CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The day-to-day activities of human beings revolve around one form of transportation or another. In essence, the social as well as economic pursuits of individuals entail, to a large extent, their movement from one location to another. The movement of people and goods from one place to another involves the use of different means of transportation. Transportation finds its employment in the air, on (and sometimes inside) waters and land. Consequently, the infrastructure of transportation is very crucial to countries all over the world in the quest to advancing their National and Economic Development

Transportation by land is grouped into 3 types namely: pipeline transportation, rail transportation and road transportation. Road transportation is basically the most utilized of the three types mentioned above accounting for over 70 per cent of the movement of persons and goods globally (IRTAD 2014). This is so, possibly because land transportation is the closest to man as a result of its relative cost effectiveness and safety. Accordingly, vehicular movement has become a vital aspect of mankind as it plays a key role in the socio-economic activities of man. An example of this can be seen in the transportation

of essential goods by trucks via huge vessels and tanks containing petroleum products (to mention just a few) from production or manufacturing locations to their end users. Needless to say, uncoordinated movements of such trucks sometimes affect vehicular flow and undermine the safety and wellbeing of the populace. This in turn undermines human safety and limits the attainment of national objectives.

The morbidity and mortality burden in developing countries like Nigeria is rising due to combination of factors including rapid motorization, poor roads and traffic infrastructure as well as the behavior of road users. This contrasts with technological advanced countries where the indices are reducing. RTC has been identified as the 8^{th} leading cause of death worldwide with developing countries most affected.

According to World Health Organisation (WHO), around 1.3 million people die worldwide each year as a result of road traffic crashes. WHO figures further indicated that five hundred (500) children are killed each day in road crashes globally. In fact road traffic injury ranks among the top four causes of death for all children of the age of five years. To raise awareness of this deadly reality, Jean Todt, President of the Federation International de l' Automobile (FIA), the International Motoring Federation, and Special Envoy of the UN Secretary General for Road Safety, turned to the world renowned film director

Luc Benson to deliver a potent message through a movie on the incredible dangers children face when crossing the road (Udodiong, 2016).

Also according to WHO Chief, Margaret Chan ‘‘road traffic fatalities take an unacceptable high toll, particularly on poor people in poor countries’’ (WHO). Absence of sufficient safety laws, poor infrastructure and inadequate enforcement in low and middle income countries account for 90% of the world’s road traffic fatalities with an economic cost of almost $100 billion a year to these countries (Khazan, 2013).

According to Bauer (2015), countries like Russia, China, Turkey, Egypt, India, Vietnam, Kenya, Brazil, Mexico and Cambodia are responsible for nearly half of all the road deaths as reported by Bloomberg Philanthropies. India has the highest overall road deaths followed by China and the United States of America. Meanwhile; in Africa, Eritrea has the highest concentration of road deaths (48.4 per 100, 000 people), followed by Egypt and Libya. WHO estimates indicate that road traffic fatalities will be the fifth leading cause of death by 2030. Due to the enormity of the problem, the UN felt it needed an entire decade to deal with it. In 2011, the UN launched a ‘‘Decade of Action’’ that was aimed at stabilizing and reducing global traffic fatalities by 2020.

Sung and Rios (2015) reported that 50 million people suffer injuries due to road traffic crashes globally every year with an overall economic cost ranging

from 2-5 percent of the GDP in many countries. Further to that, the impact of road traffic crashes on families that lose their breadwinner is enormous both in terms of emotional trauma and loss of income especially in poor countries that do not have safety nets and insurance for road crash victims.

Furthermore, in 2014 WHO and United Nations (UN) have recognized road traffic injuries and fatalities as a major global public health issue with economic consequences that could affect sustainable development of countries and slow down progress towards reducing poverty and boosting prosperity. The problem of road traffic crashes is declining in industrialized nations such as Western Europe, North America, Japan, Australia and New Zealand (Aderamo 2012). However, Nigeria, South Africa, Ethiopia, Ghana, Kenya and Uganda still experience high number of road deaths.

Nigeria, like other developing countries is experiencing a rapid increase in motorization without having adequate road traffic safety mechanisms in place to control the growing number of road traffic crashes and injuries. As reported for other low-and-middle income countries, the main victims are pedestrians, cyclists and public transport passengers (Downing 1991). In Nigeria road traffic crash situation over the last half a century has been particularly disturbing. As noted in the FRSC (2015 Annual Report) trends of RTC statistics show that at Independence, in 1960 a total of 14130 RTCs cases were recorded with 1083

resultant deaths. This increased to 40881 cases with 6761 deaths in 1976. By 1988, the number of RTCs had reduced to 25792 cases, but the resultant fatality has increased to 9077 (See Appendix VI for statistics of RTCs trends in Nigeria 1960-1988).

It is against this back drop the General Ibrahim Babangida administration established in 1988 as a child of necessity to halt this ugly trends on Nigeria roads, the Federal Road Safety Corps vide decree No 45 of 1988 as amended by decree 35 of 1992. As the lead agency in traffic administration, the mandate of the FRSC is to holistically address issues concerning road safety and road traffic administration in Nigeria.

Since the establishment of FRSC, her sustained efforts, innovations and unwavering sense of commitment has seen a reduction in the rate of RTCs in country from 25792 cases in 1988 to 9734 cases in 2015. This reduction though commendable, but when compared to other developed and developing countries', the statistics is still unacceptably high.

1.2 Statement of Problem

Despite the efforts of Federal Road Safety Corps and other road traffic management agencies the cases of road traffic crashes are reportedly high in Nigeria with attendant negative consequence on human and economic resources of the country. According to FRSC as quoted by Bernard (2015), Nigeria loses

about 3% of GDP through RTCs annually. In 2009 alone the income lost as a result of road traffic crashes in Nigeria was more than the GDP of twenty individual African countries.

Adedokun (2015) reported that 6450 Nigerians lost their lives on our roads in 2013, while 40057 people were injured, this figure is similar to that reported by FRSC in 2013 which indicated that a total of 13583 cases of road traffic crashes were reported with 6544 people killed and 40057 injured. This is a slight reduction compared to the 2012 figure where out of 14783 cases of road traffic crashes, 6573 were killed and 40,683 people were injured (FRSC Annual Report 2013). Despite the slight drop in 2013, the problem still persists and calls for serious intervention.

According to Oyeyemi (2016) an estimated 11,031,809 drivers have been registered at the end of 2015 and 11,893,393 are expected to be on Nigerian roads with a vehicle population of 10,565,571 at the end of 2016. With the bad state of roads in the country the problem of road traffic crashes remains a big challenge.

Oyeyemi (2016), further reported that 21199 vehicles were involved in crashes in 2013, 16779 in 2014 and 17198 in 2015 respectively. This clearly demonstrates that road traffic crash trend has not been reversed to the bench mark set by Nigeria in line with the United Nation decade of action 2011-2020.

The United Nations set a framework to halt the increasing trend of road traffic fatalities through; establishment of lead agency on road safety management with diverse partners, setting realistic long-term targets and funding for strategic road safety activities. The actualization of this dream is being hampered by lack of coordinated efforts between various government agencies (federal, state and districts), non-governmental agencies, private sector and other organizations/stakeholders interested in road safety. Most often road safety does not get the level of political support it deserves. Furthermore, the lack of funding in road safety is hindering the well-meaning road safety policies in Nigeria.

High prevalence of non-road worthy vehicles on the roads, excessive axle load especially in petrol tankers and trailers is a major problem militating against good road traffic management and traffic crash reduction. The use of underage and poorly trained drivers and drug use among the drivers' accounts for 87% of vehicle crashes between January to August, 2014, while the FRSC recorded increased rate of crashes with 39% attributed to speed (FRSC Annual Report 2014).

FRSC data on RTCs involving commercial vehicles in Nigeria between 2007 and 2011 indicated a total of 2094 crashes occurred that killed 1150 persons and injured 5865. Despite its remarkable success, with six years away

from its 2020 goal of achieving 3.2 deaths per 10,000 vehicles, FRSC is still at 41 deaths per 10,000 vehicles (FRSC 2012 Data). In a related statistic released by the FRSC in their 2015 annual report, FCT recorded the highest number of crashes nationwide in 2014 and 2015 respectively (See Appendix VIII). This, therefore, calls for an urgent intervention to mitigate the problem.

1.3 Aim of the Study

To examine the relationship between road traffic management and the frequency of road traffic crashes in FCT with a view to make recommendations and proffer implementation strategies.

1.4 Objectives of the Study

The specific objectives of the study are:

i. To identify causes of road traffic crashes in the FCT.
ii. To identify the frequency of road traffic crashes and fatality rate of road related crashes in the FCT.
iii. To evaluate the institutional capacity of the Federal Road Safety Corps in managing road traffic crashes in the FCT.
iv. To examine the issues in road traffic management in the FCT.
v. To determine the extent of inter-agency cooperation in road traffic management the FCT.

vi. To make recommendations and proffer implementation strategies on how to reduce road traffic crashes and related fatalities in the FCT.

1.5 Research Questions

i. What are the causes of road traffic crashes in the FCT?

ii. What is the frequency of road traffic crashes and fatality rate of road traffic related crashes in the FCT?

iii. What is the institutional capacity of FRSC in managing road traffic crashes in the FCT?

iv. What are the issues that affect road traffic management in the FCT?

v. What is the extent of inter-agency cooperation among the road traffic management agencies in the FCT?

vi. What recommendations could be made and implementation strategies proffered to reduce the fatality rate of road traffic crashes in the FCT?

1.6 Scope of the Study

The study will cover FRSC activities on road traffic management from 2010-2015 in the Federal Capital Territory Abuja. This period is significant because it is within it that the FCT witnessed dynamic increase in motorization, traffic congestion and alarming rise in the rate of RTC occurrence. It is also in the period that the FRSC scaled up her activities in traffic management and road safety culture entrenchment by becoming a signatory to United Nation Decade

of Road Safety 2011-2020. The data on causes of road traffic crashes, total number of fatalities and injuries were examined, and the efforts of FRSC and other statutory agencies involved in road traffic management policies within the period were also be reviewed.

1.7 Significance of the Study

The study will be of value to the FRSC and other road traffic management agencies which include the Nigeria Police Force, Directorate of Road Traffic Services and State Government owned road traffic management agencies. These agencies can rely on the outcome of this study to take informed decisions on traffic management policies aimed at reducing road traffic crashes based on the identified causes of RTC.

Furthermore, the Federal Ministry of Power, Works and Housing can use the outcome of this study in formulating policies on roads identified to be crash prone. The Ministry can also pay attention to periods with high crash rate like night travels, so that interventions and preventive measures can be put in place. The study is also expected to add to the body of knowledge on the subject of RTM and RTCs and serve as reference material. Lastly, the study will is expected to extend the period of similar research works carried out on the subject matter by Egonu (1989-2000) and Dick (1995-2006).

1.8 Limitations of the Study

The major challenges encountered in the course of this research are false and contradictory information from some of the respondents to the questionnaire, also not all the questionnaire were returned. There was the challenge of inadequate record of RTC with the NPF which would have been used to support secondary RTC data sourced from the FRSC. Interviewing the heads of agencies involved in road traffic management was difficult due to their tight schedule. The researcher however used the information obtained from interview, secondary data and his pedigree as a road safety officer to surmount these limitations during the study.

1.9 Definition of Terms

i Road: According to the Nigeria Highway Code (2013), the road is a path established over land for the passage of vehicles, people and animals. It provides dependable pathway for for moving goods and people from one place to another.

ii Road Traffic Management: this is the organisation, direction, control and supervision of vehicular movement/traffic flows on the roads. Accordingly, RTM has to do with the coordination of all the elements involved in the vehicular movement of services, goods and people. Such elements include, but

not limited to, regularly serviced vehicles, good roads, as well as well trained and equipped regulatory agencies (FRSC 2014).

iii Road Traffic Crash:This is, as defined by Schwela (2008), is an unexpected collision between two or more road users resulting from human or mechanical deficiencies and/or poor environmental condition. However,Elsom (1996) defined RTC as when a moving road vehicle collides with another vehicle, pedestrians, animal or geographical or architectural obstacle. The RTC can result in injury, property damage and death.

iv Road Safety : This is the totality of all preventive measures put in place and administered by its practitioners to ensure sanity and remove danger from the road environment (FRSC 2013).

v Road Traffic: Gerr (2006) defined road traffic as the movement people, of vehicles, cargos and animals along routes of transportation that are formally organised in jurisdictions such as lanes, intersections and interchanges,within a classified speed limit per time.

vi Road Fatality : IRTAD (2011) defines road fatality as any death recorded as a result of a road crash within thirty days of its occurence.

CHAPTER TWO

LITERATURE REVIEW

This Chapter conceptualised the two (2) key variables of the study and established their relationship. It also reviewed some literature relevant to the study in order to identify existing gap(s) which the research intends to fill. Furthermore, the chapter concludes with the theoretical framework for analysis of the study.

2.1 Conceptual Discourse

The two (2) key variables in this study are Traffic Management (TM) and Road Traffic Crashes (RTCs) which are the independent and dependent variables, respectively. These variables are conceptualized and their relationship established to provide a better understanding of the context in which they are used in this study.

2.1.1 Road Traffic Management

The concept of Road Traffic Management (RTM) has been defined differently by various scholars, authors and institutions with each definition towing the line of thought of each writer. The concept of traffic management considered in this study includes that of Soares, Shinar, and Federal Road Safety Corps.

According to Soares, Vrancken and Wang (2013), Road Traffic Management refers to `the complex, large socio-technical systems that influence

traffic by using a variety of actuators such as traffic signals and variable message signs, based on acquired data using various types of sensors such as video cameras and inductive loop. This definition only considers the use of traffic control devices and other physical aspects of road traffic management. However, it does not consider factors such as the safety of humans, properties and other road users in relation to the road traffic crashes which are important to this study. It is therefore not suitable for this study.

Shinar (2007) in his book "Traffic Safety and Human Behavior" defines road traffic management as the practice of managing the existing traffic environment to allow contractors to perform work safely without the possibility of incident or injury through conflict with traffic flows. This definition is a short sighted depiction in that it only considered the safety of road contractors as the objective of road traffic management leaving out the general safety of other road users which is vital to this study, hence, it is not considered.

Furthermore, the Federal Road Safety Corps (2014) defines road traffic management as "all activities, human and technological, that are put in place to ensure optimisation of safe and delay-free movement of people and goods from one destination to another in good time and condition for the prosperity of all''. This definition is comprehensive. It views traffic management as an inter-connected activity between people, technology and processes for the safety of road users. This, it noted is the primary objective of road traffic management.

The definition further explained safety to mean the absence of danger, injuries or loss of lives and properties as a result of road traffic crashes. This definition is very broad and it gives due consideration to the utilization of people, process and technology which are the key necessities for effective traffic management and enhanced road safety for reduced road traffic crashes. Thus, this definition is apt and hereby adopted for this study.

2.1.1.1 FCT Transport Policy

According to Nwaka (2016), the FCT has no transport policy. The Transport Secretariat of the FCTA hinges its transportation strategies on the National Transport Policy. The National Transport Policy 2010 which was not adopted but still regarded as the policy document of Nigeria on transport, contains policy statements, objectives and possible implementation strategies. The Draft National Transport Policy 2010 recognized the decaying condition of road network and furniture in the country, and further identified decline budgetary allocation as the reason behind the decaying road conditions.

To ensure resuscitation of the transportation sector, some of the strategies of the policy include raising new sources of revenue to close the resource gaps through National Road Funds, road tolls and charges and private sector investment through Public Private Partnership (PPP). The draft policy further advocated for the sharing of road maintainance cost among the three

tiers of governmentt in the ratio of 50-30-20 for federal, state and local governments respectively. In order to reduce over reliance on the road, the policy acknowledged the revival of rail transportation as the key.

2.1.2 Road Traffic Crash

Road Traffic Crash (RTC), like any other social science phenomenon, does not have a single, generally accepted definition. Many scholars as well as institutions have conceptualized RTC as it is appropriate for their research or line of thought. The concepts of RTC considered in this study include that of Francis, Abdulkarim and Schwela

According to Francis (2006), RTC is a phenomenon that involves the collision of two or more vehicles on the road resulting to damages. This definition is therefore not apt for this study because it is narrow in its sole consideration of vehicles as the only principal object involved in RTC, leaving out the involvement of other road users in the dynamics of RTC. In a broader perspective, Abdulkarim (2006), views RTC in the context of any unpleasant incident which happens unexpectedly on or around a roadway between motorised vehicle(s), bike(s) and other road user(s) and causes injury or damage to any, some or all parties involved in the incident. Abdulkarim's conceptualisation of RTCs is commendable because it identified RTC as an unpleasant incident which happens unexpectedly around or on the road involving not only vehicles but other road users. However, this definition is yet

deficient, as it only limits the resultant effects of crashes to injuries and damages forgetting death as a result of fatal crashes. Another short coming of this definition is its oversight in not mentioning the causes of RTCs which is pivotal to this study. Therefore, this definition is considered inappropriate for this study.

In a more encompassing exposition, Schwela (2008) defined Road Traffic Crash as an unexpected collision between two or more road users as occasioned by either deficiency in traffic management system, human incapability, mechanical inefficiencies or poor environmental condition, often resulting to various degrees of injuries, loss of lives and damages to properties. He further classified the various road users as motorist, motorcyclist, bicyclist and tricyclists. Others are pedestrians and animals. This definition broadly explains all the elements of RTCs such as the principal actors known as the road users, the causatives factors which can either be human, mechanical or environmental and the resultant effects which include injuries, loss of lives and damages to properties. It further links the occurrence of RTCs to road traffic management system which is pivotal to this study. This definition is therefore considered apt and hereby, adopted for this study.

2.1.2.1 Causes of Road Traffic Crash

FRSC (2013) as stated in the Nigeria Highway Code identified three major causes of RTC namely:

i. Human Causes: This constitutes about 90% of road traffic crashes.

Out of this percentage the drivers action and inaction accounts for about 80%. Human causes of RTC can be linked to speed, overconfidence, fatigue, drunk driving, loss of control, use of phone while driving and dangerous overtaking etc.

ii. Mechanical Causes: This is due to poor maintenance which may manifest while the vehicle is in motion. Common vehicle faults include; steering problem, brake failure, tyre burst, defective lights, fuel leakage, loose wheel nuts and electrical fault.

iii. Environmental Causes: The road condition and other environmental elements contribute to the occurence of RTC. Some of these include, fog, mist, rainfall, sunrays, potholes, sharp bends and harmattan dust etc. However, the driver or rider is expected to exercise control over the vehicle depending on the peculiar road or weather condition.

2.1.2.2 Location of High Incidence of RTC in the FCT

The area or routes where RTCs occur most in the FCT according to statistics include; Nyanya-AYA-Kubwa corridor, Gwagwalada-Lokoja Expressway, City Gate- Lugbe and Central Business District (Interview with Sector Commander FRSC,FCT Command).

2.1.3 Relationship Between Road Traffic Management and Road Traffic Crashes

RTM involves all activities both human and technological, that are put in place to ensure optimization of safety and delay-free movement of people and goods from one destination to another in good time and condition for the prosperity of all. To achieve safety optimisation which is the core objective of traffic management, there must be continual and effective inter-connectivity. This required connectivity is between people, which are the traffic management personnel and stakeholders, the processes, being the established traffic laws, regulations and work processes and the technologies which are necessary for traffic control and monitoring. On the other hand, RTCs can be viewed as an unexpected collision between two or more road users as occasioned by either deficiency in traffic management system, human incapability, mechanical inefficiencies or poor environmental condition, often resulting to various degrees of injuries, loss of lives and damages to properties. This could be enhanced by effective traffic management.

It can then be implied from the above that effective traffic management as a result of human and technological advancement would prevent threats to the wellbeing of road users by preventing road traffic crashes, ensure timely transportation of people, goods and services. Conversely, ineffective RTM as a result of poor human, processes and technological advancement would results

into unsafe road and frequent road traffic crashes leading to damages to properties, injuries and ultimately loss of lives. This therefore shows that there exist a direct and strong relationship between Road Traffic Management and Road Traffic Accidents. This relationship however, requires the review of some existing literature to identify gaps which need to be filled.

2.2 Review of Existing Literature

The relevance of safety of peoples, goods and services on the road to the advancement of interests of both individuals and governments over the years has stimulated some researchers and scholars to carry out research and studies on how Road Traffic Management can enhance Road Safety and consequently reduces RTCs and its adverse effects. Some of such research and studies are bordered on the activities of the traffic management agencies while some others are general assessments of traffic management in Nigeria. It is also important to note that some of the studies and research have been published while others are not published. Some of such research and scholarly/academic studies identified and reviewed for this study in subsequent paragraphs include those of, Aregbesola, Aderamo, Lowe, Mfon, Egonu and Dick.

Aregbesola (2010) examined the impact of road transport policy on traffic management in Nigeria. The study was descriptive in nature, the data for the study were obtained using both primary and secondary sources with samples selected limited to Abuja. The data obtained from the study were subjected to

simple percentage method of analysis using the system theory as theoretical framework on which the study was anchored. The study revealed that the effectiveness of road transport relies heavily on several factors and the attitude of road drivers to traffic engineers and management requirements necessary to impact positively on road traffic management in Nigeria. The study further revealed that the important role of traffic officers in driving test licenses, highway patrol and enlightenment activities on the part of agencies responsible for RTM are important in actualising the transport policy thrust towards enhancing traffic management for enhanced road safety in Nigeria. Despite the notable findings of the study, it failed to extend the study by examining the impact an effective RTM arising from good transport policy will have on RTCs in Nigeria, which is the focus of the present study.

Aderamo (2012), in the study "Urban Transportation Problems and Challenges in Nigeria: A Planner's View'' observed that Nigeria is one of the countries in the developing world with rapid urbanization and fast growing cities with attendant problems on the various sectors of the economy, the road transport sub-sector inclusive. According to him, RTCs and traffic congestion are the major problems bedeviling the transportation systems in the country. He revealed that due to the ineffectiveness of the traffic management system in the country, the rate of RTCs is on the shocking increase, killing and maiming more citizens in this country than malaria and any other diseases. He further noted that

as a result of poor road traffic management, RTCs has become a daily occurrence in the nooks and crannies of the country. This was observed to be highest within most urban centres of Nigeria including Lagos, Abuja, Port Harcourt, Kaduna, Kano and Enugu, which are the commercial and industrial nerve centres. Though, his work was extensive in its coverage of RTM issues in relation to RTCs and its effects on national development. However, it failed to consider the need to support his argument with RTC statistical data which is very important to this study.

Furthermore, Lowe (2011) in his book, "Transport Manager's and Operator's Handbook", provided information about transport legislation procedures, technical standards and good vehicle operations. The research method adopted by Lowe is descriptive in nature. The author also adopted the document analysis method in gathering data from the study. The document analysis was conducted through the use of archival library research which involved analysing relevant information on the subject from newspapers, unpublished works and books among others to arrive at logical reasoning in his discussion. Lowe mentioned a list of international best practices with regards to RTM. He identified good vehicle operator licensing, professional competence, good vehicle driving hours and working time as the best practice with regards to effective RTM. The others are good vehicle drivers' records, tachograph, driver licensing and license penalties, driver testing and training, vehicle registration,

excise duty and trade licenses, insurance (vehicles and goods in transit) and conditions of carriage, as well as road traffic law.

The other areas identified by Lowe as the best practice for effective RTM include, goods vehicle dimensions and weights, construction and use of vehicles, vehicle maintenance and maintenance records, safety (of vehicles, of loads and at work), loads (dangerous, explosive and waste), transport and environment and business management in transport. While Lowe has given up-to-date, international and workable guide on many factors affecting RTM, he however failed to consider ways of carrying out effective RTM to reduce RTCs, which is the focus of this study.

Mfon (2013) examined the impact of traffic management on economic development in Lagos State. The research is both empirical and descriptive research. The research involved the use of both questionnaire and interview to obtain data for the study. The study consisted of 370 respondents involving active road users, traffic management agencies such as the Federal Road Safety Corps (FRSC), Lagos State Traffic Management Agency (LASTMA), Vehicle Inspection Offices, and Nigeria Police Force and other members of the general public in Lagos State. The study established that a strong and direct relationship exists between traffic management and economic development. The study also revealed that Lagos State Government in the past 8 years made a lot of efforts at developing road transport and traffic management to enhance safety and

economic development in the state. The study further pointed that such efforts include the establishment of traffic management agency, road construction and expansion and the provision of Bus Rapid Transit (BRT) among others. The study further noted that despite the efforts of the Lagos State Government in improving traffic management, the state still encounters some challenges in this regard. These range from weak legal framework, inadequate road infrastructure, inadequate funding and weak enforcement of traffic laws among others. These challenges the study revealed negatively affected the state in the areas of increasing rate of RTCs, man-hour loss, and extra- transportation cost and health hazards amongst others.

The study by Mfon however identified the light rail scheme, the Lagos traffic law and the Lagos traffic radio (FM 96.1) among others as the prospects for improving RTM for enhanced economic development in Lagos State. It also proffered some strategies to improve traffic management in Lagos State to enhance economic development in the State. Such strategies include the establishment of transport management trust fund and the provision of mobile courts among others. Despite the notable contributions of the study, it is restrictive in the sense that it focused only on Lagos State that has a peculiar socio-economic and landmass features, in contrast with this study which intends to cover FCT. It also focused on economic development which differs from the present study which lay emphasis on RTCs.

Egonu (2010) in his book '' Fundamentals of Safer Road Usage'' noted that RTCs in Nigeria both intra and inter cities have claimed so many lives and properties of a frightening dimension that it will be impossible to provide thorough statistics especially as we are officially 'Poor' with documentation. He further reported that RTCs statistics released by the FRSC show that from 1989-2000, 218,242 crashes were recorded with 82,284 persons killed. While 239,771 others sustained of various degrees on injuries. He added that this figure rose to 253, 833 cases with 112,789 persons killed by the end of the year 2000. The author also observed that it is almost very certain that these figures are grossly under quoted because most RTCs go unreported to the right authorities especially if there was no law enforcement officer around at the time of occurrence.

Additionally, he identified the causative factors of RTCs as Human, Mechanical and Environmental. He revealed that human factor accounts for over 80 per cent of RTCs in Nigeria**.** Some of the attitude of road user which result in crashes include; road rage, over-speeding, impatience, dangerous overtaking, driving under the influence of alcohol and some drugs and fatigue amongst others. On mechanical factor, he identified mainly broken down vehicles and tyre burst as the main cause of RTCs. Finally, on environmental factors, otherwise referred to road operating environment, he listed poor weather conditions, defective road designs and non –availability of requisite road

furniture and infrastructures as a contributory factor in causing RTCs. Importantly, the author examined some basic tips for staying alive for both motorist and pedestrian on the road, and steps to take in the event of RTCs. Some such survival tips include; understanding of traffic rules, maintenance safe driving distance, regards for other road users, frequent vehicle maintenance and administration of first aid amongst others. Despite the depth of analysis of Egonu in examining the various causes of RTCs and its impact on safety of lives, its use of RTCs statistics was limited to between 1989 to the year 2000 despite the fact that the work was published in 2011. This has created a statistical gap for the period of 2010-2015 which is also very important to this study because it symbolise a period where global and local attention was re-awakened to road safety management like never before through the adoption of the United Nations Decade of Action for Road Safety 2011-2020.

Furthermore, Dick (2007) in his study "Frequency of Road Traffic Accidents in Nigeria: Issues in Road Traffic Management", noted that due to the economic down turn many people, particularly business men and traders travel at night when most accidents happen. He also asserted that, FRSC officials do not get to accident scenes to carry out rescue operations due to inadequate staff, lack of operational facilities and inter-agency cooperation. He further observed that luxurious bus drivers over speed at night, dose off, and drive dangerously without rest. He also noted that most of the intra city and interstate roads are

narrow and without lights. Despite the depth of statistical analysis of Dick's research, his study however failed to identify the role technology in traffic management which will be examined in this study. The scope of his study was also limited to 2005, a decade ago. Considering the increase in vehicle population, this study will aim to find out FRSCs technological, logistic and manpower capacity in road traffic management from 2010-2015 in order to cover the gap.

The foregoing literatures have no doubt contributed appreciably to the study of RTM and RTCs Nigeria. To sum this aspect of the study up, it could be observed that each of the literature reviewed above meaningfully contributes to either the practice or the study of RTM and RTC reduction in Nigeria one way or another. However, they did not explicitly explain how RTM can translate the frequency of RTCs which constitutes a gap for further studies. Another gap in the literature is that most of the reviewed works failed to provide up-to-date RTC statistics in the country which is significant in carrying out effective RTM on order to reduce RTCs in Nigeria. It is these gaps in literature that this study intends to address by extending the frontiers of the previous research works reviewed above to examine the effect of RTM on the frequency of RTCs in Nigeria. To achieve this, it is necessary to consider a theoretical framework which would serve as the conceptual basis for explaining the interaction between RTM and RTCs.

2.3 Theoretical Framework

For proper understanding and analysis of the impact of Traffic Management on RTCs can be explained through several theories among which are Modernization Theory, Linkage theory and the Safe System Approach.

2.3.1 The Theory of Constraints (TOC)

The Theory of Constraints was postulated by Eliyahu Goldratt (1984) in his book: “The Goal”. This is a methodology for identifying the most important limiting factor (i.e. constraint) that stands in the way of achieving a goal and then systematically improving that constraint until it is no longer the limiting factor. The constraint is often referred to as a bottleneck. Constraints, according to Eliyahu, are anything that prevents the system from achieving more of its goals. The theory further gave the types of constraints as equipment, people and policy. The theory further states that any system contains a choke point also called “bottlenecks” that prevents it from achieving its goals.

The Theory of Constraints is highly restrictive because it fails to proffer strategies to overcoming the identified constraints, chokes or bottlenecks; hence, it was not suitable for this study.

2.3.2 The Linkage Theory

The linkage theory as propounded by Rosenau and Wilson (1969) argues that the recurrent sequence or behaviour that originates in one system is, almost

always, reacted to in another. The implication of this is that changes or reactions in one organisation or establishment are usually a response to developments in another organisation or establishment. Going by this explanation therefore, it could be inferred that social and organisational conducts are spin-offs of initial actions and/or reactions.

They posited that the actions or reactions of a sub-system or agency are products of variables within the sub-system itself and not necessarily as a result of external factors. This theory cannot be adopted for this study because it failed to identify those external factors such as government policies and funding which can contribute to ineffective road traffic management, thereby increasing the rate of road traffic crashes.

2.3.3 The Safe System Approach

The Safe System Approach was postulated in 2007 at the Accra Declaration for Road Safety and subsequently remodeled in 2010 by the United Nations as contained in United Nations Decade of Action for Road Safety 2011-2020.

The Safe System approach is seen as the most appropriate approach in guiding the management of traffic and road safety for low and middle-income countries like Nigeria. The Safe System approach typically aim to develop a road transport system that is able to accommodate human error by providing a

safe operating environment, despite human fallibility. It recognises that humans as road users are the weakest link in the transport chain, unpredictable and capable of error in spite of his level of education and information (PIARC 2014). Therefore, there is need to effectively manage his activities and conduct on the road to maximise safety and reduce crash and its attendant consequences. A key part of the Safe System approach requires that the road system be designed to take account of these errors and vulnerabilities so that road users are able to avoid crashes or serious injury and death on the road on the event of its occurrence.

A Safe System approach has the following characteristics:

- It recognizes that prevention efforts notwithstanding, road users will remain fallible and crashes will occur.
- It stresses that those involved in the design of the road transport system need to accept and share responsibility for the safety of the system, and those that use the system need to accept responsibility for complying with the rules and constraints of the system.
- It aligns safety management decisions with broader transport and planning decisions that meet wider economic, human and environmental goals.

- It shapes interventions to meet the long term goal, rather than relying on "traditional" interventions to set the limits of any long term targets.

This represents a fundamental shift in thinking in how we try to address road safety. For many road crashes there is likely to be some form of road improvement that could be made to reduce the likelihood of a fatal or serious injury crash occurring (IRAP, 2016). However, in a Safe System approach, road safety problems are typically treated by considering the interaction of several components of the transport system, rather than by implementing individual countermeasures in relative isolation. This means that Safe Vehicles, Safe Infrastructures, Safe Road User Behaviour, Improved Road Management and Post-Crash Response and Care which are the five main cornerstones of the model that need to be adequately addressed.

In commending the Safe Systems approach, the Organization for Economic Co-operation and Development (OECD) noted that adoption of the Safe System Approach is fundamental towards achieving enhanced traffic management and road safety for reduce road traffic crashes and resultant fatalities and injuries (OECD, 2010). To further corroborate the view of OECD, the World Health Organisation (WHO) lends its support for the Safe System Approach. In its World Report on Road Traffic Injury Prevention in 2010, WHO recommended strategic initiatives necessary to improve country RTM and road safety performance. These are to:

- Assess the problem, policies and institutional settings relating to road traffic injury and the capacity for road traffic injury prevention in each country.
- Prepare a national road safety strategy and plan of action.
- Allocate financial and human resources to address the problem.
- Implement specific actions to prevent road traffic crashes, minimize injuries and their consequences and evaluate the impact of these actions.
- Support the development of national capacity and international cooperation.

Despite the above commendations for the Safe System Approach, it has been criticised by different scholars. Most notably is the criticism of Wegman (2011). Wegman noted that the Safe System Approach concentrated more on the elimination of fatalities and injuries occasioned by RTCs instead of RTC reduction. They further criticised that the approach focused on providing safe system elements without paying attention to enforcement of best road use practices by government.

Notwithstanding the criticism of the Safe System Approach, the study draws relevance from the theory. The Safe System Approach can be applied to the study to show that Road Traffic Management has direct relationship with Road Traffic Crashes. There is a clear implication that an effective traffic management through enforcement of traffic laws, safe vehicles operations, safe

infrastructure, safe road user behaviour, improved road design/management and post-crash response/care would definitely have resultant positive effects on the reduction in the rate of RTCs in Nigeria. On a contrary note, ineffective RTM strategies would have resultant negative effects on road safety thereby increasing the rate of RTCs in the country. Based on the above, The Safe Safety Approach is therefore a suitable platform upon which this study can be anchored.

CHAPTER THREE

METHODOLOGY

This chapter discusses the way the study will be carried out. It is the method through which data will be collected, organised and tools to be deployed in the analysis of the relevant data on the research subject. This covers the research design, sources of data, techniques for data collection, sample population, sampling techniques, data presentation and analysis.

3.1 Research Design

The research design is a work plan or blueprint with a detailed structure of how data will be collected. Its function is to ensure that data obtained addresses the research questions adequately and unambiguously. The type of research design to deploy depends on the problem being investigated. Some types of research designs used are as follows:

3.1.1 Longitudinal Study

This is an observational research method in which data is gathered for the same subjects or respondents over a period of time lasting many years. Longitudinal study is observational and extends beyond a single moment of time. As a result, they can establish sequences of events and most likely to

suggest causes and effect relationship. This design, however, is not suitable for this study as the researcher is constrained by time in undertaking such a study that will last many years. Therefore, it is not adopted for this research.

3.1.2 Cross-Sectional Research Design

This research design involves collecting data from a section of the population relevant to the study at a particular point in time to help in answering research questions. The benefit of cross-sectional design is that it enables the researcher to compare changes over a short period of time and relate them to the variables that might explain why the changes occur. It is also flexible and applicable to various fields of study focused on finding established relationship between variables and allowing for examination of multiple factors outcome in a single study. Another reason for the researcher's choice of this design is the use of representative population to interprete the general population from which the sample is drawn. Some limitations of the study were overcome by this research design.

3.2 Sources of Data

The study used both primary and secondary sources of data to draw realistic inference from the research.

3.2.1 Primary Source of Data

Respondents who filled questionnaire were drawn from FRSC, NPF, DRTS, NURTW, Fleet Operators (Abuja Mass Transit and Peace Mass Transit), RTEAN, Other Road Users (private drivers and commuters) and Road Sector Development Team of the Federal Ministry of Power, Works and Housing.

Other sources of primary data were interviews conducted with the FCT Sector Commander of FRSC, FCT State Traffic Officer of NPF, Director DRTS, FCT and the Unit Manager RSDT respectively.

3.2.2 Secondary Source of Data

The research also relied on secondary data sourced from the FRSC database, journals, official publications, seminars and workshops papers. Other sources are policy documents and internet.

3.3 Techniques of Data Collection

The techniques employed for the data collection were the administration of closed ended questionnaire on the field and analysis of relevant documents such as books, unpublished research works from NIPSS, and ISS. The commonly employed method of data collection in social science like survey, interview, archival record and official statistics were used. Structured

questionnaire were used to interview selected drivers in different locations in the FCT according to their category (whether private, government or commercial drivers). Questionnaire were also administered to commuters, while uunstructured interviews were held with the heads of road traffic management agencies in the FCT. These included, NPF, FRSC, DRTS and RSDT.

3.4 Population and Sampling Technique

The entire population of this study is the Federal Capital Territory (FCT). The FCT is a hub of vehicular density as a result of being the nation's seat of government and a gateway from Southern part of the country to the North Central and North West region respectively. The study was based on sampling a population 300 drivers conducted in the six (6) Area Councils of the FCT viz; Abuja Municipal, Abaji, Gwagwalada, Bwari, Kuje and Kwali respectively. The sample units were selected purposively among experienced drivers in the FCT. This is with a view to obtain objective responses on the subject of research from the population of drivers in the FCT that are private, government or commercial.

Two hundred and seventy (270) copies of questionnaire were administered successfully. However, twenty questionnaire were initially used to test the response from the respondents. Based on the outcome of the responses, additional information was included in the questionnaire before a final draft was

produced, which was administered in the field. Three research assistants were used to administer the questionnaire as follows.

Table 3.1: Distribution and Retrieval of Questionnaire

S/N	Respondents	Number of Questionnaire Administered	Number Returned	Number Not Returned
1.	Federal Road Safety Corps (FRSC)	55	55	0
2.	Traffic Division of Nigeria Police Force (MTD)	35	30	5
3.	National Union of Road Transport Workers (NURTW)	35	30	5
4.	Directorate of Road Traffic Services (DRTS, VIO)	30	25	5
5.	Fleet Operators (Abuja Mass Transit and Peace Mass)	30	25	5
6.	Private Drivers and Commuters	77	75	3
7.	Road Transport Employers of Nigeria (RTEAN)	20	15	5
8.	Road Sector Development Team (RSDT) of Fed. Min. of Works	18	15	2
	Total	**300**	**270**	**30**

The breakdown of respondents in the above table indicates that the questionnaires were administered to the selected groups of stakeholders that are relevant to the subject under study. As stakeholders in organisations involved in road traffic management and road users, they are expected to have experience

on factors or aspects of road traffic management that cause road traffic crash. These stakeholders are therefore significant to the outcome of the study.

Table 3.2: Showing Distribution of Questionnaire to Stakeholders According to Area Councils in the FCT

S/n	Stakeholders	Area councils						Total
		Abaji	AMAC	Bwari	Gwagwalada	Kwali	Kuje	
1	FRSC	5	25	5	**10**	5	**5**	**55**
	NPF(MTD)	3	15	3	**3**	3	**3**	**30**
3	DRTS(VIO)	2	15	2	**7**	2	**2**	**30**
4	NURTW	2	15	2	**2**	2	**2**	**25**
5	FLEET OPERATORS	2	15	2	**2**	2	**2**	**25**
6	RTEAN	2	5	2	**2**	2	**2**	**15**
7	COMMUTERS	10	25	10	**10**	10	**10**	**75**
8	ROAD SECTOR DEV TEAM	0	15	0	**0**	0	**0**	**15**
	TOTAL	**26**	**130**	**26**	**36**	**26**	**26**	**270**
	PERCENTAGE	**9.6**	**48.2**	**9.6**	**13.4**	**9.6**	**9.6**	**100**

3.4.1 Sampling Technique

The purposive sampling technique was used to draw the sample for the study based on knowledge and experience of respondents on the subject matter. Similarly, non-probabilistic sampling technique which does not need a set number of informants or underlying theories was used. This implies that the research engaged people who can and are willing to provide the required information based on knowledge or experience. The respondents were selected based on willingness to discuss the interactions between road traffic

management and road traffic crashes in the FCT. The experience of the researcher as a senior FRSC officer was used to avoid generalisation and bias peculiar to non-probabilistic sampling.

3.4.2 Field Methods

This method was deployed to collect primary data through the administration of questionnaire on the sample population and interview of some selected people within the sample population. While both methods sought for quantitative data, the data generated through questionnaire were subjected to statistical analysis, the information obtained from the interviews were used to further support statistical inference from questionnaire responses and close gaps arising from same.

3.5 Method of Data Analysis

The quantitative and qualitative methods of data analysis were used. The data was analysed and presented using frequency distribution tables, charts, figures and percentages to explain whether research objectives have been met and research questions answered. They were also used to explain whether there is a relationship between RTM (the independent variable) and RTC (dependent variable). Interview responses were further used to discuss the outcome of the research in answering the research questions.

CHAPTER FOUR

4.0 DATA PRESENATION, INTERPRETATION AND DISCUSSION

Data in its unprocessed and analysed form is not useful until it is interpreted and presented in a form that will make it appealing and interesting to the user for decision making and policy formulation purpose. This chapter deals with the statistical analysis of the data obtained from the administered questionnaire and the interview, observation and analysis of document from relevant organisations. For the purpose of clarity, simple statistical tools of frequency counts and percentages were used (Tables and Charts) both quantitatively and qualitatively.

4.1 Presentation, Analysis and Interpretation of Research Data

A total of three hundred (300) copies of questionnaire were distributed to traffic management agencies and other stakeholders namely; FRSC, DRTS (VIO), NURTW, RTEAN, NPF, RSDT. The respondents were drawn from the six (6) Area Councils of the FCT, namely; Abuja Municipal Area Council (AMAC), Gwagwalada, Abaji, Bwari, Kuje and Kwali respectively. Two hundred and seventy (270) questionnaires representing 90% were retrieved and analysed. A copy of the questionnaire is hereby attached as Appendix I. The research objectives were used to summarise the findings. Demographic Characteristics of the respondents are shown in the tables below:

Table4. 1: Distribution of Respondents Location in FCT

S/N	STAKEHOLDERS	AREA COUNCILS						TOTAL	PERCENTAGE
		ABAJI	AMAC	BWARI	GWAGWALADA	KWALI	KUJE		
1	FRSC	5	25	5	10	5	5	**55**	**20.4**
	NPF(MTO)	3	15	3	3	3	3	**30**	**11.1**
3	DRTS(VIO)	2	15	2	7	2	2	**30**	**11.1**
4	NURTW	2	15	2	2	2	2	**25**	**9.3**
5	FLEET OPERATORS	2	15	2	2	2	2	**25**	**9.3**
6	RTEAN	2	5	2	2	2	2	**15**	**5.5**
7	COMMUTERS	10	25	10	10	10	10	**75**	**27.8**
8	ROAD SECTOR DEV. TEAM	0	15	0	0	0	0	**15**	**5.5**
	TOTAL	**26**	**130**	**26**	**36**	**26**	**26**	**270**	**100**
	PERCENTAGE	**9.6**	**48.2**	**9.6**	**13.4**	**9.6**	**9.6**	**100**	

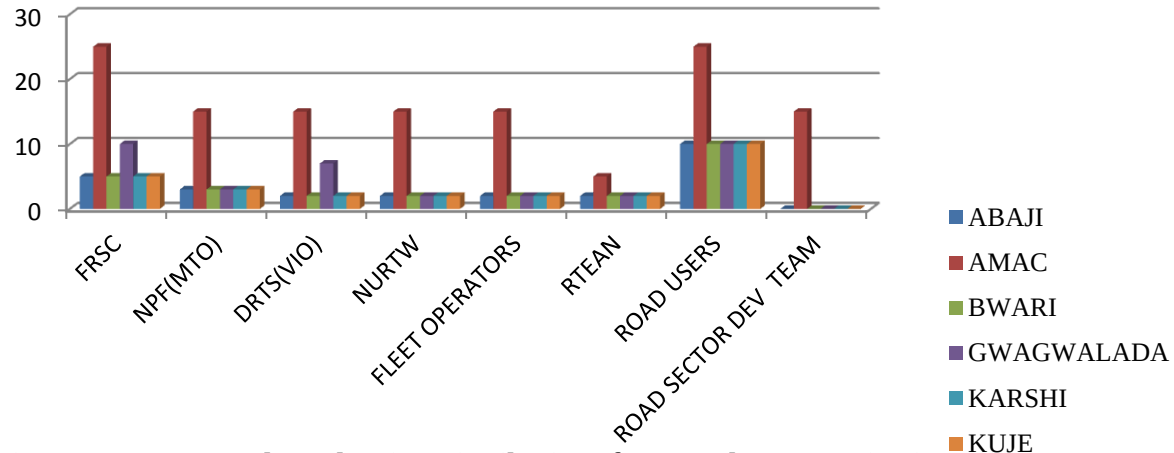

Figure 4. 1: A Bar Chart showing Distribution of Respondents Location in FCT.

SOURCE: Researcher's Field Survey, 2016.

Table 4.1 and Figure 4.1 above show the location of returned questionnaire distributed to stakeholders and other road users in the FCT. It indicates that the highest number of respondents which amounts to 130 representing 48.2% of the total respondents are resident in AMAC, 26 respondents representing 9.6% each

are resident in Abaji, Kuje, Kwali and Bwari respectively. While the remaining 36 respondents representing 13.4 % are resident in Gwagwalada. It goes to confirm that majority of the motoring population in the FCT are resident in AMAC.

Table 4.2& Fig 4.2: Gender Distribution of Respondent

S/N	Variables	Frequency	Percentage
1	Male	199	73.7
2	Female	71	26.3
	Total	**270**	**100**

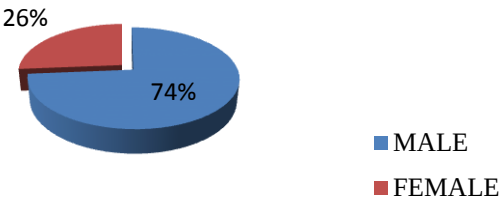

Figure 4. 2: A pie chart showing Gender Distribution of Respondents

SOURCE: Researcher's Field Survey,2016.

Table 4.2 and Figure 4. 2 above show that 199 respondents representing (73.7%) were male while the remaining 71 respondents representing (26.3%) were female. This also showed that the populations of the drivers in the FCT are mostly male since the questionnaires were purposively distributed to drivers.

Table 4.3& Fig4.3: Distribution of Respondents Marital Status

S/N	Variables	Frequency	Percentage
1	Single	88	32.5
2	Married	142	52.6
3	Divorced	14	5.3
4	Widowed	26	9.6
	Total	270	100

SOURCE: Researcher's Field Survey,2016.

Table 4. 3 and Figure 4. 3 above revealed the distribution of respondents' marital status as thus: 88 respondents representing (32.5%) single, majority of 142 representing (52.6%) married, 14 respondents representing (5.3%) divorced and the remaining 26 respondents representing (9.6%) were widowed. This show that majority of the respondents (53%) are married.

Table 4.4& Fig 4.4: Age Distribution of Respondents.

S/N	Variables	Frequency	Percentage
1	18-20 Yrs	**13**	4.8
2	21-30 Yrs	**62**	22.9
3	31-40 Yrs	98	36.3
4	41-50 Yrs	**65**	24.2
5	51 Yrs- Above	**32**	11.8
	TOTAL	**270**	**100**

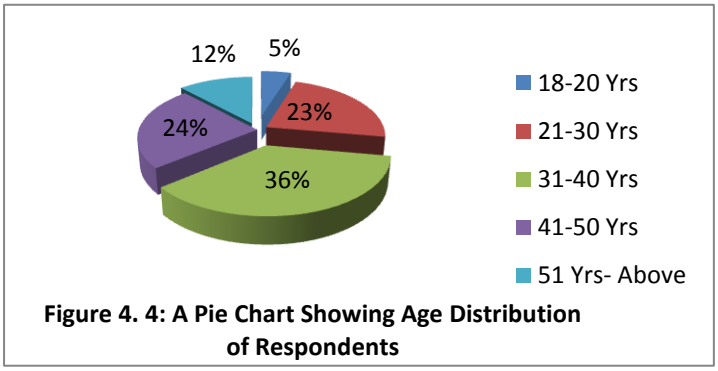

Figure 4. 4: A Pie Chart Showing Age Distribution of Respondents

SOURCE: Researcher's Field Survey, 2016

Table 4.4 and Figure 4.4 above show a high index in a particular age group (31-40 years) with 98 respondents representing 36.3%. This goes to confirm consistency with the number of years in their service for civil servants and active age to be engaged in driving, an indication of knowledge of what the research is all about. While the low value recorded between (between 18-20 years with 13 respondents representing 4.8%) indicates that this group are new in the services or young road users with little or no experience of what the study is aiming to achieving. The other age brackets are 21-30 years representing 22.9% and 41-50 years representing 24.2% of the total respondents respectively.

Table 4.5& Fig 4.5: Distribution of Education Qualification of Respondents

S/N	Variables	Frequency	Percentage
1	PhD	**3**	1.1
2	M.Sc	**28**	10.3
	PGD	**15**	5.5
4	**B.Sc/HND**	**96**	35.5
5	OND/NCE	**59**	21.8
6	**SSCE**	**69**	25.5
7	FSLC	**0**	0
8	**OTHERS**	**0**	0
	TOTAL	**270**	**100**

SOURCE: Researcher's Field Survey, 2016

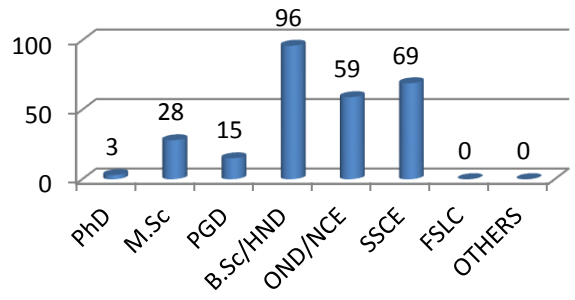

Figure 4.5: A Bar Chart Showing Educational Qualification of Respondents

Table 4.5 and Figure 4.5 shows that none of the respondent holds a First School Leaving Certificate. The Secondary School Certificate holders among the respondents were 69 representing 25.5%., PhD holders as 3 respondents (1.1%), Msc as 28 respondents (10.3%), PGD as 15 respondents (5.5%), B.Sc/HND as 96 respondents (35.5%) and ND/NCE holders as 59 (21.8%). Having majority of the respondents coming from holders of various degrees and diplomas from tertiary institutions simply revealed that they have the ability to understand the questions asked on the questionnaire, and hence gave answers that will guarantee credible research findings.

Table 4.6 & Fig 4.6: Distribution of Respondents Occupation.

S/N	Variables	Frequency	Percentage
1	Civil Servant	149	55.1
2	Company Worker	31	11.4
3	Business Man/Woman	42	15.5
4	Artisan	11	4.0
5	NGO Worker	16	5.9
6	Others	21	7.7
	TOTAL	**270**	**100**

SOURCE: Researcher's Field Survey, 2016

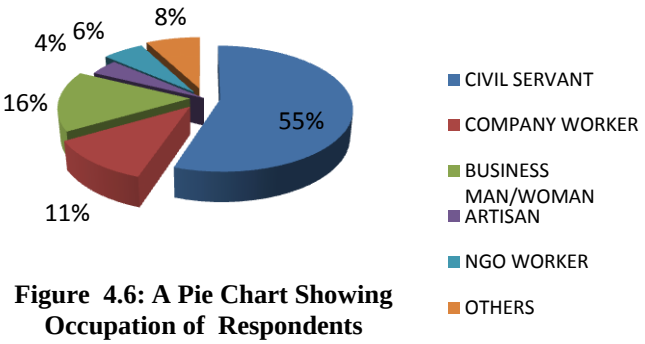

Figure 4.6: A Pie Chart Showing Occupation of Respondents

Table 4.6 and Figure 4.6 above show that majority of the respondents 149 representing (55.1%) were civil servants, 31 respondents representing (11.4%) were company workers and 42 respondents representing (15.5%) were businessmen and women. The remaining 11,16 and 21` respondents representing 4.0%, 5.9% and 7.7% respectively were artisans, NGO workers and others professionals. This implies that majority of the respondents are civil servants from the FRSC, DRTS (VIO), NPF, RSDT and other government establishments. Therefore, they are familiar with the challenges, issues and prospect for traffic management in the FCT as they drive to work weekly. It is believed that they can give objective response to the research questions.

Table 4.7.Distribution of Work Experience of Respondents

S/N	STAKEHOLDERS	YEARS OF WORK EXPERIENCE							**TOTAL**
		1- 5 Yrs	6-10 Yrs	11-15 Yrs	16-20 Yrs	21-25 Yrs	26-30Yrs	31Yrs-Above	
1	FRSC	5	10	12	11	9	5	3	**55**
2	NPF(MTO)	1	13	6	5	2	1	0	**30**
3	DRTS(VIO)	6	12	7	3	4	0	0	**30**
4	NURTW	3	8	7	4	3	0	0	**25**
5	FLEET OPERATORS	14	7	3	1	0	0	0	**25**
6	RTEAN	12	3	0	0	0	0	0	**15**
	ROAD SECTOR DEV TEAM	2	8	2	2	1	0	0	**15**
7	ROAD USERS	11	31	12	7	5	6	3	**75**
	TOTAL	**54**	**92**	**49**	**33**	**24**	**12**	**6**	**270**
	PERCENTAGE	**20**	**34.1**	**18.1**	**12.2**	**8.9**	**4.4**	**2.2**	**100**

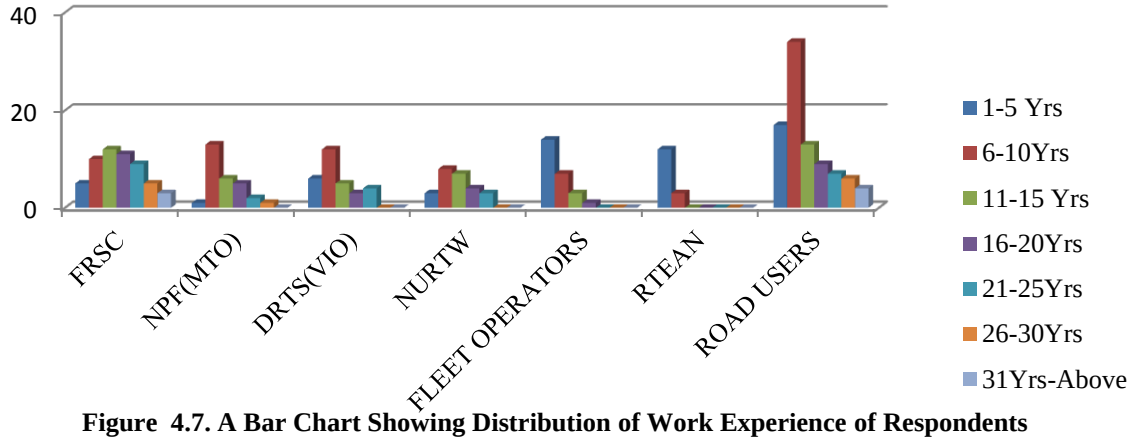

Figure 4.7. A Bar Chart Showing Distribution of Work Experience of Respondents

SOURCE: Researcher's Field Survey, 2016

Table 4.7 and Figure 4.7 above indicates that respondents with years of experience ranging between 1-5 years were 58 representing 21.5%, 87 respondents representing 32.2% have between 6-10 years working experience, 49 respondents representing 18.1% have worked for between 11- 15 years while 33 respondents representing 12.2 % have between 16-20 years work experience. Others are 25 respondents representing 9.2 %, 12 respondents representing 4.4 % and 7 respondents representing 2.6% are having working experience ranging between 21-25 years, 26-30 years and 31 years and above respectively. The majority of the respondents having between 6-10 years working experience imply that they are itinerant and must have gathered the requisite experience on driving to contribute effectively in the research topic. While the least coming from the 26-30 years and 31 years and above may mean that they are at the managerial position with tight schedules and do not drive regularly, hence are few in number. Notwithstanding, they would have been in the best position to

also provide more credible answers to the research questions because of the years of experience.

Table 4.8: Distribution of Respondents' Driving Ability

S/N	Variables	Frequency	Percentage	Total
1	YES	209	77.4	**270**
2	**NO**	**61**	**22.6**	**100**

SOURCE: Researcher's Field Survey, 2016

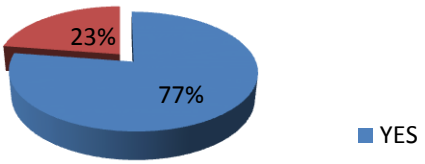

Figure 4. 8. A Pie Chart showing Driving Ability of Respondents

Table 4.8 and Figure 4.8 show reveal that 209 respondents representing 77.4% of the respondents can drive while the remaining 61 respondents representing 22.6 % cannot drive. This means that majority of respondent are having the ability to drive, it is believed that they can properly situate the causes of RTCs and challenges of traffic management based on their experience**.**

Table 4.9. Distribution of Respondents Driver Category

S/N	Variables	Commercial	Private	Government	Total
1	**Frequency**	42	146	21	**209**
2	**Percentage**	20.1	69.9	10.0	**100**

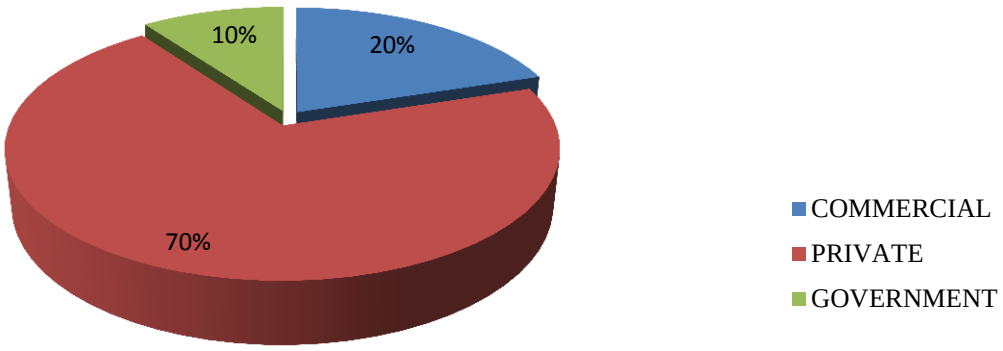

Figure 4.9. A Pie Chart Showing Distribution of Respondents' Category of Driver

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SOURCE: Researcher's Field Survey, 2016

Table 4.9 and Figure 4.9 show that out of the 209 respondents who have the ability to drive, 42 of them representing 20.9% are commercial drivers, 149 representing 69.9% are private drivers, while 21 respondents representing 10% are government drivers. This indicates that majority of drivers in the FCT are private drivers. The low number of commercial drivers recorded may be due to the ban placed on the commercial buses that were operational in the city center by the Federal Capital Territory Administration (FCTA).

Table 4.10:Distribution of Respondents' Driving Experience

S/N	**VARIABLES**	1- 5 Yrs	6-10 Yrs	11-15Yrs	16-20 Yrs	21-25Yrs	26-30Yrs	31Yrs-Above	**TOTAL**
1	**Frequency**	25	57	49	31	17	19	11	**209**
2	**Percentage**	11.9	27.4	23.4	14.8	8.1	9.1	5.3	**100**

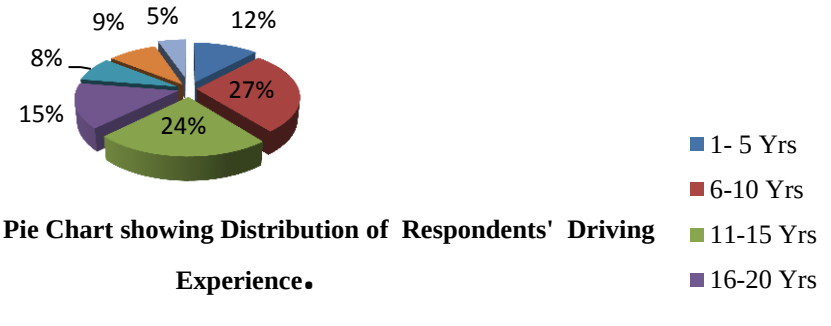


Figure 4.10. A Pie Chart showing Distribution of Respondents' Driving Experience.

SOURCE: Researcher's Field Survey, 2016

Table 4.10 and Figure 4.10 above show the years of driving experience of respondents. It indicated that 25 respondents representing 11.9% have driving experience ranging between 1-5 years, 57 respondents representing 27.4% being the majority have been driving for between 6-10 years, 49 respondents representing 23.4% have between 11- 15 years driving experience, while 31 respondents representing 14.8 % have between 16-20 years driving experience. The remaining 17 respondents representing 8.1 %, 19 respondents representing 9.9 % and 11 respondents representing 5.1 % are having driving experience ranging between 21-25 years, 26-30 years and 31 years and above respectively. The majority of the respondents having between 6-10 years of driving experience show that they have an appreciable level of experience since they have been drivers for years. Therefore, it is believed that their experience will count positively in providing valuable answers for the research.

Table 4.11: Distribution of Respondents' Involvement in Road Traffic Crashes

S/N	VARIABLES	YES	NO	TOTAL
1	Frequency	188	82	270
2	Percentage	69.6	30.4	100

SOURCE: Researcher's Field Survey, 2016

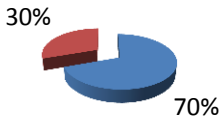


Fig 4.11. A Pie Chart showing Distribution of Respondents' Involvement in RTCs in the FCT

Table 4.11 and Figure 4.11 reveal that the distribution of respondents that have been involved in RTCs in the FCT were 188 representing 69.6% while those that have never been in involved in RTCs were 73 respondents representing 30.4%. This analysis as affirmed by majority indicates that most FCT residents have been involved in various degrees of RTCs.

Table 4.12.Distribution of Respondents' Number of Involvement in Road Traffic Crashes

S/N	Variables	1 Time	2 Times	3 Times	4 Times &Above	Total
1	Frequency	91	58	27	12	188
2	Percentage	48.4	30.9	14.3	6.4	100

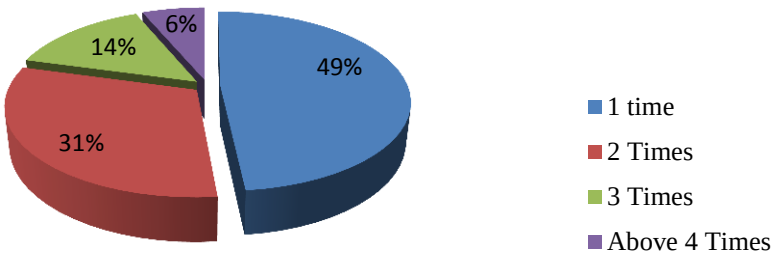


Fig 4.12. A Bar Chart showing Distribution of Respondents' Number of Involvement in RTCs in the FCT

SOURCE: Researcher's Field Survey, 2016

Table 4.12 and Figure 4.12 reveal that out of the 188 respondents that have been involved in RTCs in the FCT, majority of the respondents (91) representing 48.1% said they have been involved in RTCs once (1 Time), 68 respondents representing 30.9% have been involved in RTCs two (2) times, 27 respondents representing 14.3% said they have been involved in RTCs three (3) times, and the least being 12 respondents representing 6.4% have been involved in RTCs four (4) times and above. Deductively, about 79% of the respondents have been involved in RTCs between 1 and 2 times in the FCT, therefore, this implies that rate of occurrence of RTCs in the FCT is considerably high.

Table 4.13. Distribution of Outcome of Involvement in RTCs

S/N	VARIABLES	FATAL (INVOLVING DEATH)	SERIOUS (INVOLVING INJURIES)	MINOR (NO INJURIES)	TOTAL
1	Frequency	35	81	72	**188**
2	**Percentage**	**18.6**	**43.1**	**38.3**	**100**

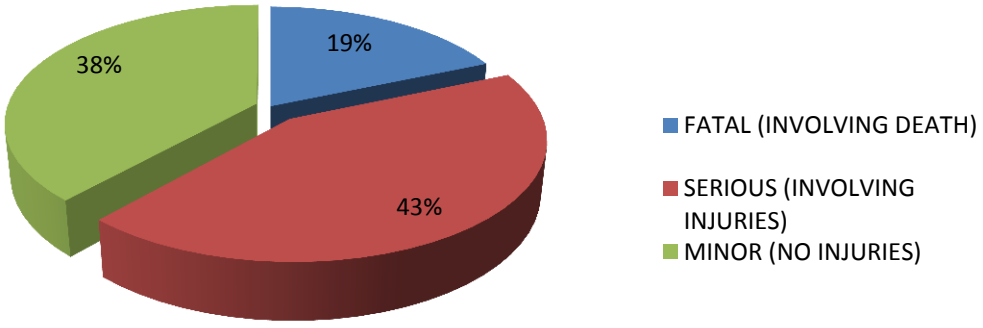


Fig 4.13: Showing Respondents' Distribution Out come of Involvement in RTCs

SOURCE: Researcher's Field Survey, 2016

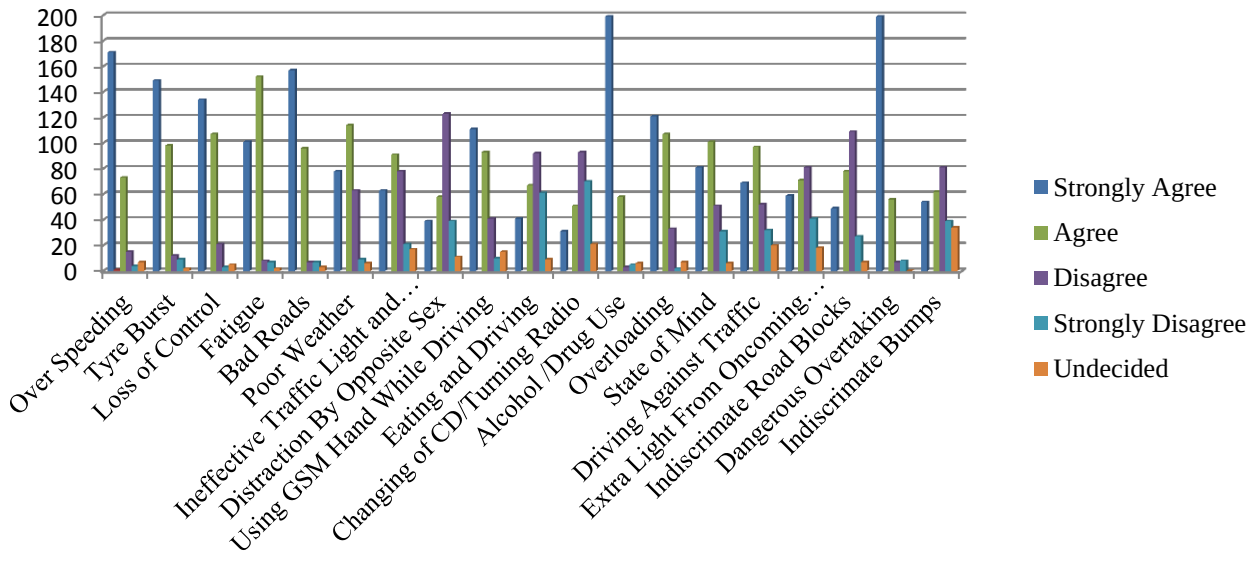
Table 4.13 and Figure 4.13 reveal that out of the 188 respondents that have been involved in RTCs in the FCT, 35 of the respondents representing 18.6% experienced crashes that were fatal (involving death), while 81 respondents representing 43.1% opined that the crashes they were involved in were serious (involving various degree of injuries) and the remaining 72 respondents representing 38.3% revealed that the crashes they were involved minor crashes (no injuries). This is an indication that majority of RTCs that occur in FCT are serious and minor

Table 4.14a:Distribution of Causes of Road Traffic Crashes

S/N	CAUSES OF CRASHES	RESPONSES					TOTAL
		Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided	
	Over Speeding	171	73	15	**4**	7	**270**
	%	**63.3**	**27**	**5.5**	**1.6**	**2.6**	**100**
	Tyre Burst	149	98	12	**9**	2	**270**
	%	**55.2**	**36.3**	**4.4**	**3.3**	**0.7**	**100**
	Loss of Control	134	107	21	**3**	5	**270**
	%	**49.6**	**39.6**	**8.8**	**1.1**	**1.9**	**100**
	Fatigue	101	152	8	**7**	2	**270**
	%	**37.4**	**56.2**	**2.9**	**2.5**	**0.7**	**100**
	Bad Roads	157	96	7	**7**	3	**270**
	%	**58.1**	**35.5**	**2.5**	**2.5**	**1.1**	**100**
	Poor Weather	78	114	63	**9**	6	**270**
	%	**28.8**	**42.2**	**23.3**	**3.3**	**2.22**	**100**
	Ineffective Traffic Light and Warden	63	91	78	**21**	17	**270**
	%	23.3	33.7	28.8	**7.7**	6.3	**100**
	Distraction By Opposite Sex	39	58	123	**39**	11	**270**
	%	14.4	21.5	45.5	**14.4**	4.1	**100**
	Using GSM Hand While Driving	111	93	41	**10**	15	**270**
	%	41.1	34.4	15.2	**3.7**	5.5	**100**
	Eating and Driving	41	67	92	**61**	9	**270**

	%	**15.9**	**24.8**	**34.1**	**22.6**	**3.3**	**100**
	Changing of CD/Turning Radio	31	51	93	**70**	21	**270**
	%	15.2	18.8	34.4	**25.9**	7.8	**1001**
	Alcohol /Drug Use	199	58	3	**5**	6	**270**
	%	73.7	21.4	1.11	**1.8**	2.22	**100**
	Overloading	121	107	33	**2**	7	**270**
	%	44.8	39.6	12.2	**0.7**	2.5	**100**
	State of Mind	81	101	51	**31**	6	**270**
	%	**30**	**37.4**	**18.8**	**11.4**	**2.22**	**100**
	Driving Against Traffic	69	97	52	**32**	20	**270**
	%	**25.5**	**35.9**	**19.3**	**11.8**	**7.4**	**100**
	Extra Light From Oncoming Vehicles	59	71	81	**41**	18	**270**
	%	**21.8**	**26.3**	**30**	**15.2**	**6.6**	**100**
	Indiscrimate Road Blocks	49	78	109	**27**	7	**270**
	%	**18.1**	**28.9**	**40.4**	**10**	**2.6**	**100**
	Dangerous Overtaking	199	56	7	**8**	0	**270**
	%	**73.7**	**20.7**	**2.5**	**2.9**	**0**	**100**
	Inadequate Road Signs	78	99	60	**28**	8	**270**
	%	**28.8**	**36.6**	**22.2**	**10.4**	**2.9**	**100**
	Indiscrimate Bumps	54	62	81	**39**	34	**270**
	%	**20**	**22.9**	**30**	**14.4**	**12.6**	**100**

Fig 4. 14a. A Bar Chart showing Distribution of Causes of RTCs in the FCT.



SOURCE: Researcher's Field Survey, 2016

Table 4.14a and Figure 4.14a show respondents opinion on the causes of RTCs in the FCT. Analysis revealed that 171 respondents representing 63.3% strongly agree that over speeding is the major cause of RTCs, 73 representing 27% agree and 15 respondents representing 5.5% disagree. The remaining 4 and 7 respondents representing 1.6% and 2.6 % strongly disagree and undecided. The above summation implied that over speeding is a major cause of RTCs in the FCT. This is in agreement with FRSC probable causes of RTCs in 2013, 2014 and 2015 which revealed that over speeding accounted for highest cause of RTCs with 35.7%, 33.6% and 22.9% for 2013, 2014 and 2015 respectively as reflected on Table 4.14b and Figure 4.14b below.

On tyre burst, 149 (55.2%) of respondents strongly agree that it is another major cause of RTCs, 98 (36.3%) agree, 12 (4.43%) disagree, while 9 (3.3%) and 2 (0.7%) strongly disagree and undecided respectively. For loss of control, 134 (49.6%) of the respondents strongly agree, 107 (39.6%) agree, 21 (8.8%) disagree, and the remaining 3(1.13%) and 5(1.9%) strongly disagree and undecided. This is also validated by FRSC statistics below which show that tyre burst contributed 7.3% of the total reported cases of RTCs in the FCT for 2015 and 2014 and 3.8% for 2013 respectively.

Furthermore, on fatigue which has also been identified as a cause of RTCs, 101(37.4%) of respondents strongly agreed, 152(56.2%) agreed and

8(2.9%) disagreed, while 7 (2.5%) and 2 (0.7%) strongly disagreed and were undecided respectively. This was also corroborated by FRSC statistics below. On bad road, 157 (58.1%) of respondents strongly agreed that it causes RTCs, 96 (35.5%) agree, 7 (2.5%) each disagreed and strongly disagreed while 3 (1.1%) were undecided. Poor weather was also identified as a cause of RTCs. On this, 78 (28.8%) of respondents strongly agreed, 114(42.2%) agreed and 63(23.3%) disagreed. While 9 (3.3%) and 6 (2.2%) strongly disagreed and were undecided respectively.

On the impact of ineffective traffic lights and warden on RTCs, 63(23.3%) of respondents strongly agreed it causes RTCs, 91(33.7%) agreed while 78 (28.8%) disagreed while the remaining 21 (7.7%) and 17 (6.3%) strongly disagreed and were undecided respectively. On distraction by opposite sex while driving, 39 (14.4%) of respondents strongly agreed that it causes RTCs, 58 (21.5%) agreed, and 123 (45.5%) disagreed. The remaining 39(14.4%) and 11(4.1%) strongly disagreed and undecided. This implies that distraction from opposite sex while driving is not a causative factor of RTCs.

For use of mobile phone (GSM) while driving, 111 (41.1%) of the respondents strongly agreed that its causes RTCs, 93 (34.4%) agreed, and 41(15%) disagreed. Others are 10(3.7%) and 15(5.5%) who strongly disagreed and undecided. Furthermore, on eating and driving, 41(15.9%) of respondents

strongly agreed that its causes RTCs, 67 (24.8%) agreed, and 92 (34.1%) disagreed while 61 (22.6%) and 9 (3.3%) strongly disagreed and undecided. On whether changing of CD/Tuning Radio can result to RTCs, 31(15.2%) of respondents strongly agreed, 51(18.8%) agreed, and 93(34.4%) disagreed. The remaining 70 (25.9%) and 21(7.8%) strongly disagreed and undecided respectively.

Similarly, on the contribution of alcohol and drug use by drivers to RTCs, overwhelming 199 (73.7%) of respondents strongly agreed that its causes RTCs, while 58 (21.45%) and 3 (1.1%) agreed and disagreed respectively. The remaining 5(1.8%) and 6 (2.2%) strongly disagreed and undecided. On overloading, 121(44.8%) of respondents strongly agreed that its causes RTCs, 107(39.6%) agreed, and 33(12.2%) disagreed. Others are 2 (0.7%) and 7(2.5%), who strongly disagreed and undecided. For driver state of mind while driving, 81(30.0%) of respondents strongly agreed that its causes RTCs, 101(37.4%) agreed, and 51(18.8%) disagreed. Others are 31 (11.4.7%) and 6 (2.22%), who strongly disagreed and were undecided.

On driving against traffic, 69 (25.5%) of respondents strongly agreed that it causes RTCs, 97 (35.9%) agreed, and 52 (19.3%) disagreed. Others are 32 (11.8%) and 20(7.4%) strongly disagreed and undecided. Furthermore, on extra light from oncoming vehicles, 59 (21.8%) of respondents strongly agreed that it

causes RTCs, 71 (26.3%) agreed, and 81(30.0%) disagreed while the remaining 41(15.2%) and 18 (6.6%) strongly disagreed and undecided respectively. The result also revealed that 49(18.1%) of respondents strongly agreed that indiscriminate road blocks cause RTCs, 78(28.9%) also agreed and the majority of 109 (40.4%) show contrary opinion by disagreeing while the remaining 27 (10%) and 7(2.6%) strongly disagreed and were undecided.

For dangerous overtaking, a significant number of 199(73.7%) of the respondents strongly agreed that its causes RTCs, 56 (20.7%) agreed, and 7(2.5%) disagreed while 8(2.9%) respondents strongly disagreed, none were undecided. The deduction of analysis that dangerous and wrongful overtaking causes RTCs is in agreement with FRSC statistics where dangerous overtaking accounted for 9.9%, 3.7% and 3.3 % of the total RTCs in the FCT for the year 2015, 2014 and 2013 respectively.

On inadequate road signs and indiscriminate bumps, 78 (28.8%) and 54 (20%) strongly agreed that both cause RTCs in the FCT, 99(36.3%) and 62(22.9%) agreed, 60(22.2%) and 81(30%) disagreed, 28(10.4%) and 39(14.4%) strongly disagreed and 8(2.9%) and 34(12.6) undecided respectively. This analysis revealed that indiscriminate bumps and inadequate road signs are contributory factors to RTCs. This is also in tandem with FRSC statistics below as reflected under others causes.

Table 4.14b: FRSC Statistics of Probable Causes of Road Traffic Crashes In the FCT

S/N	PROBABLE CAUSES OF RTCs IN FCT	TOTAL CASES OF RTCS IN YEAR					
		2015	%	2014	%	2013	%
1	SPEED VIOLATION (SPV)	393	26.5	578	33.6	647	35.7
2	TYRE BURST	126	7.3	126	7.3	70	3.8
3	LOSS OF CONTROL	464	27.1	426	24.8	304	16.8
4	DANGEROUS AND WRONGFUL OVERTAKING	171	9.9	65	3.7	60	3.3
5	OVERLOADING	3	0.2	6	0.3	6	0.3
6	USE OF PHONE WHILE DRIVING	7	0.4	3	0.2	3	0.2
7	ROAD OBSTRUCTION	12	0.7	4	0.2	6	0.33
8	ROUTE VIOLATION (DRIVING AGAINST TRAFFIC)	111	6.5	115	6.6	152	8.4
9	LIGHT AND SIGN VIOLATION	273	16.9	91	5.2	56	3.1
10	FATIQUE	5	0.3	9	0.5	2	0.1
11	OTHERS	147	8.5	293	17.1	503	27.8
	TOTAL RTC CASES	**1712**	**100**	**1717**	**100**	**1809**	**100**

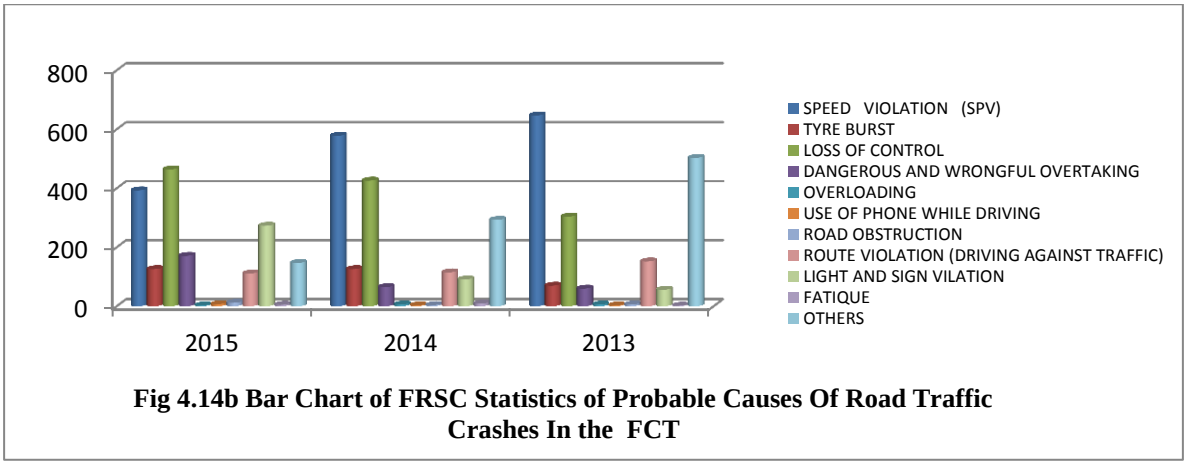


Fig 4.14b Bar Chart of FRSC Statistics of Probable Causes Of Road Traffic Crashes In the FCT

SOURCE: FRSC Annual Reports, 2015, 2014 and 2013.

Table 4.15a: Distribution of Frequency of Occurrence of RTC in the FCT

S/N	Variables	Frequency	Percentage
1	Very Often	65	24.1
2	Often	101	37.4
3	Rarely	82	30.4
4	I don't Know	22	8.1
	TOTAL	**270**	**100**

SOURCE: Researcher's Field Survey, 2016

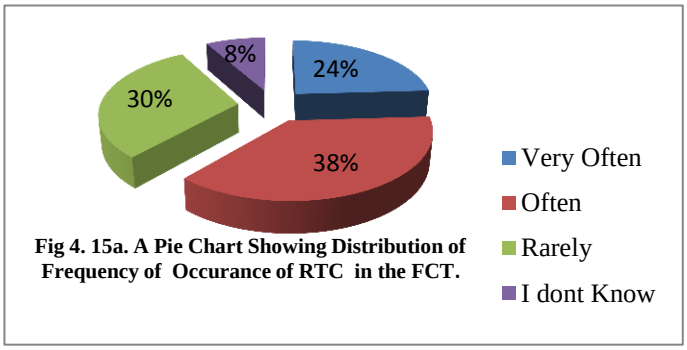


Fig 4. 15a. A Pie Chart Showing Distribution of Frequency of Occurance of RTC in the FCT.

Table 4.15a and Figure 4.15a above shows respondents' opinion on the frequency of RTCs in the FCT. 65 (24.1%) of respondents posited that the occurrence of RTCs is very often, majority of 101 (37.4%) often, 82(30.4%) rarely while 22(8.1%) said they don't know. From this analysis, it can be deduced that the occurrence of RTCs in the FCT is often. This deduction is in agreement with the FRSC FCT Crash statistics for 2015 to 2011 which is reflected on table 4.15b and figure 4.15b below:

Table 4.15b: FCT RTC Statistics for the Year 2015-2011

S/N	NATURE OF RTC	YEAR									
		2015	%	2014	%	2013	%	2012	%	2011	%
1	FATAL RTC CASES	209	15.5	233	16.7	259	14.3	139	26.1	127	26.7
2	SERIOUS RTC CASES	945	70.4	973	69.7	1175	64.9	278	52.3	276	58.1
3	MINOR RTC CASES	188	14.1	189	13.5	332	18.3	114	21.4	72	15.1
	TOTAL RTCs CASES	**1342**	**100**	**1,395**	**100**	**1809**	**100**	**531**	**100**	**475**	**100**

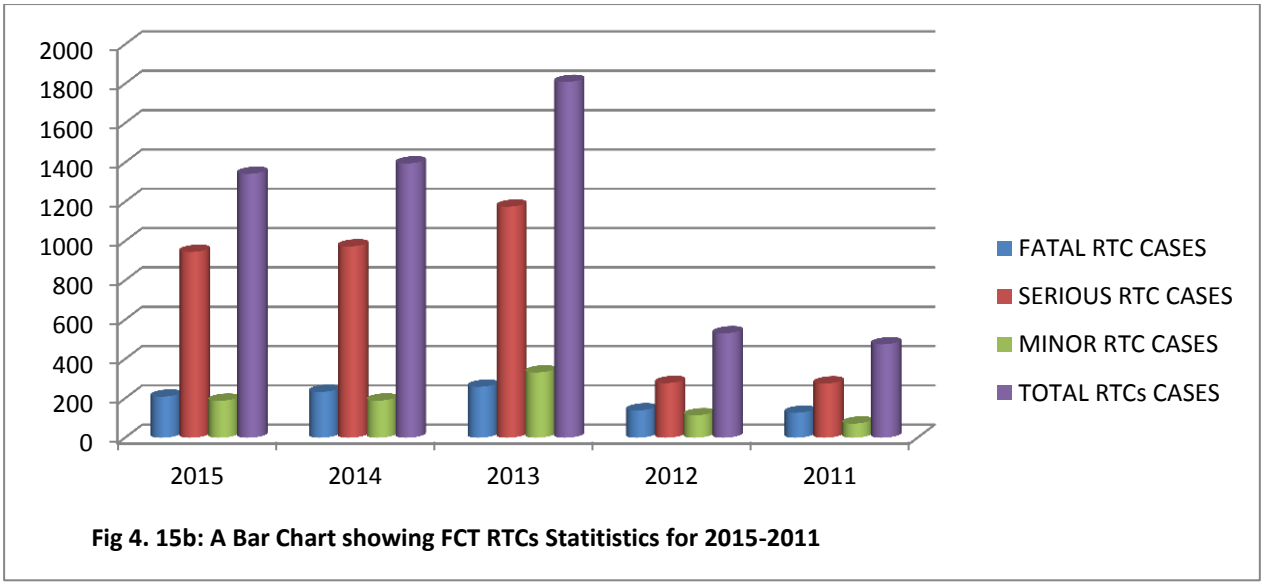


Fig 4. 15b: A Bar Chart showing FCT RTCs Statitistics for 2015-2011

SOURCE: FRSC Annual Reports 2015-2011.

Table 4.15b and Figure 4.15b presents the FRSC RTCs statistic for FCT between the years 2011-2015. It reveals the total number of RTCs recorded in the FCT within the years in review as thus: 1342 cases for 2015, 1395 for 2014 and, 1809 for 2013. While, 531 and 475 RTCs were recorded for 2012 and 2011 respectively.

Table 4.16a. Distribution of Rating of Fatality Occasioned by RTC in the FCT

S/N	VARIABLES	FREQUENCY	PERCENTAGE
1	Very High	51	18.8
2	High	79	29.3
3	Average	68	25.3
4	Low	33	12.2
5	Very Low	24	8.8
6	I Don't Know	15	5.6
	TOTAL	**270**	**100**

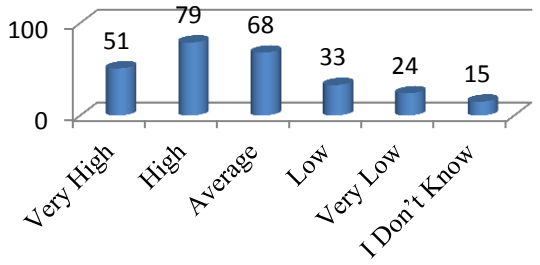


Fig 4.16a. A Pie Chart Showing Distribution of Fatality Rating Occassioned by Road Traffic Crashes in the FCT

SOURCE: Researcher's Field Survey, 2016.

Table 4.16a and Figure 4.16a, above reveal that the rate of fatality (death) as a result of RTCs in FCT is high as attested to by 79 (29.3%) of respondents being the majority. Furthermore, 51 (18.8%), 68 (25.3%) and 33(12.2%) of respondents believed it is very high, average and low respectively. While the remaining 24(8.8%) said it is very low and 15 (5.6%) are not in the know. The FRSC RTC statistics of the FCT in Table 4.15b and Fig 4.15b above corroborate this finding, where fatal cases of RTC between 2011 and 2015 were high.

Table 4.16b. FRSC Statistics for Casualties/Victims of RTCs in FCT from Year 2011-2015

S/N	YEAR	SUMMARY OF VICTIMS / CASUALTY OF RTCs IN FCT			TOTAL PEOPLE INVOLVED
		FATALITY (PERSONS KILLED)	PERSONS INJURED	MINOR (NO INJURIES)	
1	2015	328	2820	3707	6855
2	2014	335	2820	3723	6878
3	2013	446	3948	5749	10143
4	2012	238	1328	7538	9104
5	2011	253	1273	7202	8728

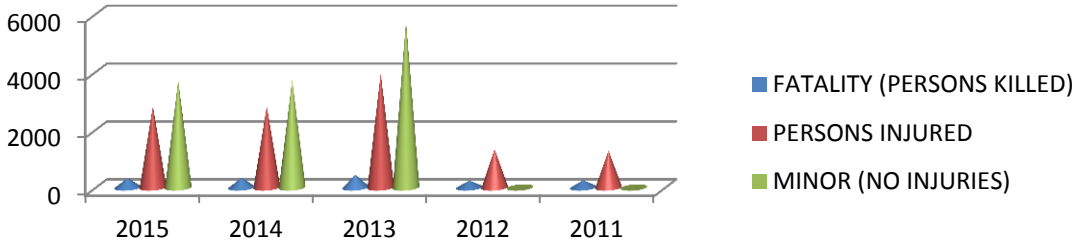


Fig 4. 16b. A Bar Chart of showing FRSC Statistics For Casualties/Victims of RTCs For FCT For The Year 2011-2015

SOURCE: FRSC Annual Reports 2015-2011

Table 4.16b and Figure 4.16b above, presents a detailed statistic on the rate of casualty occasioned by RTCs in the FCT. For the year 2015, out of the total number of 6855 persons involved in RTCs, 328 were killed, 2820 were injured and the remaining 3707 persons were neither killed nor injured (unhurt). For the year 2014, out of a total number 6878 involved in RTCs, 335 persons were killed, 3820 injured and 3723 were unhurt. Similarly, in the year 2013, 446 persons lost their lives to RTCs, 3948 persons injured and 5749 person were

unhurt, summing up to a total of 10,143 of the total number of people involved in RTCs for the year.

Furthermore, in the year 2012 and 2011, 238 persons were killed in 2012 and 253 in 2011 as a result of RTCs in the FCT, while 1328 and 1273 were injured in 2012 and 2011 respectively. A total number of 7538 and 7202 people were unhurt in the crashes that occurred in 2012 and 2011 respectively, and total number of people that got involved in road traffic crashes within the two periods of 2012 and 2011 was 9104 and 8728 respectively. Analysis of the FCT fatality statistics when compared to that of the other 36 states of the federation revealed that FCT has the highest rate of fatality in the country as a result of RTCs. Thus the FRSC fatality record in FCT corroborated the findings of this study as reflected on Table 4.16a and Fig 4.16a above which identified fatality in the FCT as high.

Table 4.17.Distribution of Time Range of RTC Prevalence in the FCT.

S/N	VARIABLES	FREQUENCY	PERCENTAGE
1	5:00-6:59 am	51	18.8
2	7:00-11:59 am	31	11.4
3	12:00-4:59 pm	18	6.6
4	5:00-9:59 pm	41	15.2
5	10:00 pm-04:59 am	129	47.7
	TOTAL	**270**	**100**

SOURCE: Researcher's Field Survey, 2016.

Table 4.17 above indicated the time range of the day when RTCs occur in the FCT. 51 (18.8%) of respondents believed that RTCs occurs most between 05:00-6:59 am, 31(11.4%) believed its between 07:00-11:59 am, 18(6.4%)

posited that RTCs occurs most between 12:00 noon- 4:59pm, 41(15.2%) aligned their thoughts by picking 5:00pm-9:59pm while a majority of 129 respondents representing 47.7% opined that RTCs mostly occur between 10:00 pm-04:59 am. This is the time of the day when it is dark and most drivers would have been fatigued by the day's work, or having poor visibility as a result of darkness. Furthermore, other reasons why crashes could be high within this period might be due to the absence of traffic management agencies on the road. Therefore, most drivers tend over speed because the road will be free from gridlocks or have impaired judgment as result of indulgence in alcohol and drugs.

Table 4.18: Distribution of the Capacity of FRSC to Ensure Safety in the FCT

S/N	VARIABLES	FREQUENCY	PERCENTAGE
1	Yes	139	51.4
2	No	131	48.6
	TOTAL	**270**	**100**

SOURCE: Researcher's Field Survey, 2016

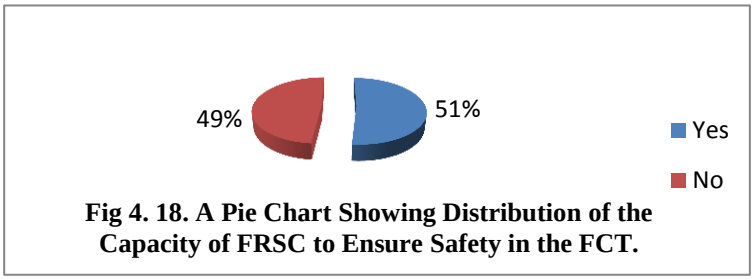


Fig 4. 18. A Pie Chart Showing Distribution of the Capacity of FRSC to Ensure Safety in the FCT.

Table 4.18 and Figure 4.18 above reflect the respondents' opinion on the capacity of FRSC to ensure safety of FCT roads. 139 (51.4%) said FRSC has the capacity to ensure safety while 131(48.6%) said they don't. The close percentage margin between "Yes" and "No" reveal that FRSC, though having the capacity to effectively manage traffic, but there is still much that is required from them to guaranty safety on FCT routes.

Table 4.19: Distribution of FRSC Performance Rating in the FCT.

		RESPONSE											
	VARIABLES	EXCELLENT	%	VERY GOOD	%	GOOD	%	FAIR	%	POOR	%	TOTAL	TOTAL %
1	TRAFFIC CONTROL	34	**12.5**	61	**22.5**	114	**42.2**	47	**17.4**	14	**5.2**	270	100
2	PUBLIC EDUCATION	24	**8.8**	47	**17.4**	61	**22.5**	92	**34.1**	46	**17**	270	100
3	ENFORCEMENT OF TRAFFIC RULES	31	**11.4**	45	**16.6**	81	**30**	70	**25.9**	43	**15.9**	270	100
4	RESCUE SERVICES	48	**17.7**	69	**25.5**	93	**34.4**	46	**17.3**	14	5.2	270	100

SOURCE: Researcher's Field Survey, 2016

Table 4.19 above show distribution of FRSC performance rating. On traffic control, 34 (12.5%) respondents rated FRSC excellent, 61(22.5%) very good and 114(42%) good and the remaining 47(17.4%) and 14 (5.2%) rated the agency fair and poor. This depicts that the performance of FRSC in traffic control in the FCT is good but can be improved upon for the achievement of safer roads thereby reducing the frequency and severity of RTCs in the FCT.

On public education which is one of the core mandates of the Corps, it was rated thus: 24(8.8%) excellent, 47(17.4%) very good and 61(22.5%) good. Others are 92(34.1%) fair and 46(17%) respectively. This reveals that the public education role of FRSC is fair as attested by 34.1 % of respondents. Furthermore, on traffic law enforcement, the corps was rated as follows: 31(11.4%) excellent, 45(16.5%) very good and 81(30%) good. The remaining 70 (25.9%) and 43(15.9%) rated them as fair and poor. Going by the majority, the performance of FRSC in traffic law enforcement was rated good, but could

be better. Finally, on rescue services provided to RTC casualties, the Corps was rated well by majority of the respondents being 93 representing 34.4%, while those that rated the Corps poor were 14(5.2%). Others are 48(17.7%) excellent, 69 (25.5%) very good and 46(17.3%) rated the agency rescue services as fair.

Table 4.20: Distribution of Traffic Management Equipment by FRSC

S/N	EQUIPTMENT BY FRSC	RESPONSE								TOTAL	
		Adequate	**%**	**Fairly Adequate**	**%**	**Inadequate**	**%**	**Not Sure**	**%**	**Total**	**Total %**
1	Patrol Vehicles	61	**22.5**	105	**38.8**	63	**23.3**	41	**15.1**	270	100
2	Patrol Bikes	45	**16.6**	68	**25.2**	112	**41.4**	45	**16.6**	270	100
3	Tow Trucks	42	**15.5**	92	**34**	96	**35.5**	40	**14.8**	270	100
5	Ambulances	69	**25.5**	104	**38.5**	62	**22.9**	25	**9.3**	270	100
6	Rescue Devices	72	26.6	111	**41.1**	56	**20.7**	31	**11.4**	270	100
7	ICT Facilities	105	38.8	78	**28.8**	52	**19.2**	35	**12.9**	270	100
8	Radar Gun	64	23.7	51	**18.8**	98	**36.3**	57	**21.1**	270	100
9	Drivers Training Simulators	31	11.4	46	**17.3**	132	**48.8**	61	**22.6**	270	100
10	Blood Alcohol Detectors	49	18.1	63	**23.3**	102	**37.7**	54	**18.8**	270	100

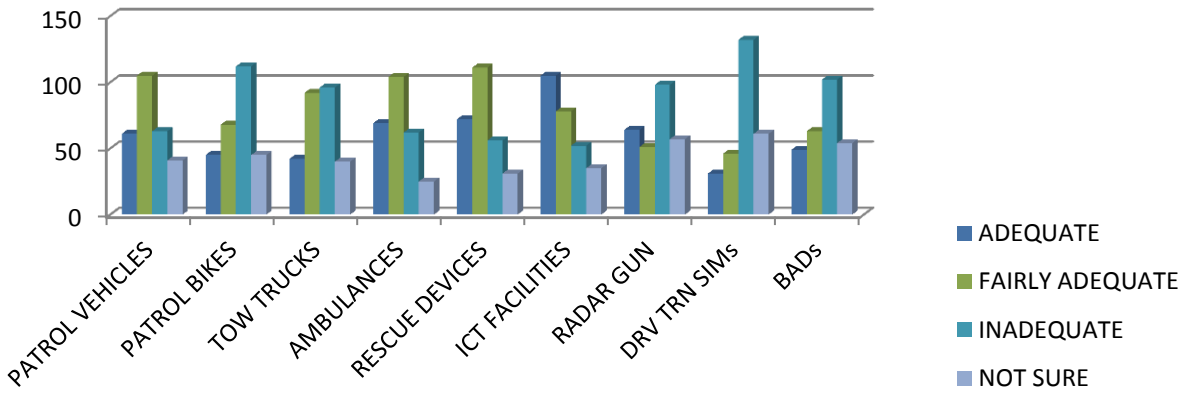


Fig 4. 20: A Bar Chart Showing Distribution of Traffic Management Equipment by FRSC

SOURCE: Researcher's Field Survey, 2016

Table 4.20 and Figure 4.20 above gave the breakdown of distribution of availability of equipment necessary for FRSC to deal with RTCs in the FCT as thus; On availability of patrol vehicles, 61 (22.5%) believed the its adequate, 105 (38.5%) said fairly adequate, 63(23.3%) inadequate and 41(15.1%) were not sure. This signifies that the FRSC patrol vehicles are fairly adequate. For patrol bikes which is another critical equipment required for road traffic enforcement, 45(16.6%) of the respondents said they are adequate, 68(25.2%) fairly adequate, 112(41.1%) inadequate and 45 (16.1%) of the respondents were not sure. This analysis suggests that an average of 66.3% of the respondents is of the opinion that the numbers of patrol bikes the FRSC has is inadequate.

The analysis for tow trucks reveals that they are inadequate. 92(34%) and 96(35.5%) posited that the equipment is fairly adequate and inadequate, while the remaining 42(15.5%) and 40(14.8%) of the respondents stated that it is inadequate and are not sure respectively. Similarly, on the number of ambulances for RTC rescue operations, 69 (25.5%) and 104 (38.5%) said adequate and fairly adequate, while 62(22.9%) said they are inadequate, with 25(9.3%) respondents not sure. This implies that the number of ambulances in the holding of FRSC for the provision of rescue services to RTC cases is adequate.

Furthermore, on the availability of necessary rescue devices, 72(26.6%) and 111(41.1%) opined that they are adequate and fairly adequate, while 56 (20.7%) and 31(11.4%) said inadequate and not sure. This implies that the necessary rescue devices are fairly adequate. For information technology facilities, 105 (38.8%) said adequate, 78(28.8%) fairly adequate, 56(20.7%) inadequate and 31(11.4%) were not sure. This explains that the deployment of IT facilities in FRSC in traffic management in the FCTs is considerably adequate.

On the numbers of radar gun, which is the device used in detecting vehicle speed on the road, 64(23.1%) said adequate, 51(18.8) said fairly adequate, 98(36.3%) inadequate and 57(21.1%) were unsure. This suggests that the numbers of radar guns the FRSC has is inadequate. This may explain the difficulty experienced by FRSC in prosecuting drivers that violate speed limit on designated roads. On Driver Simulators for drivers training, 31(11.4%) said they are adequate, 46(17.3%) fairly adequate, 132(48.8%) inadequate and 61(22.6%) not sure. This depicts that driver simulators necessary to effective driver training by FRSC are inadequate. Finally, on blood alcohol detector also known as breathalyzer, 49(18.1%) said it was adequate, 63(23.3%) fairly adequate, 102 (37.7%) inadequate and 54(18.8%) not sure. From the above analysis, it is safe to posit that the number of breathalyzers required by the FRSC to enforce drunk driving and enhance road safety the FCT is inadequate.

Table 4.21: Distribution of Availability of Road Traffic Management Facilities in the FCT

	FACILITIES	RESPONSE										TOTAL	
		Strongly Agree	%	Agree	%	Disagree	%	Strongly Disagree	%	Undecided	%	Total	Total %
1	**Traffic Lights**	46	17	63	23.3	101	37.4	43	15.9	17	6.2	270	100
2	**Traffic Warden**	51	18.8	79	29.2	82	30.3	36	13.3	22	8.1		100
3	**Road Signs**	59	21.2	82	30.3	61	22.5	41	15.1	26	9.6	270	100
4	**Enforcement**	56	20.1	104	38.5	62	22.9	31	11.4	17	6.2	270	100
5	**Removal of Obstruction**	47	17.4	62	22.9	104	38.5	42	15.5	15	5.5	270	100
6	**Trained/Committed Personnel**	78	28.8	81	30	50	18.5	41	15.1	20	7.4	270	100
7	**Tow Trucks**	41	15.1	55	20.3	102	37.7	45	16.6	27	1	270	100
8	**Patrol Vehicles**	45	16.1	63	23.3	112	41.4	34	12.5	16	7.1	270	100
9	**Prompt Arrival at Accident Scene**	64	23.7	86	31.8	59	21.8	41	15.1	22	8.1	270	100
10	**Road Markings**	52	19.2	71	26.6	85	31.4	36	13.3	26	9.6	270	100

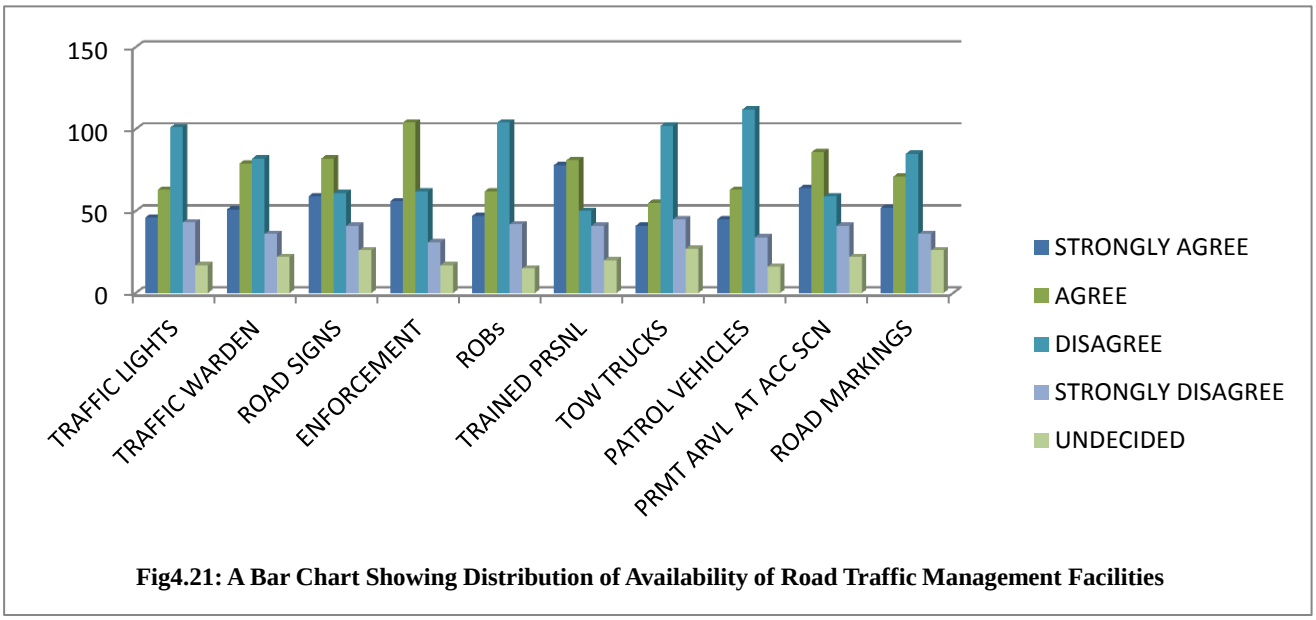


Fig4.21: A Bar Chart Showing Distribution of Availability of Road Traffic Management Facilities

SOURCE: Researcher's Field Survey, 2016

Table 4.21 and Figure 4.21 above explain availability of traffic management facilities that enhance road safety. On availability of traffic lights 46 (17%)

strongly agreed, 63(23.3%) agreed, 101 (37.4%) disagreed, 43(15.3%) strongly disagreed and 17(6.2%) were undecided.

On traffic warden, 51 (18.8%) strongly agreed that they are available, 79(29.2%) agreed, 82(30.3%) disagreed, while the remaining 36 (13.3%) strongly disagreed and 17(6.2%) undecided. Furthermore, on roads signs availability and adequacy, 59(21.2%) respondents strongly agreed, 82 (30%) agreed, 61(11.9%) disagreed and the remaining 41(15.1%) and 26(8.1%) strongly disagreed and were undecided respectively.

For traffic law enforcement availability, 56(20.1%) of the respondents strongly agreed, 104 (38.5%) agreed, 62(22.9%) disagreed while 31(11.4%) and 17(6.2%) strongly disagreed and undecided. On the removal of obstruction as regards to efficient traffic management in the FCT, 47(17.4%) of the respondents strongly agreed, 62 (22.9%) agreed, 104 (38.5%) disagreed while 42(15.2%) and 15(5.5%) strongly disagreed and were undecided in that order. On capacity development which involves traffic management personnel training, 78(28.8%) strongly agreed, 81(30%) agreed and 50(18.5%) disagreed. The remaining 41(15.1%) and 20 (7.4%) strongly disagreed and were undecided. Also, on tow trucks availability, 41(15.1%) strongly agreed, 55(20.3%) agreed, 102(37.7%) disagreed, 45(16.6%) strongly disagreed and 27(7.4%) undecided. For availabilities of patrol vehicles for traffic management,

45(16.1%) strongly agreed, 63(23.3%) agreed, 112(41.4 %) disagreed while 34 (12.2%) and 16(7.1%) strongly disagreed and were undecided respectively. With regards to prompt arrival at scene of RTCs for rescue services, 64(23.7%) strongly agreed, 86(31.8%) agreed and 59(21.8%) disagreed. The remaining 41(15.1%) strongly disagreed and 22(8.1%) were undecided

Finally, on availability of road of markings like zebra crossing, a majority of 85(31.4%) disagreed while the 26(9.6%) were undecided. The remaining 52 (19.2%), 71(26.6%) and 36(13.3%) strongly agreed, agreed and strongly disagreed respectively.

Table 4.22: Distribution of Effectiveness of Traffic Management in the FCT

S/N	VARIABLES	FREQUENCY	PERCENTAGE
1	Very Effective	41	15.2
2	Effective	68	25.2
3	Less Effective	104	38.5
4	Not Effective	57	21.1
	TOTAL	**270**	**100**

SOURCE: Researcher's Field Survey, 2016.

Table 4. 22 above reveal the level of effectiveness of traffic management in the FCT. 41(15.2%) of the respondents revealed that traffic management is very effective, 68 (25.2%) said it is effective, 104 (38.5%) opined it's less effective while the final 57(21.1%) said it is not effective.

Table 4.23: Distribution of Factors Responsible for Ineffectiveness of Traffic Management in the FCT

S/N	FACTORS	RESPONSE										TOTAL	
		Strongly Agree	%	Agree	%	Disagree	%	Strongly Disagree	%	Undecided	%	Total	Total %
1	Inadequate Manpower	110	**40.7**	72	**26.6**	49	**18.8**	**28**	**10.3**	11	4.7	270	100
2	Inadequate Staff Training	137	**50.7**	79	**29.2**	25	**9.2**	**21**	**7.7**	8	2.9	270	100
3	Inadequate Funding	156	**57.7**	64	**23.7**	26	**9.6**	**17**	**6.3**	7	2.5	270	100
5	Poor Attitude of Personnel/Road User	119	**44.1**	81	**30**	35	**12.9**	25	**9.3**	10	3.7	270	100
6	Corruption Among Traffic Management Personnel	108	40	76	**28**	38	**14.1**	34	**12.5**	14	5.18	270	100
7	Poor Road Infrastructure	68	25.2	86	**31.8**	64	**23.7**	40	**14.8**	12	4.4	270	100
8	Inadequate Patrol Vehicle	97	35.9	62	**22.9**	58	**21.4**	44	**16.3**	9	3.3	270	100
9	Inadequate Tow Trucks	92	34.1	71	**26.3**	54	**20**	35	**12.9**	18	6.6	270	100
10	Lack of Reward System for Performance	101	37.4	72	**26.6**	50	**18.5**	31	**11.4**	16	5.9	270	100

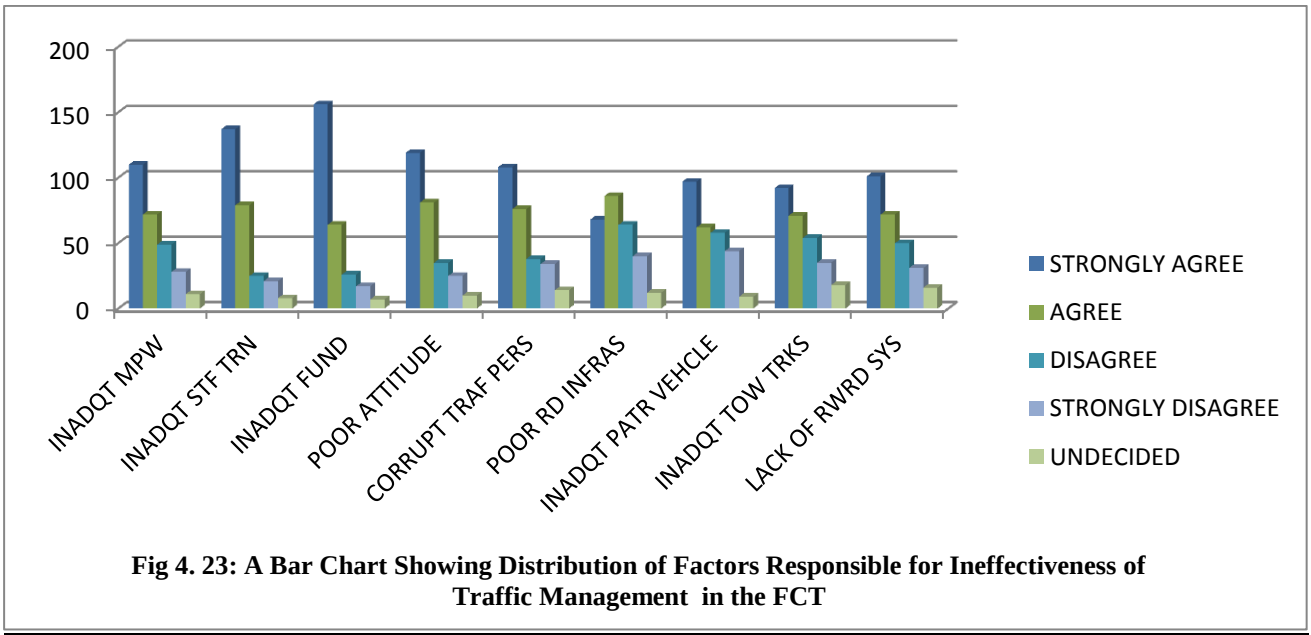


Fig 4. 23: A Bar Chart Showing Distribution of Factors Responsible for Ineffectiveness of Traffic Management in the FCT

SOURCE: Researcher's Field Survey, 2016.

Table 4.23 and Figure 4.23 present the analysis for factors respondents believed are responsible for ineffective traffic management in the FCT. 110 (40.7%) respondents strongly agreed that inadequate manpower for the various traffic management is one the factors, 72(26.6%) agreed, 49(18.8%) disagreed while the remaining 28(10.8%) and 11(4.7%) strongly disagreed and were undecided. The next identified factor is inadequate staff training: 137 (50.7%) representing majority of the total respondents strongly agreed that it is a factor, 79(29.2%) agreed, 25 (9.2%) disagreed, 21 (7.7%) strongly disagreed and the least 8 (2.9%) respondents were undecided about the effect of inadequate staff training on traffic management.

Another factor also believed be responsible for ineffectiveness is inadequate funding, 156 (57.7%) strongly agreed, 64 (23.5%) agreed, 26(9.6%) disagreed while the remaining 17 (6.3%) and 7 (2.5%) strongly disagreed and were undecided accordingly. Similarly, another agreed factor by majority is poor attitude of personnel and road users. 119 (44%) of the respondents strongly agreed, 81 (30%) agreed, while 35(12.9%), 25(9.3%) and 10(3.7%) disagreed, strongly disagreed and were undecided respectively.

For corruption among traffic management personnel, 108(40%) of the respondents strongly agreed that act of corruption by traffic management personnel impedes effective traffic management, 76(28%) agreed, 38 (14.1%)

disagreed, 34(12.5%) and 14(5.2%) were undecided. Furthermore, on the impact of poor road infrastructure, 68 (25.2%) of the respondents strongly believe that it contributes to ineffective traffic management, 86 (31.8%) agreed and 64 (23.7%) disagreed. The remaining 40(14.8%) and 12(4.4%) strongly disagreed and were undecided.

Amongst other identified factors by majority of the respondents is inadequate patrol vehicles to carry out traffic management activities by the traffic management agencies. 97(35.9%) strongly agreed, 62(22.9%) agreed, 58(21.4%) disagreed, 44(16.3%) strongly disagreed and 9(3.3%) were undecided. On inadequate tow trucks, 92(34.1%) strongly agreed, 71 (26.3%) agreed, 54 (20%) disagreed, 35 (12.9%) strongly disagreed and 18(6.6%) were undecided.

Finally, on whether the lack of reward system for traffic management personnel contributed to ineffective traffic management, 101(37.4%) and 72 (26.6%) of the respondents affirmed by strongly agreeing and agreeing, while the remaining 50(18.5%), 31(11.4%) and 16(5.9%) were of a contrary view by disagreeing, strongly disagreeing and undecided respectively.

Table 4.24: Distribution of Level of Cooperation between FRSC and other Traffic Management Agencies in the FCT

S/N	VARIABLES	RESPONSE										TOTAL	
		Very High	%	High	%	Low	%	Very Low	%	I Don't Know	%	Total	Total %
1	Nigeria Police Force	37	**13.7**	56	**20.7**	98	**36.2**	57	**21.1**	22	**8.1**	270	100
2	Nig. Security and Civil Defence Corps	49	**18.1**	62	**22.9**	85	**31.4**	48	**17.7**	26	**9.6**	270	100
3	Directorate of Road Traffic Services(VIO)	34	**12.5**	46	**17.0**	122	**45.1**	59	**21.8**	9	**3.3**	270	100
	Others	21	**7.7**	34	**13**	41	**15**	22	**8.1**	152	**56**	270	100

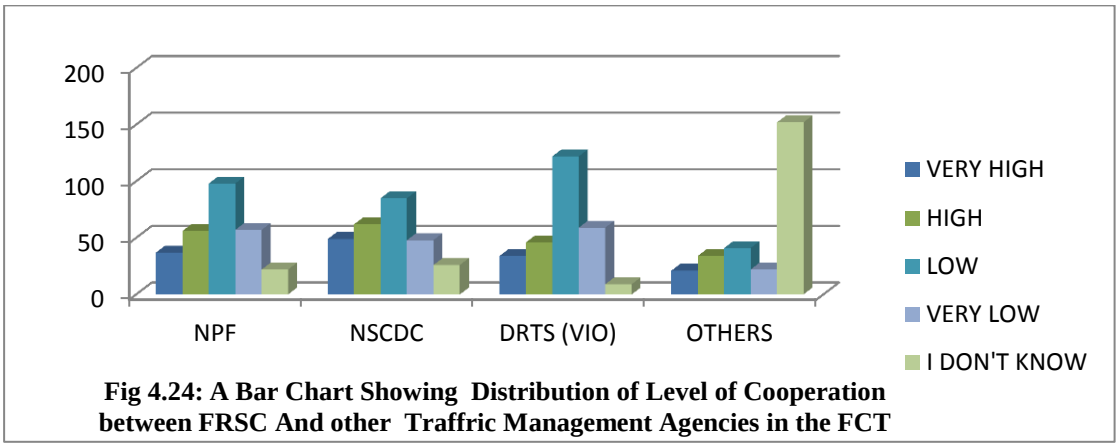


Fig 4.24: A Bar Chart Showing Distribution of Level of Cooperation between FRSC And other Traffric Management Agencies in the FCT

SOURCE: Researcher's Field Survey, 2016.

Table 4.24 and Fig 4.24 above explain the level of synergy between FRSC and the various traffic management agencies in the FCT. For the level cooperation between FRSC and the NPF, 37(13.7%) of the respondents said the level cooperation is very high, 56(20.7%) high, 98(36.2%) low, 57(21.1%) very low and 22(18.1%) said they don't know. This suggests that the level of cooperation between FRSC and NPF is low. In the same vein, analysis also reveal that the level of cooperation between FRSC and NSCDC, 49(18.1%) said very high, 62 (22.9%) high, 85 (31.4%) low, 48(17.7%) very low and 26 (9.6%) didn't know. Still on the same trend, the level of cooperation between FRSC and

DRTS (VIO) is also believed to be low as revealed by majority of the respondents. 34 (12.5%) of the respondents said it's very high, 46(17.0%) said high, and 122 (45.1%) said low. The remaining 59 (21.8%) and 9(3.3%) said it's very low and they are not in the know. For cooperation with other agencies, 21(7.7%) believed its very high, 34(12.5%) high, and 41(15.8%) low while 22 (8.1%) and 152(56.2%) said it's very low and they don't know.

Table 4.25: Distribution of Suggestions for the Improvement of Traffic Management in the FCT

		RESPONSE										TOTAL	
S/N	VARIABLES	Strongly Agree	%	Agree	%	Disagree	%	Strongly Agree	%	Undecided	%	Total	Total %
1	**Availability of Skilled Manpower**	107	39.6	88	32.5	45	16.6	11	4.1	19	7	270	100
2	**Provision of Good Roads**	113	41.8	79	29.3	39	14.4	25	9.3	14	5.1	270	100
3	**Improved Funding**	147	54.4	62	22.9	31	11.4	22	8.1	8	2.9	270	100
5	**Co-op Among Traffic Agencies**	126	46.6	71	26.3	35	12.9	27	10	11	4	270	100
6	**Improved IT Deployment**	**132**	**48.8**	**54**	**20**	**49**	**18.1**	**21**	**7.7**	**16**	**5.9**	**270**	100
7	**Improved Welfare of Traffic Management Personnel**	144	53.3	61	**22.5**	33	**12.2**	26	**9.6**	6	2.2	270	100
8	**Road Traffic Education by Media and Motor Parks**	133	49.3	82	**30.4**	29	**10.7**	18	**6.6**	8	2.9	270	100
9	**Driver Training Progs**	72	26.6	101	**37.4**	57	**2.11**	26	**9.6**	14	5.1	270	100
10	**Providing FRSC with Firearms**	68	25.2	91	**33.7**	61	**22.5**	41	**15.2**	9	3.3	270	100
11	**Training/ Re-Training of Personel**	99	36.6	78	**28.8**	50	**18.5**	31	**11.4**	12	4.4	270	100

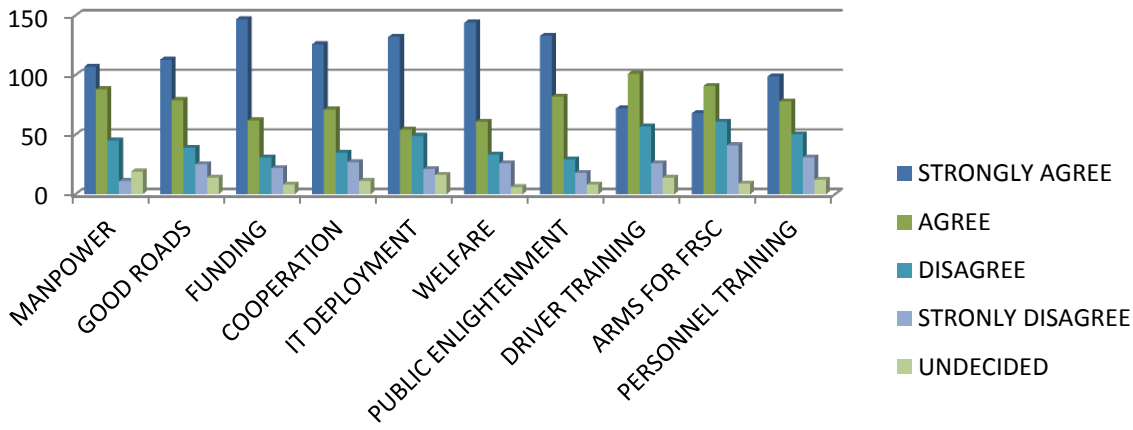


Fig 4. 25: A Bar Chart Showing Distribution of Suggestions for the Improvement of Traffic Management in the FCT

SOURCE: Researcher's Field Survey, 2016.

Table 4.25 and Fig 4.25 above reflect respondents' suggestion for effective traffic management in the FCT. Majority suggested that availability of adequate skilled manpower is very needful for effective traffic management, this was attested to by 107 (39.6%) and 88 (32.5%) of the respondents who strongly agreed and agreed. The remaining 45(16.6%), 11(4.1%) and 19 (7.0%) disagreed, strongly disagreed and undecided respectively. Next was provision of good roads, where a majority of 113(41.8%) and 79 (29.3%) of the respondents strongly agreed and agreed while the remaining 39(14.4%), 25(9.3%) and 14(5.1%) disagreed, strongly disagreed and undecided respectively. This shows that provision of good road would improve traffic management in the FCT.

On the challenge of inadequate funding for traffic management agencies, majority of 147 (54.4%) and 62(22.9%) strongly agreed and agreed that

improved funding was the solution while 31(11.4%), 22(8.1%) and 8(2.9%) disagreed, strongly disagreed and undecided. Enhanced cooperation amongst traffic management agencies has been suggested as a way to overcome the challenges of traffic management in the FCT. 126(46.6%) and 71(26.6%) respondents attested to this by strongly agreeing and agreeing and the remaining 35(12.9%), 27(10%) and 11(4%) disagreed, highly disagreed and undecided respectively.

Furthermore, 132(48.8%) and 54(20%) of the respondents strongly agreed and agreed that improved technology deployment would help to enhance traffic management in the FCT. The remaining 49(18.1%), 21 (7.7%) and 16(5.9%) were of a contrary opinion by disagreeing, strongly disagreeing and undecided respectively.

Improved welfare for traffic management personnel recorded a significant response, where a majority of 144(53.3%) respondents strongly agreed that improved welfare of personnel is one of the best approaches to improved traffic management, 61(22.5%) likewise agreed. Those in disagreement totaled 33(12.2%), while the other 26(9.6%) and 6(2.2%) strongly disagreed and were undecided.

Road User Education, 133(49.3%) of the respondents strongly agreed, 82(30.4%) agreed, 29(10.9%) disagreed, while 18(6.6%) and 8(2.9%) strongly

disagreed and were undecided respectively. Drivers Training programs was also identified as a means of improving effective traffic management. 72 (26.6%) strongly agreed to the above assertion, 101 (37.4%) agreed, 57(21.1%) disagreed, 26(9.6%) strongly disagreed and 14 (5.1%) were undecided.

On provision of arms to FRSC personnel to enhance personnel security while on monitoring and enforcement duties, 68(25.2%) strongly agreed, 91 (33.7%) agreed, 61(22.5%) disagreed, 41 (15.5%) strongly disagreed and 9 (3.3%) were undecided. From this analysis it can be seen that majority of the respondents representing about 58.9% agreed that provision of arms to FRSC would enhance security of personnel an important factor for staff performance.

Finally, on training and re-training of personnel as another solution to improving effective traffic management, 99 (36.6%) strongly agreed, 78(28.8%) agreed, 50(18.8%) disagreed, 31(11.4%) strongly disagreed while 12 (4.4%) were undecided. Deductively, as agreed by majority, training and re-training can be used to improve staff capacity for effective traffic management for reduced RTCs frequency in the FCT.

4.1.2 Summary of Findings from Unstructured Interviews

In order to have a professional opinion on the research questions, interviews were conducted with the heads of FRSC, NPF (MTD), DRTS and RSDT in FCT respectively. The responses from the interviews corroborated

some of the research findings. In RO One, which is to identify the causes of RTC in the FCT, response by the Sector Commander of FRSC in charge of FCT attributed speed as the major cause of RTC. This conformed to the result obtained from the study in Table 14a, identifying speed, loss of control and tyre burst as the major causative factors of RTC in FCT. The Director of DRTS, FCT held a similar opinion, while the Traffic Officer of NPF, FCT observed that drunk driving, which has hitherto been a cause of RTC in Abuja metropolis, trended down due to reduced alcohol consumption owing to the current financial meltdown in the country.

The interviewees also agreed that inadequate working tools like patrol vehicles, bikes, tow trucks and ambulances hinder effective traffic management in the FCT as revealed in the analysed data. They, however, all agreed that the FRSC has been effective in rescue activities to victims of RTC in the FCT.

4.2 Discussion of Research Objectives Using Findings

Following the analysis and interpretation of primary data from the study and other secondary data on RTM and frequency of RTCs in the FCT. This chapter further summarised the findings based on the objectives of the study.

4.2.1 Research Objective One: To Identify the Causes of Road Traffic Crashes in the FCT.

This survey information was collected to identify the various causes of road traffic crashes in Nigeria. Data interpretation from the study as reflected on Table 4.14a and Figure 4.14a identified the following as the major causes of RTCs in the FCT: Over speeding, tyre burst, drunk-driving (alcohol/drug use), loss of control, overloading, fatigue and bad roads. Others are, using of GSM phones while driving, state of mind, indiscrimate parking, driving against traffic and effect of extra light by oncoming vehicles at night. Furthermore, secondary data from the FRSC as shown in Table 4.14b and Figure 4.14b also corroborated the primary data by identifying, over speeding, tyre burst, loss of control, dangerous and wrongful overtaking, overloading, use of phone while driving, road obstruction, light sign violation, driving against traffic and fatigue amongst others as the major causes of road traffic crashes in FCT from the year 2011 to 2015. In an interview with the Director of Road Traffic Services, FCT, he said poorly maintained vehicles, under aged driving, drunk driving, disobeying traffic lights and over speeding are major causes of RTC in the FCT.

4.2.2 Research Objective Two: To Identify the Frequency of Road Traffic Crashes and Fatality Rate of Road Related Crashes in FCT.

To ascertain the frequency of occurrence of road traffic crashes and the resultant fatality, majority of the respondents observed that the rate of occurrence of RTCs in the FCT is high. This is presented on Table 4.15a and Figure 4.15a. Similarly, Table 4.15b and Figure 4.15b presents the FRSC RTC statistic for FCT between the year 2011 and 2015. It indicated that the total number of RTCs recorded in the FCT within these years was 1809, 1395 and 1342 cases in 2013, 2014 and 2015 respectively. While, 475 and 531cases of RTCs were for 2011 and 2012 respectively. These statistics show an incremental trend in the rate of crashes between 2011 and 2013, however a downward trend in the rate of occurrence of RTCs in the FCT between 2014 and 2015 was observed. Notwithstanding the reduction, statistics of RTC in the FCT is still high, as it ranks first consecutively in RTC occurrence among the states of the federation from 2011-2015. Furthermore, on fatality rate, Table 4.16a and Figure 4.16a gave the distribution of respondents rating of fatality occasioned by RTCs in the FCT. The majority rated fatality occasioned by RTCs as high. This assertion, when compared with the high number of reported RTCs cases in FCT can be adjudged to be true as it ranks first amongst the 36 states of Nigeria in the rate of fatality occasioned by RTCs (Table 4.16b and Figure 4.16b).

This was further confirmed by the Sector Commander of FRSC, FCT Command, Mr Sunday Oghenekaro in an interview conducted on 28th June, 2016. He said frequency of RTCs in FCT is a win some lose some situation, citing impatience, speed, pedestrian failure to use foot bridges and use of phone while driving as the major causes of RTC in the FCT. In his assertion, fatal crashes were witnessed more along Gwagwalada-Lokoja and Zuba-Kaduna routes respectively.

4.2.3. Research Objective Three: To Evaluate the Institutional Capacity of the Federal Road Safety Corps in Managing Road Traffic Crashes.

To evaluate the institutional capacity of the FRSC to effectively manage traffic and RTCs in the FCT, the study revealed based on respondents opinion reflected in Table 4.18 and Fig 4.18, that the FRSC has the capacity to effectively manage traffic and RTCs in the FCT. This is supported by the reduction of RTC between 2013 and 2015, further to that the performance rating of FRSC by respondents in key areas of traffic management (traffic control, public education, enforcement and rescue) is remarkable. In an interview with the Acting State Traffic Officer of the Nigeria Police Force, FCT, Superintendent of Police Benedicta Ituah, she said the FRSC officials have been performing well in enforcement, public education and rescue services in the FCT. However, despite the laudable efforts of the traffic management agency, it

is facing the challenge of availability of requisite facilities as identified in Table 4.20 and Fig 4.20.

Equipment that are invaluable for effective traffic management like patrol bikes, tow trucks, radar gun, alcohol detectors and driver simulators were said to be inadequate by the respondents. The respondents were however of the opinion that patrol cars, ambulances, rescue devices and IT facilities are fairly adequate for FRSC operations. This can be attributed to the World Bank support the FRSC enjoyed through the Road Sector Development Team (RSDT) under the Federal Ministry of Power, Works and Housing. According to the Unit Manager of RSDT, Engineer Ishaq Mohammed during an interview, the Unit has provided support to the FRSC through donation of patrol vehicles, bikes, heavy duty tow trucks, ambulances and communication gadgets to enhance road safety management and enforcement strategies.

4.2.4 Research Objective Four: To Examine the Issues in Road Traffic Management in Nigeria

This objective seeks to examine the issues in traffic management in the FCT. The findings of the study identified that the availability of traffic lights in the FCT is inadequate as they are concentrated in the city center leaving out the satellite towns where majority of the population in the FCT are resident. This, in addition to the limited number of traffic wardens and inadequate manpower

requirement as revealed by majority of the respondents are contributory factors responsible for ineffective traffic management. Analysis of responses showed that, removal of obstructions on the roads in FCT is not timely, this can be attributed to the inadequacy of tow trucks the study revealed. The consequences of such obstructions often manifest in gridlocks and crashes at night. The research further established that, staff training and capacity building is inadequate, resulting in low effectiveness in handling traffic management issues. On the issue of availability of patrol vehicles, which are important for monitoring and enforcement, majority of the responses received indicated that there is patrol vehicle inadequacy. This is a major impediment to effective traffic management.

Prompt arrival to the scene was discovered to be effective from the research findings as shown in Table 4.21. This was corroborated by the Sector Commander of FRSC for the FCT and Unit Manager of RSDT, they both confirmed during interviews held with them that the FRSC has ambulances and communication technology deployment for real time effective rescue service in the FCT. Majority of the respondents believe that there are adequate road signs along the roads in the FCT, however they said road markings are inadequate. The study confirmed that poor funding is a major challenge inhibiting the provision necessary facilities and incentives required for effective traffic management. Most of the ingredients that are vital to improved traffic

management are resource based. These range from working tools, public education, and training of operatives and staff welfare amongst others. Lack of reward system for good performance was found to be a major reason for corruption and poor attitude to work among traffic management personnel as revealed by the findings of the research. A cumulative majority of about 68%, agreed to the prevalence of corruption within traffic management personnel which is a clog in the wheels of achieving effective traffic management in the FCT. Half of the respondents agreed that poor road infrastructure contributed to the high incidence of RTCs in the FCT. On the contrary, Table 4.21 depicted that about 59% of the respondents agreed that traffic law enforcement by the traffic management agencies in the FCT is available. This is expected to enhance traffic management and road safety, however the inability to monitor traffic in all constituents of the FCT and absence of personnel at night to enforce traffic rules negates these gains. In summary, as conceptualised in Chapter 2, effective traffic management resulting from human and technological capacity would reduce frequency of RTC occurrence and vice versa. This has been confirmed by the outcome of RO Four.

4.2.5 Research Objective Five: To Determine the Extent of Inter-Agency Cooperation in Road Traffic Management.

On the level of Inter-Agency cooperation in achieving efficient traffic management for reduced frequency of RTCs which is one of the objectives that the study sets out to achieve, the study revealed on Table 4.24 and Fig 4.24 that the level of inter-agency cooperation between the FRSC and other traffic managements agencies such as Nigeria Police Force, Nigeria Security and Civil Defense Corps, Directorate Road Traffic Service (VIO) and other relevant agency is low. This may be attributed to inter-agency rivalry among the field operatives, which has been the bane of the Nigerian security community in combating crimes and social vices.

However, interview with the heads of FRSC, NPF traffic section and DRTS, indicated that there is inter agency cooperation among the three agencies.

4.2.6. Research Objective Six: To make Recommendations and Proffer Implementation Strategies on How to Reduce Road Traffic Crashes and Fatalities in Nigeria.

The respondents made a lot of recommendations and implementation strategies on how to improve road traffic management with a view to reducing the high incidence of road traffic crashes within the FCT. These

recommendations as reflected on Table 4.25 and Figure 4.25 include: Provision of adequate skilled manpower, good roads and arms to FRSC personnel. Others are improved cooperation between traffic management agencies, improved technology deployment, improved welfare for personnel, improved funding of agencies, road user education and effective drivers training.

CHAPTER FIVE

CONCLUSION, RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

This chapter outlines the conclusion, recommendations and implementation strategies for enhanced road traffic management, which will in turn reduce the frequency of road traffic crashes in the FCT.

5.1 Conclusion

The study set out to appraise road traffic management and the frequency of road traffic crashes focusing on the Federal Capital Territory, Abuja. The study established a direct relationship between road traffic management and the frequency of road traffic crashes. Some existing literatures relevant to the study were reviewed. The literature reviewed revealed some gaps which the present study filled. The study adopted the Safe System Approach as the theoretical framework. The Safe System approach typically aim to develop a road transport system that is able to accommodate human error by providing a safe operating environment, despite human fallibility. It recognises that humans as road users are the weakest link in the transport chain, unpredictable and capable of error in spite of his level of education and information. Therefore, there is need to effectively manage his activities and conduct on the road to maximise safety and reduce crash and its attendant consequences.

The study examined the efficiency of traffic management in relation to the frequency of road traffic crashes. Data used for the study were collected through stratified sampling techniques (questionnaire), interviews, observations and documents retrieved from FRSC, NPF, DTRS, and other stakeholders in road traffic management. The responses derived were subjected to statistical analysis. Revelations from the analysis showed that most drivers in the FCT have been involved in RTCs at least once. Further assessment of the effect of RTCs revealed that most of those involved had secured serious injuries, while few had minor or no injuries.

The study also revealed that traffic management in the FCT is less effective and the frequency of occurrence of RTCs in the FCT is often with high fatality rate. Furthermore, the study identified the major causes of RTCs to include: Over speeding, tyre burst, drunken driving, loss of control, fatigue and overloading. Others are bad roads, poor weather condition, vehicle conditions, state of mind and use of mobile phone while driving as the major causes of RTCs in FCT.

The study revealed that although the FRSC have the capacity to effectively manage traffic in the FCT, however, there is still much that is required from them to guaranty safety on FCT routes. Findings further identified the following as the factors responsible for ineffective traffic management in the FCT; inadequate manpower, poor funding, and inadequate

tow trucks. Others are poor road user attitude, corruption amongst traffic management personnel, poor road infrastructure, lack of reward system for performance and lack of inter-agency cooperation between traffic management agencies in the FCT.

Findings of the study also suggested the following as measures to improving traffic management in the FCT: Provision of adequate skilled manpower, good roads and providing arms to FRSC personnel. Others are improved cooperation between traffic management agencies, improved technology deployment, improved welfare, improved funding and road user education alongside effective drivers training.

5.2 Recommendations and Implementation Strategies

Consequent upon the above conclusion, the following recommendations and implementation strategies are hereby proffered.

Recommendation 1

The Federal Road Safety Commission, the Federal Capital Territory Administration (FCTA) and other stakeholders in road traffic management should intensify enforcement and public education on the identified major causes of road traffic crashes in the FCT.

Implementation Strategies

a. The FRSC and DRTS to extend their traffic monitoring and enforcement work hours to 7pm - 11pm daily, these are night periods of high traffic

volume, drunk driving, over speed and impatience among drivers. The operation is to commence in all the Area Councils of the FCT by the second quarter of 2017.

b. The FRSC and NPF to enforce compliance of the use of pedestrian foot bridges at locations of high pedestrian density, especially during rush hours. This can commence by April 2017.
c. FRSC to sustain the advisory enforcement of speed limiting device that commenced on 1st October, 2016.

Recommendation 2:

The FGN should provide the enabling environment for development partners and corporate organisations to contribute funds for the FRSC, NPF, and DRTS to enable them acquire working tools in order to enhance their efficiency and effectiveness as being done in Lagos State.

Implementation Strategies

a. The FGN to establish a Road Safety Trust Fund (RSTF) by 2nd Quarter, 2017. Objective of the trust fund is to raise endowment funds to be used for road infrastructure provision at critical road corridors and procurement of requisite traffic management equipment. If they want, the FGN can go to Lagos State and understudy how they did it.

b. The FGN to allow the FRSC to retain one fifth of all the income it generates, as provided for in the Fiscal Responsibility Act (FRA) of 2007, where Section 22-23 of the Act allows each government owned corporation listed in the Act to retain 20% of the revenue it generates . To this effect, the FRSC could be accorded the status of an income-generating agency. This can be done in 3rd Quarter, 2017

c. The FGN to forward an Executive Bill to the National Assembly (NASS) for legislation requiring that 10% of all road contract sums in the annual budget be earmarked to road safety component in line with G8 recommendation. This bill is to be forwarded to NASS in 2rd quarter of 2017 for inclusion in the 2018 budget.

Recommendation 3

The FGN and FCTA should adopt the Public-Private –Partnership (PPP) approach to road safety administration in the area of road infrastructure provision.

Implementation Strategies

a. The FGN through the PPP concession approach to carry out expansions or dualisation and maintenance of roads with heavy traffic congestion or prone to RTCs and install toll gates to recoup investment through the private partners who will be at the toll gates to monitor the returns. The

Federal Ministry of Transport in collaboration with the Federal Ministry of Power, works and Housing to begin this process in the 4th Quarter of 2017.

Recommendation 4

The FGN should strengthen the legal framework of FRSC in order to close gaps in the FRSC Act 2007 that result in unfavourable court judgments, and overlaps with other traffic management agencies.

Implementation Strategies

a. The FGN to seek for the amendment of the FRSC establishment Act (2007) and other related traffic regulations to remove lacunas, and where there are overlapping functions between the FRSC and other traffic management agencies which cause inter- agency rivalry. A draft for the amendment to be prepared by FRSC and forwarded to the Minister of Justice through the SGF, he will in turn present to the FEC. This can then be forwarded to NASS as an Executive Bill for amendment by the 4th quarter, 2017, requesting them to expedite its passage by 1st Quarter of 2018.
b. Surveillance activities in the FRSC should be intensified in order to wipe out corrupt practices amongst officers and men of corps in the line of duty.

c. FRSC staff should be provided with arms for their security. This could commence by 3rd Quarter, 2017.
d. Improved welfare for FRSC staff to boost their moral for greater efficiency.
e. The FCT administration to forward a bill to the National Assembly seeking the establishment of a road traffic management agency by the fourth quarter of 2017.

Recommendation 5

The FGN, FCTA and FRSC should ensure sustained and aggressive public enlightenment for the entrenchment of road safety culture among all categories of road users.

Implementation Strategies:

a. An all-inclusive policy on public enlightenment to be formulated by the FRSC. The policy which will be propagated through the media, mosques, churches and NOA could be developed by the end of 3rd quarter 2017.
b. Road user education to be incorporated into the present SSCE/WAEC civic education curriculum by the 2018/2019 academic calendar.
c. The FRSC to partner with the National Video Censors Board, movie producers, directors and other practitioners in the Nigerian movie industry (Nollywood) to propagate the message of road safety in their movies,

drama series, music, etc. The process of the partnership could begin in 2nd quarter of 2017.

Recommendation 6

The Federal Ministry of Power, Works and Housing should have closer collaboration with FRSC in the area of design aspect of the road. The input of FRSC on the safety perspective of the road user is expected to enhance road safety.

Implementation Strategy:

The Department of Planning and Development in the Federal Ministry of Power, Works and Housing to establish a Road Safety Unit which is to be manned by FRSC officers. This can be done in the 2nd Quarter of 2017.

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INTERVIEWS

Unstructured interview with CC Sunday Oghenekaro, Sector Commander FRSC, FCT Command Abuja, 27th June, 2016.

Unstructured interview with SP Benedicta Ituah, Acting State Traffic Officer, NPF, FCT Command on 27th June, 2016.

Unstructured interview with DCM Danjuma Garba (rtd), Director Road Traffic Services (VIO), FCT on 28th June, 2016.

Unstructured interview with Engineer Ishaq Mohammed, Unit Manager, Road Sector Development Team (RSDT), Federal Ministry of Power, Works and Housing on 30th June, 2016.

APPENDIX I

RESEARCH QUESTIONNAIRE ON ROAD TRAFFIC MANAGEMENT AND FREQUENCY OF ROAD TRAFFIC CRASHES IN FCT ABUJA NIGERIA.

Dear Sir/Madam,

The researcher is a participant of Executive Intelligence Management Course 9, 2016 of the Institute of Security Studies, Abuja. He is undertaking a study on Traffic Management and the Frequency of Road Traffic Crashes in FCT. Accordingly, the attached questionnaire has been designed to obtain relevant data that will aid his research. The research findings are expected to be used in making recommendations to the Federal Road Safety Commission, other Road Traffic Management Agencies and the Federal Government.

You are therefore kindly requested to fill the questionnaire which is strictly for the purpose of the study. I assure you that your response will be treated with utmost confidentiality.

Yours Sincerely,

Hafiz Tarauni Mohammed
Institute for Security Studies
Bwari-Abuja
08037863568

SECTION A: RESPONDENTS BIO DATA

Instruction: Please tick (√) the appropriate boxes as may be applicable to you. The boxes are in front of each response.

1. Location in FCT: Zuba ☐ Kuje ☐ Gwagwalada ☐ Abaji ☐ Nyanya ☐ Others(Specify) ☐
2. Gender: Male ☐ Female ☐
3. Marital Status: Married ☐ Single ☐ Divorced ☐ Widowed ☐
4. Age:

18- 20yrs	21-30 yrs	31-40 yrs	41-50 yrs	51-60 yrs	Above 61yrs

5. Highest Educational Qualification:

PhD	Masters Degree	First Degree or HND	PGD	OND or NCE	SSCE	FSLC	Others

6. What is Your Occupation?

Civil Servant	Company Worker	Business Man/Woman	Artisan	NGO Worker	Others

Work Experience: 1-5 years ☐ 6-10 yea ☐ 11-15 ye ☐ 16-20 ye ☐ 2 21-30 ☐ years

31 years and above ☐

SECTION B: RESEARCH QUESTIONS

1. Do You Drive? Yes ☐ No ☐
2. Which Category of Drivers do you belong to?
   Commercial ☐ Private ☐ Government ☐

Driving Experience: 1- 5years ☐ 6- 10 years ☐ 11-15 years ☐ 16-20 years ☐

21-30 years ☐ 31years and above ☐

1. Have you ever been involved in Road Traffic Crash (es)? Yes ☐ No ☐
2. If Yes, How many times have you been involved in Road Traffic Crash?
   1 ☐ 2 ☐ 3 ☐ 4 ☐ More than 4 times ☐
3. What was the outcome of the Road Traffic Crash?

Fatal (Involving Death)	Severe (Involving Injuries)	Minor (No Injuries)	No Injuries

4. How will you agree to the underlisted as causes of road traffic crash (es)?

S/N	**Causes of Accidents**	**Responses**				
		Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided
a	Over Speeding					
b	Tyre Burst					
c	Loss of Control					
d	Fatigue					
e	Bad Roads					
f	Poor Weather					
g	Ineffective Traffic Light& Warden					
h	Distraction by Opposite Sex					
i	Using GSM Handset while Driving					
j	Eating or Drinking					
k	Changing of Car CD					
l	Alcohol/Drug Use					
m	Vehicle Condition					
n	Overloading					
o	State of Mind					
p	Driving Against Traffic					
q	Extra Light from Oncoming Vehicles					
r	Indiscriminate Road Blocks					
s	Dangerous Overtaking					
t	Inadequate Road Signs					
u	Indiscriminate Bumps					

Kindly list other causes of road traffic crashes you may know.....

.....

3. In your Opinion how often do you think road traffic accidents occur in the FCT?

   Very Often ☐ Often ☐ Rarely ☐ I don't Know ☐

4. How will you rate the fatality (death) as a result of road traffic crashes in the FCT?

   Very High ☐ High ☐ Average ☐ Low ☐ Very Low ☐ don't know ☐

5. What time of the day, in your opinion, are crashes more prevalent among the major roads in the FCT?

   5am- 6:59am ☐ 7am-11:59am ☐ 12pm-4:59pm ☐ 5pm-9:59pm ☐

   10pm-4:59am ☐

6. In your Opinion, do you think the Federal Road Safety Corps has adequate capacity to ensure road safety in FCT?

   Yes ☐ No ☐

7. How will you rate the performance of the Federal Road Safety Corps on the following in FCT?

S/N	**FRSC Performance Indicator**	**Responses**				
		Excellent	Very Good	Good	Fair	Poor
a	Traffic Control					
b	Public Education					
c	Enforcement of Traffic Rules					
d	Rescue Services					

8. Do you think the Federal Road Safety has the necessary equipment to deal with road traffic crashes in FCT (patrol vehicles, tow trucks, ambulances, radar guns, IT facilities, and rescue devices?

S/N	**Availability of Equipment in FRSC**	**Responses**			
a	Patrol Vehicles	Adequate	Fairly Adequate	Inadequate	Not Sure
b	Patrol Bikes				
c	Tow Trucks				
d	Ambulances				
e	Rescue Devices				
f	IT Facilities				
g	Radar Gun				
h	Driver Training Simulators				
i	Blood Alcohol Detectors				

Kindly list any other equipment you think are important to manage road traffic crashes.....
.....

9. How will you agree to the availability of the following regarding Road Traffic Management in FCT?

S/N	**Availability of Road Traffic Management Facilities**	**Responses**				
		Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided
A	Traffic Lights					
B	Traffic Wardens					
C	Road Signs					
D	Enforcement					
E	Removal of Obstructions					
F	Trained and Committed Personel					
G	Tow Trucks					
H	Patrol Vehicles					
I	Prompt Arrival at the Scene of Accident					
J	Road Markings(e.g Zebra Crossing)					

Kindly list any other facilities and/or activities that influence road traffic management and crash reduction.....
.....

10. In your Opinion, do you think that traffic management is effective in FCT?

Effectiveness of Traffic Management in FCT			
Very Effective	Effective	Less Effective	Not Effective

11. What do you think is/are the factors responsible for the ineffective traffic management in FCT?

S/N	**Factors Responsible For Ineffective Traffic Management**	**Responses**				
		Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided
a	Inadequate Manpower					
b	Inadequate Staff Training					
c	Inadequate Funding					
d	Poor Attitude of Personel/ Road Users					
e	Corruption Among Traffic					

	Management Personel					
f	Poor Road Infrastructure					
g	Inadequate Patrol Vehicles					
h	Inadequate Tow Trucks					
i	Lack of Reward System for Performance					

Other(s) specify please.....
.....

12. What in your opinion is the level of cooperation between FRSC and other traffic management agencies?

S/N	Level of Cooperation Between FRSC and Other Traffic Management Agencies	Responses				
		Very High	High	Low	Very Low	I Don't Know
a	Nigeria Police Force					
b	Nigeria Security and Civil Defence Corps(NSCDC)					
c	Vehicle Inspection Officers(VIO)					
d	Other Agencies					

13. How do you think Traffic Management can be improved to achieve reduction in Road Traffic Crashes in FCT?

S/N	**Suggestions on How to Improve Road Traffic Management**	**Responses**				
		Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided
a	Provision of Adequate Skilled Manpower					
b	Provision of Good Roads					
c	Improved Funding					
d	Cooperation Amongst Traffic Management Agencies					
e	Improved Technology Deployment					
f	Improved Welfare of Traffic Management Personnel					
g	Road Traffic Education via Media and Motor					

	Parks					
h	Driver Training Programmes					
i	Providing FRSC with Arms					
j	Training/Re-Training of Personel					

16. What other suggestions can you give on how to improve traffic management with a view to reduce road traffic crashes in FCT?

.....

.....

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Thank you very much Sir/Madam, for your Kind Cooperation.

APPENDIX II

RESEARCH INTERVIEWS

Interview One

Interview with CC Sunday Oghenekaro, Sector Commander Federal Road Safety Corps (FRSC), FCT Command on 29th June, 2016.

Q1: Sir, for how long have you been the Sector Commander of FRSC in charge of FCT?

Ans1. For one year.

Q2: What, in your opinion, are the causes of road traffic crashes in the FCT?

Ans2. First it is speed , there are often factors like impatience, lane indiscipline, not giving way to traffic on the left, facing oncoming vehicles (route violation), use of phone while driving , failure of pedestrians to use foot bridges executive traffic contraventions and fatigue.

Q3: How often do road traffic crashes occur in the FCT?

Ans3. It is a win some lose some situation. The cases of RTC within the city centre have reduced due to enforcement and public enlightenment. However, fatal cases prevail at early hours along Gwagwalada-Abaji, Lokoja highway. There is also high prevalence of road crashes along Zuba-Kaduna highway.

Q4: Has the FRSC been able to cope with road traffic management in the FCT?

Ans4. The FRSC has been fairly efficient despite the challenges faced in terms of logistics and attitude of road users. There is the challenge of inadequate vehicles and personnel to patrol the entire FCT in order to attain the Accra Declaration of reducing crashes by 50%. The drivers in FCT are mostly educated, but they behave badly. However, through the assistance of World Bank and other multilateral agencies in the provision of ambulances and tow trucks, the FRSC has made giant strides in enforcement of traffic regulations and rescue of road traffic crash victims. The FRSC emergency toll free number 122 has helped in quick response to accident call.

Q5: How would you assess the capacity of other road traffic management agencies like the Nigerian Police Force and VIOs in the FCT?

Ans5: I can say the VIOs are doing well in enforcement of wrong parking, vehicle road worthiness, and underage driving. The Nigerian Police Force is playing a good role in traffic control, but their impact in enforcement is low.

Q6: What is the level of cooperation between your agency and other agencies like NPF, VIOs, and Nigeria Security and Civil Defence Corps?

Ans6: Collaboration is good between FRSC and the NPF, VIO and NCSDC. In fact there is a special squad set up by the Federal Capital Territory

Administration (FCTA) for the enforcement of traffic rules and regulations involving the four agencies.

Q7: What suggestions can you make to improve road traffic management and RTC reduction in the FCT?

Ans7: Improved road safety awareness among the general public through campaigns at places of worship, use of Foot Bridge by pedestrians. Also, provision of equipment and increased staffing of FRSC is needed for enhanced road traffic monitoring and enforcement. This can be achieved through improved funding and recruitment of more staff.

Interview Two

Interview with Superintendent of Police Benedicta Ituah, Acting State Traffic Officer, NPF, FCT Command on 27th June, 2016.

Q1: What are the causes of RTC in the FCT?

Ans1: Loss of control, over speeding, use of phone while driving and indiscriminate parking. Also throwing caution to the wind in the pursuit of worldly things, overloaded vehicles, vehicles that are not road worthy, worn out tyres, drunk drinking, unlicensed and under aged drivers.

Q2: What is the frequency of road traffic crashes in the FCT?

Ans2: It has reduced in the metropolis of Abuja due to the change mantra. In the past Ahmadu Bello Way has recorded high rate of crashes, especially on weekends, due to drunk driving. Now there is no money to drink too much alcohol, which has reduced the high cases. However, a high number of crashes have been recorded along Abaji-Kwali route.

Q3: How will you assess the efficiency of road traffic management in the FCT?

Ans3: It is fair due to traffic control, the policy banning buses within the centre has reduced indiscriminate parking. However, taxis constitute a big challenge by parking at junctions and non-designated parking areas, which cause gridlocks.

Q4: How would you assess the capacity of Nigeria Police Force, FRSC and VIOs in traffic management in the FCT?

Ans4: The Nigeria Police Force are doing their best in traffic control, enforcing compliance against wrong parking and illegal parking. The FRSC is doing well in enforcement of traffic rules and enlightenment of road users. They are also performing very well in rescue services to victims of road traffic crashes because they have patrol vehicles, ambulances and tow-trucks. The police are lacking these basic tools to work, currently only one pick-up is available for monitoring by the motor traffic

department of the NPF, FCT. The VIOs are efficient in enforcing vehicles road worthiness, driver's license compliance and under aged drivers.

Q5: What is the level of cooperation between the NPF, FRSC and VIO, in the FCT?

Ans5: There is good relationship between the NPF and the two agencies. We work together to improve traffic flow and compliance to traffic regulation.

Interview Three

Interview with DCM Danjuma Garba (rtd), Director Road Traffic Services (VIO), FCT on 28th June, 2016.

Q1: Sir, what are the factors that cause of road traffic crashes in the FCT?

Ans1: Poorly trained and unlicensed drivers, teenage driving, good roads with bad drivers, reckless and drunk drivers especially on weekends, non-road-worthy vehicles and speed.

Q2: How often do these crashes occur?

Ans2: They happen frequently at the junctions mostly within the Abuja city centre especially at night when there are no traffic officers to enforce compliance to standard driving regulations. Crashes also occur on the highways along airport road, Kwali-Abaji and Kubuwa road due to speed.

Q3: How efficient can you rate road traffic management in the FCT?

Ans3: All the agencies responsible for ensuring road traffic management are trying their best. Strategies adopted include, no enforcement between 7am-11am on working days to allow for smooth traffic flow. Enforcement is done on Mondays and Wednesdays by the DRTS officials at the Abuja entry routes of Nyanya, Kubuwa and Gwagwalada. The DRTS collaborate with FRSC in rescue operations as they lack ambulances.

Q4: What is the capacity of DRTS and other traffic management agencies in managing the traffic in FCT?

Ans4: The DRTS are doing fairly well despite the inadequacy of working equipment like patrol ears, ambulances and tow trucks. There is also inadequate funding for capacity building. A bill called the FCT Traffic Management and Enforcement Authority is underway. This bill is expected to give the DRTS the legal strength to enforce traffic regulations and improve traffic management. The FRSC has capacity for traffic management due to adequate equipment and trained staff.

Q5: What is the level of cooperation between the DRTS, NPF and FRSC?

Ans5: There is cordial relationship with the NPF and FRSC. There is task force called City Cleaning meant for environmental and traffic rules enforcement, under which we operate.

Interview Four

Interview with Engineer Ishaq Mohammed, United Manager, Road Development Team (RSDT) of Federal Ministry of Power, Works and Housing on 30th June, 2016.

Q1: Sir, what are the objectives of the RSDT?

Ans1: The RSDT is funded by the World Bank and African Development Bank. The objectives are:

i. To improve travel time through improved roads.
ii. Reduction of vehicle operating cost through good roads.
iii. Reduction of road crash related fatalities by 50%.

Q2: What in your opinion are the major causes of road traffic crashes?

Ans2: Human behavior, because good roads also cause road crashes. Drivers over speed when roads are good, this therefore calls for enforcement of speed limits.

Q3: How often will you say RTC occur in the FCT?

Ans3 Intervention through equipment donated to FRSC in form of patrol vehicles and enforcement devices, has caused a decline in the hitherto high incidence of RTC in the FCT. The construction of pedestrian bridges at Banex, Nyanya, Mabushi, Wuye and Nicon junction in Abuja has reduced the case of knocking down pedestrians.

Q4: How efficient is road traffic management in the FCT?

Ans4: The performance of FRSC and other road traffic management agencies in the FCT is good. The FRSC have trained personnel and working tools, this has enhanced their capacity in enforcement and rescue services.

Q5: What suggestions can you make to improve road traffic management in the FCT?

Asn5: Close interaction and collaboration between FRSC and the Department of Planning and Development in the Federal ministry of Power, Works and Housing in the design aspect of the road. The input of FRSC in the safety perspective of road user will enhance traffic management and road safety. A Road Safety Unit under the Department of Planning is therefore advocated in line with best practices.

APPENDIX III

ROAD TRAFFIC CRASH (RTC) DATA FOR 2012

STATE	FATAL CASES	SERIOUS CASES	MINOR CASES	TOTAL CASES	PERSONS KILLED	PERSONS INJURED	TOTAL CASUALTY
ABIA	15	43	13	**71**	17	260	**277**
ADAMAWA	24	68	17	**109**	75	231	**306**
AKWA IBOM	16	29	11	**56**	31	61	**92**
ANAMBRA	24	53	36	**113**	36	190	**226**
BAUCHI	77	116	8	**201**	293	1112	**1405**
BAYELSA	7	22	15	**44**	10	70	**80**
BENUE	61	106	29	**196**	117	657	**774**
BORNO	23	13	3	**39**	81	302	**383**
C/RIVERS	17	19	14	**50**	37	136	**173**
DELTA	85	109	68	**262**	154	620	**774**
EBONYI	13	34	10	**57**	22	152	**174**
EDO	118	168	58	**344**	228	1007	**1235**
EKITI	24	72	22	**118**	86	213	**299**
ENUGU	40	53	38	**131**	77	261	**338**
FCT	139	278	114	**531**	238	1328	**1566**
GOMBE	47	59	25	**131**	90	398	**488**
IMO	42	90	43	**175**	79	391	**470**
JIGAWA	17	6	1	**24**	41	112	**153**
KADUNA	108	182	46	**336**	281	1311	**1592**
KANO	96	74	58	**228**	158	633	**791**
KATSINA	47	20	26	**93**	135	416	**551**
KEBBI	10	1	2	**13**	34	50	**84**
KOGI	93	213	59	**365**	211	1381	**1592**
KWARA	53	92	55	**200**	114	478	**592**
LAGOS	60	154	122	**336**	110	701	**811**
NASARAWA	77	105	36	**218**	134	1295	**1429**
NIGER	37	30	25	**92**	97	395	**492**
OGUN	130	177	67	**374**	247	1395	**1642**
ONDO	107	151	29	**287**	239	1114	**1353**
OSUN	87	154	65	**306**	178	1394	**1572**
OYO	114	139	28	**281**	245	1240	**1485**
PLATEAU	18	58	9	**85**	52	314	**366**
RIVERS	29	58	30	**117**	59	385	**444**
SOKOTO	17	16	3	**36**	50	41	**91**
TARABA	18	69	2	**89**	44	233	**277**
YOBE	32	12	8	**52**	71	157	**228**
ZAMFARA	31	63	15	**109**	89	323	**412**
TOTAL	1,953	3,106	1,210	6,269	4,260	20,757	25,017

Source: FRSC 2012

APPENDIX IV

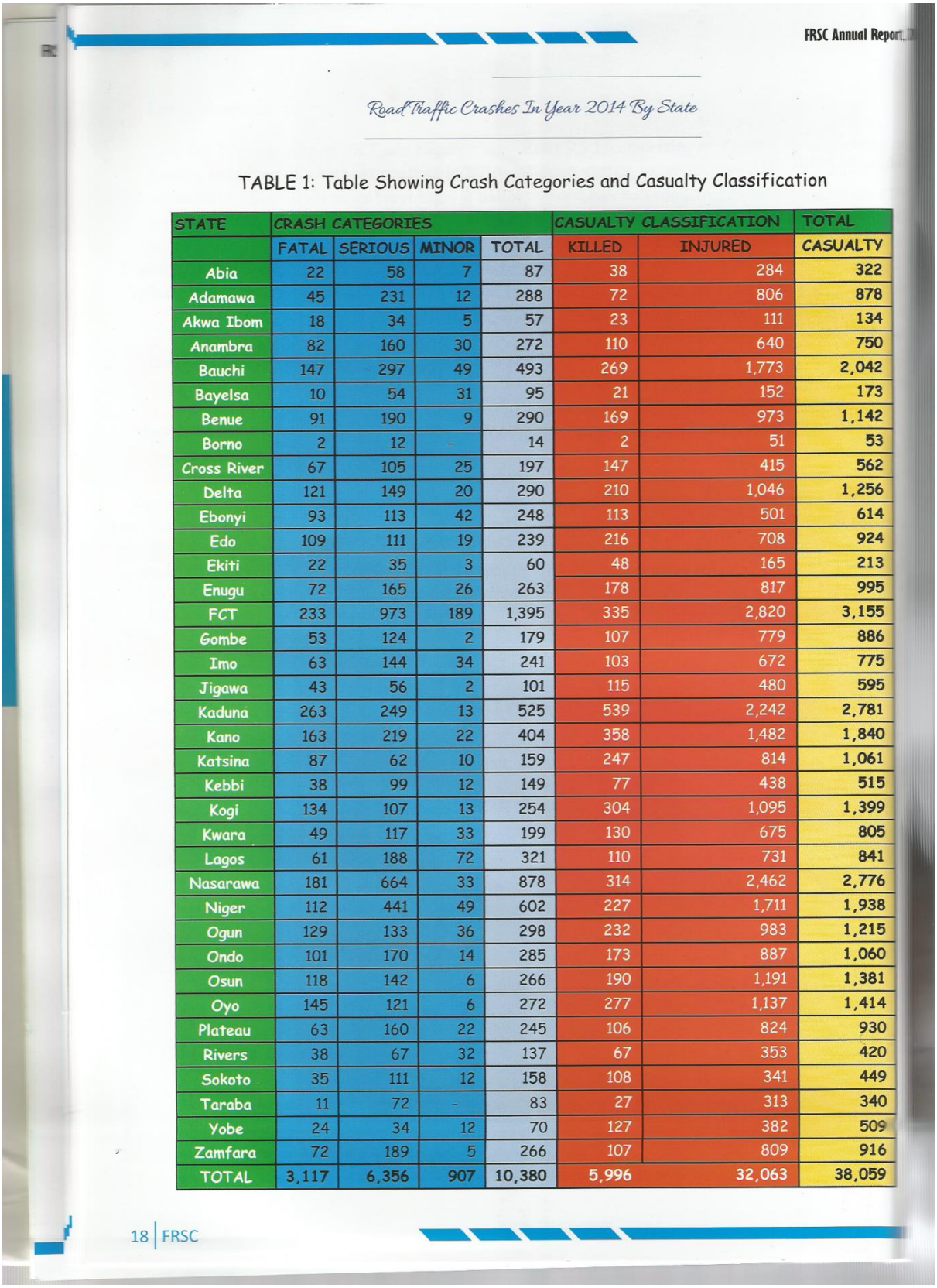
TABLE 1: SUMMARY OF ROAD TRAFFIC CRASHES (RTC) DATA IN YEAR 2013

STATE	FATAL CASES	SERIOUS CASES	MINOR CASES	TOTAL CASES	PERSONS KILLED	PERSONS INJURED	TOTAL CASUALTY
ABIA	35	81	10	126	55	533	588
ADAMAWA	55	356	7	418	88	984	1072
AKWA IBOM	30	61	8	99	55	213	268
ANAMBRA	67	170	57	294	129	607	736
BAUCHI	43	105	64	212	78	504	582
BAYELSA	15	79	45	139	34	256	290
BENUE	130	319	27	476	232	1400	1632
BORNO	15	43	20	78	49	313	362
CROSS RIVER	49	82	38	169	115	299	414
DELTA	157	294	69	520	315	1338	1653
EBONYI	21	81	26	128	30	230	260
EDO	103	130	25	258	290	686	976
EKITI	32	99	26	157	42	350	392
ENUGU	68	175	58	301	123	1154	1277
FCT ABUJA	259	1175	332	1766	446	3948	4394
GOMBE	61	146	0	207	115	1020	1135
IMO	71	174	60	305	114	678	792
JIGAWA	40	91	17	148	99	573	672
KADUNA	303	600	143	1046	588	3663	4251
KANO	109	461	52	622	461	2050	2511
KATSINA	99	221	20	340	150	1069	1219
KEBBI	53	110	29	192	114	652	766
KOGI	170	296	69	535	335	1777	2112
KWARA	49	162	42	253	108	783	891
LAGOS	68	230	69	367	113	1030	1143
NASARAWA	191	862	105	1158	324	3136	3460
NIGER	136	414	48	598	327	1618	1945
OGUN	167	328	88	583	309	2083	2392
ONDO	113	185	16	314	190	1074	1264
OSUN	139	145	10	294	226	1179	1405
OYO	190	142	4	336	368	1491	1859
PLATEAU	68	232	24	324	109	902	1011
RIVERS	46	125	75	246	82	626	708
SOKOTO	20	102	7	129	41	258	299
TARABA	18	57	0	75	30	277	307
YOBE	21	17	5	43	83	264	347
ZAMFARA	83	239	5	327	177	1039	1216
TOTAL	3,294	8,589	1,700	13,583	6,544	40,057	46,601

TABLE 2: ROAD TRAFFIC CRASHES (RTC) DATA IN RELATION WITH PEOPLE INVOLVED IN YEAR 2013

61

APPENDIX V



Road Traffic Crashes In Year 2014 By State

TABLE 1: Table Showing Crash Categories and Casualty Classification

STATE	CRASH CATEGORIES				CASUALTY CLASSIFICATION		TOTAL
	FATAL	SERIOUS	MINOR	TOTAL	KILLED	INJURED	CASUALTY
Abia	22	58	7	87	38	284	322
Adamawa	45	231	12	288	72	806	878
Akwa Ibom	18	34	5	57	23	111	134
Anambra	82	160	30	272	110	640	750
Bauchi	147	297	49	493	269	1,773	2,042
Bayelsa	10	54	31	95	21	152	173
Benue	91	190	9	290	169	973	1,142
Borno	2	12	-	14	2	51	53
Cross River	67	105	25	197	147	415	562
Delta	121	149	20	290	210	1,046	1,256
Ebonyi	93	113	42	248	113	501	614
Edo	109	111	19	239	216	708	924
Ekiti	22	35	3	60	48	165	213
Enugu	72	165	26	263	178	817	995
FCT	233	973	189	1,395	335	2,820	3,155
Gombe	53	124	2	179	107	779	886
Imo	63	144	34	241	103	672	775
Jigawa	43	56	2	101	115	480	595
Kaduna	263	249	13	525	539	2,242	2,781
Kano	163	219	22	404	358	1,482	1,840
Katsina	87	62	10	159	247	814	1,061
Kebbi	38	99	12	149	77	438	515
Kogi	134	107	13	254	304	1,095	1,399
Kwara	49	117	33	199	130	675	805
Lagos	61	188	72	321	110	731	841
Nasarawa	181	664	33	878	314	2,462	2,776
Niger	112	441	49	602	227	1,711	1,938
Ogun	129	133	36	298	232	983	1,215
Ondo	101	170	14	285	173	887	1,060
Osun	118	142	6	266	190	1,191	1,381
Oyo	145	121	6	272	277	1,137	1,414
Plateau	63	160	22	245	106	824	930
Rivers	38	67	32	137	67	353	420
Sokoto	35	111	12	158	108	341	449
Taraba	11	72	-	83	27	313	340
Yobe	24	34	12	70	127	382	509
Zamfara	72	189	5	266	107	809	916
TOTAL	3,117	6,356	907	10,380	5,996	32,063	38,059

APPENDIX VI

Table 22: Trend of Road Traffic Crashes from year 1960 to 2015 in Nigeria

YEAR	FATAL	SERIOUS	MINOR	TOTAL CASES	NO. KILLED	NO.INJURED	TOTAL CASAULTY
1960	826	9065	4239	14130	1083	10216	11299
1961	193	9982	5788	15963	1313	10614	11927
1962	1263	9159	5895	16317	1578	10341	11919
1963	967	6918	11950	19835	1532	7771	9303
1964	911	7371	7645	15927	1769	12581	14350
1965	1029	7762	8113	16904	1918	12024	13942
1966	1680	5600	6270	14000	2000	13000	15000
1967	1560	5200	6240	13000	2400	10000	12400
1968	459	5865	5839	12163	2808	9474	12282
1969	1559	5199	6230	12998	2347	8804	11151
1970	1999	6666	7991	16666	2893	13154	16047
1971	129	8098	8518	17745	3206	14592	17798
1972	2782	9275	11130	23187	3921	16161	20082
1973	2981	9275	11925	24844	4537	18154	22691
1974	3467	11557	13869	28893	4992	18660	23652
1975	2834	9446	11331	23651	5552	20132	25684
1976	905	17352	19624	40881	6761	28155	34916
1977	4242	14140	17334	35351	8000	30023	38023
1978	4333	14444	17334	36111	9252	28854	38106
1979	3513	11708	14050	29271	8022	21203	29225
1980	1856	14855	15427	32138	8736	25484	34220
1981	4053	13510	16214	33777	10202	26337	36539
1982	4451	14838	17805	37094	11382	28539	39921
1983	3853	12844	15412	32109	10462	26866	37328
1984	4467	10557	13868	28892	8830	23861	32691
1985	3597	11991	14380	29978	9221	23853	33074
1986	3022	10075	12091	25188	8154	22176	30330
1987	3385	11286	13544	28215	7912	22747	30659
1988	4127	11091	10574	25792	9077	24413	33490
1989	3838	10314	9835	23987	8714	23687	32401
1990	6140	8796	6998	21934	8154	22786	30940
1991	6719	8982	6845	22546	9525	24508	34033
1992	6986	9324	6554	22864	9620	25759	35379
1993	6735	8443	6281	21459	9454	24146	33600
1994	5407	7522	5275	18204	7440	17938	25378
1995	4701	7276	5053	17030	6647	14561	21208
1996	4790	6964	4688	16442	6364	15290	21654
1997	4800	7701	4987	17488	6500	10786	17286
1998	4757	7081	4300	16138	6538	17341	23879
1999	4621	6888	4356	15865	6795	17728	24523
2000	5287	6820	4499	16606	8473	20677	29150
2001	6966	8185	5379	20530	9946	23249	33195
2002	4029	7190	3325	14544	7407	22112	29519
2003	3910	7882	2572	14364	6452	18116	24568
2004	3275	6948	4051	14274	5351	16897	22248
2005	2299	4143	2620	9062	4519	15779	20298
2006	2600	5550	964	9114	4944	17390	22334
2007	2162	4812	1503	8477	4673	17794	22467
2008	3024	5671	2646	11341	6661	27980	34641
2009	2460	6024	2370	10854	5693	27270	32963
2010	2388	6815	2182	11385	6052	35691	41743
2011	2840	8357	1999	13196	6054	41165	47219
2012	2935	8277	2050	13262	6092	39348	45440
2013	3294	8589	1700	13583	6544	40057	46601
2014	3117	6356	907	10380	5996	32063	38059
2015	2854	6039	841	9734	5440	30478	35918
TOTAL	183377	492078	435410	1115683	345908	1178785	1524693

Source: FRSC

APPENDIX VII

Road Traffic Crashes in Year 2015 by States

Summary of Victims across the Country

35,918

STATE	FATAL	SERIOUS	MINOR	TOTAL CASES	NUMBER INJURED	NUMBER KILLED	TOTAL CASUALTY	PEOPLE INVOLVED
Abia	21	55	10	86	292	41	333	870
Adamawa	37	120	6	163	428	71	499	954
Akwa Ibom	22	24	4	50	95	41	136	312
Anambra	91	143	21	255	687	193	880	2102
Bauchi	86	137	3	226	964	187	1151	1726
Bayelsa	10	44	15	69	130	16	146	420
Benue	93	248	47	388	1082	176	1258	1919
Borno	1	8	0	9	55	2	57	74
Cross River	48	74	16	138	350	113	463	763
Delta	80	102	18	200	761	151	912	1573
Ebonyi	102	144	41	287	556	180	736	1498
Edo	103	148	23	274	992	184	1176	2599
Ekiti	17	37	1	55	180	24	204	352
Enugu	68	142	40	250	856	95	951	2049
FCT	209	945	188	1342	2820	328	3148	6855
Gombe	51	133	5	189	701	101	802	1277
Imo	50	90	30	170	508	70	578	1339
Jigawa	38	109	2	149	505	79	584	778
Kaduna	244	257	1	502	2025	474	2499	3835
Kano	94	157	18	269	1235	197	1432	2077
Katsina	94	126	5	225	938	190	1128	1554
Kebbi	39	87	17	143	573	97	670	876
Kogi	150	173	8	331	1450	310	1760	3305
Kwara	68	118	21	207	682	133	815	1418
Lagos	85	224	94	403	866	117	983	2621
Nasarawa	122	638	38	798	2069	197	2266	3956
Niger	122	362	39	523	1387	199	1586	2636
Ogun	164	237	27	428	1499	307	1806	3438
Ondo	102	102	7	211	658	198	856	1717
Osun	104	149	13	266	1043	223	1266	2221
Oyo	128	134	8	270	1229	222	1451	2311
Plateau	50	168	18	236	823	77	900	1458
Rivers	35	37	24	96	261	69	330	641
Sokoto	44	113	7	164	381	102	483	719
Taraba	12	92	2	106	292	14	306	468
Yobe	17	20	16	53	332	114	446	520
Zamfara	53	142	8	203	773	148	921	1163
TOTAL	**2854**	**6039**	**841**	**9734**	**30478**	**5440**	**35918**	**64394**

Source FRSC

APPENDIX VIII

Table 17: Percentage change in Road Traffic Crash Data in year 2015 over 2014 on State Basis

STATE	TOTAL CASES		% Change	PERSONS KILLED		% Change	PERSONS INJURED		% Change
	2014	2015		2014	2015		2014	2015	
Abia	87	86	-1%	38	41	8%	284	292	3%
Adamawa	288	163	-43%	72	71	-1%	806	428	-47%
Akwa Ibom	57	50	-12%	23	41	78%	111	95	-14%
Anambra	272	255	-6%	110	193	75%	640	687	7%
Bauchi	493	226	-54%	269	187	-30%	1773	964	-46%
Bayelsa	95	69	-27%	21	16	-24%	152	130	-14%
Benue	290	388	34%	169	176	4%	973	1082	11%
Borno	14	9	-36%	2	2	0%	51	55	8%
Cross River	197	138	-30%	147	113	-23%	415	350	-16%
Delta	290	200	-31%	210	151	-28%	1046	761	-27%
Ebonyi	248	287	16%	113	180	59%	501	556	11%
Edo	239	274	15%	216	184	-15%	708	992	40%
Ekiti	60	55	-8%	48	24	-50%	165	180	9%
Enugu	263	250	-5%	178	95	-47%	817	856	5%
FCT	1395	1342	-4%	335	328	-2%	2820	2820	0%
Gombe	179	189	6%	107	101	-6%	779	701	-10%
Imo	241	170	-29%	103	70	-32%	672	508	-24%
Jigawa	101	149	48%	115	79	-31%	480	505	5%
Kaduna	525	502	-4%	539	474	-12%	2242	2025	-10%
Kano	404	269	-33%	358	197	-45%	1482	1235	-17%
Katsina	159	225	42%	247	190	-23%	814	938	15%
Kebbi	149	143	-4%	77	97	26%	438	573	31%
Kogi	254	331	30%	304	310	2%	1095	1450	32%
Kwara	199	207	4%	130	133	2%	675	682	1%
Lagos	321	403	26%	110	117	6%	731	866	18%
Nasarawa	878	798	-9%	314	197	-37%	2462	2069	-16%
Niger	602	523	-13%	227	199	-12%	1711	1387	-19%
Ogun	298	428	44%	232	307	32%	983	1499	52%
Ondo	285	211	-26%	173	198	14%	887	658	-26%
Osun	266	266	0%	190	223	17%	1191	1043	-12%
Oyo	272	270	-1%	277	222	-20%	1137	1229	8%
Plateau	245	236	-4%	106	77	-27%	824	823	0%
Rivers	137	96	-30%	67	69	3%	353	261	-26%
Sokoto	158	164	4%	108	102	-6%	341	381	12%
Taraba	83	106	28%	27	14	-48%	313	292	-7%
Yobe	70	53	-24%	127	114	-10%	382	332	-13%
Zamfara	266	203	-24%	107	148	38%	809	773	-4%
TOTAL	**10380**	**9734**	**-6%**	**5996**	**5440**	**-9%**	**32063**	**30478**	**-5%**

Source: FRSC

ABOUT THE AUTHOR

Hafiz Tarauni Mohammed was born on 21st July, 1967 in Kano to the family of Alhaji Mohammed Baba and Hajiya Rakiya Mohammed Baba.

He attended Capital Primary School Sokoto and Shehu Garbai Primary School Maiduguri from 1973-1979 for his primary school education, and thereafter proceeded to Science Secondary School Dawakin Kudu in Kano State from 1979-1984 for his GCE O'Levels. Between 1984 and 1989, Hafiz attended Usmanu Danfodio University Sokoto where he obtained Bsc Agriculture. He did his National Youth Service Corps at the Nigerian Institute for Oil Palm Research (NIFOR) in Bendel State (now Edo State) from 1989-1990. Thereafter, he attended Ahmadu Bello University Zaria and obtained Msc Agricultural Economics in 1995 and Msc International Affairs and Diplomacy from the same institution in 2005.

Hafiz Mohammed was commissioned into the service of Federal Road Safety Corps on 12th December, 1997 as a Superintendent Route Commander and rose to the rank of Deputy Corps Commander in 2014. He was appointed the Protocol Officer of FRSC in June 2014. He has attended local and foreign course in Road Safety Management and Quality Management System.

Hafiz is married and blessed with four children, his hobbies include reading, travelling and playing volley ball and table tennis.