ABSTRACT

The study is quantitative in nature and both primary and secondary data were used. The primary data was collected using questionnaire administration. The question was three types, one was administered to the motorists (Achaba Riders/ Motorcycles Riders), the second was used to gather data from the passengers while the third type was used for the National Union Of Road Transport Workers and the Motorcyclists Union of the study area. The Secondary on the other hand covers the related demented materials. The collected data was analyzed using tables and percentages. The results depict that with regards to the motorists biodata, age group of 20-24 years has the highest and secondary school leaving certificates dominates the other certificates. Income generated per day by the Motorists ranges from less than one thousand naira (<N 1,000) but the average income generated by a Motorists is N1,000-2,000 daily. With regards to the vehicle ownership of the motorists as reveals by the survey, Daily return by the motorists to the owners covers 42% as the highest but for the principal reasons for the engagement of the motorists in the industries are categorized into three (3) categories with Unemployment in the study area cover 59% responses as the highest. The types of land uses basically operates by the motorists are classified into Residential, Commercial, Industrial but commercial land uses recorded the highest of 45% followed by Residential land use with exactly 27%. Further more, the passenger responses reveal that commercial area attract more activities of 45% slightly follow industrial. With regards to the motivation to the motorists, the reasons are as follow absences of buses is the greatest motivational factor that has 36%, this is follow by the effective services that gives comfort and it also saves the passengers time follow with exactly 29% but cheap services and the drive direct to the destinations combined together with other reasons give 35%. Further more, the responses with regards to the frequencies in the usage of the services daily covers 60% responses, the weekly gives 23% but monthly and once in while recorded closely the same percentages of 9% and 8% respectively. The result also reveals that the most displeasing problem faced by the passengers are the reckless nature of some riders with 37% responses while the lack of shelter at the terminals and bus stop which covers 31%. Finally, high rate of accidents gains 17% responses and long time of waiting of the passengers has only
INTRODUCTION

The high rate of demand for public transportation has led to the expansion in various transport operation, both public and private. Amongst that is the growth in commercial motorcycle operation in Nigerian cities, including Katsina in Katsina motorcycle has grown in dominance as means of urban transport, proving unique service to the people of the metropolis. It became popular and accepted for its advantage as a flexible, low cost mode offering door-to-door service. However due to the conflicts encountering with the pedestrians and other modes of urban transport, non-provision of cycle parking facilities, its level of contribution tends to be limited. There, this study focuses on analyzing the motorcycle transport mode in Katsina for ho it can be made more efficient in the mass transit stream(Zainab,2005).

SIGNIFICANCE OF TRANSPORTATION

Ajayi (2003) and Hashim (2014) comment that, transportation is the conveyance of goods and services from one geographical location to another by carrier mechanically or biologically from destination or geographical location to another and it the most important sector in which all other socio economic sectors rely for its functions. Effective transportation is the backbone of all development in this technological era. James et al (2007) states that, the significance of road transportation to the growth and development of an economy of a country cannot be overemphasized.

URBAN AND REGIONAL PLANNING AND ITS OBJECTIVES

Definitions: The term urban and regional planning is the same as city and country planning, and with town and country planning, depending on the choice of the institutions. Several definitions which all tailored to give positive contribution of what the Planning profession is all about. Rangwala (1996) as in (Hashim, 2015) defines town planning as a term used to indicate the spatial arrangement of various components or units of town land uses in such a way that the town as such attains the significance of living organisms. Town is similitude to living organism, it poses similar life circle stages of birth stage, youthful and maturity as well as death and rejuvenation (Dantudu 1998). It also includes ways and means to be adopted for the improvement of existing towns or for expansion of towns. Town planning is a science as well as
an art, the science aspect consists of collecting, correlating and analyzing the fact about a town. Also being a science depicts its scientific approach in solving planning problems and it assist in decision making. The art lies in arranging the components of towns in such a way that the final result is in the form of beautiful, convenient, and economical efficient unit. This also demonstrates its creativity, intuition as well as aspiration in the design (Hashim, 2015). Ogbazi, (2002) views planning under the following headings: planning as a basic human activity concerned with the control of future action, planning as a rational choice based on utilization of knowledge and planning as an activity directed towards change and social good. Furthermore, in general, town planning deals with all physical developments and it strives to make the whole town into an effective organism. And it also aims at making people living in the towns to be comfortable, economically and socially sound. Socially or physically; a good physical plan results to healthy environment which allows free movement, interconnectivity between place to place; for example, moving from houses to school, hospitals, markets and religious centre amongst others. It makes interactions easier at the same time visually attractive. Economically; the importance of town planning may not be easily seen or recognized, but proper arrangements of land uses, efficient communication routes and ensuring a functionality of the land use, ensures less time wastage thereby. A lot of activities can be carried out efficiently with less time wasted thereby increasing productivity. In summary, Urban and Regional Planning saves both time as well as resource involve by connecting and zoning compatible land uses (Dantudu, 1998) as in (Hashim, 2015). Town planning has the following objectives according to Hashim (2015): (1)Promotion of accessibility: (1)The use of resources(3)Separation of land uses. (4) Preventions of Slum Development (5) Upgrading of Settlements: (6) Environmental Pollution Control

**BRIEF HISTORY STUDY AREA**

Katsina founded by Kumayo and has been known to be in desistence since the 11th century, Kumayo himself the grandson of Bayajida prince to have come from Baghdad. The survival and the growth of Katsina after it was founded by Kumayo and was made possible after it developed in major center for trade with Moroccans leather. Katsina is located between latitude 11° 07” 49’s and 130° 22” 57’N longitude between 6° 52” 03’, 9° 02” 40’E. This is an era at the Northern most tip of Northern Nigeria. The 1991 census estimates the population of Katsina Metropolis to be 223,644 persons inhabiting the area. At present (2005) the population is about 329,201 people using a population growth rate of 2.8%. **Administrative system** Katsina is run by traditional hierarchy of leaders (part from the elected government) starting from the Emir (Sarki) at the top, district head (Hakimi) followed by village head (Dakachi) and ward head (Mai Anguwa). The current system of administration in Katsina came about to the large extent due to the Islamic Jihad led by Usman Danfodio. **Cultural and religious attribute** Katsina has about 95% or so Muslims majority among its inhabitant. Consequently, most social and other relationships are
influenced by this attenuating factor. Islamic principles and values are applied in practically all aspect of life and this seems to some extent even influence the building arrangement/patterns. **Occupation**  Katsina people are mainly traders and farmers. Large area of land is cultivated, which are mainly grains such as guinea corn, millet, maize, groundnut, wheat and cotton (Zainab, 2005).

**TRANSPORT NETWORK AND TRAFFIC CHARACTERISTIC IN KATSINA**

With the increase in populating, the urban travel population is bound to increase, and this will call for more vehicles on the road. The growth placed on our urban transportation structure is indeed enormous. Apart from a deficient supply capacity, land use pattern contributed to our transportation problems. Land use refers to the manner land is made available to accommodate different activities of the city. Transportation is a function of land use, because land uses determines different and variable traffic flows. The location of major commercial activities in the Central Business Districts (CBD) generates a traffic flow that is bound to strain the road system. (Guardian paper, 17th August, 1987). Advancement in technologies have made possible for several systems of transportation that have been developed, such as: railroad, water, pipe and conveyor belt. The telephone, television, E-mail, reduces the need for people to travel. Land use zones and transport network in Katsina metropolis, like any other town, which is linked by various hierarchy of transport network. The various land use identified in the metropolis are as follows:

1. **Residential**: this comprises of residential layout, low-cost, quarters and army barracks.
2. **Commercial**: it is made up of filling stations, markets, hotels, banks, business centers and super markets.
3. **Public/semi public**: this is the form of schools, public offices, police station, and post office among others.
4. **Open space**: this is made up of farmlands, green field and forest reserved.
5. **Recreation**: comprises of indoor and outdoor recreations.
6. **Industry**: industrial layout, Katsina steel rolling mill, Katsina oil mills which comprise light industry made up of industrial zone.

The transportation network is made up of various hierarchy road that links the various land uses mentioned above the are:

1. **District distribution roads**: this links other town with Katsina metropolis.
2. **Collector road**: the road links various land use. It empties its traffic, which is collected
from the access road into the district distributor road. This is mostly found around the central area of the metropolis.

3. **Access road**: this road connects each property and collects traffic from which is emptied in the collector roads.

**METHODOLOGY**

The study is quantitative in nature and both primary and secondary data were used. The primary data was collected using questionnaire administration. The question was three types, one was administered to the motorists (Achaba Riders/ Motorcycles Riders), the second was used to gather data from the passengers while the third type was used for the National Union Of Road Transport Workers and the Motorcyclists Union of the study area. The Secondary on the other hand covers the related demented materials. The collected data was analyze using tables and percentages

**DATA ANALYSIS**

**RESPONDENTS BIODATA AND MOTORCYCLING ISSUES**

<table>
<thead>
<tr>
<th>S/N</th>
<th>ITEMS</th>
<th>FREQ (%)</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Age structure</td>
<td>15-19 yrs (13) 13%</td>
<td>20-24 yrs (32) 32%</td>
<td>25-29 yrs (24) 24%</td>
<td>30-34 yrs (21) 21%</td>
<td>35+ yrs (10) 10%</td>
</tr>
<tr>
<td>2</td>
<td>Level of Education</td>
<td>Qur’ Anic School (15) 15%</td>
<td>Prim. School (23) 23%</td>
<td>Sec.Sch. (38) 38%</td>
<td>Tert. (16) 16%</td>
<td>Others (8) 8%</td>
</tr>
<tr>
<td>3</td>
<td>Occupation Structure</td>
<td>Civil . Serv. (9) 9%</td>
<td>Business (15) 15%</td>
<td>Achaba/Okada (64) 64%</td>
<td>Others (12) 12%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Daily income level</td>
<td>&lt;N 1,000 (11) 11%</td>
<td>N1,001-N2,000 (46) 46%</td>
<td>N2001-N3000 (22) 22%</td>
<td>N3001-N4000 (15) 15%</td>
<td>N4001 above (6) 6%</td>
</tr>
</tbody>
</table>
### Vehicles ownership

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal ownership</td>
<td></td>
<td>(31)31%</td>
</tr>
<tr>
<td>Daily returned</td>
<td></td>
<td>(42)42%</td>
</tr>
<tr>
<td>Hire purchase</td>
<td></td>
<td>(27)27%</td>
</tr>
</tbody>
</table>

### Reason for the motorcycle business

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td>(59)59%</td>
</tr>
<tr>
<td>Secondary source</td>
<td>(26)26%</td>
</tr>
<tr>
<td>Others</td>
<td>(15)15%</td>
</tr>
</tbody>
</table>

### Types of land use and motorcyclists operation

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>(27)27%</td>
</tr>
<tr>
<td>Commercial</td>
<td>(45)45%</td>
</tr>
<tr>
<td>Industrial</td>
<td>(21)21%</td>
</tr>
<tr>
<td>Others land uses</td>
<td>(7)7%</td>
</tr>
</tbody>
</table>

### Problems face by motorists

<table>
<thead>
<tr>
<th>Problem</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents</td>
<td>(21)21%</td>
</tr>
<tr>
<td>Port holes</td>
<td>(18)18%</td>
</tr>
<tr>
<td>Congestion</td>
<td>(41)41%</td>
</tr>
<tr>
<td>High cost of spare parts</td>
<td>(20)20%</td>
</tr>
</tbody>
</table>

### Suggestions of the motorist on how to solve the above problems

<table>
<thead>
<tr>
<th>Solution</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of strategic bus stops</td>
<td>(9)9%</td>
</tr>
<tr>
<td>Road surfacing</td>
<td>(27)27%</td>
</tr>
<tr>
<td>Road widening</td>
<td>(14)14%</td>
</tr>
<tr>
<td>Drainage construction</td>
<td>(17)17%</td>
</tr>
<tr>
<td>Subsidies on the spare parts</td>
<td>(33)33%</td>
</tr>
</tbody>
</table>

Source: field survey, 2005

The field survey reveals that, age group of 20-24 years has the highest frequency (32%) , followed by (25-29) years with (24%) , the (30-34) years with exactly (21%). This shows that, the active population engaged in the industry with particular emphases to the age group of 20-24 years who belongs to early adulthood group engages most. In addition, the table explains with regards to the level of education of the respondents, secondary school leaving certificates dominates the other certificates. Primary school leavers maintained the second populated group but tertiary institutions and Quranic school leavers closely similar records. Further more, the table also reveals that 64% of the respondents solely relied on the ACHABA services/ work as the primary sources of their daily bread but those whole are civil servants and engaged in it the industry as the secondary sources together with those who participated in it as the their secondary business sum up together 24%.

Income generated per day by the Motorists ranges from less than one thousand naira (<N 1,000) to above four thousands ( > N4,000) with insignificant percentages. Income of N,1000-N2,000 has the 64% responses. This shows that , the average income generated by a Motorists is
N1,000- 2,000 daily. The vehicle ownership of the motorists as reveals by the survey, Daily return by the motorists to the owners covers 42% while those that owned the vehicle constituted 31% but those with the statues of hire purchase covers 27%. The principal reasons for the engagement of the motorists in the industries are categorized into three (3) categories with Unemployment in the study area cover 59% responses follow by the secondary sources of income that maintains 26% but other reasons stated by the motorists gains the 15%. The types of land uses basically operates by the motorists are classified into Residential , Commercial, Industrial but commercial land uses recorded the highest of 45% followed by Residential land use with exactly 27% , industrial also gains 21% but other land uses sum up together is 7%. In addition, the responses with regards to the problems and challenges faced by the motorists are ; Frequent Accidents with 21%, poor roads with pot holes 18% but congestion along roads covers the highest with exactly 41%. High cost of spares parts recorded 20%. Finally, the respondents suggestion with regards to the problems explained above are distributed as follow; adequate provision of bus stops 9% attraction, good surfacing of the roads with pot holes gains 27% but subsidy to the exorbitant prices of the spares parts recorded 33% as the most popular among the respondents while Drainage construction and roads widening and expansion sum together made 31%.

**PASSENGER’S RESPONSE**

<table>
<thead>
<tr>
<th>S/</th>
<th>ITEMS</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
<th>FREQ(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Purpose of journey</td>
<td>School</td>
<td>Work</td>
<td>Market</td>
<td>Business</td>
<td>Others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(12)12%</td>
<td>(32)32%</td>
<td>(45)45%</td>
<td>(6)6%</td>
<td>(5)5%</td>
</tr>
<tr>
<td>1</td>
<td>Motivation to the motorcycle</td>
<td>Direct to the destination</td>
<td>Cheap services</td>
<td>Good services</td>
<td>Absences of buses</td>
<td>Other reasons</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(16)16%</td>
<td>(14)14%</td>
<td>(29)29%</td>
<td>(36)36%</td>
<td>(5)5%</td>
</tr>
<tr>
<td>2</td>
<td>Frequencies of usage</td>
<td>Daily</td>
<td>Weekly</td>
<td>Monthly</td>
<td>Once in while</td>
<td>Lack of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(60)60%</td>
<td>(23)23%</td>
<td>(9)9%</td>
<td>(8)8%</td>
<td>Organized</td>
</tr>
<tr>
<td>3</td>
<td>Problems associated</td>
<td>Long waiting</td>
<td>High rate of charges</td>
<td>Riders recklessness</td>
<td>Lack of</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The data above indicates that market and places of works had the highest 45%, 32% respectively. These are as a result of the necessities of the interaction of residential land uses with commercial land uses as well as with the industrial land uses. In addition, with regards to the motivation to the motorists, the reasons are as follow absences of buses is the greatest motivational factor that has 36%, this is follow by the effective services that gives comfort, saves the passenger time follow with exactly 29% but cheap services and the drive direct to the destination combined together with other reasons give 35%. Further more, the responses with regards to the frequencies in the usage of the services daily covers 60% responses, the weekly gives 23% but monthly and once in while records closely the same percentage of 9% and 8% respectively. The table above shows that the most displeasing problem faced by the passengers are the reckless nature of some riders with 37% while the lack of shelter at the terminals and stop which covers 31%. Finally, high rate of accidents gains 17% responses and long time of waiting of the passengers has only 15%.

**GENERAL RESPONSES OF NATIONAL UNION OF ROAD TRANSPORT WORKERS/UNION OF PUBLIC MOTORCYCLIST.**

The following are the result of the responses of national union of road transport workers and union of the motorcyclists. They are stated as;

a. They express the need to provide stops along routes so as to avoid police harassment.

b. The union is ready to erect signposts on points; the government may decide to build stops.

c. The union is also ready to see that all public cyclist (riders) comply or use the facilities when provide.

d. The officials also express the need to provide terminals at major routes (IBB way, Yahaya
SUMMARY OF FINDINGS

The study reveals the following as the major findings;

1. There are no designate bus stops and terminals where people wait for motorcyclist along the roads.

2. Lack of stops lead to inconvenience to passengers and police harassment of riders.

3. The union of public motorcycle riders is a potential that maybe exploited for provision and improvement of public transportation facilities in the state.

4. There is the need for provision of stops has expressed by users (passengers) and riders unions.

5. The operations of public cyclists are not controlled by any government agency and there is lack of coordination between the government and the motorcyclist (riders union).

6. The absence of any provision for traffic segregation in the metropolis such as motor vehicles form cyclist form a great challenge to the sector.

7. Considerable delay and congestion as reveals by the study were identified, these are due to reduce traffic flow brought about as a result of cyclist’s recklessness and maneuvering system.

8. Public motorcycle operates along the road, thereby competing with other modes.

9. Dissatisfaction and frustration on the passengers due to the lack of parking areas.

IDENTIFIED PROBLEMS RELATED TO MOTORCYCLE AS A MEANS OF URBAN PUBLIC TRANSPORT IN KATSINA.

1. CONGESTION: it was observed that there is a high congestion of vehicles on the major roads in Katsina metropolis. This has great leads to high competitions amongst the various vehicles that ply the roads. From the response, it forms one of the major problems confronting the area.

2. ACCIDENT: as shown in chapter three, the rate of accident forms a major problem in the area. This results from the reckless habits of some motorcycle riders and also as a result of the congestion on the roads.

3. LACK OF SHELTERS: paramount to other places also, the problem of shelters is also noticed. This affects greatly the passengers, because according to the response, about 32% of the respondent complains of the problem of shelters.

4. POLICE HARRASMENT: from the unstructured interview, it was gathered that the rate
at which policemen harass the motorcycle riders is very high. This owing to the non-legal recognition of this sector of transportation, which could have guided the to do the right thing at the right time.

**PLANNING PROPOSALS AND RECOMMENDATION**

Owing to the problems identified from the analysis of the existing situation on motorcycle as a means of urban public transport in Katsina metropolis, the following plans are hereby proposed to help ease the problems and further improve on this sector as an efficient mode of transportation and to complement other modes of transports.

Concepts (desire line route and primary road network road) on cycle planning were identified. For the purpose of this study, the primary road network system are considered adequate because, according to the principles guiding system are considered adequate because, according to the principles guiding the provision of facilities for motorcycles as a means of urban public transport, the desire line route concept is considered appropriate for private motorcycle riders. This concept which advocates that the direction of cycle ways should be the same as that of the existing road network will conveniently accommodate motorcycle stops and passenger waiting facilities, which will take the best advantage of the existing routes. However the direction of cycle ways may not necessarily be kept parallel to that of the roads, because in events of other street elements or natural features lying along the parallel direction, cycle ways should be deviated to avoid conflicts.

The principle that should be recommended for cycle system planning for Katsina should involve the systematic provision of comprehensive cycle ways and cycle facility system.

**PROPOSED CYCLE WAYS**

**Cycle way along Dutsin-ma road**

There are two different cycle ways designed for this road. Along the edge of the carriage way on the opposite side of the central market and the motor park single lane protected by a concrete slab of at least six inches should be constructed. Opening should only be made for the street entrance. However, on the side of the motor park and the central market, for the fact that parking facility is located on the same side, the expected number of motorcycle traveling is very high, therefore double lane track is recommended. This will contain the pressure along the road towards the roundabout, the track assume a cycle lane and therefore a protection should be provided to discourage on-street parking that would encroach the road.

**Cycle way along IBB way**
IBB way is one lane but also has a high traffic flow. It has roundabout and intersection. A protected 2.5m cycle lane along the outer edge of the road is recommended. The protection should be made of slab and must be open where a street or a roundabout joins the road. The on-street parking along some area (immediately after the second roundabout, towards the intersection from the second roundabout) should be restricted.

**Cycle ways along Nagoggo road**

Nagoggo lane is one that leads to government area. A protected lane of about 2.5m is recommended on the side of the road. Since there is a car park immediately after K/Durbi (gate), along the road off-street parking restriction should be maintained. The specific area recommended for no-street parking is the Gwan-gwan market side. Taxis should be allowed to pick passengers. Metal bars should be used to prevent motorist form encroaching into the cycle track at that point.

**Cycle way along Yahaya Madaki road**

Yahaya Madaki road is a dual carriage road. It has three roundabouts and intersection. It has a high traffic flow, therefore, a protected 2.5m cycle lane along the outer edge of the road is recommended; more emphasis will be given to the lanes between Kofar Kaura and Kofar Kwaya roundabouts. The no-street parking along the road should be restricted.

**CYCLE FACILITIES**

**Proposed pedestrian bridge**

The construction of:

a. Pedestrian bridge at the main route especially at; D/ma road near central market, IBB way, Nagoggo road and Yahaya Madaki road etc.

b. In addition, the pedestrian guard way should be provided and be raised to the height that will discourage passengers from crossing. To channel pedestrians onto the pedestrian bridge.

c. Also a good rail should be provided and ensure that it is extended from areas of high traffic where passengers crossing are prohibited or dangerous.

**Proposed motorcycle stops**

In chapter four the passengers’ terminals have been identified, the existing bus stops will incorporates some of the newly proposed motorcycle stops, especially at Kofan Kwaya, along IBB road, Kofan Durbi and Dustin-ma road, etc are to be considered. However, a maximum of
five-minute walking distance of about 500m by an average adult is to be adopted. It has further been established from various reports including that Abuja Master Plan that a pedestrian using public transport should not travel from their home for more than 500m or walk for more than five minutes before arriving at a stop. Therefore the proposed motorcycle stops are going to take advantage of some of the existing terminals at the following points Kofan Guga, roundabout, and Bayajidda road junction. The existing points have been analyzed using the standards of 500m as catchments area of one stop. The result of the analysis is that some of the points especially at state road roundabout and WTC roads have been found to be too close and strategically locate at a wrong place in junctions, which are prone to accident. As such a new location has been suggested. The new stops have a maximum catchments area of 500m.

Despite the use of 500m as radius of a catchments area of the motorcycles stops, the following measures should be applied:

1. Motorcycle stops should not be constructed where their use will interfere with the smooth flow of traffic or visibility on bends or at intersections.
2. Motorcycle stops should be located on the exit side of intersection especially where routes divert at intersection.
3. Motorcycle stops should not be sited before a roundabout because it may obstruct turning traffics.

REGULATION OF MOTORCYCLE OPERATION

The present situation whereby motorcycle operators operate independent of any government control should not be allowed to continue. This study has therefore recommended to regulate the operation of motorcycles through the application of the following measures:

1. Allocation of routes to interested motorcycle operators example is the park at secretariat.
2. Provision of tricycle by the government to the riders on hire basis to compliment the existing “keke NAPEP”, on hire basis.
3. Provision of ruining of motorcycle in such a way that will create competition among other modes of transport for the benefit of the patrons
4. Fixing motorcycle fares.
5. There should be good coordination between transport authority and the riders union for effective control and monitoring of riders. The authority and the union should see to the
effective use of the proposed route and stops.

**PROPOSED IMPROVEMENTS ON THE MAJOR ROUTES**

For effective implementation of the proposed motorcycle ways the major roads in the metropolis needed to be reconstructed. This will give ample room for adequate right of way to accommodate the cycle ways, motorcycle stops and passengers shed. For effective maintenance of any road system, the drainage system need to be taken into cognizance, constant maintenance and reconstruction is suggested.

**MOTORCYCLE CROSSING**

Motorcycle conflicts with other traffics at intersections are inevitable. The most desirable way to eliminate the conflict is through grade separation underpass are best recommended for motorcycle crossing. Where this is not possible due to cost or space required channelizations should be considered.

**IMPLEMENTATION**

It has been established that improvement on routes, including the provision of motorcycle routes and stops has been incorporated into the 5th National development plan. Hence the proposal of this study may be implemented along other development projects involving as many participants as possible.

**INSTITUTIONAL FRAMEWORK**

Katsina State Development Board is the only body responsible for the improvement of roads and constructions of transport infrastructures. The framework should have at least a representative from the state ministry of Works, Ministry of Land and Survey and the motorcycle rider union.

**FINANCING**

Project financing is an essential aspect of project implementation, for without fund, no project will be adequately implemented. The state government should provide fund for the construction and maintenance. Work. Fund for maintenance will be complemented by monthly charges on the motorcycle rides through the issuance of receipts, and also money rose from fines on offenders on the part of the motorcyclists. This fund can be used in the construction and maintenance of
some motorcycle facilities in stops and shades.

CONCLUSION

Urban transport problems, especially in the developing countries, has largely been tied down to inadequate means of commuting, due to lack of opportunities brought about by the present economic dispensation. This led to the development of motorcycle as an intermediate means of transportation

The present situation of uncontrolled operations of the riders is responsible for the indiscriminate picking and dropping of passengers along the highway. This result to lightening trips and travel time, congestion, accident and abstraction of smooth flow of traffic.

The study proves that lack of planned designated stops and terminals has caused inconveniences to both the riders and passengers. It is also responsible for police harassments on riders. As such, base on the findings and standards of location, the study has suggested strategies for the location of new stops along the existing major routes, implementation strategies has also been suggested, in which when implemented, will ensure an orderly operation of motorcycles, and consequently smooth flow of traffic in Katsina Metropolis which will also ensure comfort and conveniences for all road users.

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