, demand for travel increases resulting into traffic problems in metropolitan areas such as lack of space and congestion as well as air pollution (Choi and Loh, 2013).

The significance of transportation in the development of man, national integration and economic growth cannot be overemphasized (Tainio *etal*, 2018).Urban mobility data is crucial to understand travel patterns, to plan and evaluate policies and interventions, and to analyze the social, health and environmental impacts (Tainio and Goodman*et al*, 2018).However, gathering accurate, timely, and representative mobility data is not an easy task. Most Countries include questions on travel behavior in their census, but typically only cover commuting to work, and are conducted infrequently (usually once per decade). Motor vehicle, cycle or pedestrian counts by human observers or sensors are more common, but usually covers specific areas or junctions within cities and lack representativeness and are therefore difficult to compare across cities (Banister, 2008).

The necessity for people to meet social and economic needs often results in increasing transport demand (Fadare and Salami, 2004). From the record of Raft (1918), it is evident that man has been involved in the transportation of foods, materials, information and other services from prehistoric times. By so doing, people have used favorable routes to accomplish varying movement demands (Canoe, 1972). In most developing countries such as Nigeria, mobility is not closely connected with welfare.

Living accommodation and places of other activities such as work, business, recreation etc., are usually not in close proximity (Authors Field Survey, 2021). In most cases, people live far away from their place of work and travel using the most available transport medium in order to avoid traffic delays. Almost unreflecting, we seem to believe that increased mobility generates improved travel welfare and that mobility is the norm (Banister, 2008), but this is not so with developing countries where increase in number of vehicles with a decrease in road construction and maintenance, lengthen travel time.

According to Hanson(2004) “because cities consist of spatially separated, highly specialized land uses such as; food stores, hardware stores, banks, drug stores, hospitals, libraries, schools, post offices and so on, people must travel if they want to obtain necessary goods and services.” Studies (Ayeni, 1974; Adeniji, 1981; 1998; Ojo, 1990) have shown that in general, people tend to travel in order to obtain access to a variety of other

people, services and facilities that are not available at the origins of their journeys. To what extent, how far and by what means they travel is a result of a complex interaction of socio-economic, political and physical factors (Adeniji, 1991).

All these activities lead to increase in the number of trips on the road way and household kilometers travelled. However, taking these factors into consideration, transportation facilities (road network and travel mode) are very insufficient in context to their requirements. This imbalance of transportation demand and supply results into huge congestion with economical loss and environmental degradation.

It has been observed that some of the challenges affecting the study include; traffic delays, traffic jams, congestions, poor driving attitude and impatience. Of all, traffic congestion is the most common which has thus resulted into lengthening of trip making due to high demand for travel including means and mode thereby creating an imbalance between travel demand and socioeconomic characteristics for commuters which is a major basis for trip making.

This therefore calls for the need to assess the relationship between socioeconomic characteristics of commuters and travel demand for which this paper is aimed at.

2. Literature Review

Studies have been carried out on travel demand and it has been identified that socio-economic characteristics are key attributes in assessing commuters travel demand. Geurs and van Wee (2004) defined four interrelated components of accessibility that can be used in evaluating the performance of different accessibility measures namely; land use, transport, temporal and individual component: The land-use component describes the land-use, consisting of the spatial distribution of destination locations (i.e., activity sites that supply opportunities) and origin locations (where the demand for these opportunities comes from, e.g., inhabitants homes) and the interaction between the two; The transportation component describes the transport system and the effort which an individual has to take in order to overcome distance between origins and destinations, using a specific transport mode; The temporal component describes the temporal constraints, such as an individual's time budget and the availability of different opportunities at different times of the day; The individual component describes an individual's socio-economic and demographic characteristics (such as age, gender, income, education, physical condition, and household characteristics) that affect his/her level of access to different transport modes and to the spatially distributed opportunities. Thus, for an overall adequacy in accessibility measure, there should be a synergy between the four components towards improving pattern of trip making.

Similarly, Age is also a recognized determinant of mode and distances travelled. Population aged 20–64 is reported to travel more by car and less by transit, as this age band corresponds with (peak) professional activity and presence of dependent children (He and Zhang, 2011).A positive relationship between age and the likelihood to use public transport was established by Abuhamoud, Rahmat, and Ismail (2011). Nurdden, Rahmat, and Ismail (2007) reported that senior citizens were more willing to shift to public transport if the minimum legal driving age is increased and the quality of public transport services is improved. Morikawa et al. (2003) also found a high preference for private vehicle dependency among those aged 18 years old and above, while the older citizens (65 years old and above) in Nagoya, Japan prefer to travel by bus. Furthermore, the use of cars has been found to be positively related to household size, income, and car ownership (Abuhamoud, Rahmat and Ismail, 2011).

Research has shown that travel demand depends on socio-economic characteristics of commuters. While easy access to activity areas is very important to reduce daily trips, the social and economic situation of people (e.g. income and car ownership rate) is also crucial (Stead and Marshal 2001; Dieleman et al. 2002; Giuiliano and Narayan 2003; Zhang 2006). This paper thus examines the relationship between socio-economic characteristics and travel demand for an improved mobility of commuters within the study.

3. Study Area

IKEJA is an abbreviation of Ikorodu and Epe Joint Administration. It was coined by colonial administrators for ease of administration. Ikeja is located within Ikeja local government area the capital of Lagos State, with coordinates; Long $3^{0}30'$E and Lat 7°30'N, respectively (Google Earth-Maplandia, 2018). Ikeja CBD is part of the Ikeja Local Government Council. It represents one of the city's urban centres with approximately 1,640 km^2 land mass (Lagos Metropolitan Area Transportation Study, 1976). Ikeja CBD is bounded to the **North** by Obafemi Awolowo Way via Alausa Road through Aromire Road on both sides of Adeniyi Jones Way towards the end of Oba Akran Road, around Ikeja Industrial Area. To the **South** it runs through Bank Anthony Way, from Airport junction into Unity and Toyin Streets to Allen/Opebi junction. On its **Eastern** end its bounded by Lagos-Ibadan Expressway towards Alausa-Ikeja, while on the **Western** end is the thick swamp behind International Airport at Onipetesi area in Agege, all forming the physical features of the area. This study is of significance because of the status of Ikeja being the economic, social, commercial, industrial and political nerve-centre of Lagos State, and by extension Nigeria.

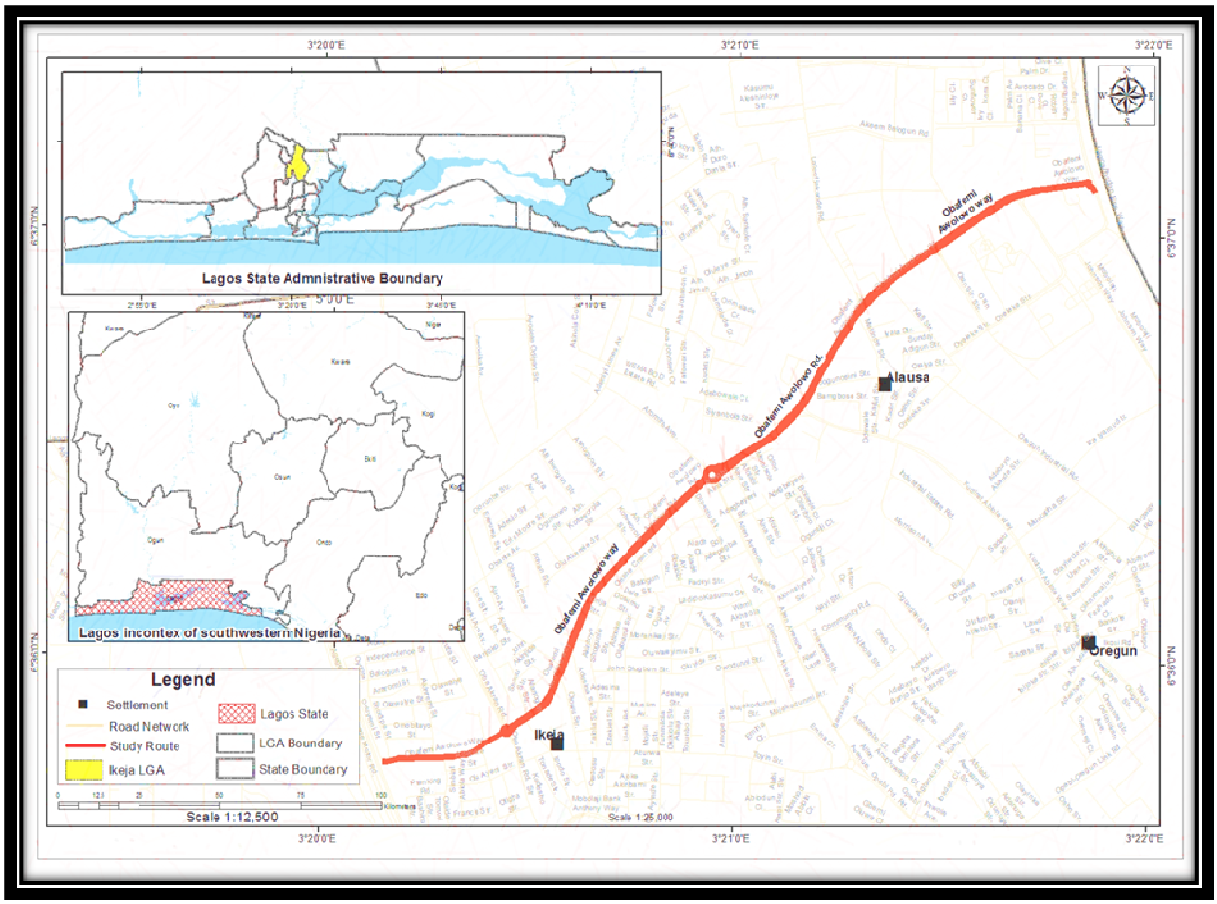

Figure 1: The Studied Traffic Route within Ikeja Metropolis
Source: Author's Fieldwork, 2021

4. Methodology

Data used for this study was obtained through questionnaire administration. Questionnaires were administered to the commuters, who are the respondents for the study. The sample frame comprised an average total of 38,196 commuters obtained from nine (9) major bus stops within the four studied routes in Ikeja during the peak periods (7-9am, 12-2pm and 4-6pm) on Monday, Wednesday and Saturday. From this sample frame, a sample size of 65% was used for the study using Evan Morris (2005) formula which allocates for a total of 234 questionnaires administered to the commuters. Purposive sampling was used in the selection of the four studied routes (Alausa-Ikeja, Allen Roundabout, Awolowo way and Ikeja-Underbridge while convenience sampling was used in the administration of questionnaires to the commuters in order to obtain information on Socio-economic characteristics (gender, age, marital status, education level, employment type and status, monthly income etc.) and Transport/travel demand characteristics (mobility ownership, average commuting time, affordability of fares, purpose of travel, trip making duration etc.). The study adopted the use of descriptive (frequency tables) and inferential (Pearson moment correlation co-efficient and stepwise multiple regression analysis) data analytical tools. The correlation analysis was used to explain the relationship between socioeconomic characteristics and travel demand while the multiple regression analysis was used to confirm the relationship using SPSS data analysis.

The regression equation used for this type of analysis is:

$$Y=a+b_1X_1+b_2X_2+b_3X_3+b_nX_n+c$$

Y= dependent variable (travel demand determined by travel purpose)
a= constant
X_1X_n=independent variables (gender, age, marital status, education, occupation type, place of work, monthly income, mode of transport, trip frequency, place of residence), b_1b_n= coefficients of independent variables
c= random error term measuring the deviation of the observed trips(Y)
The dependent variable in this study is travel demand determined by travel purpose of the commuters. The independent variables of commuter's socioeconomic characteristics include the variables X_1X_n

5. Results and Discussion

Gender analysis as shown in **table 1** based on questionnaire administration within the studied corridors reveals that 55.2% of the commuters are males and 44.8% are females within Alausa Ikeja route. Similarly in Allen Roundabout (54.8% are males while 45.2% are females). Along Awolowo way (59.3% are males and 40.7% are females). Finally along Ikeja-Underbridge (58.3% are males and 41.7% are females). This study therefore reveals that male respondents along the studied corridors during the period of questionnaire administration had more demand for travel than their female counterparts which emanates from the diverse socioeconomic activities the male commuters are majorly involved with.

Age analysis as shown in **table 2** revealed that commuters within the age bracket 21-30years (53.4%) and 31-40 years (24.8%) constituted more for the study which can be attributed as the most active working age group as compared with age groups below 20 years, above 40 and above 60 years. This accounts for the fact why more middle aged group individuals (21-40years) make more travel trips for diverse economic and social functions.

The analysis of marital status in **table 3** reveals that 49.6% of the commuters are single, 42.7% are married, 7.3% are widowed while divorced accounts 0.4%. This analysis only deduces based on results obtained and gathered during questionnaire administration and therefore does not infer that the commuters within Ikeja are all single.

Education Level analysis in **table 4** reveals that 43.1% of the commuters are tertiary certificate holders, secondary cert (42.7%), primary certificate (9.1%) and non-formal education (5.2%), this analysis corroborates the literacy level of the commuters as 94.4% stated they could read and write while 5.6% could not. This analysis therefore reveals that the commuters do have some levels of formal education or training.

Occupation type of the commuters as shown in **table 5** reveals that 30.3% are involved in trading/commerce, 26.1% (civil service), 20.9% (students), 12.0% (artisan), 3.8% (farming), industrial worker (3.4%), unemployed (1.3%) and retired (2.1%). From the study, commuters involved in trading and commerce as well as civil service dominates the

major occupation type for the study who also possess some level of formal education or training and may therefore be working within Ikeja or outside Ikeja as analyzed in **table 6**

Analysis of Place of work in **table 6** reveals that 47.1% and 48.3% of the commuters work within and outside Alausa Ikeja with 4.5% not working. In Allen Roundabout, 19.0% work within, 40.5% work outside with 40.4% not working. In Awolowo way, 29.6% work within, 69.1% work outside with 1.2% not working. Similarly, in Ikeja-Underbridge, 41.7% work within, 29.2% work outside and 29.2% are not working. From the study, it can be inferred that commuters' working outside Ikeja dominates commuters working within Ikeja axis in relation to the study.

Monthly income analysis as shown in **table 7** corroborates occupation type as revealed in **table 5**. From the study a vast majority (41.0%) of the sampled commuters earn an average monthly income of #31,000-#40,000, comprising occupation types; trading/commerce (50.0%), civil service (39.3%), farming (88.9%), artisan (53.6%), student (26.5%), retired (0), employed (0) and industrial worker (12.5%).

Analysis on commuter's mode of travel (transport) in **table 8** reveals that mini buses are the most commonly used medium for commuting, taking 43.7% of response for Alausa Ikeja, 42.9% for Allen, 23.5% for Awolowo way(Private car dominated more at 56.8%) and 45.8% for Ikeja under-bridge. In Lagos state and Ikeja, the conventional yellow minibuses are more patronized as compared with taxis, motorcycles, cars and tricycles based on the travel demand it pulls, longer distance journey covered and the pick and drop system at bus stops and junctions. This therefore denotes the reason why congestions and traffic delays are rampant in Lagos state and Ikeja.

In relation to Trip frequency, analysis in **table 9** reveals that 73.2% of the sampled commuters identified at Allen roundabout make daily trips. Similarly, 66.7% within Ikeja-Underbridge also make daily trips. Furthermore, 74.1% and 77.0% also make daily trips along Awolowo way and Alausa Ikeja corridor. This study therefore shows that a larger percentage of the commuters (74.2%) make more daily trips within the studied routes as compared with weekly (22.3%), fortnightly (1.3%) and yearly trips (2.1%) made by the commuters within the study.

The analysis in **table 10** reveals place of residence of commuters within and outside Ikeja as at the period of questionnaire administration within the four purposively selected corridors. From the study, 51.7% of the commuters reside within Ikeja while 48.3% reside outside Ikeja. This study therefore shows that a larger number of the commuters reside within Ikeja, but may not readily work within Ikeja axis as identified in **table 6.**

Analysis on **table 11** shows the various travel or trip purposes of commuters used in measuring travel demand within the studied corridors. Work and commercial trips (42.9% and 35.7%) dominates overall travel demand along Allen roundabout. Work trip purpose (66.7%), dominates travel demand of commuters along Ikeja-Underbridge, as compared with educational and commercial trips (both 16.7%). Educational trips (45.7%) dominate travel demand in Awolowo way as compared with work (30.9%) and commercial (21.0%). Work trips (47.1%) also dominate travel demand in Alausa Ikeja axis as compared with educational (36.8%) and

commercial (16.1%). From the study, it can be inferred that travel purpose of commuters is not only determined by work trips alone. Educational, commercial and other types of trip making activities (including; ceremonies and outings) also determine purpose of travel made by a trip maker or a commuter.

Table 12 gives the Pearson correlation matrix analysis for the study. From the analysis, it can be deduced that the most meaningful and significant relationship exists between age of commuters (X_2) and purpose of travel (X_{11}) with r value = 0.380**.This corroborates with analysis on **table 2** (age of commuters) and **table 11** (trip purpose). Age brackets 21-40 as identified from the study is the most active working age group which implies that this age bracket tend to make more trips for diverse purposes as identified within the study than age brackets below 20 years, above 40 and above 60 years.

The regression analysis on **table 13-15**, explains the structural relationship among the variables of socioeconomic characteristics and travel demand. The rationale for this analysis is to provide the factor(s) that are salient to the explanation of commuters travel demand in Ikeja. The variables of socioeconomic characteristics include; gender, age, marital status, education, occupation type, place of work, monthly income, mode of transport, trip frequency, place of residence., which determines (the variable; purpose of travel) and hence travel demand of commuters. From the correlation analysis the most significant variable that may be used to explain travel demand is purpose of travel which is used to measure travel demand for the study. From the regression analysis r value = 0.500[a] with r^2 value (.250), which implies that 25% of Socioeconomic characteristics can be used to explain travel demand.

Table 1: Gender of Commuters based on Road Location

Road Location		**Gender**		Total
		Male	Female	
Alausa Ikeja	N	48	39	87
	%	55.2	44.8	100.0
Allen Roundabout	N	23	19	42
	%	54.8	45.2	100.0
Awolowo way	N	48	33	81
	%	59.3	40.7	100.0
Ikeja under bridge	N	14	10	24
	%	58.3	41.7	100.0
Total	N	133	101	234
	%	56.8	43.2	100.0

Source: Survey, 2021

Table 2: Age of Commuters

Road Location		**Age of Commuters**				
		<20 years	21-30 years	31-40 years	41-60 years	Total
Allen Roundabout	N	7	22	13	0	42
	%	16.7%	52.4%	31.0%	.0%	100.0%
Ikeja Under bridge	N	2	15	6	1	24
	%	8.3%	62.5%	25.0%	4.2%	100.0%
Awolowo way	N	21	50	9	1	81
	%	25.9%	61.7%	11.1%	1.2%	100.0%
Alausa Ikeja	N	19	38	30	0	87
	%	21.8%	43.7%	34.5%	.0%	100.0%
Total	N	49	125	58	2	234
	%	20.9%	53.4%	24.8%	.9%	100.0%

Source: Survey, 2021

Table 3: Marital Status of Commuters

Road location		**Marital Status**				Total
		Single	Married	Divorced	Widowed	
Allen Roundabout	N	15	22	1	4	42
	%	35.7%	52.4%	2.4%	9.5%	100.0%
Ikeja Under bridge	N	11	13	0	0	24
	%	45.8%	54.2%	.0%	.0%	100.0%
Awolowo way	N	40	36	0	5	81
	%	49.4%	44.4%	.0%	6.2%	100.0%
Alausa Ikeja	N	50	29	0	8	87
	%	57.5%	33.3%	.0%	9.2%	100.0%
Total	N	116	100	1	17	234
	%	49.6%	42.7%	.4%	7.3%	100.0%

Source: Survey, 2021

Table 4: Education Level of Commuters

Road location		**Educational**				Total
		Non-formal	Primary	Secondary	Tertiary	
Allen Roundabout	N	1	3	16	22	42
	%	2.4%	7.1%	38.1%	52.4%	100.0%
Ikeja-Underbridge	N	1	3	11	9	24
	%	4.2%	12.5%	45.8%	37.5%	100.0%
Awolowo way	N	0	13	44	24	81
	%	.0%	16.0%	54.3%	29.6%	100.0%
Alausa Ikeja	N	10	4	28	45	87
	%	11.8%	2.4%	32.9%	52.9%	100.0%
Total	N	12	21	99	100	234
	%	5.2%	9.1%	42.7%	43.1%	100.0%

Source: Survey, 2021

Table 5: Occupation Type of Commuters

Road Location		**Type of Employment**								
		Trading commerce	Civil service	Farming	Artisan	Student	Retired	Un-employed	Industrial worker	Total
Allen Roundabout	N	10	9	4	8	7	1	1	2	42
	%	23.8	21.4	9.5	19.0	16.7	2.4	2.4	4.8	100.0
Ikeja Under bridge	N	12	7	0	1	3	1	0	0	24
	%	50.0	29.2	0	4.2	12.5	4.2	0	0	100.0
Awolowo way	N	25	21	2	9	22	1	0	1	81
	%	30.9	25.9	2.5	11.1	27.2	1.2	0	1.2	109.0
Alausa Ikeja	N	23	24	4	10	17	2	2	5	87
	%	26.4	27.6	4.6	11.5	19.5	2.3	2.3	5.7	100.0
Total	N	70	61	10	28	49	5	3	8	234
	%	29.9	26.1	4.3	12.0	20.9	2.1	1.3	3.4	100.0

Source: Survey, 2021

Table 6: Place of Work (within and outside Ikeja)

Road Location		**Place Of Work**		
		Within	Outside	Total
Alausa Ikeja	N	41	42	87
	%	47.1	48.3	100.0
Allen Roundabout	N	8	17	42
	%	19.0	40.5	100.0
Awolowo way	N	24	56	81
	%	29.6	69.1	100.0
Ikeja under bridge	N	10	7	24
	%	41.7	29.2	100.0
Total	N	83	122	234
	%	35.5	52.1	100.0

Source: Survey, 2021

Table 7: Monthly Income of Commuters

Occupation Type	**Monthly income**						
		<18,000	18,000-30,000	31,000-40,000	41,000-50,000	>50,000	Total
Trading/Commerce	N	8	14	35	9	4	70
	%	11.4%	20.0%	50.0%	12.9%	5.7%	100.0%
Civil service	N	4	9	24	12	12	61
	%	6.5%	14.8%	39.3%	19.7%	19.7%	100.0%
Farming	N	0	2	8	0	0	10
	%	0%	20.0%	80.0%	.0%	.0%	100.0%
Artisan	N	1	8	15	0	4	28
	%	3.6%	28.6%	53.6%	.0%	14.3%	100.0%
Student	N	16	20	13	0	0	49
	%	32.7%	40.8%	26.5%	.0%	.0%	100.0%
Retired	N	3	2	0	0	0	5
	%	60%	40.0%	.0%	.0%	.0%	100.0%
Unemployed	N	3	0	0	0	0	3
	%	100%	0%	.0%	.0%	.0%	100.0%
Industrial worker	N	0	0	1	1	6	8
	%	0%	0%	12.5%	12.5%	75.0%	100.0%
Total	N	35	55	96	22	26	234
	%	15.0%	23.5%	41.0%	9.4%	11.1%	100.0%

Source: Survey, 2021

Table 8: Commuters Mode of Travel

Road Location		**Mode of Commuting**						
		Motorcycle	Private car	Taxi	Minibus	Municipal bus	Tricycle	Total
Alausa Ikeja	N	10	35	0	38	0	4	87
	%	11.5	40.2	0	43.7	0	4.6	100.0
Allen Roundabout	N	4	10	3	18	3	4	42
	%	9.5	23.8	7.1	42.9	7.1	9.5	100.0
Awolowo way	N	4	46	7	19	0	5	81
	%	4.9	56.8	8.6	23.5	0	6.2	100.0
Ikeja Under bridge	N	8	3	1	11	0	1	24
	%	33.4	12.5	4.2	45.8	0	4.2	100.0
Total Within	N	25	94	11	86	3	14	234
	%	10.7	40.2	4.7	36.8	1.3	6.0	100.0

Source: Survey, 2021

Table 9: Trip frequency

Road Location		**How often do you ply this road**				**Total**
		Daily	Weekly	Fortnightly	Yearly	
Alausa Ikeja	N	30	8	4	0	42
	%	73.2	19.5	7.3	0	100.0
Allen Roundabout	N	16	7	0	1	24
	%	66.7	29.2	0	4.2	100.0
Awolowo way	N	60	17	0	4	81
	%	74.1	21.0	0	4.9	100.0
Ikeja Under bridge	N	67	20	0	0	87
	%	77.0	23.0	0	0	100.0
TOTAL	N	173	52	3	5	234
	%	74.2	22.3	1.3	2.1	100.0

Source: Survey, 2021

Table 10: Place of Residence

Road Location		**Commuters Place of Residence**		**Total**
		Within Ikeja	Outside Ikeja	
Alausa Ikeja	N	23	19	42
	%	54.8	45.2	100.0
Allen Roundabout	N	18	6	24
	%	75.0	25.0	100.0
Awolowo way	N	38	43	81
	%	46.9	53.1	100.0
Ikeja Under bridge	N	42	45	87
	%	48.3	51.7	100.0
TOTAL	N	121	113	234
	%	51.7	48.3	100.0

Source: Survey, 2021

Table 11: Travel Purpose of Commuters

Road location	**Purpose of travel**					**Total**
		Educational	work	commercial	others	
Allen Roundabout	N	7	18	15	2	42
	%	16.7%	42.9%	35.7%	4.8%	100.0%
Ikeja Under bridge	N	4	16	4	0	24
	%	16.7%	66.7%	16.7%	0%	100.0%
Awolowo way	N	37	25	17	2	81
	%	45.7%	30.9%	21.0%	2.5%	100.0%
Alausa Ikeja	N	32	41	14	0	87
	%	36.8%	47.1%	16.1%	0%	100.0%
TOTAL	N	80	100	50	4	234
	%	34.2%	42.7%	21.4%	1.7%	100.0%

Source: Survey, 2021

Table 12: Pearson Correlation Analysis for Socioeconomic characteristics and Travel demand

Travel Demand	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}
X_1	1										-.069
N	234										229
											234
X_2	- .205**	1									.380**
P	.002										.000
N	234										234
X_3	-.137*	.579**	1								.281**
P	.036	.000									.000
N	234	234	234								234
X_4	.091	.094	.033	1							.025
P	.169	.155	.614								.702
N	234	234	234	234							234
X_5	.007	-.034	.187**	-.040	1						-.180**
P	.921	.608	.004	.545							.006
N	234	234	234	234	234						234
X_6	-.159*	-.079	-.094	-.083	.218**	1					-.160*
P	.015	.227	.150	.209	.001						.015
N	234	234	234	234	234	234					234
X_7	.142*	-.161*	.296**	.080	-.011	-.104	1				-.101
P	.030	.014	.000	.228	.865	.115					.127
N	234	234	234	234	234	234	234				234
X_8	.102	-.084	.027	-.021	.064	.113	.016	1			-.138**
P	.120	.199	.683	.754	.333	.084	.804				.036
N	234	234	234	234	234	234	234	234			234
X_9	-.080	.060	.098	-.029	.132*	.156*	.002	.071	1		.188**
P	.222	.364	.136	.659	.044	.017	.979	.278			.004
N	234	234	234	234	234	234	234	234	234		234
X_{10}	-.031	.046	.022	-.040	-.174**	-.110	.015	.026	.098	1	.125
P	.641	.488	.737	.546	.008	.093	.816	.692	.137		057
N	234	234	234	234	234	234	234	234	234	234	234
X_{11}	-.069	.380**	.281**	.025	-.180**	-.160*	-.101	-.138*	.188**	.125	1
P	.295	.000	.000	.702	.006	.015	.127	.004	.004	.057	
N	234	234	234	234	234	234	234	234	234	234	234

Source: Survey, 2021

** Correlation is significant at 0.01 (P) level (2-tailed) where r is X_{1-11}

* Correlation is significant at 0.05 (P) level (2-tailed) where r is X_{1-11}

NOTE:X_1; represent Gender, **X_2**; represent Age , **X_3**;represent Marital Status, **X_4**;represent Education, **X_5**; represent Occupation type, **X_6**; represent Place of work, **X_7**;represent Monthly income, **X_8**; represent Mode of transport , **X_9**; represent Trip frequency, **X_{10}** ; represent Place of residence, X_{11}, represent Travel Purpose

Table 13: Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.500[a]	.250	.216	.746

a. **Predictors or Independent Variables** (Constant)**;**gender, age, marital status, education, occupation type, place of work, monthly income, mode of transport, trip frequency, place of residence (Socioeconomic characteristics)

b. **Criterion or Dependent Variable;** Purpose of Travel (Travel demand)

Table 14: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	40.60	10	4.046	7.273	.000[a]
Residual	121.278	218	.556		
Total	161.738	228			

a. **Predictors or Independent Variables** (Constant);gender, age, marital status, education, occupation type, place of work, monthly income, mode of transport, trip frequency, place of residence

b. **Criterion or Dependent Variable**; Purpose of Travel

Table 15: Coefficients [a]

Model	Unstandardized Coefficients		Standardized Coefficients	T[P]	Sig.[P]	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	1.357	.449		3.025	.003	.473	**2.241**
Age	.376	.091	. 307	4.114	.000	.196	.556
Marital Status	.018	.079	.017	.224	.823	-.138	.173
Educational	-.018	.062	-.017	-.291	.771	-.141	.105
Type of Employment	-.089	.028	-.202	-3.173	.002	-.144	-.034
Place of work	-.136	.093	-.093	-1.457	.147	-.319	.048
Mode of Transport	-.072	.036	-.119	-1.978	.049	-.144	.000
Trip Frequency	295	.084	.215	3.528	.001	.130	-.460
Monthly Income	-.105	.108	-.060	-.966	.335	-.318	.109
Place of Residence	.194	.103	.116	1.887	.061	-.009	.397
Gender	.066	.105	.039	630	.530	-.141	.274

Source: Survey, 2021

6. CONCLUSION

This study seeks to assess the socioeconomic attributes of commuters as identified for the study as major determinants of travel purpose i.e., demand for travel. It was revealed that the gender of commuters during the period of questionnaire administration comprised 56.8% males and 43.2% females, comprising majorly; the actively working age brackets '21-40years' (78.2%), with unmarried respondents constituting more for the study, differing slightly(49.6%) from the married respondents(42.7%) comprising majorly of tertiary certificate degree holders(43.1%) as compared with secondary certificate (42.7%) with a vast proportion of the commuters majorly involved in trading and commercial activities (29.9%) than civil service(26.1%).

In relation to place of work, 35.5% of the commuters work within Ikeja while 52.1% work outside this location earning an average monthly income (41.0%) of #31,000-#40,000 in relation to their occupation type. Furthermore, 74.2% of the commuters make daily trips, with preference for private cars (40.2%) slightly above mini or conventional buses (36.8%) for work trips (42.7%), educational(34.2%), commercial (21.4%) and other trip making activities (1.7%), with a comparable proportion of commuters residing within Ikeja (51.7%) than outside Ikeja (48.3%). The correlation analysis revealed that a significant relationship exists between age of commuters and purpose of travel. The Regression analysis confirms the relationship and explains that travel demand depends on socioeconomic characteristics of commuters or trip makers.

Based on these findings, the study recommends that socio-economic characteristics of commuters be improved, whereby commuters live and work within close proximity to activity areas in a bid to improve trip making and reduce waiting time which influences demand for travel. Secondly, there should be a reduction in overreliance and dependence on private cars and minibuses (Danfo) which has resulted into traffic congestion, increased traffic volume, delay and overcrowding. Thus, a switch over to carpooling and BRT system with improved parking facilities for vehicles, backed up with more recent intelligent transport systems such as GIS T analysis in a bid to foster smart mobility.

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