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Research Article

DEMAND FOR MOTORIZED LEARNER TRANSPORT AND RATIONALE FOR IMPROVEMENT IN IJU, IFAKO IJAIYE, LAGOS, NIGERIA LOCAL GOVERNMENT AREA

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ABSTRACT

The study analyzes motorized learners transport demand in Ifako-Ijaye, Lagos. Major routes in Iju were purposefully sampled. Codons were mounted at strategic points to ensuring that traffic generation for the purpose of origin and destination were limited within Ifako-Ijaye. Volumetric counting was done on passenger vehicles and analyzed. The study revealed a demand margin of 7202 passenger vehicles that is required for primary and secondary students. The study therefore recommends improved learners transportation via rail and dedicated transportation system.

INTRODUCTION

The general trajectory of contemporary development has been spurred to involve basic education. This has found expression in frontiers of studies such as the Millennium Development Goals as well as city sustainability (Opinion Nigeria, 2013). The general growth rate combined with the seven point Agenda of the former President extended to the forte of the incumbent president; with the connotation of 'free education' may all be adduced as reasons for the surge in pupil enrolment in the country. In Nigeria, as indeed the rest of sub Saharan Africa, Primary education enrolment figures have increased substantially from as low as 78.4% of the entire children population in 1990 to 114.2% of their population in 2015 (Gov Data, 2016). This has adjusted the enrolment index from as low as 2.85 in 1970 to as high as 15.36 in 2006, 13.41 in 2010 (UNICEF, 2016). The explanation for the decline is the proliferation of private primary and secondary school and the mass exodus of the children into the private schools (Opinion Nigeria, 2013). Today, it is estimated that there are about 23,631,000 primary school pupils in Nigeria. While increment in pupil's enrolment is positively indicative of general sustainable development, the inability to ensure adequate and sustainable transportation system for this special group of the population may strangle the whole essence of the laudable goals. Rapid urbanization and the changing city morphology in Nigeria have been blamed for the transport problems in cities (Aderamo, 2012). Congestion occurs when transport demands oustrip its supply in an area. These problems are worse in the cities (Aderamo, 1998) where poor road facilities (Ogunbodede, 2004) and parking problems aggravates the congestion (Kombs, 1988) Journey to school has been researched from several aspects. However, there has been little attention in terms of research has been paid to the differences in demand for and supply for schools in the functional urban region (FUR) of Nigeria. The fact that Lagos is one of the fastest growing metropolises in the world is a fact well established in literature. The city has been experiencing a rapid increase in population since the 1950s, leaping from 230,256 to 1million in 1975. From 1980 to date the growth of Lagos has been phenomenon. The population of the city was estimated at 5.8 million in 1985, 7.7 million in 1999 13.42 in 2000 and 16.86 million in 2005 (Uthman 2005) in 2006 it was put at about 17.6 million and the projected population in 2010 is put at 19.9 million (LASG 2006 digest) this trend is not expected to change as it is expected to grow to 22.3million by 2014 and 23million by 2015 becoming the 3rd largest city in the world!. Globally, pupils journey to school have been observed to be a significant component of travel demand. For instance,

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children's regular travel to school is the third most important travel purpose in Hungary. A recent household survey conducted by the Lagos Bureau of Statistics in the Lagos metropolis revealed that 9% of the sampled household members were infants (under 5 years old), 22% of them were between age 5 and 14years, 64% constituted the working class (15- 59years) while only 5% of them were 60 years old and above respectively. It is worthy of note that the second highest category of population in the state is that of primary school age. This puts the present population of children of primary school going age at about 4.6 million and their travel demand on the second most important after journey to work. This means that that this number of pupils would, on a daily basis, require one mode of transportation or the other in order to get to school.

More questions need to be answered. If the cost of attending a school is much gruesome compared to actual payment of the school fees, how free is the education? What is the real benefit of schools that are not conveniently accessible to the efforts of free education system? What are the facts about the transportation needs of these pupils and what pragmatic measures would at least alleviate learned transport problems? This is particularly important in a city like Lagos which depends majorly on road transport for the movement of people, goods and services. It is a well known phenomenon that the resumption of academic session of primary and secondary school is associated with traffic congestion, loss of man hours and increased environmental pollution. To this end, this study analyses the motorized learners' transport demand in Ifako Ijaye, Lagos.

Literature Review

"In providing an acceptable definition of learner transport, a broader conceptualization is often more practical. While the terms "transport" and "passenger" imply the use of motorized forms of transportation or public transport, a more appropriate definition of learner transport should encompass any means, or combination thereof, used to secure the safe and efficient transit of learners from home to school. Examples include public and private transport, walking, cycling and non-motorised transports" (Gautrans, 2003). Much of the literature on transport planning also indicates that non-motorised transportation (NMT) is a critical part of urban travel in developing cities. It is generally agreed that acquisition of data concerning the operational, financial and infrastructure requirements of NMT is essential to the effective formulation of policies and urban planning strategies. This type of reasoning seems particularly relevant to learner travel in low-income communities where motorised travel is often unaffordable and transport strategies must promote the use of NMT. For the purpose of this study therefore, learner transport is understood to consist of any mode (both motorised and non-motorised) used for the conveyance of learners between home and school. There appears to exist a considerable difference between the focus of studies in the study of pupil journey to school conducted in developed and undeveloped countries. While issues such as positive impacts of walking on physical health, cognitive development, environmental awareness and knowledge, mental well-being (Hart 1997, Wells 2000, Korpela et al. 2002, Bjorklid 2004, Milligan and Bingley 2007) and a call for a general shift to non motorized transport means dominate discussions in Europe and North America, Sub Saharan Africa and other developing nation focus on issues of poverty, security and gender and generally motorized transport is a concept which is encouraged. In the UK, results of a survey conducted by the Department for Transport (DFT, 2010) shows that in 2008, 48% of 5 to 10-year-olds walked to school, which is 5% lower than those walking to school in 1995–1997 (53%). Also, in 1995–97, 38% of trips by 5 to 10-year-olds were by car, this rose by 5% to 43% in 2008. Private and local bus travel accounted for 7% of journeys to and from school by those aged 5 to 10 in 2008. Only 2% of primary school children cycled to school in 2008. Primary school children travelled to school alone (unaccompanied by an adult) for 6% of trips to school in 2008, compared with 9 % in 1995–97. The average length of a journey to school increased from 1.3 to 1.6 miles among primary school children between 1995–97 and 2008. Over eight in ten (86 per cent) children aged 7 to 10 were usually accompanied to school by an adult in 2008, compared to 78 per cent in 2002.

On the impact of the school run on traffic congestion, the Dft, 2010 reported that 'the since trips to school take place at around the same time each day, they have a major impact on levels of congestion in some local areas. At the peak travel to school time of 8.45 am on weekdays during term time, two in ten (20%) car trips by residents of urban areas were generated by the „school run" in 2008.' Research has found that in many countries, pedestrian injuries are a leading cause of death amongst children (Roberts et al, 1992, cited in Kingham and Ussher, 2007). The higher congestion levels now associated with school locations are exacerbated by what Tranter (2006) calls a „social trap"As more cars congregate around the school, the environment becomes more dangerous for children, which in turn encourages more parents to choose to transport their children thus further enhancing the danger and congestion." DiGuiseppi et al (1998) were of the opinion that "the annual distance walked by children has falling by 28% since 1972, partially because car travel has replaced walking on many school journeys. Increasing car use has been linked with obesity, adverse health effects in later life, limitations on children's independence, traffic congestion and pollution" "There have been surprisingly few studies directly concerned with travel to school in Africa "(Porter, 2010). Gould's (1973) early work in Uganda showed how poor transport services forced most children to walk to primary school while secondary school children usually had to live away from home due to the distances involved. This situation is still common across Africa. Avotri et al. (1999) noted how, in Ghana, the closer the secondary school, the more likely that children are to be sent to primary school, as continuity of the child's education is feasible. They also describe how long walks to school due to lack of or high cost of transport and attendant problems of lateness encourage late 'over-age' enrolment especially of girls), truancy and early drop out. In South Africa, a survey of rural KwaZulu Natal schools in 1998 shows that 75% of pupils who walked to secondary school walked a distance of over 3 kms and that 43% of primary school children who walked traveled over 3kms: at least 280,000 children in this region walked for over one hour, one way to school. An associated survey of school principals indicated that 60% of their pupils were often late, 58% sometimes absent and 70% of pupils were often tired at school, due to long walking distances (Mahapa, 2003). The 2003 South Africa National Household Travel

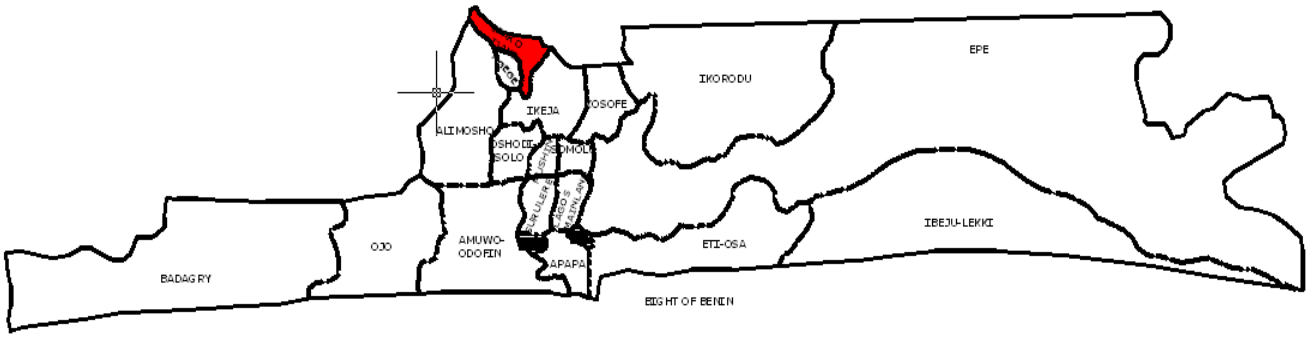
Survey adds further corroboration to this picture. Seventy-six percent of 'learners' were reported to walk to their educational destination and almost 3 million out of the 16 million total (especially those located in more rural provinces) spent more than an hour a day walking to and from educational institutions (RSA Department of Transport, 2003). When long journeys to school are coupled with required contributions to household labour demands, the impact on attendance is likely to be particularly strong.

In a study of three African countries, Ghana, Malawi and South Africa, by Portal et al (2009) it was noted that "Walking is totally dominant as the mode of transport to school in all three countries, in all types of settlement and across both genders. In Ghana and Malawi it is almost the exclusive mode of transport on journeys to school, in all settlement types. Bicycle use to school (either as cyclist or riding pillion) was reported by only one boy and not even one girl in the Malawi sample, and by three boys and just one girl in Ghana. Motorised transport use was similarly remarkably low: in Ghana three girls and three boys had travelled to school by motor taxi, while in Malawi only one boy and two girls had taken a bus/minibus to school the previous school day. The Ghana data accords closely with earlier findings in Ghana's coastal region (Porter and Blaufuss 2003). Although walking dominates among both genders in South Africa (as in Ghana and Malawi), in remoter rural areas of South Africa, the availability of motorised transport services for part of the school journey has clearly proved advantageous for some children, both boys and girls. Cycle use is remarkably low, however. "

When asked about problems faced on the journey to and from school Portal et al found that the principal danger they faced as they travelled to school were as follows "In South Africa the three principal dangers identified were, in rank order, risk of attack from thieves/thugs (8.4%), rivers and streams to cross (8.2%), rough terrain travelling to school (5.1%). In Ghana snakes were ranked first by children as the biggest danger (14.3%), followed by rough terrain (5.1%) and dangerous taxis (4.9 %). In Malawi, rough terrain ranked first (5.2%) followed by crossing rivers and streams (4.4%) and harassment or verbal abuse by drunkards (4.3)." It appears that the low usage of non-motorised transport to school is more out of necessity than a choice in the case in developed countries.

Study Area

Ifako-Ijaiye is located at latitude 6° 52' 0" N and longitude 2° 53' 60" E (Maps and Location Database, 2004). It covers a total area of 43 square kilometres within Lagos State's 3,577 square kilometre land area. The Ifako-Ijaiye Local Government Area is bordered to the west by Oba Ogunji Road in Alimosho Local Government Area and by Ikeja to the east, Agege to the south, and Ifo and Ado-Odo-Otta to the north. The Ifako-Ijaiye Local Government was created along with 183 other local governments on 1 October 1996 by General Sani Abacha, the then military head of state. It was carved out of Agege Local Government, with headquarters in Ifako. The 1991 census found the majority of inhabitants to be Yoruba. The major settlements in the LGA are Ijaiye, Ifako, Alagbado, Iju, Ishaga, Ojokoro, and Alakuko and it is projected to have a projected population of about 844,268 by 2010. The Ifako-Ijaiye Local Government Area supports a large concentration of the agrarian activities and Industrial and commercial establishments in Lagos State. Ifako-Ijaiye is also one of the major settlements where population drift is prominent due to its closeness to Ogun State. The large population in Ifako-Ijaiye connotes the probability that the commercial and industrial sector requires a sizable labour force, paving the way for high returns from the trading activities and high revenue generation for the government through taxes and duties. There is relatively low development in most sectors, which definitely creates avenues for investors and developers. Housing will continue to be a major investment in the area and in Nigeria considering the population increase and rate of urbanization. The banking institutions in the Ifako-Ijaiye Local Government Area contribute significantly to the commercial land use of the area. These banks are mostly located along Iju Road in close proximity. Commercial banks dominate, and these are responsible for absorbing part of the labour force of the local



government. The banks that are located in the Ifako-Ijaiye Local Government Area include Zenith Bank, Oceanic Bank, First Bank, Skye Bank, Intercontinental Bank, and many others. Many residents of Ifako-Ijaiye residents commute to work and there is usually very heavy traffic during rush hour when travelling is at its peak. Petrol filling stations generate income for investors as well as for the government through sales, taxes and duties. The petrol filling stations that are available are mostly located on College Road, Oba-Ogunju Road and Iju Road respectively.

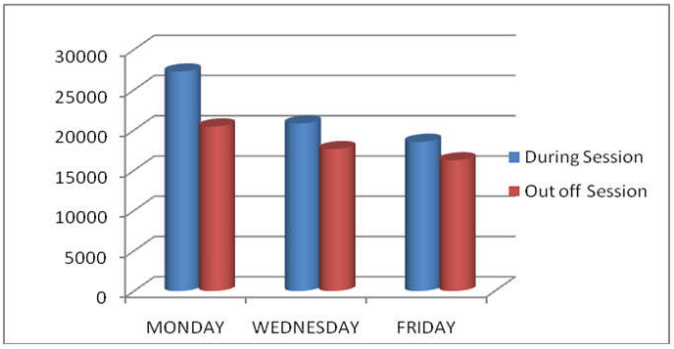
Research Method

Codons were mounted in two selected corridors and traffic counts were taken to study the volume of traffic generated by primary school children for three days of the week and at the locations within the same time period. The first was taken during the holiday and the second during academic session. The count was taken between the hours of 7 am to 10 am.

These figures where then converted to PCU values. The difference represents the traffic generated by both primary school children and secondary school children. In order to determine the volume of traffic generated by the primary school students, the ratio of primary school aged pupils to secondary school aged pupils was determined from data gotten from UNICEF this was used to determine the traffic volume that can be attributed to primary school children.

RESULTS AND DISCUSSION

Volume of passenger vehicles was counted when schools were in session and when they were out of session. This was to estimate the number of such passenger vehicles that may be needed for the students. Three of the weekdays were sampled (Monday, Wednesday and Friday). Traffic count was repeated for four weeks for each of the periods (in session and out of session). The result is presented on Figure 1. It can be observed that the traffic was always higher during the academic session than when the pupils were on holidays by a mean value of 7,202. This implies that 7,202 passenger vehicles are required to move students to and from school daily.



Source: Field Survey Traffic Count 2016

Fig. 1. Result of Traffic Counts

Table 1. Result of Traffic Count Out of Session

		From	To	total
Monday	7am-8am	3236	1103	4339
	8am-9am	2046	1788	3834
	9am-10am	1988	1799	3787
Wednesday	7am-8am	3183	913	4096
	8am-9am	2010	1011	3021
	9am-10am	2102	1099	3201
Friday	7am-8am	3028	863	3891
	8am-9am	1364	1247	2611
	9am-10am	1490	1511	3001
				31,781

Source: Field Survey 2016

A comparative analysis of traffic volume depicts a conspicuous difference that is statistically significant at 95% confidence level. It is also observable that during the peak hours, the volume of traffic reduces as the week grows from Monday to Friday. The peak hour assumption presumes that even if we cannot rule out the children travelling for other purposes during their holiday besides educational purposes, their travel time for recreational purposes (for example) would be off peak hours. Possible reason could be the avalanche of commuters who retires home at weekends and returns to their workstations on Monday. These set of people would reduce the volume of traffic on other days. Friday's traffic volume would also be increased by the same people into the area but not at morning peak hours. Among other factors that may be responsible for the decline include occasional shopping that may decline down the week for Ifako-ijaye retailers who may have to travel to major business hubs of Lagos to fetch goods to be sold within the week.

Traffic volume in the study was estimated through the summation of the traffic volumes during the peak periods when the students would be travelling to their schools or returning. Vehicles escaping into another neighborhood beyond Ifako-Ijaye were assumed to be travelling or at least not a part of the neighborhood for which learners transport is being estimated. This strengthens the assumption that the decline in the traffic volume was actually due to the closure of schools for holidays. It was found that the Total PCU during session is 38,983, while total PCU out of session is 31,781. The difference between count during session and out of session is 7,202, this represents the volume of traffic which is being generated by school pupils at both primary and secondary levels. This figure is about one-fifth of the total volume counted during academic session. This implies that about 18.47% approximately 20% of all vehicles on the road during session are purely for learner transport primary and secondary schools. This gives a total estimate of 43,835, 000 students in both primary and secondary school in Nigeria. 23,631,000 (53.91%) of these are primary school pupils while 20,204,000 (46.09) are in secondary school.

Table 2. Result of Traffic Count during Session

		From	To	total
Monday	7am-8am	4237	849	5086
	8am-9am	3631	1340	4971
	9am-10am	4085	1814	5899
Wednesday	7am-8am	4167	794	4961
	8am-9am	2631	879	3510
	9am-10am	2752	956	3707
Friday	7am-8am	3964	751	4714
	8am-9am	1785	1085	2870
	9am-10am	1950	1314	3265
				38,983

Source: Field Survey 2016

In order to determine traffic generated by each level of schooling, 53.91% of the total volume of traffic attributable to learner transport is calculated. 53.91% of 7,202 is 3,883 PCU while 46.09% of 7,202 is 3,319 PCU Therefore 3,883 can be attributable to primary school pupils this is about 9.96% of total traffic on the road during session while 8.51% can be attributed to secondary school students demand for transportation to school.

Conclusion

From this study, it has been established that 18.74% of the volume of traffic on the Iju roads when primary and secondary school pupils are in session are on the road because of the of the pupils in session. While primary school pupils account for 9.96%, secondary school accounts for 8.51% of this volume. This volume is considered significant and is responsible for the appearance of traffic congestion on Lagos roads as soon as the schools resume session. In other to ameliorate the problem associated with having this additional volume of traffic on the road, it is suggested that resumption to work in the city should be shifted to 9:00am this is to allow for the staggering of the volume of traffic associated with journey to work and that

generated by the journey to school. It is hoped that by this, traffic congestion on the metropolis would be reduced as well as its associated problems. Considering the traffic congestions on Iju road especially during the peak periods, one can confidently say that many of the students are on the roads within these traffic hold-ups. A reason to remove the students traffic component from the roads is to ease the traffic for other road users. Another reason is to plan a safe passage for the students so that their learning may start on schedule. This may be done through the establishment of rail lines. These may be in form of dedicated mono-rails that removes students population from the road, keep them in safety and decongest the road for a better liveable city.

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