

# Impact of Commercial Motorcycle Operation on Urban Mobility in Ogun State, Nigeria.

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**Abstract** — The significant of public transport of cities in many developing countries lies in the fundamental fact that mobility and accessibility are essential for economic growth and of necessity to provide efficient and effective movement for goods and services. The collapse of public intra-city transport system paved way for the rise of motorcycles as means of public transportation in Nigeria. This paper discusses the impact of commercial motorcycle operation as a means of urban transportation. Of the 200 questionnaires administered, 191 questionnaires were received for analysis using the Statistical Package for Social Sciences (SPSS). Secondary data was also sourced to serve as complement to the primary data, thus allowing for a robust research. Descriptive statistical tools such as percentages were adopted to present the socio - economic characteristics in the area. Findings showed that the majority of the users are adult between the aged 31 and 40 years. Most of them (53.8%) are married and are fairly educated. Furthermore, it was recommended that the Nigerian government should provide employment opportunities for our teeming youth as this will go a long way in the reduction of number of youth who as a result of unemployment took to motorcycle riding business.

**Key words** — Transportation, Traffic, Motorcycle, Ogun State

## I. INTRODUCTION

Transport is a critical sector of the Nigerian economy, whose catalytic effect, particularly on socio-economic development, cannot be overemphasized [1]. 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 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 collapses 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 centres [4]. 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 [15].

The significant of public transport of cities in many developing countries lies in the fundamental fact that mobility and accessibility are essential for economic growth and of necessity to provide efficient and effective movement for goods and services. The failure of the public transportation system however and indeed overall transportation system in the cities has led to further marginalization of the greater majority of the people in these cities and consequently; economic deprivation [14]. Transport creates time and place utilities by changing the geographical position of goods and people. This role becomes more significant if one realized that, spatial pattern of demand does not

correspond with spatial availability of supply. Therefore, transport is needed as an intervening opportunity to overcome the spatial differences and regional inequalities through technological advancement, man has been able to develop various form of transport that enable him to travel in any medium of the environment through water, land and air. In addition, the general growth in population and increase in rural-urban movement led to congestions in urban cities and rapid growth of transportation system. This also resulted in high demand on transport system. At this, the conventional urban transport which consists of buses and taxis could no longer effectively fill the transportation need of our urban cities.

Urban transportation in Nigeria has been largely by road. Indeed, of the trips made by vehicles, seventy percent are done through the private sector dominated public transport [12]. Currently, of this figure, motorcycles as means of commercial transportation have the highest percentage in intra-city transport in Nigeria. A decline in organized public transport systems has led to rapid growth in non-conventional means of public transport, initially provided by minibuses and shared taxi/vans, and more recently by commercial motorcycles. The use of motorcycles for urban transportation is not a new phenomenon in Nigeria. Over the past decades there has been a significant growth in the use of motorcycle as a means of transportation. The important operation of motorcycle in savaging urban mobility problems in Nigeria has introduced a new dimension to traffic accidents and safety in the country [2].

The government's inability to provide conventional mode of transport has necessitated the use of motorcycles (two-wheel automobiles) and tricycles (three-wheel automobiles) to move people, goods and services from one point to another under conditions considered to be unsafe and accident-prone. The inability to provide adequate motor vehicles for urban transportation has caused the influx of motorcycles for urban public transport into cities in Nigeria, thus the increase in the use of motorcycle for urban mobility came about in order to fill the gap in the demand and supply of public transport in most urban centres in the country [9]. Motorcycles are now one of the primary modes of transportation in Nigeria, and comprise a cheap and adaptable transportation system, the most popular informal one in the country by far. Even in remote villages, they arrive at regular intervals. It has become a means of transportation regularly used by the young and the old, and men and women.

Furthermore, the introduction of motorcycle popularly called Motorcycle as an alternative mode of transport was prompted by the high cost and unenviable transport provision which impacted negatively on economic activities and mobility of the urban populace.

It can only be assumed that this mode therefore evolved as public commercial transport in response to need but there could be several other underlining factors. The understanding of these factors is crucial in planning for this mode of transport which hitherto has no role to play on any urban routes as intra-city public transport [6].

## II. STATEMENT OF RESEARCH PROBLEM

The emergence of motorcycles in Nigeria has resulted into lots of problems. The adoption of motorcycle for urban movements on most Nigerian cities can said to be a major contributing factor to changes in the trend of road traffic accidents in Nigeria. In the last two decades, mobility and accessibility problems appear to have been the main challenges facing Nigeria and her cities in the country's desire for development. The government's inability to provide conventional mode of transport has necessitated use of motorcycles and tricycles to move people, goods and services from one point to another under conditions considered to be unsafe and accident-prone [11].

The growth pattern in the state have also complicated transport demand situation in the state. Public transportation services within the state have also been insufficient. Thus, inadequate and inefficient transport situation are issues of major concern in Ogun State.

The setting up of the Federal Road Safety Corps seems to have focused mainly on motor vehicles safety ignoring completely the modus operadi of commercial motorcycle passenger operators especially as it affects safety and the environment.

Another worrisome perspective to this problem is the use of motorcycles by men of the under-world to rob people of their valuables, dupe unsuspecting passengers as well as kidnappings, rituals etc.

Currently, It is a disturbing dimension as any minor misunderstanding between a motor vehicle driver and a commercial motorcycle passenger operator could lead to the former being mobbed or having his vehicle razed or vandalized. The attempt to alleviate urban mobility problem should take into consideration the need to reduce the poverty level of most urban dwellers. This may involve a turnaround of the nation's economy. The economic reengineering process must vigorously pursue localized sectoral and microeconomic policies that will favour labour intensive urban activities.

The situation with respect to the dangerous trend in the operation of motorcycles in urban centres calls for a radical approach towards finding effective solutions to the problem of loss of property and human life associated with motorcycle. The current situation calls for a better integration of the activities of the motorcycle operators as part of the large urban transport system. It is important to make the operation of the motorcycles more refined considering the poverty level of urban residents coupled with the restricting of their choice as result of own availability of reliable public transport service.

### III. LITERATURE REVIEW

Transport is also significant to the society in promoting national unity and social integration, generating sense of transport is further evident in the fact that the world's biggest cities are found in foci of transport routes – rail, water, road and air [3].

The demand for transport services in Nigeria cities has grown over the years and the quality of available transport infrastructure and services have deteriorated drastically [8].

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 [10].

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 accident has been adversely affected with the emergence of motorcycle as an alternative in the process of ameliorating the difficulties encountered by urban commuters [1].

The closeness of the state to Lagos has caused urban mobility problems which have necessitated the use of motorcycle as a means of road transport, this as a result of congestion.

In many Nigerian cities, 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 [13]. In the last decade, most people in urban areas have depended heavily on motorcycle as a means of transport. The few of the populace that have access to private motorized means; either for unavailability of spare parts or because of its prohibitive price of moving around, find it extremely difficult to maintain them. In other words, poor quality, unaffordable, unsafe and grossly uncomfortable means of mobility in Nigeria cities pose great threat to people.

There are various works on para-transit modes of transport services. Para-transport or intermediate public transport mode is the form usually applied to small passenger transport vehicles operating informally on a fee paying basis [5]. This is the category into which commercial motorcycle belongs. [7] goes further to state that Para-transit modes are described as passenger vehicles that provide services that fall in-between conventional public transport services (which are usually better organized and run according to schedule) and private transport service.

Various studies have revealed that public transport especially in developing countries are mainly road based and comprised buses which are often complemented by a variety of intermediate, informal or Para-transit services.

Since political independence in the 1960s, development of the transport infrastructure has concentrated on very systematic expansion and improvement of the road system.

The Nigeria situation is precarious as the infrastructure is completely lacking leaving the motorcyclists to struggle for available road space with motor vehicles thereby endangering man, machine and the environment.

There was a study by Olagunju [11]. His findings indicated that motorcycles as a means of movement enjoy high level of patronage among young and adults, low and middle income earners as well as people with low educational qualification. He also found out that the business of motorcycle operation is very profitable and that most of the operators do not have alternative means of livelihood. He, however, found out that the mode is very unsafe and faced with numerous environmental and social problems. See "fig.1," below.



Figure1: Okada Riders Awaiting Passengers

#### IV. THE METHODS

A total of two hundred questionnaires was considered adequate by the author for this research, 191 questionnaires were received for analysis using the Statistical Package for Social Sciences (SPSS), and the questionnaire was structured to elicit information from the respondents on their socio-economic characteristics; their perception on commercial motorcycle operation on urban transportation using Ifo Local Government Area as a case study. Data used in this study emanated from both primary and secondary sources. The primary information for this research was sourced through the use of structured questionnaire, personal observation and interviews on commercial motorcycle users in the study area. Secondary data emanated from published and unpublished sources such as government records, internet, journals, books etc. The findings were presented in descriptive form using frequencies, percentages, tables, mean and standard deviations. The sequence of presentations was presented with the bio-data of the respondents and the research question.

#### V. RESULT AND DISCUSSION

The specific socio-economic characteristics of respondents considered are gender, education, age and factors influencing their patronage of motorcycle. The elicited responses are presented in the tables below.

After collating the data generated from the survey on users of motorcycle, it was discovered that 63.8% of the users of motorcycle in Ifo LGA are males while the remaining 37.2% are females.

Table 1. Gender of the User of Motorcycle operators

		Frequency	Percent
Valid	Male	120	62.8
	Female	71	37.2
	Total	191	100.0

*Source: Fieldwork, 2016*

In terms of the age of the user of motorcycle in the study area, it was observed that 5% of them are of ages less than 20 years, 20.4% are of the ages between 20 – 29 years, 37.1% are of the ages between 30 – 39 years, the age range of 23.5% of them is 40 – 49 years, 9.0% said their ages is between 50 – 60 years while the remaining 5.0% said they are more than 60 years.

Table 2.:Age of the respondent

		Frequency	Percent
Valid	Below 20 years	10	5.0
	20 - 29 years	39	20.4
	30 - 39 years	71	37.1
	40 - 49 years	45	23.5
	50 - 60 years	17	9.0
	Above 60 years	9	5.0
	Total	191	100.0

*Source: Fieldwork, 2016*

The level of education of the users was taken into consideration, it revealed that 4.9% of those that use the motorcycle as a mode of transportation have primary school level of education, 37.1% of them said they had secondary school level of education, and 56.0% said they have tertiary level of education while the remaining 2.0% have other forms of education.

Table 3. Educational qualification of respondents

		Frequency	Percent
Valid	Primary education	9	4.9
	Secondary education	71	37.1
	Tertiary education	107	56.0
	Others	4	2.0
	Total	191	100.0

*Source: Fieldwork, 2016*

Out of the 191 users of motorcycle used for the study, it was observed that 53.8% of them are married, 1.9% are divorced, and 3.6% are widowed while the remaining 40.7% are single. This distribution appears to have a fair representation of the people in the various category of marital status, indicating that marital status is not a deterrent to the use of motorcycle operators in the study area.

Table 4. Marital status of respondent

		Frequency	Percent
Valid	Married	103	53.8
	Divorced	3	1.9
	Widowed	7	3.6
	Single	78	40.7
	Total	191	100.0

*Source: Fieldwork, 2016*

The questionnaire used to gather information also measured the occupation of the users of motorcycle in the study area, it was discovered that 27.2% of the users are self employed, 20.9% said they are civil servants, 38.2% of them work in private organizations, 11.0% are students while the remaining 2.7% have other forms of occupation.

Table 5. Occupation of respondent

		Frequency	Percent
Valid	Self employed	52	27.2
	Civil servant	40	20.9
	Private employment	73	38.2
	Student	21	11.0
	Others	5	2.7
	Total	191	100.0

*Source: Fieldwork, 2016*

From the table below, it shows that 83.2% of the respondents used for the study make use of commercial motorcycle, 14.2% of them said they do not patronize them while the remaining 2.6% did not answer the question.

Table 6. Respondents patronage of commercial motorcycle operators

		Frequency	Percent
Valid	No response	5	2.6
	Yes	159	83.2
	No	27	14.2
	Total	191	100.0

*Source: Fieldwork, 2016*

The reason for patronizing the motorcycle operators is shown in the table below, it reveals that 4.2% of the sample did not answer, 6.3% said it is because it is affordable, the comfort is given as a reason for patronage by 11.1%, 18.3% said the reason is it reliability, a majority of the sample (51.8%) said the reason is that it reduces waiting time while the remaining 8.3% said it's because there is no other alternative means of transportation.

Table 7. Reasons for patronizing motorcycle operators

		Frequency	Percent
Valid	No response	8	4.2
	Cheapness or affordability	12	6.3
	Comfort	21	11.1
	Reliability	35	18.3
	Reduced waiting time	99	51.8
	No alternative means	16	8.3
	Total	191	100.0

*Source: Fieldwork, 2016*

The figure below shows that 56.8% of the users of motorcycle do not have a car of their own, though 35.5% said they have a car that is for their private use while the remaining 7.7% said their car is used for commercial purposes.

On asking the user of motorcycle if an operator has ever offered them helmet before, the responses shows that 14.7% of the sample have been offered helmet, 79.1% said they have never been offered and 3.1% of them are not sure, the remaining 3.1% did not answer the question.

Table 8. Offer of helmet to User by motorcycle operators

		Frequency	Percent
Valid	No response	6	3.1
	Yes	28	14.7
	No	151	79.1
	Not sure	6	3.1
	Total	191	100.0

*Source: Fieldwork, 2016*

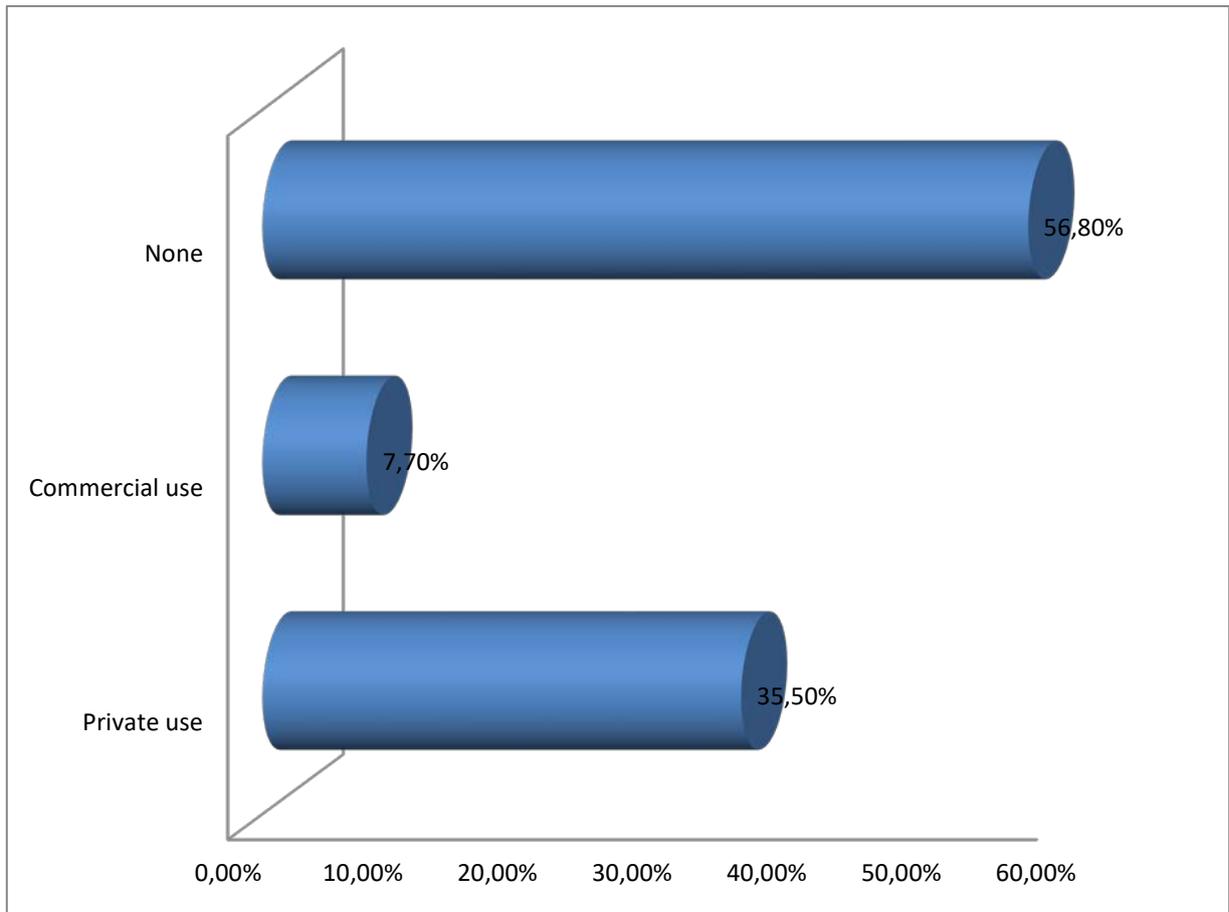


Figure 2. Commuters ownership of car  
Source: Fieldwork, 2016

In terms of the perception of the users of motorcycle on safety standards, it was observed that 8.7% rated the safety standards as high, 27.9% viewed the level of safety standards as moderate while the majority (being 63.4%) rated the level of safety standards as poor.

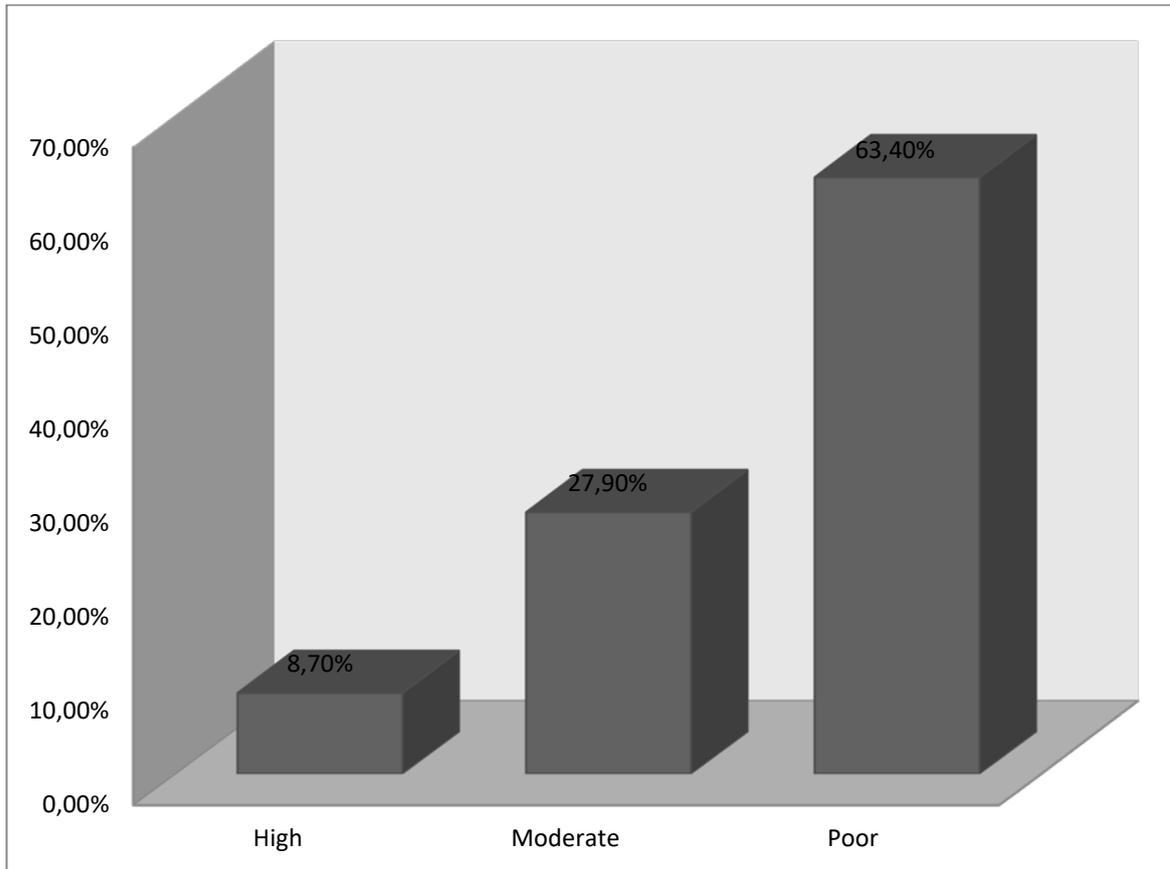


Figure 3. Users rating of safety standards by operators of motorcycle  
Source: Fieldwork, 2016

## VI. RECOMENDATION

In developing road transportation in Nigeria effort should be intensify by government to rehabilitate bad roads in Ogun State. In some areas where buses are completely absent, efforts should be made to encourage the use of tricycle which provides more protection than motorcycles. Improvements of the operational efficiencies of city taxi will go a long way in reducing road accidents and thus reducing the influx of commercial motorcycles. Regulation on compulsory use of safety gadget, such as protective head helmets, goggles, hand cloves etc., should be enforced, and also users (passengers) of commercial motorcycle should be sensitized and be educated on the benefit of the usage of protective head helmets. The Nigerian government should provide employment opportunities for our teeming youth as this will go a long way in the reduction of number of youth who as a result of unemployment took to motorcycle riding business. Invariably, national economic development policies should be designed in such that they can stimulate broad range of urban employment opportunities that are labour intensive coupled with the capacity to encourage effective utilization of natural and human resources.

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