Socio-Economic Impact of Road Traffic congestion on Urban Mobility: A Case Study of Ikeja Local Government Area of Lagos State, Nigeria

Oluwaseyi Joseph Afolabi, Ph.D. (In View) 1; Olalekan Adedamola Oluwaji, Ph.D. (In View) 2 and Olawunmi K. Fashola, Ph.D. (In View) 2

1 Department of Management Technology, Bells University of Technology, Ota, Nigeria.
2 Lagos State Law Enforcement Training Institute (LETI), PSSDC, Magodo Phase 2. Lagos State, Nigeria.

E-mail: afolabiseyo@yahoo.com

ABSTRACT

One of the most serious problems in Nigerian cities today is that of road traffic congestion. All over the cities of Nigeria, particularly in the study area, large numbers of vehicles are seen crawling along the roads within the area. During the peak periods, the level of congestion experience within the major routes of Ikeja Local Government Area is quite serious and unprecedented that the traffic flow becomes impossible. In fact, 79.1 percent of the respondents view the traffic congestion as serious. With respect to the mode of vehicle used by the respondents, the study revealed that private cars and buses are dominant.

Ninety-Two questionnaires were administered by the road users in the study area, descriptive statistical method were employed in the analysis of the questionnaire. It was reveal that sitting in traffic wastes the time of motorists and their passengers, and it also may result in late arrival for employment, business meetings, education, resulting in disciplinary actions, lost business, or other personal losses.

(Keywords: traffic, passengers, congestion, public transport)

INTRODUCTION

Transport is a critical sector of the Nigerian economy, whose catalytic effect, particularly on socio-economic development, cannot be overemphasized (Adesanya, 2004). The huge investment by the different tiers of government and private sector investors in transport infrastructure provision and the delivery of transport services in Nigeria underscores the pivotal role of transport in the overall development of the country. Besides, there is hardly any sector of the economy – whether the industrial, employment, residential, recreational and tourism, or agricultural sectors – that is not linked to the transport sector. In short, the efficiency and effectiveness with which the mobility and accessibility of passengers and goods are achieved would determine the level of performance of the transport sector among other things. Indeed, the transportation challenges often faced in many cities of the world attracted research efforts by the academic, institutional agencies and world socio-economic organizations to long lasting solution to this regards (Sumaila, 2004).

Transport is the backbone of urban life. It is one of the factors which determines the form and socio-economic development of a city. Mobility and accessibility provided by the transport system have been playing a major role in shaping countries, influencing the location of social and economic activity, the form and size of cities, and the style and pace of life by facilitating trade, permitting access to people and resources, and enabling greater economies of scale, worldwide and throughout history (Olawole, 2012).

However, increased urbanization and population growth, urban expansion, dispersal of amenity, and activity have increased the demand for and dependence on motorized transportation. Consequently, urban transportation problems like congestion, accidents, environmental degradation, and urban sprawl have increased. Sustainable transport development plans are thus replacing the routine approach of building more roads to alleviate congestion with an integrated transport system which is affordable, space and resource-efficient, and minimize environment impacts and transport nuisance (Badejo, 2014).
Transport is an important element in economic development and it affords the social and political interaction that most people take for granted (Ogwude, 2011). The provision of transport infrastructure has grown extensively across the globe through a range of networks of modes which have undergone technological improvements cutting across the motive power, the tracks as well as the means which serve as compartment for passengers and goods. It is also a key player in the transfer and distribution of goods from the input points through the manufacturing line to the customers (Badejo, 2002). Perhaps, this led to the assertion by Munby (1968), that there is no escape from transport since it is a keystone of civilization.

In Nigeria, road transport is the dominant mode of movement for both freight and passenger traffic. The impact of the railway has been dwindling and it eventually collapsed about a decade ago. Air transport is unavailable to the urban poor while the potentials of water for inland transportation have not been fully exploited. The mono transport mode nature of urban mobility in the country has been responsible for the collapse of public transport and the concomitant suffering of commuter in urban centers (Badejo, 2014).

Urban cities in Nigeria increasingly face problems caused by road transport externalities. For example, there is an increasing trend in road traffic crashes, traffic congestion and emission of carbon dioxide. The impact from road traffic congestion, carbon emission and road crashes is significant in time, pollution and economic loses. Part of these problems is as a result of greater number of low public transport system as well as privately owned vehicles in the cities. According to Gbadamosi (2010), an important characteristic of modern society is its preoccupation with promoting sustainable modes of transport to replace the excessive use of the private car in most urban areas.

One of the most serious problems in Nigeria cities today is that of traffic congestion. All over the major cities of Nigeria, particularly in Lagos most especially the case study which is Ikeja Local Government Area, large numbers of vehicles are seen crawling along the roads within the area.

Traffic congestion is a road condition characterized by slower speeds, longer trip times and increased queuing. It occurs when roadway demand is greater than its capacity.

In recent years, Lagos has been born most of the impact of population growth and diverse activities (economic, administrative, social) and consequently general traffic in the metropolis. This is aggravating the strain on transport in the sense that the existing road network which were designed and constructed before this age of mass vehicle ownership are grossly inadequate in Lagos to meet travel needs.

Those poorly designed roads are narrow and lack basic complementary facilities. A system of urban transportation includes travel ways, vehicles and terminals. This has been a great imbalance between and within these elements. The transport system of Lagos metropolitan has been modified on several occasions to accommodate the rapidly changing land-use (Oni, 2004).

**STATEMENT OF PROBLEM**

Increasing travel demands and preferences in using private vehicles is causing rapid motorization in many countries around the world. Most people are now highly dependent on private motorized travel (Oni, 2009). This phenomenon was caused because of the attractiveness of cars and people’s love to drive (Okanlawon, 2010). An increased private motorization has resulted in increased traffic congestion which in turn results in longer travel times for many people (Badejo, 2014).

There have been many efforts towards the alleviation of traffic problems in the metropolis by identifying the causes, consequences, and even suggesting solutions to these problems from time to time. However, these efforts have not been well compensated due to the continuous presence of road traffic congestion in the city. Thus, it has become apparent to seek more information about traffic congestion situations in Lagos metropolis especially within Ikeja Local Government Area, putting in mind the existing correction measures. In view of this, the research study shall delve into the issue of traffic congestion as regards its causes, effects, measures of correction, land-use patterns, government policy, and other observable factors.

Traffic congestion in Lagos metropolis specifically within the Ikeja Local Government Area is as a result of the imbalance in the number of vehicles which have increased geographically to the
existing road network and transport infrastructure. In recent times, the traffic population in the area has been on a steep increase but the converse is the case on the road development and maintenance services in the same area. Some roads are constructed without adequate drainage facilities thereby becoming impassable during rainy season which in effect can cause traffic congestion.

Understanding traffic delay and the solutions to it requires the knowledge of the basic theoretical construct of delay, which is the queue theory. What is observed on Lagos roads is that the design of the network does not follow the simple queue model. Indeed the network is in such a way that delays and congestions are bound to happen, peak period or no peak period. To address this problem, there is need to diversify Lagos transport modes and encourage modal choice for passengers.

REVIEW OF RELEVANT LITERATURE

The transport sector is the mover of the Nigeria economy and indeed of any economy. The importance of mobility to a nation’s economic base cannot be overemphasized. Specifically, transport is central to the developmental process of a healthy economy and societal growth. This is due to the fact that transport influences and is influenced by other sectors that make up, not only the total urban system, but the entire human settlements as well (Okanlawon and Oni, 2010).

Figure 1: Map of Lagos Showing All the Local Government Area
Source: Ministry of Physical Planning, Lagos State.
Mobility refers to the speed of travel and the manner in which travel is undertaken. It is a reflection of people’s individual personalities and their status. Different modes of transport offer different levels of mobility and accessibility under different circumstances. By and large, people seek to increase their mobility to improve accessibility which is the ease with which desired social and economic activities can be undertaken from a specific point in space (Oni, 2010).

The crisis that engulfed the process of urban mobility in Nigeria in the early 80’s arising from the collapse of government organized urban mass transit subsequently made commuting in most urban centres a difficult task. This made the introduction of alternative approach of easing the movement of urban commuters imperative. The dimension and pattern of road traffic accidents have been adversely affected with the emergence of the motorcycle as an alternative in the process of ameliorating the difficulties encountered by urban commuters (Adesanya, 2004).

In many Nigerian cities, the transport situation has reached a crisis point; the consequence of several years of neglect by succeeding administration. Hence, there is nothing novel in stating that transportation in Nigeria is grossly inadequate (Oyesiku, 2002 and Odufuwa, 2008).

Over three quarter of the households in most Nigeria cities earn income below poverty lines (Ademiluyi, 2004; Gbadamosi and Odufuwa, 2006). This has affected the rate of procedure of new vehicles, and it is obvious that this trend with the inevitable declining level of existing purchasing power has taken its toll on the mobility needs in Nigeria. In the last decade, most people in urban areas have depended heavily on motorcycle as a means of transport. Few of the populace have access to private motorized means; either because of unavailability of spare parts or because of its prohibitive price. In other words, poor quality, unaffordable, unsafe and grossly uncomfortable means of mobility in Nigeria cities pose great threat to mobility and public safety.

The importance of public transport in cities of many developing countries lies in the fundamental fact that mobility and accessibility are essential for economic growth and of necessary to provide efficient and effective movement for goods and services. However, the failure of the public transportation system in the cities has led to further marginalization of the greater majority of the people in these cities and consequently, economic deprivation. This predicates on the public transportation scene in many of these cities that is characterized by overcrowding and the use of already overused and rickety vehicles imported from other parts of the world, incessant traffic congestion due to continuous deteriorating condition of roads that inadvertently slow down traffic, increasing vehicular and pedestrian accidents and their associated increase in the cost of human capital growth and loss of man-hours for several weeks (Badejo, 2008).

The adverse effects of road traffic congestion were rated at 54.8%, while ineffectual public transportation system, air and noise pollution were rated 54.8% and 59.4%, respectively. However, road traffic congestion is expected to be worst at 61.3% than public transportation and air pollution in the nearest future (Oyesiku, 2002). In other dimensions, urban mobility situation in Lagos metropolis can be described as near immobility not because there are no vehicles, rather due to traffic congestion vis-à-vis street trading and general absence of off-street parking infrastructure and facilities. In addition, inter-modal transport development is weak. For example, the rail system does not complement other modes of transport.

Traffic congestion has been increasing worldwide as a result of increased motorization, urbanization, population growth and changes in population density. Growing traffic congestion in urban areas is linked with a growing number of accidents and fatalities, especially in Lagos metropolis. As traffic congestion increases, people feel less safe to use the streets. Becker (2005) stated that despite the greater traffic congestion on roads, most men and women still choose to drive since that gives them greater flexibility about the times to travel for leisure or working.

Congestion is inevitable when people live in cities and in highly built up suburbs. But there is a fundamental reason why the amount of traffic congestion is greater than the efficient amount. When a person decides to drive to work during the rush hours, he takes into account any extra time it will take because of congestion on the roads at those times. But he generally does not take account of the effects of his driving on the congestion faced by others. Economists call this increase he causes others a negative externality.
Down (2004) stipulated that the optimal way to induce drivers to take account of the congestion they cause to others is to charge them fees for driving, during congested period that would vary with the degree of the congestion. So these fees would be higher during rush hour than during other hours of the day, and they would be lower in weekends when traffic is generally lighter than in weekdays.

A toll in cars is more efficient than other ways of reducing congestion. Some cities allow cars to enter the central part only on alternative days, an approach that takes no account of the different values placed by different drivers on the advantages of entering every day. In the cities of developing world, traffic congestion is worse than those in developed countries with many times the vehicles. The situation in developing countries however is at peak of collapse, because increasing urban drift is still far from being under control and the problem of providing transport facilities is not in sight in developing countries as the case in developed countries.

Filani (2000) in his own contribution attributes the problem of inter-urban mobility to the fact that existing transportation situation fall short of the over increasing commuter traffic demand and the complexity of intra-urban pattern. The cause of these he observed is due to rapid change in the city’s economic setting which has become more diversified, more gainful employment and residential areas have been widely dispersed and there has tremendous increase both in private and public vehicles which resulted in greater demand in road space within the urban area.

Badejo (2002) identified that the concentration of cars in few urban roads have resulted in the bumper to bumper traffic being experienced in many Nigerian major cities. He also suggested the use of traffic management techniques in solving the perennial intra-urban mobility with reference to the vehicular traffic problem in Lagos. Many of the studies in traffic management and urban transportation focus on the side effects of automobiles in the city and their occupants which includes air pollution which impairs human health and the efforts that have been made in the introduction of other modes of transport into the city to avert this problem of city pollution.

Hudson (2000) in his study on bicycle planning pointed out that integrating bicycle into transportation system will make greater contribution to the solution of the problem of traffic in towns. He explained further that apart from its efficiency, low operating cost, little or none environmental problem will be produced. The use of bicycles for short trips of not more than eight kilometer was proposed by Berdica (2002) who believed that bicycles are thirteen times more efficient in terms of energy than cars for urban travels.

In Nigeria, discussion of urban traffic congestion has usually been concerned with efficiency and improvements. The solution presented usually concentrated on how the efficiency of the urban traffic system could be improved. For instance, some of the solutions suggested include the expansion of the urban road networks, improved traffic management, and improvement of public mass transportation. Many studies have been carried out on management of traffic both in developing countries, and according to those studies, efforts have been focused greatly on Nigeria problem particularly Lagos and other fast developing cities in Nigeria. However, observations have shown that many of the proposed solutions to traffic management had either not been implemented or partially executed, also with the increasing rate of industrialization, commercialization, and urbanization being experienced in the country. The transportation system needs to be constantly reviewed to meet the challenges of the future. It is against this background that the rest of this research examines the impact of road traffic congestion on social and economic activities in Lagos using Ikeja Local Government Area as a case study.

**METHODOLOGY**

This study examines the travel pattern, traffic situation, social characteristics of the respondents, and origin of trips and mode of transport of the respondents interviewed within the Ikeja Local Government Area. Having determined the sample frame and in order to have equal representation, random sampling techniques was used for the research work. The number of questionnaire that was used for the analysis was made up 92 respondents used for the research. This occurred as 8 of the users either did not return the questionnaire or it was not properly filled. The data collected from the questionnaire are distributed and analyzed in the tables below.
After collating the data generated from the survey on road users, it was discovered that 64.2% of the road users are males while the remaining 35.8% are females.

### Table 1: Gender of the Respondents.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>59</td>
<td>64.2</td>
<td>64.2</td>
<td>64.2</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>35.8</td>
<td>35.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2016

The questionnaire used to gather information also measured the occupation of the road users, it was discovered that 22.8% of the users are self-employed, 12.0% said they are civil servants, 40.2% of them work in private organizations, 21.7% are students while the remaining 3.3% have other forms of occupation.

### Table 2: Occupation of Respondents.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self employed</td>
<td>21</td>
<td>22.8</td>
<td>22.8</td>
<td>22.8</td>
</tr>
<tr>
<td>Civil servant</td>
<td>11</td>
<td>12.0</td>
<td>12.0</td>
<td>34.8</td>
</tr>
<tr>
<td>Private employment</td>
<td>37</td>
<td>40.2</td>
<td>40.2</td>
<td>75.0</td>
</tr>
<tr>
<td>Student</td>
<td>20</td>
<td>21.7</td>
<td>21.7</td>
<td>96.7</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>3.3</td>
<td>3.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2016

With respect to the purpose of trips of the respondents interviewed within the study area, 56.5% of those interview said they were on their way to work. 22.8% of the trips by the respondents are for leisure/social activities while 18.5% of the trips within the study area is for education. The remaining 2.17% of the trips by respondents interviewed is for others.

### Table 3: Purpose for Trips of Respondents within the Study Area.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure/Social</td>
<td>21</td>
<td>22.8</td>
<td>22.8</td>
<td>22.8</td>
</tr>
<tr>
<td>Education</td>
<td>17</td>
<td>18.5</td>
<td>18.5</td>
<td>41.3</td>
</tr>
<tr>
<td>Work</td>
<td>52</td>
<td>56.5</td>
<td>56.5</td>
<td>97.3</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>2.17</td>
<td>2.17</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2016
From the table above, it is shown that 59.8% of the respondents used for the study make use of the road everyday, 27.2% of them said they use the road 2-6 times a week, 8.7% use the road once in a month, while the remaining 4.3% said they use the road less than once a month.

The distribution for the respondents according to the mode of transport they use within the study are shows the majority travelled by commercial public bus (62.0%). The other modes of transport used by the respondents are train (6.5%), walking (6.5%), private cars (23.9%) and others (1.1%).
Table 6: Traffic Situation within the Study Area.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>None</td>
<td>2</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
<td>17</td>
<td>18.6</td>
<td>20.9</td>
</tr>
<tr>
<td></td>
<td>Serious</td>
<td>73</td>
<td>79.1</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>92</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2016

According to the Table 6, it is revealed that congestion is a serious problem plaguing the road users within the Ikeja Local Government. Out of the 92 respondents interviewed, it was discovered that 79.1% complained bitterly about the problem viewing it as serious while 17% view it as something that is fair.

Table 7: Major Causes of Traffic Congestion by Respondents.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Bad roads</td>
<td>29</td>
<td>31.5</td>
<td>31.5</td>
<td>31.5</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>8.70</td>
<td>8.70</td>
<td>40.2</td>
</tr>
<tr>
<td>Inadequate traffic signs</td>
<td>12</td>
<td>13.0</td>
<td>13.0</td>
<td>53.2</td>
</tr>
<tr>
<td>Inadequate parking facilities</td>
<td>15</td>
<td>16.3</td>
<td>16.3</td>
<td>69.5</td>
</tr>
<tr>
<td>Absence traffic personnel</td>
<td>28</td>
<td>30.5</td>
<td>30.5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2016

According to Table 7, it is revealed that the major cause of the traffic congestion within the Ikeja Local Government is due to bad roads (31.5%). Out of the 92 respondents interviewed, it was also discovered that 30.5% are due to human factor. The remaining 38% accounts for inadequate traffic signs, inadequate parking facilities, and an absence of traffic personnel.

Table 8: Negative Implications of Traffic Congestion.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Getting home late</td>
<td>45</td>
<td>48.9</td>
<td>48.9</td>
<td>48.9</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>18.5</td>
<td>18.5</td>
<td>67.4</td>
</tr>
<tr>
<td>Increasing health problem</td>
<td>11</td>
<td>12.0</td>
<td>12.0</td>
<td>79.4</td>
</tr>
<tr>
<td>Reduction in family affection</td>
<td>9</td>
<td>9.8</td>
<td>9.8</td>
<td>89.2</td>
</tr>
<tr>
<td>Lost of work productivity</td>
<td>10</td>
<td>10.8</td>
<td>10.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total delay and increased cost</td>
<td>92</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fieldwork, 2016

As explained by Table 8, out of the 92 sample respondents it was discovered that 48.9% complained that they always get late to work place and home which have a lot of implication on their productivity, which account for about 9.8% by the respondents interviewed while reduction in family affection and increment in health problem of some respondents account for 30.5% all together. The table also reveals the complaint of 10.8% respondents that they consume more fuel and also cause delay in delivery their goods.

RECOMMENDATIONS

High increasing motorization in Lagos causes many problems in traffic congestion, a high level of pollution, a high consumption non-renewable
energy resource, a threat to quality of life and a high number of traffic accidents. Public bus transport should become the solution for sustainable transport in the future, which is the reason to increase customer satisfaction. High quality public bus transport not only keep customer to continue using public bus transport to fulfill their travel demand but also attract potential customer. The Federal Ministry of Works should occasionally visit these congestion problem areas to effect frequent repairs and maintenance.

In conclusion therefore, in order to have an effective traffic flow within the Ikeja Local Government Area, transit facilities should be provided, while the law enforcement agents should ensure that the rules and regulations are strictly abided by the people (commuters and road users).

REFERENCES


ABOUT THE AUTHORS

Oluwaseyi Joseph Afolabi, is with the Bells University of Technology, Management Technology Department, College of Management Sciences, Ota, Ogun State, Nigeria. He is a Lecturer in Logistics and Supply Chain Management and Doctoral student with research interests in transport safety and education, and logistics and physical distribution management.

Olalekan Adedamola Oluwaji, is a Lecturer in the Department of Management Technology, Bells University of Technology, Ota Nigeria. He holds a Master of Science (M.Sc.) in Construction Management from the University of Lagos.

Olawunmi K. Fashola, is with Lagos State Law Enforcement Training Institute (LETI), PSSDC, Magodo Phase 2. Lagos State, Nigeria. She holds a Master of Science (M.Sc.) in Transport Studies from the Olabisi Onabanjo University, Ogun State Nigeria.

SUGGESTED CITATION