IIARD International Journal of Geography and Environmental Management Vol 1 No8, 2015
ISSN E-ISSN 2504-8821 P-ISSN 2695-1878 www.iiardjournals.org

Transportation and Traffic Problems in Nigerian Cities

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DOI: 10.56201/ijgem.vol.1.no8.2015.pg136.143

Abstract

This study aimed to identify the challenges of road transportation and traffic problem in Nigerian cities with a view to categorized the challenges to serve as a road map to effective planning and design of road transportation. The study depends on primary sources and desk study approach, Secondary data were obtained from internet search engine which involves journals, newspaper post and conference papers were utilized. Using purposive and simple random sampling techniques about 400 questionnaires were distributed to the research participant. The study employs a qualitative technique for the analyses. Results identified the prevailing transportation and traffic problems. The study also discovered three classes of road transportation problems which are transportation services problems, Problems affected by transportation, Problem domain affecting transportation. The study suggest that measures should be put in place to ameliorate transportation and traffic problems in Nigeria. This study serves as a guide to effective planning and design of transportation and traffic infrastructure in Nigeria cities and other developing countries. Further study on traffic problems is recommended.

Key words: Transportation problems, Transportation planning & management, road systems

Introduction

Transportation is one of the factors that influence every society and its quality of life. Cities represent places having a high level of economic activities. They are complex structures to be supported by transport system. Successful economic facilities, national and international trade and investment depend on mobility on the vast inter-modal network of transportation facilities. Good mobility depends on the efficiency and economic vitality of freight and passenger services. Transportation engineering is the profession that makes it all work while traffic engineering represents a specific arm of the transportation.

Traffic however is the circulation of vehicle and pedestrians through an area. It is the flow of vehicles, pedestrian along a street or highway. It is also the volume of vehicles or pedestrian moving along a route hence we talk of pedestrian or vehicular traffic. In marketing terms, it is the volume of shoppers who come and leave a particular shop or store (that is stall/shop traffic). This is why shops prefer, to locate in accessible area along Main Street, and major arterials. These locations are often associated with high traffic. Transportation and traffic problems are often a dilemma facing many large cities in both developed and developing countries. The most important transportation and traffic problems are often related to urban areas, especially when urban transport systems for a variety of reasons cannot satisfy the numerous requirements of urban circulation.

The importance of transportation cannot be over emphasized but its problem has affected many lives and it still affecting many lives in particularly Nigeria cities hence, transportation and traffic problems in Nigerian cities is a thing of concern to the citizenry and government of the State. It is this concern and problems that this study is set to address. The research therefore aims to identify and categorize transportation and traffic problems for efficient planning and management of road systems in Nigeria.

whenever transportation and traffic problems is mentioned in an urban area, all attention focus on the land transport particularly on road transport because it is the road transportation that attracts traffic problems in Nigeria cities Many traffic problems in Nigeria cities including Enugu Urban originate from poor traffic design especially the roadway and its characteristics -small width with yawing gutters on both sides, sharp corners and lack of clearance and poor sight distance for the motorists -all enhancing transport problems such as accidents and traffic signal. Lots of people, activities like social, economic, political and recreational etc in urban centers help to aggravate traffic and transportation problems.

Brunden (1977) further contended that a unique property of land use is its ability to generate traffic and that as workers and raw materials flow into an industrial estate at certain times, workers and finished products emanate from them at other time. He concluded by saying that some sort of balance is struck by this reciprocal movement. Inter and intra urban transport system is very important for urban development. Adesanya (1986) contended that urban intersection is a critical area of effective use of street and highways. He noted that most of the streets/roads in urban centers are associated with focal points of conflicts and congestions. As the frequency and severity increase, regulations and control become a bottleneck to satisfactory operation of adjacent highway system hence detailed study of its physical and operational capabilities and limitations should be known. Adesanya (1986) in his nature of urban traffic congestion says that delays and congestions are unique problems of urbanism. He added that lots of traffic problems arise as a result of no parking control. In the study area, cars including lorries park anywhere along the road. In Adesanya's (1986) contributions he pointed out that severity of the parking problems in any urban environment is first recognized in the central business district (CBD) when the available curb space is no longer able to accommodate the parking demand; congestion is an inevitable consequence of this situation. Lan (1987) however argued that internal city traffic is proportional to the urban population with work/journeys forming the largest category and usually linear in relation to total population. He believed that the proportion of work journeys by car mainly depends on car ownership levels, types of employment, availability for different transportation modes. .Schamer (1967) contended that traffic is not only generated for the sake of movement Traveling to destination and having arrived there the vehicle must be parked for some business, whether private, public ,or recreational. Failure to supply suitable terminal facilities result to congestion and frustration. which eventually leads to the decline in importance and value of those areas. Lastly, he mentioned that increase in vehicle ownership results in increased parking demands and without a sound knowledge of the demand solutions cannot be proposed.

In Nigeria situation, Aluko (2000) observed that in Enugu urban, transportation has long been recognized as an important factor in the socio- economic growth of the region. He

went further to say that this consideration has always influenced the structure and density of settlement and the use of land. Onokerhoraye (1977) pointed out that the size and viability of cities depends on the ability of the transport systems to move people and goods at minimum costs. According to him, Nigeria cities have become increasingly difficult to move in. He further said that the ability to overcome transportation problems and to remove obstacles to mobility threaten to make big cities an economic liability rather than an asset. Onokerhoraye (1977) observed that the solutions to transportation and traffic problems of our cities is not necessarily a question of choosing one mode of transportation to the complete exclusion of the other, rather it lies in apportioning priorities to the available modes and to achieve the possible desired objectives of minim sing movement frictions.

The gravity model states that the amount of interaction between two or more zones is directly proportional to the size or attraction of the zones and inversely proportional to the distance cluster along the arterial roads like Zik Avenue,Agbani road,Abapka/Nike road,Old park, Okpara Avenue, Ogui road,etc. All these are economic corridors as they hold heavy traffic for nearly twenty-four hours in the day. Increase in economic activity has led to rapid development and increase in transport demand.

Managing Transport Demand and improving Transport /Traffic Supply

In order to effectively reduce the adverse impacts of transportation/traffic system it is essential to influence future and existing transportation and land use development patterns. Once Urban land use and transportation become integrated, it become possible to increase accessibility without increasing the need for automobile travels. It is crucial for urban centers to combine with transport alternatives that will enable reduction of some transportation and traffic problems such as traffic congestion and environmental damages. Hence as suggested by the world resources institute (1997), integrated strategy for sustainable urban transportation requires co-ordination between transportation and land use sectors across an entire metropolitan area.

WRI (1997) states that implementation of demand oriented policies and mechanism is an important component in combating the harmful effects of inefficient transportation and traffic in cities of the developing world, it is pivotal that these measures be coupled with separating the zones and the relative attraction of competing zones. Hence the gravity model (1978) suggested based purely on probability interaction, that the relative attraction of any zone is the proportion of journey from any one zone which has their origin in another zone. As the distance between the zones increases the interaction between them decreases.

In industrial areas, means of transport to and from the industry is a crucial factor. Hence Buchanan's report (1963) on traffic in cities suggested that industrial development during the nineteenth century resulted in large- scale agglomeration in cities. The infeasibility of the railway system, which dominated the transport network of the time, reinforced the tendency of industry to cluster around the limited number of access points to the railways. The agglomeration of the nineteenth century has been followed by sprawl in the twentieth century, caused largely by the vast improved road system the use of the motorcar and other modern forms of communication, which have made the exodus of the affluent to the suburban possible. Roads linking the town to the areas brought a desire for households to further away from the built up areas. Industry, increasingly

footloose in its location decisions has pursued the migrating households into areas which were previously rural.

To improve effective transport/traffic systems, expansion policies, fast, efficient, reliable and accessible transportation alternatives should be provided. This can be achieved by expanding public transit infrastructure by improving existing public transit services, and by making cities friendly to pedestrians. The creation of compact and easily accessible urban cores should be allowed to contend with the already existing built environment while obeying several limits to development and urban renewal through temporal constrains and lack of available capital. Indeed, the built environment cannot change quickly enough to solve the bulk of problems related to transportation and traffic problems in urban areas.

Transport and the Environment

On the global scene, transport is a major user of scarce resources and a significant contributor to environmental degradation. The link between transport and environmental quality has long been recognized and were initially seen as the concern of urban and local planners. This concern was mostly expressed in relation to noise, community severance and safety, and lesser concern for aesthetics in the 1960s and1970s wider concerns regarding atmospheric pollution began to merge in the literature of the time. Thompson (1974) highlighted the nuisance of surface transport with the associated noise, smell, danger and other unpleasant features of large fast-moving machinery. .Baumol and Oates(1979) stressed on the externalities of the automobile which they argued increase laundry expenses ,make it more difficult to breathe or even shorten lives. The Environmental effects of transportation can be appreciated when the implications of providing transport vehicles and infrastructure are examined. Road building for instance greatly disrupts the natural environment and require large qualities of other materials (stone, aggregate, bitumen) whose extraction generate a lot of negative environmental effect. Maintenance of road infrastructure is also a major consumer of energy. Similar environmental costs of construction and maintenance apply to railways. Equally, automobile manufacturing plants, railway workshops and ship construction yards are unsightly and their products require large qualities of raw materials and energy. Excessive use of transport therefore has major linkages on the natural environment through the mechanical and

Material and Method

Study area

The study area is Enugu Urban. it is located in the South-Eastern geopolitical region of Nigeria. Enugu is located between 60 271N and 70 291 E. It covers an area of about 73 square kilometers. It is bounded on the East by Nkanu East Local Government Area, on the West by Udi Local Government Area, in the North by Enugu East Local Government Area, and on the South by Nkanu West Local Government Area. Enugu Urban consists of three local government areas, namely: Enugu North, Enugu South and Enugu East. Enugu Urban has 18 prominent residential neighborhoods, which consist of the high, middle, and low income earners.

Methodology

Survey research design was adopted for this study. Data collected were cross sectional data which were collected from primary sources. The population was drawn from the neighborhoods in the metropolis of Enugu and the study population comprise road users. Secondary sources of data were used for this study which include literature on transportation problems. Taro Yamani Sample determination size formula was used to get 400 respondents for the study. Using purposive and simple random sampling techniques, about 400 questionnaires was distributed to public and other stake holders such as police, road safety crop. The public are road users. The questionnaire was distributed to the respondents at the bus stop, in the bus while the vehicle was moving, and at the police post. The transportation problems were categorized into three major groups for better understanding of transport challenges for effective transportation planning and management. Descriptive statistics were used to analyze the collected data using the SPSS 25 version These descriptive statistical tools are necessary for such analytical study.

Results and Discussion

The study categorized transportation and traffic problems into three categories as follows,

Transportation services problems.

Problems affected by transportation

Problem domain affecting transportation

Transportation Services Problems

These are those problems that affect the users of transportation which include,

Congestion: Often referred to as traffic jam equated to long travel time and delay in movement often characterized by waste of fuel, time, unproductive effort by police and others who regulate traffic. This is caused by bad road surface, accident, small road capacity, too many vehicles on the road, on street parking on both sides of the road etc.

Inadequate capacity: Due to inadequate facilities to accommodate the demands of travel without one having to stop and make way for another on two lanes; where there is demand for three or four-lanes.

High Users Cost: This is the cos**t of** transportation to the users especially users and potential users of low income, insurance, repair, fuel cost, tax cost for the car owners and to the passengers who changes vehicles several time before getting to work or home.

High Facilities and Low Rate of Return: There is a concern for the cost of services provided by users. Much transportation Services whether by public or private sector are business and must be corporate as such. If it is a public one, there must be assurance that it is not too much for financial burden and already over tax source of revenue.

Lack of Safety: Accident especially on highways are so common. Many lives have been lost through accidents. People who feel it most is people whose relatives or friends have been affected

by unfortunate accident. Lack of safety may result from speed, carelessness, inefficient vehicle and or inefficient infrastructure. The results of lack of safety include death, injury, and loss of properties, and damage to infrastructure.

Lack of Privacy: Many transportation systems especially Mass transit do not allow for personal privacy. Such treatment is degrading to a mass transit travel and has undesired effective of making the automobile travel more appealing even though it is more expenses and more time consuming, the person who drives have a piece of mind and chose people whom he wishes to come in close contact.

Discomfort: This is brought about by noise, appearance, temperature, humidity, precipitation, air flow, smell, dirt, vibration dust. This negative aspect of transportation especially mass transit makes the personal automobile more preferred. Personal automobile with good heating and air-conditioned and Ventilation systems,radio etc.is preferred to mass transit.Many mass transit vehi cles, in their rickety state can as best be described as shabby considering especially the age and maintenance of most of those vehicles.

Problems Affected by Transportation

Visual Intrusion and Poor Appearance: Transport and Traffic facilities spoil facilities environment aesthetic (beauty). Visual by signs and signals provides directional way; no parking etc. intrusion on the city street gives that scattered debris look. Parked vehicles are usually intrusive especially dead and scrapped heaps of abandon half-wrecked cars and trucks. The presences of mechanical workshop everywhere in the cities contribute to the visual intrusion off the transport system.

Excessive Right of Way and Relocation Requirement: This problem arise because of the need for land the community value land especially in the urban areas. Acquisition of land for right of way may be expensive both for the facilities and for cost tax revenue. Secondly, relocation of displaced person is a bitter and trying experience.

Inordinate Change in Land Value: Some new transportation and traffic facilities can increase land value thereby benefiting those who have land by chance or by Design (fore site) near the facilities on the other hand, some new facilities can cut off section of the road, rendering services there absolute and inaccessible.

I**nappropriate or Undesirable Land Development:** Land development and transport are very closely linked. Increase in land value(development)goes hand in hand with access. Increase in land use intensity on or around the locations will produce various outcomes. Benefits in tax revenue and employment can accrue to the new location.

Moral, Religious, Biological and other Related Problems: Some people frown at the moral implication of transportation giving access to both young and old to places of easy pleasure or the separation of many religious groups. Transportation can result to a distortion of ecological resource like streams, roads, local systems of fauna and flora

Unequal impact upon Certain Population Groups: It is unfortunate that the impact both good and bad of transportation does not appear to fall evenly across the whole urban areas. The non-user may be subject to the noise and air pollution caused by the automobile user. The trucker and public transit may gain competitively at the expense of the railroad when new high way facilities are built. The poor person may get much worse transit service than the rich. Air and noise pollution can be included in this category.

Problem Domain Affecting Transportation

Here transportation is the affect entity rather than the affecting one. These are those factors, which created changes (or a need for change) in transportation. They include;

Increase Population Growth and Dispersions: The greater the population, the greater the need of transportation services. This affect transportation in many ways;

- Increase population growth means additional transportation to serve the population.
- The distribution of population affect transport in that if people are massed in several area of the country the use of transit becomes feasible but transport becomes more expensive both in capital outlay and travel fair.
- The trend towards sub-urban as imposed to central city living has significant impact for urban transportation. Highways will be needed in greater length leading to additional cost, which tends to cancel out the comparatively low sub-urban land cost.

Increase Automobile Ownership: (Associate**d** with problem of congestion), increase desire by people to buy more and more cars leads to transportation and traffic problem. It leads to decline transit readership. The long jam in Enugu urban such as Agbani, Ziks Avenue,Abakpa etc. During peak period is a good example.

Peaked ness in the Amount and Time of Travels: With increase number of vehicles the desire to travel is great and has been made by transportation. Unfortunately, there is significantly hourly picking in travel that takes place in urban areas. In Enugu, three-peak periods exit and these increase problems of transportation and management in the environment where adequate systems are not in place. The situation for transit is even more difficult as almost all transit trips are heaviest at peak hours. Thus, transit suffers from times when stock will lay ideal during the rest of the day.

Conclusion

The study categorized transportation and traffic problems in Nigerian Cities. Understanding the categorization of the general transportation and traffic problems is necessary for a guide to ensure measures of ameliorating the transport and traffic problems in the country by the three tiers of governance. The study also provides a useful information for effective planning and management of road systems. The study therefore recommends urgent policy for transportation and traffic planning and management for sustainable road development, and to ensure drastic reduction of transport and traffic problems.

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