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The Challenges of Mobility Within Owerri City, Nigeria

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Abstract

The study identifies the road transportation problems in Owerri city, Nigeria and determines whether the existing road network in Owerri city, is adequate for effective worktrip. This is necessary because for many years the city of Owerri has faced a lot of road transportation problems, which has created many social, physical, economic and political tensions in the city. The survey method using questionnaire was employed in the study. The stratified, random and systematic sampling techniques were used in selection of eight routes and 240 respondents from six zones of the city. The result showed that the worst transport problem experienced by the inhabitants of the city is traffic congestion. The study therefore concludes that the contribution of the state government and the municipal authority in improving transport problems should come in the form of developing more road networks, increasing mass-transit buses, encouraging the use of bicycles and providing pedestrian walk ways.

Key words: Traffic; Road; Work; Trip; Owerri city; Works trip

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INTRODUCTION

Transportation has been viewed by Bruton (1975), Jackson (2000) and Filani (2000) as an integral part of the functioning of any society. It exhibits a very close relationship with the style of life, the range and location of the productive and leisure activities, and the goods and services, which are available for consumption (Edwards, 1999; Banister, 2002; Schiller *et al.*, 2010). Its efficiency contributes largely to the level of productivity, economic growth and thus quality of life.

Transportation problem is one of the burning issues in the globe which has caught the attention of many scholars and professional planners alike. The problem inherent in any urban transport system be it car or bus, is therefore pitched into tumult of public controversy and subject to the vagaries of political, economic and social expediency. According to Filani and Osayinwese (1974), Hutchinson (2002) and Ohakwe and Ezirim (2006) the management of road transportation system in some cities of the world is poor. The present road transportation and facilities in our urban areas are characterized by inadequacy in the number provided and capacity required, and poor state of their maintenance, which in turn gives rise to traffic congestion, over-loading of vehicles, surface wear-off of the roads and road traffic accidents (Wright, 1994; Ogunbodede, 2008; Ogwude, 2011; Basorun & Rotowa, 2012).

In most Nigerian cities, streets and major routes have no provision for pedestrian and bicycle lanes. The roads and streets are narrow and they are poorly maintained. The buses, cars, lorries, trucks, luxury buses, trailers, motor cycles as well as non-motorized vehicles compete for the scarce road space thereby decreasing facilities that would quicken the movement of persons, goods and services. Some studies attach much premium to transportation network as an important factor affecting urban transportation; others perceive the structure and form of the city and the rapid and uncoordinated growth of the cities to be more important (Voight, 1986; Ratcliff,

1999; Meyer & Miller 2001). Aderamo (2012) examined the environmental and social impacts of the transportation trends and opined that approaches to tackling transportation problems in Nigeria should actually be "city – specific".

The problems and difficulties associated with moving about – within Owerri city are readily manifested and evident. They feature daily in the lives of the city dwellers in the form of traffic congestion, delay in reaching ones destination, high cost of traveling, lack of comfort in the existing modes and so on. Traffic congestion is the product of impaired traffic flow which results in delays in the movement of people and goods (Bruton, 1975; Salter, 1997). Delays translate to loss of time, missed opportunities, frustration, loss of workers' productivity, wasted fuel, environmental pollution, waste of personal resources and increased cost of production. What is not understood is whether the route alignment of the road network in Owerri is the causal factor. It is worthy to mention that for decades, transport network has been known to facilitate and dictate track of land use development, it is a fact explained by Gauther (1993) and Agbaeze (2003).

Since in Nigeria, the hue and cry is against the bad condition of the road as documented by Basorun (2005), Ogunbodede (2008) and Aderamo (2010), the nature of the roads in Owerri city is suspected as a major contributor to traffic congestion. Therefore this study identifies the road transportation problems in Owerri city and determines whether the existing road network in Owerri city is adequate for effective work trip, with a view to providing a basis for planning in Owerri city.

1. MATERIALS AND METHODS

1.1 Data Collection

The research covers Owerri city which was divided into six zones using neighbourhood enclaves as the yardstick for stratification. Data were collected with the use of questionnaire copies which were administered using the combination of stratified sampling technique, random and systematic techniques. Each zone had its share of questionnaire copies. In all, 240 respondents were served the questionnaire copies. Apart from the administration of questionnaire copies, field observations were also made. For further information personal interviews were conducted for people involved in transport administration in the State Ministries and the Local Government Areas (LGAs) comprising Owerri city and members of the transport union. To obtain traffic flow, the help of research assistants were sought. The research assistants were positioned at entry points/exit points along the six major roads into Owerri, then Douglas and Wetheral Roads. They manually recorded the number of vehicles that entered and left Owerri simultaneously between 7am and 6pm within the seven days of the week. They also recorded the types of vehicles that move on the roads in Owerri.

The six major roads were labeled route A to F, Douglas and Wetheral Roads (G to H) which constitute the Central Business District (CBD). Each route was manned by 24 research assistants from 7am – 6pm, eight research assistants in the morning, another eight in the afternoon then another eight in the evening. The sampling unit in this study is the six zones of Owerri city consisting of Owerri Municipal Council, Owerri North LGA, Owerri West LGA, Douglas/Control Post/New Owerri, Aladinma/Ikenegbu and suburb areas. The sample size of 240 respondents was drawn from the six strata in this order; Owerri Municipal Council 100 respondents, Owerri North LGA 40 respondents, Owerri West LGA 40 respondents and 20 each in the other three strata. The rationale for the zoning is to ensure adequate coverage. For the purpose of data collection the streets were randomly sampled by numbering them and using the table of random numbers. Along each street, the respondents were systematically sampled at intervals of five.

1.2 Data Analysis

Descriptive statistics were used in analyzing the data.

2. RESULTS

Daily work trip in Owerri city is a component of urban traffic which in turn is a function of land use. Most journeys to work are concentrated in the morning hours with specified direction. Thus, journey to work is associated with such problems as time wastage, increase distance and cost along major roads like Douglas Road. Urban areas are characterized by overlapping and complicated land use activities. To assess the role of spatial location of residences with respect to places of work, the respondents were asked to indicate their zones of residence and their work places. The data are shown in tables 1 and 2.

Table 1
Places of Residence (origin)

Zones	Frequency	Percentage frequency
Owerri Municipal Council	42	17.5
Owerri North LGA	26	10.8
Owerri West LGA	20	8.3
Douglas/Control Post/New Owerri	40	16.7
Aladinma/Ikenegbu	60	25.0
Suburb Areas	52	27.1
Total	240	100.0

From table 1, it is observed that most of the respondents live in Owerri Municipal Council Area, Aladinma/Ikenegbu, suburb areas, and Douglas/Control Post/New Owerri.

Table 2
Places of Work/Business (Destination)

Zones	Frequency	Percentage frequency
Owerri Municipal Council	70	29.2
Owerri North LGA	24	10.0
Owerri West LGA	24	10.0
Douglas/Control Post/New Owerri	54	22.5
Aladinma/Ikenegbu	48	20.0
Suburb Areas	20	8.3
Total	240	100.0

Table 2 reveals that most significant zones of work places are Owerri Municipal Council Area, Douglas/Control Post/New Owerri and Aladinma/Ikenegbu constituting 29.2 percent, 22.5 percent and 20.0 percent respectively. The zones also comprise the Imo State University, old State Secretariat, General Hospital, Federal Medical Centre (FMC), Alvan Ikoku Federal College of Education (AIFCE), Federal Polytechnic Nekede etc. These areas are referred to as destination zones, while those zones in places of residence are termed zone of origin.

The location of zones of residence and zones of place of work appear to be a major factor in the following transport variables, cost in distance, cost in money and cost in time. Work place distance to an extent influences journey time and monetary cost. In order to circumvent some of these problems, commuters from different places often take alternative route(s) where available thereby circumventing the inner-urban roads and at long last increasing the distance to their offices or work places. This is also applicable within Owerri city where commuters avoid Douglas Road no matter their destination and take some other long routes. Also, big lorries/luxurious buses and trucks going to Aba from Onitsha Road have been circumventing Douglas Road through Royce Road and Concorde Road/new Nekede Road to avoid the congestion there which is generated by activities at Owerri main market.

The same thing is applicable to Ikenegbu, Prefab, Aladinma axis. These areas are zoned for residential use in Owerri city Master Plan. People often find it difficult to get public mass transit modes from this axis because there is insufficient number of taxis and buses to convey people to their work places. The data collected on distance between places of work (destination) and places of residence (origin) is expressed in table 3. The data in table 3 shows that commuters whose work trip distance falls within

Table 3
Distance Between Residence and Place of Work

Distance (km)	Frequency	Percentage frequency
0 – 2km	68	28.3
3 – 5km	116	48.3
6 – 10km	38	15.8
Above 10km	18	7.5
Total	240	100.0

3 – 5km constitute 48.3 percent of the respondents, 0 – 2km is 28.3 percent, 6 – 10km constitute 15.8 percent, and above 10km constitute 7.5 respectively. The inference is that Owerri residents do not leave far away from their work places. In developed countries some workers are known to live about 50km away from their work places.

The cost per drop by either tri-car or taxi in Owerri city is N40 – N50 ($0.25 - $0.31) and by intra city buses it is N30 – N40 ($0.19 - $0.25). The price was hiked few years ago due to the removal of fuel subsidy in Nigeria. However, the cost fluctuates during bad weather and festive periods of the year. On daily basis motorists are faced with very high operating cost. Regular repair works of commercial and private cars/vehicle occur from the replacement of damaged motor parts. Traffic congestion entails enormous cost both measurable and immeasurable. Vehicles are even known to burn more fuel on hold-ups as a result of traveling along bad roads. If nothing is done, the rising car usage and the worsening financial situation of public transport operators will inevitably lower the quality of urban transport and even of urban living.

Table 4
Daily Expenditure on Work Trip in Owerri

Amount	Frequency	Percentage frequency
Below N80 (Below $0.50)	14	58.0
Between N80 – N120 (Btw $0.50-$0.75)	96	40.0
Above N120 (Above $0.75)	62	25.8
Nothing	68	28.3
Total	240	100.00

Table 4 shows daily expenditure on transportation in Owerri city. From table 4, it is observed that 40 percent of the commuters spend between N80 to N120 ($0.50 - $0.75) to and from work daily. This is so because of the location of their residence and the distance to the work place. Those that pay above N120 (above $0.75) constitute 25.8 percent of the respondents and are commuters mostly operating from the suburb. This group sometimes takes two drops to get to their destination. It can also be seen from table 4 that those who do not spend money on public transport to and from work account for 28.3 percent.

The amount of labour hours lost daily in terms of time spent during work trip in Owerri city between 7-8am is tremendous. The situation of time wastage causes frustration, flared tempers, and strained emotion to many an urban trip maker when a trip that shouldn't have taken more than 5 to 10 minutes takes 30 minutes or more. Table 5 shows the data collected on time spent on work trip in Owerri city. A glance at table 5 reveals that 43.3 percent of the respondents spend between 16-30 minutes to get to their places of work. It is also pertinent to note from the research survey that average time spent on work trip is 2.5 minutes in Owerri city.

Table 5
Time Spent on Work Trip in Owerri

Time (minutes)	Frequency	Percentage frequency
0 – 15	34	14.2
16 – 30	104	43.3
31 – 45	52	21.7
46 – 60	28	11.6
Above 60	22	9.2
Total	240	100.0

Volume of traffic on some roads in Owerri city were determined namely; Owerri to Aba Road, Owerri to Okigwe Road, Owerri to Umuahia Road, Owerri to Onitsha, Owerri to Port Harcourt Road and Owerri to Orlu Road as well as Douglas and Wetheral Roads. During peak periods, traffic hold up was experienced in the following areas with long queue of vehicles; Douglas Road (from Ama JK to Emmanuel College, Wetheral Road by M.C.C and Cherubim Junctions and Ogboshishi Timber Market, OkigweRoad Round About and Imo State University junction, Assumpta (Control Post/Douglas Road Junction, FMC/AIFCE along Orlu Road, Control Post Road – West End, Pacs Super Market/Relief Junction, Mechanic Village and Fire Service Junction. The data collected are shown in table 6.

Table 6
Vehicular Traffic Census (Daily) on Major Urban Roads in Owerri

Roads	7am - 9am	9am - 2pm	3pm - 6pm	Total
Owerri to Okigwe Road	4977	2400	5471	12848
Orlu Road	3812	2049	3795	9656
Onitsha Road	3565	3242	3657	10464
Port Harcourt Road	3469	3115	3654	10238
Umuahia Road	4444	2751	5647	12842
Aba Road	3537	2305	4499	10341
Douglas Road	15531	5308	5316	26155
Wetheral Road	5794	3458	4436	13688
Total	45129	24628	36475	106232

The data in table 6 shows that in a day the Owerri – Okigwe Road has a volume of 12848 vehicles, Owerri – Umuahia Road has a volume of 12842 vehicles and the Central Business District of Douglas Road has the highest volume of 26155 vehicles. These figures capture vehicular movements in a single day; which is morning (7-9am), morning to afternoon (9am -2pm) and evening (3-6pm). From field observation the highest flow of vehicles is experienced on Mondays. The least number of vehicle flows in Owerri city roads is experienced on Sundays. The reason for this may be as result of Owerri city's function as an administrative headquarters of a state as well as a commercial centre, more so people prefer to rest at home on Sundays.

To ascertain the problems facing transportation in Owerri city, the respondents were asked to identify the major transport problems experienced by them as they go to work daily. Results of this are presented in Table 7. From table 7, it is observed that the major transport problem in Owerri city is

Table 7
Major Transport Problems in Owerri City

Major transport problems	Frequency	Percentage frequency
Long waiting because of few mass transit vehicles	71	29.6
Accidents	17	7.1
Traffic Congestion	116	48.3
Menace of Tri-cars	29	12.1
Avoiding Pedestrians	7	2.9
Total	240	100.0

traffic congestion which accounts for 48.3 percent of the responses, followed by long waiting time to access mass transit vehicle (29.6 percent) and the least is avoiding pedestrians (2.9 percent). It can

be imagined that in a city where congestion is the major transport problem, it seems necessary to find out how many routes/roads city dwellers use to get to their places of work and what they consider as obstacles to free flow of traffic.

Table 8
Number of Routes to Work/Business Place

Number of routes	Frequency	Percentage frequency
One	101	42.1
Two	87	36.3
Three	32	13.3
Four and More	20	8.3
Total	240	100.0

Table 8 and 9 has the details. Table 8 reveals that 42.1 percent of the respondents make use of one route (road) to their work places. This is followed by the number of people that make use of two roads (36.3 percent), three roads (13.3 percent) and four roads or more (8.3 percent). While table 9 shows that the greatest impediment to free flow of traffic in the city is traffic hold ups which accounts for 53.7 percent of the responses. Two other impediments are bad roads (16.2 percent) and narrowness of the urban roads (11.7 percent). The inference is that these three variables can be said to be responsible for free flow of traffic.

Table 9
Major Impediments to Free Flow of Traffic

Impediments	Frequency	Percentage frequency
Traffic holdups	129	53.7
Bad roads	39	16.2
High transport cost	13	5.4
Dropping and picking passengers	3	1.3
Narrowness of urban roads	28	11.7
Many mass transport vehicles	5	2.1
Very few urban roads	22	9.2
No barrier to traffic flows	1	0.4
Total	240	100.0

It does not seem enough to identify transportation problems in any city. It seems that the solution to the identified problems is more important. Based on this assumption, the respondents and those people involved in transport administration and transport union were asked to proffer solution to Owerri city transport problems. Table 10 has the suggested solutions by the 240 respondents served copies of the questionnaire.

Table 10
Solution to Transportation Problem in Owerri

Solutions	Frequency	Percentage Frequency
Widen the roads	28	11.7
Introduce pedestrians sidewalks	43	17.9
Construct more tarred roads	92	38.3
Provide parking lots in public places	61	25.4
Relocation of markets from major roads	16	6.7
Total	240	100.0

It is observed from table 10 that more attention is needed in the construction of more tarred roads in Owerri city. This has been suggested by 38.3 percent of the respondents. Ranking second in the percentage analysis is the provision of parking lots in public places with 25.4 percent. Others are provision of pedestrian sidewalks (17.9 percent), widening of the road widths (11.7 percent) and finally relocation of all the markets from major roads. Transport administrators have observed that traders are not keen on the relocation of markets out of their present sites despite the fact that they compound the traffic chaos on roads such as Douglas.

CONCLUSION

This study has attempted to identify the road transportation problems in Owerri city and determine whether the existing road network in Owerri city is adequate for effective work trip. Traffic congestion is established as the most serious road transportation problem in Owerri city affecting worktrip amidst other identified problems. The paramount solution suggested for tackling this identified problem is the development of road networksthrough the construction of more tarred roads in Owerri to facilitate smooth movement of people and goods. Other suggested solutions are; increasing mass-transit buses, encouraging the use of bicycles and providing pedestrian walk ways.There is no doubt that a perfectly well planned road transport system in a city such as Owerri city, is essential in order to improve the quality of life of the people and enhance the functioning of trade, economy and many other essential services. It is therefore necessary to have a reformed transportation policy and an institutional frame work to effect control and management of urban transport service.

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