# Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria

## by

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# ABSTRACT

The definition of a concept of Social Sustainability is challenging. It is one of three pillars of sustainability yet neglected by researchers due to the complexity of definition, application, and implementation. This study focuses on a neglected area of research – understanding a concept of Social Sustainability within the context of urban road transportation planning in Abuja, Nigeria. Abuja has a population of 776, 300 (2006 census) with a growth rate of 9%. The administrative region of Abuja – the Federal Capital Territory – has a population of 1,406,239. A survey in 2008 recorded an average daily passenger number for bus travel in the whole administrative region as just under 800,000. The city is facing issues of inadequate road transport infrastructure and facilities. Coupled with the increasing population and urbanisation, how are the authorities handling the various demands for the provision of this much-needed infrastructure and how this link to a concept of social sustainability for the city

The research comprises semi-structured interview with 261 commuters, 4 Transport Unions operating in the city, and 4 government agencies handling transport and its related issues in the city. SPSS and NVivo software were used in the analysis of the gathered data. The results highlight the difficulties faced by commuters in accessing urban road transport, the quality of service, public engagement, and the decision-making process of the city's road transport sector. A conceptual framework for social sustainability is presented, summarising the themes for social sustainability, as discussed with participants. Then, two priority areas of social sustainability for citizens are discussed – stakeholder engagement in decision-making and social inclusion. The findings from this study highlight the inadequate engagement between citizens and the government on matters that impact their daily lives. A practical framework for engaging stakeholders in the provision of urban road transportation in Abuja is proposed.

The study finds that understanding the needs and priorities of commuters and operators of road transport facilities, supported by the necessary numerical and factual data is important for establishing a sustainable transport system in Abuja. This should be a focus for Abuja and Nigerian policy planners and decision makers. The work also has implications for practitioners and scholars who are trying to implement social sustainability as part of transport planning in other developing nations, with their own distinct cultures, values, characteristics, and beliefs.

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# CHAPTER 1: INTRODUCTION

## 1.1 Background of the Study

Most Nigerians depend on roads for their main means of transport due to the under development of other means of transportation. Other forms of transportation have long been neglected by both government and the private sector, largely stemming from policy inconsistency and limited private sector involvement (Aworemi and Ajayi, 2013). Other scholars have highlighted the various issues bordering urban road transport problems and how these problems are not broadly sustainable for society. Wasike (2001) highlights the state of Kenyan roads that are not maintained, and rehabilitated when necessary, due to administrative and policy inconsistencies. Nevertheless, Yiftachel and Hedgcock (1993) are worried about how to enhance the social value of Perth's central area in terms of equity, community and urbanity. While Wasike (2001) is focussed on maintaining existing road infrastructure, Amekudzi, Khisty and Khayesi (2009) concentrates on both existing and potential infrastructure by stating that it is an advantage to urban policy makers to accommodate different ranges of stakeholders at different levels of socio-economic development in order to have a functioning and acceptable infrastructure in an urban area. Ghahramanpouri *et al.* (2015) concludes that local authorities and urban planners need to evaluate public spaces and infrastructure and see how it affects the people socially to improve on it. This last point reflects Yiftachel and Hedgcock (1993) view. The common point for all these references is to understand what the people (end users of the urban transport infrastructure) need. These studies all highlight the need for having a participatory-driven, community-led, stakeholder-engaged, dialogue-based, decision-making process in an urban area no matter where in the world it is located.

Loidl *et al.* (2016) observe that the transportation of people, goods, and services has changed due to the influence of information and communication technology (ICT) impacting on how government policymaking is conducted on transport infrastructure expansion. The government tend to make decisions based on the use of smart electronic data and not on basic population growth data. The emergence of ICT, driverless cars, electric cars, etc. have resulted in the formation of new perspectives to urban road transport. The perspectives are also shared by Pettigrew and Cronin (2019) (accepts that autonomous vehicles are advantageous but societal orientation and policy changes need to be made), Globisch *et al.* (2019) (the public prefer free public charging points for their vehicles and fast charging points than plenty of points in a geographical area), Diao (2019) (change in policy direction due to contemporary technology), and Anastasiadou and Vougias (2019) (smart cities should be

designed to be socially smart and not only electronically smart). This research is examining these contemporary issues and its acceptability by the people of Abuja (and other stakeholders) with the attendant policy, regulatory, and infrastructural system provided by the city and national authorities.

In order to achieve a sustainable global society, it is recommended that the involvement of the public and stakeholders be of paramount importance in government's decision-making and in the development of their plans and programmes (Swedish Environmental Protection Agency (Sweden), 2000). Furthermore, a community-led and participatory-based decision-making, identification of all the stakeholders, and engaging them in every step of the policy decision makes the objective achievable with no feeling of ill-will between the people and the government (Whitton *et al.*, 2015). Consultation with stakeholders can be time consuming, complex, sometimes confrontational, and have cost implications on governmental plans and programmes but it is through this process that the projects have a sense of ownership and the support of many different interested parties involved in its delivery.

This research will examine the social sustainability (engagement, consultation, inclusion) of road transportation in Abuja. It will look at the level of participation and understanding that occurs between the community and the government concerning the decisions taken in the provision of road transport in the city. The study will also explore the adaptation and adoption by the government of the ideas and inputs into the road policy of Abuja. Furthermore, modern trends in urban road transportation with respect to sustainable development and the current state of road transportation in Abuja will be studied. The modern trends in urban road transportation look at the mixed usage of the roads for on-street systems (for buses, trams, cars, and motorcycles), traffic management systems (for increasing the efficiency of available road space), non-motorised transport systems (facilities for pedestrians and people powered vehicles), and the urban transport institutions (planning, design, finance, implementation, and enforcement). Therefore, this study intends to examine the implementation of these urban road policies and its alignment with national goals and priorities.

Additionally, this research will examine the complexities involved in implementing social sustainability in a developing country, and to the urban road transport subsector. With the themes of social sustainability of engagement, consultation, and inclusion, this study will examine the applicability of these themes to citizen participation in the provision of urban road transport in Abuja. In addition, this research will endeavour to illustrate the advantages and

the practicalities of pursuing social sustainability in a developing country for it to be incorporated by societies with similar social situations to Abuja.

Transportation is vital for both the development of society as a whole as well as for the mobility of the individual (Davenport and Switalski, 2006). Without transportation, there would be no movement of goods and services from one location to another. This is why research is required to bring together the different actors and stakeholders in the sector and understand the stakeholders' priorities in order to have transportation in a mutually justifiable, sustainable, and workable way (Swedish Environmental Protection Agency (Sweden), 2001). In the case of this study, it will be examining the social aspect of sustainability and understanding if the people and their personal wellbeing are being taken into consideration in the development of urban roads from the policy level to the usage level.

There are different modes of transportation around the world with different levels of development and approval of the users based on their satisfaction of the services provided (Gilbert, 2002). Commuters base their approval of these modes of transportation on availability of the different modes of transportation available to them, the public's perceptions of these modes of transport, their performance, accessibility to the transportation, and the seamless transition from one mode to the other (Cenek *et al.*, 2012). The development of these modes of transportation is dependent on government policies and its implementation, and the financial and technical knowledge of the individual countries around the world. Therefore, the development of an integrated, seamless, accessible, highly performing multi-modal transport system is different around the world. This difference also leads to poor approval of the transport systems in places where the quality of the modes of transportation offered is low.

Nigeria's transportation system can be grouped into three basic categories, namely Land (Rail and Road), Water, and Air Transport (Federal Ministry of Transportation (Nigeria), 2010). This research concentrates on road transportation, specifically, urban road transportation. Road transport is the most used mode of transportation in Nigeria today, and accounts for more than 90% of the transport sub-sector's contribution to the GDP. The optional use of motor cars for pleasure, which can be distinguished from the three uses listed above, also contributes tremendously to the importance of road transport in Nigeria. This is more predominant in Nigeria because of the poor state of alternative means of transportation by which journeys could have been made and due to the psychological satisfaction offered by the possession of a car (Badmus *et al.*, 2012).

Urban road transportation in Abuja, as identified by Femi (2012), is facing inadequate implementation of the planned transport infrastructure. It is one of the major challenges faced by road users in the capital city. The planned gradual development of the city, as designed in the Abuja masterplan, was not executed diligently. The plan for the city was to have multi-modal transport to cater for people who will be coming into the city daily, but this provision was not implemented as planned. This created a disorganised singular mode of transport wherein privately-owned buses operate in a disorganised manner. This led to the creation of unapproved bus routes and stops, inadequate pedestrian bridges, and traffic congestion due to increases in private car usage.

The current challenges Abuja city is facing appear to be issues surrounding stakeholder consultation and engagement to understand where we are, where we want to be, and how we can get there. The roads in Abuja are facing issues of congestion, unruly drivers, inadequate road infrastructure, an inefficient and ineffective public transport service, an unsustainable transport system, and a rising population of commuters. With all these issues, the city authorities are facing problems of inadequate finance to provide the transport infrastructure, dependence on road transport at the detriment of other modes of transport, poor synergy between government departments, inadequate regulation of public transport operators, and poor enforcement of road safety laws.

Another challenge is the provision of the infrastructures and facilities based on end user needs and requirements. For that reason, the stakeholders needed to make a comprehensive decision on urban road transport in Abuja should be given the opportunity to have input in the decision-making process of the planning and implementation of the system. The stakeholders should be composed of decision makers (political and technical), transport unions, commuters, and other non-State actors, for balance, diverse input, equity, inclusion, and robust consultation. This study has, therefore, identified as a gap that this aspect of social sustainability is not adequately implemented in the governance of Abuja's roads.

In view of an increase in population, challenges faced in developing the city in phases as planned, and contemporary issues surrounding urban road transport, this study will examine how that affects the users of the available road transport facilities in the city. Furthermore, the modalities and processes for consultation and engagement of commuters and other stakeholders within the city regarding urban road transport will be examined. Specifically, the way engagement and consultation occur at neighbourhood, district, and city-wide levels. Lastly, it will study if the feedback from the commuters is incorporated into policy decisions of the city's decision makers.

Hence, this research has identified the gap facing the road transport system in Abuja city. This gap is centred around two sub-themes of social sustainability – stakeholder engagement and social inclusion. This study will focus on these sub-themes to investigate commuter and transport unions' engagement with the city authorities. The stakeholder engagement and inclusion should not only address issues the system is facing today, it should also endeavour to address issues that are coming up in the foreseeable future.

Addressing issues on social sustainability is complex but achievable if given the required will and support. It is the pillar of sustainability that gives an individual a sense of belonging in a community, an avenue for people to know that decision makers are hearing them, and to know that all human beings are treated equally, ethically, equitably, cohesively, and mutually. Therefore, this research is aimed at looking into the public participation, inclusion, and engagement embarked upon by the government in interacting with the people in making decisions that affect them. Furthermore, it is intended to add to the knowledge base of social sustainability.

In summary, this study explores the various societal and policy issues regarding the provision of an efficient and effective urban road transport system in Abuja that is acceptable to the service user in line with the themes of social sustainability. This research investigates what social sustainability in urban road transport requires, what the urban road transport situation in Abuja is, and if the multiple stakeholders will be involved in having an acceptable road transport infrastructure in the city. Therefore, understanding the needs of stakeholders will be advantageous to addressing the issues and challenges facing the road transport of the city in a socially sustainable way to have a locally acceptable system.

## 1.2 Population and Physical Growth of Abuja
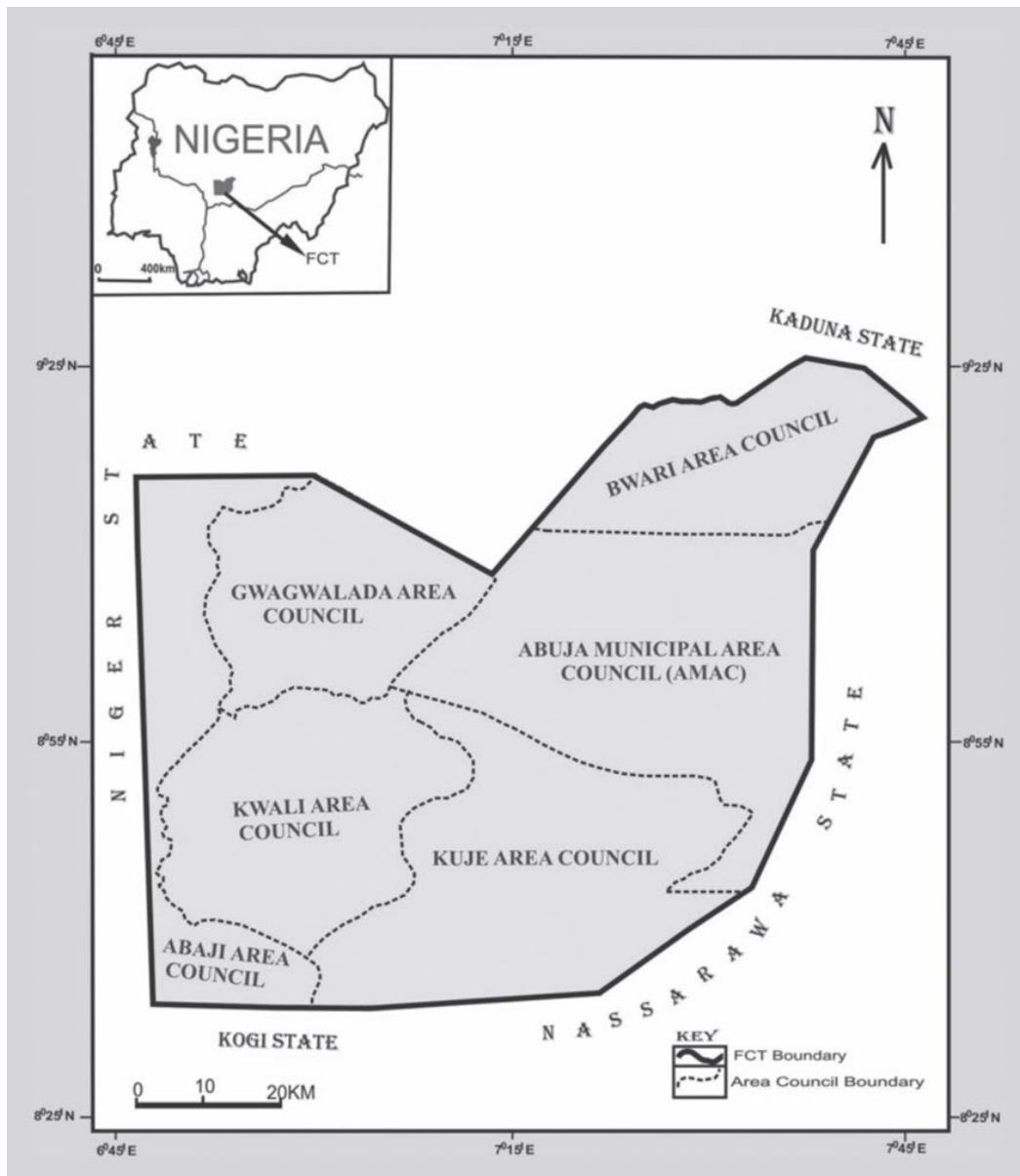


**Chart 1: Map of the Federal Capital Territory**

**(Source: Nwachukwu (2014)**

Abuja (the Federal Capital Territory) is the capital city of Nigeria and, according to the 2006 census (National Population Commission (Nigeria), 2007), has a population of 776, 300 with a growth rate of 9%. Geographically, it is in the middle of Nigeria, allowing for easy access to all parts of the Federation. The city was created specifically to serve as a model capital city for Nigeria thus necessitating the planning and construction of a modern and befitting city of world-class standard from a barren area in the middle of the country (Federal Capital

Development Authority, 2018b). The city was developed to lessen congestion in Lagos (the former national capital) and have a larger land mass for future expansion and growth when needed. Abuja has over 224 km of intra-city roads of various sizes (National Bureau of Statistics (Nigeria), 2014). The city have a Master Plan developed in the middle 1970s and city-scale development began in 1976;  it was planned to be developed in several stages (Federal Capital Development Authority, 2018a). Chart 1 illustrates the administrative region of the Federal Capital Territory, in Nigeria, and the Local Council where Abuja is located - Abuja Municipal Area Council.

From 1976, when the physical development of Abuja began, to date there have been 2 censuses conducted in Nigeria, in 1991 and 2006 (Mohammed, Othman and Osman, 2019). In 1991, the population of the city was 226,949, of which there were 129,388 males and 97,561 females (National Bureau of Statistics (Nigeria), 2010a). The national average annual growth rate was 2.1% (Okolo, 1999). In 2006, the population of the city had increased to 776,300, of which 415,951 were males and 360,347 females. The national average annual growth rate had also increased to  2.9% (Mohammed, Othman and Osman, 2019) with an inter-census growth rate of 9.28% (National Population Commission (Nigeria), 2007) for the Federal Capital Territory. With a land mass of 1,813.33 square kilometres (National Population Commission (Nigeria), 2007), the population density of the city was 125.15 per square kilometre (National Bureau of Statistics (Nigeria), 2010a) and 428.10 per square kilometre (National Population Commission (Nigeria), 2007), for the 1991 and 2006 censuses, respectively. These statistics illustrate that there has been a tremendous increase in the population of the city within the span of 15 years.

In addition, the Federal Capital Territory (the administrative region of Abuja) has an infant mortality rate of 92 per 1000 and an under-5 mortality rate of 148 per 1000 (National Bureau of Statistic (Nigeria), 2016). The Territory also has a total fertility rate of 3.8 per 1000 women, and the national average for household size in an urban area is 4.9 persons (National Bureau of Statistic (Nigeria), 2016). As at 2013, the Federal Capital Territory (FCT) has a total of 602 public primary schools with 222,762 pupils and 769 private primary schools with 96,682 pupils attending the schools (National Bureau of Statistic (Nigeria), 2016). Furthermore, in 2013 and 2014, a total number of 231 and 287 females from the FCT participated in the Open Apprenticeship Scheme of government compared to 258 and 284 in number for the males (National Bureau of Statistic (Nigeria), 2016) .

The factors that have contributed towards the increase in population in Abuja are diverse. The city was "designed and built to correct the ills found in" other Nigerian urban

centres (Obia, 2016; p. 33). Building and habitation of the city was planned in phases. However, policy and political considerations resulted in the increase in the population of the city. One of the major policy changes was the movement of the seat of government from Lagos to Abuja in 1991 (Obia, 2016). This immediate relocation resulted in the emergence of squatter settlements within and around the city. These squatter settlements emerged from villages that were to be resettled as the city was developed, that is, in phases (Ejaro and Abubakar, 2013). Due to the building of the city in phases, the large influx of people from Lagos resulted in inadequate housing to accommodate them (Ejaro and Abubakar, 2013). Then, government had a policy of building or buying official accommodation for top civil servants and senior government officials. This made the property market unaffordable for lower-level and mid-level workers, resulting in them having to resort to squatter settlements and substandard housing for their accommodation (Aniekwe and Igu, 2019).

With the influx of people into the city in an unplanned manner, the physical growth of Abuja was affected. This unplanned physical growth resulted in squatter settlements being created and growing in the city. As at 2004, there were a total of 2,412 hectares of informal settlements within Abuja (Aliyu, 2016). These settlements are characterised by a lack of basic critical infrastructure, an absence of sewage and sanitation facilities, and inadequate/non-existent urban management systems for compliance and enforcement of the masterplan. Furthermore, due to the lack of surfaced roads in these informal settlements, poor drainage causes erosion leading to loss of property, with roads becoming impassable during the rainy season. This absence or lack of suitable roads also makes it difficult for solid waste collection, ease of movement of persons, and security of the communities (Aliyu, 2016).

Unfortunately for the inhabitants of these informal settlements, they often experience threats, notices and occurrences of demolitions of their places of residences (Azu, 2012; Onyeji and Yusuf, 2020). The inhabitants had to settle in these areas not because they wanted to but because they had to. They reside there because properties in planned parts of the city are unaffordable and sometimes inadequate. Therefore, the people stay in these areas due to the policy change in the movement of the seat of government of Nigeria. This has resulted in extensive homelessness. However, demolitions are not only restricted to unplanned parts of the city but also in planned areas, such as housing estates with planning permission (Inside Business, 2020).

The city has been planned as a city-region with satellite areas (Federal Capital Development Authority, 2018c). The satellite towns each have their own masterplan, with physical and population growth planned in phases (Aliyu, 2016). Furthermore, the property prices in these satellite towns are relatively less expensive when compared to the ones in the

city centre. Therefore, these towns are heavily populated. This can be seen during the rush hours (mornings and evenings) where over 85% of vehicular traffic is going to and from the satellite towns (Aliyu, 2016). This is because approximately 70% of the total workforce in Abuja work in the city centre, and less than 13% of this total actually live there (Biliyamin and Abosede, 2012). Through the use of satellite imagery, Ibrahim Mahmoud *et al.* (2016) found that the built up areas in the city increased by more than 50% between 1986 and 2001, and 48% between 2001 and 2014. That is, built-up areas in 1986 totalled 316,180.7 hectares, whereas in 2001 this had increased to 719,778.9 hectares, and by 2014 it had reached 1,310,053.10 hectares.

In summary, the development of the Abuja City Region commenced as planned. However, policy change from the then political decision makers (the military) resulted in the city being developed in a manner that is not sustainable. This policy change has caused high population growth in the city, encouraging slum settlements, which are a burden on the existing basic infrastructure which is inadequate to cater for the population, and diversion of funding from the construction of new districts to maintenance of overburdened public infrastructure.
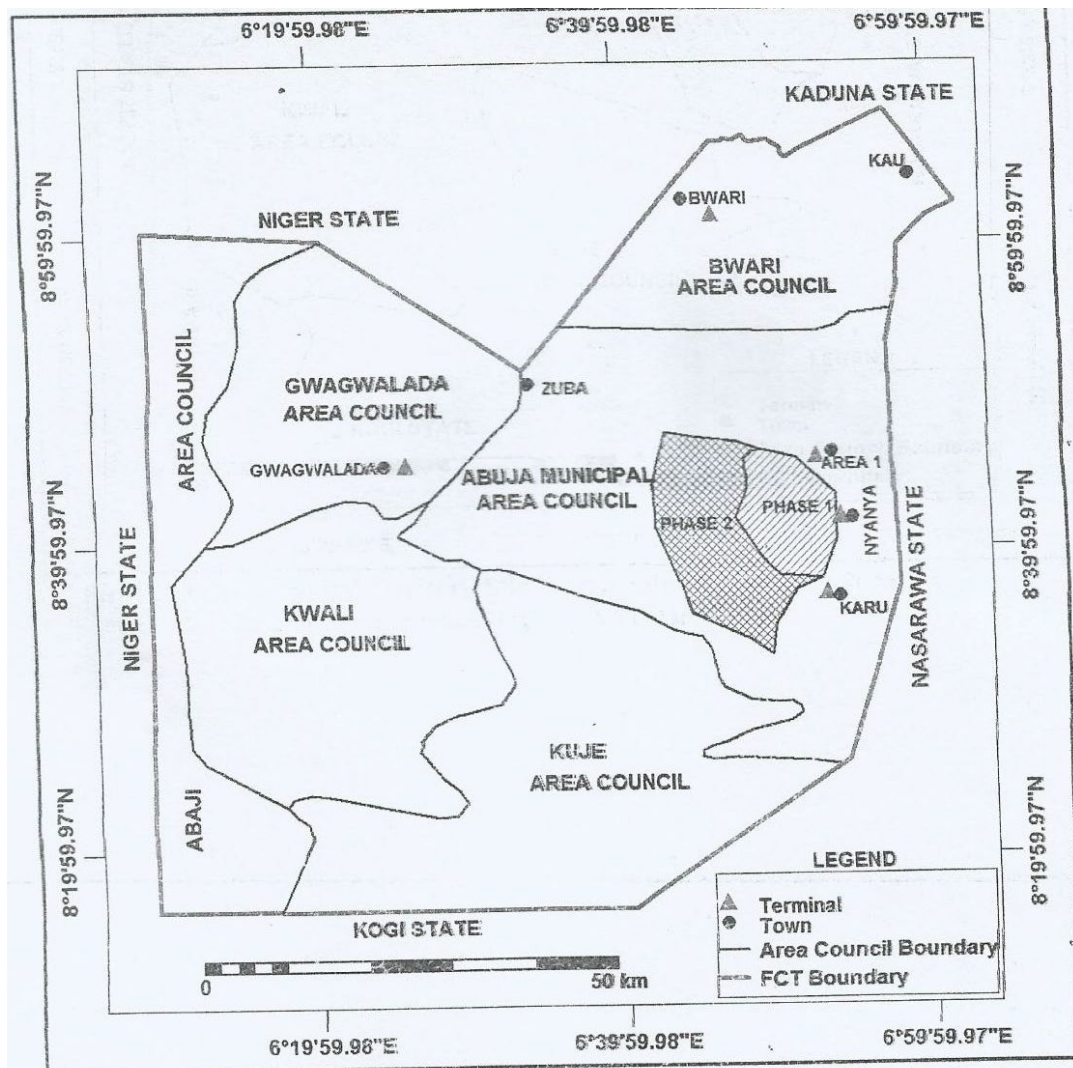
**Chart 2: The Administrative Region of the Federal Capital Territory illustrating the city of Abuja**

**(Source: Nwankwo, Fawohunre and Obasanjo (2016)**

Chart 2 illustrates the location of Abuja, within the Abuja Municipal Area Council. That is, the city centre does not cover the whole Council Area. Also, the other Local Councils illustrated are within the coverage of the city-region of the Territory.

## 1.3 Historical Background of Abuja Transport System

As stated earlier, the city has satellite towns, thus creating a city-region scenario (Aliyu, 2016; Federal Capital Development Authority, 2018c). As discussed by Razak (2016) in reference to the masterplan of the city and the surrounding satellite towns, the transport system is concentrated in the city centre and not in the city-region. Thus the "transportation linkages to the suburban areas in Abuja were left to evolve organically as informal bus services, hence public transport has been largely fragmented, unregulated and unreliable"

(Razak, 2016: p. 52) with a dependence on private cars for mobility. Tini and Muhammad (2018; p. 65) have also pointed out the inconsistent road pattern of the city, affecting "the performance of transport system and societal lifestyle in the city". Therefore, over the years, problems associated with the transport system masterplan have been identified.



**Picture 1: Urban Roads: Abuja, Nigeria**

**(Source: *Frontiers News* (2016)**

The dependence on informal transport services to the city-region is further discussed by Gbadamosi and Adenigbo (2017). They stated that in 2007, 65,397 vehicles were inspected by Vehicle Inspection Officers (VIOs) in the satellite towns, whereas in 2014 they inspected 145,537 vehicles. This translates to a 100% increase in vehicles inspected over a 7-year period. Fortunately, over 90% of vehicles inspected passed the random checks. Also, Usani (2005) stated that in the years 2000, 2001, and 2002 there were 15,788, 37,873, and 44,426 registered vehicles in Abuja, respectively. Furthermore, Nwankwo and Barimoda (2019) found that while there are urban mass transit buses in the city, commuters still prefer to board taxis and paratransit instead of the transit buses. This is because of the inadequacy of the buses, time covered during travel, and bus comfort issues.

**Picture 2: Abuja Green Taxis**

Minibuses and taxis could operate in the city-region area of Abuja. However, in 2013, the city authorities banned the operation of minibuses within the city centre and restricted their operations to the satellite towns (Owete, 2013). Presently, Bus Rapid Transit (BRT) conveys commuters from the satellite towns to the city centre, and commuters depend on taxis and rickshaws to their final destinations. The Abuja Urban Mass Transport Company Limited (AUMTCO) was the first bus operating company established by the then Ministry of Federal Capital Territory, now the Federal Capital Territory Administration (FCTA), in 1984 as Abuja Bus Service (ABS). It was later registered, on 13th November 1989, as Abuja Urban Mass Transport Company Limited. The company operate a comprehensive Intra City Bus Service in the Federal Capital Territory and have a mission "to provide the best value for money and safest, most reliable scheduled and bus hire service in Nigeria" (Abuja Urban Mass Transport Company Limited, 2015a; para. 3). They provide mass transit services from the satellite towns to the city centre on 11 routes, with 166 bus stops along the routes (Abuja Urban Mass Transport Company Limited, (2015a). With the introduction of BRT services, the company provided high-capacity buses, and other private transport operators also established their services and transit routes.

**Picture 3: A Conductor of a Minibus calling out Bus Routes to Commuters**

<u>(Source:</u> Nigerian Times Nigerian Times Blogpost (2017)

Another informal mode of transport used in the city was the motorcycle taxis locally called *okada*. The usage of motorcycles as a commercial mode of transport was stated by Usani (2005) as one of the characteristics of transportation in the Abuja city-region. In 2006, the usage of motorcycles for commercial transport was banned in the city (Murray, 2006; Ogala, 2018). The ban is because of a high rate of motorcycle accidents, rider recklessness, and the danger posed to other road users. The two wheelers are also used for criminal activities due to their fast getaways (Dayyabu *et al.*, 2019). The ban necessitated the introduction of tricycles (rickshaws) in the city centre (Bassey and Swomen, 2012), however, they revealed a high rate of accidents involving rickshaws drivers in the city. Though the rickshaws are restricted to certain parts of the city, they do provide a first and last mile service for commuters. Also, Dayyabu *et al.* (2019) explain that with the high number of rickshaws in the city it is imperative for the city authorities to start including them in the city-region transport planning and operations.
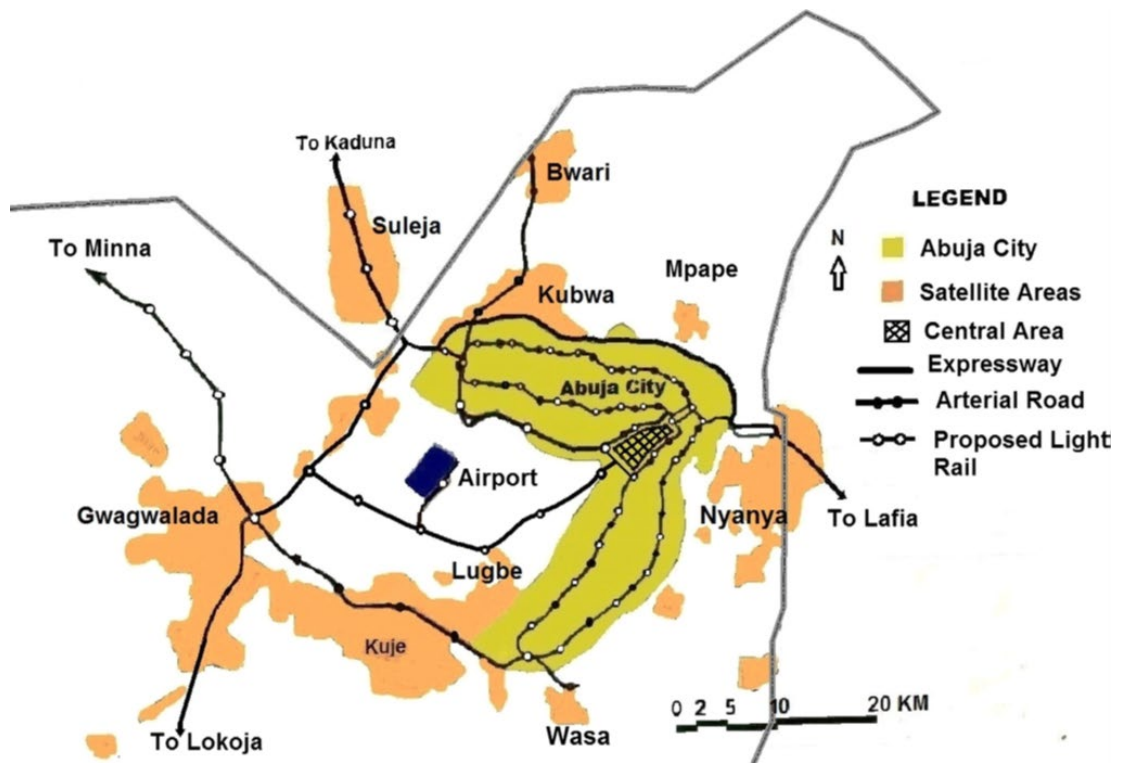
**Chart 3: Abuja & Environs Public Transport Concept**

**(Source: Abubakar (2014)**

Chart 3 illustrates the planned transit concept of the city-region of the Federal Capital Territory. The city transport system also has a plan for light rail. The Abuja Light Rail project commenced construction in 2007 with a total of 78 kilometres (Jackson, 2007). The project is in 3 phases, and the rail system will consist of a total of 280 kilometres when all phases are complete. The first phase of the project has been completed and is presently operational (Iroanusi, 2018).
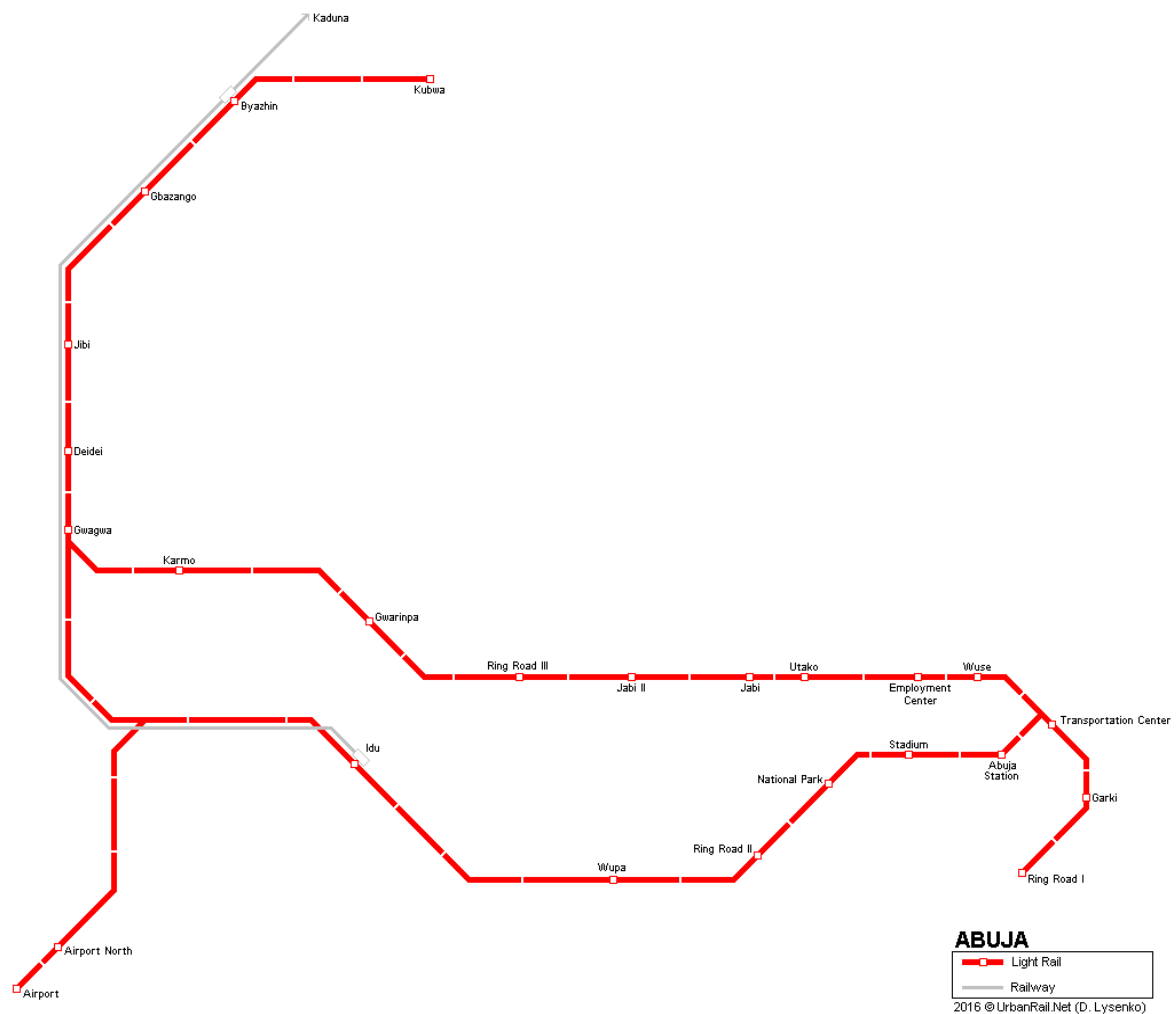
**Chart 4: Map of the Abuja Light Rail Line**

<u>**(Source: Lysenko (2016)**</u>

The FCT Transportation Secretariat administers and regulates Abuja's transportation sector. It oversees the transportation in the city and the Federal Capital Territory (FCT) as a whole. The Secretariat was established in 2004 from the amalgamation of Transportation Units in the Department of Engineering, Federal Capital Development Authority (FCDA), the Department of Municipal Affairs and Environment of the defunct Ministry of Federal Capital Territory (MFCT), the Department of Road Traffic Services, and Abuja Mass Transit Company (AUMTCO) (FCT Transportation Secretariat (Nigeria), 2016).

## 1.4 Local Issues concerning a Socially Sustainable Transport in Abuja

Social sustainability is a pillar of sustainability that is hard to quantify but vital in the achievement of sustainability. Boschmann and Kwan (2008; p. 151) state that socially sustainable urban transport provides "equitable access to opportunities necessary for enabling

individuals to achieve sustaining livelihoods, establishes livable cities of social cohesion and inclusion, and overcomes the problems of polarized, fragmented, and socially segregated metropolitan communities". Furthermore, in the context of the developing world, there is the need to integrate the informal mode of transport because "it is highly, flexible, responsive to demand, readily available and relatively cheap to run" (Lucas and Stanley, 2013: p. 14). However, this can be possible to achieve if the transport governance is strengthened in line with certain assessment criteria that will address issues of:

- Health and well being
- Equal opportunity to participate in society
- Transparent and accountable transport governance structures
- Access to decision-making processes and recourse to legal justice, and
- Integration of other sectors with transportation (Lucas and Stanley, 2013).

There are particular types of exclusion faced by Abuja residents. One is unpaved roads within some neighbourhoods (Abiye et al., 2013). These neighbourhoods are already built up with defined demarcation for roads. However, the authorities are not able to construct the roads, making the residents use unsurfaced roads with unforeseen consequences in the rainy seasons together with worries about safety due to the unavailability of streetlights in the night and poor access for emergency services when needed (AbdulAzeez et al., 2015). Another exclusion is the matter of commuters having the money to travel within the city; the bus operator might not have the change to give the commuter because no bus operator operates electronically (Sunday, 2017). Specifically, the commuter might wish to pay for the transport fare with a higher denomination of currency (in cash) but the bus operator may not have a smaller denomination to give back the balance to the commuter. This makes the commuter drop off to get another bus which creates unnecessary delays for the commuter and the bus operator. This is another exclusion that is happening daily in the city, and commuters are made to look for smaller denominations to board these buses. However, in this kind of situation, some bus operators allow the passenger to travel without charge.

In the city, most of its inhabitants are not able to afford houses in the city centre so they live in the peripheries (Aliyu, 2016). Most of these peripheries are without basic amenities and infrastructures – they are slums (Aniekwe and Igu, 2019). Thus, the people live in faraway places and commute daily to work in the city centre (Biliyamin and Abosede, 2012), this does not encourage sustainable, non-motorised transport. Commuters must depend on public transportation or personal vehicles. In addition, these areas have inadequate or poor educational systems (Jacob & Ahaotu, 2021; Jacob & Agwor, 2021), thus the children are also

transported to the city centre to attend schools. For a parent to take the child(ren) to school and go to their jobs without being late, the whole family must wake up earlier than normal to board the buses going into the city centre. Furthermore, the required transportation infrastructure is biased to the city centre where the elite are living and working, leading to the peripheries becoming neglected and excluded (Razak, 2016).

People living in these slums are not provided with the much-needed infrastructure (Ejaro and Abubakar, 2013). Some parts of these settlements do have surfaced roads, but these roads do not take into consideration non-motorised road users. For example, there is no footpath for pedestrians, the disabled, and cyclists. Furthermore, tricycles are always vulnerable to accidents from motorcars and buses (Bassey and Swomen, 2012). In the city centre, there is a good network of roads, however, these roads do not have provision for bicycle lanes (Hussaini et al., 2019). Pedestrian paths do exist, but there are no bicycle lanes. This demonstrates that even if one chose to ride into the city with his/her bicycle it is dangerous because there is no lane for cyclists. In addition, the urban poor cannot afford to live in the city (Aliyu, 2016), and they are excluded from faster modes of transport such as the provision of fast bus lanes. Vehicle road users also do not take into consideration pedestrians crossing the road at zebra crossings, they deliberately drive their vehicles over the zebra crossings, ignoring the pedestrians (Omidiji, 2010, June). However, this can be attributed to the poor attitudes and behaviours of drivers (Usani, 2005) and negligence by the authorities in enforcing the Highway Code (Uhegbu & Tight, 2021) and repainting faded zebra crossings (Omidiji, 2010, June).

As stated by Usani (2005), Gbadamosi and Adenigbo (2017), and Nwankwo and Barimoda (2019), the number of vehicles in the city is increasing at an alarming rate. However, this can be attributed to the construction of roads without the support for more sustainable modes of transport in the city (Femi, 2012). That is, most policies are biased towards car provision rather than other modes of transport. Also, the central business district and places of entertainment are concentrated in one area, resulting in citizens driving for many kilometres for employment or other socio-economic activities (Biliyamin and Abosede, 2012). However, the authorities need to understand that not everyone has a car. Little consideration has been given to those who cannot afford a car, who cannot yet drive, elderly individuals, individuals who are disabled, or those individuals who can drive but choose not to. This indicates a strong preference towards car ownership (Gbadamosi and Adenigbo, 2017) and the development of infrastructure needed for the usage of cars over other modes of transport in Abuja (Femi, 2012). One can conclude that policy makers in Abuja are favouring this mode over the other

modes of transport. However, rail services have commenced operations in some parts of the city-region (Iroanusi, 2018).

Commuters in the city use rickshaws for their mobility (Agency Report, 2019). It is an informal mode of transport that is flexible for its operators and passengers, affordable for the operators, and easy to maintain. However, these rickshaws are polluting the environment through the usage of adulterated fuel (Jonah & Sunday, 2021), face unnecessary harassment from the police and vehicle drivers (Adama, 2020), and the exposure to the elements that the operators face which is unhealthy (Ajala et al., 2020). Furthermore, these rickshaw operators have a low income, living in substandard housing (Raji, 2015), with unregulated operations and licensing, and non-recognition by transport authorities and planners (National Transport Policy, 2010).

All these problems are multidimensional, but they all have one thing in common – the exclusion of the rickshaw operators by those in power. These transport providers are constantly accused by the police of causing traffic congestion, although nobody highlights the problems caused by the motor vehicle. A motor vehicle uses more fuel than the rickshaw and, thus, emits more carbon than the rickshaw. The cars occupy much more space than the rickshaws on the streets and, in their production, consume much more resources than the rickshaws. Furthermore, rickshaw operators are made to depend on that type of income due to the inability of the authorities to provide better jobs for the people; yet rickshaws exist because of the inadequate transport system in the city.

All the above illustrates that the urban poor are excluded from the transport system by pushing them away from the city (despite their value to the day-to-day running of the city), living in substandard housing and neighbourhoods, being prone to high accident rates, and higher levels of pollution from vehicles due to the closeness of their living areas to roads and traffic hold-ups.

As stated by Lucas and Stanley (2013) and Boschmann and Kwan (2008), a socially sustainable transport system is based on social equity, social exclusion, and quality of life. However, the situation in Abuja illustrates that the commuters do not enjoy a sustainable transport system that caters for their wellbeing. Thus, a socially sustainable system is important for the people of the city for the commuters to have a system that is developed with the end user in mind and in line with the local values and situations. This, ideally, as Grieco (2015) concluded, should include those who see the present system as convenient for them together with improving the system to integrate those who are knowingly and unknowingly

excluded within the present transport system of Abuja. Apart from including previously excluded commuters in the existing transport system, a socially sustainable transport system is important for the city because strategies to provide an integrated and people-centred transport system can be delivered if the financial, human, and operational resources are made available with due consultation and understanding of the commuters' needs (Qureshi and Lu, 2007).

## 1.5 Aims and Objectives of the Study

Urban road transport in Abuja is facing several challenges, ranging from inadequate transport facilities and infrastructure to poor standards and operation of available services. The main theme of this research is to examine the road transport system of Abuja from the perspective of commuters, the transport unions, and government. Understanding their views gives an informed knowledge of the situation as it is, how it can be improved, and plans for how to improve it as proffered by the commuters. Understanding and acknowledging people's opinions, their needs, and their priorities based on their perception and using it to improve their lives is necessary in the achievement of social sustainability.

This study aims to investigate particular themes of social sustainability – stakeholder engagement and social inclusion – in the policy planning and implementation of urban road transport system in the city of Abuja. Also, the study has the following objectives:

- To assess the level of citizen participation in the enactment and implementation of urban road transport policy in Abuja.
- To measure the social sustainability of road transportation in the Abuja metropolis to the citizens.
- To identify the long-term plans of road transportation in line with accessibility and the intergenerational impact it will have in the immediate society.

# CHAPTER 2: LITERATURE REVIEW

## 2.1 Introduction

As stated by Woodcraft, Hackett and Caistor-Arendar (2011), social sustainability is a process for creating sustainable, successful places that promote wellbeing, by understanding what people need from the places they live and work. As such, the provision of a socially sustaining, efficient and effective urban transport system that is acceptable to most people, without excluding some groups of users, is an advantageous thing for a city. That is, knowing whom to consult, what to talk about, and the result of these consultations should be a guiding principle of stakeholder engagement and consultation in urban road transport policy and implementation. Before discussing what all of what the above paragraph is stating, the question is – what is sustainability?

In 1987, the World Commission on Environment and Development Commission produced the report – "*Our Common Future*" (also known as the Brundtland Report) (World Commission on Environment and Development, 1987). The Brundtland Report devised the often-quoted definition of the term sustainable development – "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987; p. 41). The report brought together social, economic, cultural, and environmental issues and global solutions. In defining the concept of sustainability, the Brundtland Report identified three pillars that are the foundation for the attainment of sustainability in all human endeavours – environmental, economic, and social. Rather than examining all three pillars, this research focuses on that of social sustainability.

Before the Brundtland Report, and after, other international conferences were held to address issues of sustainability around the world. These conferences include the following:

- United Nations Conference on the Human Environment (1972) (United Nations General Assembly, 1972)
- World Commission on Environment and Development (1983-1987) (United Nations General Assembly, 1983; World Commission on Environment and Development, 1987)
- United Nations Conference on Environment and Development (Earth Summit 1992) (United Nations General Assembly, 1992)
- World Summit on Sustainable Development (Earth Summit 2002) (United Nations, 2002b; United Nations, 2002a)
- United Nations Conference on Sustainable Development (2012) (United Nations General Assembly, 2012; United Nations Conference on Sustainable Development,

2012c; United Nations Conference on Sustainable Development, 2012a; United Nations Conference on Sustainable Development, 2012b)

- Sustainable Development Goals (United Nations General Assembly, 2015; United Nations Inter-Agency and Expert Group on Sustainable Development Goal Indicators, 2016)

There were mixed reactions to these conferences around the world. The 1972 Conference was criticised by both developed countries (supported only the development agenda not the environment agenda) and developing countries (the Conference is trying to hinder their development by stopping them from using their natural resources) (do Lago, 2009; Udall, 1972). The World Commission on Environment and Development (1987) was criticised for its definition of sustainable development (Anda, 1998) and on the lack of firm commitment for its implementation (McChesney, 1991).

Similarly, Palmer (1992, pp. 1028) is of the opinion that the 1992 Summit was "insufficient, due to a general failure of political will", but Rogers (2008) supported the Summit because it produced a working document (the Agenda 21) that countries can use as a guide for sustainability. Following on McChesney's (1991) view on the 1987 Conference, Shah (2002) states that the Earth Summit of 2002 did not give concrete modalities on how to implement the final communique and multinational companies were influencing decisions of the Summit. The 2012 Conference was not attended by leaders of some developed countries thus questioning the commitment of those countries about the environment (Pisano, Endl and Berger, 2012) and whether governance reforms around the world are what is needed for the achievement of sustainability in various countries (Biermann, 2013). Lastly, the Sustainable Development Goals are deemed "too broad" and hard to achieve (Ford, 2015). Nonetheless, it is well positioned to address all the lessons learned in Millennium Development Goals (Sengupta, 2016).

As highlighted by the various citations, issues around sustainability are broad, multifaceted, and varied, hence the periodical conferences in order to adopt lessons learned from previous years to the present. Following this, therefore, this study will focus on how sub-themes of social sustainability (stakeholder engagement and social inclusion) are applicable in the city of Abuja, Nigeria. What, then, is social sustainability?

## 2.2 What is Social Sustainability?
As in other studies, words and terms have different definitions by different scholars and social sustainability is no different. Social Sustainability can be defined as the ability to

guarantee welfare (security, health, education), equitably distributed among social classes and gender (Baker, 2006, pp.26-31). Within a territory, social sustainability means the capacity of the different social actors (stakeholders), to interact efficiently, to aim towards the same goals, encouraged by the close interaction of the institutions, at all levels (Baker, 2006). Therefore, social sustainability is the aspect of sustainability talking about human beings finding ways and means to achieve their needs and wants. Thus, the social aspect comes in as a pillar of sustainability (Farley and Smith, 2013).

Nevertheless, Rogers *et al.* (2012, p. 63) notes that social sustainability "emphasizes living in ways that can be sustained because they are healthy and satisfying for people and communities". Therefore, social sustainability is about the individual's state of being, the person's state of mind, and one's acceptance of their immediate society and vice versa. Nevertheless, Dempsey *et al.* (2011) reiterated that social sustainability needs to be looked at from two dimensions, namely equitable access and the sustainability of the community itself. That is, a community needs to have a sense of social justice among the people and the authorities, and the healthy capability and promise that the community illustrate from its present developmental indices amongst the people. Furthermore, interaction between neighbours, social groups and participation in activities within the neighbourhood all illustrate the wellbeing of the community. The dimensions and one's state of being and sense of belonging in a community influences people to be participants in the decisions to be taken in their immediate society. Therefore, equitable participation of the people in decisions is of paramount importance in social sustainability.

To contrast the various definitions by different scholars, Table 1 provides the distinctiveness of each definition. However, the summary of all the definitions is about knowing and understanding what the society or community needs for their well-being.

| Social Sustainability Definition | By Whom | Distinction |
|---|---|---|
| "a society that is both beautiful and efficient" | Basiago (1999, p. 153) | society must develop her own policies based on local needs and resources |
| "place the community at the center of progress" | Eid (2003, p. 86) | leaders who ensure personal, labour, cultural rights are respected, and all people are protected from discrimination |
| "a positive condition within communities, and a process within communities that can achieve that condition" | McKenzie (2004, p. 23) | definition of social sustainability should be based on why the definition is needed |
| "if work within a society and the related institutional arrangements (1) satisfy an extended set of human needs and (2) are | Griessler and Littig (2005, p. 11) | Nature and society interaction and the equitable relationships between the different members/entities of the society |

| | | |
|---|---|---|
| shaped in a way that nature and its reproductive capabilities are preserved over<br><br>long period of time and the normative claims of social justice, human dignity and participation are fulfilled" | | |
| "ability to guarantee welfare (security, health, education), equitably distributed among social classes and gender" | Baker (2006, pp. 26-31) | the capacity of the different social actors (stakeholders), to interact efficiently, to aim towards the same goals |
| "the process through which stakeholders influence or share control over development initiatives, decisions, resources, and outcomes" | Rogers (2008, p. 228) | political will and public awareness are key |
| "concerns the ability of human beings of every generation to not merely survive, but to thrive" | Magis and Shinn (2009, p. 12) | a socially sustainable society is dependent on human well-being, equity, democratic government, and democratic civil society |
| "relies on engaged governance processes to support diverse stakeholders in collaboratively developing informed local responses" | Cuthill (2010, p. 370) | social sustainability encompasses the other two pillars of sustainability, which is economic and environmental |
| "opportunities for residents to get involved in shaping the place they live in" | Woodcraft, Hackett and Caistor-Arendar (2011; p. 7) | social sustainability looks at the infrastructure of the community or the nation, how it is set up to maintain and improve the people's cultures, ways of life, and believes |
| "emphasizes living in ways that can be sustained because they are healthy and satisfying for people and communities" | Rogers *et al.* (2012, p. 63) | Linked human wellbeing and a sustainable society |
| "has to do with improving or maintaining the quality of life of people" | Weingaertner and Moberg (2014, p. 128) | It is dependent on social capital, human capital and well-being but applicable to local context and priorities |
| "condition and process within the community that fulfils the basic human needs in addition to the principles of social justice and equity, homogeneity and cohesion, integration, diversity, sense of place, social amenity, and social security for the present generation, while guaranteeing them for the future generations" | Hajirasouli and Kumarasuriyar (2016, p. 31) | It is of macro level (human well-being and basic needs) and micro level (quality of life and equity), |
| "serious social, spatial, structural, and physical threats to contemporary human societies and their living spaces" | Eizenberg and Jabareen (2017, p. 11) | urban forms, safety, equity, and eco-prosumption will be the gaps in social sustainability that will be able to address the "unknowns" that might arise when the inevitable climate change confronts the world |

Social sustainability is premised on the study of the society and human behaviour. It adopts social science disciplines and approaches in trying to address social issues to realise a sustainable community (Olsson and Jerneck, 2018; Mensah and Casadevall, 2019; Murphy, 2012) It looks at sustainable community from the views of political scientists, lawyers, sociologists, anthropologists, psychologists, and other social disciplines in collaboration with science disciplines to understand human needs and provide them in a justifiable way. Furthermore, Woodcraft, Hackett and Caistor-Arendar (2011) note that social sustainability looks at the infrastructure of the community or the nation, how it is set up to maintain and improve the people's cultures, ways of life, and beliefs. It is also an avenue to listen to citizen's issues by engagements and provision of ways for individual and communal development.

Social sustainability looks into "resource allocation and administration, environmental policy and decision-making, environmental ethics, environmental communication, or environmental education" (Farley and Smith, 2013, p.56). Furthermore, universal human rights and necessities are attainable by all people who have access to enough resources to keep their families and communities healthy and secure. Healthy communities have just leaders who ensure personal, labour and cultural rights are respected, and all people are protected from discrimination (Eid, 2003, pp. 86-87). All these form part of what is required to be socially sustainable.

The society is a mixture of diverse cultures, institutions, and characteristics that varies from one place to the other (Rogers, 2008, pp. 228-231). These variations in the societies around the world include variables in the human nature (social), variables in the growth and development (economic), and variables in the natural environment (environmental). The understanding of these variations within a society and amongst the people will help in addressing issues and challenges in having a sustainable community (Boyer *et al.*, 2016). Therefore, knowing what the people of a community need for their personal and societal welfare is a foundation for a viable and satisfactory society. Knowing what individuals and communities need brings about the usage and application of terms such as public participation, community needs, social inclusion and exclusion. These terms are themes and criteria used in measuring and evaluating the social aspect of sustainability and whether it is achieved or not (Weingaertner and Moberg, 2014).

It can be seen so far that there is no one definition of the concept of social sustainability; this is also noted by other scholars. McKenzie (2004) reviewed previous

definitions of social sustainability and stated that social sustainability is a diverse interdisciplinary concept that does not have only one definition. This point is further supported by Baines and Morgan (2004; p. 97) where they stated that there is "lack of consensus on the scope and meaning of social sustainability" . However, McKenzie (2004) proposes that all research (based on its context and objectives), be it academic, governmental, or professional research, should endeavour to define social sustainability based on certain criteria. Summarily, he defined social sustainability as "a positive condition within communities, and a process within communities that can achieve that condition" (McKenzie, 2004, p.23).

The "positive conditions within communities" is elaborated further by Hajirasouli and Kumarasuriyar (2016, p.31) when they outlined the sub-themes identified by Weingaertner and Moberg "as a condition and process within the community that fulfils the basic human needs". They concluded that social sustainability is of two types - macro level (physical well-being and basic needs of humans, such as housing, food, and clothing) and micro level (quality of life and equity, such as social and cultural life, integration, diversity, sense of place, communication and participation, social amenity, and security). Following on from McKenzie's positive conditions and the classifications by Hajirasouli and Kumarasuriyar, a community's liveability is founded upon food, shelter, and clothing before the people within that community start thinking of solving their communal issues and challenges. The usage of one of the elements of the micro level (education) is illustrated by Teise (2013) in South Africa on how it can promote social sustainability development in the country.

The themes of social sustainability, discussed by the previous literatures cited as the foundation for sustainability in general, is further supported by Magis and Shinn (2009) when they concluded that social sustainability needs to be in place before the economic and environmental aspects of sustainability can be achieved. That is, the other two aspects of sustainability are dependent on the people thriving individually and collectively as a whole in ways that illustrate their well-being before the issues of the economy or environment come into discussion. They, however, stressed that having a socially sustainable society is dependent on human well-being, equity, democratic government, and democratic civil society. Thus, this points to the focus of this research whereby it is examining the equitable participation and engagement of people in the decisions taken for the provision of urban road transportation.

Many scholars have lamented the inadequate attention given to the social aspect of sustainability, unlike the economic and the environmental. Murphy (2012) presents a few scholars who pointed out the vagueness, the elusiveness, and the poor reception given to

social sustainability by researchers and government in general. Woodcraft, Hackett and Caistor-Arendar (2011, p.15) highlights the poor attention given to social sustainability by pointing out "there are few practical resources that directly address the question of how to create places that are socially sustainable" in a community or a nation.

Woodcraft, Hackett and Caistor-Arendar (2011; p. 17) also identified the following as the backbone for having a sustainable socially recognised community:

- A sense of community identity and belonging.
- Tolerance, respect, and engagement with people from different cultures, background, and beliefs.
- Friendly, co-operative, and helpful behaviour in neighbourhoods.
- Opportunities for cultural, leisure, community, sport, and other activities.
- Low levels of crime and anti-social behaviour with visible, effective, and community-friendly policing; and
- opportunities for all people to be socially included and have similar life opportunities.

However, there has been increased interest in the research, policy and practice of social sustainability (this has happened within the last decade) (Woodcraft, 2012). This renewed interest is led by international organisations (World Bank, United Nations Environment Programme, European Investment Bank, and European Bank for Reconstruction and Development) while focussing on applying social sustainability themes in urban development housing and regeneration, democracy, citizen participation, and gender equality (Woodcraft, 2012). These studies also develop criteria and tools for how to assess the social sustainability in societies for improvement and for policy planners and policy makers. However, this latest interest in developing social sustainability implementation amongst researchers, policy makers, and planners is based on the everyday challenges faced in urban areas of the world and the dynamism and uniqueness of these challenges that differs across towns and cities (Magee, Scerri and James, 2012; Titz and Chiotha, 2019). Lastly, Pitarch-Garrido (2018) illustrated that geographical tools can be used to address issues of equity and balance in the provision of services in a metropolitan area.

From the various themes, principles, and conditions highlighted by the various scholars cited above, common characteristics are evident. These characteristics include equity, quality of life, community (or social) inclusiveness, participatory decision-making, equality, and social justice. Some literatures have concluded that the achievement of social sustainability is

dependent on the above listed characteristics across the world in line with local uniqueness, distinctiveness, and peculiarities (Bobba and Gignoux, 2017; Stark, 2017; Parthasarathy and Rao, 2017).

Around the world, there are different ways social sustainability is being pursued with differing processes and results. This distinctiveness across nations and societies is based on the diverse cultures, mannerisms, characteristics, needs and aspirations of the people of those places. At the local community level in Uganda, Donato and Mosqueira (2016) illustrate how inclusion of a community into a project and training them how to monitor its operations enlightens people on how to demand accountability and transparency from government, and also making them take ownership of communal projects and programmes. They replicated a research study done in another part of Uganda on "providing community-level health service delivery information and guidance on community-based monitoring" (Donato and Mosqueira, 2016; p. 1). The research illustrates that, with increased awareness in the community, there can be improved health services provision at Primary Health Care Facilities. These improvements in services include but are not limited to: less absenteeism from workers, monitoring of medication prescription and disbursement to patients and utilisation of available resources to obtain optimum services from the health workers. These are all achieved by educating the communities on their rights as citizens, what they are entitled to as stakeholders (whether patients or community members), and how to collectively demand action when there is a lapse in service delivery form the health care providers. This highlights the inclusion and engagement of the community in the provision of basic infrastructure which this research is focussing on. The communal knowledge of what the community needs, what can be done, what to look for when the facility (or infrastructure) is operational, and how to improve on these facilities is important in the pursuance of social sustainability in a community.

In the city of Kerala, India, Basiago (1999) states that the achievement of social sustainability was attained to a higher level than the rest of India and they were able to build "a society that is both beautiful and efficient" (Basiago, 1999; p. 153) by setting some criteria. The city hinged their decision-making to a cross-board dialogue and communal consultation; this is founded upon the founding of the city on family and community focussed populace and not on individualistic citizens.

| Element | Criteria |
|---|---|
| Social Sustainability | Equity |
| | Empowerment |
| | Accessibility |
| | Participation |
| | Sharing |

**Table 2: Social Sustainability in Planning Practice - Kerala, India**

**Reproduced from: (Basiago, 1999)**

The criteria illustrated in Table 2 illustrate the discussion of this study. By equitably involving and consulting the end users of the road infrastructure in Abuja, their cultural needs in terms of transportation will be taken into consideration by the authorities. Furthermore, the city authorities, if the departments are working in an integrated manner, will be able to acknowledge and accept the participation of the people in the decision-making regarding the transport system in the city, thus empowering the non-State stakeholders knowing that their views are being heard and taken into consideration by the authorities.

India amended their Constitution to codify and structure the democracy in the country. They made it law that deliberations at the rural level must be done in such a way that the views of the people be heard. This form of "Deliberative Democracy" is locally called *gram sabhas.* Parthasarathy and Rao (2017) elaborated that the Indian system involves all eligible voters in the rural areas irrespective of class, creed, ethnicity, or educational status. It is an avenue whereby local representatives at the local level meet with the people and listen to their need for improved governance. The *Sabhas* illustrates the positivity of dialogue and inclusiveness in government decision-making process. This is possible by having strong political will (it is constitutionally recognised), it is permanent in the governance structure of India, provides a sense of belonging to the people through equality in being heard across all the local communities of the country, and it is people driven.

However, Parthasarathy and Rao (2017) notes the system faces challenges in its operations. The law establishing these forums only allows it to be implemented in the rural areas and does not include the urban areas. There are situations of the gatherings becoming unruly, without order and decorum, and the local elites, well to do, and educationally advantaged individuals tend to control those forums thus making the illiterates and the most vulnerable unable to have a say in the assemblies. Women who also come to these gatherings tend to not make themselves heard even if they are of the majority in the meetings. Nevertheless, the law was enacted to make democracy more people centric, participatory, deliberative, mutually cooperative, understanding, inclusive, communal, and enlightening to the citizens of India for them to have a good quality of life from their government. These

challenges are to be taken into consideration when trying to engage the people about their welfare as users of the road transport system in Abuja.

Over the years, there have been conceptual frameworks defining what social sustainability is. Eizenberg and Jabareen (2017) defined social sustainability as founded based on "risk". This is the risk that is characteristic in the unknown of climate change and in the unknown that will happen if nature would not be able to be resilient anymore to man's demands and exploitation of the natural environment. These unknowns will present "social, spatial, structural, and physical threats to contemporary human societies and their living spaces" (Eizenberg and Jabareen, 2017; p. 11) thus necessitating the need for a conceptual framework to address the "unknowns" that may arise.

Eizenberg and Jabareen (2017) proposed that social sustainability is hinged on four interrelated ideas, namely – urban forms, safety, equity, and eco-prosumption. These four ideas will be the gaps in social sustainability that will be able to address the "unknowns" that might arise when the inevitable climate change confronts the world. Urban form is intended to provide a communal way of life for every community of the world. It is anticipated to provide for the inclusiveness, togetherness, and communal attachment that every human being needs to have a good quality of life. For safety, it is proposed that the provision of a safe and secure environment for every person is of paramount importance now and in the future. Safety consists of being safe at home, in the community, at work, around the world, in transportation, and in all our activities. Equity addresses the inclusion of all classes of people in a community in terms of decision-making, community participation, and provision of an avenue to be heard, listened to, and acted upon. Furthermore, eco-prosumption suggests that it is an avenue for producing and consuming goods and services in ways that are manageable, justifiable, adequate, and non-gluttonous.

This study is examining the end user views of the road transport system of Abuja. Eizenberg and Jabareen's framework have identified that through a communal way of life (urban form) the people of Abuja, as a community, can question the present system by involving all citizens (equity) in requesting a safe, efficient and effective road transport system. This road transport system needs to be routed in all areas of the city and should include motorised and non-motorised tranport that does not jeopardise other forms of transportation and other sectors of the city services (eco-prosumtion). All of these are hinged on having a foundation of communal participation in the decisions that affect them.

Like Rogers *et al.* (2012), Cuthill (2010) concluded that social sustainability encompasses the other two pillars of sustainability, which are economic and environmental. He made this argument because the social aspect is talking about human needs and how ways to address those needs are found. To find ways to make these needs possible, human beings use the environment which, as a result, brings about economic prosperity and, thus, human necessities are provided. Thus, social sustainability should be the major decider of a sustainable development. Cuthill proposed a conceptual framework on how to test this discussion and goes further to breakdown social sustainability into the following themes:

- Social capital, to provide a theoretical starting point for social sustainability.
- Social infrastructure, to provide an operational perspective.
- Social justice and equity, to provide an ethical imperative; and
- engaged governance, to provide a methodology for 'working together'.

Cuthill (2010)argument goes on to explain the need for understanding communal needs to achieve economic prosperity. This highlights the discussion of this study whereby prosperity and development in any form is dependent on the people understanding each other as a community by identifying their individual differences, finding common grounds, and having a general agreement on issues that affect their welfare and well-being. Specifically, the road transport system of Abuja should be able to address local values for the wellbeing of the people (social capital), the people need to know what they are entitled to, from whom, and when (social infrastructure), the areas of the city with inadequate road transport facilities (and infrastructure for all commuters) with higher population and areas with lower population but with better facilities (justice and equity), and for the government to listen to the people and work together with them for a better transport system (engaged governance).

As noted by Magis and Shinn (2009), social sustainability is dependent on the people thriving individually and collectively as a whole in ways that illustrate their well-being before the issues of the economy or environment comes into discussion. Also, Whitton *et al.* (2015) mention that it is a concept that brings together "various stakeholder groups, through deliberation and community visioning, to agree priorities that contribute to decision-making for strong and successful communities" (Whitton *et al.*, 2015; p. 127). Bringing together all stakeholders to obtain their input, their views, their perceptions, and their support in the decision process will lead to a policy which has been planned and implemented for their community, which will give the people a sense of inclusiveness, a sense of belonging, and a sense of loyalty to the policy maker.

The recurring themes on the concept of social sustainability are –

- democracy,
- equity,
- quality of life,
- community (or social) inclusiveness and integration,
- participatory decision-making,
- equality,
- human rights,
- gender equality,
- civic pride, and
- social justice.

To focus on the discussion of this study, the sub-themes for social sustainability adopted are – Community and stakeholder participation in decision-making and social inclusion. The usage of these sub-themes is a follow-up of a summary of the various sub-themes and criteria as highlighted by Weingaertner and Moberg (2014). Weingaertner and Moberg (ibid.) studied other research on social sustainability in an urban context and made their own conclusions. They acknowledged that defining social sustainability is dependent on one's objective as stated by McKenzie (2004). However, it is founded upon the collation of sub-themes identified by other studies, of which community and stakeholder participation in decision-making and social inclusion is included. Following the identification of these sub-themes by Weingaertner and Moberg, they then grouped them into themes – social capital, human capital, and well-being. However, attempting to study the various sub-themes of social sustainability will be ineffective. Therefore, this study will focus on the applicability of community and stakeholder participation in decision-making and social inclusion in urban road transport.

## 2.3 Social Sustainability in Urban Road Transport

Governance in transportation is the structure, direction, decision, and position of government with regards to transport in a country (Shaw, Knowles and Docherty, 2008). This is summed up as the transport policy of a country. Transport policies can be at national, sub-national/regional, and local levels depending on the country and society. They are needed to bring clarity, understanding, administration, and regulation of the sector by the government, transport providers, and users (Wood, 1996). Transport policies are developed in full participation and collaboration between the public, government, unions, operators, non-State actors, academicians, etc., of a country. It can be an integrated document for all modes of

transport (because of the modern-day approach of integrated multimodal transport) or it can be for individual modes (Banister, 2005a). In addition, it can be broken down into national transport policy (for the whole country), sub-national/regional transport policy (for the region only or neighbouring towns), and for local transport policies (for local councils) (Faulks, 1981). Most transport policies are derived from the overall goal of the country's plans and international communiques that give direction on the transport modes for countries of the world. These nationally developed policies are the basis for the development of transport policies for sub-national/regional and local transport policies. These might differ from one country to another.

To give the structure, direction, and decisions to have a socially sustaining urban road transport, as well as an effective and efficient urban road transport system, a holistic stakeholder engagement involving State and non-State actors is necessary (Banister, 2009). The applicability of elements of social sustainability in urban road transportation consists of different and connected parts. Potter and Bailey (2008) identified the impacts of transport as first and second order impacts. First order impacts include health, noise pollution, and climate change, whilst second order impacts include lifestyle, activity pattern, land use effects, and globalisation. However, urban/rural population, income, age, and places of residence influence this. Decisions taken by authorities on transportation influences changes in patterns of people's behaviour and activities. Nevertheless, Vanderschueren, Wegelin and Wekwete (1996) believe that poverty is a disadvantage to the urban poor  to participate in the development,  access, and use of the services and infrastructure available in the urban centre. Therefore, with the high rate of rural-urban migration happening around the world (with the expectation that the urban centres provide more opportunities than rural areas), this increases the level of urban poverty which, directly or indirectly, leads to violence amongst individuals and groups resulting in increased insecurity in the urban spaces (Vanderschueren, 2001). These are all a "product of a society characterized by inequality and social exclusion" (Vanderschueren, 2001; pp. 91). Therefore, urban areas need to have "the capacity to ensure that their citizens have a notes in the day-to-day running of their affairs" by having them participate in urban security and management (Vanderschueren, 2003; p. 8).

To understand the effects that land use has on road transport, one needs to look at the number of people who live in satellite towns or fringes of cities because they have a car or there is public transport to transport them. This influences urbanisation, suburbanisation, and changes in land use. Salon and Aligula (2012) explain that with the high level of poverty in Nairobi the people resort to living in slums, which affects the land use of the city. This also affects the transportation of the people. Therefore, mobility in the city is based on affordability;

there are the poor who have no option but to walk, those who can afford only the minibuses in the city, and those who can afford to buy a car for mobility. This scenario demonstrates the need for a transport policy to encourage non-motorised transport conducive for those who walk, planning on controlling car usage on the roads to reduce the environmental, social, and economic effects it will have, and the development of alternative modes of transport in the city.

In discussing transport governance and its policy guidance, Shaw *et al*. (2008) explore government involvement in formulating policies for transportation. The authors find that the reasons for involvement are hinged on the political ideology of the national government politicians. Transport provision is based on the priorities of government, its finances and resources to provide these infrastructure and systems (Whitelegg, 1993). The dynamism of today's world also has an influence on transport policy, whether at international level or country level (Shaw, Knowles and Docherty, 2008). Following the dynamism of today's world, as Shaw *et al*. (ibid.) reiterated, Docherty *et al*. (2008) state that urban transport is evolving regularly all over the world due to the human activities going on in urban centres. Therefore, Docherty *et al*. (ibid.) are advocating for striking a balance between providing an urban transport system that will accommodate all factors of economics and social gains of the people and businesses in an urban place.

In Sub-Saharan Africa, striking a balance between providing an urban transport system that will accommodate all factors of economics, social gains of the people, and businesses in an urban place is difficult, as pointed out by Olvera, Plat and Pochet (2013). This is because the underlying problem is the poverty and the high cost of transport which makes it hard for the urban populace to be mobile. An urban sprawl, coupled with an insufficient transport supply, poor quality of service, minimal coordination between operators and the absence of integrated fares, is affecting the lives of the urban populace and the opportunities for their socio-economic development. The socio-economic development of the people can be economic, social, educational, recreational, or cultural and the provision of transportation that is efficient and effective will be an advantage for them to achieve their goals and aspirations. From a social perspective, Porter (2007; p. 255) identified challenges faced in African countries while planning for transportation. The study pointed out that transportation is facing "inadequate maintenance, inadequate institutions, ingrained corruption and negative consequences for the poor" thereby making it hard to improve mobility for different groups and societies. The paper also identified the role played by Intermediate Means of Transport (IMTs) – bicycles, motorcycle taxis, walking, etc. – to fill in the gap of providing transportation in these communities. Young people are also excluded in planning for transportation (Porter, 2010). Young people's travel needs involve daily travel to and from school, end of semester journeys,

and leisure within an urban area. Their transport needs, safety, and security when they are commuting across the city, for whatever purpose, should be taken into consideration when planning for transportation.

Similarly, Docherty, Guiliano and Houston (2008) raised another issue of the contemporary urban centres – the negative (traffic congestion, encouraging individualism, and carbon emissions) and positive impacts (short travel time, sense of freedom). Docherty *et al*. encouraged the adaptation of the European model whereby cities and towns are encouraging regeneration of the city centres instead of the opening of the countryside. This encourages the usage of public transport and discourages private cars, especially in the city centres, and improves people's health by encouraging bicycle rides and walks due to the reduced distance between city centres and homes. While Docherty *et al*. (ibid.) recommendations are commendable, different parts of the world might not be inclined to adopt the European model "as is" because of their unique challenges and issues. These challenges can lead to policies being developed based on low empirical data and inadequate regulation of transport systems (Lucas, 2011), low integration of transport and land use (Cervero, 2013), and the existence of paratransit and motorcycle taxi transport systems (Salazar Ferro, Behrens and Wilkinson, 2013). African cities face these challenges (Anciaes, 2018), and the authors are quick to point out that Africa has an opportunity to develop its transport system based on its local context across different parts of the continent. Anciaes' focus (ibid.) is on non-motorised transport (NMT) and the priority it has on African transportation. Although NMT thrives due to low income and not because of its health or environmental benefits, nevertheless it needs to be integrated into the transport policy and infrastructure.

Various entrepreneurs and car manufacturers around the world are developing driverless cars although they are not in use yet (Westcott, 2017). However, this is something that transport policy makers and decision makers need to take into consideration when looking at the drive towards sustainability and technological advances, advances such as electric driverless cars and smart mobility and transportation. Nevertheless, from a developing world perspective, not every transport policy or project from the Global North should be adopted by developing countries (Lucas and Porter, 2016). Societies in the developing world have their own transport systems due to the particular nature of their communities and inconsistent policies. Adopting "as is" policies from the developed world and implementing it in these societies might not be advantageous to the people, governance, environment, and local economies (Victor, 2012). Therefore, transport systems which work in country A, if needed to be implemented in country B, need to be localised to be in line with local values and norms.

*The issues of electric cars, multimodal transport system, and transport policies in line with contemporary social issues is given a lot of consideration in Nigeria through the draft National Transport policy (Federal Ministry of Transportation (Nigeria), 2010). This basically means that the policy makers are aligning Nigeria's priorities with contemporary issues in the transport sector. While this may be so, recent happenings in the country are giving a contrary view to what the transport policy is saying.*

*Recently, the Nigerian President signed into law the review of the sharing formula between the Government and the oil companies on oil extracted for Nigeria (Udo, 2019). This illustrates that the government is focussing on oil as its main revenue. Following this, it means the authorities are still not abiding by the Paris Agreement, of which Nigeria is a signatory. With the increase of carbon emitting cars on Nigerian roads, the health of the people and the environment is in danger, which is the whole point of the Paris agreement.*

*The draft policy also reiterated that the national government would work together with sub-national government to provide multimodal transport in major cities of the country. Abuja recently launched the 1$^{st}$ intra city rail transport (Iroanusi, 2018). However, this transport system is working between the city centre and the airport with few stops in between. It should be noted that the densely populated parts of the city are not thought of to be the beneficiary of this 1$^{st}$ line, rather it is another part of the city that is less populated.*

*The authorities need to note that there are commuters who are tired of driving themselves due to unruly drivers and the mental fatigue that accompanies it. However, looking at the price of a litre of petrol (N140.00 = £ 0.292), car owners will be grateful to have electric cars because they will not be paying for fuel. Nevertheless, since Nigeria is dependent on foreign cars, and car manufacturers are going electric, (British Broadcasting Corporation, 2017b; British Broadcasting Corporation, 2017e) the country must face the reality that soon cars dependent on fuel will not be available on the market. Therefore, local authorities need to start thinking about the regulations and infrastructure to support those cars.*

*Another current challenge facing urban road transport is the issue of security whereby, vehicles are used as weapons to deliberately drive over pedestrians (British Broadcasting Corporation, 2017c; British Broadcasting Corporation, 2017a). These types of contemporary issues are areas policy makers need to have a direction and strategy for, from the policy level in collaboration with stakeholders. Then again, the basic and first thing for the authorities to provide is a road transport system that can accommodate everyone, and which is accessible by all in a satisfactory manner.*

In summary, the definition of what social sustainability means and how it is applicable in the context of urban road transport has been discussed. Based on that, it can be stated that the views, understanding, and knowledge of the urban road system from the point of view of the user is the connection between social sustainability and urban road transport. Therefore, after highlighting the above context, this thesis will discuss Community and Stakeholder Participation in Decision-making and Social Inclusion in urban road transport.

## 2.3.1 Community and Stakeholder Participation in Decision-making

Scholars have found that there are advantages to a robust stakeholder participation in decision-making during a programme implementation in communities (Praharaj, Han and Hawken, 2018; Ogu, 2000; Whitton *et al.*, 2015; Anastasiadou and Vougias, 2019). To

understand how this sub-theme is applicable to urban road transport, this research now focusses on research exploring community and stakeholder participation in urban road transport. As Picture 4 illustrates below, pedestrians prefer to cross the road and do not use the provided pedestrian bridge. Through this image, the context of why stakeholders are needed in the decision-making process is paramount.

**Picture 4 : Pedestrians Crossing a Dual Carriageway and not using the Pedestrian Bridge**

**(Source: _Daily Trust_ (2016)**

Booth and Richardson (2001) studied the level of public involvement in transport planning in Britain. They analysed the 2000 Transport Act of the United Kingdom and the requirement of local transport plans (LTPs) and regional transport strategies to have the full backing and support of local communities as stated by the Act. Booth and Richardson (ibid.) concluded that public consultations should be guided by the following questions:

- _Why involve the public?_
- _What is negotiable and what is non-negotiable?_
- _How will the public be involved?_
- _Who should be involved?_
- _When should the public be involved and where?_

Looking at it from another point, all the above are advantageous to the communities if their input is taken into consideration and if their input is feasible and has a positive impact in the long run. There are, however, schools of thought within government that think the people do not have the capacity to understand what they want (Head, 2007). For example, the communities might be against a nationally advantageous infrastructure project such as the High Speed Two rail project and the views of the community need to be heard even if this may cause the project to be abandoned. Ideally, the views of the communities will be heard, and solutions be found irrespective of the time and financial cost involved. In this case, if the time and cost of the project have increased beyond what was originally planned and a government which does not support the project comes in and does not give the project the adequate support it requires, in the end, it may not be good value for money for the taxpayer. Community input in transport planning and the questions raised from Booth and Richardson (2001) paper point out that not all communal views are accepted by the authorities and that it may take a while for the top-down approach which the government prefers to change.

To involve the public and other stakeholders in infrastructural projects at local, regional or national level needs a strong, robust, and committed grassroots campaign. Civil society organisations, associations, and local groups can lead this campaign to sensitise, enlighten, and mobilise the people to influence decisions that affect them. Dujon (2009) highlighted this point; she further outlined the successes gained by organised campaigns led by civil society organisations in South America. Therefore, non-State actors play a valuable role in sensitising the people on their welfare as Nigerians. However, civil societies are not viewed in a good light by the government.

It can be seen that Dujon (ibid.) is aligning with Agbola's (1994) point. Agbola (ibid.) raised the question of civil organisations (or nongovernmental organisations) needing to pick up where the government have not done enough, especially where there is outright neglect by the government on issues that affect the people. Secondly, in a politically charged country like Nigeria where government or other stakeholders make every decision that affects the people, such decisions will be viewed from different perspectives and not for the objective reason they are intended. Some local or sub-national governments might view interventions by civil society organisations as unfavourable to the government in power. That is, if a nongovernmental organisation or civil society organisation chooses to provide a Primary Health Care centre in a locality, the head of that local council might feel slighted and presume his/her government is portrayed in a bad light. This is for basic health care as opposed to rallying people to engage and discuss with government their priorities for road transport.

Scholars have identified that to understand people's perceptions, opinions and views on issues it is necessary to engage with them (Eversole, 2011; Brown and Keast, 2003). If it is an academic exercise or government study, a survey is one of the tools to use to understand citizen's feelings and emotions on public policy and how it affects them, as Ibitayo (2012) has illustrated. Ibitayo (ibid.) studied commuters' viewpoints and experiences about movement in Lagos, Nigeria. The study indicated that most problems experienced on Lagos roads are because of breaking of traffic laws and regulations by drivers. Other problems are unruly drivers, dropping off passengers on roads not at bus stops or lay bys, driving against the traffic on a one-way street, and mini markets cropping up at designated bus stops. All these cause gridlocks and road rage to all types of road users. The result of the study also illustrates that the predominantly unruly drivers are commercial vehicle drivers whose buses are poorly maintained, but they compete amongst themselves dangerously to get more passengers thus driving recklessly, and sometimes, their vehicles break down. Therefore, Ibitayo (ibid.) recommended the need for a holistic approach to address the issues of road congestion and urban transport problems in Lagos; this needs the coming together of all stakeholders. As highlighted in his study, the bus owners (who are individuals), their unions, government representatives (transport planners, and administrators), traffic law enforcers, and market women (or their unions) need to come together to address these problems.

Looking at the fact that government is facing the challenges of dwindling financial resources, numerous sectors of the economy needing capital from the government to function, and fast-growing urban centres in Nigeria, urban communities have started looking into other ways to provide the needed infrastructure for their immediate communities. The community of Ohafia are trying to provide themselves with the infrastructure needed to improve upon the present state of their community. Ibem (2009) stated that the community mobilises themselves to provide the following infrastructure - health care facilities, school buildings, electricity, bridges and earth roads, public conveniences, recreational facilities, community bank, markets, drainage facilities, and civic centres. Ibem (ibid.) identified the principal actors, their sources of finance and the strategies adopted in the planning, execution, and funding of infrastructure projects to highlight the performance of community-based initiatives in public infrastructure provision in Nigeria.

Booth and Richardson (2001) questioned whether community input is incorporated in transport plans. Dujon (2009) reiterated the need for non-governmental organisations in sensitising the people to engagement and what they are entitled to, while Agbola (1994) noted the political thinking of political decision makers in Nigeria. Ibitayo (2012) highlights commuter experience in Lagos, and Ibem (2009) investigates community mobilisation. All of these point

out the lapses, challenges, attitudes, and perception that communities and the authorities have on engaging the people for decisions that affect them. It illustrates that, generally, governments are apprehensive of engaging the people even though they know it is advantageous, the communities are willing and able to mobilise themselves if the government is not forthcoming with their responsibilities, and the inadequacies of urban authorities are breeding the rowdiness we see on our roads. Therefore, this identified lapse of governance, prompted by inadequate political will and low sensitisation on the welfare of the populace, needs to be eased for people to have a sense of well-being for themselves, their community, and society at large.

Philip and Peter (2013) state that policy development and implementation is an elitist (policy makers') decision-making process seen as doing kind and helpful acts for citizens. This elitist decision-making process has removed the potential for citizens to have influence (agency) over decisions, however minor those decisions are. To understand issues affecting communities is the first step to addressing them (Wonodi *et al.*, 2012), whilst communities having ownership and implementing bottom-up decision-making of urban plans and programmes is also of great importance (Ogu, 2002). Therefore, involving citizens in policy making is both in their and the government's interest. Involving citizens in the policy making process is beneficial to the government because:

- it will improve government's understanding of what the people need and expect,
- it builds community support for projects, and
- improves stakeholder relationships.

Some scholars argue that collective communal and civil engagement between neighbours and the civil society to influence construction of roads in a community is achievable using a healthy and robust public participation and engagement with the authorities (McAndrews and Marcus, 2015). Therefore, having a collective citizens' action from the people of Abuja and approaching the government on transport issues may result in an improvement to underperforming and ineffective services.

In view of the above, there are varying experiences of public participation. The experience of public participation in urban renewal programmes in Nigeria, as studied by Aprioku (1998), is not adequate. He undertook a study to assess the extent of public participation in Port Harcourt. The project he focussed on was the waterfront urban renewal programmes embarked upon by the Rivers State Government. He identified the frailties of the system of public participation used and suggests preventive policy measures and incentives to control long-term development threats to the waterfronts in Port Harcourt City. He

acknowledged the excellent interaction during the town hall meetings where the people were illustrated the plans and priorities of government. However, he believed the objectives of the plan were not adopted with the people in mind, rather a statement generated by the Consultant commissioned to design the waterfront. Furthermore, a survey was conducted to understand the feelings of the waterfront dwellers and their priorities but during the town hall presentation those priorities were not addressed, and it was a case of "public participation was simply not accorded an important place in the decision-making" (ibid., p.84). However, in this situation, it needs to be stated that consultation, participation, and dissemination of information to the public from the government is the primary foundation for achieving an effective urban plan.

While Aprioku (ibid.) discussed the Port Harcourt experience, McKenzie (2002) presents the contemporary experience faced by urban areas through the influence of modernity, capitalism, globalisation, and sustainability whereby urban transportation in today's dynamic world is evolving to become a tool for wealth acquisition and "consumption of goods and culture" (ibid., p. 29). All these cause negative perception and experiences to commuters directly or indirectly. This causes McKenzie (ibid.) to conclude that a holistic approach to urban transport planning and implementation is needed to stop the commercial approach that urban transport has become. She recommended a holistic approach to urban transport planning and implementation by encouraging the coming together of local authorities of two or more communities to create a regional approach to providing an affordable, efficient, effective, conducive, and manageable transport system within their city centres and the region. McKenzie's and Aprioku's studies illustrated that however decent or objective an authority's plan or programme is, there are bound to be unforeseen challenges that might come up. Nevertheless, a complete consolation from a down up and sideways engagement might help the programme or plan avoid unforeseen challenges. The plan for the Port Harcourt waterfront was for redevelopment of a settlement that has been there for a long time, but the people there were not engaged from the onset of the redevelopment. This is also the case when urban centres are overtaken by capitalism and globalisation. On the positive side, it provides jobs and brings people to the urban centres, but some commuters are left out when the public transport is not available for them to come to the city centres and there are no shops and places of entertainment near them.

Following on McKenzie's (2002) recommendation of a coming together of local authorities of two or more communities to create a regional approach on transport planning, the Transport for Greater Manchester have commissioned the Greater Manchester's Third Local Transport Plan (2011/12 – 2015/16) (2011) to plan the transport system for the Greater Manchester region. The Transport Plan covers high-density urban areas, suburbs, semi-rural

and rural areas and all revolves around the Manchester city centre. The region is increasing in size to become a conurbation. The Transport Plan for the Greater Manchester region was developed collaboratively with all the local authorities in the region. The Association of Greater Manchester Authorities (AGMA) was set up to present developmental plans that will improve upon the region's development (Transport for Greater Manchester (UK), 2011).

It should be noted that the plan for Greater Manchester (ibid.) consulted different stakeholders before it was finally approved. The draft Third Local Transport Plan underwent public consultation for 12 weeks in 2010. Members of the public, consisting of organisations, businesses, the voluntary sector, disabled groups, young people, and other stakeholders, all made input during the consultation period. All information relating to the consultation, including background documents, frequently asked questions and an online response form, were placed on a dedicated section of Transport for Greater Manchester's website, with links to websites of partner local authorities and the GMCA. The draft document was downloaded nearly 1,500 times; there were over 900 respondents to the consultation, with submissions from Members of Parliament, businesses, community organisations, interest groups and residents. Summarily, the feedback was supportive, positive, and helpful to the Plan. The feedback received from the consultation was validated and incorporated into the approved document. Summarily, Aprioku (1998) and McKenzie (2002) stress the need for strong engagement and consultation, whilst, the Greater Manchester plan highlights some of the methods available for consultation to be used by city authorities on their urban transportation.

However, White, Menon and Waddington (2018) argue that not every community is enthusiastic about participation in the development happening in their society, even if they are to identify, implement and maintain their own externally funded development projects. Their findings illustrate that not everyone is keen to participate in decision-making and implementation. Furthermore, women are marginalised in decision-making and participation. Therefore, even though it would be good to have a robust participatory governance, it is not always reciprocated by the people of the community. Some members of the community might not participate in the decision-making of their community but listening, understanding, and adapting to their existing local system will help in encouraging them to participate (Maia *et al.*, 2016). In Recife, Brazil, Maia *et al.* (ibid.) found out that low-income parts of the city experience a poor transport system while high-income areas have a better system. This caused the low-income neighbourhoods to be mobile based on their affordability and not become involved with what is going on in other parts of the city, thus excluding themselves from any engagement in developing and implementing a transport system for the whole city. Therefore, the city authorities need to understand the priorities of low-income neighbourhoods, adapting

their existing informal transport system to the city policy in order to have a system that is localised and acceptable.

<u>*Reflection Box 2*</u>:

*In view of the Greater Manchester Local Transport Plan, Abuja authorities need to work together with neighbouring States' authorities to provide infrastructural development in areas where the regional boundaries have been become built-up. Yes, there has been news on the collaborations between Abuja authorities and their neighbouring counterparts but there are no physical collaborations seen on the ground; it is all in the news only.*

*Another example of the need for community consultation and dialogue (or proof of the lack of synergy between road administrators, planners, and decision makers) is the construction of pedestrian bridges on some roads in Abuja. The World Bank and the African Development Bank fund a 10-Year Prioritized Road Sector Development and Maintenance Program (RSDMP) in collaboration with the Federal Ministry of Power, Works, and Housing (Road Sector Development Team, (2014a). One of the projects for this program is the construction of pedestrian bridges across 10 lane dual carriageways (4 in number), an 8 lane dual carriageway (1 in number), and a 4 lane dual carriageway (2014b).*

*Similarly, some of the pedestrian bridges are constructed with stairs for pedestrians and ramps for bicycles and wheelchair users. However, these ramps do not have a power supply for lighting, thus, in the night, users might be apprehensive of using the bridges. After the construction of the bridges, the project also erected wire fencing at the median of the dual carriageway to prevent pedestrians from cross the road and encourage them to use the pedestrian bridge instead. However, this still did not stop pedestrians from crossing the roads, resulting in fatalities (The Guardian Newspapers (2016) and The Sun Newspapers (2017)). Therefore, the transport planners, implementers, decision makers, and the public are not thinking together. In addition, the public need to change their attitude towards personal safety by using the pedestrian bridges provided.*

*From this point, planners, transport decision makers, and pedestrians are all not working together to provide the workable system Abuja city needs in terms of road transport. Pedestrians must be forced to use the pedestrian bridges provide by erecting fences between the median to stop them crossing over. This illustrates that people do not worry about their safety when crossing 10 lane highways. Erecting of fences also increases the cost of the construction, in a city where funds are needed in different sectors. In the city whereby the youth literacy level in English Language is 69.8% and adult literacy level in English Language is 58.1% (National Bureau of Statistics (Nigeria), 2010b) and they are still not using the provided pedestrian bridges. Their reasons for not using the bridges should be asked by the necessary authorities and wholescale sensitisation with the required enforcement should be implemented.*

*It should be noted that the construction of the pedestrian bridge project commenced after the roads were already being used by vehicles, as if the bridges were an afterthought for pedestrians.*

Some scholars suggest that most urban challenges can be addressed by strengthening local government authorities, gathering, and using local data of the different indices of human development and infrastructure provision for evidence-based decision-making, and supporting and encouraging local action for good governance and accountability. For example, Satterthwaite (2017) stated that local governments must improve upon their sense of responsibility by doing, in an adequate and timely way, what is constitutionally

required of them as the tier of government closest to the people. Local governments should be sufficiently funded, to develop and expand their staff base to be able to take care of their responsibilities. International donors and other higher tiers of government need to support the local authorities in catering for the people. Gathering communal data is of paramount importance in the pursuit of providing effective and efficient public services to urban centres. Data for the population of neighbourhoods through reporting of births, deaths, new neighbours, or neighbours moving are required for the purposes of planning and security (ibid.).

In view of Satterthwaite's (ibid.) conclusions, it should be noted that in some countries the agencies handling these data vary but ultimately it is the local authorities' responsibility to cater for their localities. Nevertheless, none of these might be possible without the full support of the communities the local authorities are trying to work for. Communities need to be carried along for them to understand why the government is there for them, what the responsibility of the local authorities are (and other tiers of government), how the people can help in easing government's work, and what is expected of them as citizens of the nation. These can be achieved through advocacy, enlightenment, civic engagement and teachings by the media, civil society organisations, and the government together to sensitise the citizens on governance and transparency.

Though this study is looking into urban road transport we might also present another study that is focussing on transportation in National Parks of England. Stanford and Guiver (2015) explored the "processes and relationships involved in successful visitor travel planning partnerships, to understand the how and the why" (Stanford and Guiver, 2015; p. 8). They stated that the area of study is under-researched, thus adopting a case study methodology and applying it to other contexts and research areas of transportation. The case studies are – the Lake District National Park, New Forest National Park, and South Downs National Park, respectively.

Getting approval for cycle trails and bus stops in the Parks involves fostering partnerships, advocating for the infrastructure, and cementing partnerships between the Park Service, the local authorities, local communities, and the Highways Authority. This synergy and understanding between these groups to provide sustainable services to visitors (and the community) is a good example of participatory governance. The below diagram (see Figure 1 overleaf) illustrates the structure of how the stakeholders were all engaged and communicated to on what was to be done and how it is to be done. Specifically, the message to be passed across (what projects and activities to be done in the Parks), who to communicate to (which

of the stakeholders will participate in passing the message across to the people), and receiver of the message (the end user of the message to be received, and the primary benefactor of the projects to be done).

| Message to Stakeholders | The Message should be communicated by | The Message is to be communicated to the following Stakeholders |
|---|---|---|
| Message regarding Marketing and logistics information | Tourist Boards, Local Businesses, Local Authorities, National Parks | Visitors and residents |
| Message regarding the Benefits to the community and stakeholders | National Parks, Local Businesses, Tourist Boards | Residents, visitors, Local Councillors, Businesses, Local Enterprise Partnerships, Department of Transport |
| | To have a positive visitor experience at the Parks | |

**Figure 1: What is Communicated? Who is doing the Communication? Who are the recipients of the Communication?**

**(Reproduced from: Stanford and Guiver (2015)**

Summarily, Stanford and Guiver (ibid.) reiterate the need for constant engagement with all stakeholders during decision-making that involves them (the stakeholders) directly or indirectly. Stakeholders can be the organisers, funders, or initiators of a project to the recipient or benefactor of the project, and anyone in between. Consultation and communication are also central to the achievement of these projects. That is, every identified stakeholder has certain messages he/she is entitled to and times that those messages are to be passed across.

Public engagement, participation, and interaction will be of immense benefit to both the government and the governed as all these scholars have stated. However, it may not be positive nor beneficial to both the government and the governed if the collective will to act is absent (Daniel, 2014; De Melo Correia and Galves, 2018). The government may express the need to engage with citizens in every programme, but then may not follow up on this with the necessary support required. The political will to engage with citizens on these policies is to enlighten them, educate them, and advocate for the positives of the policy being developed and implemented (Dean, Fielding and Wilson, 2019; Dyer *et al.*, 2014). There is a need to involve the people to understand government, how it functions, how it is supposed to serve

and support citizens, what the people are supposed to do for the State and changing people's attitudes towards government.

In other words, the government should inform the people of Abuja of the various reasons why sustainable transport is needed in the city. People should understand

- the policies presently in place to provide alternative mode(s) of transport for commuters
- the efforts made to improve on existing transport infrastructure
- the support needed from the people to make these transport infrastructures work efficiently and effectively, and
- the citizens should understand that the city's present transport choices are not sustainable for the present and the future.

Mesfin (2008; p. 1) defined democracy as "a political system designed to widen the participation of ordinary citizens in government the powers of which are clearly defined and limited". He further stated that elections are the founding pillar of democracy, while defining what an election means. Mesfin (ibid.) quoted Anglin (1998) who stated that elections are "the most critical and visible means through which all citizens can peacefully choose or remove their leaders, and which are evidently costly affairs" (Anglin 1998:474). The last elections held in Abuja were in 2016, these were local government elections across the Federal Capital Territory (FCT) (Onyeji, 2016). However, few voters turned out to vote (Eze, 2016). This indicates a lack of trust in the third tier of government, or possibly citizens' indifference due to previous experiences of policy inconsistencies from the authorities. Taking into account the Human Development Indices (HDI) of Abuja (United Nations Development Programme (UNDP), 2018; pp.83-86) it is expected that people of Abuja will come out en masse to elect people who might improve the socio-economic conditions of the city. Specifically, the HDI (ibid.) illustrates that life expectancy is low, ranked number 17 in the Multi-dimensional Poverty Index (MPI) of the country, with a Maternal Mortality rate of 83.6 deaths per 100,000 live births.

Looking specifically at African elections, Mesfin (2008; p. 2) also quoted Bratton (2007) stating that "many [African] citizens are beginning to perceive that democracy has distinctive shortcomings including unruly political discourse, a poor record of service delivery, and new opportunities for corruption" (Bratton 2007:5). Furthermore, Nigerian elections are characterised by "vote buying and political intimidation" (Bratton, 2008; p. 631), and "violence, threats, abuse of human rights which threaten, to a large extent, credible, free, and fair election and disenfranchises voters from poll on voting day" (Agu, Okeke and Idike, 2013; p. 447). Additionally, Falade (2014; p. 22) stated that:

*"the Nigerian political system and act of governance do not encourage mass participation. This is because of the political culture of violence, intimidation, manipulation, sentiments, money politics, ignorance, corruption, deception and apathy that characterize the political system. There is marginal involvement of the Nigerian women in the political process".*

These studies illustrate that however negative the socio-economic indices of the society are, and even though democracy and elections are the methods used by the people to choose their representatives, if the system of elections is not orderly, transparent, fair and peaceful, the people might be disillusioned with the whole system. Abuja's HDI is in the negative as illustrated by the UNDP's (United Nations Development Programme (UNDP), 2018) statistics. Furthermore, due to the definition of what an election is, the citizens have an avenue to periodically change their elected representatives, but this is not feasible because of the factors stated by the cited literatures. Nevertheless, Stigler (1973) believes that negative socio-economic indices do not influence voters to change their elected representatives when the elections are undertaken.

Abuja has 5 television stations (National Broadcasting Commission (Nigeria), 2020) and 16 radio stations (AbujaGalleria, 2018). In 2010, 60% of the total households in Nigeria owned a television, 43.5% owned a radio, and 5.5% had a personal computer (Akoh *et al.*, 2012). Furthermore, Akoh *et al.* (ibid.) graphically illustrated that 45% of the people from North Central Nigeria (where Abuja is located) prefer to source their information from the local radio, 38% from local television, 10% from international radio, and 7% from international television, respectively. This indicates that the medium of information dissemination is available (but not high) and that the people follow diverse sources of news. Nevertheless, Müller (2014) believes that a high performance of the media in a country impacts positively on citizens to participate in the decision-making processes of their nations. Therefore, citizen apathy and low media circulation may reduce the number of citizens who are knowledgeable on the road transport policy of Abuja.

The involvement of citizens in policy development and implementation goes a long way towards the policy having ownership and acceptability by the populace, especially if it is an infrastructure programme or policy (Ibem, 2009). Furthermore, Hove, Ngwerume and Muchemwa (2013) notes that the understanding of urban policies by citizens, through citizen engagement with government and civil society organisations, supports much needed economic and political opportunities for national development. Sagaris, Tiznado-Aitken and Steiniger (2017) advocate for participatory planning approaches in the provision of transport

infrastructure in Santiago, Chile. They believe that a city-wide multimodal transport system drawn up by planning professionals only is not advantageous to the populace. Therefore, including citizens, academicians, professionals, and businesses in decision-making increases acceptability of infrastructure developments and boosts equity and quality of life of urban centres. The need for acting on this recommendation is stated by Ikioda (2016). Ikioda (ibid.) highlights that infrastructural development of roads in Lagos is not only to "improve access, connectivity and overall improve the infrastructural capacity of a mega city" (Ikioda, 2016: p. 180) but opens local markets for the market stall holders to sell their wares along the road. That is, the traders prefer selling on the roads (major and minor) than having a stall/shop in the markets, which most of them cannot afford. This illustrates the inadequate enforcement of planning laws, poor access to markets, inadequate market spaces for traders (in some cases), and poor engagement between the city authorities and the traders.

Philip and Peter (2013) and Obo, Eteng and Coker (2014) state that the elite have systematically caused public opinion to go their way and not the way of the public, therefore influencing decisions. Thus, these consultative meetings are conducted not to consider the mass opinion but to "ratify" the elite's opinion or to inform the public of the decision taken. Therefore, it is not surprising that  engagement processes are poorly advertised. Chirenje, Giliba and Musamba (2013) illustrated that whereas recipient communities do not always participate in policy formulation, they may actively participate in implementation phases and processes. This causes conflicts and delays between the communities and project managers. These conflicts arise because of the socio-cultural interests and situations that were not considered during the planning and formulation stage.

In terms of priorities, Nwankwo, Fawohunre and Obasanjo (2016) noted that commuters in Abuja prefer:
- improvement in existing public transport services,
- building of new public transport infrastructure, and
- construction of new roads (in that order), respectively.

Additionally, Ojekunle (2016) reaffirmed that Abuja city needs to improve its public transport system by the provision of  professional, organised, disciplined, and regulated bus operators who provide an efficient and effective service acceptable by commuters. Nwachukwu (2014) recommended that improvement of existing transport services, construction of new roads, and building of new public transport infrastructure are what is needed for commuter satisfaction in Abuja. Tiwari (2002) studied the need to prioritise the provision of transport facilities in New

Delhi, India, by integrating non-motorised transport (rickshaws), two wheeled vehicles, and motorised vehicles on the roads, taking into consideration the high number of vehicles on the roads. Improvement of transport infrastructure, building of public transport infrastructure based on commuter needs, and integrating two-wheeled and four-wheels is supported by Jones (2012). Jones (ibid.) supported these points because it will save cyclists from unruly drivers by providing them with bicycle lanes off vehicle lanes but running along vehicle routes for cyclists' safety and security. However, Şimşekoğlu, Nordfjærn and Rundmo (2015) studied commuter priorities in Norway, whereby they prioritised flexibility (travel time and route), convenience, safety and security in deciding whether to use their cars or public transport.

Femi (2012) highlights that the existing public transport system in the city needs to have an "institutional reorganisation" which involves creation of another body for transportation, redistribution of roles and responsibilities, and the opening of a multimodal public transport system to be regulated by the recommended organisation before the public transport services can improve. Initiatives that will encourage the people of Abuja not to use their private cars are some of the recommendations proposed by Osuntogun and Koku (2007), Emeasoba, Ogbuefi and Enugu (2013), Olawole and Aloba (2014), Bombom and Abdullahi (2015), Emmanuel and Olamigoke (2013), and Nwankwo, Fawohunre and Obasanjo (2016). Lastly, Mugion *et al.* (2018) concluded that service quality of urban public transport enhances sustainable mobility when vehicle owners reduce the usage of their cars and use public transport, and the service is designed according to customer needs and expectations (security, reliability, comfort, travel time and waiting conditions).

In the case of car-sharing schemes, Carrigan (2015) stated that this is a scheme that is accepted in some emerging countries, notably Brazil, China, India, Malaysia, Mexico, South Africa and Turkey. However, Abuja has been operating a form of car-sharing scheme. The cars are operated as taxis with no prior arrangements with the commuters. The cars have routes they operate, and they pick up passengers from the various bus stops along the route. Therefore, the passengers are complete strangers to each other, and all have their destinations along the route with no deviation or control of the journey. This Nigerian mode of car-sharing is challenging because, as Ibitayo (2012) discusses, these taxis are poorly maintained, second hand vehicles subject to breakdown during travel and dirty for the commuters. Belton Chevallier *et al.* (2018) encourage the usage of car-sharing schemes, especially to reduce costs for low income families who live in satellite towns (suburbs) and are dependent on their cars for commuting. Usman, Sanusi and Musa (2017) supported Belton Chevallier *et al.* (2018) point, as they did their research in Kaduna, Nigeria. However, they believe that, presently, some form of car-sharing is ongoing in Kaduna (like Abuja's) and that

some form of improvement that will make the system more attractive, through good marketing and usage of modern technological tools, can be employed to team up commuters into one vehicle.

As Acey (2010) stated, it is citizen awareness of what people and communities are entitled to that will make them know what to ask for. That is, the needs of communities are better provided for if the people know what standard they are entitled to, because when they understand what they want they have a much better agency to influence that infrastructure (or service) which is needed. Therefore, looking at the quality of service given by public transport operators in Abuja, as stated by Nwachukwu (2014) and Nwaogbe, Ukaegbu and Ibe (2013), it seems the respondents need to be enlightened on what the minimum standard is for this public service. Nwankwo, Fawohunre and Obasanjo (2016) illustrated that the existing public transport system is not reliable, not efficient, not safe, not comfortable, not available, not affordable, not accessible, and not convenient for the commuters. Looking at these terms in line with public transport service, as defined by Banister (2005b), Church, Frost and Sullivan (2000) and Rodrigue, Comtois and Slack (2016); United Nations: Secretary-General's High-Level Advisory Group on Sustainable Transport (2016), the people of Abuja need to be sensitised to what the standards are, in line with their local values and norms (Victor (2012).

The participation of stakeholders is important for the achievement of infrastructural programmes (Whitton *et al.*, 2015; Sagaris, Tiznado-Aitken and Steiniger, 2017). These researchers discuss the need to encourage all stakeholders in infrastructural development to have ownership and acceptance, to avoid conflict, to listen to all views for incorporation into the project/programme, and for user acceptability. However, lack of awareness about the public policy formulation process and inadequate formulation tools is a barrier to citizen engagement (Sampson, Bakht and Desta, 2018), and engagement should incorporate local values and media of communication for effective consultation with everyone involved (Akanni, 2019).  As noted by Valentine, Sovacool and Brown (2017), most communities make up their minds on infrastructure provision based on their previous experiences in similar situations. Therefore, most citizens will complain based on what they have experienced in the past, and, due to their low knowledge of complex issues, they may dwell on problems only and not solutions. However, in as much as most people do not understand these technicalities, they need to be included in the process (De Melo Correia and Galves, 2018). Oxman *et al.* (2009, pp. 7) state that strategies for engaging the public should "fit specific contexts, policies and key target groups". Therefore, there is a need to use all available tools of engagement with the citizens by the government. Taking this into consideration, the local context was reiterated

by Chu, Anguelovski and Carmin (2016), though they added that engagement should be multilevel between the government and the governed with the civil society in between.

Nevertheless, Agboola, Rasidi and Stated (2016) conclude that, sometimes, citizens solve their communal problems collectively. Additionally, the government expects citizens to give them feedback on their plans, policies, and programmes, although this does not always happen. This is  because the government still relies on traditional media to pass messages to the citizens, and because they do not use the internet and social media to broaden their engagements (Ellison and Hardey, 2014), thus leading to the assumption that some of the time citizens can be trusted to provide input on policies. Citizens can be trusted to give input some of the time if they are encouraged to participate in the engagement by avoiding adoption of the up-down approach of governance rather than a down-up participatory approach (Swapan, 2016). Furthermore, Kpessa (2011; p. 49) stated that citizen engagement by the government is mostly focussed on engaging groups who protect their interests in the policy under discussion, or it engages only with "the participation and prioritization of, elite groups such as those with whom government officials have higher comfort level".

Challenges to master plan implementation are faced by most urban communities around the world, as illustrated by Dyachia *et al.* (2017), Zhang, Yung and Chan (2018), and Nyiransabimana *et al.* (2019). However, there are distinctions and similarities to the problems of the cities being stated. Nyiransabimana *et al*. (ibid.) studied Kigali, Rwanda, and found that there is a deviation from the master plan occasioned by low funding for the master plan. Zhang, Yung and Chan (2018) focussed their study on China's neighbourhood planning, where they found that weak community participation and undefined legal and policy direction for the operationalisation of neighbourhood planning is a challenge. Dyachia *et al.* (2017; p. 111) found that "the inability to harmonize between the land use plan and growth has created a widespread challenge for Kaduna urban area" thereby leading to unapproved settlements springing up around the urban area. While there are distinctions between the findings of this study and the cited studies, there is a unanimous agreement between the three citations that participatory planning and governance is one of the solutions to the challenges. Nevertheless, having synergy and integration and strategic and operational levels of management is important in achieving "pursuit of synergy and the removal of barriers" (May, Kelly and Shepherd, 2006; p. 319).

Discussing integrated transport systems, Chowdhury and Ceder (2016) state that the provision of a multimodal transport system requires a seamless and convenient transfer for the commuter. Policy makers should note that transfers between transport modes are

dependent on the psychological, operational, and policy perspectives of the commuter. Also, as Chowdhury *et al.* (2018, p. 75) state, to have an integrated transport system for the public, there is a "need to meet the users' expectations. As such, a positive public attitude is required for acceptance of changes in policies and services designed by policy makers". Therefore, acquiring the current views of citizens should be one of the guiding principles for the implementation of these policy proposals. However, Redman *et al.* (2013) believe that service provision and improvement in public transport will bring more commuters but it will not encourage car owners to become totally dependent on public transport for their commute. Then again, if all cars in Nigeria (or the world) become carbon neutral, congestion might be the only reason for encouraging vehicle owners not to use their cars. As Wadud and Huda (2019) stated, electronic cars that are driverless encourage passengers to rest in the cars while being driven from point A to B, thus, with this bonus, congestion might not be reduced on the roads.

Nevertheless, Jeekel (2017) illustrates out two scenarios when defining the relationship between social sustainability and smart mobility. The first scenario is that having smart cars in the future will be environmentally friendly, advantageous to the driver with traffic data, and they can be driverless so that passengers will not be bothered about driving stress thus encouraging urban sprawl, reducing social cohesion that public transport provides, and increasing traffic congestion. The second scenario contradicts the first, whereby he concluded that people will be willing to share driverless cars through ride and share thus reducing traffic congestion which will encourage social cohesion and improve transport options and accessibility to commuters. Although smart cars should improve passenger safety, but it will not be affordable for low-income families in the immediate future, only in the long-term.

Regarding a multimodal transport system, Sagaris, Tiznado-Aitken and Steiniger (2017) believe that urban centres in developing countries should endeavour to focus on improving and enhancing the interactions between existing modes of transport. They identified that most urban areas already have bus-bike-walk modes, but these modes are not compatible and conducive for interdependence and connectivity. They also stated that, with this focus, social sustainability will be the driver of the other two pillars of sustainability. They support this point by defining intermodal transport as "the seamless integration of diverse motorized and nonmotorized transport systems that are socially, environmentally, and economically sustainable, in response to human diversity and needs, particularly equity and social justice" (Sagaris, Tiznado-Aitken and Steiniger, 2017; p. 722).

Nevertheless, Brand, Anable and Morton (2019) believe that making policies on sustainable transport and implementing those policies does not result in achieving those sustainable goals. The scholars proposed four socio-technical scenarios of achieving a sustainable transport system. They believe that reference data (projection of transport demand, supply, energy use and emissions), promotion of electric vehicles and phasing out petrol/diesel buses (with the corresponding infrastructure and regulations), lifestyle changes by commuters (change in travel patterns and mode choices) and combining a changed lifestyle with individual adaptation of electronic vehicles/buses is what makes transport sustainable. Thus, in line with Brand *et al.'s* (ibid.) four socio-technical scenarios, the citizens need to know and understand why lifestyle change is needed, how they can change their lifestyle and what options are available for them to achieve the co-operation of the people in the pursuance of sustainable transport in the city.

Li, Dodson and Sipe (2018) state that, due to the high cost of housing in the city centres, people tend to go to the suburbs to buy houses. This leads to an increase in travel costs and dependence on personal cars because of the inadequate public transport system in the suburbs. While this research is in Brisbane, Australia, it is a similar scenario to Abuja, Nigeria. In Abuja, people tend to go the satellite areas to rent or buy houses because rents are lower than in the city centre, and, although this affects their travel costs, they must go to work to be able to pay the rent or mortgage. Therefore, as the paper postulates, the more fuel and rent prices increase, the more likely people will move further away from the city due to their low income.

Guzman and Oviedo (2018) believe there are policy decisions that can be taken to cushion transport costs and improve transport accessibility for the urban poor. Guzman proposes subsidising transport fares for commuters (students, elderly, the unemployed, etc.) to reduce exclusion in using the transport system, to encourage social mobility and, thus, be a tool in curbing citizen inequalities in some urban centres. The research was undertaken in Bogota, Columbia. However, the researchers believe that the effectiveness of the subsidies is dependent on the local authorities having a database of people to be able to link up their economic status with the criteria for receiving the transport subsidies. Lastly, authorities need to take into consideration commuters who carry heavy luggage into these proposed buses. Porter (2013) identified the dependence on walking in Cape Coast, Ghana, by women and young people due to the exclusion of this group of commuters. Although there is a health benefit for the walkers but the carrying of heavy personal belongings is not good for the people.

In other parts of the world, discussions are taking place regarding the phasing out of diesel and petrol cars (*British Broadcasting Corporation*, 2017e) and (*British Broadcasting Corporation*, 2017b), driverless cars (*British Broadcasting Corporation*, 2018), provision of environmentally friendly buses, real-time passenger information systems, cashless payment systems by commuters, and an efficient and effective bus service (Preston Bus, 2019). While Abuja, Nigeria, is finding ways to provide adequate buses to move commuters at peak hours of the day, Europe is discussing socio-technological advancements in public transportation (López, Ruíz-Benítez and Vargas-Machuca, 2019) and personal transportation (Wadud and Huda, 2019) with an overwhelming focus on of how to handle the advancement that is presently ongoing in the urban road transport sector (Rajendran, 2019), and the new belief that autonomous and smart cars will cause car ownership and public transport usage to reduce (Mayfield and Punzo, 2019). Furthermore, the European car maker BMW will, from 2020, start producing cars that will have a cut off system whereby the cars "will automatically switch off their combustion engines in heavily polluted inner city areas and use pure electric driving mode as a way to cut vehicle emissions" (Odeyemi, 2019; para. 1). The charging infrastructure required for electric cars is not readily available yet, therefore, car manufacturers are maintaining a hybrid (electric/combustion) system. Nevertheless, Kingston and Acheampong (2019) believe that urban "authorities can reduce the dependence on cars, and reclaim space for pedestrians, cyclists and public transport" (ibid., para. 4) by introducing car-free zones and charges, providing public transport alternatives, and reshaping the city "to offer people the opportunity to live closer to shops, employment and recreation, thereby promoting "active" travel such as walking and cycling" (ibid., para. 12).

In Norway, people are encouraged to use electric cars to the point that electric cars outsell cars with a combustion engine (Williams, 2019). Norwegians are incentivised by not paying Value Added Tax on their electric cars, they do not pay any type of tax imposed on gas and diesel vehicles, and they get discounts on parking, toll roads and ferries. Furthermore, in Austria, electric cars are exempted from speed limits on particular roads because of the zero emission they emit into the atmosphere (Kasper and Jirak, 2019). The city of Vienna in Austria has a vast network of trams, buses, and underground train lines traversing the city (Wiener Linien, 2019a). These vast networks enable 38% of commuting in the city to be done through public transport. In 2015, the total number of annual travel pass holders surpassed the number of registered vehicles in Vienna. The company managing the Vienna transport system stated that "public transport makes up just one percent of the city's carbon footprint" (Wiener Linien, 2019b; para. 1). Through awareness and teaching their drivers how to drive in an energy efficient manner, two of the city's bus lines operate solely on electricity, whereby the buses can travel for 150 kilometres on one charge, and they have buses that emit lower carbon than

the recommended standard on other bus lines (Wiener Linien, 2019b). Furthermore, Stockholm, Sweden also has a multimodal (buses, underground trains, commuter trains, trams and ferry lines) citywide transport system (Visit Stockholm AB, 2019b). The multimodal transport system in Sweden also has guaranteed access for all commuters through elevators, station automatic information system for all modes of transport, and ramps for low access (Visit Stockholm AB, 2019a). However, with the growing number of electric vehicles and the components and infrastructure that this entails there are others researchers discussing patents and wondering if there are going to be patenting issues between car manufacturers and electronic components manufacturers (Hartley, 2019).

Due to the high nitrogen dioxide and noise levels on roads in Hafodyrynys, Caerphilly, Wales (Wood, 2017), the local council decided to demolish houses on the polluted road so as to improve the air quality of the area *(British Broadcasting Corporation*, 2019a). In more positive news for sustainability, the Edinburgh City Council have introduced free electric cargo bikes to traders to use in distributing their goods to cushion their losses during the ongoing Edinburgh tram construction *(British Broadcasting Corporation*, 2019b). The Council hopes that this trial stage will be well received for it to be a contributor in making Edinburgh carbon neutral by 2030. Recently, the Kensington and Chelsea Council of London proposed 4.7 miles of cycle paths to reduce the number of collisions involving cyclists and pedestrians and thus encourage cycling and walking in the city (*British Broadcasting Corporation*, 2019c). Nevertheless, this proposal was rejected when it went through public consultation because the existing trees on the route would have to be uprooted, thus reducing the air quality of the area. This scenario illustrates the frictions between elements of sustainability, in that public consultation overrules sustainable mobility and healthy living because of the love of trees. All these scenarios are presented to illustrate the distinction between what is happening in Abuja in terms of sustainable transport and what the situation is around Europe.

Looking at what all the scholars are proposing, it can be summarised that stakeholder engagement and participation is paramount between the government and the governed, but it might not succeed if it is not done mutually and respectfully between the parties. In the case of Abuja, the people want a road transport system that caters to their needs and people feel it is long overdue. While this is understandable, it is also unique. It is unique in the sense that the city is being built as a new city, wherein Abuja's residents can make inputs to its construction as it is ongoing if they are given the room for making their views known. Therefore, it is a partnership that the city authorities need to harness to listen to the citizens to avoid unnecessary issues in the future looking at the increasing population of the city and the high literacy level of its residents.

> *Most people of Abuja do not know the design of the city nor how it is to be developed as proposed 40 years ago. This is because of poor interaction between the people and the government. This makes managing the city cumbersome to the government. Most Nigerians do not follow the local news to know what government is doing because of the serial disappointment of government in providing the basics of life to them. This leads to the citizens not being interested in whether Nigeria has signed an international agreement on sustainability or even on having sustainable transport and what the details are. They do not even know that they are entitled be engaged periodically on all government policies and programmes during formulation and implementation, as agreed by Nigeria at international level.*
>
> *Chapter II Section 14 subsection 2 (c) of the Nigerian Constitution (Federal Republic of Nigeria (Nigeria), 1999) has already made it mandatory for public participation in decision-making. Nigerians are entitled to be told the situation of things regarding sustainability now and how it can be improved and what everyone needs to do for that improvement to be feasible. Government should not plan for their actions without having a buy-in and understanding of the people. Therefore, Abuja residents need to understand what the masterplan is, what needs to be done to address today's circumstances, and how that affects the country's sustainability goals.*
>
> *Enlightenment and advocacy do not involve only workshops and seminars in higher institutions or scientific conferences. It needs to be done by radio and television jingles in local languages, and periodical updating of these policies and agreement in syllabuses, especially at the Secondary School level. Civil Society Organisations should constantly, patiently, comprehensively, and robustly engage the government and let them know that engaging of the public is not a negative thing but positive, it is not confrontational but partnership and vice versa with the citizens.*

## 2.3.2 Social Inclusion

As the second theme discussed in this study, social inclusion will investigate the aspect of including (or excluding) particular people and communities or societies in the provision of urban road transportation. The discussion is around the practicalities of inclusion (or lack of it) in people's access to urban road transport, communities which lack, or have inadequate provision of these infrastructural facilities for their usage, and the issues surrounding these challenges faced around the world in this service provision.

**Picture 5: Pedestrian Bridge with Ramp**

**(Source: Dutum Company Limited (Nigeria) (2016)**

Providing a visual context for social inclusion in urban road transport of Abuja, Picture 5 illustrates pedestrian bridges with a ramp for wheelchair users while Picture 6 (overleaf) illustrates a pedestrian bridge without a ramp. As illustrated in the pictures, the pedestrian bridges of the city are of different types. While it might be stated that the city planners might have their reasons for this, it is also positive for the city if all the ramps accommodate all users for inclusiveness and balance amongst the pedestrians.

**Picture 6: Pedestrian Bridge without Ramp**

(Source: *Blueprint Newspapers (Nigeria)* (2014)

The main types of transport exclusion are identified as spatial, temporal, financial, and personal (Solomon, 2002; Solomon, 2000). Spatial exclusion describes the inability to access, or lack of access to, transport from point A to point B. Temporal exclusion is the inability of a commuter to move from one point to the other at a suitable time. Financial exclusion is the helplessness of a commuter not being able to pay for transportation or having to forego another necessity for transport fare. Lastly, personal exclusion means the lack of understanding and comprehension of the transport system available for an individual to use due to mental, physical, or other reasons. While summarising these exclusions, Solomon (2000) defined social exclusion as "people or groups are excluded if they are effectively unable to participate, for whatever reason, in activities which are considered normal by their society" (ibid. p. 21).

Solomon (2002) concluded that for inclusion to happen in urban transport there needs to be an understanding of the socio-economic characteristics of different communities, towns, and cities. A baseline of what should be the standard of measurement of what transport planners can use to define whether an individual, neighbourhood, or community is being excluded in transport planning, provision, and operations. She pointed out that if data is collated and disaggregated to the different excluded groups or communities then transport planners will have an idea of how to address these inequalities. Though Solomon has identified spatial, temporal, financial, and personal exclusion as contributing towards transport exclusion, Church, Frost and Sullivan (2000) list the geographic, physical, economic, time-

based, fear-based, space, and exclusion from facilities, as the barriers to an all-inclusive provision of public transport in a city. They proposed a conceptual framework that links social exclusion and transport in a city by examining a selection of indicators that can be used in assessing the outcomes of policies designed to use increased mobility to reduce exclusion. However, they recommended that an all-inclusive transport policy is required for cities. These policies should be cross-cutting, all-encompassing, multi-agency, locally inclined and driven, and undertaken through a robust evidence-based decision-making process.

While Solomon (2002) and Church, Frost and Sullivan (2000) have highlighted transport inclusion, Banister (2005a) stated the various aspects of inclusion affecting urban road transportation. He noted that accessibility, room for non-motorised transport, location of homes and jobs, and accidents are the major impediments to the inclusion of all people in the provision of urban transportation. In contrast to the above cited types of exclusion and as Lucas and Porter (2016) pointed out earlier in a different context concerning countries in the Global North and Global South, Oviedo Hernandez and Titheridge (2016) categorised their findings based on Church, Frost and Sullivan (2000) proposed framework on transport exclusion. In brief, these findings consist of – geographical, economic, exclusion from facilities, physical, fear-based, space, and time-based exclusions. However, the community rallied together to proffer an informal, personalised, communal way of addressing the exclusion with the limited resources they have.

**Picture 7: In Abuja, Public Transport without Shelter and beside and Open Drainage**

**(Source: *Premium Times (Nigeria)* (2016)**

Camara and Banister (1993) studied the social and spatial inequalities in the Brazilian city of Rio de Janeiro's transport system. They tried to illustrate how unequal the public transportation provision is within the city of Rio de Janeiro between the city centre and the periphery settlements. They concluded that public transportation service in the city is an indication of the level of income of the different settlements of the city, whereby more affluent parts of the city get a better service and lower income neighbourhoods get a poor service. They further reiterated the scenario happening in Abuja by stating that people relocate to the periphery not out of choice but due to redevelopment and high rents in the city centre. Hernandez (2018) also supported the unequal spread of public transportation services by studying Montevideo, Uruguay; he focussed on education and job opportunities in transport deprived areas of Montevideo.

Camara & Banister (1993) and Hernandez (2018) papers all agree on one thing – that public transport in urban areas is uneven worldwide. However, the unevenness is dependent on different societies and some peculiarities. While in the 1993 paper public transport services have failed to match demand, in the 2018 paper, the spread of transit network is nearly balanced across the city (though there are peripheries in the city). Similarly, in Montevideo, primary school education has universal access, but other higher education does not. Thus, the inequality occasioned by unequal access to education is through the long distance needed

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to reach school if coming from the peripheries because primary schools are available all over the city, but post-primary schools are unevenly spread. In Rio de Janeiro, the public transport is characterised by high fares, unsafe buses, low frequency, long distances, and interchanges. Another similarity in both papers is their acknowledgement of the need to have changes in transport policy, land use development and social policies to balance the inequality. Ascher (2005, p. 19) reiterated that mobility "implies that individuals and groups of people should be able to control their mobility, that this mobility should contribute to the establishment of social identities" but based on Câmara and Banister (1993) and Hernandez (2018) studies, commuters are not able to control their mobility and they are forced to have a social identity that causes them to have negative socioeconomic indices. However, Bocarejo and Oviedo (2012) stated that inequalities can be eased "through the identification of specific needs, prioritisation and proposal of transport strategies for addressing the disadvantages caused by location or reduced purchasing power" (ibid., p. 153). Therefore, transport inequality should be addressed from the needs and peculiarities of different parts of the urban area rather than a uniform decision for all.

Nevertheless, it has been identified that some transport disadvantaged parts of the urban area adopt ways to solve their mobility issues based on their local and individual measures. Oviedo Hernandez and Titheridge (2016) observed that urban fringes in Colombia make informal arrangements on how to travel based on their level of income, priority of the travel, and having a vulnerable member (or members) of the family. In this scenario, some families in Abuja contract rickshaw or taxi operators to convey children to and from school or to be accessible for the women who want to go out. These informal arrangements are all subject to the trust of the safety and security of the family members, especially the children. This informal arrangement is similar to the situation in Columbia, as discussed by Oviedo Hernandez and Titheridge (2016), who highlight inequalities and neglect in urban areas towards the provision of transport facilities and infrastructure.

In view of Oviedo Hernandez and Titheridge (ibid.) point on levels of income, Venter (2011) states that household expenditure on transport varies depending on location, mode (s) of transport, and distance. Therefore, due to transport cost, commuters might not have any option but to walk or car owners may have to incur more costs due to using their cars. This is further reiterated by Olojede, Yoade and Olufemi (2017), stating that people walk in Ilesha, Nigeria, not because they want to but because they cannot afford a car. It should be noted that the pedestrians do not consider the health benefits of walking. However, the roads in Ilesha are not favourable for pedestrians who are walking because they have no choice, or for those who are walking for fitness. Therefore, the health benefits of walking should be

publicised, and the roads improved for pedestrian safety and security. Also, improving non-motorised transport (NMT) and subsidies for the urban poor will reduce the stress commuters go through commuting in the cities. Nevertheless, NMT faces institutional challenges; the slow pace of processing the National Integrated Transport Policy, a bias towards motorised transport, poor coordination of the drivers of NMT, and poor enforcement of regulations, in mainstreaming it into the transport policy in Nairobi, Kenya (Mitullah and Opiyo, 2012).

Another area of non-inclusion in urban road transport is the neglect of women in planning and providing for transportation. Odufuwa, Oriola and Otubaga (2012, p. 17) states that "sustainable public transport for women, who are often vulnerable to transport externalities, has not received adequate attention in terms of research and policy making in Nigeria". They stated that factors such as cultural norms, women's traditional sex roles and societal vices all play a role in determining women's choice of travel mode or their travel behaviour. To achieve this, transportation data for women regarding social, cultural, and personal values should be gathered and incorporated into these policies with the full support, backing, and validation of the women both in rural and urban Nigeria. Exclusion of women in transport is further discussed by Alberts, Pfeffer and Baud (2016), who found that household needs are the first priorities of women in Chennai, India before they think of travelling for their personal social mobility. Therefore, even if they are able to travel, they may not due to the needs of their homes or if the travel time to their destination is great, they may forgo the trip altogether (Alberts, Pfeffer and Baud, 2016). However, Porter (2008) believes that Sub-Saharan Africa gender constructs hamper women's mobility, affecting both their health and access to transportation. Women are perceived to be lazy if seen riding a bicycle and men will recommend that they walk with their babies strapped to their backs and farm produce on their head.

Collectively, the above cited studies all illustrate different exclusion experienced by commuters and some operators of public transport. Also, examples of commuters' experience in Abuja, based on arguments presented by the cited authors, are presented. Different types of exclusion are presented by scholars with overlap and similarities between them but based on the experiences of Abuja, some of the types of exclusion need to be revised. This illustrates that some exclusion is peculiar to different parts of the world or sometimes different parts of the towns and cities. In illustrating the chronology of inequalities in urban public transport in South America, the literatures supported the argument about the peculiarities of exclusion in urban areas. The literatures also illustrated that exclusion could happen to transport operators due to no fault of their own but based on poorly developed transport policies, as in the case of rickshaw operators, and construction of roads to the neglect of other transport modes.

Lastly, the women and vulnerable in the society have their unique needs and how they want the transport system to be. Therefore, including them in the decision-making of these facilities should also be a priority.

*Reflection Box 4:*

> *Lamont (2013) pointed out the non-inclusion of commuters who are disabled and with dyslexia in Europe. However, in Nigeria, the disabled and elderly are grappling with having a paved walkway for their wheelchairs and mobility chairs or even surfaces for crutches. Furthermore, the available buses do not have ramps for wheelchairs, and they do not have space for wheelchair users. So also, the deaf and blind. The deaf do not hear the shouting of the bus conductors, the blind persons might have guide dogs but not everyone on the buses wants to encounter a dog and there are people who fear dogs. Yes, those persons might have care givers with them but not everyone can afford caregivers. Therefore, talking about bus schedules displayed or accessed through the internet does not even arise in the case of Abuja because the service is generally not reliable.*
>
> *As Banister (2005a) further said about technology in urban transport. Yes, if the world has vehicles that do not emit carbon and reduce the pollution to the environment, it is a good thing. However, vehicles are produced from numerous metals and other softer materials sourced from the natural environment. With the rate at which the world is demanding vehicles, and the producers are making them as demanded, we are still exploiting the natural environment for our gains. Car manufacturers (or other industrialists) might be recycling used car materials for further usage, but the industry still sources some material from the natural environment.*
>
> *Car producers are also developing driverless cars, this will encourage people who do not want to drive to buy these cars to avoid driving them. This might increase the number of cars on the roads. These driverless cars will be dependent on the internet and other smart technology that will be stored in storage facilities owned and operated by organisations. Therefore, the range of personal data of people that will be stored by these smart cars can be enormous and having these data in the possession of one organisation (public or private) can be unsettling. The recent regulatory oversight by some governments about the social media company – Facebook – is a proof that a strong regulation is needed for the driverless cars before they come into commercial usage. The security implication might also not only be negative for individuals but harmful to nations also.*
>
> *Yes, these cars might be equipped to tell the car owner the route it will follow because it has gotten information on traffic delays, accidents on certain routes, avoidance of certain neighbourhoods due one reason or the other, and any other reason that may have been programmed to the car to factor in (technical, social, physical or unusual). Nevertheless, these cars might think in negative ways like classifying particular neighbourhoods as dangerous for the passenger to go through due to outdated statistics (which may not have been updated when due) that states particular routes and neighbourhoods are known to be full of car snatchers.*
>
> *All the above issues are raised but, then again, looking on the bright side, these issues may not arise because nowadays people all over the world freely, willingly, happily, excitedly, quickly, knowingly, and gladly post their everyday lives on social media.*

Transport is a social activity that offers communities, societies, and nations the opportunities for jobs, social interactions, education, shops, leisure, businesses, and, generally, it improves the quality of life (United Nations: Secretary-General's High-Level Advisory Group on Sustainable Transport, 2016). However, for an individual, it is understood that restriction to mobility for any reason gives rise to poverty for the individual through social

disadvantage, and economic opportunities for personal growth and development (Titheridge *et al*., 2014). Furthermore, Titheridge *et al*. (ibid.) explained that linkages between transport and poverty is an ever-changing process that can remedied by an adaptation of public policies and interventions as a form of social justice for the community. As stated earlier, most areas that suffer from inadequate transport services are deprived areas of the city. This makes it vital for transport planners and decision makers to distribute transport facilities and infrastructure from a social justice perspective that will be in line with the overall policy framework of government. Such changes can positively influence the relationship between transport and poverty, thus reducing social exclusion, spatial mismatches, and the effect of externalities.

A study on the research into the interactions and interrelationships between social exclusion, transport and information and communications technologies (ICTs) was undertaken by Kenyon *et al*. (2002). They defined the exclusion involved in the aspect of transportation as – "the process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or in part to insufficient mobility in a society and environment built around the assumption of high mobility" (ibid., pp. 210-211).

In this study, they recognised issues of non-inclusion in urban transportation. The issues they have identified are not restricted to a particular set of people or communities, they affect people due to different circumstances (as stated by Bocarejo and Oviedo (2012)) not even related to poverty nor deliberate neglect by transport authorities and service providers. They recognised that the high rate of car ownership has made transport policy makers and planners to tilt decisions towards provision of infrastructure and services to motor vehicles (supporting Hamilton (2002)). This creates a reduction in provision of public transport in areas far away from city centres, thus causing suburban areas to have fewer bus services than the city centres. While this is exclusion for these faraway places and the bus services they have, it is also an indication that another part of the city (or community) that has more commuters is not given more buses because some part of the city with fewer commuters have been allocated the buses. This means that a neighbourhood or community can have a frequency of one bus per day and the bus is, on average having two or three passengers only (to and from), the bus operators are required to balance their value for money for the service and adherence to the provision of transport for all persons. The neighbourhoods that have more commuters are hereby neglected in the provision of reliable, accessible, efficient, and effective public transportation in the city. In addition, the bus company does not have the financial capabilities to purchase/hire more buses nor employ new workers.

Another form of mobility related exclusion faced by the people is the one faced by car owners. Most people who use public transportation are "the young, the (relatively) wealthy, non-disabled, people unencumbered with children or luggage, the confident or those travelling with companions, without concerns about safety" (Kenyon, Lyons and Rafferty, 2002, p. 211). This causes some people who are not in this list to be dependent on their personal cars for mobility. However, the cost of maintaining a car (fuelling, repairs, insurance cover, etc.) makes it expensive for the owner, thus making him/her spend money only on priorities in their lives. Having a car in one's household does not necessarily translate that the car usage and accessibility is equal amongst the members of the household. In addition, there are car owners who are wheelchair users. These car owners employ people to drive them around or have family members do that for them. In some parts of the world, where not every road or street is paved, road users find themselves excluded from moving on street pavements due to the inability of the authorities to pave the streets.

Kenyon *et al*. (ibid.) further discussed the exclusion of pedestrians and cyclists. Pedestrians might feel unsafe and insecure when going out at night in parts of the city or any part of the city. This can happen when the streets have poor or no street lighting, insecurity because of robberies or physical assault on people, uncovered manholes on the footpaths, and an uneven surface for wheelchairs and other walking aids. These are all situations that might happen in any city around the world. This occurs due to the non-maintenance of public infrastructure and the inability of the police to curb neighbourhood crimes. However, people in urban centres, sometimes, are made to use their cars to move short distances within the neighbourhood (for provisions or walks in the park) because it is dangerous to walk around. All these circumstances, highlighted by Kenyon *et al*. (ibid.), point to the fact that an improvement in the affordability, accessibility, and availability of public transport could increase its usage. However, it does not guarantee that there will be no exclusion in commuting in the urban centres.

To guarantee the complete inclusion of every commuter, Kenyon *et al*. (ibid.) recommended the adaptation of what they call virtual mobility. They defined virtual mobility as "a shorthand term for the process of accessing activities that traditionally require physical mobility, but which can now be undertaken without recourse to physical travel by the individual undertaking the activity. Thus, virtual mobility creates accessibility opportunities, both substituting for physical mobility and enabling access where previously there was an accessibility deficit" (ibid., p. 213). That is, the usage of information and communication technologies to move from one point to the other, or to use it to achieve one's objective without

the need for one to move from place to the other. They believe virtual mobility is the solution for physically moving from one place to the other. One can be at home to work, school, buy and sell, order food and provisions, transact financial affairs online, talk with family and friends without leaving the house, and pay bills all in the comfort of one's home. With this technology, even if one needs to go out, one can get the time schedules for bus and train services online through phones or computers. People can also be at home and have virtual friends through social media, they can register to vote or be voted for via online/electronic channels, contact a health facility when a consultation is needed via video links, and live one's life without wasting time moving from point A to B. The use of Information and Communication Technology (ICT) is recommended by Porter and Turner (2019) whereby they pointed out that, as young people have accepted the internet wholeheartedly, it will be advantageous to include their needs in planning for the future. Also, the youths can be encouraged to develop tools that will improve transportation.

In summary, Kenyon *et al*. (ibid.) are highlighting the various exclusions happening to commuters within households and due to contemporary situations. The paper points out that families who own cars are excluded from using public transport due to their family needs and conveniences, thereby making them liable to fall victim to financial exclusion due to the cost of maintaining the car. Furthermore, in a household that has one car, not every member of the family will have access to the car due to one reason or the other, thus making some feel excluded from the car usage. In addition, certain neighbourhoods are not safe for pedestrians to have a walk, thus depriving them of their daily walks or jogging and, therefore, excluding the residents from the roads. Lastly, ICT can cause one to self-exclude from mobility around the urban centre whereby one will feel that every need is provided for by the internet at the touch of a button. All of these are illustrating the linkage of one's activities and decisions to transport exclusion in various ways.

*Traditionally speaking, most homes with one car have one of the spouses drive the car to work in the morning and come back in the evening. In between, the car driver might choose to drop the children at school and the spouse at work (if he/she is working). On average, the children finish school at 3.00 p.m., they are picked up or take the public transport back home. If the spouse is not working and he/she picks them up from school, that means that the car is only for the usage of one person in the house during the week. Thus, the car is not optimally used since it will be parked for an average of 8 hours every day (40 hours per week) during working hours. The spouse who is not working may have other errands to do, he/she is then left to walk (if they live not far from these services) or use public transport. If the spouse uses public transport, it means they are spending a high amount of money on transport, considering the purchase of the car (with attendant maintenance cost) and cost of public transport. It further illustrates that having one car in a household, no matter the objective of having that car, can influence exclusion from the car usage.*

*This points out a few exclusions that are existing because of a domino effect from the inconveniences of a family with children having to use public transport who are now facing the same problem after getting a car. Some people might suggest buying another car but then the family starts thinking of affording 2 cars. Furthermore, there is the issue of traffic congestion, availability of electric charging pods for the car/cars (if they are electric, that is), and encouraging car sharing, basically, having sustainable transport systems whereby individual car ownership is reduced. Commuting using public transportation encourages social interaction and promotes inclusion within the community (Victor, 2012; Titheridge et al., 2014). This point is further illustrated whereby people meet and get a marriage proposal on public transport, as recently happened in Melbourne, Australia (British Broadcasting Corporation, 2017d) and Glasgow, United Kingdom (Oakley and Loney, 2017).*

*While the recommendation by Kenyon, Lyons and Rafferty (2002) (ibid.) on virtual mobility is a noble one, it raises a lot of questions that are not in tune with the aims and objectives of social sustainability. They encouraged people to work, school, buy and sell, pay bills, and do financial transactions online, but that is not healthy for the social fabric of the community. It is encouraging people to be indoors, yet we would not know if our next-door neighbour is okay and not in serious need of help or support. They might not be able to get to the telephone or email to inform the outside world of his/her distress. The television stations that air the shows and movies we like to watch to entertain us might as well tell their staff to stay at home, act and sing individually without the need to be in the same room with co-actors and the production crew. Sustainability is specifically encouraging:*

- *integration,*
- *security,*
- *societal cohesion,*
- *health and well-being,*
- *local partnerships,*
- *social interaction, and*
- *accepting one's cultural and community diversity.*

*However, it seems virtual mobility is not supportive of these values.*

*Reflection Box 6:*

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*Looking at the Medellin City, Columbia scenario (Bea, 2016) (which is private sector operated) and the proposed policy direction of the Nigerian government to have private sector participation in the transport sector and a multimodal transport system (Federal Ministry of Transportation (Nigeria), 2010), going by the experiences of Nigerians on the enactment and implementation of government policies (Aminu, Tella and Mbaya, 2012; Bolaji, Gray and Campbell-Evans, 2015; Chikeleze, 2015), it is not surprising if the citizens do not know about this transport policy. The private sector might not buy into the idea of participating in every government's divestment, looking at their mixed experiences in other sectors that are privatised (Jerome, 2008; Adogamhe, 2012; Eberhard and Gratwick, 2012). In addition, Nigerians might be concerned about the financial and operational capacity of the private sector to manage these national infrastructures.*

*The multi-modal transportation infrastructure being proposed needs to be implemented in line with the cultural and local peculiarities of Nigerians. However, in the event that Nigerians do not know the details of this policy and were excluded in its development, this raises a lot of questions for the authorities. The provision of these integrated modes of transport will be done in phases across the country, starting mostly in the most populated urban areas This will involve displacing people, and it is possible that the people do not know that they are on a transport route. Moreover, due to the lack of knowledge of this plan and policy, communities on these routes will continue building and the authority will not stop private developments, thereby making the government pay the citizens compensation (this might not happen if private development is stopped in the first place), which will cause unnecessary delays and cost to the infrastructure provision.*

*Private bus operators in Abuja are inadequately regulated, nor are they penalised for their actions towards commuters, thus becoming laws unto themselves. They decide the route to take if they notice that a part of the city is having more passengers due to the time of the day. They can change their minds about which route to follow even if there are passengers on-board. Sometimes, some operators tell the passengers they will be following certain routes. If there is anyone on-board who feels he/she does not want to take that particular route for any reason, the person can disembark with his/her fare reimbursed, because payment is strictly cash - no electronics. If, for any reason, the bus operator feels he is not getting the maximum profit from a particular time and route, he may ask all the passengers on-board to disembark and board another bus because he has suddenly decided not to carry passengers.*

*Similarly, during peak hours the private bus operators might choose to increase the fare due to the number of passengers they can see on the streets. This also happens during a rainy day. They take advantage of the lack of sheltered bus stops and increase the transport fares for commuters who have no option but to board the expensive but dilapidated buses. The buses also operate with two staff, the driver and the conductor. The driver drives the bus, while the conductor shouts the routes they are going to pass through. This can confuse a commuter who is not conversant with this way of commuting because what they are shouting might be incomprehensible to a first-time listener. Furthermore, it is also unhealthy for the conductor to be shouting at the top of his lungs 15 hours a day, 6 days a week.*

*If this is the situation, one might be tempted to think 'is there any need for a private sector driven transport system' seeing as it is a matter of poor regulation and improvement of the existing system rather than the need for new management. However, it all comes down to including the people (and other stakeholders) in decisions that affects them.*

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It is important to note that 'commuters' are a heterogeneous group. They are diverse in their behavioural tendencies with regard to public transport (Lai and Chen, 2011). Lai and Chen (2011) listed public transit involvement, service quality, perceived value, and satisfaction

as the influences on the behaviours of commuters using public transport. The authors suggest that commuter behaviours can be advantageous to transport companies when they listen to their customers. They can do this through feedback mechanisms, whereby the companies talk to their commuters through advertisements and promotions to notify commuters about service improvements after receiving their feedback. This study was done in Taiwan. By getting the feedback from commuters, the service operators are including the service users in the decision-making process of the transport service.

Nevertheless, the scenario painted by Lai and Chen (ibid.) is in a situation whereby the public transport system is regulated, and private sector driven. The companies are in competition with one another to improve services with the commuters in mind. However, in the case of Abuja there is inadequate regulation, the only form of competition between buses is driving faster than the next driver to pick up passengers. The commuters do not even have an idea of what public transport involvement, perceived value, or service quality is because, there, no other option exists for them whereby they could choose between transport companies. Therefore, having a fully regulated and service-oriented commuter service is the first step to good behavioural tendencies for operators.

Challenges on transport cost, weather, reliability of service, safety/security, and length of journey are problems that women face as barriers to their mobility (ActionAid, 2016; Odufuwa, Oriola and Otubaga, 2012). These barriers to the women hinder them from long travel away from their homes, thus limiting their areas of commuting, jobs, and other opportunities. Furthermore, as Action Aid *(ActionAid, 2016)* stated, women (especially pregnant women) and the elderly are not provided with adequate seats in buses, they are sexually harassed in overcrowded buses when alighting or boarding, and unreliable bus schedules subject them to long waiting times at bus stops. This is in complete disregard to Nigeria's international commitment to a legal framework for women and girls in the area of public transport. Nonetheless, Thynell (2016) believes that the top-down approaches of international policies clash with local cultures and barriers when they are to be implemented in some parts of the world. Therefore, local understanding of what women need for their mobility should be encouraged, and local authorities need to include more women in their participatory and engagement processes for an inclusive transport system.

As stated by Church, Frost and Sullivan (2000), Solomon (2002), and Solomon (2000), low income can lead to exclusion in transportation, leading to a loss of opportunities for the development of the people. Ortar (2018) concluded that, to aid households in the challenges they face in transportation costs, public authorities, households themselves, and employers of

labour need to provide alternatives for the people by enacting policies that reduce fuel consumption in vehicles and $CO_2$ emissions, promoting a multimodal transport system (urban public transport, cycle paths, rail/tram tracks, waterways, multi-modal platforms), and working against uncontrolled urban sprawl. Furthermore, households should endeavour to take advantage of the multimodal transport system available in the urban centres to reduce their travel costs, and employers need to adopt alternative ways of working by encouraging videoconferencing and working from home or any other alternative that may reduce travel time for their employees.

Ortar (2018) carried out his research on the middle class in peri-urban areas of France. Much that Ortar has stated – the policy ideas, the households' change in mobility, and alternative employer/employee workings – are stated in the policy documents of the Nigerian government (Federal Ministry of Transportation (Nigeria), 2010; National Planning Commission (Nigeria), 2015; National Planning Commission (Nigeria), 2009) but are not in place yet. However, households are expected to change their modes of mobility when the alternative to transport (multimodal public transport system) is not in place, and employers are encouraged to have alternative modes of working with their employees when the infrastructure for e-office (internet) is not adequate because of poor internet connectivity. While the number of internet users in the country is high (Akinbajo, 2019b), the broadband penetration is still too low (Akinbajo, 2019a) for employers to depend on it for their daily routines with employees who are working from home. While it is encouraging for policy makers to think of the people, their modes of transport and the cost, it is also a positive thing if these policy ideas are put in place for usage by the people they are intended for. Lastly, Papagiannakis, Baraklianos and Spyridonidou (2018) mention that economic hardships on households are greater reasons for people to think of using public transport than any encouragement to use sustainable mobility by the government. Therefore, however much advocacy and encouragement the government does in addition to the provision of transport options in urban centres, people are just going to continue using their private cars unless transport costs start affecting their other household expenditure, rather than change their modes of mobility.

As stated by Lucas (2012; p. 106), "transport disadvantage and social disadvantage interact directly and indirectly to cause transport poverty". Therefore, social inclusion should be a major foundation in developing an integrated transport policy because the policy illustrates clarity, understanding, administration, and regulation of the sector by the government, transport providers, and users (Wood, 1996). Transport policies are developed in full participation and collaboration between the public, government, unions, operators, non-State actors, academicians of a country. It can be a comprehensive document for all modes

of transport (because of the modern-day approach of integrated multimodal transport) or it can be for individual modes (Banister, 2005a). In addition, it can be broken down into national transport policy (for the whole country), sub-national/regional transport policy (for the region only or neighbouring towns), and for local transport policies (for local councils) (Faulks, 1981).

Whilst discussing inclusion in urban transportation and ways to improve public transportation in Nigeria, it is imperative for the policy makers to consider the safety and security of road transportation in the urban areas following recent events in London *(British Broadcasting Corporation*, 2017c) and Barcelona *(British Broadcasting Corporation*, 2017a) where vans ploughed into pedestrians. This point is further reiterated by Elias, Albert and Shiftan (2013) where they identified that fear of these attacks on pedestrians and in buses hinders commuters from using public transport and walking in crowded areas. Therefore, due to this fear, most commuters tend to use private cars or taxis for mobility, thus increasing car usage. As stated by Jones (2012), female cyclists tend to be apprehensive of national cycle routes due to their isolation; the security of women on public transport and as pedestrians is also discussed by Elias, Albert and Shiftan (2013), and considering recent events in India where a female was raped on a public bus (Gupta, 2018), female security (and urban transport security) should be considered as part of the draft Transport Policy.

The Sustainable Development Goals (SDGs) Indicator Metadata Repository (2018a, p. 3) defined public transport as "a shared passenger transport service that is available to the general public that includes cars, buses, trolleys, trams, trains, subways, and ferries that are shared by strangers without prior arrangement". On the other hand, it states that "taxis, carpools, hired buses (which are not shared by strangers without prior arrangement), informal, unregulated modes of transport (para-transit), motorcycle taxis, three-wheelers, etc." (ibid. p.3), are not public transport. Having routes for public transport that are formally recognised and having designated stops for passengers to embark and disembark in a safe and secure manner is also a criterion in defining a public transportation system.

In line with the definition of what public transport is, it can be stated that Abuja has three modes of public transport – cars, buses, and trains. However, it should be noted that the people of the city depend highly on taxis, paratransit, motorcycle taxis, and rickshaws. In as much as these informal transports are not within the criterion to be defined as part of the public transport system, they provide a huge service for the populace. The formal and defined modes of transport for buses do not meet the needs of commuters (Nwachukwu, 2014; Nwankwo, Fawohunre and Obasanjo, 2016), cars are dangerous for passengers (Okah, 2018; Omonobi, 2018) while the train line which runs from the international airport to the city centre has 12

stations along the route with more coaches to be provided because it only commenced operations recently (Iroanusi, 2018). The stations and coaches available are not enough for the commuters on the route.

There are many rickshaw operators in Abuja who depend on conveying people from one point to the other for survival. Due to the inadequate availability of public transport (as defined by the UN), Abuja's citizens are dependent on these rickshaws for their mobility and conveyance within neighbourhood streets and places which the available buses do not pass through. Furthermore, these rickshaws are restricted to certain parts of the city, thus making some commuters depend on other modes of transport that are not conducive for them. Nigeria is a signatory to the SDGs and is committed to providing public transport as prescribed by international policies regarding transportation; the country needs to provide efficient and effective public transport as defined by the UN. If a complete public transport system cannot be provided (or will not be provided), the least the country can do is incorporate these "informal, unregulated modes of transport (para-transit), motorcycle taxis, three-wheelers, etc." (United Nations Statistics Division, 2018a; p. 3) into the definition of what public transport is, and regulate them. Another option could be that Nigeria makes her own definition of what public transport is, based on her own local and self-inflicted scenario.

Presently, there are issues of insecurity around the usage of informal taxis and rickshaws in Abuja (Akinpelu, 2019), but safety and security are issues that can be tackled when these transport systems have become registered and every operator is identified and documented. These unregulated transporters can be regulated, routes be defined for them, and they should be monitored. The regulation and inclusion of private companies in the provision of public transport is one of the objectives of the National Transport Policy (2010).

## 2.4 Sustainable Transportation in Nigeria

In this section, the discussion will focus on the modes of transport in Nigeria and how they affect sustainability. Nigeria uses many modes of transportation for the transport of people, goods, and services all over the nation. These modes of transport include road (highways and urban), rail, air, water and pipeline (Federal Ministry of Federal Ministry of Transportation (Nigeria), 2010). These modes of transport are facing different challenges, some identical or similar while others face different ones. The focus of this research is on urban roads. Therefore, the discussion will be focused on roads in the urban areas only and not highways.

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### 2.4.1 Road Transport

To understand the total amount of vehicles in Nigeria, Agbo (2011) concluded that over 60,000 motor vehicles are imported into Nigeria annually and that 85% of these cars are used vehicles. Furthermore, Ukonze *et al.* (2020b) calculated that there are a total of 2,343,748 vehicles in Nigeria, with 1,144,457 cars, 173,276 buses, and 902,237 Special Purpose Vehicles/Motorcycles. The other types of vehicles calculated by Ukonze *et al.* (ibid.) are Vans/Pick up/Kit cars, Lorries/Trucks/Tippers, Tankers, Trailers, and Tractors. and they estimate that there is rapid rise in vehicle ownership in the country which is affecting the "road infrastructure, fuel demand, environment, traffic control and management, and road safety" (Ukonze *et al.*, 2020b; p. 845). However, Ukonze *et al.* (2020a) notes that five socio-economic factors affect vehicle ownership in Nigeria, causing it to rise rapidly.  These are:

- the gross domestic product,
- per capita income,
- fuel prices,
- the literacy level, and
- the stock of public transport vehicles.

Miller (2019; p. 3) notes that there are "60 vehicles per 1,000 population" in Nigeria, meaning that the motorisation rate of the country is low. However, Miller (ibid.) projected an annual increase of 3% - 4% of vehicle stock. With a population of over 180 million (National Population Commission (Nigeria), 2007), these papers also illustrate that there is a low number of vehicles available to provide the required mobility for the people. In 2016, a total of 33,048 motor vehicles were registered in Abuja consisting of 1,753 commercial vehicles and 31,295 private vehicles (National Bureau of Statistics (Nigeria), 2017). It should be noted that the data for female car owners/drivers in Nigeria and Abuja is not available.

As stated by the Draft National Transport policy (Federal Ministry of Transportation (Nigeria), 2010), Nigeria's urban transport system is largely an unregulated, small-scale market using a combination of para-transit modes consisting of shared taxis, mini-buses, motorcycles and rickshaws, locally known as *Keke NAPEP*. Due to the inadequate provision of a regulated public transport system, the means of transport is mostly dependent on private means. Poorly maintained urban roads, coupled with unregulated commercial bus drivers and private vehicle owners, leads to traffic congestion, reduced vehicle productivity, loss of man-hours and increased vehicle operating costs. Furthermore, the urban centres suffer from inadequate road furniture such as pedestrian facilities, bus stops/shelters/public

conveniences, road signage and directions. Road safety equipment such as towing vehicles and traffic control devices are also inadequate.

Some parts of Nigeria allow the usage of motorcycles for public transportation while some cities and towns allow only tricycles (rickshaws) to ply the roads together with other commercial vehicles. Motorcycles are used for commercial transportation across the nation but the gradual phasing out of the motorcycle taxis was necessary for several reasons. These include:

- criminal activities (fast getaways),
- reckless riding by commercial motorcyclists,
- a high rate of accidents involving motorcyclists, and
- total disregard for law and order by commercial motorcyclists when traffic violations are committed by, or against, them (Mgbemena, 2013).

While some towns and cities banned all motorcycles, some banned them for commercial purposes, permitting only those on essential services (postal workers, dispatch riders, etc.). Mgbemena (2013) states that apart from the services that tricycles offer to the people, the operators also use these machines as an educator, an adviser, a philosopher, and a cleric by writing inscriptions on the machines that teaches, advises, admonishes, and provides religious guidance to Nigerians. The operators use local languages, the English language, Pidgin English, a mixture of local and English languages, and a mixture of pidgin and local languages to convey the message they want to pass on.

Motorcycle and tricycle taxis started and developed to their present stage due to the inadequate transport system which was needed to be put in place by the authorities (Fasakin, 2002). This form of transport is accepted by the operators and commuters because it requires less capital to set up for the operator and affordable for the commuter, it adapts to developing countries' economic instability, and it suits the provision of transportation needed by commuters in the short and medium term without any governmental interference or support. Fasakin (ibid.) further states that with the acceptance illustrated by the urban populace of these motorcycle operators, authorities need to step up and recognise them, regulate them, protect them, and support them in this endeavour.

**Picture 8: Urban Road Transportation: Lagos, Nigeria**

<u>(Source:</u> Smallstarter Africa (2017)

Picture 8 illustrates the traffic congestion, the volume of passengers, and the multiple activities ongoing on an urban road in Lagos, Nigeria. The yellow buses and cars are the commercial paratransit. As stated by Ikioda (2016) some traders can be seen selling their wares in between the traffic and under the umbrellas on parts of the road which are supposed to be pedestrian paths. Also, Ogendi *et al.* (2013) discuss pedestrian space, safety and security, but, as illustrated in Picture 8 there is not even provision for the space needed for walking. However, Picture 9 overleaf illustrates another traffic congestion in Lagos but with no commuters spilling onto the road. Regarding the yellow buses in Picture 8, McCormick *et al.* (2013) state that similar buses operate in Nairobi, Kenya and they are laws unto themselves with no government regulation and have no regard for commuter comfort and welfare. However, their business system, mode of operations, strategic thinking, and self-regulation amongst the bus drivers is good and could be a model to be adopted by authorities for institutional and legal frameworks.

**Picture 9: Urban Road Transportation: Lagos, Nigeria**

<u>(Source:</u> Reuters (2016)

Similar to the scenario illustrated in Picture 8, Nwaneri and Twumasi (2003) stated that the town of Owerri (South-eastern Nigeria), became a State capital thus attracting rural-urban migrants. This congested the town, and roads were overrun by street hawkers and vendors causing traffic hold-ups. The population explosion gave rise to the use of motorcycles for public transport; these commercial motorcyclists drive dangerously with no regards for their passenger or anybody else's safety causing a high incidence of motorcycle accidents. This has led to the local hospitals having to create special wards for motorcycle accident victims. According to the authors, all these problems became compounded because the Owerri Capital Development Authority (OCDA) failed to review the master plan and update it in line with present data and circumstances. This points out another challenge facing the development of urban transportation in Nigeria which is the neglect of urban planning or poor implementation of laid down plans.

In March 2008, the first Bus Rapid Transit (BRT) in Sub-Saharan Africa was launched in Lagos (Mobereola, 2009). It provides Lagos commuters with a clean, affordable, and reliable means of getting around in the city. It is a bus-based mass transit system that delivers a fast, comfortable, and cost-effective service. As the commercial capital of Nigeria, and with a population of 9 million (2007), its roads are often extremely congested, partly because of the city's layout. There was no organized mass transit system in the city and public transport

services were of very poor quality and delivered mostly by individual bus operators. According to Mobereola (2009), a year since the system started, over 200,000 commuters use this bus system daily and passengers enjoy a reduction of 30% in average fares, a reduction of 40% in journey time, a reduction in average waiting time of 35%, and increased passenger safety on the bus and at bus stops. This has been made possible by the introduction of discipline in operations (route franchising), the increase in average speed (from less than 15 km/hour to 25 km/hour), and the creation of an enabling environment (investing in infrastructure needs). The BRT scheme was aimed at "delivering a transport system that will meet the needs of local users, while improving citizens' quality of life, economic efficiency, and safety within a clearly defined budget" (Mobereola, 2009: p. 1). There was not much appreciation from the private car users for the BRT because only 4% of BRT commuters stopped using their cars to use the new scheme. This is in comparison to the 85% who stopped using the minibuses for the BRT. The study speculated that private car owners prefer to use their cars because owning and using one's car is considered a social status symbol and to stop using the car would be a lowering of the status attained.

Nigerians are presently dependent on private vehicles for movement in urban centres due to the inadequacy of public transport; this causes congestion on the roads and carbon emissions that are harmful to the environment (Agarana, Bishop and Agboola, 2017). They stated that urban air pollution is on the rise across Sub-Saharan Africa due to the usage of fuel for transportation. Africa's contribution to the total global carbon emissions figures is the least but it is also rising sharply to alarming rates according to Agarana *et al*. (ibid.). The rise in carbon emissions is linked to the high dependence on road transport in Nigeria and means that fuel consumption in the sector consumes 80% of the total petroleum products of the country (Gujba, Mulugetta and Azapagic, 2013). 26 million litres of petrol and 4.2 million litres of diesel are sold daily across the country (ibid.). The consumption of petrol and diesel in the transport sector contributes 25.4 million tonnes of $CO_2$ or 50% of the national emissions and 99% of this is from road transport (ibid.). Gujba *et al.* concluded that it is not sustainable for Nigeria to continue for the next 20 years without controlling the impacts of road transport on the environment.

To understand the quantity of noise pollution, gaseous and particulate pollutants generated on Nigerian urban roads and the effects these have on the people, Osuntogun and Koku (2007) measured the air pollutants in the atmosphere in three cities – Lagos, Ibadan, and Ado-Ekiti. The findings illustrated that the pollutants (noise, gas, and particulate) generated at the study areas are all higher than the recommended national and international limits (Federal Ministry of Environment and World Health Organisation), and most of the

respondents complained of headaches, body pains, tiredness/weakness, coughs, and sleeplessness. All these complaints are symptoms of oxygen deprivation, bronchitis, and emphysema. While Osuntogun and Koku (ibid.) measured air pollutants in 3 cities, Akanni (2010) discovered that there are spatial and seasonal variations in the particulate pollutants (Lead, Cadmium, Copper, Chromium, Aluminium, Zinc, Arsenic, Mercury, Iron, Manganese, and Magnesium) concentration in Lagos metropolis on trees along traffic corridors during the short wet and short dry seasons of 2005 and 2006. He also found that air pollutants are higher along the traffic corridor than away from them, and the wet seasons have lower air pollutants than dry seasons due to the following: lower air temperature witnessed during the wet season (25.1 - 28.8°C), higher wind speed along the traffic corridors (3.0 - 9.1 m/min), rainfall washing away gathered pollutants deposited on roadside soils and trees and a decrease in traffic volume and transit time.

The preferred mode of transport for commuters and the state of roads in Oshogbo (population: 287,156 (2007), illustrated that 1.6% walk for their mobility, while 6.3%, 31.7%, 0.5%, 4.5%, 30.8%, and 24.9% use bicycle, motorcycle, tricycle, taxi, private car, and minibus, respectively (Adedotun, 2015). 49 kilometres is the total length of road surveyed in the city, 34.7% of the roads surveyed are made up of four lanes of dual carriageways, while the remaining 65.3% is made up of two lanes of single carriageway. 1,456 potholes were counted along the 49 kilometres with an average of 30 potholes per kilometre. The drainage systems on the roads are blocked or not adequate to carry the running water, hence eroding the roads. Road signs, streetlights and traffic lights are lacking, broken, or not functioning. A neglect of governmental duties by the bodies responsible is not peculiar to urban planning (Emeasoba, Ogbuefi and Enugu, 2013). They stated that roads in Nigeria are not adequately maintained, government officials prefer complete rehabilitation of the roads when they get dilapidated rather than routine maintenance works, and that the nation is dependent on roads for movement, hence, roads need to be looked after before the network collapses completely due to neglect.

Neighbourhood safety and security, physical activity and walking are issues faced by pedestrians and cyclists in some Nigerian cities as Oyeyemi *et al.* (2012) identified. It is noted that this type of study has never been done in the African environment. It was discovered that most people do not take a walk or engage in outdoor activities when they know that their neighbourhoods or certain neighbourhoods are unsafe for them. In addition, heavy traffic on the roads is a hindrance for cyclists and pedestrians because most of the roads do not have room for bicycles and pedestrians, or the pedestrian paths are washed away, or there is no buffer between the road and the pedestrian paths. The place where the study was undertaken,

Maiduguri, is a highly conservative society and this is reflected in the study when it was found that women do not go out on foot during the dark because it is expected of them to be indoors and be custodians of the home. Moreover, if the women are employed, they are likely to be at home before nightfall. They concluded that the feeling of being safe in a community is associated with one's health through physical activity, and that women were more concerned about neighbourhood safety than men. Their findings provide preliminary evidence on the need to provide environments which are traffic, and crime safe, thus making it easier for African adults to be physically active.

This mode of transport faces challenges that affect all the three aspects of sustainability – economic, environmental, and social. Some of the challenges faced in the provision of road transport in Nigeria is hereby identified. The identified challenges are those discussed by the literatures cited in this section of the thesis. These challenges are illustrated in the table below:

| Aspects of Sustainability | | |
|---|---|---|
| Economic | Environmental | Social |
| • Inadequate policy restrictions on importation of fully built vehicles which affects the market of local car manufacturers (Agbo, 2011)<br>• Car ownership is determined through:<br> ▪ Gross Domestic Product ("the higher the GDP, the higher the stock of vehicles" Ukonze *et al.* (2020a; p. 7),<br> ▪ per capita income ("when income increases, people will tend to be motivated to own or change vehicles" Ukonze *et al.* (2020a; p. 9),<br> ▪ fuel prices ("people are motivated to own vehicles when fuel prices are low" Ukonze *et al.* (2020a; pp. 9) | • Some of the imported vehicles are used cars, therefore, the carbon they emit might be over the approved limit (Agbo, 2011)<br>• More vehicles cause pollution, traffic congestion and a demand for more roads leading to a depletion of natural habitats and high exploitation of crude oil<br>• Increase in vehicle costs and traffic congestion creates more carbon emissions into the atmosphere<br>• Reduced vehicle productivity causes the vehicle to be abandoned when it breaks down especially when it cannot be recycled | • High rate of vehicle importation adds to the traffic congestion on the roads (Agbo, 2011);<br>• Importation of vehicles also slows down the transfer of knowledge from local car manufacturers to Nigerian schools and colleges<br>• Car ownership is determined through:<br> ▪ literacy level ("more literate people own more vehicles than less literate people" Ukonze *et al.* (2020a),<br> ▪ stock of public transport vehicles ("vehicle ownership increases with the growth in the stock of public transport vehicles" Ukonze *et al.* (2020a; p. 9).<br>• With more vehicles, most infrastructure provision will tilt |

- the urban transport system is largely an unregulated, small-scale market
- a reduction in vehicle productivity, loss of man-hours and increased vehicle operating costs (Federal Ministry of Transportation (Nigeria), 2010)

- Motorcyclists use their motorcycles for commercial transportation to earn a living (Mgbemena, 2013)
- unruly bus operators with no government regulation and no regard to commuter comfort and welfare but with a good business system, mode of operations, strategic thinking, and self-regulation (McCormick *et al.*, 2013)
- Person-hours spent in traffic reduces labour productivity

- Dependence on private vehicles for movement causes congestion on the roads and carbon emissions that are harmful to the environment (Agarana, Bishop and Agboola, 2017)
- Sub-Saharan Africa's contribution to the total global carbon emission figures is the least but it is also rising sharply to alarming rates (Agarana, Bishop and Agboola, 2017)
- Nigeria's fuel consumption in the road sector consumes 80% of the total petroleum products in the country (Gujba, Mulugetta and Azapagic, 2013)
- the consumption of petrol and diesel in the transport sector contributes 25.4 million tonnes of $CO_2$ or 50% of the national emissions (Gujba, Mulugetta and Azapagic, 2013)
- quantities of noise pollution, gaseous and particulate pollutants generated on Nigerian urban roads are higher than the national and international limits (Osuntogun and Koku, 2007)
- particulate pollutants (Lead, Cadmium, Copper, Chromium, Aluminium, Zinc, Arsenic, Mercury, Iron, Manganese, and Magnesium) from traffic gather on roadside soils and trees (Akanni, 2010)

- towards roads than other modes of transport.
- poorly regulated combination of para-transit modes consisting of shared taxis, mini-buses, motorcycles and tricycles (rickshaws);
- mobility is mostly dependent on private means due to an inadequate public transport system
- poorly maintained urban roads with inadequate pedestrian facilities, bus stops, public conveniences, road signage and directions (Emeasoba, Ogbuefi and Enugu, 2013)
- traffic congestion
- road safety equipment such as towing vehicles and traffic control devices are also inadequate (Federal Ministry of Transportation (Nigeria), 2010)

- Some parts of Nigeria allow the usage of motorcycles for public transportation together with other commercial vehicles
- However, they are being phased out because of criminal activities, reckless riding, high rate of accidents, and total disregard for law and order (Mgbemena, 2013)
- some traders can be seen selling their wares in between the traffic and under the umbrellas on parts of the road which are supposed to be pedestrian paths (Ikioda, 2016)
- safety and security of pedestrians is not guaranteed due to accidents when crossing the road and inadequate footpaths (Ogendi *et al.*, 2013; Oyeyemi *et al.*, 2012)
- due to issues of safety and security, walking at night in particular neighbourhoods is dangerous (Oyeyemi *et al.*, 2012)

| | | |
|---|---|---|
| | | <ul><li>high incidence of motorcycle accidents leads to local hospitals having to create special wards for motorcycle accident victims (Nwaneri and Twumasi, 2003)</li><li>Nigerians are presently dependent on private vehicles for movement in urban centres due to the inadequacy of public transport which causes congestion on the roads and carbon emissions that are harmful to the environment (Agarana, Bishop and Agboola, 2017)</li></ul> |

**Table 3: Sustainability Challenges in the Road Transport Sector of Nigeria**

## 2.4.2 Rail Transport

Nigeria has 4,018 kilometres of rail lines, which consists of 3,505 narrow gauge lines and 513 standard gauge lines. The narrow gauge lines were constructed between 1898 and 1964 while the standard gauge lines were constructed between 1987 and 2016 (National Planning Commission (Nigeria), 2015). The Nigerian rail lines are appropriate for hauling bulk loads over long distances and very suitable for goods transport to and from the hinterland. The main domestic railway lines are for both intra city and intercity movement, but the most appreciable lines are the inter States lines (which are all narrow gauge).

**Picture 10: Rail Rooftop Riders**

<u>(Source: </u>Oye Abioye, Kadom Shubber and Koenigsberger (2016)

As highlighted in the Draft National Transport Policy (2010) and National Integrated Infrastructure Master Plan (2015), Nigerian railways have been facing many challenges. These challenges include, but are not limited to, inadequate funding, government neglect, constant policy changes, and inadequate maintenance and expansion. Due to the decline in the efficiency, quality, and viability of rail transport in Nigeria, road transportation was boosted due to its flexibility and non- availability of other modes of transport for commuters.

As reported by the Railway Gazette (2016b), Nigeria commissioned its latest narrow gauge rail line between Abuja (the national capital) and Kaduna (187 kilometres away). Some major cities (Lagos, Port Harcourt, and Kano) have commenced the construction of their intracity metro rail to provide an alternative mode of transport for commuters (LAMATA, 2017; Transportation, 2018; Journal, 2016), while the Phase I of the Abuja rail metro line has commenced operations (Iroanusi, 2018). However, the Port Harcourt Monorail is facing a problem of abandonment by government (*THISDAY Newspapers*, 2016) whereby the Governor of Rivers State specifically stated that his administration would not be giving attention to the monorail project.

Views from the scholars and the public are diverse but they all agree on one thing, that the rail subsector is efficient, effective, affordable, and a huge integrator of the Nigerian nation since the country's existence (1914). Nevertheless, railways have faced years of neglect, and the government needs to do something to revive it. Siyanbola (2017) concluded that for

government to maximise the impact of railways within the nation they need to reform the subsector entirely. The reformation should encompass infrastructural, attitudinal, and financial considerations. In line with Siyanbola's analysis, Ajayi (2005) added that management inefficiency, corruption within mismanagement, and interference with management decisions from the Federal Ministry of Transportation are all problems faced by the Nigerian Railway Corporation (the organisation managing Nigerian railways) leading to its present state. Oye Abioye, Kadom Shubber and Koenigsberger (2016; p. 113) concludes that "political instability, policy inconsistencies, the myopic view of most of the urban and regional planners and insufficient knowledge about the needs of the populace" makes it understandable that only the involvement of the private sector can make rail transport viable in Nigeria.

Another view is brought into the challenges facing the rail subsector in Nigeria. Akwara, Udaw and Ezirim (2014) mention that Nigerian rail policy and plans are not balanced to serve the diverse tribes and ethnicities across the country. Their argument is that the colonialists constructed the Western and Eastern lines to transport goods, especially agricultural produce, from the hinterland to the coast for onward shipping to Europe. However, the Government of Nigeria needs to make plans to construct rail lines across the nooks and crannies of Nigeria to serve the minority tribes and ethnicities. They agreed that the present state of the railway needs to be modernised, reformed, and expanded but it needs to be inclusive.

Summarily, rail transport has been termed not commercially viable until new coaches, wagons and locomotives are provided, and operational efficiency increases before revenue can be obtained (Ademola, 2016). Recent newspaper reports illustrate the gradual rekindling of people's hopes for the railway and the socio-economic positives it brings to the nation. Voice of America (2016) and *THISDAY* Newspapers (2016) reported on the resumption of transportation of livestock on trains from the northern part of Nigeria to the south, making it safer, affordable, secure, and faster for the farmer, seller, and the end buyer. According to Lawal (2017), the trains also transport tomatoes from the north of Nigeria to the south, thus giving farmers an alternative mode of transport and market to sell their produce whereas, in past years, they might harvest more but could not sell all of it.

This mode of transport faces its challenges which affect all the three aspects of sustainability – economic, environmental, and social. Some of the challenges faced in the provision of rail transport in Nigeria are hereby identified. The identified challenges are those discussed by the literatures cited in this section of the thesis. These challenges are illustrated in the table overleaf:

| Aspects of Sustainability | | |
|---|---|---|
| **Economic** | **Environmental** | **Social** |
| • Nigerian rail lines are appropriate for hauling bulk loads over long distances and very suitable for goods transport to and from the hinterland<br>• They are inadequately funded (National Planning Commission (Nigeria), 2015). | • Neglect and lack of expansion of the existing rail system causes dependence on cars for transportation<br>• due to dependence on cars, fossil fuels are exploited for fuel and the emissions from these cars affect the atmosphere (Agarana, Bishop and Agboola, 2017; Gujba, Mulugetta and Azapagic, 2013) | • Railways face government neglect, constant policy changes, and inadequate maintenance and expansion (National Planning Commission (Nigeria), 2015)<br>• Nigerian rail policy and plans are not balanced to serve the diverse tribes and ethnicities across the country but are designed mainly to transport agricultural produce from the hinterland to the coast for onward shipping to Europe (Akwara, Udaw and Ezirim, 2014) |

**Table 4: Sustainability Challenges in the Rail Transport Sector of Nigeria**

### 2.4.3 Water Transport

Nigeria's water transportation is divided into two – port services, which handle international freight, and inland waterways, which manages the transportation going on in the waterways within Nigeria's borders. Nigeria has a coastline of approximately 853 kilometres facing the Atlantic Ocean (Nwilo and Badejo, 2006). The country operates six ports across Nigeria's coastline. Two of those ports are in Lagos (Apapa and Tin Can Island Ports), Port Harcourt (one port and six jetties), Warri and Calabar (two ports, one dockyard, four crude oil terminals, and six jetties), and Onne, (Nigerian Ports Authority, 2017b).

Nigeria has a large resource base of waterways spanning 10,000 kilometres; about 3,800 kilometres are navigable seasonally. Twenty-eight of the nation's 36 States can be accessed through water. Nigeria can also link five of its neighbouring countries – Benin Republic (Port Novo), Equatorial Guinea, Cameroon, Chad, and Niger Republic - by water. The Rivers Niger and Benue (and their tributaries) constitute the major channels for inland navigation. (Nigeria Inland Waterways Authority, 2018).

The National Planning Commission (Nigeria) (2015) highlighted the various challenges faced by the water transport subsector in Nigeria. These problems are operational, physical, and policy-based in nature.

- Operational problems consist of:
  - delays in cargo handling leading to high demurrage

- high tariffs
- excessive manpower
- capacity constraints as existing facilities cannot cope with the demand leading to congestions
- gross inefficiency
- inadequate river port infrastructure
- poor landward connection to river ports, and
- poor communication and navigational aids.
- Physical challenges for this mode of transport consist of:
  - high rate of sediment building up along the water channels and physical obstruction (wrecks, rock outcrops etc.).
- Policy challenges faced by the water transport subsector include:
  - weak interface between the ports' management and the inland waterways' management
  - poor government investment in infrastructure development
  - multiplicity of government agencies in the ports
  - lack of cargo rights from traffic generated by Nigeria's international trade, and
  - increasing competition from ports of neighbouring countries.

Other scholars further restate the above-cited issues. Chukwuma (2014) states that communities around the waterways are willing to utilise water transport but there is no provision for safe, secure, and accessible inland waterways. Thus, a good investment climate needs to be established by the government. Ekpo (2012) identified that quick discharge of consignments at ports and low implementation of the Cabotage Act hampers the full benefits to be derived from the maritime/water transport subsector. Igberi and Ogunniyi (2013) acknowledged that government interferences, inadequate and obsolete port facilities, damage and loss of cargo, lack of integrated and multimodal transport system at the ports, an inadequately skilled work force, and weaknesses identified in the implementation of the maritime/port reforms all contribute to the lapses in the operations of water transportation in the country.

Newspaper write-ups and reports also display the positives and negatives, the difficulties, the aspirations and the objectives of the water transport subsector in Nigeria. The *Hellenic Shipping News Worldwide* (2018) reported on the traffic gridlock that always occur on the road in and out of the Apapa Port (one of the Lagos Ports). Apapa Port is reputed to be the largest in Nigeria and it operates a 24-hour service (Nigerian Ports Authority, 2017a). As reported in the newspaper article, the rail line that comes into the Port "is hardly working".

In addition, funds for the development of indigenous shipping companies have not been disbursed to willing investors nor are the modalities and criteria for eligibility of getting the funds even provided to stakeholders. Furthermore, policy inconsistencies with customs and unions working in the maritime industry have also contributed to the slowing down of operations at the Ports.

Another article in the Nigerian *Guardian* Newspaper (2015) enumerated the desired actions needed to be undertaken by the government, maritime stakeholders, water transport experts, pressure groups, and the legislator, on how to move the maritime/water industry forward. These desired actions include –

- a unified maritime and port policy to be reviewed periodically by a standing stakeholder group
- constant interaction and enlightening of the legislative arm of government on the workings of the water transport subsector
- to ratify and domesticate international maritime treaties thoroughly, and
- to review the ongoing port concession agreements to address identified loopholes and ensure maritime safety within Nigeria's continental shelf.

Akinola (2017) lamented the inconsistencies in the actions of the government and the lack of political will to implement what will develop and nurture water transport in Nigeria.

Lastly, the *Premium Times* Online Newspaper (2017) and the *Daily Trust* Newspapers (2017) all reported on the ongoing court case between the Lagos State Government and the Federal Ministry of Mines and Steel Development (FMMSD), and the National Inland Waterways Authority (NIWA). The FMMSD and the NIWA licensed dredgers and other miners to dredge on inland waterways in the Lagos State area but the Lagos State Government went to court with a plea that the two Federal Government bodies do not have the legal basis for licensing and approving dredging in an intra state inland waterway.

Conclusively, water transportation in Nigeria is an area that is still not developed and needs the required attention for it to function. Thus, the stakeholders, led by the Federal Government, need to gather all the resources, political will, and expertise to provide this basic mode of transport to the people. As cited by Ekpo (2012)  and Chukwuma (2014) stated the problems, the solutions have been proffered, the ways to implement these solutions have been pointed out, all that is needed is the implementation.

This mode of transport faces challenges that affect all the three aspects of sustainability – economic, environmental, and social. Some of the challenges faced in the provision of water transport in Nigeria are hereby identified. The identified challenges are those discussed by the literatures cited in this section of the thesis These challenges are illustrated in the table below:

| Aspects of Sustainability | | |
|---|---|---|
| Economic | Environmental | Social |
| <ul><li>delays in cargo handling leading to high demurrage</li><li>high tariffs</li><li>poor government investment in infrastructure development</li><li>lack of cargo rights from traffic generated by Nigeria's international trade</li><li>increasing competition from ports of neighbouring countries (National Planning Commission (Nigeria), 2015)</li><li>low implementation of the Cabotage Act (Ekpo, 2012)</li><li>weaknesses identified in the implementation of the maritime/port reforms (Igberi and Ogunniyi, 2013)</li></ul> | <ul><li>inadequate river port infrastructure</li><li>poor landward connection to river ports</li><li>high rate of sediment building up along the water channels and physical obstruction (wrecks, rock outcrops etc.) (National Planning Commission (Nigeria), 2015)</li><li>lack of an integrated and multimodal transport system at the ports (Igberi and Ogunniyi, 2013)</li></ul> | <ul><li>capacity constraints, as existing facilities cannot cope with the demand leading to congestions</li><li>gross inefficiency</li><li>inadequate river port infrastructure</li><li>poor landward connection to river ports</li><li>poor communication and navigational aids</li><li>weak interface between the ports' management and the inland waterways' management</li><li>multiplicity of government agencies in the ports</li><li>increasing competition from ports of neighbouring countries (National Planning Commission (Nigeria), 2015)</li><li>communities around the waterways are willing to utilise water transport but there is no provision for safe, secure, and accessible inland waterways (Chukwuma, 2014)</li><li>lack of integrated and multimodal transport systems at the ports</li><li>inadequately skilled work force (Igberi and Ogunniyi, 2013)</li></ul> |

**Table 5: Sustainability Challenges in the Water Transport Sector of Nigeria**

## 2.4.4 Air Transport

Nigeria operates six international airports, twenty six domestic airports, and thirteen airstrips (Federal Airports Authority of Nigeria, 2016b). In 2013, there was a passenger movement of 15,274,833 across the nation's airports for both local and international

passengers, with 275,827 aircraft movements. The passenger movement and aircraft movement for 2014 and 2015 were 15,722,423/258,264 and 15,092,478/249,241, respectively (Federal Airports Authority of Nigeria, 2016a). The Murtala Muhammad International Airport, Lagos recorded the highest statistics, with 36.5% of domestic passengers and 69.2% of international passengers (National Bureau of Statistics (Nigeria), 2016).

Presently, the deregulation of the air transport subsector is in effect, with privately run commercial airlines operating locally and internationally, and the concession of some airport and allied services to the private sector. As at November 2015, there are thirty airlines having licenses to operate in Nigeria, with two declared "inactive" and "expired" by the authorities (Nigerian Civil Aviation Authority, 2018). These licenced airlines have varied licences, which consist of passenger airlines (local and international), charter airlines, helicopter operations, organisational owned airlines, and ambulance services.

According to Phillip Consulting (2015), the aviation industry supports 254,500 jobs in Nigeria and contributes US$940 million (N184.7 billion) to national GDP. 49% of this sum (that is, US$462 million or N90.8 billion) is a direct output of the aviation sector (via airports, airlines and ground services), while the remainder is acquired indirectly (via the supply chain). An additional US$464 million (N91.2 billion) is derived from tourism, which raises the overall contribution to US$1.4 billion (N275.9 billion). In 2010, aviation contributed about 0.4% of the overall GDP in Nigeria.

The air transport subsector, as with the other modes of transportation in Nigeria, has its own challenges. Some of these issues faced by the aviation in Nigeria are (but not limited to):

- airports' navigational aids and air traffic control facilities are inadequate and, in some cases, obsolete
- due to the high fixed cost in the running of the airports and the relatively low income the airports generate, not all the airports operate at a commercial self-sufficiency
- the need to improve management practices, raise the quality of policy initiatives and ensure a more friendly investment environment; and
- manpower development and training on equipment handling and maintenance (National Planning Commission (Nigeria), 2015; Federal Ministry of Transportation (Nigeria), 2010).

The above-stated challenges are further elaborated by other scholars in the aviation sector, and they have summarily stated that the policy direction of government is positive, but the pace and implementation strategy are negative to the nation. Adeniyi and Cmilt (2011)

conclude that the deregulation and concession implemented in the aviation industry has made the subsector grow with an unprecedented speed but that more needs to be done to improve upon these developments. Areas that need addressing include inadequate flight information and poor address systems at the airports, poor customer relations by the airlines, security risks at the airports, an upgrade of air navigation and equipment, and reform in the aviation regulatory bodies to strengthen their enforcement and regulations.

Adeola and Adebiyi (2014) studied the service quality and customer satisfaction of air transport users in Nigeria and concluded that the "Nigerian airline industry seems to be losing out since passengers complain about not been fully satisfied, patronizing the same airline because they have no choice instead of choosing an airline cause of its fine qualities. Thus, the Nigerian airline industry should improve on their operations to attract more passengers" (p.79). Furthermore, Ladan (2012) states that an absence of coherent air transport policy, bad management of airlines, decaying airport facilities, loose airport security, long periods of airport closure for repairs and refurbishment, and intermittent crashes, bring about a poor picture of Nigeria's aviation industry. While Ladan is of the opinion that an absence of an air transport policy is one of the problems facing the industry, Aderamo (2010) states that the subsector has a good policy/plan but it is not implemented as it should be. He noted that there is demand for air transport in Nigeria, the skilled manpower needed for the aviation industry is available, and that the private sector is willing to work with the government to make the subsector vibrant, but government is not providing a conducive environment for the development of aviation in the country.

This mode of transport faces its challenges that affect all the three aspects of sustainability – economic, environmental, and social. Some of the challenges faced in the provision of air transport in Nigeria are hereby identified. The identified challenges are those discussed by the literatures cited in this section of the thesis These challenges are illustrated in the table overleaf:

| Aspects of Sustainability | | |
|---|---|---|
| **Economic** | **Environmental** | **Social** |
| • due to high fixed costs in the running of the airports and the relatively low income the airports generate, not all the airports operate at a commercial self-sufficiency<br><br>• the need to improve management practices, raise the quality of policy initiatives and ensure a more friendly investment environment (National Planning Commission (Nigeria), 2015) | • airports' navigational aids and air traffic control facilities are inadequate and, in some cases, obsolete (National Planning Commission (Nigeria), 2015) | • manpower development and training on equipment handling and maintenance<br><br>• inadequate flight information and poor address system at the airports<br><br>• poor customer relations by the airlines<br><br>• security risks at the airports<br><br>• reform in the aviation regulatory bodies to strengthen their enforcement and regulations (National Planning Commission (Nigeria), 2015)<br><br>• absence of a coherent air transport policy<br><br>• long periods of airport closure for repairs and refurbishment (Ladan, 2012) |

**Table 6: Sustainability Challenges in the Air Transport Sector of Nigeria**

## 2.5 Conceptual Framework

In conclusion of the research conducted thus far, a conceptual framework of the urban road transport system in Abuja and its central challenges is presented in Figure 2 below (The Conceptual framework of the earlier submission illustrated as Chart 3 is now Figure 2). The challenges have been derived from the literature, to understand the relationship between social sustainability themes of this research (social inclusion and stakeholder participation in decision-making), the transport themes applicable to social sustainability, and the challenges identified by the literatures cited in this literature review chapter. This illustration (Figure 2) provided a summary of what has been identified as the problems so far (column titled "Challenges"), and how these problems is linked to Social Sustainability in Transport (SST) (column titled Social Sustainability in Transport Themes), and to the concept of Social Sustainability as a whole (column titled Social Sustainability Themes).

| S/No | Challenges | Social Sustainability in Transport Themes | Social Sustainability Themes |
|---|---|---|---|
| 1 | Inadequate/non-existent bicycle lanes (Aliyu, 2016) | Non-Motorised Transport: | Social Inclusion |
| 2 | Inadequate/non-existent footpaths, unpaved streets and pavements (Razak, 2016) | | |

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| | | walking, cycling, wheelchairs, crutches, baby prams, etc. | |
|---|---|---|---|
| 3 | Low integration of transport and land use (Tini and Muhammad, 2018) | Access to transport | |
| 4 | Inadequate funding for infrastructure (Federal Ministry of Transportation (Nigeria), 2010) | | |
| 5 | Poor harmonisation of land use plan and population growth (Usman, Sanusi and Musa, 2017) | | |
| 6 | Informal and poorly regulated informal transport system (Razak, 2016; Federal Ministry of Transportation (Nigeria), 2010) | | |
| 7 | Inadequate finance for public transport operators (Federal Ministry of Transportation (Nigeria), 2010) | | |
| 8 | Traffic congestion (Gbadamosi and Adenigbo, 2017) | | |
| 9 | Poorly maintained urban roads (Federal Ministry of Transportation (Nigeria), 2010) | | |
| 10 | Needs of women (Porter, 2008; ActionAid, 2016), children (Porter, 2010; Oyeyemi *et al.*, 2014) and disabled neglected | | |
| 11 | Social norms and stigma hinder women's mobility (ActionAid, 2016; Porter, 2008) | | |
| 12 | Unsafe buses, taxis (Usani, 2005) & rickshaws (Bassey and Swomen, 2012; Dayyabu *et al.*, 2019) | | |
| 13 | Women & children do not go out at certain times for their safety (Oviedo Hernandez and Titheridge, 2016; Oyeyemi *et al.*, 2012) | | |
| 14 | High cost of transport (Venter, 2011; Olojede, Yoade and Olufemi, 2017) | | |
| 15 | Dependence on Non-Motorised Transport (Porter, 2007; Salon and Aligula, 2012) | | |
| 16 | Policy bias towards road transport (Porter, 2007; Agbo, 2011) | | |
| 17 | Inadequate/non-existent bicycle lanes (Aliyu, 2016) | | |
| 18 | Inadequate/non-existent footpaths, unpaved streets and pavements (Razak, 2016) | | |
| 19 | Uneven transport infrastructure and system across the urban area (Nwankwo and Barimoda, 2019; Oluwole, 2017) | | |
| 20 | Noise from traffic (Osuntogun and Koku, 2007) | Motorised Transport: cars, buses, lorries, tricycles, motorcycles, etc. | Social Inclusion |
| 21 | Poorly maintained buses and taxis (Nwachukwu, 2014) | | |
| 22 | Minimarkets on roads (Ikioda, 2016) | | |
| 23 | Breaking of traffic laws by unruly drivers (Ibitayo, 2012) | | |
| 24 | Dependence on private cars (Razak, 2016) | | |
| 25 | Carbon emissions from traffic (Gujba, Mulugetta and Azapagic, 2013; Agarana, Bishop and Agboola, 2017) | | |
| 26 | Traffic congestion (Gbadamosi and Adenigbo, 2017) | | |
| 27 | High accident rates (Mgbemena, 2013; Ogendi *et al.*, 2013; Nwaneri and Twumasi, 2003) | | |
| 28 | Having a car is a status symbol (Badmus *et al.*, 2012) | | |
| 29 | Poorly maintained urban roads (Federal Ministry of Transportation (Nigeria), 2010) | | |
| 30 | High population (National Population Commission (Nigeria), 2007) | Provision of transportation for all types of road users | |
| 31 | Poor coordination between transport operators (Federal Ministry of Transportation (Nigeria), 2010; Ibitayo, 2012) | | |
| 32 | Poor quality of service (Olvera, Plat and Pochet, 2013; Nwachukwu, 2014) | | |
| 33 | Inadequate communal and commuter data (Satterthwaite, 2017; Solomon, 2002) | | |
| 34 | Uneven transport infrastructure and system across the urban area (Nwankwo and Barimoda, 2019; Oluwole, 2017) | | |
| 35 | Poverty (Olvera, Plat and Pochet, 2013; Titheridge *et al.*, 2014) | Transport affordability | |
| 36 | High cost of transport (Venter, 2011; Olojede, Yoade and Olufemi, 2017) | | |
| 37 | Dependence on Non-Motorised Transport (Porter, 2007; Salon and Aligula, 2012) | | |
| 38 | Walking is for its affordability not for its health benefit (Olojede, Yoade and Olufemi, 2017; Porter, 2007) | | |

| 39 | Unsafe buses, taxis & rickshaws (Usani, 2005; Bassey and Swomen, 2012; Dayyabu *et al.*, 2019) | Safety and Security of road users | |
|---|---|---|---|
| 40 | Women & children do not go out at certain times for their safety (Oviedo Hernandez and Titheridge, 2016; Oyeyemi *et al.*, 2012) | | |
| 41 | Low integration of the multimodal transport system (Federal Ministry of Transportation (Nigeria), 2010) | Integrated Multi-Modal Transport System | |
| 42 | Policy bias towards road transport (Porter, 2007; Agbo, 2011) | | |
| 43 | Poor understanding of transport and planning policies (Victor, 2012; Wood, 1996) | Participation and engagement | Stakeholder participation in decision-making |
| 44 | Inadequate participation and engagement (Dyachia *et al.*, 2017; Aprioku, 1998) | | |
| 45 | Top-down approach to transport governance (Lucas and Stanley, 2013; Shaw, Knowles and Docherty, 2008) | | |
| 46 | Needs of women (Porter, 2008; ActionAid, 2016), children (Porter, 2010; Oyeyemi *et al.*, 2014) and disabled neglected (Porter, 2007; Dayyabu *et al.*, 2019) | | |
| 47 | Social norms and stigma hinder women's mobility (Porter, 2008; ActionAid, 2016) | | |
| 48 | Poor feedback mechanism from commuters to public transport operators and government (Nwankwo, Fawohunre and Obasanjo, 2016; Nwachukwu, 2014) | | |
| 49 | Poor coordination between transport operators (Federal Ministry of Transportation (Nigeria), 2010; Ibitayo, 2012) | | |
| 50 | Inadequate communal and commuter data (Satterthwaite, 2017; Solomon, 2002) | | |
| 51 | Inadequate regulation of transport systems (Federal Ministry of Transportation (Nigeria), 2010; Lucas, 2011) | Transport Governance | Stakeholder participation in decision-making |
| 52 | Low integration of transport and land use (Tini and Muhammad, 2018) | | |
| 53 | Inadequate funding for infrastructure (Federal Ministry of Transportation (Nigeria), 2010) | | |
| 54 | Dependence on imported cars slows down transfer of knowledge (Agbo, 2011) | | |
| 55 | Inadequate enforcement of planning laws (Obia, 2016; Ejaro and Abubakar, 2013) | | |
| 56 | Poor harmonisation of land use plan and population growth (Usman, Sanusi and Musa, 2017) | | |
| 57 | Informal and poorly regulated informal transport system (Federal Ministry of Transportation (Nigeria), 2010; Razak, 2016) | | |
| 58 | Inadequate finance for public transport operators (Federal Ministry of Transportation (Nigeria), 2010) | | |
| 59 | Inadequate ICT infrastructure to encourage working from home (Kenyon, Lyons and Rafferty, 2002; Porter and Turner, 2019) | | |
| 60 | High rate of vehicle importation (Agbo, 2011) | | |

**Research Questions:**

Are the people of Abuja acquainted with government plans and strategies on road transportation in the metropolis?

Did they participate in the planning and implementation of the present urban road transport policy and the future ones?

**Figure 2: Conceptual Framework of Urban Road Transport after Literature Review**

Apart from the social sustainability themes identified by Weingaertner and Moberg (2014), practical situations that affect the commuter are identified in the literatures discussed in Section 2.3. Therefore, the framework illustrated in Figure 2 illustrates the challenges faced by the commuter when travelling. These identified challenges – the social sustainability in transport – are grouped to illustrate how it connects to the two themes of this research, which are social inclusion and stakeholder participation in decision-making.

The framework illustrates that some of the challenges identified are not unique to one of the SSTs, but they do overlap. For example, the challenge of needs of women, children and disabled being neglected is an SST problem applicable to access to transport which is a social inclusion problem from a social sustainability perspective. However, it is also an SST problem applicable to participation and engagement, which is a stakeholder participation in decision-making problem from a social sustainability perspective. This illustrates the linkage from the practical problems in the urban areas and how they connect to social sustainability as a whole and to the research questions.

Some of the challenges are already identified by more than one literature. Challenges like informal and poorly regulated informal transport system (Razak, 2016; Federal Ministry of Transportation (Nigeria), 2010), needs of women (Porter, 2008; ActionAid, 2016), children (Porter, 2010; Oyeyemi *et al*., 2014) and the disabled are neglected, high cost of transport (Venter, 2011; Olojede, Yoade and Olufemi, 2017), and top-down approach to transport governance (Lucas and Stanley, 2013; Shaw, Knowles and Docherty, 2008) are all challenges acknowledged by these cited literatures. Some of the cited literatures are unique to Abuja (Razak, 2016), unique to other parts of Nigeria (Federal Ministry of Transportation, 2010; Oyeyemi *et al*., 2014) unique to Africa (Porter 2008; Porter, 2010), and other parts of the world (Shaw, Knowles and Docherty, 2008; ActionAid, 2016).

These challenges are what guides the methods of this research which is to understand the views of the users (commuters, transport operators) of road transport in Abuja and the city authorities (transport administrators, planners, road safety officials). Understanding the transport needs of different social groups (Porter, 2007; Porter, 2008; Porter, 2010; Oyeyemi *et al*., 2014; ActionAid, 2016; and Dayyabu *et al*., 2019) necessitated including the socio-economic (gender, occupation, level of education) background of the commuter responses of this research, and the analysis of this research data by social groups to understand their experience of the city transport system. Also, challenges of transport planning, provision, and administration identified by Lucas & Stanley (2013) and Shaw, Knowles & Docherty (2008) – top-down approach to transport governance – Porter (2007) and Agbo (2011) – policy bias

towards road transport) – Solomon (2002) and Satterthwaite (2017) – inadequate communal and commuter data) – and Oluwole (2017) and Nwankwo & Barimoda (2019) – uneven transport infrastructure and system across the urban area – all recommended the research to gather data on the present situation in an area and the long-term plans of the transport system and how sustainable it is for the city.

Additionally, urban planning problems and road user safety affects the provision of transport in an urban area. For urban planning, these problems include poor harmonisation of land use plan and population growth (Usman, Sanusi and Musa, 2017) and low integration of transport and land use (Tini and Muhammad, 2018). While for road user safety, its challenges include unsafe buses, taxis & rickshaws (Usani, 2005; Bassey & Swomen, 2012; Dayyabu *et al.*, 2019) and women & children do not go out at certain times for their safety (Oviedo Hernandez and Titheridge, 2016; Oyeyemi *et al.*, 2012).

As stated earlier, some of these challenges listed in Figure 2 do overlap when aligning with the SST themes. These themes are:
- non-motorised transport,
- access to transport,
- provision of transportation for all types of road users,
- transport affordability,
- safety and security of road users,
- integrated multi-modal transport system,
- participation and engagement, and
- transport governance.

Therefore, planning and providing for transport infrastructure and facilities holistically with these themes in consideration will be foundation for the achievement of a socially sustainable transport system in an urban area. The conceptual framework in Figure 2 is completed by illustrating that all the challenges identified are issues that are found when trying to answer this research questions.

## 2.6 Distinctions and Comparisons of Social Sustainable Transport (SST) in Africa and the Global North
To conclude this Chapter, from the various cited literatures in Sections 2.3 and 2.4, a table identifying the social sustainability in transport that can work in the Global North but

cannot work "as is" in Africa will be highlighted. The reasons for this not working in Africa will also be stated.

Sections 2.3 and 2.4 discuss SST around the world and the challenges and successes from these locations. Therefore, the ongoing socio-technical transitions driven by finding sustainable solutions to transport problems which do not have a negative impact on the local and international community is the contemporary issue that is continuously being deliberated upon. Apart from illustrating the distinctions between the advancement in other parts of the world and Africa, it is also an avenue to mention what can be achieved when the required political will, development, and resources are available for Africa. The experiences of the cited societies are an advantage for Africa to adapt and localise in their transport policy documents. Nevertheless, African authorities need to understand that putting these sustainable transport systems in policy documents is not enough; implementing the policies is the aim.

In Abuja's case, however, it is a matter of providing a regulated, efficient, and effective bus system, providing the required number of buses, patient and orderly bus drivers and conductors, paying cash and getting the cash balance (if any), orderly conduct during boarding and alighting by commuters, and having dedicated bus lanes. The city is undergoing construction in phases because of its unique way of existence and development, but it remains to be seen if the city authorities will start adopting these contemporary socio-technological advancements in the Abuja masterplan when the funds for the provision of the completion of the second phase of the city are not adequate. It is true that the policy documents are illustrating that the authorities are thinking along these lines, but the policies have not been approved yet. Still, the Abuja city authorities also need to think about the roadside pavements needed for wheelchairs, children's prams, and people with wheeled luggage who are dependent on public transport and the platform or ramp they might need when entering these buses. Furthermore, access to the public transport is something to think about by the authorities.

The Nigerian Senate decided not to pass a bill seeking to phase out petrol cars by 2035 (Busari, 2019) while the Global North have targeted dates for phasing out fossil fuel cars (*British Broadcasting Corporation*, 2017e; *British Broadcasting Corporation*, 2017b). Provision of high capacity buses containing 40 – 53 seats are to be used for intra and intercity service and 200-seater buses for congested external routes (Dahiru, 2006) but no mention is made of their environmental friendliness. In Preston, Lancashire, the buses are environmentally friendly (Preston Bus, 2019). Information and Communication Technology in public transport services is unavailable in Abuja, Nigeria but real-time passenger information systems and

cashless payment systems by commuters are the norm in large parts of the Global North (Preston Bus, 2019). Evaluating bus operators' service provision is not regular in Abuja (from research data) whereas, in the Global North, evaluating performance and operational strategies in bus transport is key (López, Ruíz-Benítez and Vargas-Machuca, 2019). There is no plan for driverless cars and the infrastructure for autonomous and smart cars are not readily available. While driverless cars are being developed, this should make commuting more relaxing, productive, and less stressful (Wadud and Huda, 2019), and autonomous and smart cars will cause car ownership to increase and public transport usage to reduce (Mayfield and Punzo, 2019).

In Abuja, there are plans for sustainable urban road transport transitions, but this plan has not been implemented, therefore, there is no "advancement" in the sector. In contrast, in the western world some researchers are recommending the slowing down of advancement that is presently ongoing in the urban road transport sector for reflection (Rajendran, 2019). There are no car-free zones in Nigeria, there is no plan for reclaiming space for pedestrians, and not all the roads have pedestrian paths nor cycle lanes. Yet, as in some parts of the world, Kingston and Acheampong (2019) believe that urban "authorities can reduce people's dependence on cars, and reclaim space for pedestrians, cyclists and public transport" (ibid.; para. 4) by introducing car-free zones and charges, providing public transport alternatives, and reshaping the city "to offer people the opportunity to live closer to shops, employment and recreation, thereby promoting "active" travel such as walking and cycling" (ibid.: para. 12).

There are no electronic cars in Nigeria because there is no regulation nor infrastructure to support them. In Norway, owners of electronic cars do not pay Value Added Tax (VAT) on their cars, they do not pay any type of tax imposed on gas and diesel vehicles, and they get discounts on parking, toll roads and ferries (Williams, 2019). And in Austria, electric cars are exempted from speed limits on particular roads because of the zero emission they emit into the atmosphere (Kasper and Jirak, 2019). For an integrated multi-modal transport system, "available transport infrastructure and services are underdeveloped and the physical networks badly integrated" (Okyere *et al.*, 2019; p. 169); informal modes (paratransit, motorcycle taxis, tricycles) need to be included (Godard, 2013) in a system that is poor in institutional governance, policy development and implementation (Porter, 2007); can be proposed in policy documents but not implemented (Federal Ministry of Transportation (Nigeria), 2010; National Planning Commission (Nigeria), 2015). Furthermore, in some parts of the Global North multi-modal transportation have integrated institutions, networks, stations, user information, and fare payment systems (Litman, 2017).

In terms of transport safety and security, Action Aid (ActionAid, 2016) stated that women in Nigeria are sexually harassed in overcrowded buses when alighting or boarding, and unreliable bus schedules subject them to long waiting times at bus stops exposing them to criminals; there is also exposure of commuters to road accidents while using non-motorised transport due to the overall dependence on road transport (Salon and Aligula, 2012); commuters make their own transport arrangement with familiar transport operators and know what times the neighbourhood is safe (Oviedo Hernandez and Titheridge, 2016). However, in some parts of the Western world, setting up an Integrated Transport Safety System to record transport safety incidents (Żukowska and Krystek, 2012), usage of CCTV cameras in bus and train stations and on board buses and trains together with constant sensitisation on safety and security in transport stations are the usual activity for transport administrators.

Rural-urban migration increases urbanisation and poverty (Vanderschueren, Wegelin and Wekwete, 1996) resulting to people living in slums and peripheries of the cities which affects the land use of the city. This also affects the transportation of the people. That is, the poor who have no option but to walk, those who can afford only the minibuses in the city, and those who can afford to buy a car for mobility (Salon and Aligula, 2012); poverty thus hinders the poor to access and pursue their socio-economic development (Olvera, Plat and Pochet, 2013). Based on the work of Lucas *et al.* (2016) transport poverty can happen to anyone who faces the criteria that define transport poverty. However, for the developed countries, transport subsidies to vulnerable people, Motability allowances for the disabled, and benefits to the people helps cushion the effects of transport poverty for some of the populace. Action Aid (ActionAid, 2016) stated, women (especially pregnant women) and the elderly are not provided with adequate seats in buses, they are sexually harassed in overcrowded buses when alighting or boarding, and unreliable bus schedules subject them to long waiting times at bus stops. Thynell (2016) believes that the local understanding of what women need for their mobility should be encouraged, and local authorities need to include more women in their participatory and engagement processes for an inclusive transport system. Strong enforcement of harassment laws, designated seats for the pregnant and elderly, timed bus and train schedules (not always though), and access to instant reporting of incidents helps women commuters.

In Africa, young people are also excluded in planning for transportation due to parents who are fearful of young girls being abused and exploited when running errands within the neighbourhood for their mothers, and boys being also vulnerable as they are the ones to throw the bins out and go to the local shops and markets for the family (this stems from the communal nature of African societies) and travelling to and from school (Porter, 2010). While

in the developed societies school children are provided with buses to convey them to and from school, there are "low levels of active transport and physical activity among children in their neighbourhood are associated with lack of perceived neighbourhood safety" (Carver, Timperio and Crawford, 2008; p. 224). Also, because of the increase in traffic and the perceived danger it portends to children, parents restrict children's movements and chauffeur them when they need to go out, Evers et al., 2014; Porter, 2007; and Anciaes, 2018 pointed out that African countries do not plan for non-motorised transport and the disabled when planning for transportation. Roads are not paved, buses are not accessible for the disabled and bicycle lanes are not provided. By comparison, in some Global North societies, roads are paved to provide paths for non-motorised transport, wheelchairs have access to buses and trains, and they can be stored on board, as can bicycles.

Governance in transportation is the structure, direction, decision, and position of government with regards to transport in a country (Shaw, Knowles and Docherty, 2008); policy directions are developed in line with local scenarios (Federal Ministry of Transportation (Nigeria), 2010) but might not be implemented fully (Busari, 2019); policy documents are developed but implementation is often inconsistent (Ibitayo, 2012). Philip and Peter (2013) state that policy development and implementation is an elitist (policy makers) decision-making process seen as doing a kind and helpful act for the citizens. This elitist decision-making process has removed the potential for citizens to have influence (agency) over decisions; communities having ownership and implementing bottom-up decision-making of urban plans and programmes is also of great importance (Ogu, 2002). In the Global North, however, transport policies and governance are abided by (Wood, 1996; Shaw, Knowles and Docherty, 2008). In terms of priorities, Nwankwo, Fawohunre and Obasanjo (2016) noted that commuters in Abuja prefer:

- improvement in existing public transport services,
- building of new public transport infrastructure, and
- construction of new roads (in that order).

Orndoff (2003) believes that transport priorities should be customer focussed, centred on what the customer needs. In Norway, Şimşekoğlu, Nordfjærn and Rundmo (2015b) state that priorities of convenience, safety and security, and favourable attitudes towards public transport use were positive predictors of intentions to use public transportation. However, believes that transport priorities are tilted towards what the wealthy want (rail services) and not what the public needs (bus services).

Additionally, not every transport policy or project from the Global North should be adopted by developing countries (Lucas and Porter, 2016). An example is the usage of tricycles and motorcycle taxis and the recommendations for them to be integrated into the local transport policies because they are filling a gap in the transport system, and they are a means of livelihood for the operators (Anciaes, 2018). The usage of bus conductors on BRT buses in Abuja who call out bus destinations (Nigerian Times Blogpost, 2017) and collect transport fares from commuters is another example found in Africa only. In the Global North, however, they make policy pronouncements, implementation strategies, and targets, and endeavour to achieve them (United Nations Framework Convention on Climate Change, 2015). However, some countries might opt not to join these agreements or pull out of them entirely.

These issues being pointed out here are questions that need to be answered by the authorities, both at city level and at national level. The Nigerian authorities are making these policy pronouncements at national and sub-national levels; sometimes the people know about these policy pronouncements sometimes they do not. People go out every day to pursue their daily activities, and the pursuance of these activities are dependent on the infrastructure and systems that are to be provided by the government at all levels of governance. However, that is not often the case. Government needs to be making policy pronouncements that they can fulfil and, if they cannot be fulfilled as proposed, reasons should be given to the citizens. Furthermore, in a country that is dependent on revenue from crude oil, it is expected that government should make policies that would not cause it to lose its main source of revenue but, rather, find ways to boost it. However, the draft national transportation policy is proposing a reduction in fossil fuel in transportation because one of the policy's goals is to develop an "environmentally sound transport system" (Federal Ministry of Transportation (Nigeria), 2010; p. 6).

## 2.7 Conclusion

In view of the literature reviewed in this Chapter, some gaps and findings have been identified to illustrate the issues facing the road transport system in Abuja from the point of view of social sustainability. These gaps and issues are diverse and sometimes unique to Abuja. They range from poor policy implementation and direction of urban transport policies to people's attitudes to infrastructure and facilities provided for their mobility comfort. Others are a lack of understanding of welfare provision from the point of view of the people to the nonchalant provision of the infrastructure needed for people movement by the authorities. Lastly, there is inadequate provision and planning for the increasing population in the city and the increase in demand for transport infrastructure.

All these findings are being experienced due to matters involving one organisation (amongst the multitude of organisations that are administering the city) making decisions that affect everyone in the city and not liaising with other organisations (or Departments), or not doing anything at all until things get out of hand. Also, these problems are not between or amongst government bodies only, it is also between the government and the people. That is, authorities are not adequately listening to the people. It is true that the city has its own masterplan produced 40 years ago but, due to population increase, due to more enlightenment than in past years, due to democracy and the concept of participatory governance, it is advantageous for the people to have a say on the decisions that affect their welfare. Therefore, the age of government making decisions based on numerical data and expert advice only is over, the age of making decisions on people's well-being through listening to them and what they need is here. The earlier decision makers understand this, the better for everyone.

There is a significant overlap of important issues associated with the concepts of stakeholder and citizen engagement and social inclusion, as the preceding review articulates. These issues can be made known to the transport planners, administrators, and operators if there is a robust and transparent stakeholder engagement process before any policy decision is made. This engagement needs to be continued during the implementation stage of the policy, programme, or project. Through these engagements, authorities will come to understand the diverse views of individuals, groups, or communities; these entities tend to call on everyone who has a point to make to bring forward these points for an all-encompassing and acceptable programme and project for the people. These views, presented by individuals or as a group representing diverse interests, if they can collate them, will form the basis and direction of any transport programme to be undertaken by the authorities for the welfare of the people. These opinions are to be all-inclusive. To achieve an all-inclusive, all-encompassing, and robust citizen engagement, a defined timeframe for engagement is to be agreed, stakeholders are to be consulted. Furthermore, how they would be consulted, and the feedback for the consultation, should be defined to ensure accountability, transparency, and understanding in the whole process.

# CHAPTER 3: RESEARCH METHODOLOGY

## 3.1 Introduction

Cohen (2011) stated how humans started questioning phenomena around them. He stated that, following the limitations of tools and knowledge to ask questions and find answers, humans resorted to using common sense to answer phenomena that they do not understand. Cohen summed it up as the search for truth. It should then be asked what is research? As simply put, research is the "means by which we set out to discover truth" (Cohen, 2011, p. 4). Cohen further quoted Kerlinger (1966) where he defined research "as the systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena" (Cohen, 2011, p. 4). Collis and Hussey (2003) elaborated that research is the avenue whereby an existing problem can be solved, new theories can be found, and new things can be proffered following the results of previous research. Collins and Hussey also stated that research has a set of rules that are followed by researchers for how to do the research, modalities for the research, and how to present one's results, thereby protecting the research from the researchers' views or unempirical evidence.

Following the above definitions of what philosophy and research mean, what then is research philosophy? Carson *et al.* (2001, p. 2) stated that research philosophy is "to understand the philosophy that underpins the choices and decisions to be made in staking a research position". They explained that the concept of research philosophy is to outline the basic scientific tools that are available for researchers to carry out the research. These tools are at the stage of presenting what the research intends to achieve (objectives), the research questions, and research hypothesis. At the other stage of the research is where scientific tools are to be used are at data gathering, data analysis, and presentation of results stages, respectively.

As defined by the various definitions of the terms - philosophy and research, while philosophy is the ability to question 'what if' and the 'so what' question, research is the tool to use to address these questions that philosophy is asking. Therefore, research philosophy is the decision, direction, and methods of how to carry out the research as adopted by a researcher. That is, it is the approach and means to be used by the researcher to answer the question the research is asking in the first place. Research philosophy is the foundation, the body, and the result of a study. Because of the direction and guidance it provides to researchers' thoughts and investigation, it is not a concept that can be avoided in research. While explaining the concept of research philosophy, Torabi (2011, p. 211) "argues that the mutual relationship of consciousness to being, inter-relationship between ontological,

epistemological and methodological levels of inquiry constitute the fundamental questions of philosophy".

What then are the ontological, epistemological, and methodological levels of inquiry? Patel (2015) explained it as follows:

- ontology – What is reality?
- epistemology – How do you know something?
- methodology – How do you go about finding it out?

Patel further elaborated the relationships between the terms in research philosophy as illustrated in Figure 3 below.
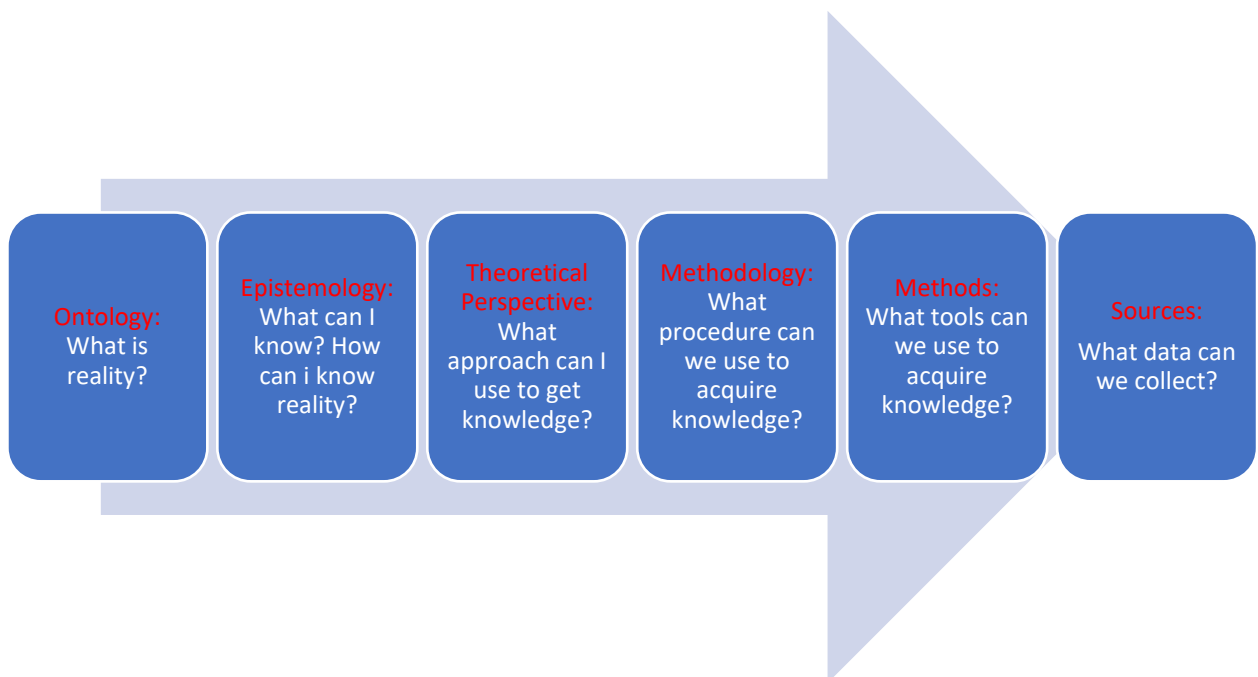


**Figure 3: Relationships and Steps in Research Philosophy (Reproduced from: Patel (2015)**

To understand this further, Gray (2018) tabulated the relationships between epistemology, theoretical perspectives, methodology and research methods, as illustrated in Figure 4 overleaf.
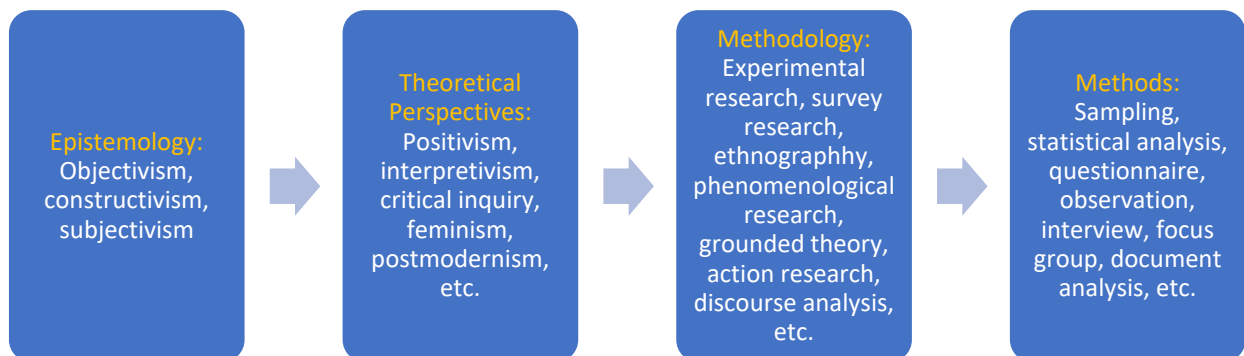
**Figure 4: Relationship between Epistemology, Theoretical Perspectives, Methodology and Research Methods (Reproduced from: Gray (2018)**

Following on from Patel (2015) and Gray (2018) charts, Carson *et al.* (2001), Hughes (1990), and Cohen (2011) reiterated that ontology and epistemology are the two philosophies guiding research.

## 3.2 Research Philosophical Leanings

Following the overview and illustration of research philosophy, the question now is, what is the philosophical direction of this research? To answer the question, it is necessary to have a look at the objectives of this study, which are:

- To assess the level of citizen participation in the enactment and implementation of urban road transport policy in Abuja,
- To measure the social sustainability of road transportation in the Abuja metropolis to the citizens; and
- To identify the long-term plans of road transportation in line with accessibility and intergenerational impact it will have on the immediate society.

The first objective is examining the participation of citizens in the enactment and implementation of urban road transport in Abuja. Stewart (2006) reiterates that citizen participation is key in the implementation and assessment of urban governance, although it

faces challenges with regards to one aspect of citizen governance – elections. Through elections, citizens will pass on the message as to whether they are satisfied or not with their elected officials (Mesfin, 2008). Stewart (2006) paper is illustrating that election turnout is an indicator of level of satisfaction of governance in an urban area, and as Eze (2016) also stated regarding the low voter turnout in Abuja's Council elections. The level of satisfaction conveyed by the voters is because of whether the voters understand what the officials have done previously, why they prioritised some actions, and how those actions and inactions have affected the people's lives. The understanding and knowledge of this process of governance from the point of view of the voters varies because every individual has his/her way of thinking which is based on the individual's capacity to comprehend things going on around him/her and the direct and indirect influences that the immediate society conveys to the individual.

Citizen engagement and deliberative society is a concept that opens up for people to air their views based on their social and technical knowledge of their immediate society (Davies *et al.*, 2012). As Stanford and Guiver (2015) reiterated the need for constant engagement with all stakeholders during decision-making that involves them (the stakeholders) directly or indirectly. However, it may not be positive nor beneficial to both the government and the governed if the collective will to act is absent (Daniel, 2014; De Melo Correia and Galves, 2018). The government may express the need to engage with citizens in every programme, but then may not follow up on this with the necessary support required. The political will to engage with citizens on these policies is to enlighten them, educate them, and advocate for the positives of the policy being developed and implemented (Dean, Fielding and Wilson, 2019; Dyer *et al.*, 2014). There is a need to involve the people in understanding government, how it works, what it is supposed to do for the people, what the people are supposed to do for the state and make them change their values and attitudes to the way they see government.

Through elements of participation, engagement, and consultation, the people will get to understand the long-term plans of road transport in Abuja. As Davies *et al.* (2012), Bugs *et al.* (2010), and Afzalan, Sanchez and Evans-Cowley (2017) pointed out, there are contemporary technological tools for public participation in governance that will be appreciated by the people based on their understanding of those tools and the policy under discussion. Therefore, by employing these available participatory tools (inclusive of the traditional ones), government can communicate the plans for road transport in the city and get feedback from the citizens in real time. However, civil society organisations are valuable in engaging and consulting with the people (Dujon, 2009; Agbola, 1994). The usage of the civil society in engagement is recommended by Ibitayo (2012) to address the issues of road congestion and urban transport

problems in Lagos. Hence, Abuja authorities need to make available the policy direction of the road transport of the city in a transparent and friendly manner for simple comprehension and easy deliberation between the government and the governed.

Continuing to look at long-term plans of road transport, and making the plans participatory, especially in a sector that is presently changing due to environmental (United Nations Framework Convention on Climate Change, 2015), technological (Brand, Anable and Morton, 2019; Eluru and Choudhury, 2019), and regulatory (*British Broadcasting Corporation*, 2017b) factors, Schot, Hoogma and Elzen (1994) states that coming together of all parties to present their needs and requirements for a successful policy that is dynamic, acceptable, and positive for everyone is important. The parties stated here are the authorities, industry, operators, and the end users. The need for including all parties is important considering that not all stakeholders are willing to forego what they are used to (Hiscock *et al.*, 2002). Therefore, it is necessary to persuade these stakeholders as to the benefits of accepting the dynamism of the urban road transport sector. Nwankwo, Fawohunre and Obasanjo (2016) and Nwachukwu (2014) highlighted commuter preferences in Abuja, Ojekunle (2016) reaffirmed that Abuja needs to improve on its public transport system by the provision of professional, organised, disciplined, and regulated bus operators who provide an efficient and effective service acceptable by commuters, and Tiwari (2002) stated the integration of non-motorised transport, two wheelers, and motorised vehicles on the roads. All these scholars are pointing out the need for participatory long-term plans in the urban centre.

Convincing the people of the technological changes ongoing is elaborated by Schot and Geels (2008), who stated that creating a technological space for the testing of these technological dynamics with all the actors and technologies working together to understand, persuade, and correct all issues, before making it universally functional, is advantageous for the society. Through this, every stakeholder involved will have a say in the final policy. However, based on Abuja's situation as pointed out by Dahiru (2006), Porter (2007) Busari (2019), and Okyere *et al.* (2019), technological changes can be hard to put in place at present but this can be done when all the necessary challenges highlighted are addressed.

While the discussion is about socio-technological change due to multiple factors, the changes in one society might not be the one another society might need (Cohen, 2010). Particularly in a society like Abuja, Nigeria, the people might mention that they prefer having a public transport system that is efficient and effective (irrespective of its energy source) while the government might prefer electronic cars not to come into existence until the crude oil dries up because it is the only revenue earner for Nigeria, and oil operators (from downstream to

upstream) will not want the business to stop. Similarly, Clark, Chatterjee and Melia (2016) illustrates that changes in one's mode of transport are not dependent on technological changes but only on life events and individual choices (social).

Nevertheless, the push for technological change is happening, if the system (governance, businesses, people) does not accept it by their buy-in there will definitely be hindrances to its acceptance (Docherty, Marsden and Anable, 2018). All of what is discussed here is summed up by Geels (2020), who states that acceptance of these technological changes is a multilevel and multidimensional participation with multiple actors who have different understanding, ideas, interests, and needs. Odufuwa, Oriola and Otubaga (2012) and Hamilton and Jenkins (2000) state the need to pay adequate attention to women's needs in urban road transport. Furthermore, Lamont, Kenyon and Lyons (2013) pointed out the views of people with disabilities and dyslexia need to be heard in providing transport infrastructure and facilities in urban centres, and Titheridge *et al.* (2014) illustrated how non-inclusion of all commuters in the provision of transportation in urban areas affects their economic situations.

Deriving meaning for a phenomenon like the socio-technological transitions ongoing in urban road transport can be resisted, as noted by Hommels (2005), and any kind of socio-technological change (Smith, Stirling and Berkhout, 2005). This resistance can be from diverse interest groups ranging from government (who are not keeping pace with the dynamics ongoing around them), transport unions (resisting driverless buses or trains), and people (preferring to pay with cash than card). However, resistance could be because the society in question does not have the basic infrastructural support system and attitude to operate the fast changing technologies (Markard, Raven and Truffer, 2012). Furthermore, Cohen (2006) states that, due to the urbanisation going on around the world, there is need for inclusion in decision-making, for urban authorities to approach development from down to up and not the opposite, because what one neighbourhood might need is different from what the other neighbourhood requires. Following on from this recommendation, operations, and decision-making in all the departments handling urban administration also needs to align with contemporary times and issues. However, Rosen (2001, p. 131) believes that "bringing about a sociotechnical frame of sustainable, democratic and equitable transport and mobility necessitates the delicate job of juggling these disparate elements".

Due to the fact that this study is dependent on getting views from commuters, road transport Unions, and government organisations who use, operate, manage, and develop the urban road transport system of Abuja, the research philosophy is constructivism. Frank III (1979, p. 188) sees constructivism as "common sense always asks what motivates men to act

as they do, and what structures determine their actions". Crotty (1998) argues that reality and meaning is not given to anything in the society unless a conscious mind engages the phenomenon, this conscious mind will have to engage the phenomena with the intention to derive meaning out of its existence. In addition, Taylor (2003, p. 250) stated that "we use narratives to structure life events and activities and in doing so to claim identities and construct lives". Developing and implementing policy through understanding the social construct of the people is a more positive way of governance than making policies based on policy and decision makers' views only (Valentine, Sovacool and Brown, 2017). As stated by Gray (2018; p. 22) constructivism is having a reality "created by the subject's interactions with the world". Gray further elaborated that things around us are constructed by one's understanding of them but not revealed nor identified, therefore meaning that the world has multiple and different explanations.

Within all of these issues, Voß, Smith and Grin (2009) restated the need to understand societal needs and incorporation of a feedback mechanism in the development of long-term policies in this era of interconnected socio-technological transitions. To put this into context, public transport (PT) users in Ghana stated "that vehicle condition, driver's marital status and transport operators' safety records are prominent criteria in the assessment of personal safety on PT and as such should be prioritised by PT stakeholders in the country" (Sam *et al.*, 2018, p. 348).

In line with the objectives of this research, the sentiments, values, behaviour, and interest of commuters in Abuja is what is needed as the ontological direction of this study. Every commuter has his or her own interest and values, so also the plan and programmes of the authorities for the roads of Abuja is distinct from individuals' perspectives. Therefore, it is advantageous for the commuters and authorities to come together to exchange these perspectives and see how they can accommodate each other for a socially acceptable road transport system in the city. Therefore, in this research, the perspective of the commuters and other stakeholders with regards to the urban road transport of Abuja is to be examined. Furthermore, based on their understanding of this transport system, the participation in its development and contribution to its improvement (if any) by the stakeholders will be studied.

Thus, the epistemology of this study is that the understanding and thinking of commuters and end users need to be known to improve the road transport of Abuja. These views can be collated and used to provide an acceptable road transport system as requested by the users. In this study also, the views of the authorities are also collated in order to balance the information obtained and to have the participation of all stakeholders. Brenner and Schmid

(2015, p. 178) notes that an urban area "is produced through collective action, negotiation, imagination, experimentation and struggle". This is a point already made by Gana and Emmanuel (2014), who have highlighted the need for engagement and knowing areas of needs and collaborations between government bodies managing roads in Abuja. Kębłowski and Bassens (2018) conclude that there is a disconnection between policy on urban transport and academic theories and the needs of the people who use the transport and the operators. Booth and Richardson (2001) reiterated the need for transport projects policies to have community acceptance before implementation, while Knoflacher (2009) noted that African and Asian countries have opportunities to create an urban transport system that is more acceptable socially, environmentally, and technically than Europe has had by having a strong and robust engagement system to have the right infrastructures in place. Furthermore, NÆss and Saglie (2000) states that the human needs work in partnership with the physical environment to provide the needed service the natural environment can provide. Therefore, the needs of public transport in an urban area influence whether more transport facilities are constructed. These citations illustrate the alignment of the epistemology of this research with the thinking of scholars in the field of urban road transport.

### 3.3 Method of Research

This research will use both qualitative and quantitative methods of data gathering. Specifically, the study will use mixed methods to undertake the research. Data gathering will involve interacting with different stakeholders operating, administering, and utilising the road transport system of Abuja city.

Why mixed methods research? This type of research combines elements of both quantitative and qualitative methods of research. This method of research uses numbers as data to be analysed and it also uses people's views. Johnson, Onwuegbuzie and Turner (2007, p. 129) define it thus: "mixed methods research is an intellectual and practical synthesis based on qualitative and quantitative research; it is the third methodological or research paradigm (along with qualitative and quantitative research)". Mixed methods provides another broader, comprehensive and encompassing perspective to the research because it incorporates both qualitative and quantitative research methods to deliver research results. Halcomb and Hickman (2015) notes that mixed methods research combines both quantitative and qualitative research methods to gain an in-depth understanding of a phenomenon, and they stated that it "has the potential to combine qualitative and quantitative characteristics across the research process, from the philosophical underpinnings to the data collection, analysis and interpretation phases" (Halcomb and Hickman, 2015, p. 3). As stated by Bryman

(2016), mixed method research can be embarked upon due to the objective of the research or because of the multiple themes involved in the research.

The usage of mixed methods research should be based on the context of the research (Brannen, 2005). That is, "it is an approach employed to address the variety of questions posed in a research investigation that, with further framing, may lead to the use of a range of methods" (Brannen, 2005; p. 183). Denscombe (2017, p. 5) listed the types of research that can be done using mixed methods as: evaluate a policy and gauge its impact, compare alternative perspectives on a phenomenon, and to combine aspects of other strategies. He further outlined the advantages and disadvantages of the method. This illustrated in Table 8, below:

| Advantages | Disadvantages |
|---|---|
| Better understanding of the phenomenon being studied | Time and cost of research can increase |
| Practical, problem-driven approach to research | Researcher needs to develop skills in more than one method |
| Clearer links between different methods and the different kinds of data | Findings from different methods might not corroborate one another |
| Compensates for strength and weaknesses between methods | The distinction between qualitative and quantitative is not so simple when in use |

**Table 7: Advantages and Disadvantages of Mixed Method Research**

**(Reproduced from (Denscombe, 2017, pp. 175-176)**

Mixed methods research has been used by diverse researchers to study urban road transport. Möser and Bamberg (2008) employed transport statistics and documentary analysis strategy to study transport policy, academic and market research to assess the impact of transport policy on reducing car usage in Britain. The result has been mixed, but it illustrated the flexibility and adaptability of the method because most of the statistical data is privately owned, and the researchers must validate their research data from the private organisations which own the original data. Based on the contemporary thinking of mitigation of climate change around the world (Banister, 2011) and the socio-technical transitions happening in the road transport sector (Schot and Geels, 2008), Schwanen, Banister and Anable (2011) notes that an understanding of the social aspect of climate change is necessary. Consequently, the need to align data gathering from the tangibles (quantifiable) and the intangibles (nonquantifiable) will be advantageous in tackling current issues.

Climate change mitigation in transport can be achieved through the attitudinal change of commuters (Haustein and Hunecke, 2013). They drew this conclusion by using quantitative methods (socio-demographic/economic data) and qualitative data (travel destination/choice and attitudes) to analyse reduction in car usage. Both methods they used have their advantages and disadvantages (Denscombe, 2017) but it is the combination of the two methods that gives a whole picture of how to reduce car usage and mitigate climate change. Furthermore, Santos and Ribeiro (2013) have used twenty sustainability indicators applicable to transportation to evaluate the Rio de Janeiro State Climate Plan; these indicators have a mixture of quality and quantity indicators. Thus, the usage of mixed research methods is obvious, especially if one looks at it from the view of achieving sustainability locally, regionally, nationally, and internationally.

Bocarejo and Oviedo (2012) recommend "other researchers to contribute to the development of transport analysis tools that consider social elements" (ibid.; p. 153). This necessitated the usage of the method used by the Swedish Environmental Protection Agency in 2000, in their survey entitled - *Integrating Environment in Transport Policies– a Survey in EU Member States* (Swedish Environmental Protection Agency (Sweden), 2000). The Swedish Environmental Protection Agency (SEPA) had interviews with representatives of Ministries of the Environment and/or Ministries of Transport in the European Union (EU) Member States. This involved a discussion leading on from prepared questions (qualitative) and the setting up of performance indicators (quantitative) for the Member States on the performance of their individual transport policies. Oviedo Hernandez and Titheridge (2016), Nwachukwu (2014), Olawole and Aloba (2014), Porter (2013), Ibitayo (2012), and Lai and Chen (2011) all focussed their research on commuters who use the various transport systems in their communities. Therefore, as the Swedish Environmental Protection Agency and Mitullah and Opiyo (2012) are focussed on interviewing the policy implementers, whereas the other listed literatures (in this paragraph) are focussed on the commuters, this research adopted the research participants used by these cited sources. Additionally, the works focussing on the commuters are all of the view that the commuter is the end user of these transport systems, thus the system should be in line with the users' needs.

Focussing on commuter needs is a positive direction, but having a numerical idea of how the transport system works, how it moves commuters from one place to the other, how it performs at peak times, and its carrying capacity necessitates having a quantitative database for the system for studying, as done by Lai and Chen (2011). Hence, in view of the Swedish Environmental Protection Agency (Sweden) (2000), Hara *et al.* (2016), Alberti (1996), and Balsas (2004), performance indicators are used to measure the performance of the systems

in an urban area for the authorities to understand how the systems are performing, where the lapses are, and to meet standards and targets.

The aim of the Swedish Environmental Protection Agency (SEPA) study was to produce a survey of how European Union (EU) Member States have integrated, or are planning to integrate, environmental considerations in their national transport policies. It also looked at the exchange of information between the policy makers, transport operators, and the commuters in finding ways to address the environmental challenges facing the transportation sector. Hara *et al.* (2016) proposed Key Performance Indicators (KPIs) to evaluate a smart, sustainable city and report the results of a field trial in a city located almost at the centre of the Tokyo Metropolitan Area. They developed the KPIs to have a city evaluation criterion and to assess a diverse range of smart sustainable cities from different sectors. The KPIs were developed with society satisfaction, safety, health, and comfort taken into consideration. Lastly, Alberti (1996) and Balsas (2004) reiterated the need for the usage of KPIs to keep up to date data on the performance and the interrelationships of the different variables of an urban area. For the above reasons, this study adopted and adapted the recommendations and methods of these researchers.

One of the tasks of this research is the review of policy documents. The review of policy documents has been used by the Swedish Environmental Protection Agency (Sweden) (2000), which reviewed the transport policies of EU Member States, and Femi (2012) who reviewed the Abuja Masterplan and the road transport policy. The major drivers of transportation in Nairobi, Kenya are identified by Mitullah and Opiyo (2012). Following this, Table 8 (see page 113) identifies the drivers of transport in Abuja and includes them as research participants.

## 3.4 Method of Data Collection

Following on the above discussion, this study will have the following tasks:
 a. Document analysis of Abuja and national transport policy documents to understand the direction and plans the governments at national and sub-national levels intend to do about roads. This will be a desk review of the policy documents. The policy documents to be reviewed are the Nigerian Vision 20:2020, Nigerian National Transport Policy, and the Federal Capital Territory (FCT) road policy.
 b. Questionnaires will be administered through a semi-structured interview with commuters using the various modes of road transport in the area of study. The commuter interviews were carried out at four bus stops across the city. These bus

stops are – Federal Secretariat (Eagle Square), Berger Junction (Nnamdi Azikiwe Expressway/Herbert Macaulay Way), Area 3 junction (Nnamdi Azikiwe Expressway/Abubakar Tafawa Balewa Way), and Nyanya bus stop. The locations are illustrated on Chart 9 below. The commuters have been asked to participate because they are the end users of the transport system. The questionnaire will have a section for Key Performance Indicators (KPIs) for the commuters to provide numerical data based on their individual travel experiences. The numerical data gathered from the Key Performance Indicators (KPIs) will be the quantitative data to complement the qualitative data. There will be one generic questionnaire for commuters. The questions will be read out to the respondents, and they give an answer, or the respondents fill out the questionnaires themselves, only seeking clarification from the researcher if need be. Refreshments will be provided to commuters to encourage them to stay and respond to the questionnaire. The questionnaire is divided into 3 sections. Each section covers the individual objective of this study: Section I (Assessing the level of citizen participation in the enactment and implementation of government policy), Section II (Identifying the long-term plans of road transportation in Nigeria), and Section III (Measuring the social sustainability of road transportation). Section III is the section that contains the KPIs. The sample size of the study for individual respondents is 261. The generic questionnaire for commuters is attached in the Appendix of this thesis.

**Chart 5: Chart illustrating the locations (in red marks) of Questionnaire Administration for Commuters in Abuja. Source: Google (2020)**

*The red dots in Chart 5 are the bus stops and interchanges where the commuter data gathering was held*

c. Questionnaires will be administered through a semi-structured interview with eight organisations – four from trade unions and four from government organisations. These organisations have been chosen based on the services they render as planners of the city, as administrators of the city transport system, and as operators of the road transport of the city. These organisations are listed in Table 8 overleaf. The role that each organisation plays in the transport system is also highlighted in the Table. For the government organisations, they are participating because they are the ones who are responsible for the policy direction, planning, provision, and managing of the road transport facilities and infrastructure, whereas the transport unions are those operating in the road sector of the city. The questionnaire will have a section for Key Performance Indicators (KPIs) for the organisations to provide numerical data. These KPIs are based on the responsibilities of these organisations. The numerical data gathered from the KPIs will be the quantitative data to complement the qualitative data. All the participating organisations will be given individual questionnaires unique to their functions and mandate in the provision of road transportation in Abuja. The interview sessions with the listed organisations will be undertaken in each organisation's own office after the researcher had given them advance notice of the research, stating the

intentions, forwarding the questionnaire, and requesting a time for the meeting. The questionnaire is divided into three sections. Each section covers the individual objective of this study: Section I (Assessing the level of citizen participation in the enactment and implementation of government policy), Section II (Identifying the long-term plans of road transportation in Nigeria), and Section III (Measuring the social sustainability of road transportation). Section III is the section that contains the KPIs. The questionnaires administered for the eight organisations are attached in the Appendix of this thesis.

| S/N | Organisation | Who they are |
|---|---|---|
| 1 | Federal Ministry of Transportation | They are the overall national governmental body mandated to ensure a fast, safe, efficient, affordable, convenient, integrated and inter-modal transport system that facilitates Nigeria's socio-economic developmental needs and enhances the quality of life of the public. They formulate and implement all national policies with regards to transport in Nigeria. |
| 2 | Federal Road Safety Commission (Federal Capital Territory Sector Command) | They are mandated to make the highway safe for motorists and other road users, recommending works and devices designed to eliminate or minimise accidents on the highways and advising the Federal and State Governments, including the Federal Capital Territory Administration and relevant governmental agencies, on the localities where such works and devices are required, and educating motorists and members of the public on the importance of discipline on the highway. |
| 3 | Federal Capital Territory (FCT) Transport Secretariat | They regulate, coordinate and manage the operation of public transportation, partner with the private sector in the development of transport facilities and in the provision, operation and management of modern para-transit in FCT through the provision of an enabling business environment |
| 4 | Federal Capital Territory Department of Urban and Regional Planning | They are authorised to prepare Master Plans, General Land Use Plans, Detailed Site Development Plans, determination of various land uses and site selection for other uses, such as Resettlement Sites, Satellite Towns, Land Use Monitoring and Land Use Recommendation anywhere in the Federal Capital Territory (Abuja). |
| 5 | National Union of Road Transport Workers (FCT Chapter) | It is a union of all persons who are in the business of transporting passengers across Nigeria, whether intercity or intracity. The members consist of taxi operators, mini bus operators, large bus operators, and freight transporters. |
| 6 | Tricycle Owners and Operators Association of Nigeria (FCT Chapter) | An association of all the commercial tricycle (auto rickshaw) operators |
| 7 | Road Transport Employers Association of Nigeria (FCT Chapter) | It represents the interest of all road transporters and their employees. An umbrella body of all road transporters |
| 8 | Self Employed Commercial Drivers' Association Abuja (SECDAA) | Persons who operate road transport services privately. |

**Table 8: Research Participants and their Mandates**

## 3.5 Method of Data Analysis

As stated earlier, the questionnaire is divided into sections and each section covers an objective of the study. This is done to align the responses of the participants with the objectives of the study during the analysis of data gathered. The questionnaires for the commuters are different from those for the organisations. The questionnaires for the commuters have some questions that require yes/no answers whereas others are open ended. Therefore, the yes/no

answers, together with the quantitative part of the questionnaire, were analysed using the *SPSS* (Statistical Package for the Social Sciences) software to present the frequency distribution of the respondents and the descriptive statistic of the data. Furthermore, the *SPSS* software was used to analyse the data for reliability between the variables of the questions, that is, the reliability test. Bryman (2006) noted that usage of the *SPSS* in data analysis complements, expands, and gives diverse results for the research in question.

The analysis of the qualitative questions (open ended questions) of the questionnaire for the organisations and commuters was done using the *NVivo* software. *NVivo* is a tool that assists researchers in the analysis of qualitative data (Bazeley, 2013). *NVivo* manages, queries, analyses, and visualises qualitative data, and reports on the analysis done. The analysis using *NVivo* will be done in line with the objectives of the study, that is, as the way the questionnaire is structured. This is in order to illustrate "relationship", "pattern", and "connection" (Bazeley, 2013; p. 262) between the research objectives (nodes). However, during the discussion of results in the thesis, the analysis will be structured under the social sustainability sub-themes chosen for this research. It will be structured as stakeholder participation in decision-making and social inclusion. The following are the research objectives of this study:

- Assessing the level of citizen participation in the enactment and implementation of government policy,
- Identifying the long-term plans of road transportation in Abuja; and
- Measuring the social sustainability of road transportation.

Each of the above objectives has been analysed as a node in the *NVivo* software and applied in the analysis of the responses of the organisations (government and unions) and the commuters (individuals). Therefore, the queries and data are to be analysed using *NVivo* under the individual nodes (research objectives). In the analysis of the commuters' (individuals') data, due to the mentioning of other themes by respondents, another node (named other issues) and other sub-nodes were created for each of the nodes (Bazeley, 2013; p. 132). The creation of sub-nodes is to group responses of participants who are similar in attributes with the research objectives. These sub-nodes are as follows:

- Objective I (node 1): civic engagement, legislative activities, not applicable/no comment, strategies to engage the people, and understanding workings of government
- Objective II (node 2): not applicable/no comment, private vehicle, public transport service, safety & security, and staff bus

- Objective III (node 3): driver discipline, factors affecting bicycle usage, knowing public transport routes, noise level from vehicles, not applicable/no comment, other issues, pedestrian/cyclist safety, and road quality.

It should be noted that importation of the collated data into the *NVivo* software differs from the 3 groups being analysed. As Feng and Behar-Horenstein (2019; p. 565) claims, the importation of the responses from the commuters "in Excel spreadsheet were easily read and imported into NVivo" since the questions administered to the participants are the same. This is also the same for the 4 unions. However, this is different for the government organisations because some of the questions asked are based on their individual functions and not as a collective question. Some of the questions are the same, while others are unique to the mandate of those organisations, hence, the importation was done individually for the government organisations but under one project folder.

The following queries (analysis) were done using *NVivo*:
- Text Search Query,
- Word Frequency Query, and
- Cluster Analysis.

**Text Search Query** is used to search for the occurrences of words or phrases within a database or project. This query was done for the Individuals (commuters), unions, and government organisations database, respectively. The words chosen to be queried are from the questionnaire administered to the respondents. That is, the words are concepts and themes in line with the research objectives of this study.

Thus, the words chosen, and the research objectives they are extracted from, are listed as follows:
- Research objective I: citizen, satisfaction, survey, stakeholders, interaction, public, policy, challenges, success.
- Research objective II: public transport, sensitise, plan, commuters, data, consultation, solution, road, regulatory body, environmental monitoring, accidents, initiatives, evacuation, traffic offences.
- Research objective III: database, implementation, website, statistics, routes, masterplan, noise, carbon emissions, and weather.

It should be noted that these words are extracted from the questions administered to all the respondents (commuters, government organisations, and unions).

The queries for the government organisations will consist of three queries each (for the group of words for each objective). The queries are done for each of the organisations because there are differences in the questions asked of each organisation. These differences are because of the differing functions of the four participating organisations. However, all the questions are under the same objectives that are applicable to all respondents. For the transport unions, there will be three queries. In this case, the queries will be for the four unions, collectively, because the questions administered to the unions are the same, unlike the government organisations. Therefore, all the analysis of the transport unions is done collectively and not individually.

**Word Frequency Query** is used to query NVivo to illustrate the frequently used or reoccurring "words of five or more letters" (Feng and Behar-Horenstein, 2019; p. 566). This query was done for the individuals' (commuters') database, unions, and government organisations. The query was done at one thousand for most used words that have a maximum length of three letters. It was queried at the exact words match.

**Cluster analysis** is a graphical analysis tool that visualises patterns in the research project. It groups files or nodes that share similar words, similar attribute values, or are coded similarly by nodes (Bazeley, 2013). Cluster analysis provides a graphical representation of files or nodes to make it easy to see similarities and differences. Files or nodes in the cluster analysis diagram that appear close together are more similar than those that are far apart. For this research, words' similarity and coding similarity are analysed. The words contained in the codes are analysed for similarity. Nodes that have more similarity based on the occurrence and frequency of words are illustrated clustered together, while nodes that have a lower degree of similarity based on the occurrence and frequency of words are displayed further apart. Therefore, Cluster Analysis for government organisations, unions, and individuals (commuters) all have results illustrating in two graphics with a total of six graphics.

The Cluster Analysis will be done using the Pearson correlation coefficient to understand the correlation between the nodes. The result of the analysis illustrates a Similarity Index which displays the value that indicates the degree of similarity for each pair of items, based on the similarity metric selected. Items with a high similarity index (maximum = 1) indicate a strong similarity and are displayed closer together on the cluster analysis diagram. Specifically, 1 is total positive linear correlation, 0 is no linear correlation, and − 1 is total negative linear correlation.

## 3.6    Statistical Results

As earlier stated, this study employs a mixed methodology to embark on empirically based research. This is due to every individual having his/her point of view about the subject under study. Inconsistency and preference might arise in the data gathered. Therefore, this raises the need for making the data reliable to test the quality and strong points (Golafshani, 2003). To ensure data quality, a reliability test was undertaken using *SPSS* software.

### 3.6.1  Reliability Test

Noble and Smith (2015, p. 34) defined reliability as "the consistency of the analytical procedures, including accounting for personal and research method biases that may have influenced the findings". Therefore, reliability is the ability to be constantly clear with the methodology and criteria of doing the research so that any other researcher who uses the same methods will arrive at the same results. Furthermore, reliability looks at the objectivity of the research by working towards analysing from the perspectives of the research participants. This point is further reiterated by Roberts, Priest and Traynor (2006). The reliability of data must be consistent over time and under the same scenario if the methods are applied (Roberts, Priest and Traynor, 2006; Golafshani, 2003; Leung, 2015). However, in this study the data were tested for reliability once during the analysis of the frequency distribution and other variables of the research objectives.

The methods of determining data reliability are of four types, they are:
a.  Inter-Rater or Inter-Observer Reliability: Used to assess the degree to which different raters/observers give consistent estimates of the same phenomenon.
b.  Test-Retest Reliability: Used to assess the consistency of a measure from one time to another.
c.  Parallel-Forms Reliability: Used to assess the consistency of the results of two tests constructed in the same way from the same content domain; and
d.  Internal Consistency Reliability: Used to assess the consistency of results across items within a test (Trochim, 2006).

The reliability test for this study used the internal consistency reliability test because the methodology for this research was not assessed by other observers/researchers, it was not assessed over a range of time, nor was it assessed a second time. Therefore, a "single measurement instrument administered to a group of people on one occasion to estimate reliability" (Trochim, 2006; p. 268). There are four types of internal consistency reliability tests, and they are:
•  Average Inter-Item Correlation,

- Average Item Total Correlation,
- Split-Half Reliability, and
- Cronbach's Alpha (Trochim, 2006).

The Cronbach's Alpha is used to test the reliability of the data for this research. This type is used as it is "less biased" (Eisinga, Grotenhuis and Pelzer, 2013, p. 641) and it can assess different variables within one phenomenon (Zinbarg *et al.*, 2005). The Cronbach's Alpha test has a score of 0 to 1, with 0 as unacceptable reliability, 0.7 to 0.8 as acceptable reliability, and 0.9 to 1 as excellent reliability (Connelly, 2011). The reliability test was undertaken for some selected questions from the questionnaire. These questions are those that have direct applicability to the objectives of the research. The variables covered in the test include:

- civic engagement,
- consultation,
- citizen involvement in policy development and implementation,
- personal vehicle ownership,
- frequency of vehicle use,
- frequency of public transport usage, priorities of urban road transport,
- factors affecting mode of travel,
- effective ways to encourage less use of private cars,
- evaluation of public transport in Abuja,
- average time spent in commuting,
- household expenditure on transport,
- factors affecting usage of bicycles,
- pedestrian and cyclists' safety, and
- traffic concerns.

| Cronbach's Alpha | Number of Items |
|---|---|
| .802 | 62 |

**Table 9: Reliability Test Statistics for Selected Questions**

As Table 9 illustrates, the total number of questions put through the reliability test were sixty-two, and the Cronbach's Alpha test gave a result of 0.802. Therefore, based on the figures illustrated in Table 9 and the Cronbach's Alpha test score, the result reflects acceptable reliability of the research data. However, after doing the test for all the questions of the

questionnaire, the Cronbach's Alpha test score was 0.852 with a total number of items assessed as ninety (Table 10). Therefore, the reliability test here is acceptable.

| Cronbach's Alpha | Number of Items |
|---|---|
| .852 | 90 |

**Table 10: Reliability Test for All Questions**

## 3.7 Reflection on the Data Gathering Process

The data gathering was embarked upon at four major bus stops within the city of Abuja. It was gathered by interviewing commuters who are alighting or boarding buses to and from their destinations. Respondents were incentivised with a bottle of drink and snack to give the researcher fifteen minutes of their time. Some respondents needed guidance and explanation while others felt the questions were self-explanatory. However, some of the questions in Section I of the questionnaire asking about attendance of public hearings and consultation at Constituency Offices by legislators. Some respondents stated casually that they didn't even know they are entitled to these engagements with their elected representatives.

Understanding what is involved in civic engagement needs to be understood by the public, because some respondents had a hard time understanding that engagement and interaction amongst people of the same community and neighbourhood to improve their locality is also a civic engagement. There are many people who do not believe in government and its policies, therefore, the thought of working together as a community to influence government policy causes some individuals to be nonparticipators in these activities which is not a healthy scenario for a city like Abuja and Nigeria at large.

The question asking about taxing road users on road tax or pollution tax also illustrated that the need for the government to inform the people why these taxes are needed is of paramount importance. This is because of the various reasons why these taxes are needed and the benefit they will provide to the people if they are in place. However, respondents again (casually) wondered,

- if it is about poor budgetary provisions now, why were the road infrastructures not provided when Nigeria had robust budgetary provisions?
- If it is about taxing road users to use the tax in providing better and sustainable public transport, why aren't previous transport schemes not maintained and improved?

- How would the people know that, when they are taxed, the accumulated funds will be judiciously used for the provision of the environmentally friendly public transportation?

A cover letter stating the objectives of the research, contact details of the researcher and supervisors, with the questionnaire attached (in print) was sent to the heads of the eight organisations. In the cover letter, a request for an appointment for the semi-structured interview was included. In seven of the organisations, an official was directed to respond to the questionnaire on behalf of the organisation and a cover letter (addressed to the researcher) stating that the questionnaire had been acted upon was attached to the completed questionnaire. For one of the government organisations, a panel of four staff was constituted for the semi-structured interview because of the diverseness of the questionnaire and the institutional memory of the various staff in the panel. In particular, the questionnaire asked questions that cannot be handled by one official only, and the rate of high turnover of civil servants meant that one official might not have all the answers. In general, getting an appointment for the eight organisations to respond to the questionnaire was challenging. The timing of each semi-structured interview for the organisations was two hours, and for the commuters thirty minutes.

All organisations that have participated in this research have provided incomplete data to the researcher. Data that is highly important for foreseeing and planning purposes is inadequate in these organisations. How, then, can they provide an efficient and effective service to their stakeholders? The data presented has wide ranging and crosscutting issues surrounding it, hence, the need for in-depth analysis. In as much as the organisations' data are not fully reported, the analysis will work with the data available to balance the views of the research participants (commuters and organisations).

Conclusively, understanding the cultures and workings of these organisations is of importance to the success of the data gathering. Specifically, in one of the government organisations, the letter introducing the researcher was minuted to four different officers before it was acted upon. Therefore, following the trail of the research questionnaire in a government bureaucracy can be a huge task but knowing how the system works in this kind of scenario will be of much help to researchers. It should be noted that this data was collected in June/July 2018. Therefore, some data presented might have improved (or worsened), whilst others such as election data and the national minimum wage may have also changed.

# CHAPTER 4: DOCUMENT ANALYSIS

## 4.1 Introduction

This Chapter will conduct the documentary analysis of the policy documents listed in Section 3.4, namely – the Nigerian Vision 20:2020, Nigerian National Transport Policy, and the Federal Capital Territory (FCT) road policy. Furthermore, an overview of the overall governance structure of transportation in Nigeria will be highlighted and diagrammatically illustrated.

## 4.2 Transportation Governance in Nigeria
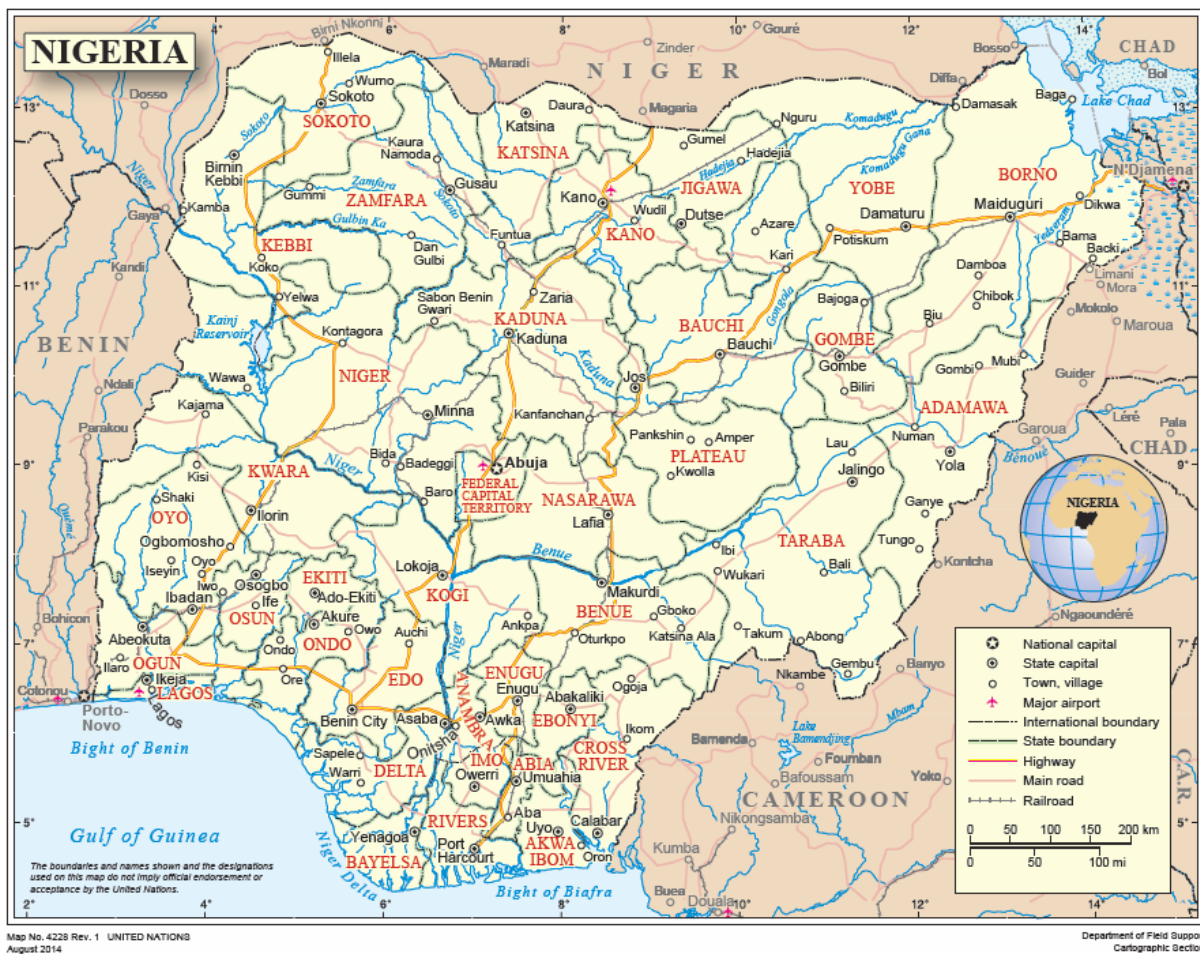


**Chart 6: Map of Nigeria illustrating the Highways, Rail Lines, and the Inland Waterways and States**

**(Source: United United Nations (2014)**

Nigeria operates a system of government which has three tiers – the Federal Government, State Governments, and Local Governments. The Federal and State Governments have three arms which make up the political structure of the two tiers. These

three arms are the executive, the legislature, and the judiciary. There are thirty-six State Governments and 774 Local Government Areas. It should be noted that the city of Abuja, where this research is to be carried out, is unique from the rest of the States. It is unique because it is the Federal Capital Territory (administered by the Federal Government), the President is the Administrator of the Territory (the Powers of administering the Territory are delegated to a cabinet minister), and the National Assembly is the legislature of the Territory.

The Constitution of Nigeria (1999) has designated the various items to be handled by the three tiers of government. In the context of this research, the following are the various items to be executed by the Federal Government (FG) on transportation (and other allied matters):

- Aviation, including airports, safety of aircraft and carriage of passengers and goods by air.
- Construction, alteration, and maintenance of such roads as may be declared by the National Assembly to be federal trunk roads.
- Legal proceedings between Governments of States or between the Government of the Federation and Government of any State or any other authority or person.
- Maritime shipping and navigation.
- Railways.
- Traffic on federal trunk roads.

The Constitution also allows each of the thirty-six States of Nigeria to execute the following laws within their administrative boundaries only:

- A House of Assembly may make laws for that state with respect to industrial, commercial, or agricultural development of the State.
- A House of Assembly may make laws for the state with respect to available statistics on any matter that is outside the Federal Government's items of execution.
- A House of Assembly may make laws for that state or any part thereof with respect to trigonometrical, cadastral, and topographical surveys.

Lastly, Local Government Areas (LGAs) are mandated by law to implement the following matters related to transportation:

- the consideration and the making of recommendations to a state commission on economic planning or any similar body on –
  - the economic development of the state, particularly in so far as the areas of authority of the council and of the state are affected, and

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- proposals made by the stated commission or body.
- licensing of bicycles, trucks (other than mechanically propelled trucks), canoes, wheelbarrows, and carts.
- establishment, maintenance and regulation of motor parks and public conveniences.
- construction and maintenance of roads, streets, street lightings, drains and other public highways, parks, gardens, open spaces, or such public facilities as may be prescribed from time to time by the House of Assembly of a State.
- naming of roads and streets, and numbering of houses.

The above items listed for execution by the Federal and State Governments mean that aviation, railways, and maritime transportation are handled at national level, while all three tiers of government handle road transportation matters. That is, the FG can construct and maintain inter-state roads and by-passes around towns and cities, while State Governments and LGAs construct and maintain intra-state rural roads.

With the above listed responsibilities, all tiers of government have a body (or bodies) handling and managing the transport sector of their region and local council. At the Federal Government level, the executive arm of government has the Federal Ministry of Transportation. The Federal Ministry of Transportation (FMT) is mandated "to ensure fast, safe, efficient, affordable, convenient, integrated and inter-modal transport system that facilitates Nigeria's socio-economic developmental needs and enhances the quality of life of the public" (Federal Ministry of Transportation, 2016; para. 1).

Although the FMT handles all modes of transportation it is not mandated to construct and maintain federal roads. This responsibility is to the Federal Ministry of Power, Works, and Housing (FMPWH). The FMPWH is statutorily responsible for "Federal Highways: Construction and Rehabilitation, Federal Highways: Planning & Design, Monitoring and Maintenance of Federal Roads and Bridges nationwide" (Federal Ministry of Power Works & Housing, 2016; para. 1). Specifically, although the FMPWH constructs and maintains federal roads, it does not handle safety and security of road users.

The safety and security of road users is assigned to the Federal Road Safety Corps (FRSC) and the Nigeria Police Force (NPF), respectively. The FRSC is authorised to do the following:
- Making the highway safe for motorists and other road users.

- Recommending works and devices designed to eliminate or minimize accidents on the highways and advising the Federal and State Governments including the Federal Capital Territory Administration and relevant governmental agencies on the localities where such works and devices are required; and
- Educating motorists and members of the public on the importance of discipline on the highway (FRSC, 2017; Federal Road Safety Commission (Nigeria), 2017).

The NPF is assigned "to make Nigeria safer and more secure for economic development and growth and to create a safe and secure environment for everyone living in Nigeria" (Nigeria Police Force, 2018; para. 1).

The FMT is the highest coordinating body for transportation in Nigeria. It decides on policy formulation and planning at a national level, seeks for legislative approval for its policies, and handles international relations on matters regarding transportation. In line with its mandate, and to assist in the discharge of its functions, the FMT has some bodies under it which work in the different modes of transportation that Nigerians use. These bodies (and their functions) are listed in Appendix 5 of this thesis.

With regards to the independence of the three tiers of government, the thirty-six States of the Federation and the FCT all have different coordinating ministries/bodies handling transportation matters in their States. Some states have the states' Ministries of Transport that deals only transport policy, formulation, and implementation, while other states have the states' Ministries of Works that deal with both construction and maintenance of roads and transportation of people, goods, and services. These various ministries have commissioners who are cabinet members of the various states. The FCT also has the Transport Secretariat that handles its transport policy.

To achieve its overarching mandate to be the coordinator of policy and policy formulator and implementer, the FMT chairs an annual meeting of the National Council on Transportation (NCT). This council is the highest decision-making body on transportation matters in Nigeria. The Federal Executive Council and the National Assembly are the only bodies which supersede it. The NCT membership consists of the following:
- Minister of Transportation (Chair)
- Minister of State for Aviation
- All Commissioners of Transport from the 36 States or Works (as the case maybe) and the Secretary of Transport, FCT

- Permanent Secretary, Federal Ministry of Transportation

- All Permanent Secretaries of State Ministries of Transport or Works (as the case maybe)

- All Heads of Federal Government Transport Agencies listed in Appendix 5

- Other allied Federal Government Agencies – the Federal Ministry of Power, Works, and Housing, the Federal Road Safety Corps, the Nigeria Police Force, the Nigeria Customs Service

- Invited Academicians/Transport Professionals Bodies

- Labour Unions in the transport sector

- International Partners

- Non-Governmental Organisations

- Private sector (Federal Ministry Federal Ministry of Transportation (Nigeria), 2017a).

The meetings are held in different parts of the country in order that all stakeholders in the transportation sector of the economy can interact and proffer solutions to transport problems in the country. Is it usually a four-day event that includes technical sessions and the council meeting proper. The most recent council meeting (the 15th meeting) was held on 28th – 30th August 2017 with the theme – Efficiency in Intermodalism in Transportation: Panacea for Economic Recovery (2017a).

Some of the decisions agreed at these meetings are forwarded to the Federal Executive Council (FEC) for ratification and approval for implementation (Federal Government aspects) and/or the thirty-six State Executive Councils (SECs), as the case may be. Some decisions might need legislative approval, especially those that involve the making of laws, amendment of laws or ratification of international agreements.

Summarily, different tiers of government guide transportation governance and policy making in Nigeria, and the constitution of Nigeria directs this guide. The Federal Government decides on railways, air, and water modes of transportation while the State Government, Local Government, and Federal Government (collectively) all have responsibility for managing and handling road transport. The overall decision-making body on transportation is the National Council of Transportation, which every member is obliged to abide by its resolutions.
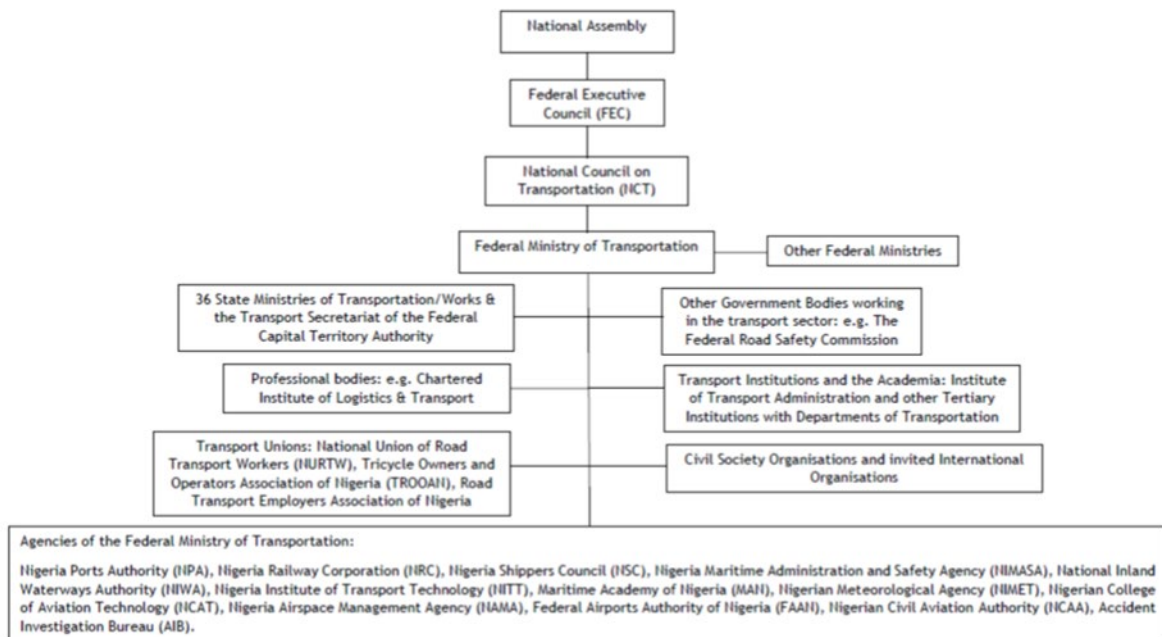
**Chart 7: Framework illustrating the Organs and Decision-Making Process of Transportation Policy in Nigeria**

## 4.3 Policy Documents

It is to be noted that the guiding document in the Nigerian transport policy framework is the draft National Transport Policy (Federal Ministry of Transportation (Nigeria), 2010). The goal of this draft policy is "to develop an adequate, safe, environmentally sound, efficient and affordable integrated transport system within the framework of a progressive and competitive market economy" (Federal Ministry of Transportation (Nigeria), 2010; p. 6). The objectives of the draft National Transport Policy are as follows:

a. to promote economic development, expand trade, and improve Nigeria's competitiveness through an efficient and affordable integrated transport system.

b. to encourage and remove all barriers towards the private sector's participation in the development, provision, maintenance, operation, and upgrading of transport infrastructure and services.

c. to promote the use of public transport over private cars.

d. to promote a culture of maintenance and continuous upgrading of transport infrastructure and services.

e. to promote competition and efficiency and cost reduction of transport services in Nigeria.

f. to improve the safety, security, reliability, quality, and speed of movement of goods and people, at local, national, and international levels.

g.  Development of a national guideline for integrated transport development; and

h.  to support states and the Federal Capital Territory in the development and promotion of urban transport systems and local governments in developing and promoting rural accessibility (Federal Ministry of Transportation (Nigeria), 2010; p. 7).

The Government of Nigeria developed an economic plan – the Nigeria Vision 20:2020 (NV 20:2020) – to bring Nigeria into the top twenty economies of the world by the year 2020 (National Planning Commission (Nigeria), 2009). It was developed in 2009 to be implemented in three phases from 2010 to 2020. The NV 20:2020 is to be achieved through the following dimensions –

i.  **Social Dimension**: A peaceful, equitable, harmonious, and just society, where every citizen has a strong sense of national identity and citizens are supported by an educational and healthcare system that caters for all, and sustains a life expectancy of not less than 70 years

ii.  **Economic Dimension**: A globally competitive economy that is resilient and diversified with a globally competitive manufacturing sector that is tightly integrated and contributes no less than 25% to Gross Domestic product

iii.  **Institutional Dimension**: A stable and functional democracy where the rights of the citizens to determine their leaders are guaranteed, and adequate infrastructure exists to support a market-friendly and globally competitive business environment

iv.  **Environmental Dimension**: A level of environmental consciousness that enables and supports sustainable management of the nation's God-given natural endowments to ensure their preservation for the benefit of present and future generations (National Planning Commission (Nigeria), 2009; p. 8).

In transportation, the NV20:2020 proposed "to create an integrated and sustainable transport system that will be safe, reliable and cost efficient" (National Planning Commission (Nigeria), 2009; p. 64). The overall goal of transportation, as stated by the NV20:2020, is similar to what the National Transport policy wants to achieve, that is, "to develop an adequate, safe, environmentally sound, efficient and affordable integrated transport system within the framework of a progressive and competitive market economy" (Federal Ministry of Transportation (Nigeria), 2010: p. 6). Thus, both policies aim to provide all modes of transportation that are interconnected and linked together with each other, being within the means of the people, dependable and reliable for all users, attractive for investors, environmentally friendly, and accessible nationwide. In line with research recommendations, these policy documents aim to achieve an integrated multimodal transport system (Chowdhury

and Ceder, 2016) in Nigeria. A system that is affordable (McKenzie, 2002), accessible (Oviedo et al., 2016), safe (Oyeyemi et al., 2012), economic benefit and its impact in the long term (Hiscock et al., 2002).

Among other strategies related to other modes of transportation, the following are strategies concerning roads for implementation, as highlighted by NV20:2020:

a. Strengthening of the existing transport safety agencies for improved safety and enforcement of regulations in line with international best practices.

b. Construction of eight major roads (six-lane at the minimum) linking the extreme ends of the country e.g.
   ▪ two (2) across the country: Kano – Port Harcourt and Ilorin – Yola,
   ▪ four (4) spanning the borders of the country:
     • Sokoto - Maiduguri
     • Sokoto - Lagos
     • Lagos - Calabar
     • Calabar – Maiduguri, and
     • Lagos – Benin – Onitsha – Enugu – Port Harcourt.

The Federal Government will construct these roads to facilitate inter–zonal transportation, while the states will construct feeder roads to link with the major roads.

c. Implementation of human capital development initiatives to ensure professionalism and strengthen maintenance capabilities in the transport sector.

d. Passage of several bills into law to facilitate the transformation of the sector, namely:
   ▪ the Railway Bill,
   ▪ the National Inland Waterways Bill,
   ▪ the Federal Roads Authority Bill,
   ▪ the National Roads Fund Bill,
   ▪ the National Transport Commission Bill, and
   ▪ the Ports and Harbour Reform Bill

e. Development of a sound National Transport policy to guide all stakeholders – investors, operators, and managers

f. Creation of an enabling environment (amend existing legislation and/or enact new laws) to encourage private sector participation in the development of critical transportation infrastructure

g. Development of an expansive efficient and affordable multi-modal transportation network plan for major cities. The plan should include strategies for the development

of pedestrian, cycling and public facilities, alongside road, rail and water transport (National Planning Commission (Nigeria), 2009; pp. 80-81).

Social sustainability in transport (SST) is concerned with the governance of all transport modes and systems (Shaw etal., 2008), policy direction of the system at all levels of government (Wood, 1996), it should be engaging (Banister, 2009), participatory (Vanderschueren, 2003), and inclusive (Porter, 2007; 2008; 2010). The NV20: 2020 intends to strengthen transport safety agencies for improved safety and enforcement and safety is one of SSTs principles (Eizenberg and Jabareen (2017). Nigerian roads are not safe (Mgbemena, 2013), the railway is neglected with obsolete coaches and equipment (Siyanbola, 2017), inadequate safety and security in the inland waterways (Chukwuma, 2014), and decaying airport facilities (Ladan, 2012). All these challenges necessitated the need for strengthening transport safety in Nigeria through the enactment of strategies and actions as stated in the country's policy documents.

Apart from the eight major roads linking the extreme ends of the country, Nigeria also plans to establish an efficient and effective system for other transport modes between towns and cities. This is also a policy direction that aligns with Wood (1996), Shaw et al. (2008), and Banister (2009). Furthermore, lack of integrated and multimodal transport system at the ports (Igberi and Ogunniyi, 2013) is one of the reasons why a comprehensive document for all modes of transport is needed (Banister, 2005a). Anciaes (2018) points out that Africa has an opportunity to develop its transport system based on its local context and integrate all transport into the transport policy and infrastructure in line with an inclusive transportation as prescribed by Sagaris, Tiznado-Aitken and Steiniger, 2017). The social dimension of the NV20: 2020 (equitable, harmonious, and just society) follows on these studies for a multimodal transport system for Nigeria. The inclusion of all stakeholders in the policy direction necessitated the enactment and amendment of laws to include the private sector in the development and operations of the nation's transport system.

To address the identified challenges faced by urban transportation in Nigeria, the Federal Government set a goal "to develop an efficient, self-sustaining and reliable public transport system that meets the needs of the growing population of the cities of Nigeria, and to improve the infrastructure and institutional framework for public transport service delivery" (Federal Ministry of Transportation (Nigeria), 2010; p. 35). They intend to achieve this goal through the following strategies:

1. create dedicated routes for bus mass transit in the urban areas
2. promote cooperatives or associations of numerous small transport operators to:

- assure organized and coordinated services
- improve operators' managerial, technical, and economic capacity; and
- facilitate the access of mass transit operators to the capital market for resources to acquire vehicles

3. Promote full private sector participation and competition in urban transit service delivery

4. enhance the capacity of the existing infrastructure through proper maintenance of roadways and efficient traffic management

5. ensure efficient traffic management through proper intersection control, better passenger pick-up and disembarking spaces, priority lanes, congestion control etc,

6. strict enforcement of traffic regulations

7. expand urban road infrastructure substantially, with proper concern for the needs of public transport infrastructure (railway, dedicated bus routes etc.)

8. promote road widening and extension in new areas as part of land use planning and development

9. provide facilities for alternative modes of transport – walking and cycling

10. develop a multimodal 10-year transport network plan for major cities. The plan will include strategies for the development of pedestrian, cycling, public transit facilities and services along the roadway network

11. improve the efficacy of urban planning, which should take cognizance of transport implications of different land use patterns and prevent congestion inducing developments

12. improve roadway aesthetics and encourage traffic calming

13. establish an Urban Transportation Agency (UTA) in each major city, as an autonomous body which will be responsible for:
    - maintenance of urban road networks
    - planning, designing, and maintenance of urban transport infrastructure facilities
    - regulation, registration, licensing, permit of private operators
    - determining and implementing appropriate traffic management and control measures
    - liaison with the different government as the need arises
    - pricing issues to ensure social equity
    - formulating parking needs in line with local needs
    - ensuring intermodal coordination
    - undertaking research and development, identifying problems and proffering solutions

14. Create an Urban Transport Fund. Money collected from license fees, parking fees and other appropriate user charges within the city should go into this fund for the maintenance of urban infrastructure. The fund will be administered by the Urban Transportation Agency, and

15. for cities with special federal interests, the Federal Government will aid the state and municipal governments in the construction of new urban roads. For the other categories of cities, the provision of urban transport infrastructure will be the responsibility of the state and municipal government in which the city is located. (Federal Ministry of Transportation (Nigeria), 2010; pp. 35-37).

As stated in Section 4.2, the three tiers of government have their roles on roads which sometimes do overlap. Following on this overlap, "the Federal Government (FG) is responsible for the Federal routes in urban centres" (National Planning Commission (Nigeria), 2009; p. 79). A comparison of the strategies of the two policy documents, demonstrating where they are similar or different will be illustrated in the below table:

| S/No | Strategy | National Transport Policy | Nigeria Vision 20:2020 |
|---|---|---|---|
| 1 | Strengthening of the existing transport safety agencies for improved safety and enforcement of regulations in line with international best practices | X | X |
| 2 | Construction of eight major roads (six-lane at the minimum) linking the extreme ends of the country | | X |
| 3 | Implementation of human capital development initiatives to ensure professionalism and strengthen maintenance capabilities in the transport sector | X | X |
| 4 | Passage of several Bills into law to facilitate the transformation of the sector | X | X |
| 5 | Development of a sound National Transport policy to guide all stakeholders | In draft since 2010 | X |
| 6 | Creation of an enabling environment (amend existing legislation and/or enact new laws) to encourage private sector participation in the development of critical transportation infrastructure | X | X |
| 7 | Development of an expansive efficient and affordable multi-modal transportation network plan for major cities | X | X |

**Table 11: Similarities in Strategies for Road Transportation in Nigeria between the National Transport Policy and the Nigeria Vision 20:2020**

It should be noted that the NV20:2020 have grouped the road transport sector together in its plans and strategies, whereas the National Transport policy has strategies for road transportation and strategies for urban transportation which encompass road and rail transport.

The Nigeria Vision 20:2020 is launched in 2009, and it is to be implemented in three phases from 2010 to 2020. Therefore, an analysis of the successes, challenges, and progress the implementation of these highlighted strategies will be discussed. One of the strategies for transportation is strengthening of the existing transport safety agencies for improved safety and enforcement of regulations in line with international best practices. Chidoka (2011), Gana & Emmanuel (2014) have stated the challenges faced in providing road safety and enforcing traffic regulations in Nigeria. These challenges include poor interagency cooperation, physical assault on road safety officers by traffic offenders, inadequate funding, and inadequate tools (communication gadgets, patrol vehicles, and equipment).

Despite these challenges, the Federal Road Safety Corps (FRSC) has been able to achieve a reduction in road crashes nationally but in the Federal Capital Territory (FCT) it has the highest figures of crashes in 2017 (Federal Road Safety Corps (Nigeria), 2018). Between 2013 to 2017 the FRSC data illustrates a percentage reduction of crashes over these years, that is, from 23.6% in 2014 to 3.2% in 2017. Ukonze *et al*. (2020b) states that the rate of car ownership in Nigeria is high, and they calculated that there are a total of 2,343,748 vehicles in Nigeria, with 1,144,457 cars. This numbers affects "road infrastructure, fuel demand, environment, traffic control and management, and road safety" (Ukonze *et al*., 2020b; p. 845). This trend also continued in the reduction of fatalities in the road crashes. They did this through intense engagement, enlightenment and sensitisation with transport operators, transport unions, students, and pupils at motor parks, bus stations, markets, schools, and rallies within communities. Furthermore, it has been observed that most crashes in 2017 were in urban centres and mostly at night, though road safety camps on highways helps in traffic control and emergency response to crashes. Despite these improvement in road safety, the FRSC have still not achieved the target of Nigeria Vision 20:2020 and Nigeria Road Safety Strategy (NRSS) 2016 – 2020 (35% Reduction in RTC (Road Traffic Crashes) fatality rate by 2020).

Nevertheless, enlightenment and enforcement only does not reduce car crashes, drivers follow the driving rules if they are emotionally and physically healthy (Živković, Nikolić and Markič, 2015). Hence, the high rate of car ownership as calculated by Ukonze at al., and an emotionally unstable driver can cause road crashes. Additionally, the FRSC is implementing tactics to reduce road crashes as recommended by Sumaila (2013) and Shah

*et al.* (2018). Yet, Sumaila believes that more rigorous traffic enforcement should be pursued in combination with the usage of traffic cameras and ICT on traffic management. While Shah *et al*. added that increase funding, strong institutional framework, quality road infrastructure and road safety legislation along with policy, disciplined vehicular road user, and available trauma management can affect how road safety can be improved in addition to road user engagement.

The second strategy – construction of eight major roads (six-lane at the minimum) linking the extreme ends of the country – is still ongoing across the country (Ojeifo, 2021). The construction of these roads has faced challenges such as compensation and relocation of existing utilities (Jackson, 2021), court cases (Alaribe, 2021), low funding, difficult terrain, and change of scope of work (Yafugborhi & Iheamnachor, 2020). While these challenges have been identified, positives from the ongoing construction (number of people employed, socio-economic impact of the construction on the communities, etc,) are not publicly available for discussion. It is noted that these constructions are ongoing for over ten years, and that the impacts to the communities of the roads that are completed for over five years needs to be studied for subsequent projects and programmes of government to incorporate positive impacts and correct negative impacts.

To reform the transportation sector of the Nigerian economy, the NV20:2020 proposed the amendment and enactment of bills that provides the institutional framework of the different modes of transport in the country. One of those bills is the Railway Bill. This bill is passed in the Senate of the Nigerian National Assembly on 21 July 2016 and awaiting concurrence by the House of Representatives of the Nigerian National Assembly (*Nigerian Railway Authority Bill (2015)*. While the bill is targeted at attracting private sector participation in the rail sector, Olapeju and Lasisi (2012) concludes that it is not viable for the private sector, and it will suffer policy inconsistency from the government. Olapeju and Lasisi discussed on the Railway Bill in 2012, that illustrates that the bill has been in the National Assembly for over 9 years now and it has not been passed. This delay might not be surprising because Osumah (2014; p.137) have summed up the Nigerian Legislators as a group who are after their "personal ambition, preferences, and interests rather than by a commitment to the maximization of collective interest" where they are able to achieve their self-centred ambition because of "the corrupt and corrupting nature of Nigerian society; political parties that were ideologically deficient; and the dominance of political adventurists in the National Assembly." (Osumah, 2014; p. 140).

Water transportation is another mode of transport that the NV20:2020 wants to review its legal framework. This review is to be done through the National Inland Waterways Authority

Bill. Presently, the bill has undergone second reading in the House of Representatives of the Nigerian National Assembly *(National Inland Waterways Authority Bill (2019)*. Its objective is for the management, regulation, and development of the Nigerian inland waterways and to promote private sector participation in the sub-sector. However, the bill was declined Presidential Assent in the last Assembly (2015 – 2019) because "it lacked clarity, contains ambiguities in its wordings, and duplicates the functions of already existing agencies." (Anyanwu, 2019; para. 2). Nigeria has waterways spanning 10,000 kilometres, and about 3,800 kilometres are navigable seasonally. Twenty-eight of the nation's thirty-six States can be accessed through water (Nigeria Inland Waterways Authority, 2018). Poor maximisation of economic benefits of water transport (Ekpo, 2012), lack of political will (Chukwuma, 2014), and poor implementation of previous policies on water transport (Igberi and Ogunniyi, 2013) necessitated the need for the National Inland Waterways Bill. However, with the bill undergoing legislative action at national level, the national organisation managing the inland waterways (see Appendix 5) is facing challenges of the legality of their mandate (Nwaiwu, 2021) and the licensing of water transport operators at State level (Abdulkadir and Halimat, 2020). This illustrates the poor delineation of responsibilities between the Federal Government and States Government. Therefore, when passing the bill on Inland Waterways, the National Assembly need to define roles and responsibilities of the various tiers of government.

Presently, road construction and maintenance are funded solely from budgetary allocations, this is not adequate for the job that needs to be done. Thus, the National Transport policy is devising ways to source funds to execute these tasks as mandated by law. The ways that are proposed include –

- Budget allocation from general government revenues: this will continue, as it is a social responsibility of the government
- User charges or taxation: road users should be required to pay for fuel tax, vehicle registration tax, vehicle import taxes, driver licenses, road tolls and taxes on tyres, lubricants and consumable spare parts based on the model wherein the user pays for the services rendered
- Private sector funding through road tolls on specific roads and Build-Operate-Transfer (BOT)
- Transfer of some Trunk A roads to the state government or vice versa, based on stated criteria (Federal Ministry of Transportation (Nigeria), 2010; pp. 26).

The transfer of some Trunk A roads to the state government is already in action with the recent approval for some high-density roads in Kaduna city to be transferred from federal

government ownership to state government ownership. This is due to a paucity of funds for maintenance and urbanisation (Ugwuanyi, 2016). In 2004, toll gates were dismantled in Nigeria, however fifteen years later they are to be returned (Taiwo-Obalonye, 2019). While this is in line with the draft transport policy, it also illustrates policy inconsistency wherein the funding needed to maintain existing roads is not enough, but the tolls are dismantled only to be erected after some few years. Government intends to bring back the toll gates to earn revenue to maintain the roads. However, some Nigerians are cautiously supporting the idea by stating that the accumulated funds should "be used judiciously" (Olaniyi and Okeke, 2019; para.12).

The NV 20:2020 proposed to "development of a sound National Transport policy to guide all stakeholders" and construct "eight major roads (6-lane at the minimum) linking the extreme ends of the country" (National Planning Commission (Nigeria), 2009; p. 80). However, the NV20:2020 has not stated how they propose to get funding for the expressways criss-crossing the country, and the transport policy that states how to fund the projects (using tolls) has not been approved even though it is over ten years old at the time of writing. Through the strategy of private sector funding, the government has commenced this initiative by giving companies in Nigeria the option of not paying their taxes but using their revenue and expertise to construct and rehabilitate roads across the country (Chima, 2019).

For user charges, this is also in line with Principle 16 of Agenda 21, which states, "The polluter pays". Nigerians pay for vehicle registration, vehicle importation (for importers), and drivers' licences but these taxes do not go to the maintenance or construction of roads, instead these funds go to the pool of funds from tax revenue for the nation to be disbursed in subsequent budgetary allocations. The taxation of vehicle users, as proposed by this policy, faced some hurdles recently at the Nigerian National Assembly. The National Roads Fund (Establishment, etc.) Bill 2017 recommended charging passengers in commercial vehicles, and buyers of petroleum and diesel, particular amounts in order "to address inadequate levels of funding and irregular allocation from Federal Government road management, which made planning for maintenance difficult and irresponsive to private sector development" *(Vanguard Newspapers*, 2017; para. 13). However, due to a public outcry (Olawoyin, 2017), the Senate stepped down the bill for "further consultation" (Adebayo, 2017; para. 2).

According to the Demographia (2018)*,* 23 cities in Nigeria have populations of more than 500,000 people. Furthermore, urban transport is given much focus in the policy of the road sub-sector because of the growing population in Nigerian cities. This comes with all the challenges faced in an urban centre. The objective of urban transport in the transport policy is

to develop an "efficient, self-sustaining and reliable public transport system that meets the needs of the growing population of the cities of Nigeria, and to improve the infrastructure and institutional framework for public transport service delivery" (Federal Ministry of Transportation (Nigeria), 2010; p. 35). The strategies intended to be executed to achieve the desired objectives in urban transportation are:

a.  to introduce a well-organized high capacity bus mass transit system which the existing infrastructure can accommodate.

b.  Urban roads are the primary right-of-way which accommodate and ensure the safety of all modes – bus transit, automobile, walking and cycling.

c.  Establishment of a Municipal Transportation Agency (UTA) in each major city.

d.  Creation of an Urban Transport Fund so that monies collected from license fees, parking fees and other appropriate user charges within the city should go into this fund for the maintenance of urban infrastructure.

e.  For cities with special federal interests, the federal government will aid the state and municipal governments in the construction of new urban roads (2010).

Due to challenges faced by the government, commuters, and road users, the National Transport policy recommended the provision of credit facilities to existing small-scale commercial vehicle owners to form cooperatives so they could have a larger fleet of vehicles for regulation and coordination of commercial road transportation. This point is also covered by the NV20:2020 which states that creating "an enabling environment (amend existing legislation and/or enact new laws) to encourage private sector participation in the development of critical transportation infrastructure" (National Planning Commission (Nigeria), 2009; p. 81). This will ensure safety, security, reliability, accessibility, and quality of service for commuters, freight, and vehicle operators.
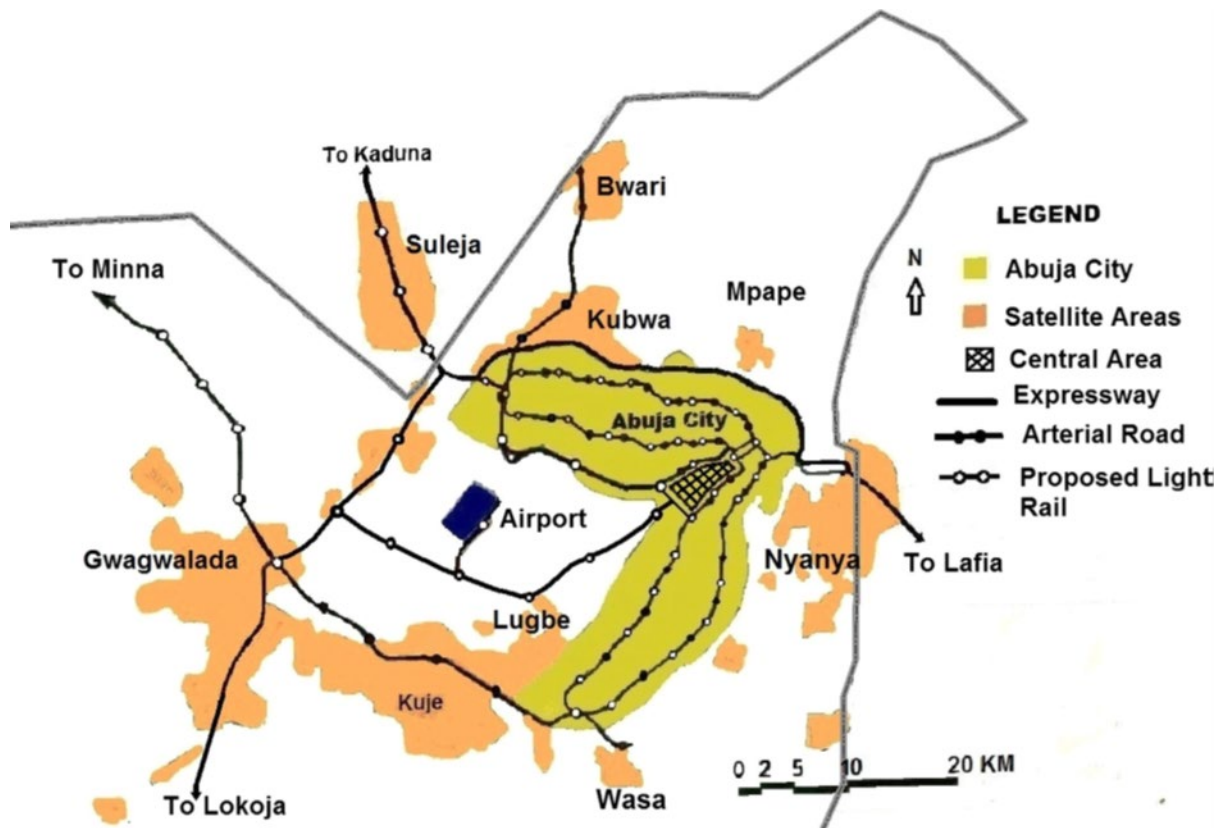
**Chart 8: Abuja & Environs Public Transport Concept**

**(Source: Abubakar (2014)**

In the Abuja Master plan, transportation has the following objectives:

i. Maximise public transport mobility for those residents who do not own cars.

ii. Minimise traffic movements passing through the various development sectors.

iii. Provide multiple highway paths between development sectors, thereby avoiding network bottlenecks.

iv. Achieve maximum self-containment within the outlying sectors (Federal Capital Development Authority (Nigeria), 1979; p. 137).

It should be noted that the transport policy of the city is derived from the plan of the city. Therefore, to achieve the above objectives, the transport policy will use the following strategies:

- Buses mixed with other traffic on general use streets.
- Buses only on exclusive right of ways.
- Light Rail Transit (LRT).
- Rapid Rail Transit (RRT) (Federal Capital Development Authority (Nigeria), 1979; p. 137).

The Federal Government, as stated by the NV20:2020, intends to construct roads across the country to facilitate inter–zonal transportation, while the states (including the FCT) will construct feeder roads to link with the major roads. This point is reiterated by the FCT transport policy whereby it intends to "provide multiple highway paths between development sectors, thereby avoiding network bottlenecks" (Federal Capital Development Authority (Nigeria), 1979; p. 137). Furthermore, the NV20:2020 also stated it will develop an efficient and affordable multi-modal transportation network plan for major cities; this is reflected in the strategies outlined by the FCT Transport policy. Additionally, the objectives of the FCT Transport policy aligns with the strategies proposed by the National Transport policy. Specifically, these aligned strategies are:

- creation of dedicated routes for bus mass transit in the urban areas
- enhancement of the capacity of the existing infrastructure through proper maintenance of roadways and efficient traffic management
- ensure efficient traffic management through proper intersection control, better passenger pick-up and disembarking spaces, priority lanes, congestion control etc
- strict enforcement of traffic regulations
- expand urban road infrastructure substantially, with proper concern for the needs of the public transport infrastructure (railway, dedicated bus routes etc.)
- promote road widening and extension in new areas as part of land use planning and development, and
- provide facilities for alternative modes of transport– walking and cycling.

Following the strategies of NV 20: 2020 – "strengthening of the existing transport safety agencies for improved safety and enforcement of regulations in line with international best practices" (National Planning Commission (Nigeria), 2009; p. 81) – and the National Transport policy – "establish an Urban Transportation Agency (UTA) in each major city" (Federal Ministry of Transportation (Nigeria), 2010; p. 36) – the city authorities created the FCT Transportation Secretariat to oversee the transportation within the city and the Federal Capital Territory (FCT) as a whole. The Secretariat was established in 2004 (FCT Transportation Secretariat (Nigeria), 2016). The functions of the Secretariat are as follows:

1. Plan, design and provide the first and second phase (70km) of public transport facilities in FCT. Such facilities include, but are not limited to, railways, metro lines, transitways, transportation centres, interchange centres, car parks, laybys and bus stops, including the complementary bus services (4-5 year-programme).
2. Enhance the safety of lives and properties in FCT through the provision, operation, and management of synchronized (Urban Traffic Control system) traffic control devices.

3. Review of the FCT transportation master plan and provision of traffic data for comprehensive planning, and provision of a transportation database.
4. Propose traffic laws and ordinances for proper regulation and management of traffic in the FCT.
5. Regulate, coordinate, and manage the operation of public transportation in the FCT.
6. Liaise with stakeholders in the transport sub-sector in ensuring the maintenance of standards, and the development and improvement of mass transportation in the FCT.
7. Re-design and improve defective transportation facilities, such as intersections, underpasses, interchanges, walkways, cycle tracks, ramps, kerbs, etc.
8. Partner with the private sector to complement the operation of the Abuja Urban Mass Transit Company (AUMTCO).
9. Revamp and re-capitalise AUMTCO by providing 200-300 high-capacity buses to service the needs of residents.
10. Partner with the private sector in the development of transportation facilities in the FCT.
11. Partner with the private sector in the provision, operation, and management of modern paratransit in the FCT through the provision of an enabling business environment.
12. Continue the conduct of general vehicle administration in the FCT.
13. Enhance safety on city roads through continuous drivers' licensing and training, vehicle licensing and registration.
14. Administer and regulate vehicle emissions, vehicle sales and inspection programmes (FCT Transportation Secretariat (Nigeria), 2004; pp. 4-6).

The Abuja Urban Mass Transport Company Limited (AUMTCO) was established in 1984 as Abuja Service (ABS) and later registered in 1989 as Abuja Urban Mass Transport Company Limited. They operate a comprehensive Intra City Bus Service in the Federal Capital Territory. They have a mission "to provide the best value for money and safest, most reliable scheduled and bus hire service in Nigeria" (Abuja Urban Mass Transport Company Limited, 2015a; para. 3). They provide mass transit services from the satellite towns to the city centre on 11 routes and with 166 bus stops along the routes (Abuja Urban Mass Transport Company Limited, 2015b).

The National Transport Policy (2010) proposed a road tax on all vehicle users to provide more funding for the road sector and to discourage private car users. The discouragement of private car users in the FCT is one of the objectives of the FCT Transport policy. However, there was much public outcry over the road tax, forcing the government to abandon the proposal (Adebayo, 2017). The city of Abuja was operating the policy of "park and pay", whereby car owners would pay for parking at particular times of the day at particular

locations. However, in 2014, a Court ruling declared the policy as illegal and stated that it should be stopped (Ajala, 2014) and (Mohammed, 2014). The ruling was brought about following a case filed by a plaintiff who was fined for noncompliance with the regulation. The Court declaration illustrated the unacceptability of the policy by the car owners and the inability of the government to put in place the required law mandating the "park and pay" policy. In addition, the policy has been in place for over two years before it was declared illegal, and, so far, there has been no talk of reimbursing the public that have been paying for the parking.

Dahiru (2006) notes that the Federal Capital Territory Administration (FCTA), through the Transportation Secretariat, commenced the process of re-organising the transport sector as contained in the Abuja master plan by initiating the Abuja Public Transport Initiative (ABUTRANS). This initiative is a 12-year plan "to build and operate rail lines, expand and improve bus service so as to address the mobility needs of Abuja metropolitan area and provide economic stimuli in the region for city growth and development" (Dahiru, 2006; pp. 49).

The ABUTRANS proposed the following –

- Expanding bus services in all areas to reduce congestion in the city
- Construction of 286-kilometre light rail and commuter rail
- 33,000 park-and-ride spaces at rail and bus station to reduce the use of private cars into the city centre
- Introduction of the Abuja green cabs scheme to boost the paratransit modes, which will replace the old taxi system presently operating, and
- Banning the use of commercial motorcycles in the Federal Capital City (Dahiru, 2006; 49-50).

Following these proposals by ABUTRANS, the FCT Transportation Secretariat were able to put the following into operation:

i. High-capacity buses containing 40 – 53 seats to be used for intra and intercity services and 200-seater buses for congested external routes (in operation).

ii. 169 bus stops are to be constructed approximately 300-500 metres apart on internal routes while lay byes are also to be constructed on the external routes (in place).

iii. Colour code the bus routes for three different bus operators. The buses are also coloured to illustrate the zones of the city they are operating on (in operation).

iv. Price fares should be below individual operators' fares (approved by government).

v. Park – and – Ride stations are also proposed in three major locations of the city (not in operation yet), and

vi.     the establishment of call centres and standard workshops in the Central Area as a terminal for the bus operators for maintenance purposes (not in place) (Dahiru, 2006; pp. 52-56).

In the case of rail, the 1st phase of the light rail (it consists of six phases) was launched into operation in 2018 (Iroanusi, 2018), while commercial motorcycles are banned already in Abuja (Ogala, 2018).
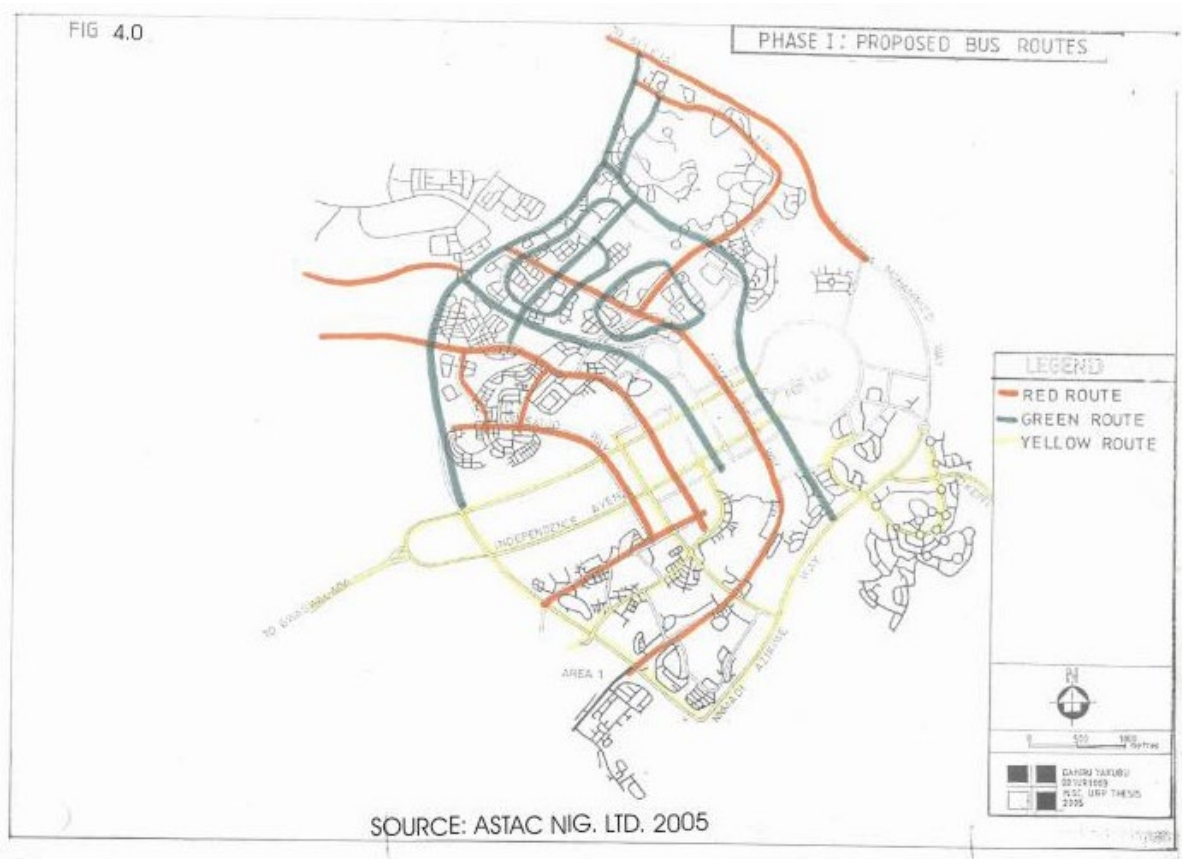


**Chart 9: Chart illustrating Bus Routes in Abuja, Nigeria**

**(Source: Dahiru (2006)**

There is a total of 23 routes; the operators covering these routes are - Abuja Urban Mass Transit Company (Southern Zone-Red Line), Nation Wide Unity Transport Limited (Northern Zone-Green Line), and Sonic Global Group (Central Zone-Yellow Line) (Dahiru, 2006; pp. 52-56). The ABUTRANS initiative is to be implemented in two phases spread over six years. The project is in collaboration with international partners who will transfer knowledge and expertise after six years to their Nigerian partners. The first phase is already underway as illustrated in the bus routes above, and it also involves the provision of low-entry coaches, and

a highly comfortable fully air-conditioned executive type of micro – bus to service the airport and Hotels. A pre – paid digital ticketing system will be adopted because of its advantages, particularly in time saving and accountability. The second phase involves the provision of Bus Rapid Transit (BRT) and the metro line. The BRT will come in place first before the completion of the metro line, and infrastructure needed for the commencement of the BRT (dedicated lanes and bus stations) needs to be set up before it is put into operation.

The ABUTRANS initiative of the FCT Transportation Secretariat is in line with the broad proposal of the NV20:2020 and specific objectives and strategies of the National Transport Policy. The ABUTRANS initiative was developed in 2004, the National Transport policy was developed in 2010, and the NV20:2020 was developed in 2009. However, they are all facing different issues while implementing their proposals. Nwankwo *et al*. (2016) mention that the AUMTCO have procured 392 buses for usage in the FCT but the system is still facing more challenges. These challenges are long waiting times, long queues of passengers at various bus stops, rush when commuters are disembarking and boarding at the same time, loss of valuable items because of struggling for buses, lateness to work, and loss of man hours.

Ganiyu (2012) also identified more challenges faced by the transport system in the FCT. These are:
- nonadherence to the city's masterplan to provide road infrastructure to other phases of the city
- slow pace of the provision of public rail transportation as the urbanisation increases
- inadequately designated bus routes, bus stops, and bus terminals
- the increase in private vehicles results in available parking spaces being inadequate during working hours
- faded and broken road markings, signs, and traffic signals
- dependence on private cars for movement
- disorganised minibus services operated by individuals with no regulation and coordination
- traffic congestion, and
- a near lack of coordination between the Transport Secretariat (which handles policy matters relating to transport) and the infrastructural development of the city (this is handled by another government body).

In the case of the National Transport policy, Femi (2013) identified that Nigeria's transport policies are facing poor implementation due to policy inconsistencies by political decision makers, bureaucracies, an overlap of responsibilities between the three tiers of government,

and the ineffectiveness of the National Council on Transportation (NCT). Following Femi's highlighted challenges, the National Transport policy has been in draft form since 2010, and it was last reviewed for approval in 2017 (Federal Ministry of Transportation (Nigeria), 2017b). Furthermore, the NCT, which is the sector related decision-making body that is supposed to finalise the National Transport policy before cabinet approval, last met in 2017 (Federal Ministry of Transportation (Nigeria), 2017a). The NV20:2020 and the National Transport policy both proposed the enactment and bringing into the law the National Transport Commission. The National Transport Commission is expected to create a multi-modal transport system that will drive the nation's transport policy and engender speedy economic development. However, the bill is at the National Assembly, and as at 2019 the bill was declined for Presidential Assent (Iroanusi, 2019).

The last bill proposed by the NV20:2020 – Ports and Harbour Reform Bill – have been passed by the Senate in April 2017 *(Nigerian Ports and Harbours Authority Act (Amendment) Bill, 2016).* However, Okeke *et al*. (2019) noted that the port reforms brought about port concession which improved the port infrastructure and service quality. Yet there are areas that needs improvement in the service reliability and assurance aspects of port and harbour management. All the transport bills proposed for passage by the legislators are all focussing on private sector participation. But "privatization in Nigeria has remained emotive and controversial given the differing interests of the stakeholders." (Idornigie, 2012; p. 33), and that the level of inefficiency and ineffectiveness of government organisations will still affect these corporations even if they are privatised (Arowolo & Ologunowa, 2012). This is because the government regulators will carry over their negative attitudes in regulating the various sectors thus smearing the positive attitudes of the private sector.

The NV20:2020 and the National Transport Policy all proposed a multi-modal transport system for the major cities of the country. The FCT Transport policy also proposed this. In the case of Abuja, Femi (2012) identified that inadequate implementation of the planned multi-modal transport infrastructure caused by unplanned development of the city created a disorganised singular mode of transport wherein privately-owned buses operate in a disorganised manner. This led to the creation of unapproved bus routes and stops, inadequate pedestrian bridges, and traffic congestion due to increases in private car usage. In Nigeria, the "available transport infrastructure and services are underdeveloped and the physical networks badly integrated" (Okyere *et al*., 2019; p. 169), the available informal modes (paratransit, motorcycle taxis, tricycles, etc.) need to be included (Godard, 2013) in the proposed multi-modal system. However, in a system that is poor in institutional governance,

policy development and implementation (Porter, 2007) these proposals can be proposed in policy documents but not implemented.

In a contemporary world, multi-modal transportation is integrated into the smart city and the socio-technical changes that occurs. One of the objectives of the draft National Transport Policy is "to develop transport infrastructure that ensures environmental sustainability and internationally accepted standards" (Federal Ministry of Transportation (Nigeria), 2010; p. 52). Nevertheless, none of the policy documents under review have stated the development of a smart city. Therefore, Ajala (2018) recommended the development of a national guideline for integrated transport that includes smart city infrastructure and characteristics. Also, Marsden & Stead (2011) and Victor (2012) states that replicating policies and programmes "as is" from one part of the world to the other can be a negative idea to the receiving country. This is further supported by Alade *et al*. (2019) where they stated that when providing multi-modal transport system in Africa local context may change at planning, implementing, and operational stages depending on the circumstances. And these changes might be pollical, financial, technological, institutional, or cultural.

The NV20:2020 is believed to be "utopian" because Nigeria does not have the political will and policy inconsistencies have been experienced in the past (Eneh, 2011). Furthermore, Asaju and Akume (2012) conclude that:
 * low development of science and technology,
 * inadequate infrastructural facilities,
 * lack of budget discipline, lack of virile and ineffective fiscal and monetary policy,
 * lack of policy consistency and continuity,
 * decay and ineffective educational sector,
 * ineffective human resource development,
 * high rate of corruption,
 * high rate of poverty and unemployment, and
 * lack of good governance

can all contribute to the inadequate achievement of Vision 20:2020. Akhalumeh and Izien (2013) also reiterated the factors raised by Asaju and Akume (2012).

Urban road transport is not maintained and rehabilitated when necessary due to administrative and policy inconsistencies (Wasike, 2001), it faces issues of equity, community and urbanity (Yiftachel and Hedgcock, 1993) that can be addressed by including different ranges of stakeholders at different levels of socio-economic development in order to have a

functioning and acceptable infrastructure in an urban area (Amekudzi, Khisty and Khayesi, 2009). Furthermore, Ghahramanpouri et al. (2015) concludes that local authorities and urban planners need to evaluate public spaces and infrastructure and see how it affects the people socially to improve on it. The common point for all these references is to understand what the people (end users of the urban transport infrastructure) need. These policy documents have elements of SST in its goals, objectives, and strategies. Yet, the level of achievement of these goals is in the implementation of these strategies and the operations of the various programmes and projects outlined in the policy documents.

In conclusion, the Report of the Vision 20:2020 National Technical Working Group on Transport (2009) characterised the Nigerian roads as follows:

i. Inadequate routine maintenance and neglect of periodic and emergency maintenance coupled with poor initial construction and design. These factors shorten the useful life of the roads and increase the operating cost of vehicles.

ii. It has been estimated that over the next 10 years, N300 billion (£627,955,304.55, 12/08/2017 rates) will be required to bring national roads into a satisfactory condition. Current neglect of these roads implies a loss of network value of N80 billion (£167,395,152.19) per year and additional operating costs of N35 billion (£73,235,379.084) per year.

iii. There is a lack of coordination in the construction and maintenance of the various road networks and a lack of a coherent national road policy, consistent regulation and application of road standards.

iv. Most operators of goods and passenger vehicles have limited professional and business capacity, resulting in inefficient services.

v. Road design standards have not kept pace with increasing traffic volumes and vehicle weights, and poor axle load control causes significant damage to the road network.

vi. A lack of road markings, safety barriers, and signage contribute to the high accident and casualty rate on all roads.

Finally, based on the analysis of the various policy documents, Abuja and Nigeria have policies and strategies to address the transport demands of commuters in the urban areas but the implementation of these policies have been a recurring problem for the country. These policies face issues of delays at the legislators, political will, funding, overlapping roles and responsibilities between tiers of government, and delay in approving the transport policies. Following this documentary analysis, Nigeria have plans to have a socially sustainable transport system across the country. However, these plans are hampered by the above highlighted challenges. While some of the challenges are self-inflicted (legislative delays, lack

of political will, poor delineation of roles and responsibilities) others are unforeseen (funding, policy changes, socio-technical changes in transportation). Having a knowledge of the road transport system of Abuja helped the researcher understand some of the problems outlined in this Chapter. Problems of political will and funding are understood, however, overlapping roles and responsibilities are areas that the researcher did not have an idea about.

# CHAPTER 5: DATA ANALYSIS AND DISCUSSION FROM COMMUTER RESPONSES

## 5.1 Introduction

This chapter is structured in line with the emergent themes of the research, under the broad headings of stakeholder participation in decision-making and social inclusion. The findings from the commuter interviews are then discussed as separate themes under these two broad themes. A summary of the findings highlights the similarities and distinctions of the findings with reference to the academic literature. This Chapter is discussing the responses of commuters only. The responses from labour union and Government stakeholders are discussed in the next Chapter.

## 5.2 Collective Citizen Action

The participation of the citizens of Abuja in the development of urban road transport policy involves diverse stakeholders including the commuters. Interaction among the citizenry and between the citizens and the government to gather the perspective of the commuters is inadequate in the city because 49.0% stated they do not know if there is strong civic engagement among the people of Abuja, 29.9% stated there is no strong civic engagement, and 21.1% stated there is strong civic engagement. Philip and Peter (2013) reiterates that elitist decision-making process has removed the potential for citizens to have influence (agency) over decisions however minor those decisions are. Communities needs to understand what their challenges are (Wonodi *et al.*, 2012), own up to the challenges and advocate for a bottom-up decision-making of urban plans and programmes (Ogu, 2002). Therefore, involving citizens in policy making is both in their and the government's interest. Involving citizens in the policy making process is beneficial to the government because: it will improve government's understanding of what the people need and expect, it builds community support for projects, and improves stakeholder relationships. Some scholars argue that collective communal and civil engagement between neighbours and the civil society to influence construction of roads in a community is achievable using a healthy and robust public participation and engagement with the authorities (McAndrews and Marcus, 2015). Therefore, having a collective citizen action from the people of Abuja and approaching the government on transport issues may result in an improvement to underperforming and ineffective services.

Further disaggregation of the research participants on their responses to having civic engagement in Abuja illustrates that 43.5% of males and 56.1% of females do not know if there is strong civic engagement in Abuja. As stated by Philip and Peter (2013), citizens are not encouraged to join in the decision-making process, therefore, a high percentage of the responses of both genders illustrates low civic engagement. Though outnumbered by men in

community/religious associations, women are more likely to have a collective voice to correct infrastructural deficit than men, who prefer alternative self-help solutions (Acey, 2010). Thus, women are more inclined to have their voices heard though a collective platform than as individuals. Furthermore, Acey (2010) illustrates that civic engagement and joining of community associations differs across Nigeria. where Acey's research focussed on Benin and Lagos cities whereas this research focussed on Abuja. However, listening to, and understanding, females in planning for transport systems is advantageous because men and women might not have the same needs when travelling (Porter, 2008). Also, the working age groups (18 years to 67 years) do not know if there is civic engagement in Abuja compared to the 68 and above age group who stated there is no civic engagement. None of the age groups are involved in any civic engagements in the city.

As stated by Booth and Richardson (2001; p. 148), "there are many different publics, which can be identified on the basis of a variety of factors such as geography, gender, ethnicity, age, socio-economic group, employment, and so on." Therefore, this analysis is further disaggregated to age groups and occupations of the respondents. Different socio-economic groups might have different opinions on how they want the transport system to be, hence, public authorities need to listen to all groups and incorporate their needs into the system.  For a community to have agency (the ability to influence processes), they need to collectively mobilise, identify their communal needs, and participate in the achievement of those needs (Bhattacharyya, 2004). This is replicated by McAndrews and Marcus (2015) where the community collectively came together to participate through involvement of neighbours, housing groups/associations, and individuals but "some populations are difficult to reach, and organized neighbours face the same challenges as professional planners when recruiting people who are unwilling to participate, speak different languages, or have different opinions about the issues at hand." (McAndrews and Marcus, 2015; p. 544).

Among the occupational groups of the respondents, the civil servants (34.4%) think that there is civic engagement in the city while the unemployed (38.1%) and the self-employed (31.5%) think there is no civic engagement. 67.4% of students do not know. An equal percentage (30.2%) of private sector employees believe either that there is or that there is no civic engagement in Abuja. A high percentage of all the occupational groups are not involved in any civic engagement in the city. Professionals and people who work in government organisations can encourage their neighbours and communities to engage and participate in the decision-making process of the urban areas (de Graaf, van Hulst and Michels, 2015). Citizens' and communal aspirations (both individual and collective) on transport might differ from the institutional (different tiers of government and a collection of government

organisations) (Sagaris, 2018). However, specific citizen groups (with particular interests based on their age, occupation, or mode of transport preference),the health benefits of active transport, and having an environmentally friendly transport system, all influence engagement and participation of the community in the provision of its transport system (Sagaris, 2018).

Respondents illustrated the priorities they think government should focus on in improving commuting in Abuja. The data gathered illustrates that 54% wants existing roads to be improved, 21.1% wants new roads to be constructed, 16.1% supports the improvement of existing transport services, and 8.8% supports the building of new public transport infrastructure. Additionally, 56.1% of females and 52.4% of males believes improving existing road should be the priority. This priority is supported by a higher percentage of all the age groups and occupational groups of this research. The higher percentage of all the groups prefer the improvement of existing roads to make commuting a pleasant experience. However, Asiyanbola (2012) finds that there is variation in infrastructure experience in the urban area between both genders and it is biased towards men having the better experience. Nevertheless, civil society organisations and community groups need to lead the way to change the narrative on policy to accommodate women's views in infrastructural development for them to use "services which are gender-sensitive [which] would improve the potential of women and men to enjoy and exercise their full human rights – political, economic, social, civil and cultural." (Asiyanbola, 2012; p. 1057).

However, Nwankwo, Fawohunre and Obasanjo (2016) noted that commuters in Abuja prefer: improvement in existing public transport services, building of new public transport infrastructure, and construction of new roads (in that order), respectively. Furthermore, Ojekunle (2016) reaffirmed that Abuja city needs to improve on its public transport system by the provision of professional, organised, disciplined, and regulated bus operators who provide an efficient and effective service acceptable by commuters. Nwachukwu (2014) recommended that improvement of existing transport services, construction of new roads, and building of new public transport infrastructure are what is needed for commuter satisfaction in Abuja. Then, Femi (2012) stated that the existing public transport system in the city needs to have an "institutional reorganization" (p. 127) that involves creation of another body for transportation, redistribution of roles and responsibilities, and the opening up of a multimodal public transport system to be regulated by the recommended organisation before the public transport services can improve.

The responses to initiatives that would be effective (or ineffective) in encouraging the reduction in use of private cars in Abuja are varied. The respondents have stated that public

transport routes (new routes/publicly advertised existing routes) (35.6%), cheaper fares (41.0%), fewer parking spaces (31.8%), introduction of parking fees (33.7%), reliable public transport service (60.9%), and better sidewalks (30.7%) are very effective initiatives that would encourage a reduction in the use of private cars. However, 19.9% of respondents notes that introduction of bicycle parking is an ineffective initiative but 24.1% stated having bicycle lanes on the roads is an effective initiative, whereas a car sharing scheme is neither effective nor ineffective (25.3%). These initiatives that will encourage the people of Abuja not to use their private cars are some of the recommendations proposed by Osuntogun and Koku (2007), Emeasoba, Ogbuefi and Enugu (2013), Olawole and Aloba (2014), Bombom and Abdullahi (2015), Emmanuel and Olamigoke (2013), and Nwankwo, Fawohunre and Obasanjo (2016). Lastly, Mugion *et al.* (2018) concluded that service quality of urban public transport enhances sustainable mobility when vehicle owners reduce the usage of their cars and use public transport, and the service is designed according to customer needs and expectations (security, reliability, comfort, travel time and waiting conditions).

The various initiatives that will discourage private cars users to drive within the city are further disaggregated by gender, age group, and occupation. The data illustrates that a higher percentage of females (39.5%) think that it will be very effective if new public transport routes are provided and publicly advertised private cars are reduced on roads but 37.4% of males feel it is an effective initiative. A high percentage of the 18 – 27 age group (41.7%), 58 – 67 (22.2%), and 68 and above (58.3%) feel new public transport routes that are publicly advertised (together with the existing routes) is a very effective initiative. The 38 – 47 (31.4%) and 48 – 57 (28.0%) age groups feel it is effective although not very effective. However, 22.2% of the 58 – 67 group also feels it is neither an effective nor an ineffective initiative. Porter (2007; p. 251) sets the scene by stating that: "a good transport system depends not just on suitable path and road infrastructure but also on the availability of appropriate vehicles at the right time and place." The respondents are reiterating Porter's quotation by supporting the provision of all modes of public transport that everyone can access for their commute and not depend on private cars and roads only. Nevertheless, (Porter, 2007) pointed out that the transport governance system is tilted more towards how many kilometres of roads are constructed rather than how accessible the roads are for non-car users. The civil servants (34.4%), private employees (39.6%), self-employed (32.9%), and students (41.9%) responded that new public transport routes and publicly advertised existing routes are very effective initiatives to discourage the usage of private cars. Furthermore, the unemployed (33.3%) stated it is effective and other occupations responded that it is neither an effective nor ineffective initiative.

Males feel that cheaper fares are very effective in reducing private car usage. 42.1% of females are supportive of this initiative and the same percentage of females believe it is an effective strategy. Cheaper fares are a very effective initiative according to the 28 – 37 (50.0%) and the 48 – 57 (32.0%) age groups, while the other age groups (18 – 27, the 38 – 47, the 48 – 57, the 58 – 67, and the 68 and above) feel that cheaper fares are somewhat effective although not very effective. Sietchiping, Permezel and Ngomsi (2012) have stated the high number of commuters who walk as their daily commute. Indeed, cheaper fares will help commuters to use the available transport system but this does not solve the problem (Titheridge *et al.*, 2014). Although a commuter might have the money for the trip, the service is not available for the person. Thus, "the problem is more complex than just being on a low income and carless" (Titheridge *et al.*, 2014; p. 32). Therefore, in addition to reducing fares, travel discount schemes for particular groups will also help, especially if the communal and commuter data are available to the authorities (Satterthwaite, 2017). Cheaper fares are very effective according to civil servants (41.0%), private employees (64.2%), the unemployed (42.9%), and students (46.5%). Although this is effective for a high percentage of the self-employed (50.7%) and other occupations (40.0%), it is equally effective for 46.5% of students.

Fewer parking space discourage car users to use their vehicle according to 37.7% of females but 29.3% of males believe it is an effective strategy. For fewer parking spaces, a high percentage of the 18 – 27, 38 – 47, 48 – 57, and 58 – 47 age groups feel it is a very effective initiative. The 28 – 37 and 68 and above groups feel it is an effective initiative and very good one. Having fewer parking spaces might exclude other vehicle owners from accessing the city, thus negating the principles of transport inclusion as prescribed by Church, Frost and Sullivan (2000), Solomon (2002), and Banister (2005a). The disabled who depend on their personal vehicles to take them to the city centre might be excluded if parking spaces are not available for them. Also, Abuja does not have school buses which take children to and from school. Therefore, the parents depend on their vehicles to take the children to school and, when the schools are over, they must take a break from work to pick up their children. Thus, if they do not have anywhere to park their cars, they are hence excluded from the transport system. Likewise, fewer parking spaces is believed to be very effective initiative for 39.7% of the self-employed, 38.1% of the unemployed, 27.9% of students, and 50.0% of other occupations. However, 29.5% of civil servants and 35.8% of the private employees responded that it is an effective initiative.

Men and women think introduction of parking fees will encourage car usage though more females (39.5%) believe in that initiative than do the males (29.3%). By introducing parking fees, all age groups, excluding 18 -27 and 68 and above, think it will reduce private

car usage in the city. However, the 18 – 27 and the 68 and above age groups think it is not a very effective initiative, although a worthwhile one. Abuja had a system of park and pay policy yet it was suspended by the courts (Mohammed, 2014). This was due to low enlightenment and understanding for the people of Abuja to understand why the regulations are needed and what the benefit is to them. Also, because of the low level of income (monthly minimum wage is N18,000.00 (£38.43), car owners are using their cars for necessity to balance the inequalities in the transport system (Câmara and Banister, 1993), for "individuals and groups of people should be able to control their mobility" (Ascher, 2005; p. 19), and households make their transport arrangements based on their levels of income (Oviedo Hernandez and Titheridge, 2016). Thus, low income, coupled with the need to commute based on available modes of transport within a low personal budget, will challenge a lot of commuters. Hence, parking fees are advantageous to the city because of the revenue, low traffic, traffic safety and security, and low emissions. The commuter, however, then faces a problem of how to travel to and from home, whether as an individual or as a family. Introduction of parking fees is a very effective initiative according to private employees (34.0%), the self-employed (47.9%), the unemployed (28.6%), and other occupations (50.0%).

Females (21.1%) think that introduction of bicycle parking is an ineffective initiative, but the males (19.0%) believe it is neither effective nor ineffective and same percentage of males believes it is an ineffective initiative. According to 18 – 27-year-olds (22.6%), 48 – 57-year-olds (20.0%), and 58 – 67-year-olds (11.1%) it is an ineffective initiative. However, 23.5% of the 38 – 47 years believe it is a very effective initiative. Additionally, 11.1% of the 58 – 67 age group equally believe that it is very effective, it is effective, and it is very ineffective. Therefore, if the responses are aggregated, 22.2% (adding up those who chose very effective and effective) of the 58 – 67-year-olds are in support of the initiative whereas 22.2% (adding up ineffective and very ineffective) are not. Still, it is neither an effective nor ineffective initiative as responded by 21.3% of 28 – 37-year-olds, 23.5% of 38 – 47-year-olds, and 25.0% of 68-year-olds and above.

Porter (2008) believes that gender construct in sub-Saharan Africa hampers women using bicycles for commuting. Docherty, Guiliano and Houston (2008) encouraged the regeneration of the city centres and the usage of bicycles and public transport and Porter (2010) identified the role that non-motorised transport plays in sub-Saharan Africa. The role that non-motorised transport plays is huge due to issues such as poverty (Mitullah and Opiyo, 2012), inadequate transport systems (Ganiyu, 2012), and unaffordable properties in the city centres (Aliyu, 2016) which discourage people from commuting with bicycles in Abuja. However, provision of the bicycle infrastructure as recommended by Jones (2012) and de

Sousa, Sanches and Ferreira (2014) might encourage commuters to use these facilities irrespective of the gender construct given to women. Nevertheless, gender or social constructs can be changed to the society's advantage by explaining why the constructs need to be changed (Diekman and Eagly, 2000). Still, some constructs exist because it suits the women themselves (Warner, Al-Hassan and Kydd, 1997). For example, some women might prefer wearing wrappers and full-length gowns as their daily clothes and this might deter them from cycling, unlike those who wear trousers. The introduction of bicycle parking is neither effective nor ineffective according to 21.3% of civil servants, 24.5% of private employees, and 20.0% of other occupations. An equal percentage (20.0%) of other occupations also responded that it is either an effective, ineffective, or very ineffective initiative. Additionally, the self-employed (24.7%) responded that it is not applicable to them. Furthermore, it is not effective according to the unemployed (33.3%) and students (25.6%).

A car sharing scheme is neither effective nor ineffective according to both genders (female: 26.3%, male: 24.5%). It is a very effective initiative according to 38 – 47 and 58 – 67-year-olds. However, it is an effective initiative according to responses by 18 – 27-year-olds and 68-year-olds and above. Furthermore, the 28 – 37, the 38 – 47, the 48 – 57, and the 58 – 67 age groups believe it is neither an effective nor ineffective initiative. It should be noted that an equal percentage (25.0%) of the 68 and above age group think it is very effective and that it is neither an effective nor ineffective initiative. Similarly, an equal percentage (22.2%) of the 58 – 67-year-olds think it is either very effective or neither effective nor ineffective. Car sharing schemes operate in Abuja, which is similar to what Carrigan (2015) stated. However, the taxis are poorly maintained (Ibitayo, 2012), unreliable (Razak, 2016), and informal (Gbadamosi and Adenigbo, 2017) thus making them prone to face a ban due to poor regulation and insecurity (Akinpelu, 2019). It is because of these reasons that the research respondents feel that taxis are neither an effective nor ineffective initiative. The taxi sharing initiative is a noble one if improved upon based on local situations (Usman, Sanusi and Musa, 2017) and it reduces transport costs for families (Belton Chevallier *et al.*, 2018). For car sharing schemes, an equal percentage of civil servants (21.3%) answered that it is an effective initiative and also an ineffective one. 28.3% of private employees, 26.0% of the self-employed, 28.6% of the unemployed, 25.6% of students, and 30.0% of other occupations stated it is neither an effective nor ineffective initiative. However, an equal percentage of the unemployed (28.6%) believe it is an effective initiative.

Provision of bicycle lanes is an effective initiative according to men and women (male: 25.9%, female: 21.9%). Bicycle lanes are very effective (38 – 47-year-olds and 68-year-olds and above) and effective (18 – 27, 28 – 37, 48 – 57, 58 – 67, 68 and above age groups). An

equal percentage of 38 – 47-year-olds (19.6%) think it is very effective or that it is ineffective. Similarly, 33.3% of the 68 and above age group think it is very effective and effective, respectively. The response by both genders here corresponds with Jones (2012), whereby he recommended the provision of bicycle lanes in the sight of expressways for the safety and security of cyclists who are fearful of the cycle paths in the forests, and also to avoid unruly drivers. However, there is a plan to encourage bicycle use in Abuja as stated in the FCT Transportation Secretariat (Nigeria) (2004) and the Federal Capital Development Authority (Nigeria) (1979). Nevertheless, the infrastructure needed to encourage cycling (cycle lanes/paths, bicycle safe storage/parking, safer roads, etc.) has not been made available during the 40 years since the founding of the city. Bicycle lanes are effective according to a high percentage of civil servants, private employees, the self-employed, the unemployed, and students. An equal percentage of the self-employed (20.5%) also responded that it is neither an effective nor ineffective initiative. Also, an equal percentage of the unemployed (23.8%) feel it is a very ineffective initiative, while a higher percentage of other occupations responded that it is very ineffective.

Nevertheless, a reliable public transport service will be very effective in the reduction of private car usage in the city according to 61.9% of male and 59.6% of female respondents. Having a reliable public transport service is a very effective initiative to discourage car usage in the city according to a high percentage of all the age groups. The commuters are looking forward to a reliable transport system, but the transport system is biased towards one mode of transport – roads (Usani, 2005; Nwankwo, Fawohunre and Obasanjo, 2016) that are unreliable and unregulated (Nwachukwu, 2014) The city has a train line that goes to the city airport only (Iroanusi, 2018), and no practical efforts have been made to improve this reliable transport system apart from stating the proposals in policy documents. Therefore, respondents are supportive of having a reliable transport system due to their personal circumstances and commuting challenges. Thinking of how these challenges and circumstances can be lessened for them is what drives them to see the need for a reliable transport system rather than because of sustainability considerations. A reliable public transport system would be very effective according to all the occupations.

Lastly, 35.1% of females want better sidewalks along with 27.2% of males. This is further explained by Sietchiping, Permezel and Ngomsi (2012), who find that a high percentage of commuters in sub-Saharan Africa walk due to the cost of transport. Hence, roads should be made to accommodate pedestrians and the urban poor. Therefore, in view of the responses of the two genders in this research, cars can be reduced in the city centre by providing conducive walkways for pedestrians and non-motorised transport. Also, a better

sidewalk is a very effective initiative according to all the age groups. For better sidewalks, this would be a very effective initiative (private employees, self-employed, the unemployed, and other occupations) and an effective one also (civil servants and students).

A high percentage of men and women (male: 29.9%, female: 27.2%) responded that distance is a factor that will affect the decision to use bicycles for their daily commute. Distance is also a factor for the 18 – 27 (33.3%), 28 – 37 (28.7%), 38 – 47 (23.5%), and 48 – 57 (32.0%) age groups. Having a socially sustainable urban road transport system, as well as an effective and efficient urban road transport system consists of different and connected parts (Banister, 2009). Therefore, in a city where the transportation depends on buses that have no space for wheelchair users and cyclists (Nwankwo and Barimoda, 2019), which has no defined bicycle lanes (Razak, 2016), unruly drivers (Usani, 2005), and self-pride in owning a vehicle (Curl, Clark and Kearns, 2018), it will be hard for commuters to not consider distance before using the bicycle. Qureshi and Lu (2007) pointed out that it is important for the city to provide an integrated and people-centred transport system which can be delivered if the financial, human, and operational resources are made available with due consultation and understanding of the commuters. Ideally, the city needs to provide a system whereby commuters can commute using any mode of transport, in this case, bicycle. If the length of the commute is long, then the buses or trains should be able to accommodate the cyclists and their bicycles to shorten the distance. However, Boschmann and Kwan (2008) explained that commuters need to have a system that is developed with the end user in mind and in line with the local values and situations.

What, then, are the local values? 33.3% of the 58 – 67 age group had never thought about using bicycles to commute and 25.0% of the 68 and above age group answered that they lack a bicycle. Distance is a major factor to consider before using a bicycle for their daily commute as confirmed by a high percentage of civil servants, private employees, the self-employed, the unemployed, and other occupations. However, an equal percentage of the other occupations group (20.0%) responded that weather, not having really thought about it, and not liking bicycles will all affect their decisions to use a bicycle for their daily commute. Lastly, 30.2% of the student group responded that the road conditions/lack of bicycle paths is a factor that will affect their decision to use a bicycle. Therefore, some groups, though overlapping and crisscrossing, have different reasons for not using bicycles. In this situation, Porter (2013; p. 13) suggested that "potential policy interventions" are needed "on a change in attitude among those in power". That is, an integrated policy and governance on transport is needed, and infrastructure for non-motorised transport should be provided.

Similarly, 57.9% of females believe the roads are safe for pedestrians and cyclists, contrary to 55.1% of males who believe it is not safe. According to 58.3% of 18 – 27-year-olds, 28 – 37 (53.8%), and 68 and above (58.3%) age groups, the roads are not safe for pedestrians and cyclists. Nevertheless, 38 – 47, (58.8%), 48 – 57 (80.0%), and 58 – 67 (55.6%) year-olds responded that the roads are safe. The perception of safety of pedestrians and cyclists differs between scholars.  Olojede, Daramola and Olufemi (2017) believe that pedestrians are not safe on the roads, whereas Olojede, Yoade and Olufemi (2017) believe safety is the least of the reasons why people walk. A lot of commuters in sub-Saharan Africa walk because they cannot afford transport fares (Salon and Aligula, 2012). Due to this high number of pedestrians who are forced to walk due to unaffordability, one of their basic needs is the provision of infrastructural facilities to make walking a conducive affair (Porter, 2013; Olojede, Yoade and Olufemi, 2017). In addition to infrastructural facilities for walking, Olojede, Yoade and Olufemi (2017) conclude that public enlightenment on the benefits of active travel, physical facilities for active travel, and traffic calming policies and speed limits should be introduced and/or enforced to encourage walking and cycling. A high percentage of civil servants, the self-employed, and unemployed responded that the roads are safe for pedestrians and cyclists. In contrast, private employees, students, and other occupations think they are not safe.

24.1% of respondents stated having bicycle lanes on the roads is an effective initiative to reduce car usage. The provision of bicycle lanes protects cyclists from unruly drivers, and they will also not need to share space with pedestrians on the sidewalks. However, the cyclists are also guided by the National Road Traffic Regulations (Federal Road Safety Commission (Nigeria), 2012). This is further supported by the above data which illustrates that 19.9% of the respondents' notes introducing bicycle parking is ineffective in encouraging people to use public transport. However, with the provision of bicycle lanes the safety needed for the cyclists might become an effective initiative. While the above data illustrates that having bicycle lanes might encourage people to use bicycles to commute, Jones (2012) believes that bicycle lanes off vehicle lanes is better suited for cyclists because of the fear of unruly drivers. That is, provide vehicular free lanes for cyclists but in view of vehicle highways.

Carsharing schemes are accepted in some emerging countries (Carrigan, 2015). However, Abuja has been operating some form of carsharing scheme, but it is challenging. It is challenging because, as Ibitayo (2012) stated, these taxis are poorly maintained second hand vehicles subject to breakdown during travel and dirty for the commuters. Belton Chevallier *et al.* (2018) encourage the usage of carsharing schemes, especially to reduce costs for low-income families who live in satellite towns (suburbs) and are dependent on their

cars for commuting. While Usman, Sanusi and Musa (2017) supports Belton Chevallier *et al.* (2018) point, they believe that, presently, some form of car sharing is ongoing in Kaduna (similar to Abuja's) and that some form of improvement that will make the system more attractive, through good marketing and usage of modern technological tools, can be employed to team up commuters into one vehicle.

The data from the respondents on bicycle and carsharing schemes illustrate that commuters in Abuja are thinking about their daily choices of commute and the options for them (if available). Dubois *et al.* (2019) maintained that the changing of one's life choices will be of advantage in having a low-carbon future. Therefore, the fact that the people of Abuja are already thinking of these commuting options is a positive sign for Nigeria's meeting of her target in the climate policies. Nonetheless, these choices that the respondents preferred are made by their own choice, not because of a strong and steady enlightenment regarding the Paris Agreement or health benefit of cycling or provision of efficient and effective car sharing scheme or the need to choose a lifestyle that will be advantageous in curtailing the climatic problems. No. The respondents chose this because they thought it would be beneficial to themselves as individuals. Some Nigerians may know what the Paris Agreement is and what the Agreement is trying to achieve. However, the Nigerian government need to make available the target of figures to be reduced for all sectors of the economy which are its own target for the country. As Monyei *et al.* (2019) stated in analysing electrification in the global south, policies are vague in identifying benchmarks and targets in the provision of electricity. In this context, Monyei *et al.* (2019) conclusion is appropriate to point out the need for authorities to enlighten the people with figures of where the country is, where it wants to be, and how it wants to reach the target for the policies and programmes of government.

Respondents answered about the traffic problems that concern them the most in the city. The traffic problems that are of very serious concerns to the respondents are: congestion on township roads (61.3%), traffic noise in the city (34.5%), reckless and unruly drivers and motorcyclists (73.9%), and insufficient traffic lights and traffic wardens (48.3%). Exhaust fumes in the city (35.6%) emitted by traffic are also of serious concerns to the respondents. Gana and Emmanuel (2014) (congestion on roads), Osuntogun and Koku (2007) (traffic noise in the city), Sumaila (2013) (reckless and unruly drivers and motorcyclists) and Akanni (2010) (exhaust fumes in the city emitted by traffic), all stated these traffic problems that directly or indirectly concern the respondents of this study.

The various traffic problems that concern respondents the most are further disaggregated by gender, age group, and occupation. Responses from both genders illustrate

that congestion in township roads (female: 64.9%, male: 58.5%) is a very serious problem. However, it is a serious problem to all the age groups but not very serious. It is a very serious problem according to all the occupations. Traffic congestion causes carbon emissions, thus affecting the environment (Akanni, 2010); it causes health problems for the people (Docherty, Guiliano and Houston, 2008); it congests the roads leading to loss of man hours and productivity (Ikioda, 2016); and contributes to noise pollution (Smart, 2017). Nevertheless, smart and electric cars can be environmentally friendly in terms of emissions but they can encourage urban sprawl, reduce social cohesion, and bring more congestion to the city centres because they can be driverless so that passengers will not be concerned with driving stress (Jeekel, 2017). Therefore, traffic congestion can be a problem anyway one looks at it.

Traffic noise in the city is a very serious problem that needs to be addressed according to 36.0% of females and 33.3% of males. Traffic noise in the city is a very serious concern for 18 – 27, 28 – 37, 58 – 67, and 68 and above age groups. However, the same percentage of 58 – 67 (33.3%) and 68 and above (41.7%) age groups also feel it is not a very serious concern, whereas a high percentage of 38 – 47 (49.0%) and 48 – 57 (40.0%) age groups responded that it is not a very serious concern. A high percentage of civil servants (36.1%), the self-employed (35.6%), students (34.9%), and other occupations (40.0%) responded that traffic noise in the city is a very serious problem. The unemployed (33.3%) responded that it is a serious problem, but the private employees (39.6%) believe it is not a very serious problem. As earlier stated by Smart (2017), noise pollution is a problem but it is something that can be addressed if the necessary regulatory enforcement is in place. The noise pollution from vehicles in Nigerian urban centres are higher than the local and international permissible levels (Gujba, Mulugetta and Azapagic, 2013; Baloye and Palamuleni, 2015). While noise regulation exists in Nigeria (Federal Republic of Nigeria, 2009), Baloye and Palamuleni (2015) believe that poor enforcement of this regulation and monitoring of pollution levels, coupled with low enlightenment, causes the law not to have the desired effects. Therefore, in as much as the majority of the groups in this research have stated it is a problem, some others feel it is not.

Reckless and unruly drivers and motorcyclists are a very serious problem according to the female (79.8%) and male (69.4%) respondents, all the age groups, and all occupations. Furthermore, insufficient traffic lights and traffic wardens are very serious problems according to men and women (female: 50.9%, male: 46.3%) and all the occupations. However, when broken down to the age groups it is only found to be a serious problem. Abuja drivers are unruly (Ganiyu, 2012), the tricycles are reckless (Bassey and Swomen, 2012), the traffic control and enforcement is inadequate (Nwachukwu, 2014), thus, the responses of these

respondents is not surprising. However, poor enforcement of traffic regulations, inadequate traffic control facilities and infrastructure, and filling a gap left by an inadequate public transport system (tricycles and private cars) can all make the road users unruly and reckless (Murray, 2006; Owete, 2013; Razak, 2016).

Interestingly, both genders feel that exhaust fumes in the city are a serious problem but not that extreme (male: 37.4%, female: 33.3%). Carbon emissions from vehicles cause health problems to the people (Agarana, Bishop and Agboola, 2017; Khreis *et al.*, 2017). This is worsened by the high dependence on road transport in Nigeria, where fuel consumption in the sector consumes 80% of the total petroleum products in the country and contributes to 50% of national emissions (Gujba, Mulugetta and Azapagic, 2013). This has environmental, social, health (Osuntogun and Koku, 2007) and economic (Gujba, Mulugetta and Azapagic, 2013) effects on Nigeria. However, a high percentage of 18 – 27, 28 – 37, 48 – 57, and 68 and above age groups feel exhaust fumes are a serious concern though not severe. Still, to the 38 – 47 (41.2%) and 58 – 67 (44.4% age groups) it is not a very serious concern. While exhaust fumes in the city is a serious problem for all the occupations, it is not very severe. However, 30.2% of students feel it is also a very serious problem. Likewise, 30.0% of other occupations responded that it is not a very serious problem.

Summarily, issues that require citizens to act are multidimensional and crosscutting. Yet, they are all problems that need strong people to drive them and the political will for it to be in place. Traffic enforcement, bicycle lanes, reliable public transport, active walking all require putting into place the physical infrastructure, enlightenment on why it is needed, and the benefit they will bring to individuals and the society. Based on some responses – *"I just don't care",* "*Never thought about it*", "*I have not seen any need to*" – some of the options chosen by the respondents are options that they personally feel is beneficial to them but not because they feel it is beneficial to the society. Thus, this creates the need for enlightenment on modes of travel like cycling.

The need for a collective citizen action on things that affect the community at street, neighbourhood, district, and city level is paramount. Based on this analysis, we now know that some citizens want to question the government why basic infrastructure are not provided but they do not know whom to ask. The citizens also do not know that they are entitled to basic infrastructure, and they have multiple channels of complains to the authorities. Furthermore, the dependence on private vehicles is high in Abuja due to the unreliable nature of the available transport system. Therefore, it is a huge task for the authorities to convince the citizens to give up their cars when the public transport system has improved. Having interacted

with the workers of the participating government organisations, the researcher believes that the authorities will not encourage the citizens to have a collective action for the city's problems because the technocrats are also hampered by the political decision makers. Thus, even if the citizens collectively come with their grievances, the government workers might not solve their problem.

## 5.3 Knowledge of Governance System

The findings indicate the inadequacy of citizens of Abuja in the participatory processes because citizens report conflicting statements regarding their participation in democratic processes. For example, when asked the date of the last election in the city, 51.7% of respondents stated that the last election held in Abuja was in 2015. 42.1%, 4.6%, and 1.5% all stated 2016, 2014, and 2017, respectively. Additionally, 55.6% stated that the last elections held in the city was a national election while 44.4% stated it was a local government election. Nevertheless, not everyone can remember events that happens in the past however recent the event is as Bennett (1975) and Muter (1980) have reiterated. In reality the last elections held in Abuja was in 2016 and it was local government elections across the Federal Capital Territory (FCT) (Onyeji, 2016). This is further supported by newspaper reports illustrating that few people turned out for the local government elections (Eze, 2016). However, the respondents also stated that they did not participate in this election because: they are registered to vote in another part of the country and not at the FCT and they did not know that local elections are taking place.

Further disaggregation of the research participants on their responses to the last election held in Abuja illustrated that 42.2% of male and 42.1% of female respondents knew the correct date the elections was held. Also, three age groups (38 – 47 years, 48 – 57 years, and 58 – 67 years) responded to the correct date of elections. The civil servants (55.7%) and the self -employed (52.1%) are the occupational groups that have a high percentage of those who gave the right date for the last elections. Although local governments are the tier of government closest to the people, intended to listen and provide development for the society, it shoulders responsibilities but "without allotting them the resources and the institutional support needed to ensure effective performance". (Nwaka, 2008; pp. 11). This could be a reason why most respondents do not know about the elections. In three states of Nigeria, Nwanna (2014) discovered that the level of citizens' participation in Local Government elections is low due to poor voter awareness of the elections taking place. However, while not exonerating the Independent Electoral Commission (INEC) (the organisation that conducted the election) on sensitisation, one cannot rule out the fact that the elite might prefer the people

not knowing about and participating in the election in order to control the political process to suit their interests, as explained by Olarinmoye (2008).

In reiterating what Nwaka (2008) stated, Gambo (2015), Olaniyi (2017), and Ayodele (2020) all stated the hold that state governors have on local government administration and the conduct of their elections. And this also supports the control which the elite have (on the local elections, as explained by Olarinmoye (2008). Looking at the Human Development Indices (HDI) of Abuja (United Nations Development Programme (UNDP), 2018; pp.83-86) it is expected that people of Abuja will come out en masse to elect people who might improve the socio-economic conditions of the city. Specifically, the United Nations Development Programme (UNDP) (2018) illustrates that life expectancy is low, ranked number 17 in the Multi-dimensional Poverty Index (MPI) of the country, and Maternal Mortality of 83.6 deaths per 100,000 live births.

While defining what an election means, Mesfin (2008; p. 1) quoted Anglin (1998) who stated that elections is "the most critical and visible means through which all citizens can peacefully choose or remove their leaders, and which are evidently costly affairs (Anglin 1998:474)". Furthermore, Nigerian elections are characterised by "vote buying and political intimidation" (Bratton, 2008; p. 631), and "violence, threats, abuse of human rights which threaten, to a large extent, credible, free, and fair election and disenfranchises voters from poll on voting day" (Agu, Okeke and Idike, 2013; p. 447). These studies illustrate that however negative the socio-economic indices of the society is and even though democracy and elections is the method used by the people to choose their representatives; if the system of elections is not orderly, transparent, fair, and peaceful, the people might be disillusioned with the whole system. Abuja's HDI is in the negative as illustrated by the UNDP (United Nations Development Programme (UNDP), 2018) statistics. Furthermore, due to the definition of what an election is, the citizens have an avenue to periodically change their elected representatives, but this is not feasible because of the factors stated by the cited literatures. Yet, Stigler (1973) believes that negative socio-economic indices does not influence voters to change their elected representatives when the elections are undertaken.

When respondents were asked to name the government body to write to when requesting for the Federal Capital Territory Transport policy document, 15.3% answered correctly, 42.5% had no idea whom to approach, and 42.2% stated the wrong organisations. Further disaggregation of the research participants on their responses illustrated that 19.7% of males and 9.6% of females stated the right government body. Also, when disaggregated to age groups, a larger percentage of the research participants all stated the wrong organisation.

A higher percentage of all the occupational groups also chose the wrong organisation. The correct organisation to approach for the FCT Transport policy is the Transport Secretariat of the Federal Capital Territory Administration (FCTA). The Transport Secretariat "regulates, coordinates and manages the operation of public transportation, partners with the private sector in the development of transport facilities and in the provision, operation and management of modern para-transit in FCT through the provision of an enabling business environment" (FCT Transportation Secretariat (Nigeria), 2016; para. 3). In terms of occupation, the highest percentage of the respondents to this questionnaire are the self-employed (28.0%) and civil servants (23.4%). However, only 15.3% of the total respondents knew which government body to write to when they wish to access the FCT transport policy.

The self-employed create their own business to earn for themselves, through this they tend to understand how the governance system and structure works. Nevertheless, here they are stating they do not know whom to approach on accessing the FCT transport policy. The self-employed meander through the huge government bureaucracy to know and understand policies that affect their businesses, but they still do not know the organisation that handles transportation in the city. This is also applicable to the respondents who are civil servants; they are working as servants of the people, they develop, manage, and operate the governance structure of government, but do not know whom to approach for a policy document of Abuja. As Racko (2017) stated "entrepreneurial managers typically identify and develop venturing opportunities by performing a functionally more inclusive work that requires accommodation of a wider range of functional requirements" (ibid.; p. 386). He further stated that to protect their investments, the self-employed must be conversant with diverse stakeholders who are directly or indirectly linked his/her business. Barkhatov, Pletnev and Campa (2016) also believes that the development of the self-employed group in a society is dependent on a system of governance built on trust, mutual understanding, participation, and strong institutions. Therefore, having contacts within government, understanding government bureaucracy and structure, is an advantage for the self-employed in the society. Nonetheless, this can't be a system that is opaque, bias, and not representing the people it governs is not a positive indicator for the society (Akram, 2018). So, it is a positive indicator if the self-employed is knowledgeable about Abuja's Road transport system.

Statement from one of the respondents ("*I have not attended any meeting or gathering because I am not aware and I don't know anything about legislator at Local, State, or National levels*") illustrates that some respondents do not know that they have a representation at local (councillor) and national (Member Federal House of Representatives and Senator) levels of government in the FCT. Statements like: "*Thought it is based on invitation*" and "*Never heard*

*of hearings that concerns me*" cause research participants to believe that only selected people are allowed into the National Assembly complex, and this makes it hard for an individual to attend these hearings. Nevertheless, 15.7% of the respondents have attended public hearings in the National Assembly, and the 23.4% of the respondents of this study are civil servants, one might be tempted to think if those who attended these hearings were there as individuals or were at the hearings because it is part of their job schedules as civil servants.

Respondents evaluated the existing public transport service in Abuja. The evaluation of the public transport services in Abuja illustrated that it is reliable (48.7%), efficient (43.7%), effective (46.7%), safe (49.4%), available (60.5%), affordable (82.0%), and accessible (68.6%). However, it should be noted that the difference between the inefficiency and efficiency of the service is not much, and this is also applicable to its ineffectiveness and effectiveness. Furthermore, the data illustrate that the service is not comfortable (53.3%). The data indicate that respondents might not know what an ideal effective, efficient, and accessible public transport service is.

As Acey (2010) stated, it is the awareness of what is due to people or community that will make them know what to ask for. Therefore, looking at the quality of service given by public transport operators in Abuja, as stated by Nwachukwu (2014) and Nwaogbe, Ukaegbu and Ibe (2013), it seems the respondents needs to be enlightened on what is the standard for this public service. Nwankwo, Fawohunre and Obasanjo (2016) illustrated that the existing public transport system is not reliable, not efficient, not safe, not comfortable, not available, not affordable, not accessible, and not convenient for the commuters. Looking at these terms in line with public transport service, as defined by Banister (2005b), Church, Frost and Sullivan (2000), Rodrigue, Comtois and Slack (2016); United Nations: Secretary-General's High-Level Advisory Group on Sustainable Transport (2016), the people of Abuja need to be sensitised to what the standards are, in line with their local values and norms (Victor (2012).

Evaluation of the public transport system is further disaggregated by gender, age group, and occupation. Men and women (female: 52.6%, male: 45.6%) and a high percentage of 18 – 27, 28 – 37, 38 – 47, 58 – 67, and 68 and above age groups believe it is reliable. However, the 48 – 57-year-olds, and a high percentage of the civil servants, responded that public transport is not reliable whereas the other occupations believe it is reliable. It can be noticed that the civil servants, who traditionally do 9-5 job seven days a week, believe the service is not reliable. They have been affected by the temporal type of transport exclusion (Solomon, 2002). However, students, the self-employed and private employees also have fixed working hours, though the last two groups can be flexible, unlike civil servants and

students. This can also be stated for other working age groups (18 – 27, 28 – 37, 38 – 47). This can be explained by other factors (Tiwari, Jain and Rao, 2016), for instance transport costs (Guzman and Oviedo, 2018), and living in the peripheries (Li, Dodson and Sipe, 2018).

The Abuja public transport system is safe according to a high percentage of both genders, the 38 – 47, 48 – 57, and 58 – 67 age groups, private employees, the self-employed, and the unemployed. However, a high percentage of the 18 – 27, 28 – 37, 68 and above age groups, civil servants, students, and other occupations, responded that it is not a safe system. An equal percentage of other occupations believe it is safe. This result illustrates a contrast to what various groups feel about the system. However, commuters perceive their commuting experience based on their personal understanding of service quality, travelling satisfaction, and options available (Lai and Chen, 2011). Informal arrangements between transport operators and commuters are made (Oviedo Hernandez and Titheridge, 2016) by making arrangements with rickshaw or taxi operators to convey children to and from school or to be accessible for the women who want to go out. These informal arrangements are all subject having trust in the safety and security of the family members, especially the children. However, unregistered taxis that are involved in the carsharing scheme do rob unsuspecting passengers, and, in some situations, there are touts waiting at bus stops who snatch valuables from commuters who are alighting from buses (Okah, 2018; *Daily Trust*, 2019a; Akinpelu, 2019).

The public transport system is always available according to men and women respondents, all age groups, and all occupations. While Nwankwo, Fawohunre and Obasanjo (2016) believe the system is not always available for the commuters, Nwachukwu (2014) and Nwankwo and Barimoda (2019) do not factor availability in their evaluations. It is affordable according to everyone. While transport costs are a problem for many commuters (Solomon, 2002), these respondents are of the view that they can afford the present fares. Therefore, if all the policy plans by the FCT authorities (FCT Transportation Secretariat (Nigeria), 2004; Federal Capital Development Authority (Nigeria), 1979) are put in place physically, strategies for how to make the transport fares affordable should be in place. The system is accessible according to a high percentage of males and females, the age groups, and the occupations. This is supports Usani (2005), Nwachukwu (2014), and Nwankwo and Barimoda (2019).

Women believes that the transport system is efficient (47.4%) and effective (52.6%) while men believe it is not efficient (45.6%) and not effective (45.6%). From the perspectives of the participants' age groups, it is also efficient according to the 18 – 27, 38 – 47, and 58 – 67 age groups. Yet, to the 28 – 37, 48 – 57, and 68 and above age groups it is not efficient.

Furthermore, it is effective to the 18 – 27, 28 – 37, 38 – 47, and 58 – 67 age groups. The 48 – 57-year-olds feel it is not effective. It should be noted that equal percentages (50.0%) of the 68 and above year olds feel it is both effective and not effective. Effectiveness and efficiency are relative to a commuter getting to his/her destination with no negative experience from the transport system that is made available, based on local values (Victor, 2012). Odufuwa, Oriola and Otubaga (2012) and ActionAid (2016) illustrated how inefficient and ineffective the transport system is for women. However, Lai and Chen (2011) found that different groups of commuters have their unique experiences. Therefore, interpretation of what is effective and efficient is relative to what the commuter experiences. Additionally, economic hardship on households might be the reason for usage of public transport (Papagiannakis, Baraklianos and Spyridonidou, 2018) thus causing respondents to notes the system is effective and efficient. It is efficient according to civil servants, the self-employed, students, and other occupations, while private employees and the unemployed believe that it is not efficient. However, an equal percentage of the civil servants also believes the system is not efficient. In terms of effectiveness, civil servants and students believe it is not effective but the private employees, self-employed, unemployed, and other occupations think it is effective.

Lastly, the Abuja public transport system is not a comfortable system for both genders (male: 53.7%, female: 52.6%). Ojekunle (2016) stated Abuja needs to improve on its public transport system, and Ganiyu (2012) explained that the existing public transport system in the city needs to be regulated to cater for the commuters. Furthermore, Nwankwo, Fawohunre and Obasanjo (2016) stated that the transport system is not hospitable as the respondents are stating, and Acey (2010) believes people will ask for a better service if they know what to ask for. Lai and Chen (2011) notes that commuters have different understandings of what the public transport system should be based on their commuting experiences and comprehension of how things should be. Therefore, both men and women are supportive of the way the system is now because they do not understand what the standard is and because they view it from their present situation. However, Orubu (2019) believes that Nigerians are used to reduced or incomplete implementation of government policies and that the experiences of poor services due to poor policies is the norm. The system is uncomfortable according to the 18 – 27, 28 – 37, and 68 and above age groups, civil servants, private employees, self-employed, students, and other occupations. However, it is comfortable according to the 38 – 47 and 58 – 67 age groups and the unemployed. Nevertheless, an equal percentage (36.0%) of the 48 – 57 age group feel it is both comfortable and uncomfortable. While an equal percentage of the self-employed believes it is a comfortable system.

With regards to public transport, 86.6 % of respondents to this study use public transport, while 13.4% do not. However, more women (88.6%) use public transport than men (85%). A higher number of all the age groups use public transport but it decreases as the ages gets higher. Specifically, the percentages who use public transport within each age group are: 18 – 27 years, 95.2%; 28 – 37 years, 88.8%; 38 – 47 years, 74.5%; 48 – 57 years,72.0%; 58 – 67 years, 88.9%; and 68 years and above, 91.7%, respectively. All the occupational groups use public transport and 100% of the self-employed research participants use it. As stated by Usani (2005) and Nwankwo, Fawohunre and Obasanjo (2016), there is a high dependency on public transport in Abuja, as illustrated by this study. Those who use public transport were asked how often they use the public transport, they replied: daily (41.8%), 3-5 times a week (22.6%), weekly (13.4%), monthly (9.2%), and 13.0% is not applicable.

Though more males (42.9%) use it daily than females (40.4%), a higher percentage of the all the age groups use public transport daily. The frequency of daily usage of public transport is high, amounting to private sector employees (58.5%), the self-employed (39.7%), and students (46.9%). However, the unemployed group use it 3 – 5 times a week (52.4%) whereas 30% of other occupations use it equally for daily, 3 – 5 times a week and weekly travel. Public transport usage is based on behavioural intention to travel, perception of public transport services, creating an atmosphere of excellent travel on public transport, and the differences of what both genders want (Fu and Juan, 2017). Yet, Guzman and Oviedo (2018) believe that pro-poor subsidies can be targeted at particular social groups to boost the efficacy of the public transport system.

Based on their experience of using public transport in Abuja, 51.3% of respondents would recommend anyone to use public transportation in the city, 21.8% would not recommend it, and 26.4% is "Not applicable". Also, a high percentage of males (53.4%) and females (49.1%) stated they would recommend other commuters to use public transport in the city. A higher percentage of all the age groups would recommend other commuters to use public transport. Private sector employees (65.4%), the unemployed (57.1%), students (51.2%), civil servants (49.2%), self-employed (43.8%), other occupations (40.0%) all stated they would recommend the public transport of the city to other commuters. Based on the result findings of Nwankwo, Fawohunre and Obasanjo (2016), Ojekunle (2016), and Nwachukwu (2014) all restated the sub-standard services provided by public transport in Abuja. However, this study illustrated that most respondents would recommend the services to other commuters. The recommendation commuters will give to others indicates that there is no other option than what is available, or they think this is the best that the public transport can offer.

This leads to the points raised by Acey (2010), whereby she states that it is not lack of awareness of what is the standard, it is the awareness that there is nothing that can be done to correct the problems. Why? Because the political will needed to correct the problems is absent or lacking. Chirenje, Giliba and Musamba (2013),  Ibem (2009), and Dyer *et al.* (2014) all stated the need for making the people understand the various plans and policies of the government, know why these policies and decisions are made and what will be the result if they are carried out (or not carried out) in order to have a buy-in and ownership of these policies by the people. Additionally, the research data illustrates that 51.3% of respondents notes they will recommend the usage of public transport to anyone. This indicates the respondents are not knowledgeable of what standard of public transport they are constitutionally entitled to and that they do not know whom to approach (if anyone) to lay their complaints of this sub-standard service.

The analysis from this section illustrates that government systems and structure is not commonly understood by the citizens. Including knowledge about elections in the city where they live and work. Furthermore, citizens are not knowledgeable about the government organisation that work for them and provide services for them, for example, Transportation Secretariat. Some respondents do not know that they have legislative representatives across the three tiers of government. More female uses public transport than men in Abuja. While the public transport system is not comfortable, most respondents will recommend it to the next commuter. This illustrates a lack of understanding of the standard acceptable in the public transport system.

## 5.4 Inadequate Communication and Time

Regarding consultation, 36.0% of the respondents stated they had seen or heard from the electronic media (radio, television, etc.) on the Federal Capital Territory Administration calling on the people for consultation on urban road transport while 64.0% have never heard about it. The high percentage of respondents stating they have not heard about any call for consultation indicates that most people questioned have a poor knowledge regarding the policy/decision-making processes of the city's transport system. Abuja have 5 television stations (National Broadcasting Commission (Nigeria), 2020) and 16 radio stations (AbujaGalleria, 2018). In 2010, 60% of the total households in Nigeria own a television, 43.5% own a radio, and 5.5% have a personal computer (Akoh *et al.*, 2012). Furthermore, Akoh *et al.* (2012) graphically illustrated that 45% people from North Central Nigeria (where Abuja is located) prefers sourcing their information from the local radio, 38% from local television, 10% from international radio, and 7% from international television, respectively. This indicates that

the medium of information dissemination is available (but not high) and that the people follow diverse sources of news, but they do not hear much from the Abuja authorities on managing the city's road transport system. Nevertheless, Müller (2014) believes that high performance of the media in a country impacts positively on the people to participate in the decision-making processes of their nations. Therefore, low enlightenment to the people and low media spread might impact also reduce the number of citizens who are knowledgeable on the road transport policy of Abuja.

The government are not keen on calling the citizens for consultation on what matters to them (citizens). While it may not wholly the fault of the authorities, these consultations need to be periodical, advertised, and made public when holding to encourage public participation.

## 5.5 Lack of Trust

From one of the statements of the respondents ("*I have not attended any meeting or gathering because I am not aware and I don't know anything about legislator at Local, State, or National levels*"), it appears there is lack of trust by the respondents. Further statements such as "*I never cared", "Because my opinion can never be counted upon"*, and "*Not aware of the meetings, and even if aware he knows it will be lies and empty promises that will be given to the constituents*" all illustrate the level of mistrust the people have in legislators and their processes. While it is a democratic action to consult with the people a legislator represents, it appears that the people feel they are being used to further someone else's interests and not the interests of the citizenship. This point is reiterated by Chikeleze (2015). Though Liu *et al.* (2019) discovered that people accept the projects when they trust the company providing the project, based on previous dealings with these companies, and when the people can influence decisions concerning the power projects.

Mistrust in the governance system of the city is not an encouraging sign for the authorities. This points out that engaging, consulting, and enlightening the citizens to know what government is doing for them is inadequate. Government plans and policies should be made available to the public electronically or in print. But from experience, one has to be lucky to access documents that is even the government organisations update their websites regularly.

## 5.6 Participation

In terms of consultation, 36.0% of the respondents stated they have heard from the electronic media (radio, television, etc.) about the Federal Capital Territory Administration calling on the people for consultation on urban road transport, whereas 64.0% have never

heard about it. Ogu (2002) and McAndrews and Marcus (2015) discuss how a robust public participation and communal togetherness is good for the community, whereas White, Menon and Waddington (2018) contest this and discuss how it is not always the case. Further analysis of the responses on calls for consultation via the electronic media illustrate that 67.5% of females and 61.2% of males heard the announcements. A larger percentage of all the age groups of the research participants have never heard any calling for consultation on the electronic media. A higher percentage of all the groups have not heard any announcements about consultation on the electronic media. There is a renewed drive to cover the infrastructure gap in sub-Saharan Africa, and through this drive, commuter needs when planning to construct the roads can be integrated (Porter, 2007). However, the responses from the different groups illustrate a high level of "not heard" anything about consultation on the electronic media. As stated by Porter (2013; p. 10) "the need for a concerted effort to develop more socially sustainable transport systems which will enable people of all social groups to achieve a good quality of life". Therefore, for the authorities, not consulting the people or doing enough sensitisation about the consultation, is not an encouraging sign from the government.

While these figures are for consultation, the strategies used by Transport for Greater Manchester (UK) (2011) to include every stakeholder in the consultation is something that Abuja city authorities can look into and use for inclusion in their consultation and engagement. However, it might be of added advantage to incorporate the steps and recommendations highlighted by Whitton *et al.* (2015) and Stanford and Guiver (2016) for specific programmes, projects, and activities of government. It should be noted that some of the infrastructure and resources (e.g., internet feedbacks) needed to consult as used by the Transport for Manchester might not be readily available in Abuja. Also, the response from the people might not be high, but it is an idea that needs to be investigated and tested. This point is made to illustrate that Abuja can adopt Manchester's idea to local needs and circumstances because it illustrates a multi-level method to the consultation process for all stakeholders to participate by providing multiple avenues for feedback which although Abuja does not have these same facilities.

Most respondents (51.7%) do not know if the Federal Capital Territory Administration (FCTA) have been informing the people of their developmental plans. 24.5% think they have not been informing the people while 23.8% think they have. Further disaggregation of the research participants on their responses illustrated that 45.6% of male and 59.6% of female respondents do not know if the people are informed of developmental plans. The 68 years and above age group (58.3%) think that the FCTA have not been informing the people of their developmental plans while the other age groups do not know. The civil servants (31.1%), self-

employed (27.4%), and other occupations (20.0%) all think the FCTA have been informing the people of their developmental plans. However, private sector employees (32.1%), the unemployed (28.6%), and students (18.6%) all think the contrary. Annually, the FCTA authorities prepare their budgets for the incoming year and present it to the Nigerian National Assembly. Through this, the FCTA notify the representatives of the people (legislators) of what they intend to do in the incoming year and how they will do it. However, this is different from telling the individual on the street whether there would be a footpath for him or her. According to Bugs *et al.* (2010), government can make the developmental plans public and also consult the people using the same information and communication platform.

The respondents supported the need for the Federal Capital Territory Administration to involve the citizens more on policy development and implementation, 79.7% supported this while 20.3% did not. However, 83.7% of males and 74.6% of females support more citizens' involvement in policy development and implementation. All the age groups believe more needs to be done to involve the citizens. A higher percentage of all the occupational groups believes the FCTA needs to involve the people more. 50.2% of respondents feel that they know and understand government's policies at Local, State, and National levels; however, 49.8% stated they do not know nor understand these policies. The involvement of citizens in policy development and implementation goes a long way towards the policy having ownership and acceptability by the populace, especially if it is an infrastructure programme or policy (Ibem, 2009). Furthermore, Hove, Ngwerume and Muchemwa (2013) note that citizen understanding of urban policies through citizen engagement with government and civil society organisations helps with providing the much needed economic and political opportunities for national development. Drawing up a city-wide multimodal transport system by planning professionals only is not advantageous to the populace (Sagaris, Tiznado-Aitken and Steiniger, 2017). Therefore, including the people, academicians, professionals, and businesses into the decision-making increases acceptability of these infrastructure and boosts equity and quality of life of the urban centres. As this research findings illustrate, over half of the respondents do not know if the FCTA is informing the citizens and over 70% will want the FCTA to involve the citizens on policy development and implementation.

Additionally, 56.5% of males and 42.1% of females know and understand policies across the three tiers of government. Four age groups (18 – 27 years, 48 – 57 years, 58 – 67, and 68 years and above) do not know and understand policies across the three tiers of government while two other groups (28 – 37 years and 38 – 47 years) do. Civil servants (67.2%) and private sector employees (56.6%) know and understand policies of government across the three tiers but other occupations (70.0%), the unemployed (66.7%), self-employed

(60.3%), and students (51.2%) all do not. The needs and priorities of different social groups should be taken into consideration when making policies which affect them (Banister, 2005a). It is not a positive situation whereby some social groups do not understand government policies nor know about consultations or have knowledge of the developmental plans which affect their lives as Nigerians. The transport needs of social groups such as women, young people, and children need special attention and should be treated as a human right (Porter, 2008; Porter, 2010). Through the understanding of policies across the three tiers of government, these social groups can make their cases known. Looking at it as a human right to listen and implement the needs of social groups, Titheridge *et al.* (2014) notes it is an avenue to address social disadvantage and provide economic opportunities for personal growth and development, especially if the needs of the social groups are adapted into policies and interventions as a form of social justice for the community.

When asked if they know the Constituency Offices of their elected representatives at all levels of government, 39.1% stated yes, they know while 60.9% stated no, they do not know. 24.1% have attended a consultative meeting organised by one of their elected representatives while 75.9% have not. However, 79.8% of females and 72.8% of males have never attended any consultative meeting with their legislative representatives. A higher percentage of all the age groups have never attended any consultative meeting. A high percentage of the occupational groups have never attended any consultation with the legislature. Gaventa (2002) has stated that participation is shaped by local cultures and values where, even if there is the democracy and the right of people to hold their representative accountable, it is not practiced the same way all over the world. 80.5% of respondents are not a member of any community group nor association, while 19.5% are members. Additionally, 86% of females and 76.2% of males are not members of any community group. Some social groups do not participate in civic engagements with their neighbourhood or local groups due to not everyone being keen to participate. Furthermore, women are marginalised in decision-making and participation (White, Menon and Waddington, 2018). A higher percentage of all the age and occupational groups are not members of any community association.

On attending public hearings in the National Assembly, 15.7% have attended a hearing and 84.3% have never have. In more recent research, Philip and Peter (2013) and Obo, Eteng and Coker (2014) stated that the elites have systematically made public opinion to go their way and not the way of the public, therefore influencing decisions. Therefore, it is not surprising that insufficient not announcements are made calling people to attend these engagements. Chirenje, Giliba and Musamba (2013) illustrated that whereas recipient communities do not always participate in policy formulation, they may actively participate in

implementation phases and processes. This causes conflicts and delays between the communities and project managers. These conflicts arise because of the socio-cultural interests and situations that were not considered during the planning and formulation stage. The conclusions made by the literatures cited in this paragraph are reasons that make the citizens of Abuja to respond to this research with the following data: attending consultative meetings is low (24.%) – *"I attend only meetings where my support is valued not where the legislators do these gatherings not to listen to my view but to illustrate that they have done the consultation but at the end takes a decision that suits them only"*, the respondents who are members of any community groups is also low (19.5%) – *"Because I was busy",* and those who have attended a national assembly hearing is 15.7% of the respondents (low) – *"Going into the National Assembly Complex is not people friendly".*

The Nigerian National Assembly, which enacts the laws governing the city, announces its public hearings in several places, such as newspapers and public bulletins, and notice boards on government premises, television, and radio stations. Announcements through electronic (television and radio) and online media are made in English and at times of the day (television prime time) for several days (3 – 5 days). Entering the National Assembly complex can be cumbersome because of security checks, and one might not be able to go in without any form of identification. The Federal Capital Territory (FCT) has a population of 1,406,239 (2007), and as of March 2018 the national minimum wage (monthly) was N18,000.00 (£38.43). The average poverty level of the FCT is 47% (Queen Elizabeth Oxford Poverty and Human Development Initiative (UK), 2018). With the low earning level of the people, to afford a newspaper where they can see these announcements might be hard. Also, the notices of these hearings might not be pasted in areas where the public might see, therefore, getting the average man in the city to attend these forums can be hard. The announcements are done in the English Language, and there are those who do not understand the language even though they might have something to notes about the topic of the hearing. Even if the constituents have the option of presenting their individual view on issues to their elected representatives at their constituency office, 60.9% of the respondents stated they do not know where the constituency office of their representative is, and their addresses are not publicly listed. Lastly, Nigeria is trying to have a national identity card for its citizens, but the national coverage is still low. This could pose a problem, for example, if an unemployed person in Abuja and wants to contribute in a public hearing but cannot identify his/herself for security clearance. This person would, therefore, be left out of the hearing.

The reasons given by the respondents on why they have not attended any consultative meetings of their legislators at their constituencies is asserted by Obo, Eteng and Coker (2014)

(poverty has caused the people to not be interested participants) and Philip and Peter (2013) (a disconnection between policy makers and the people). These reasons include: *"As a civil servant I can't participate in politics"*, *"Legislators make these gatherings strictly by invitation, and if one is not in their political party or close to them one never gets an invitation"*, and *"They do not give enough publicity for these meetings, and they do not hold as often as they should"*. Also, poor publicity for these meetings can cause the constituents to be disinterested, unaware, and unwelcoming towards the legislator. The frequency of constituency meetings with their legislators is not defined. However, the Policy and Legal Advocacy Centre (2015) advised that the meetings should be periodical so as to "strengthen representation" of the people. From one of the statements ("*I have not attended any meeting or gathering because I am not aware and I don't know anything about legislator at Local, State, or National levels*"), it appears some respondents do not know that they have a representation at local (councillor) and national (Member Federal House of Representatives and Senator) levels of government in the FCT.

Other respondents believe that, due to their type of jobs, they cannot participate in the constituency meetings and consultations, for example, civil servants and the clergy. The constituency consultation is a feedback mechanism for legislators to understand what their constituents want. It is not a place for choosing political parties. This means that whoever is a constituent of an area, no matter the person's job, no matter the person's political inclinations, an elected representative is elected to serve that constituent and the constituency regardless of the political or party affiliations of the legislator. Thus, the views and participation of the civil servants and clergies' matter, and no form of law or regulation is broken by attending these gatherings. For civil servants, rule number 030422 of the Public Service Rules (PSR) (Office of the Head of the Civil Service of the Federation (Nigeria), 2009) already outlines the kind of political activities a civil servant can or cannot do;  attending and voicing an opinion that affects the community of the civil servant is not one of the activities prohibited by the PSR for that person.

As illustrated in the data collated, 84.3% of respondents have never attended any public hearing at the National Assembly. From the statements of the respondents (*"Nothing to notes when I go there"* and *"As a student I rarely have time"),* it indicates that there is a lot of indifference of the people to the National Assembly and the processes of decision-making done by the legislators. The question is, why? One of the reasons above illustrated that the people do not believe that the legislators will make any decision objectively on behalf of the citizens. Nevertheless, this does not mean that the people will accept the situation like that by deciding not to participate in the whole process and choosing to respond that, "*I have not seen*

*any need to*". Because of the interest, some of the respondents responded that they watch the National Assembly proceedings on television. This indicates that some citizens are following what is going on in the National Assembly. Nonetheless, following these processes in the media only, and not contributing to them, does not help to make the participatory process strong. Illustrating these hearings live on television is intended to encourage people to understand the decision-making process, to know the goings-on of the legislators, and to call on citizens to participate. Every decision taken by the legislators is binding on every Nigerian, therefore, choosing to stay on the side-lines when one has a view or point to make is not sustainable for the nation. Additionally, this statement was made by one of the respondents – "*I think things like this are beyond me because I am not up to the age requirement of going to the National Assembly for public hearings*". In the Nigerian constitution (1999) only elective posts and voting age have age restrictions but there is no mention of age restriction for contribution to public hearings at the National Assembly.

Due to inadequate understanding of the public hearings process, some citizens believe that they are only able to attend if individually invited, while others believe that these hearings are closed to the public. As illustrated by this news item (National Assembly (Nigeria), 2018), the Nigerian National Assembly invites the general public to all its hearings for the citizens to contribute. However, as stated by one of the respondents, there is little time available between announcement of the hearing and the date of the hearing, as illustrated by the advertorial below (Picture 11). The advertorial also debunks the claim by other respondents that the hearings are not open to the public and that the time and date are unavailable.

**THE SENATE**
Federal Republic of Nigeria
Committee on Health
National Assembly Complex

## CALL FOR MEMORANDA AND INVITATION TO PUBLIC HEARING

Invitation to A One Day Public Hearing and Presentation of Memoranda on A Bill For an Act to Provide for the Establishment of Federal Capital Territory Health Insurance Agency, to institute the Federal Capital Territory Health Insurance Scheme for all residents of the Federal Capital Territory and for other related matters, 2018 (SB 668).

As a follow up to the referral made by the Senate of the Federal Republic of Nigeria to the Committee in respect of the foregoing Bill, and in furtherance of best legislative practices of allowing participation by the citizenry in the making of laws for the Federal Capital Territory (FCT), the Senate Committee on Health do hereby invite the Stakeholders and the general public to present to it, written memoranda on the aforementioned Bill on or before Wednesday, 16th January, 2018.

In order to facilitate the writing of such memorandum the full text of the Bill could be accessed from the National Assembly website www.nass.gov.ng or collected in person from the address below:

Office of the Clerk, Senate Committee on Health, Room – 1.11, Basement Floor, New Senate Wing, National Assembly Complex, Abuja.

All written memoranda in respect of the Bill should be:
- Written in English
- Type in double line spacing
- Presented in not less than 12 hard copies, a soft copy and addressed

To: The Chairman, Senate Committee on Health, National Assembly Complex, Abuja.

The underlisted institutions/stakeholders are requested to take note:
1) Hon Minister, FCT
2) Permanent Secretary, FCT
3) Secretary, Health & Human Service Secretariat
4) General Council, FCTA
5) Solicitor General, FCTA
6) General Manager, HMB
7) Director of Treasury, FCTA
8) Ag. ES, Primary Health Care Board, FCTA
9) Director, HPRS
10) Director, Economic Planning Research & Statistics FCTA
11) Programme Manager, FCT Health Insurance Scheme
12) Country Representative HP+
13) USAID
14) Gomo of Kuje
15) Ona of Abaji

16) Emir of Jiwa
17) Etsu of Bwari
18) Chairman, NMA FCT
19) President ARD FCT
20) Members of Health Finance TWG FCTA
21) Representative of HMO
22) United Healthcare
23) Zuma HMO
24) Total Health Trust
25) Marina Health Care
26) Representative, NHIS FCT Coordinator
27) Overseeing Director NHIS
28) Secretary, Area Council Secretariat
29) Chairman, Abuja Municipal Area Council (AMAC)
30) Chairman, Kuje Area Council
31) Chairman, Kwali Area Council
32) Chairman, Bwari Area Council
33) Chairman, Gwagwalada Area Council
34) Chairman, Abaji Area Council
35) HOD Health Kwali Area Council
36) HOD Health of Abuja Municipal Area Council
37) HOD Health of Kuje Area Council
38) HOD Health of Gwagwalada Area Council
39) HOD Health of Bwari Area Council
40) HOD Health of Abaji Area Council
41) Representative, People with Disability
42) Representative, AGMPN
43) Representative, Guild of Medical Directors FCT
44) Medical Directors, FCT
45) Representative, NULGE
46) Representative, JUAC
47) Representative, JOHESU
48) DGI Consult (DR GAFAR)
49) Chairman, MDCAN FCT
50) S.A Health, Hon. Minister, FCT
51) Chief of Staff FCTA
52) Director Human Resource
53) Chairman and Members of PHCB
54) ES, HERFON.

A One Day Public Hearing on the Bill is scheduled to hold on Wednesday, 16th January, 2018 by 11.00 a.m. in the Senate Conference Hall 022, Ground Floor, New Senate Wing, National Assembly Complex, Abuja.

For further inquiries, please contact the Committee Clerk on 0803-320-5115 or e-mail at danladiangulu@gmail.com

Signed
Senator, Dr. OLANREWAJU A. Tejuoso
*Chairman*

**Picture 11: Advertorial illustrating National Assembly Hearing**

**(Source: Medical World Medical World Nigeria (2019)**

As Picture 11 illustrates, one does not need to attend the hearing in person, one can forward his or her memorandum to the committee handling the bill in question. It is noted that the committee requests 12 printed copies of the memorandum to be sent. It needs to be understood that not everyone can afford to print out 12 copies of memos. Also, Nigeria is a leading advocate for the environment, the National Assembly need to start accepting memorandums via email to make it affordable to the people and be environmentally responsible. The advertorial appeared in the newspaper on 12 January 2018, the committee scheduled the hearing to be held on 16 January 2018 and posted that memos from the stakeholders were to arrive to the Secretariat on or before 16 January 2018. This makes the time available for everyone to respond too short, thus making it ineffective for a smooth decision-making process. The advertorial also states that all stakeholders can access the bill to be deliberated upon on the website of the National Assembly. The National Assembly needs to note that not everyone is knowledgeable about the usage of the internet. As at December 2018, Nigeria has a broadband penetration of 31.48% and a tele density of 123.48% (Nigerian Communications Commission (Nigeria), 2019). With the high rate of tele density in the country there are some people who are still not conversant with using the internet. It would be advantageous and encouraging for the people if the legislators were to present these bills at the public libraries in printed and electronic formats for people to have a look and make their views known after enough time has been given for the public read-through.

Citizens might not participate in the decision-making processes of the nation if they do not understand the political process. Civil servants and the clergy who stated they cannot participate in these hearings because of their jobs can make their memos available to the hearings as citizens of Nigeria and not as representatives of their various organisations or calling. The clergy have a large followership, and the opinions of followers can be collated and documented by the clergy and be presented in these hearings. This memorandum will be looked upon by the hearing Committee, and through this their views will be heard. So also, the civil servant who have the experience of been an inside participant of government policy implementation strategies and challenges. He or she might have a contrary view of how particular issues are been handled, this can be presented to the hearing for consideration.

To understand the participation of the respondents regarding their involvement in engagements among the citizens and with the government, the responses illustrated that this is low. 26.8% have been to not more than 2 community engagements, and only 33.3% have attended the same number of governments to citizen engagements. 28.9% of females have attended between 0 – 2 community engagements, as have 25.2% of males.  From the age groups, the 18 – 27 (33.3%), 28 – 37 (31.3%), 38 – 47 (21.6%), 48 – 57 (8.0%), and 58 – 67

(11.1%) have all attended 0 – 2 community engagements. However, the same percentage of 48 – 57 (8.0%) and 58 – 67 (11.1%) have attended 3 – 5 community engagements.

Consultation and engagement of stakeholders is key in the achievement of infrastructural programmes (Whitton *et al.*, 2015; Sagaris, Tiznado-Aitken and Steiniger, 2017). However, the people need to be aware of what they are being consulted for, its benefit to them and the community, and the impact in the long-term (Sampson, Bakht and Desta, 2018). However, in the situation wherein the people have poor experiences from previous engagements and consultations, the participation will definitely be low and half-hearted (Valentine, Sovacool and Brown, 2017). Local context and experiences should be taken into consideration when engaging the people and encouraging them to participate in the decision-making process (Chu, Anguelovski and Carmin, 2016). Also, a high percentage of the 68 and above age group (41.7%) have attended 3 – 5 community engagements. Occupational groups such as the civil servants (29.5%), private employees (32.1%), the self-employed (17.8%), the unemployed (14.3%), and students (41.9%) have all attended 0 – 2 community engagements, although a higher percentage of the other occupations (20%) have attended 3 – 5 engagements.

In the situation whereby the respondents are quoted as stating "*if it doesn't happen to me or affect me, I don't care about it*", it is not surprising that there is low or no community engagement from the respondents. Looking at the figure for "Not applicable", one can understand that the people are not even concerned about their coming together to address the issues bothering their immediate communities. Also, the figures for government to citizen engagements is a bit low. Additionally, 34.0% of males have attended 0 – 2 government to citizens engagements, as have 32.5% of females. Furthermore, a high percentage of all the age groups and occupational groups have attended 0 – 2 government to citizens engagements. However, an equal percentage of the unemployed group (14.3%) have attended 3 – 5 government to citizens engagements.

In conclusion, citizens are willing to participate in the decision-making process of the city if the process is made transparent, accessible, and inputs are accepted. As an individual, one can attend and present a memo at any public hearing at the National Assembly (and the Local Council Assemblies) but not every citizen knows and understands this. However, bottlenecks (security checks, intimidating halls, and panels, etc.) hampers the participation of the average person in these hearings.

## 5.7 Civic Engagement

While other scholars are stating inclusion is advantageous (Kenyon, Lyons and Rafferty, 2002; Thynell, 2016), White, Menon and Waddington (2018) claim that it is not always the case. They pointed out that not everyone is keen to participate in the decision-making and implementation of their communities, and a robust participatory governance is not always reciprocated by the people of the community. This reflected by the fact that 49.0% of respondents stated they do not know if there is strong civic engagement among the people of Abuja and 29.9% stated there is no strong civic engagement, and 21.1% stated there is strong civic engagement, are in line with the conclusions of White, Menon and Waddington (2018). These figures are further elaborated by the respondents when they made statements like:

- the residents of the city are mostly worried about making ends meet than communal engagement and development,
- engagements among citizens and between citizens and government are not usually sensitised to the populace. People do not know about these engagements (poor sensitisation) thus unaware about it, with an uninformed citizenry an attitude of disinterest might arise within the people of the city,
- there are elements of individuality within some of the populace, whereby, some citizens tend to think – "*if it doesn't happen to me or affect me, I don't care about it*",
- some respondents feel they need to be contacted before they can interact with their fellow citizens or with the government.


White, Menon and Waddington (2018) conclude that not everyone is keen to participate in the decision-making and implementation of their communities is further supported by 86.2% who are not involved in civic engagement, 5.0% are rarely involved, and 8.8% are very much involved. The level of involvement of the people of Abuja in civic engagements is not unconnected to the various reasons stated in the last paragraph. According to Brinkerhoff and Goldsmith (2003), all of the reasons given by the respondents might arise if the government does not "demystify" the policies. This "demystification" can be done by civil society organisations or other interest groups. However, despite there being civil society organisations in Nigeria, they might not have the resources to enlighten the citizens on the basics of government policies. The organisations need to have sustainable resources and strategy to enlighten the citizens on the essentials of government policies, and have a mutually agreed interface with the government by a civil society organisation, have been recommended by Booth and Chambers (2014). This is further reiterated by Dean, Fielding and Wilson (2019) whereby they stated that strategies of communicating with the community

on technical issues should be made simple and made to be value driven to the community in question. In particular, the message should be, "how does this policy impact their community?"

In Nigeria, the civil society acquire funds from donors to intervene different sectors but not to demand accountability from government and are supposed to be apolitical (Rodd, 2016), while some of them present ideas that is not locally acceptable and are viewed as political oppositions and not as partners in nation building by the government in power (Chikoto-Schultz and Uzochukwu, 2016). Therefore, these reasons do make civil society organisations unsustainable in Nigeria as Booth and Chambers (2014) stated. Furthermore, Eaton (2016) stated that communities respond to infrastructural development in their neighbourhood from previous experiences of other development. Eaton's (ibid.) point is based on a proposed bioenergy development in Michigan, United States. This is similar to experiences Nigerians have had on failures of numerous government policies including rural development (Alinno, Sule and Ikwegbe, 2012), health (Echebiri, 2015), education (Bolaji, Campbell-Evans and Gray, 2016), and infrastructure development (Orubu, 2019). The experiences are mostly negative in nature with similar challenges (lack of political will, policy inconsistencies, political instability, bureaucracy) and unique challenges – jurisdictions on some infrastructure, overlapping responsibilities between national, sub-national and local councils on education, inadequate medical personnel, and facilities – faced by all the sectors stated. Therefore, receiving such responses from the research participants has become the norm due to the build-up of false hopes of government policies over the years.

With the poverty level in the country, citizens might feel discouraged to attend a community meeting when he or she might have to go to work to earn money. As the discussion highlighted, some citizens are not bothered if a problem does not affect him or her. This is a poor attitude to accept because no person can survive alone especially if he or she lives on a street, neighbourhood, or city.

## 5.8 Equity and Equality

In the case of vehicle ownership and frequency of usage, most of the respondents stated that they do not have any vehicle (62.5%), 33.7% do have a car, 2.3% have motorcycle or tricycle (rickshaw), and 1.5% have a bicycle. Furthermore, 68.5 of females and 57.8% of males do not have any type of vehicle. Four of the age groups (18 – 27 years, 28 – 37 years, 58 – 67 years, and 68 years and above) do not have a vehicle of any kind while 51% of the 38 – 47-year-olds have a car and 60% of the 48 – 57-year-olds also have a car. Across the occupations, the highest percentage comprises those who do not have any type of vehicle.

However, the self-employed (5.5%) and students (4.7%) have a motorcycle/tricycle, and 7.0% of students and 1.9% of private sector employees have a bicycle. While the respondents' data covers different types of vehicles, the literature is specific about cars. There has been a 100% increase in car ownership in Abuja between 2007 to 2014 (Gbadamosi and Adenigbo, 2017). Though motorcycle usage is banned in the city (Ogala, 2018), nevertheless some of the respondents notes they have a motorcycle. Because the built-up areas of the FCT spill over the administrative boundary into the next region, it is not surprising that the respondents have motorcycles and use them outside of the FCT where they are not banned and are used for commercial purposes. The ban on motorcycles necessitated the introduction of tricycles (rickshaws) in the city centre (Bassey and Swomen, 2012) but they are restricted to certain parts of the city (Dayyabu *et al.*, 2019).

The respondents who have any type of vehicle use it daily (31.4%), 3 – 5 times a week (10.0%), weekly (1.5%), and monthly (0.8%), and 56.3% is not applicable. 36.7% of males who have any type of vehicle use it daily, compared to 24.6% of females. The response data illustrated that the frequency of daily usage of the vehicles is higher than the other frequencies among the age groups. All the occupations use their vehicles daily for commuting. However, the 2018 2nd Quarter Road Transport Data of the Nigerian National Bureau of Statistics (NBS) stated that Nigeria has a vehicle population of 11,760,871 with an estimated population of 198,000,000 (National Bureau of Statistics, 2018). This means that there are 16.83 people for each car in the country. These statistics highlights the low number of vehicles available in Nigeria. As stated by Usani (2005), private cars account for 29.8% of daily travel in the city of Abuja. This is like the responses of this study, which is 31.4% (inclusive of all types of vehicles).

It is important to note that 'commuters' are a heterogeneous group. They are diverse in their behavioural tendencies with regard to public transport (Lai and Chen, 2011). Lai and Chen (2011) listed public transit involvement, service quality, perceived value, and satisfaction as the influences on the behaviours of commuters using public transport. Nevertheless, the scenario painted by Lai and Chen is in a situation whereby the public transport system is regulated, and private sector driven. The companies are in competition with one another to improve services in the interests of customers.

The importance of different factors in deciding their modes of travel was given by the respondents. The respondents feel that convenience (69.3%), cost (55.6%), weather (36.0%), health benefits (70.9%), reliability (60.2%), safety (88.1%), and frequency of service (35.6%) are the very important factors they consider in their mode of travelling within the city. Public

transport options (41.4%), distance from home to public transport (39.1%), and length of journey (40.6%) are the less important factors that are considered before using any mode of transport. While all the above listed factors are important some of the factors are very important and others are less important to the respondents. Hence, convenience, the cost of travel, weather, health benefit of the mode of travel they are choosing, reliability of the mode, their safety, and the frequency of the service are very important factors. But, public transport options, distance from home to public transport, and the length of journey to be undertaken are less important factors to be considered.

These factors are already faced by women as barriers to mobility, as stated by ActionAid (2016) and Odufuwa, Oriola and Otubaga (2012), hence the consideration given before embarking on any travel using public transport. These barriers hinder women from long travel away from their homes, thus limiting their potential access to commuting, jobs, and other opportunities. Tiwari, Jain and Rao (2016) have listed very important factors (convenience, cost of travel, weather, health benefit, reliability, safety, and frequency of the service) and less important factors (public transport options, distance from home to public transport, and length of journey) as reasons for people to restrict themselves from travelling and states that those factors need to be looked upon by the authorities. They state that improving the public transport system in urban areas can potentially encourage commuters to use public transport or nonmotorized transportation. Taking into account the high rate of individual ownership of buses plying Abuja roads, the drivers deciding on how they operate, and redesigning the seating of the buses to accommodate more passengers with no thought on comfort and safety, Ojekunle (2016) argues that these will further make commuting in Abuja challenging to those who use public transport.

Factors in deciding modes of travel by respondents are further disaggregated into gender, age groups, and occupations. The responses analysed by gender illustrated that convenience is important for both males (65.3%) and females (74.6%), as also is cost (males: 55.8% and females: 55.3%), weather (males: 34.0% and females: 38.6%), health benefits (males: 65.3%, females: 78.1%), reliability (males: 56.5%, females: 64.9%), safety (males: 88.4%, females: 87.7%), and frequency of service (males: 37.4%, females: 33.3%). Therefore, from a gender perspective, all these factors are very important considerations when commuting in Abuja. As Porter (2008; pp. 287) stated "the ability for women to be physically mobile and access transport from choice can be seen as not only a valuable livelihood asset, but also arguably a human right." Therefore, understanding how citizens want to commute, when to commute and how to make their commute a positive experience is a right that should be provided for all. This was followed by the need to make young people and children's

transport needs a central point of provision of the transport system. However, the Federal Capital Development Authority (Nigeria) (1979), FCT Transportation Secretariat (Nigeria) (2004), and Federal Ministry of Transportation (Nigeria) (2010) have no specific plans for women, young people or children, only a general plan for all people.

The responses categorised by age groups illustrate that convenience, cost, health benefits, reliability, and safety are very important factors that are highly considered by all age groups. Cumulatively, public transport options are an important factor for all the age groups. However, distance from home, weather, and frequency of service is factored by a high percentage of all the age groups. Yang and Diez-Roux (2012) observe that different age groups may require different modes of transport, as may different social groups. However, some social groups might not be engaged nor consulted, even if they are visible in the urban space, because of urban poverty, social exclusion, limited social integration, and lack of power (Nzeadibe and Anyadike, 2012).

Respondents of all occupations responded that convenience, cost, health benefits, reliability, and safety are all very important factors to consider for modes of travel. However, the civil servants, private employees, and students feel public transport options are important but not very. However, to the self-employed, unemployed, and other occupations it is a very important factor, whereas an equal percentage of the unemployed feel it is not a very important factor. Furthermore, distance from public transport is important to all the occupations but an equal percentage of civil servants feel it is very important. Length of journey is very important to the unemployed, students, and other occupations but not so important to the civil servants, private employees, and self-employed. However, an equal percentage of other occupations feel it is not very important. Weather is a very important factor to the self-employed, unemployed, and students but an equal percentage of civil servants and other occupations feel it is both very important and not so important. Private employees deem it to be important. Finally, frequency of service is very important to the self-employed, unemployed, and other occupations. It is important to civil servants and private employees, yet an equal percentage of students responded that it is both very important and important.

Participants responded to the time taken for them to get the public transport service for some specific journeys. The respondents stated that they spend an average of 11 – 20 minutes (29.1%) waiting for bus or taxi, an average travel time of over 30 minutes (28.0%) going to work, an average travel time of 11 – 20 minutes (23.4%) going to market, and an average travel time of 11 – 20 minutes (14.9%) going to school (or taking the children to school). The percentage of "Not Applicable" responses was found to be high. This may be

connected with the situation of some respondents who do not use public transport (for average waiting time), some are unemployed or they are students (for average travel time to work), some do not go to market themselves (for average travel time to market), and some do not go to school, do not have children who are of school age, the children go on their own or they have someone to take the children to school (for average travel time to school).

This is similar to the data for the Rio de Janeiro region, Brazil (Moovit, 2019b) and Istanbul, Turkey (Moovit, 2019a), which illustrates that the average time people spend commuting to and from work is 95 minutes and 91 minutes, respectively. Furthermore, people in Rio de Janeiro and Istanbul wait an average of 19 minutes for buses for their travels. From the figures illustrated for the other cities and those of Abuja, Abuja commuters spend more time travelling to work than the other 2 cities, while the average waiting time is less for Abuja than the other 2 cities. However, it should be noted that Istanbul, Rio de Janeiro, and Abuja are 1360, 1917, and 907 square kilometres, respectively (Demographia, 2018); and the other 2 cities have a greater population than Abuja. The mentioning of other cities of the world is in order to compare the travel time and the waiting times between the stated cities and the data gathered for Abuja. However, Salonen and Toivonen (2013) compared the travel times of different modes of transport in the Greater Helsinki area of Finland. They concluded that differences in travel times between transport modes can be used as a measure of inadequate inclusion in a city. Nevertheless, trying to obtain accurate data on travel time will require more data, not only on the travel time, but also on aspects such as the average times spent searching for a car parking space. Therefore, the comparison between Abuja, Rio de Janeiro and Istanbul is like the one in Helsinki, though distinct because the former considers one mode while the latter is multiple modes. Furthermore, Abenoza, Cats and Susilo (2017) stated that there are 3 key quality of service attributes that should be prioritised by stakeholders of public transport in the provision of quality of service, and one of the attributes is length of journey time. Therefore, duration of an average journey, time spent waiting for the service, and the comfort during the journey are all issues to be understood and deliberated upon by stakeholders. Their study involved researching urban and rural area travel in Sweden.

The responses on time taken to get the public transport service for some specific journeys is further disaggregated into genders, age groups, and occupations. From the perspectives of both genders, a higher percentage of men and women wait 11 – 20 minutes for a bus/taxi (females: 34.2%, males: 25.2%). 31.3% of male commuters spend an average of over 30 minutes travelling to work while 25.4% of females spend 11 – 20 minutes. Females spend an average of 11 – 20 minutes (28.1%) travelling to market while 19.7% of males spend the same time getting to the market. A higher percentage of men and women spend 11 – 20

minutes travelling to school (males: 16.3%, females: 13.2%). Travel times and waiting for buses is affected by traffic demand (commuters and vehicles) at peak times, traffic congestion, and individual choices (Biliyamin and Abosede, 2012). Thus, going to school or work between 6.30 a.m. to 7.30 a.m. will definitely stretch the facilities available, especially if those facilities are inadequate (Razak, 2016) and are coming from the peripheries of an urban area (Gbadamosi and Adenigbo, 2017). Yet, having one mode of transport for the city and concentrating business and offices in one part of the city will definitely cause delays in travel time when everyone is going in one direction at particular times of the day (Nwankwo and Barimoda, 2019).

A high percentage of all the age groups spend an average of 11 – 20 minutes waiting for a bus or taxi at the bus stops. However, the travel times to work vary between the age groups. The 18 – 27 (26.2%) and 68 and above (25.0%) age groups spend a daily average of 11 – 20 minutes travelling to work, whereas the 28 – 37 age group (23.8%) spend a daily average of 21 – 30 minutes. Additionally, the 38 – 47 (29.4%), 48 – 57 (56.0%), and 58 – 67 (33.3%) age groups all spend over 30 minutes travelling to work. Furthermore, when travelling to market, a high percentage of the 18 – 27-year-olds (27.4%), 28 – 37-year-olds (31.3%), and the 68-year-olds and above (33.3%) all spend an average of 11 – 20 minutes travelling. However, the same percentage of 68 years-old and above (33.3%) spend 21 – 30 minutes (on average) getting to the market. This changes with the 38 – 47, the 48 – 57, and the 58 – 67-year-olds, wherein a high percentage spend an average of 21 – 30 minutes travelling to the market. A socially sustainable urban transport system is not applicable the same way all over the world (Boschmann and Kwan, 2008). Therefore, because Abuja operates a Bus Rapid Transit (BRT), it is dependent on minibuses in the satellite towns (or peripheries) (Owete, 2013), and the usage of tricycles in the city and motorcycle taxis in the peripheries (Bassey and Swomen, 2012), Venter *et al.* (2018) notes that travel time (and other factors) on the BRTs can be improved if they are integrated with other modes of transport that are locally available and acceptable. These distinctions between the age groups are further illustrated in the travel time to school. 20.2% of 18 – 27-year-olds spend a daily average of 11 – 20 minutes travelling to school. This is also applicable to 28 – 37-year-olds (15.0%), 38 – 47-year-olds (11.8%), and 68 and above (25.0%). An equal percentage of 68-year-olds and above (25.0%) both spend over 30 minutes getting to school and responded as "not applicable".

The unaffordability of properties in city centres, and transport costs, can also contribute to different social groups having different travel times (Salon and Aligula, 2012). These different travel times between groups in the peripheries compared to those in the city centre, coupled with poor transport service and inadequate integration of existing modal options, all

contribute to illustrate the inequalities in the socio-economic status of the people (Olvera, Plat and Pochet, 2013). A higher percentage of the private employees, self-employed, and unemployed spend a daily average of 11 – 20 minutes waiting for a bus or taxi. An equal percentage of students spend a daily average of 1 – 10 minutes and 11 – 20 minutes waiting for a taxi or bus, respectively. However, civil servants spend 21 – 30 minutes on average, and other occupations spend 1 – 10 minutes. It takes 27.9% of civil servants and 30.0% of other occupations an average of 21 – 30 minutes to travel to work. However, 45.3% of private employees and 23.8% of the unemployed over 30 minutes to work. The self-employed (27.4%) and students (32.6%) spend 11 – 20 minutes on average on their journeys. However, a high percentage of the unemployed (52.4%) chose "not applicable" because they do not have work.

Deng and Nelson (2011) notes that "an appropriately designed BRT system offers a high-quality transport service" (ibid.; p. 93) especially travel time savings. This high-quality transport service can be possible if a number of transfers and flat fares are made available for commuters in disadvantaged parts of the city (Bocarejo *et al.*, 2016). This also includes reduced travel times for commuters. However, looking at it from the point of view of equity and justice, individuals, social groups, and communities with unequal transport systems need to have their minimum standards based on their peculiar needs and inequalities (Pereira, Schwanen and Banister, 2017). This includes reduced travel and waiting times. Civil servants, private employees, students, and other occupations spend an average of 11 – 20 minutes travelling to market. However, the self-employed and unemployed spend 21 – 30 minutes, respectively. The students spend an average of 1 – 10 minutes travelling to school. However, a higher percentage of the rest of the occupations chose "not applicable". This is not surprising because they do not go to school but have children, wards, and siblings who they take to school. Therefore, 14.8% of civil servants and 12.3% of self-employed spend an average of 11 – 20 minutes travelling to school. Additionally, an equal percentage of the private employees (13.2%) and other occupations (20.0%) spend 11 – 20 and 21 – 30 minutes, respectively. So also, an equal percentage of the unemployed (14.3%) spend 11 – 20 minutes and over 30 minutes, respectively.

53.6% of those who use public transport are not satisfied with the services rendered, while 24.9% are satisfied. However, 21.5% answered "Not Applicable". The unsatisfactory public transport system in Abuja is also confirmed by both genders (males: 55.1%, females: 51.8%).  A high percentage of the 18 – 27 years (60.7%), 28 – 37 years (67.5%), 38 – 47 (37.3%), and 68 years and above (58.3%) age groups are not satisfied with the public transport in Abuja. However, 32.0% of 48 – 57-year-olds and 44.4% of 58 – 67-year-olds are satisfied with the service. The civil servants, private employees, the self-employed, students, and other

occupations are all not satisfied with public transport in the city. However, the unemployed group are satisfied with the service. The unsatisfactory nature of the transport systems in sub-Saharan Africa has been stated by Lucas (2011) and Porter (2013), and Abuja is no exception (Usani, 2005) and (Nwachukwu, 2014). The transport system in Abuja is not providing the minimum standard for an urban centre as internationally accepted (United Nations: Secretary-General's High-Level Advisory Group on Sustainable Transport, 2016) nor locally accepted (Razak, 2016). However, some social groups still believe it is a satisfactory system for them. While the civil society is needed on sensitisation and standards (Agbola, 1994), authorities are still required to provided systems based on commuter feedback (McAndrews and Marcus, 2015; Sagaris, Tiznado-Aitken and Steiniger, 2017).

Additionally, Olawole and Aloba (2014), Bombom and Abdullahi (2015), Omidiji and Ibitoye (2010), Ibitayo (2012), and Nwankwo, Fawohunre and Obasanjo (2016) all indicated the lack of satisfaction in the public transport system across Nigeria and for different commuters. Respondents learnt about the bus/taxi routes of the city through word of mouth (33.0%), family and friends (17.6%), radio (11.9%), public notice boards (10.7%), television (5.4%), the transport unions (2.7%), newspapers (2.3%), and the Transport Secretariat (0.8%). Furthermore, 15.7% stated they got to know the routes through "Others". A high percentage of men (30.6%) and women (36.0%) learnt about bus/taxi routes through word of mouth. Furthermore, a high percentage of the 18 – 27, 28 – 37, 38 – 47, 48 – 57, and 58 – 67 age groups have all confirmed that they learnt the routes through word of mouth. Only the 68 and above age group learnt about the routes through family and friends. 34.4% of civil servants, 42.5% of the self-employed, 27.9% of students, and 20% of other occupations all understood the bus/taxi routes through word of mouth. However, an equal percentage of the other occupations (20.0%) also knew about the routes through radio, public notice boards, newspapers, and other means. A higher percentage of the private employees (34.0%) knew the routes through family and friends. Likewise, 33.3% of the unemployed learnt about the routes through other means.

As stated by Lucas (2012; p. 106), "transport disadvantage and social disadvantage interact directly and indirectly to cause transport poverty". Therefore, having an unequal transport system across an urban centre directly or indirectly excludes some people in the city of Abuja from having a say in planning for the city and for their lives. However, Lucas carried out this research based on the United Kingdom's Social Exclusion Unit (SEU) study of transport and social exclusion in 2003 (2000). Furthermore, Lamont, Kenyon and Lyons (2013) notes there are commuters who do not understand the signs and route maps of public transportation displayed. The data illustrated here demonstrates that the routes in the city of

Abuja are mostly understood through word of mouth or family and friends. However, there are people with dyslexia who use the public transport in the city, and there are also people who are coming into the city for the first time. This format of route knowledge can be hard to understand by the visitor and the dyslexic easily. As stated by Lamont, Kenyon and Lyons (2013), this is a form of exclusion for commuters who are visitors to the city, who do not understand the routes, and who do not understand the shouting of routes done by the bus conductors in local dialects and parlances.

With the recent commissioning of the 1st intra city rail line in Abuja (Iroanusi, 2018) the city have commenced providing a multimodal public transport system. In the provision of a multimodal public transport system, Kenyon and Lyons (2003) are of the opinion that most commuters use the transport mode they are familiar with even if there is another more reliable and affordable option, thus excluding themselves from a more satisfactory travelling experience. The operation of bus, cars, rickshaws, and trains in Abuja is a welcome development but, considering the data on how transport routes are sensitised in the city, knowing how, when, and where to get these travel options can be hard for an average commuter. Additionally, even if the authorities standardise the advertisement of the transport routes and modes of Abuja, if they do not make it less cumbersome, it will still be as difficult to understand by people with dyslexia and learning disabilities. Nevertheless, the data illustrated in this study and the supporting citations all illustrate a level of exclusion in public transport. However, Kenyon, Lyons and Rafferty (2002) stated that information and communication technologies (ICT) can be used to overcome transport exclusion to avoid one missing out on opportunities in life.

67.0% does not feel affected by the noise level from vehicles in their neighbourhoods while 33.0% feels affected. A high percentage of men and women (male: 68.0%, female: 65.8%) also do not feel affected by the noise level from vehicles. A higher percentage of all the age groups also responded that they do not feel affected by the noise levels. None of the occupations are affected by the noise levels, except for the other occupations, whereby an equal percentage (50.0%) are affected, and the other half are not. According to this result, a high percentage of the respondents are not affected by noise from vehicles. Gaffron (2012) concluded that people who are prone to multiple deprivations, due to their socio-economic disadvantages and limited choice of residential locations, are more prone to be affected by noise pollution. Gaffron (2012) point on people with multiple deprivations is buttressed by Solomon (2002, p. 153) ("people with low incomes are more likely than higher income groups to live in areas with traffic, pollution, and road safety problems") and Church, Frost and Sullivan

(2000, p. 202) ("accessibility improvements associated with regeneration initiatives can have both positive and negative effects on neighbouring communities").

54.8% of respondents stated that the roads are of good quality for vehicles, they are conducive for pedestrians and cyclists, and the drivers are abiding by the Highway Code. However, 23.8% stated they do not know about the quality of the roads, and 21.5% stated the roads are not of good quality. The pictures illustrated of roads in Abuja do not have bicycle lanes, and not all the roads have pedestrian paths. This raises the issue of cyclists having to share paths with pedestrians, which is not conducive. The FRSC and some scholars (already cited) have stated the unruliness of the Abuja drivers. However, respondents believe that the roads are conducive for pedestrians and cyclists.

Additionally, Abuja transport system is tilted towards road transport. And due to the inefficiency and ineffectiveness of the public transport system, the citizens prefer using their cars than the available public transport. This creates an unequal transport system in the city that results to traffic congestion, poor road safety, unruly drivers, disregard for pedestrians and their safety, and the emergence of motorcycle taxis and rickshaws. Having experienced the transport system of the city, some of the roads do have pavement for non-motorised transport while other do not, inadequate bus stops, and disregard for disabled access.

## 5.9 Poverty
Transport poverty has been discussed globally (Titheridge *et al.*, 2014), in sub-Saharan Africa (Olvera, Plat and Pochet, 2013), and Nigeria (Asiyanbola, 2012). All these literatures discussed the disadvantages and exclusions faced by commuters due to poverty. Poverty leads to low or no income and having no money causes one to experience transport exclusion due to financial constraints (Solomon, 2002). The diverseness of the research responses among the social groups illustrate that individuals might face transport exclusion due to their poverty and income levels.

While responding to the question about transport costs in the questionnaire, 26.4% of respondents stated that they spend 6 - 10% of their monthly income on transportation, 18% use 11 - 15% of their monthly income, 14.2% use over 15% of their monthly income, and 11.9% use 1 – 5%. The monthly national minimum wage is N18,000.00 (£38.43) but some respondents are spending over 10% of their income on transportation. While some among the groups might be well enough off to afford this, others might not. Carruthers, Dick and Saurkar (2005; pp. 9) stated that the average transport cost per month in Lagos is 15% - 20% of average income but standard measurement of fare costs should be guided by the type of city,

level of income of the people, length of travel, and cost of travel. Furthermore, Serebrisky *et al.* (2009) believe that low income households spend less on transport because they do not travel far and have fewer activities, unlike the higher income earners. They concluded that transport costs can only be approximated but not be a certain number due to the different social groups commuting in distinct individual and transit circumstances. This reiterated the need for a standard measurement of transport costs based on local circumstances and the data gap experienced in African countries (Carruthers, Dick and Saurkar, 2005).

27.9% of males spend 6% - 10% of their monthly income on transport and this is also applicable to 24.6% of females. Additionally, a high percentage of 18 – 27, 38 – 47, 48 – 57, and 58 – 67-year-olds spend over 15% of their monthly income on transportation. However, 25.5% of 38 – 47year-olds also spend 6% - 10% and 11% - 15% of their monthly income on transport. 33.3% of the 68 and above age group spend 6% - 10% on their transport monthly. Poverty and low income affects the urban poor in participation to develop, access, and use the services and infrastructure available in the urban centre (Vanderschueren, Wegelin and Wekwete, 1996). This increases the level of urban poverty which, directly or indirectly, leads to violence amongst individuals and groups resulting in increased insecurity in the urban space (Vanderschueren, 2001). Due to high property costs in the city centres, coupled with transport costs, people are made to live far away from the city centre which causes more exclusions and inequalities from basic amenities (Olvera, Plat and Pochet, 2013). Transport poverty is not only about cost but also about different circumstances and scenarios that can affect low income and high income earners (Lucas *et al.*, 2016). Additionally, a high percentage of civil servants spend 11% - 15% of their monthly income on transportation, while private employees, the self-employed, students, and other occupations spend 6% - 10% of their monthly income. Yet, the same percentage of the other occupations (20%) spend over 15% of their income on transport. The unemployed are the group who spend a lower percentage of their monthly income on transport; 33.3% of them spend 1% - 5%.

Additionally, 49.0% of respondents stated that there have been times within the past 12 months when they did not have money for transportation for them or their family. 51.0% have not faced this challenge. This is further reflected by the female (51.8%) and male (50.3%) respondents who notes they have not faced the problem of lack of funds for transport within the past 12 months. The 18 – 27 (65.5%), 28 – 37 (52.5%), and 68 and above (58.3%) age groups confirmed that there have been times within the last 12 months when they did not have money for transport. However, the 38 – 47 (72.5%), 48 – 57 (72.0%), and 58 – 67 (66.7%) age groups have never faced this problem within the past 12 months. It can be noticed that the middle-aged groups have all not faced transport costs problems during the past 12 months.

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That means that if even if they are not working, they have ways to get income to pay for their mobility costs.  This is also true of the groups that are working, which is not surprising because they have guaranteed income daily and at the end of the month, unlike the private employees, the unemployed, and students. 54.1% of civil servants, 68.5% of the self-employed, and 50.0% of other occupations have all not experienced lack of funds for transport within the past 12 months. However, private employees (56.6%), the unemployed (61.9%), and students (67.4%) have all lacked funds for transport within the past 12 months. For the other occupations, an equal percentage (50.0%) have also experienced a lack of funds.

As stated by Church, Frost and Sullivan (2000), Solomon (2002), and Solomon (2000), low income can lead to exclusion in transportation leading to losing of opportunities for the development of the people. In the data illustrated in this study, almost half of the respondents have faced challenges of transportation because of financial limitations within the last 12 months. Ortar (2018) concluded that, to aid households in the challenges they face in transportation costs, public authorities' households themselves, and employers of labour need to provide alternatives to the people. Ortar (2018) carried out his research on the middle class in peri-urban areas of France. However, this is appropriate for Abuja because of the satellite towns in the city where much of the populace resides. Much that Ortar has stated – the policy ideas, the household change in mobility, and alternative employer/employee workings – are stated in the policy documents of the Nigerian government (Federal Ministry of Transportation (Nigeria), 2010), (National Planning Commission (Nigeria), 2015), (National Planning Commission (Nigeria), 2009). However, the National Transport Policy has been in draft form since 2010. Yet, households are expected to change their modes of mobility when the alternative to transport (multimodal public transport system) is not in place and employers are encouraged to have alternative modes of working with their employees when the infrastructure for e-office (internet) is not adequate because of poor internet connectivity. This all seems ambitious for the government to achieve.

While the number of internet users in the country is high (Akinbajo, 2019b), the broadband penetration is still too low (Akinbajo, 2019a) for employers to depend on it for their daily routines with employees who are working from home. While it is encouraging for policy makers to think of the people and their modes of transport and the cost, it is also a positive thing if these policy ideas are put in place for usage by the people they are intended for. Still on the subject of transport cost for households, Papagiannakis, Baraklianos and Spyridonidou (2018) mention that economic hardships on households are more reasons for people to think of using public transport than any encouragement to use sustainable mobility by the government. Therefore, however much advocacy and encouragement government do in

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addition to the provision of transport options in urban centres, people are just going to continue using their private cars, except if transport costs start affecting their other household expenditure, rather than change their modes of mobility.

Poverty causes one to not afford transport fare to fulfil one's socio-economic endeavours. According to the discussion, almost have the respondents have had to cancel trips due to lack of transport fare. Though Nigeria has high broadband penetration, the internet is not reliable for workers to be working from home, and employers are not even encouraging it (pre-COVID-19) even though it will save them the transport cost.

## 5.10 Linkage to Social Sustainability

From the foregoing analysis, elements of stakeholder participation have emerged. The discussion identified that having a *collective citizen action* from the people of Abuja and approaching the government on transport issues may result in an improvement to underperforming and ineffective services. However, not everyone in a community is keen to participate in the decision-making, therefore, even though it would be good to have a robust participatory governance it is not always reciprocated by the people of the community. Furthermore, *poor knowledge* of governance system and electoral dates for local elections, in addition to a huge *public bureaucracy*, also point out the inadequacy of stakeholder engagements in Abuja. Poor knowledge of the governance system also illustrated that some respondents do not know that they are constituents of elected representatives who represent them and their community at the 3 tiers of government, whereas others believe that only a selected group of people are allowed to public hearings or must wait until one gets an invitation. This also illustrates a mixture of *illiteracy/nonchalance/indifference* to governance. Another point to note is that a high number of the respondents are not *members of any community group nor association*, thereby hindering themselves from participating in decisions that affect them and their community.

Additionally, *inadequate communication and time* calling citizens to consultative meetings (at the constituencies) and hearings (at the National Assembly) is another factor for inadequate stakeholder engagements. Thus, decisions made at the National Assembly might not be in the interest of the community. Through inadequate communication (usage of newspapers to announce hearings), citizens might not be able to hear about these announcements because of *poverty*. This is occasioned by the low purchasing power of the people in a country where the minimum wage per month is N18,000.00 (£38.43). All the above points bring about *lack of trust* in government and all they plan to do for the citizens. Lastly, some citizens tend to not take part in the decision-making process in the understanding that

their jobs do not allow them to *participate*. This illustrates that more enlightenment is needed to make people understand that, under Nigerian law, everyone can have a say on how his/her community is being governed in as much the participation is done legally.

From the analysis done, elements of social inclusion have emerged in the discussion. The *civic engagement* in Abuja is low due to responses by some research participants, for example: "*if it doesn't happen to me or affect me, I don't care about it*". This indicates that citizens do not care how their community develops (or not) and are not willing to participate in its growth because they have not been involved in previous government decision processes nor have they been positively impacted by it. *Communication* is another element of inclusion if all its tools are used to inform the citizens. In this case, 30% of research participants have heard about announcement for consultation through the electronic media. Though it is good that the medium is used, the numbers need to be higher than they are. The discussion identified that the citizens are not having a *collective action* when engaging with the government because of *a nonchalant or indifferent* outlook on issues, especially if they are making statements like: "*I have not seen any need to*" when asked about civic participation. This indicates that exclusion is happening due to *poor knowledge* of governance, *poverty, lack of trust, bureaucracy,* or all these factors. It could be because of poverty; considering the low purchasing power of the citizens, they might be thinking of survival rather than how to make their immediate environment sustainable for themselves. The reason for lack of trust goes together with bureaucracy because the previously unfulfilled plans by the government were not achieved due to the large bureaucracy in the government. As stated, most respondents are not *members of an association*, thus, the avenue for communal understanding is inadequate, hence, lessening the participation and involvement of the citizens.

It has been further discovered that the transport system is not *equitably* and *equally* distributed across the city, amongst the different modes, and for all users. In some parts of the city well paved roads are provided for vehicles but no lanes for bicycles, other parts have roads but no lanes and paths for pedestrians and wheelchair users. Furthermore, the available public transport (buses and taxis) is not conducive for the disabled to board and alight, zebra crossings for pedestrians are faded and drivers do not abide by the rule even if the paintings are visible. Additionally, the knowledge of the public transport route in the city is inadequate for visitors to the city, and it is unhealthy for the bus conductors to be shouting the routes all day long. However, removing bus conductors might render them unemployed. Lastly, the city transport system is more suited to vehicular traffic than other modes of transport like rail or tram. Transport system of the city is not *satisfactory* to all stakeholders as it is.

## 5.11 NVivo Analysis for Stakeholders

As stated in Section 3.5 of this thesis, some analysis was done using the *NVivo* software. The *NVivo* queries have analysed participant's responses and have highlighted problems and proffered some solutions to these problems. However, some of the results are reiterating the already analysed quantitative data and complementing that qualitatively some of the responses are in line with the quantitative data.

The result of the analysis done with the *NVivo* software has supported some points raised by cited authors. However, the *NVivo* results have brought to the fore the need for professional inputs in some situations of urban management, whereby as much as participatory governance is encouraged and used by urban authorities, the input and guidance of urban planning professionals (to incorporate the public views) is also a positive direction for urban development.

The NVivo results indicate that respondents prefer using their private cars due to the inconveniences of the public transport available in Abuja. Therefore, the qualitative analysis of the responses contradicts the quantitative data that states respondents will recommend the usage of public transport to other commuters. However, it should be noted that those who have cars comprise 33.7% of the respondents, therefore, the figure is still low for those who are not knowledgeable on what is supposed to be the standard in public transportation.

# CHAPTER 6: DATA ANALYSIS AND DISCUSSION FROM ORGANISATION RESPONSES

## 6.1 Introduction

The discussion in this chapter is structured in line with the emergent themes of the research, particularly the two themes of stakeholder participation in decision-making and social inclusion. Therefore, the data analysis from the organisational interviews is discussed in line with these two broad themes. Furthermore, a summary of the findings illustrating their similarities and distinctions, together with the linkage to similar findings by other scholars is highlighted. This chapter is discussing responses from labour unions and government stakeholders.

## 6.2 Data Analysis from Labour Organisations
### 6.2.1 Analysis of Stakeholder Participation in Decision-Making

Participation

From the responses of the labour unions, three stated they had been consulted by the government on policies regarding urban roads and transport, whilst one stated that they had not been consulted. The government body that they interacted with on the urban transport policies is the Transportation Secretariat of the Federal Capital Territory Administration (FCTA). The three labour unions who were consulted all confirmed that they participated fully in the stated policy development and that their inputs were consolidated in the final document. However, one of the unions could not confirm if the policy had been fully implemented, whilst the other two confirmed that implementation is ongoing.

Consultation and engagement of stakeholders is key in the achievement of infrastructural programmes (Whitton *et al.*, 2015; Sagaris, Tiznado-Aitken and Steiniger, 2017). These researchers discuss the need to bring together all stakeholders in infrastructural development to have ownership, acceptance, to avoid conflict, to listen to all views for incorporation into the project/programme, and for user acceptability. However, according to one of the unions, they are not being consulted on urban road policies in Abuja, despite being approved by the authorities to operate in the city. Thus, if one of the unions is not being listened to then it is possible that the government and the unions may not have a robust and understanding engagement.

Knowledge of Governance System

The unions, in hierarchical order of priorities, listed areas they think the government should focus on to improve public transport in Abuja. Unions 1 (Road Transport Employers

Association of Nigeria – RTEAN) and 2 (Tricycle Owners Association of Nigeria – TOAN) think improving existing roads (filling of potholes, road markings, signages, etc.) should be the highest priority in the city. Unions 3 (National Union of Road Transport Workers – NURTW) and 4 (Self Employed Commercial Drivers' Association Abuja – SECDAA) think construction of new roads and improving existing public transport services (buses, tricycles, etc.) should be the highest priority. It is noted that three unions give high (but not the highest) levels of support to improving existing public transport services (buses, tricycles, etc.). However, two of the unions believe that improving provision for walking and cycling is the lowest priority in Abuja. This may suggest that that the unions may not support the government if and when they more greatly encourage walking and cycling. Tiwari (2002) studied the need to prioritise the provision of transport facilities in New Delhi, India, by integrating non-motorised transport (rickshaws), two wheelers, and motorised vehicles on the roads, taking into consideration the high number of vehicles on the roads. While the priorities being discussed here are from the point of view of the transport unions, Şimşekoğlu, Nordfjærn and Rundmo (2015) studied commuter priorities in Norway, whereby they prioritised flexibility (travel time and route), convenience, safety and security in deciding whether to use their cars or public transport. This illustrates the distinction between Nigeria and Norway, where both countries need the public transport to improve, albeit based on different circumstances. The Norwegian government is aiming to encourage people to use the available public transport, although the Norwegian public is reluctant to utilise it because of the priorities listed (commuter view). In Nigeria, however, Unions are interested in the construction of new roads and not in the amount of time a commuter spends travelling, nor their convenience and comfort during travel. Sdoukopoulos *et al.* (2016), nevertheless, included the priorities chosen by the unions and the ones proposed by Şimşekoğlu, Nordfjærn and Rundmo (2015) to notes that they are all required to be included when improving public transport.

Lack of Trust

When asked if they would support the government taxing road users (i.e., road tax, fuel tax, pollution tax, or congestion charge), considering the low revenues and inadequate budgetary allocations for infrastructure provision, two of the Unions supported it, while two others did not. However, all the Unions noted that, presently, the public transporters all pay a daily tax to the local government, whereas private vehicles do not. One of the Unions stated that the budgetary allocations are not adequate, but the minimal funding provided in the budget does not even go to the programme or project it was assigned to in the first place.

Civic Engagement

To gather numerical data about the operations of the Unions, tables unique to their functions were prepared for reporting by the unions. These tables have prepared Key Performance Indicators (KPIs) inserted in them for filling out by the Unions from their administrative database. However, RTEAN did not fill out their data and TOAN filled out that they operate over a total of 240 kilometres across Abuja. They have never participated in stakeholder engagement with the FCTA on urban road transportation, and, therefore, they have no recommendations to the government nor have their inputs been heard or incorporated in subsequent policy decisions. This is happening to a Union that operates over 240 kilometres of the city and has 3,000,000 members, performing a service that the government is supposed to provide. Furthermore, commuters have complained 11 times about TOAN members in 2017 and all the complaints have been resolved amicably. The Union reported that the average age of their tricycles (rickshaws) is 3 years, and they conduct mechanical checks once a week. However, the Union could not provide all data as requested. TOAN's routes extend into the next State because the built-up areas of the FCT are merged with the built-up areas of Nasarawa State. TOAN also lamented that they are not allowed to operate in certain parts of the city, and they are unable to engage with the Transportation Secretariat of the FCTA.

NURTW was only able to provide data for 2017. They engaged with the government on urban roads 14 times in 2017. During these engagements they were able to proffer three recommendations to the government and all three of those recommendations have been consolidated in the final government document. In 2017, the Union received 52 complaints from commuters about their members; 49 of those complaints have since been resolved amicably. They have many registered bus drivers (12,000) and bus conductors (3,000) within their membership. There are 2000 commercial tricycle operators registered as Union members, whilst 15,000 members of the Union are taxi drivers. The average age of the buses operated by Union 3 is 8 years, and the buses undergo mechanical checks on average once a week.

NURTW has tricycle operators within its membership. This creates friction between the tricycle operators who are members of the Tricycle Owners Association of Nigeria (TOAN) and tricycle operators who are members of National Union of Road Transport Workers (NURTW). NURTW operates routes into the next State because the built-up areas of the FCT are merged with the built-up areas of Nasarawa State. They complained of the constant harassment of their members by the Taskforce on the Environment of the city. They stated that they are charged with exorbitant fines by the taskforce and that they want their interactions to be of mutual respect and understanding.

SECDAA operates 15 routes in the city totalling 400 kilometres. The Union has been involved in 20 periods of stakeholder engagement with the authorities, with 8 recommendations to the government made during these interactions; all of them have been accepted by the government. 200 complaints were received from the commuters about their members and all these complaints have been resolved amicably. There are 3,000 bus drivers registered with the Union, and 1,000 are registered as bus conductors as of 2017. 5 years is the average age of the buses, and they undertake mechanical checks on these buses on average once a month. SECDAA operates routes into the next State because the built-up areas of the FCT are merged with the built-up areas of Nasarawa State (as with TOAN and NURTW). This Union is registered as a transport company to operate in the FCT and licensed by the Transportation Secretariat of the FCTA. They are a Union of individual bus owners who came together to form one transport company. This was done with encouragement from the Transportation Secretariat of the FCTA as a step to having a regulated and well managed public transport system in the city. The idea of encouraging individual bus owners to form one umbrella body, bus companies operating within the city, and their operations regulated by one government body, is incorporating Femi's (2012) recommendation.

Summarily, several unions are being consulted by the government on policies regarding urban roads and transport, their inputs are incorporated in policy documents, and the routes operated by the Unions are agreed by means of a joint decision between the government and the Unions. Two Unions confirmed this, whilst the other two stated it was a government only decision. Furthermore, all four Unions face challenges operating in the city. These challenges are:

1. Government support in acquiring buses for commuting.
2. Inadequate transport facilities such as bus stops in the city.
3. There is no standard motor park within the city.
4. Tricycle (rickshaw) operators report frequent harassment by the police, and
5. There is friction between the unions.

Two of the Unions believe improving existing roads (filling of potholes, road markings, signages, etc.) should be the highest priority in the city, while the other two Unions think construction of new roads and improving existing public transport services (buses, tricycles, etc.) are the highest priority. Lastly, all the Unions operate routes into the next state because the built-up areas of the FCT are merged with the built-up areas of Nasarawa State. Furthermore, there is inadequate up to date data from all the participating organisations.

Following this analysis, elements of stakeholder participation have emerged in the discussion. The discussion identified that one of the unions is not being involved in the consultation process, thus excluding them from *participation*, and this might breed *lack of trust* between the union, the government, and the other unions. Disbursement of the daily tax collected from the operators are not transparently undertaken, thus, reducing the trust between the authorities and the Unions. Due to the huge *public bureaucracy*, the unions cannot confirm if their recommendations to government on improving the transport system are being implemented or not.

Furthermore, *poor knowledge* of the priorities of improving transportation in the city is inadequate for the unions' purposes. Priorities are dependent on other factors beyond those which the unions choose to prioritise (though they should be factored in) and the needs of the commuters should be understood before decisions are made. Additionally, having inadequate data concerning their operations contributes to poor knowledge of their operational performance and capabilities as Unions, which they need to correct. Though, the data they were able to report have illustrated the Unions willingness for *civic engagement* by understanding and improving their operational performance through data gathering.

The Unions, being organised bodies, have not illustrated any element of *illiteracy nor indifference* to governance because of their response to the city authorities' consultations and their willingness to create an umbrella body for their members of which they have high numbers, thus, making them *members of a community group or association*.

From the discussion, we know that not all the Unions get periodical engagements with the transport authorities, and their views and inputs are not always incorporated into the decision making. However, elements of consultation and engagement do happen. This gap in engagement between the Unions and the city administrators might increase the distrust that happen between citizens and the government because the citizens are the members of the Transport Unions under focus. Furthermore, the Unions do not keep periodic data of their operations which illustrates poor institutional governing system in those organisations. Operational data can be an advantage to the operators if requesting for financial support (from government or private sector), will illustrate the Unions diligence and commitment to their job, and illustrate their members their operational capabilities and how they can improve their services. Fortunately, the Unions receive and work with customer feedbacks, these feedbacks can be collated to be presented to the authorities on how to improve the public transport system. However, the researcher believes that the will to provide the needed transport system is not existing within the government no matter the persuasion from all stakeholders. Lastly,

the Unions all operate across the city region and into the neighbouring State. Thus, Unions in Abuja can collaborate with Unions in Nassarawa State (neighbouring State) to request for the improvement of transport services in their areas of operations. They can be a pressure group for the provision of public transport in the region.

### 6.2.2 Analysis on Social Inclusion
Collective Action

The Unions were asked if the present transport routes they operate on is agreed between themselves and the government authorities, or if it is a decision unanimously taken by government. Two Unions stated it was a government-only decision, whilst the other two stated it was a joint decision between the Union and government. This indicates that some of the decisions taken about road transport operations in the city do not involve all stakeholders. All four Unions stated that they face challenges operating in the city. However, they were unanimous in stating that the commuters appreciate their efforts to provide city-wide public transportation. The Unions are requesting that the government support them in acquiring buses for operations. It would be advantageous for sustainability if the Unions' request for low carbon buses and their accompanying infrastructure could be agreed so that Abuja can be one of the cities that have electronic buses operating within it.

Nevertheless, Tong *et al.* (2017) stressed that external funding is required for bus companies to have electric buses, and that policy decisions and supporting infrastructure (charging points, etc.) need to be in place before the usage of these types of buses can begin. While it is imperative for the government to be the driver and manager of a regulated urban transport system, it is also a positive idea for the unions operating in the city to commission their own standards of operations to provide a commuting experience that will be acknowledged by commuters. Ngoc, Hung and Tuan (2017) proposed a criterion for measuring performance from the point of view of the commuter in a developing country's urban centre. This criterion can be adopted by the transport unions operating in Abuja to understand the commuters' views and to improve their services. This is in view of the inadequate regulation from the government and to improve services provided by the bus companies.

Equity and Equality

Three of the Unions confirmed that there is a healthy working relationship amongst the transport Unions, but one of the Unions stated there is no healthy working relationship. Likewise, the three Unions that stated there is a healthy relationship amongst the Unions also stated there is an avenue where they can air their grievances to the FCTA whenever the need arises. In this case also, the other Union stated there is no avenue for airing their grievances

to the FCTA. Two of these Unions write letters to the Transportation Secretariat of the FCTA when they need to raise an issue, while the other usually holds periodic meetings with the Transportation Secretariat and presents their issues then. One of the Unions has not set up a structure to hear and address commuter grievances that occur between passengers and their members, whilst the other three have. Another initiative by one of the Unions is that they encourage commuters to take note of their announcements on the radio about operations and how to contact them. Commuters are advised to note the fleet number of the vehicle they are boarding for ease of sorting out the grievances and for safety. Summarily, some of the Unions have been consulted by the government on policies regarding urban roads and transport and their inputs have been incorporated in policy documents.

Following this analysis, elements of social inclusion have emerged in the discussion. The discussion identified that the Unions are not having a *collective action* when engaging with the government because one of them has never been consulted by the government, two of them have not been consulted on the routes they can operate in the city, and thirdly, there is friction between two of the Unions. Furthermore, one of the Unions is advocating for government to support them in acquiring buses. However, *poor knowledge* (due to inadequate data) of their operational capacity might not help their advocacy. It is also a possibility that other unions might need support if one of them is supported by government. Requesting that the government supports Unions with operational buses is an avenue for the authorities to introduce environmentally friendly buses (and other vehicles) into the city. However, the *bureaucracy* might hinder this because of the supporting facilities and infrastructure needed to operate the vehicles (charging points, steady electricity, etc.) and the cost of importation and maintenance of the vehicles. Three of the Unions listen to the commuters' complaints about their members and try to resolve issues that arise between their members and commuters, thus indicating that they *engage* with commuters. Because of the requirement of every operator to be a member of the Unions operating in the city, it indicates that the organisations are there to protect the interests of their members, making them an inclusive group who are *members of an association*.

Additionally, some of the Unions attend periodic meetings with the Transportation Secretariat of the city, whereas others write letters when the need arises. Whilst this is commendable, it is advantageous if all the Unions are engaged at the same time to have effective synergy and *communication* between the Unions and the authorities. This is because, having two different systems in consultation with the Unions might create a *lack of trust* which the government might be, unknowingly, encouraging. With just one consultation/engagement

system in place it would be positive for all concerned to know that all unions can *participate* in the decision-making process.

Moreover, weak collective action and lack of trust between the Unions, coupled with the city's transport authorities not consulting with one of the Unions, illustrates that there is poor *civic engagement* between the Unions, and between the government and one of the Unions. Thus, this is an indication that interaction between the government and the Unions is not on an *equal* basis and, thus, the objectivity and impartiality that the city authorities are supposed to use in governance is lacking in this case. Conclusively, some of the decisions governing the transport system of the city are *satisfactory* to all parties concerned.

Finally, inclusion in transportation involves talking and listening to the transport operators. In this case not all the operators are listened to by the authorities. This is not a positive attitude by the city authorities. These Unions are already registered, licensed to operate, pay their taxes, and their operators are employed through the transport services that they render. Therefore, it is necessary for the city authorities to engage them, understand each other and find ways to improve the services they render. Some of the operators are even filling the gap left by government failures thus they should not be discouraged in what they do but to be encouraged. If at all they are going over their service mandates, then the authorities should reprimand them. Inclusion is also applicable amongst the Unions also. One of the Unions is responded that there is no cordial relationship with the other Unions. The Unions needs to work together to achieve their goals. They are all providing services that are always needed, thus, there is room for all to operate. They should come together are delineate areas of responsibilities (last/first mile, integrated transport system, areas of interest and cooperation, etc.) and engage with the authorities under one collective resolution.

## 6.3 Data Analysis from Government Organisations
### 6.3.1 Analysis on Stakeholder Participation in Decision-Making

Civic Engagement

Questions that are related to stakeholder participation in decision-making that are answered by the government organisations are hereby discussed in this section. These questions include tables with options to be selected by the respondent organisation. The tabulated responses are hereby illustrated in the subsequent tables, and they will be discussed. Therefore, the following table is the combination of the responses on general

statements about citizen engagement from the four government organisations for analysis purposes.

**Question 4.3.1.3 (To what extent do you agree or disagree with each of the following general statements about citizen engagement?  (Please mark the relevant box)**

| | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | A, C, | | | | B, D | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | C | A, D | | | B | |
| Most citizens we hear from are more interested in complaining than in finding solutions | A, B, C | | | D | | |
| Citizens want access to information about the government's finances and operations | | D | | | A, B | |
| Citizens want access to information about the government's performance | B | D | A | C, | | |
| Most citizens are not willing to take the time to become well-informed on issues facing the city | A, B, C, | | | | D | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | C | A, B, D | |
| The meetings run too long because too many citizens want to speak | B | | A, C | | D | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | C | D | A | | B | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the city overall | A, C | | | | B, D | |
| Important decisions facing roads typically have already been made prior to most public meetings | A, B | D | | | | |
| The decision-making is transparent to our citizens | A | D | | | B | |
| The Department's engagement efforts mostly attract the same people over and over | | D | A | B | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | A, B, D | |

**Table 12: Summary of Responses from Government Organisations on Citizen Engagement**

Table 12 illustrates that Organisations A (Department of Urban and Regional Planning – DURP), B (Federal Ministry of Transportation – FMT), and C (Federal Road Safety Commission – FRSC) strongly agree on two of the statements, whilst A, B, and D (Transport Secretariat – TS) strongly disagree on two of the statements. Furthermore, DURP and FRSC

strongly agree on two statements and neither agree nor disagree on another statement. Similarly, Organisations DURP and FMT strongly agree on one statement but strongly disagree on another one. Additionally, DURP and FRSC strongly agree on one statement only. Lastly, some responses illustrate the distinction of the organisations when they responded differently.

While discussing Table 12, the focus will be on the 'strongly agree' statements.

a. **"*We make opportunities for engagement available, but our citizens rarely take advantage of them*".** Two of the organisations chose this statement. As the discussion in Section 5.4 illustrates, most respondents have not heard about consultation on urban transport in the media, they do not know about the policy on urban transport in the city, they do not know which authority to approach about urban transport and are reluctant to engage with government. However, lack of awareness about the public policy formulation process and inadequate formulation tools are a barrier to citizen engagement (Sampson, Bakht and Desta, 2018), and engagement should incorporate local values and media of communication for effective consultation with everyone involved (Akanni, 2019). In the context of this research, specifically Section 5.2, citizens do not engage each other at communal level to have a common resolution to present to government (49.0% of respondents stated they do not know if there is strong civic engagement among the people of Abuja).

b. **"*Most citizens we hear from are more interested in complaining than in finding solutions*".** Three of the organisations chose this statement. As noted by Valentine, Sovacool and Brown (2017), most communities make up their minds on infrastructure provision based on their previous experiences in similar situations. Therefore, most citizens will complain based on what they have experienced in the past, and, due to their low knowledge of complex issues, they may dwell on problems only and not on solutions. This point is supported by 54% of this research respondents (Section 5.2) who wants existing roads to be improved as the major priority. They are not interested in understanding if this is possible, and it illustrates the unconscious bias of the commuters towards roads than improvement of public transport service or other modes of transport.

c. **"*Most citizens are not willing to take the time to become well-informed on issues facing the city*".** Three of the organisations chose this statement. Ibem (2009) and Hove, Ngwerume and Muchemwa (2013) have encouraged the use of civil society organisations to simplify government policies to the people. However, it is to be noted that the government is responsible for making its policies simple and inclusive for public acceptability. This might be because the citizens do not know whom to approach

to understand the issues because in Section 5.3, 42.5% of respondents had no idea whom to approach if they want a copy of the FCT Transport Policy. Furthermore, 64% of respondents (Section 5.4) have never heard any calls for consultation by the Federal Capital Territory Administration on urban road transport in the media. Therefore, citizens do not know who to make them understand policies and plans and do not know when these plans and policies are to be developed, consulted nor implemented.

d. **"*Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the city overall*".** Two of the organisations chose this statement. This is the reason why Sagaris, Tiznado-Aitken and Steiniger (2017) notes it is advantageous for urban centre authorities to include all stakeholders in the decision-making process of a multimodal transport system in a city so that all views can be heard. As some responses illustrated in Section 5.6 – *"Because I was busy", "Nothing to notes when I go there", "As a student I rarely have time",* "*I have not seen any need to*", and "*if it doesn't happen to me or affect me I don't care about it*". All these statements support the point made by these organisations.

e. **"*Important decisions facing roads typically have already been made prior to most public meetings*".** Two of the organisations chose this statement. This is stated by Organisation A because of the existence of the Abuja masterplan and the experience they usually have with the public, whereby most people do not understand the technicalities of plans nor development. However, in as much as most people do not understand these technicalities, they need to be included in the process (De Melo Correia and Galves, 2018). In the situation whereby the citizens do not participate in civic engagement, and they do not know whom to engage on issues, the citizens will find it hard to understand technical aspects of the road plans and policies. Therefore, it is the responsibility of the authorities to enlighten the people on the plans that affects them (citizens).

f. **"*Citizens want access to information about the government's performance*".** One of the organisations chose this statement. This is an entitlement for the citizens because the government is working for their welfare based on the citizens' trust. However, getting access to information about government performance does not tell the citizen much, especially if he or she does not understand the information being given. Citizens can understand the information they are getting from the government if the process of enlightenment proposed by Enserink and Koppenjan (2007, pp. 468-469) is undertaken. Performance matrix of the government is what citizens use to measure the progress of the society. Therefore, information about government's performance on road transport should be made public because after the citizens have understood the plans (e), they will understand the capabilities of government and

responsibilities of the multiple organisations, and their targets thus tracking the plans to achieve the desired targets.

g. **"*Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.)*".** One of the organisations chose this statement. This indicates that the citizens prefer informal scenarios for engagement than formal settings like seminars and workshops. Citizens' input, wherever it is made, should be incorporated and implemented. 64% of respondents (Section 5.4) have not heard about calls on consultation in the media but (according to this organisation) citizens prefer informal settings to make an input. Therefore, it might be a situation of citizens preferring informal settings than going to a formal setting (office, workshops, hearings, etc.).

h. **"*We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled)*".** One of the organisations chose this statement. In this case, this organisation is encouraging all groups to engage, thus broadening the inclusive circle in their participatory governance. As stated by Chidoka (2011) and Sumaila (2013) all groups and stakeholders are needed in the decision-making for mutual understanding, safety on the roads, and attitudinal change by road users. With transport fare becoming a problem for commuting (Section 5.9) and low collective action (Section 5.2), low-income earners might find it difficult and intimidating to approach government bodies for their inputs in decision-making.

The table below is the combination of the responses on citizens' engagement in policymaking and operations of the four government organisations for analysis purposes.

**Please indicate which of the following approaches – if any – your department uses to engage its citizens in the government's policymaking and/or operations (check all that apply).**

| Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|
| Notices in newspapers/media | | A, B, C | | | | |
| Hard copy notices on Department's Notice Boards | D | A, B, C | | | | |
| Federal Government or Federal Capital Territory Authority's website | C | B | A | | | D |
| Formally organised event for public comments (e.g. Town | A, B, D | C | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hall meeting or Workshop) | | | | | | |
| Conducting periodical public hearings on policies in different parts of the FCT | | | | | | A, B, D |
| Citizen surveys conducted by the Department | D | B, C | | | | A |
| Social media accounts for the FCTA (e.g., Facebook or Twitter) | | | A, C | | | B, D |
| Internet discussion forums or online input/feedback forms | | | A | C | | B, D |
| Informal one-on-one discussions with citizens | A | B, C, D | | | | |
| Focus groups conducted by the FCTA | A, B, D | C | | | | |
| Citizen participation on ad hoc task forces or planning teams or policy development | A | B, D | C | | | |
| Citizen participation on formal government Boards or Commissions | A | | B | | | |

**Table 13: Summary of Responses to Approaches to Engaging the People in Policymaking and Implementation for Government Organisations**

Table 13 illustrates that DURP, FMT, and TS stated it is very effective to hold a formally organised event for public comments (e.g., Town Hall meeting or Workshop) and focus groups engagements. However, the three organisations responded by stating that they do not know if conducting periodical public hearings on policies in different parts of the FCT and the country is an effective approach. Furthermore, the usage of newspapers/media and notices on organisations' notice boards are deemed to be somewhat effective by DURP, FMT, and FRSC. However, FMT and FRSC still think that informal one-on-one discussions with citizens is a somewhat effective approach. TS also agrees with this. Lastly, some responses illustrate the distinction between the organisations when they responded differently.

Oxman *et al.* (2009, pp. 7) suggest that strategies for engaging the public should "fit specific contexts, policies and key target groups". Therefore, there is a need for the government to use all available tools of engagement with the citizens. Taking the local context into consideration is reiterated by Chu, Anguelovski and Carmin (2016), though they added that engagement should be multilevel between the government and the governed, with the civil society in between. That is, the civil society needs to be the strong link of understanding and enlightenment for the citizens to know what is being talked about. Nevertheless, Newig *et*

*al.* (2016) stated that the engagement should involve scientists and consultants who have experience across regional and international borders in order to have a more detailed development and implementation of policies. This research was undertaken in Germany. All these researchers recommended which engagements should be done, who are the drivers, and with whom, but they do not say how the public will be made aware of what is going on. Nonetheless, they all agree that engagement should be fit for purpose based on what is to be disseminated, the target audience, and the most suitable medium.

In question 4.3.1.5, the DURP illustrated that most of the citizens believe the proper role for citizen engagement in governance is to have citizens make recommendations to government. Although the organisation noted that people like to be involved in these decision-making processes and want to be heard, especially in informal and friendly forums, whenever they are called to come make a formal position in a formal gathering, they become apprehensive about it. Furthermore, Kpessa (2011, p. 49) states that citizen engagement by the government is mostly focussed on engaging groups who protect their interests in the policy under discussion, or it engages only with "the participation and prioritization of, elite groups such as those with whom government officials have higher comfort level". Garard and Kowarsch (2017) state that engaging diverse stakeholders is necessary to understand the social dynamics of the people and their understanding of government priorities, systems, and capabilities. It should be noted that Garard and Kowarsch (2017) studied global environmental assessments. The organisation is somewhat satisfied with their policy making and operations, as illustrated in their responses in 4.3.1.6.

Discussing the responses given by the DURP in Question 4.3.1.7, the organisation responded that the usage of newspaper is not as effective as the usage of the television or radio. This was explained by the organisation in that, for radio and television, viewers and listeners might phone in to interact with the official who is on air. However, for the newspaper there is no connectivity between the writer and the reader, and not everyone reads newspapers. Voltmer (2010, p. 8) states that "advocacy is also important when significant parts of the population are excluded from the mainstream media" and, therefore, the usage of all types of media to engage the people in the decisions that affect them should be maximally used. The usage of the FCTA website to disseminate information is neither effective nor ineffective because the site is not always up to date, and it is not sustained by the organisation due to inadequate funds to manage the site. Nigeria has been a member of the Open Government Partnership since 2016 (Open Government Partnership, 2020), although this organisation is not providing the information and data the public needs to know about them. Nevertheless, Gurin (2014, p. 80) identifies that open data in the government of developing

countries "has been a lower priority" but it "can help a government establish transparency, credibility, and trust" between the government and the governed. Conducting periodical public hearings on policies in different parts of the FCT is not an approach used by the organisation to engage the citizens, although it is an approach that might be effective if used. Public hearings are effective for engagement but only if they are done in the right way (Enserink and Koppenjan, 2007). Enserink and Koppenjan (2007) state that public hearings should be guided by having:

- A legal framework,
- procedure for the hearing,
- code of conduct of public officials for the hearing,
- safeguards for participants,
- periodic enlightenment of the public and government officials on the need for public hearings, and
- sensitisation and enlightenment of the public on proposed policies, ongoing policies, and completed policies.

Castro (2013) also supports the guidance provided by Enserink and Koppenjan (2007). Nonetheless, protecting the interest of the people against the interest of corporate groups (with economic power) should be paramount, as well as maintaining a balance between the range of opinions and feedback from all stakeholders (Eising and Spohr, 2017). Also, conducting surveys has never been embarked upon by the organisation. Social media accounts for the FCTA (e.g., Facebook or Twitter) and internet discussion forums or online input/feedback forms are approaches commissioned for engagement by the organisation, but the inability to sustain the platforms due to inadequate funds makes it neither effective nor ineffective. According to Skoric *et al.* (2016) and Haro-de-Rosario, Sáez-Martín and del Carmen Caba-Pérez (2018), social media is a positive tool for citizen engagement. However, Haro-de-Rosario, Sáez-Martín and del Carmen Caba-Pérez (2018) state that most citizens "like" government's posts and updates but "when citizen engagement requires more effort, such as sharing or commenting on messages, the level of commitment falls" (Haro-de-Rosario, Sáez-Martín and del Carmen Caba-Pérez, 2018; p. 42).

The FMT responded that they have embarked on a public survey to understand citizen satisfaction with transportation in Nigeria in April 2017. While it is an advantage that citizen satisfaction regarding transportation is being sought by the organisation, the result of the survey needs to be implemented for the citizens to see that their responses are being applied in policy and infrastructure implementation. Guirao, García-Pastor and López-Lambas (2016), Ponrahono *et al.* (2016) and de Oña, Eboli and Mazzulla (2014) demonstrate how customer

surveys can improve service performance in a public transport company. However, there is a need to embark on these surveys even in an inadequate transport system such as Abuja's. These scholars highlighted that, through surveys, public views can be understood and incorporated into policy, and they can also be used to improve public transport services. In short, surveys are a tool enabling authorities to learn about the diverse views of the people. Furthermore, it would be an advantage to the organisation if Nigerians saw that their views were reflected in government policies, because citizens will "act in a positive way with relation to stakeholder satisfaction and project success" (Erkul, Yitmen and Celik, 2019, p. 24).

While answering Question 4.3.1.4, the FMT responded that they trust the citizens most of the time when they are contributing to policymaking and implementation. Furthermore, the organisation being discussed illustrated that majority of the citizens believe the proper role for citizen engagement in governance is to have citizens provide input. Nevertheless, Agboola, Rasidi and Stated (2016) concluded that sometimes citizens solve their communal problems collectively, therefore easing the participatory process of governance between the community and the government. Citizens can often be trusted to make valid contributions if they are encouraged to participate in the engagement, by avoiding adoption of the up-down approach of governance, instead implementing a down-up participatory approach (Swapan, 2016). FMT reported to be somewhat but not fully satisfied with the organisation's policy making and operations.

One of the policy goals of the draft National Transport Policy (Federal Ministry of Transportation (Nigeria), 2010) is to have an "integrated transport system". As responded by the FMT in 4.3.1.2, they last had a citizen satisfaction survey on transportation in Nigeria in 2017. They also stated that they trust the citizens' inputs in policymaking and implementation. As Chowdhury *et al.* (2018, p. 75) state, to have an integrated transport system for the public, there is a "need to meet the users' expectations. As such, public opinion is required for acceptance of changes in policies and services designed by policy makers". Therefore, acquiring the current views of citizens should be one of the guiding principles for the implementation of these policy proposals.

In drafting the National Transport Policy, the FMT used the following local and international guiding documents:
- Masterplan for Integrated Transport Infrastructure (MITI).
- The Nigerian Vision 20: 2020.
- The National Transport Masterplan.
- Global Frameworks on Public Private Partnerships and Urban Mobility; and

- Extant guidelines from International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO).

The FMT does not have statistics for commuters and freight of all modes of transport in the country, and there has not been mention of any plan for gathering these statistics. They stated that, through the National Council of Transportation (NCT), the Stakeholders Conference on Road Transportation in Nigeria, and the Forum of State Commissioners of Transportation in Nigeria, they interact with all the states of Nigeria and other agencies involved directly or indirectly in the transportation sector of the country.

The following stakeholders were involved in the drafting of the National Transport policy:
a. Members of the NCT.
b. Transportation Consultants and experts.
c. The academia, research institutions, and professional bodies in the sector such as the Chartered Institute of Logistics and Transport (CILT) and Institute of Transport Administration (IOTA).
d. Transport operators and other stakeholders, and
e. Global collaborative institutions such as the World Bank/ International Bank for Reconstruction and Development, International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO).

The above listed are all consulted through periodic meetings, workshops, and conferences, which are not stated above, to proffer solutions to transport issues and challenges in the country.

The FRSC stated that they trust the citizens some of the time when they are contributing to policymaking and implementation. Furthermore, the organisation being discussed illustrated that most of the citizens believe the proper role for citizen engagement in road safety policy is to have citizens provide input. The organisation is somewhat satisfied with the organisation's policy making and operations. This echoes Sagaris' (2018) recommendation that participation should consolidate both citizens' and institutional needs, and sensitise the citizens to the nature of the plan and their feelings towards it. Nevertheless, taking an inventory of all traffic collisions in an urban centre can be hard for authorities (i.e. institutional need), especially in places where cameras are not recording traffic incidents; roads need to be safe for users (i.e. citizens' need). Chung and Won (2018) proposed an idea whereby citizens, through a web-based platform, can record traffic collision data for usage in

road safety planning in Goyang, Korea. Nonetheless, Sagaris (2018; p. 409) concludes that the "institutional arrangements that can consolidate these kinds of more deliberative, collaborative participatory processes" are needed. Fortunately, the FRSC provides a platform where city-scale road safety governmental actors share ideas about, and solutions to, road safety issues.

The FRSC provided data which illustrated that, over the course of three years, there has been a marked decrease in the number of accidents, fatal accidents, and non-fatal accidents in the city of Abuja. This may be an indication of the high level of sensitisation on road safety undertaken by the organisation in the city, whereby the sensitisation was increasing as the accidents reduced between 2015, 2016, and 2017. Sensitisation has an impact on the reduction of road traffic accidents involving drivers and pedestrians (Decardi-Nelson, Solomon-Ayeh and Okoko, 2011). However, Živković, Nikolić and Markič (2015) conclude that vehicle drivers conduct themselves based on the driving rules if they are emotionally and physically healthy. There is an average of 1,113 traffic offences per month and an average of fifty-four road safety patrols per week by the FRSC, with an average response time to accidents of fifteen minutes in 2017. The average emergency medical response time for the United States is eight minutes (Blanchard *et al.*, 2012). Using this a benchmark and referring to the organisation's response that they do not have an air arm to evacuate accident victims, this indicates that many of the fatalities that occur on the roads might be reduced if these facilities were available to accident victims. In line with the United Nations Sustainable Development Goals indicator for road traffic accidents (United Nations Statistics Division, 2018b), the data collated need to be disaggregated into types of road users, age, sex, income groups and World Health Organisation (WHO) regions. However, increasing the fleet of ambulances in an urban area boosts emergency response times to accident victims (Castañeda P and Villegas, 2017). The FRSC has issued 65,468 driving licenses to drivers who have undertaken their driving tests in sixty-nine licensed driving schools in 2017. It is expected that two accident trauma centres can cater for the 1,065 accidents that occurred in the city in 2017. Lastly, there have been a total of twelve engagements with the Federal Capital Territory Administration's bodies working in the urban road transport sector regarding road safety in 2017. This organisation also could not provide the full data as requested.

The FRSC recommended the improvement of road designs in some parts of the city and the repainting and erecting of road signs and markings in some areas of the city that are lacking or faded. Other recommendations are the need for resurfacing of some neighbourhood streets and the replacement and commissioning of traffic lights in some parts of the city.

The Transport Secretariat (TS) embarked on surveys in 2013 and 2017 to assess citizens satisfaction with transportation in Abuja. At present, they hold stakeholders' meetings with transport operators in the city whenever the need arises. These meetings involve the public and other non-governmental stakeholders. The organisation was asked to illustrate to what extent do they agree or disagree with each of the general statements about citizen engagement. TS responded that they trust the citizens most of the time when they are making inputs and decisions on policymaking and implementation. However, the commuter responses - most respondents have never heard the government calling for consultation in the media, majority do not know if the government have been informing the people on policy, and the government needs to involve citizens more in policymaking - all illustrates this to be contrary to what the organisation stated. The organisation might feel they trust the citizens, but the citizens' responses indicate that they do not know that they are trusted to be participants in policymaking and implementation. This is also supported by Philip and Peter (2013). Furthermore, the organisation stated that most of the citizens believe the proper role for citizen engagement in local governance is to have citizens provide input. The organisational respondent is somewhat satisfied with the organisation's policy making and operations. The organisation stated they are somewhat satisfied because not all the policymaking processes can be undertaken effectively to address all scenarios, but reviews are undertaken when necessary or when circumstances change.

Participation

DURP reported that they have a platform whereby they interact with the public and other non-governmental stakeholders on urban and regional planning in the city. However, they were quick to point out that the elite are the participants of these public engagements. This is reiterated by Philip and Peter (2013), whereby they concluded that policymaking in Nigeria is characterised by a disconnection between the government and the governed, a top-down approach by government driven by people with political and economic power. This indicates that the government needs to know the reason(s) why a selected few of the population are the drivers of public policy and try to include the non-elite in the consultative processes. As Brinkerhoff and Goldsmith (2003) stated, the government needs to make efforts to "demystify" policies that are technical, unclear, and complex to the ordinary man on the street to understand and contribute.

The DURP clarified that, typically, important decisions facing roads have already been made prior to most public meetings. However, this is because the organisation already has a plan for the city mapped out, they then present this plan to the public to consider. Furthermore, the organisation stated that most of the time people do not have the requisite knowledge to

make meaningful input into the plans presented to them. The organisation responded, however, that if it is possible people who are knowledgeable about roads and plans make an input and it is discussed, there might be a possibility of incorporating the input into the plan. This reiterates the point that the people need to understand the issues and the standard before presenting the plan or project to them for decision-making or recommendation, as proposed by Acey (2010). In line with Acey's (2010) research, De Melo Correia and Galves (2018) illustrate that including all stakeholders' objectives in planning for sustainable transport in an urban centre is a positive idea. They responded that the stakeholders might not understand the technicalities of planning or construction. However, if urban authorities collect their ideas, collate them, and validate these points with the stakeholders, these points always fall into the various objectives of the sustainable transport as proposed by professionals. Therefore, based on the discussion above, the authorities need to listen to the people and align the people's views with the knowledge of the professionals and the goals of the cities.

Additionally, the organisation stated that they neither agree nor disagree that their engagement efforts mostly attract the same people recurrently because there are no civil society organisations, nongovernmental organisations, or pressure groups that they directly call upon or engage with except the Nigerian Institute of Town Planners (NITP). This is because their announcements for calling on these engagements are made in the media (print and electronic) inviting any interested party or individual to take part. This tends to bring different people most of the time. However, this is because the government prefers the top to bottom approach of decision-making (Head, 2007), as some stakeholders might not have understood what is being deliberated upon and why (Davies *et al.*, 2012), and because they (government) do not make an effort to understand the different local situations before calling for engagement and consultation (Ajide *et al.*, 2017).

DURP stated that they trust the citizens some of the time when they are making inputs and decisions on policymaking and implementation, as asked in Question 4.3.1.4. In this case, citizens are trusted to make inputs and decisions some of the time because the people feel some of the things that do not affect them as an individual do not concern them. However, Agboola, Rasidi and Stated (2016) conclude that, sometimes, citizens solve their communal problems collectively. Additionally, government expects the citizens to give them feedback on their plans, policies, and programmes, although this does not always happen. This is  because the government still relies on traditional media to pass messages to the citizens, and because they do not use the internet and social media to broaden their engagements (Ellison and Hardey, 2014), thus leading to the reality that some of the time citizens can be trusted to make inputs on policies. Citizens can be trusted to make input some of the time if they are

encouraged to participate in the engagement by avoiding adoption of the up-down approach of governance rather than a down-up participatory approach (Swapan, 2016).

The DURP stated the lack of synergy between stakeholder departments working together as managers of the city. Nevertheless, having synergy and integration and strategic and operational levels of management is important in achieving "pursuit of synergy and the removal of barriers" (May, Kelly and Shepherd, 2006; p. 319). However, from the responses of the DURP, there is a disconnection between the organisation and the department handling road construction and transportation matters in the city. While there are periodical meetings with all these departments, they still have issues of constructing the roads as designed by planners. The roads in the city are also designed to accommodate cyclists with their own lanes, although, after construction of the roads with the agreed width (as planned), cycle lanes have not been designated nor identified.

The DURP interacts with other states of Nigeria and the Federal Ministry of Power, Works & Housing for urban development. This is held annually in a forum called the National Council on Housing. During the annual World Habitat Day, the organisation participates and interacts with other organs of government and other international organisations for achievement of national and international urban planning objectives. This is done at the national level. Furthermore, at sub-national and city level, the organisation works together with other organs of government in the FCT to provide transport facilities and infrastructure across the Territory. These organs are the Local Councils, the Transport Secretariat, and the Satellite Towns Development Agency. However, there is no formally named and recognised body whereby this relationship is set up. If the cooperation of these different government bodies was at all effective, then the problem of lack of synergy stated earlier would not have arisen. Similar to May, Kelly and Shepherd (2006), Hull (2008) states that having well-defined organisational and institutional roles and responsibilities during policy implementation is a foundation to achieving a sustainable urban transport system. With a clear delineation of roles and responsibilities, a sustainable urban transport system will be improved through performance monitoring of these responsibilities amongst all sectors directly and indirectly working in the urban transport system, and target setting.

The FRSC listed the following as the major factors that account for accidents in Abuja:
i. Careless or dangerous driving.
ii. Over speeding.
iii. Drunk driving.
iv. Overconfidence when driving, and

v. Tyre burst leading to loss of control.

However, they have usually used the following strategies to reduce the frequency of road accidents in the city:

1. Public enlightenment – one on one interactions with drivers and through the usage of the media.
2. Enforcement of traffic laws.
3. Advocacy visits to churches, mosques, and traditional rulers, and
4. Motor Park rallies.

Sumaila (2013) and the Federal Road Safety Corps (Nigeria) (2018) list all but overconfidence when driving as the major factors of accidents on Nigerian roads. While Sumaila (2013) is supportive of the above strategies for reducing the accidents, he was emphatic that more rigorous traffic enforcement should be pursued in combination with the usage of traffic cameras and ICT on traffic management. However, Shah *et al.* (2018) conclude that the availability of funds, a strong institutional framework, quality road infrastructure and road safety legislation along with policy, disciplined vehicular road user, and available trauma management can affect how road safety across Asian countries can be improved.

The FRSC interacts with governmental stakeholders monthly on road transport in Abuja, in a forum called the "Strategic Session". The organisation noted that they do not have air transportation capacity to evacuate accident victims, they do not know whether insurance companies compensate accident victims because it is not within their purview, and that 122 is a toll-free number for road traffic crashes. Furthermore, the organisation maintains a daily-updated database of all traffic offences and crashes in the city. Finally, the introduction of traffic safety into secondary and primary curricula is a policy strategy of the draft National Transport Policy, implemented across the nation. Without an air arm for traffic control and accident evacuation, and the disconnection between the road safety officials and the accident insurance companies, it may be difficult to achieve what Sumaila (2013) and Shah *et al.* (2018) are proposing. Additionally, the organisation holds periodic sessions with other arms of government about road safety in the city, although the necessary institutional arrangements are still not in place as the United Nations Road Safety Collaboration (2011) (of which Nigeria is a signatory) and the Federal Road Safety Commission (Nigeria) (2016) proposed.

The Transport Secretariat have statistics of cars, buses, tricycles, commuters, and freight that is travelling into the city. They also have a knowledge of commercial buses and

taxis operating in the city. However, there was no mention of how these data are updated, whether daily, weekly, monthly, quarterly, biannually, or annually. They meet with transport operators in the FCT when the need arises. They also meet with the other states of the Federation and the Federal Ministry of Transportation annually at the National Council of Transportation (NCT). This brings to the fore issues concerning benchmarking data, as raised by Monyei *et al.* (2019), evidence-based decision-making as raised by Newig *et al.* (2016), and participatory urban transport management (Sagaris, 2018). However, in this case, the participatory management is to engage with commuters, transport unions, and the national government and provide urban road transport services that users will appreciate. Nonetheless, whilst gathering the data is good, it needs to be put into use for it to have an effect.

During a six-month consultation period (from inception to approval by the FCT Executive Council), the Transport Secretariat (TS) consulted with transport operators and (excluding TOAN as they reported) the FCT and other agencies of government to develop the FCT Transport Policy. Through town hall meetings that are held when the need arises, the organisation meets with other government stakeholders involved in the transportation sector of the FCT. These government stakeholders are the six local councils of the FCT, the Department of Urban and Regional Planning, and the Department of Development Control. Through the calling of conferences and summits, the organisation calls on transport specialists and professionals to review and proffer solutions that arise from the transport system of the FCT. This data is highlighted here to illustrate that consultation between the TS and other bodies managing the city, transport operators, and other stakeholders is ongoing (periodically). This is in line with the work of Erkul, Yitmen and Celik (2019) and Mascarenhas, Nunes and Ramos (2015). However, it seems these engagements and consultations are not providing the desired road transport system that the city requires. This is also supported by the responses of commuters in Section 5.2.1. Even the town hall meetings, where citizens' views are heard, are held when the need arises and not within a defined time.

Knowledge of Governance System

The DURP stated the need to conduct research on the volume of people moving into the city from neighbouring states daily, especially during working hours, leading to issues of traffic congestion and hold-ups, impact of the traffic on individuals, productivity, government, carbon emissions, and the economy of the city at large. This is a necessary activity for the DURP as it should be noted they did not fill out any data as tabulated in the questionnaire administered to them. Furthermore, there is a need understand the efficiency and effectiveness of the present transport system of the city, how is it operated, who regulates it, how it can be improved, and what is the way forward. The idea of understanding and

researching the volume of people coming into Abuja during peak hours, and the areas with a high level of commuting within the city, can be collated through the usage of mobile phone data as studied by Gadziński (2018). This knowledge can be used to collect data for the planning of the city with the attendant traffic problems it is currently facing. Like the RTEAN in previous Sections, the DURP did not fill out any data as tabulated in the questionnaire administered to them.

The FMT states that the Federal Road Safety Corps (FRSC) is the regulatory body that guides commercial transport in Nigeria. However, according to the Federal Road Safety Commission (Nigeria) (2017), they regulate road safety but are not responsible for the regulation of public bus transportation. Furthermore, the FMT noted that the Unions in the transport sector also carry out self-regulation of their members. It stated that six to ten states have their individual transport policies which align with the draft National Transport policy. The policies of those states were all developed with the active participation and input of the organisation under discussion. Some states have transportation managed by a department although the NCT encouraged the states to create Ministries of Transportation to give them legal and political backing. It should be noted that the organisation does not have an agreed strategy to monitor the impact of transportation on the environment because environmental monitoring is under the purview of another government organisation that is not being focussed on in this research. Nonetheless, the NCT refers all issues of the environment that arise in the transport sector to the organs of government concerned.

FMT provided the data illustrated in Table 57 in Section 4.3.3.5. The table illustrates that some of the data requested from FMT are not available from the organisation. Specifically, questions 1, 2, 3, 4, 5, 8, and 9 are not reported because they fall under the mandate of State Governments to report, whilst numbers 12, 13, and 14 are not available to report in the questionnaire. However, questions 6, 7, 10, and 11 are reported as requested. The organisation reported that no buses were provided for public transportation by the Federal Government in 2015, 2016, and 2017, and that there was no collaboration with the private sector for the provision of public transport in the years listed. Furthermore, in the same years there was no bill presented to the National Assembly, no bill was passed by the National Assembly, and no bill was assented to by the President on transportation-related matters.

The organisation acknowledged the need to have comprehensive and up to date data on the road transport sector of Nigeria to have an evidence-based decision and policy making process. The gathering and storage of data are of paramount importance due to the growth and dynamics of the road transport sector of the Nigerian economy. Some of these

inadequacies are due to different organs of government and tiers of government handling different roles. However, the organisation in question is mandated to be the manager, driver, and custodian of Nigeria's transport policy. Through these responsibilities, it coordinates all organs working in the transport sector, and it meets periodically with the second tier of government to discuss transportation matters. If it is the responsibility of the 37 State Governments to provide the data, the National Council of Transportation needs to create a national database for the sector. As stated by Lucas (2012), local councils in the United Kingdom are required to work with local public bodies to produce a 5 Year Local Transport Plan, based on evidence-based data. This is a requirement as outlined by the Department for Transport (DfT) of the United Kingdom. The DfT is the equivalent of the Federal Ministry of Transportation (FMT) in Nigeria. Due to the different systems of government in the two countries, States' Governments can be encouraged by the Federal Government to have these databases for planning and development purposes.

Lucas (2012) reiterated the need to have a performance matrix for both operations and administration of the transport system in a bid to understand and improve the transport system in a country. As stated earlier, the last National Council of Transportation meeting was held in 2017. One of the resolutions of the council was that a monitoring and evaluation framework for the draft National Transport Policy needs to be in place for the draft policy to be approved. Nonetheless, Lucas (2012) believes that transport needs to work together with health, social policy, development studies, housing, and planning sectors to have a holistic, integrated, and cohesive goal for the people. Without this synergy between the sectors, there is a likelihood of persons or communities being excluded from the provision of facilities. Lucas's research was undertaken in the United Kingdom but is applicable to, and can be replicated in, developing parts of the world to address the inadequate transport systems in those countries.

Summarily, two of the government organisations trust the citizens some of the time when they are making inputs and decisions on policymaking and implementation, while two trust the citizens most of the time. Furthermore, one of the organisations believed that the proper role for citizen engagement in governance is to have citizens make recommendations to government, while the other three believe the proper role for citizen engagement in governance is to have citizens provide input. To engage citizens in policymaking and implementation, the government organisations believe the following approaches are highly effective:

a. Formally organised events for public comments (e.g., Town Hall meeting or Workshop),

Informal one-on-one discussions with citizens.

b. Focus groups discussions.

c. Citizen participation on ad hoc task forces or planning teams or policy development.

d. Citizen participation on formal government Boards or Commissions.

e. Federal Government or Commission's website.

f. Hard copy notices on Notice Boards, and

g. Citizen surveys (Stakeholder Participation in Decision-Making and Social Inclusion).

Elements of stakeholder participation have emerged in the discussion. The discussion identified that there is a *collective action* among the different departments developing and managing the city. Departments of Urban Planning and Transportation (under one parent body) work together at managerial level but the synergy in the field is often inadequate. The national body handling transportation policy issues these national plans through the National Council of Transportation, but the implementation of these plans is inadequate and there is no accountability if the execution is not fully done. Therefore, the collective action is not adequate between the government bodies. Furthermore, there is poor knowledge of the needs and requirements of the city's commuters. This is because the required numerical data of transport infrastructure and facilities in the city, which this study requested, was insufficiently provided and, in another case, not provided at all. Also, some of the organisations embarked on public surveys to discover commuters' needs.

Importantly, the various government participants are members of one or another statutory council at national and sub-national levels. Thus, they are all members of their *sectoral decision-making bodies* in government, therefore confirming the indifference of these bodies. This is because, at their statutory meetings, issues faced by transportation within the city will be discussed and solutions sought but then they are not addressed for the citizens to feel the impact of those decisions. Issues of *inadequate communication* between the government bodies have not arisen in the discussion, indicating that government organisations have faster ways of contacting each other than the ways available between the citizens and the government. The issues raised by the commuters (Chapter 5) and the Unions (Section 6.2) indicate that there are challenges facing the road transport sector of Abuja and that the city authorities are not doing enough to address them. However, the city authorities (research participants) all participate in one statutory meeting or another and, in some of these, invite the unions and some civil organisations. Nevertheless, the problems remain, and it appears that participating in the decision-making process does not provide the required results sought by citizens.

Finally, the organisation practices some form of stakeholder participation in their decision-making processes, but it is not enough. However, their unsatisfactory stakeholder participation is not encouraged by the citizens. Citizens needs to demand (not request) for participation, engagement, and enlightenment of all government plans. Even though some of the plans might not affect all individuals, citizens have a duty to ask because the officials (elected and appointed) are all given a public trust to hold and execute diligently, selflessly, and responsibly. Therefore, even if the public do not understand these plans and policies, they should be made to understand it by making it easier to be understood by making the policy documents accessible and by making them simple to comprehend. As the DURP stated, people prefer informal settings (street and market rallies) to make their inputs on issues, therefore, these engagements in these settings should be improved and increased for optimum participation of all social groups and social strata.

## 6.3.2 Analysis on Social Inclusion

Equity and Equality

The DURP stated that the city has a masterplan that commenced implementation in 1979. However, the implementation of this masterplan has had its successes and challenges over the years. The implementation has been successful so far because the plan has been implemented up to 95% of the original concept. Some deviations from the plan constitute the remaining 5%, and the original plan is still as it was conceived. The deviation from the plan that occurred in its implementation is because of reviews of the plan over time. The challenges experienced in the implementation of the plan have several dimensions. These dimensions are financial, resettlement issues (not more than 5% of the inhabitants are resettled), the arterial roads are still not developed due to finance, and political interferences overriding professional views. These political interferences impact negatively on the development of the masterplan. It should be noted that few political decision makers abide by the plan and listen to professional views. Lastly, lack of synergy between stakeholder departments constitutes another challenge.

Challenges in master plan implementation are faced by most urban areas around the world, as discussed by Dyachia *et al.* (2017), Zhang, Yung and Chan (2018), and Nyiransabimana *et al.* (2019). However, there are distinctions and similarities to the problems of the cities stated and the response of Organisation A. Nyiransabimana *et al.* (2019) studied Kigali, Rwanda, and found that there is a deviation from the master plan occasioned by low funding for it. Zhang, Yung and Chan (2018) focused their study on China's neighbourhood planning, where they found that weak community participation and undefined legal and policy

direction for the operationalisation of neighbourhood planning is a challenge. Dyachia *et al.* (2017; p. 111) found that "the inability to harmonize between the land use plan and growth has created a widespread challenge for Kaduna urban area" thereby leading to unapproved settlements springing up around the urban area. While there are distinctions between the findings of this study and the cited studies, there is a unanimous agreement between the three citations that participatory planning and governance is one of the solutions to the challenges.

In 1998, the decision to review the Abuja masterplan was made and consultants were commissioned to undertake the review. However, to date, the committee has not presented its report for adoption and implementation. Therefore, the review is ongoing. The masterplan's legal framework recommends the review of the plan minimally after 5 years and, maximally, after 10 years. This relates to the findings of Obo, Eteng and Coker (2014) and Philip and Peter (2013) who observed that the societal elite have a strong notes in policy formulation and implementation in Nigeria. This is because it is only certain people who have the political and economic power to be given the responsibility of reviewing the masterplan over the last 20 years. However, they have still not completed the project, and questions are not being raised about it. The organisation has a website, but the masterplan is not accessible. This is because, when the plan was developed in 1979, the present level of Information and Communication Technology (ICT) was not in existence. However, even if the ICT technology was not available then, levels of ICT nowadays mean it is available now for use by the organisation. Nonetheless, as Gurin (2014) posits, a strong political will is needed for the success of open data, especially in a developing country. However, one can get the masterplan in electronic form if it is requested formally from the organisation.

The FMT has drafted the National Transport Policy in 2010, although it has still not been approved for implementation. The National Council on Transportation (the highest transportation decision-making body in Nigeria) was last convened in 2017. One of the resolutions of the council was the constitution of a committee to finalise the draft policy for onward approval by the Federal Executive Council (FEC) through the NCT. However, the council did not sit in 2018 for an update on the policy. Therefore, in the case of this research, there has not been any answer on the challenges or successes of implementing the policy, no feedback on reviewing it, and it cannot be found on the organisation's website.

The draft transport policy promotes the usage of public transport over private cars. The FMT responded that they have encouraged Nigerians to use public transport and that they have provided the vehicles needed for transportation nationwide. They stated that high-capacity buses were provided nationwide; the usage of dedicated bus lanes, and provision of

rail mass transit are some of the strategies used to encourage Nigerians with the need to use public transport. Other strategies are creating awareness of the high volume of carbon emissions due to too many private cars being on the roads and educating the public on the reduction of their transport cost by using public transport. They also revealed that Lagos is the only city in Nigeria that has a multimodal system of public transport at present.

The draft policy is encouraging Nigerians to use public transport to commute because of carbon emissions and road congestion. However, Redman *et al.* (2013) believe that service provision and improvement in public transport will bring more commuters but it will not encourage car owners to become totally dependent on public transport for their commute. Then again, if all cars in Nigeria (or the world) become non-carbon emitters, and were environmentally friendly, congestion might be the only reason for encouraging vehicle owners not to use their cars. As Wadud and Huda (2019) stated, electronic cars that are driverless encourage passengers to rest in the cars while being driven from point A to B, thus, with this bonus, congestion might not reduce on the roads.

Additionally, Jeekel (2017) points out two scenarios demonstrating the relationship between social sustainability and smart mobility. The first scenario is that having smart cars in the future will encourage urban sprawl, reduce social cohesion, and bring more congestion to the city centres because smart cars will be environmentally friendly, advantageous to the driver with traffic data, and they can be driverless so that passengers will not be bothered about driving stress. The second scenario contrasts with the first, whereby he concluded that people will be willing to share driverless cars through ride and share, thus reducing traffic congestion, which will encourage social cohesion and improve transport options and accessibility to commuters. However, passenger safety is far more likely due to the smartness of the cars, but it will not be affordable for low-income families in the immediate future, only in the long-term.

Another point for the FMT to note is the recent decision of the Nigerian Senate  not to pass a bill seeking to phase out petrol cars by 2035 (Busari, 2019). Nevertheless, the transport policy is aimed at reducing carbon emissions from vehicles, which might be an indication that the executive and legislators are not in agreement in terms of some policies. With the pace at which car producing countries are giving themselves targets on when to stop producing carbon emitting cars, and car manufacturers also producing more electronic cars than the system can handle, Nigeria needs to start thinking about providing the policy guidance for these future cars. Lest we forget, it is not only about electric cars anymore, it is also about smart mobility, mobility that is dependent on the internet, reduction in travel costs, and a seamless multimodal

public transport system (Docherty, Marsden and Anable, 2018). Therefore, in addition to signing the Sustainable Development Goals (SDGs) and the Paris Agreement, Nigerian transport policy makers need to consider how to accommodate the mobility infrastructure of the future. Furthermore, even if cars  produced in the immediate future are electronic rather than carbon emitting, the electronic charging points will still be dependent on fossil fuels for energy (Pyakurel, 2019). This highlights the dearth in thought on how to generate energy for these charging points from non-fossil fuel sources, as well as the capacity of the existing national grid to accommodate such charging points.

The Transport Secretariat (TS) states that the FCT has a transport policy that was approved by the FCT Executive Council in July 2010. However, they noted that the FCT, being administered by the President (therefore the Federal Government), needed their policy to go to the Federal Executive Council for approval. This led to the policy being stood down by the FEC, due to the National Transport policy not being approved by the FEC (as stated by the FMT). Therefore, the transport policy has not commenced implementation and, thus, the TS cannot highlight its successes or challenges. It should be noted that the FCT Transport policy has an implementation plan outlined in the document.

The TS reported that the existing and future urban roads of the city are designed for a multimodal transport system which includes cars, buses, trains, and bicycles. The FCT Transport policy is developed in line with the Abuja Masterplan. Nevertheless, this organisation needs to look at the conclusion proffered by Chowdhury and Ceder (2016) who state that the provision of a multimodal transport system needs to have seamless and convenient transfers for the commuter. Importantly for policy makers, transfers between transport modes are dependent on psychological, operational, and policy perspectives from the commuter. Additionally, Chowdhury *et al.* (2018) highlights the gaps identified between policy documents on integrated transport systems and user perceptions. They conclude that incorporating user perceptions into policy will be advantageous to having a multimodal transport system in an urban area. Fortunately, as shown in Appendix 4.3.1.1, this organisation stated that they periodically embark on surveys to assess citizens' satisfaction with transportation in the city of Abuja, and that they also hold stakeholders' meetings with transport operators, the public and other non-governmental stakeholders. Incorporating and implementing the stakeholder feedback is a positive indication for participatory governance in the city. Lastly, Bernal (2016) recommended the incorporation of forecasted demographic statistics and the density of commuters at particular times in an urban centre when implementing the multimodal transport system. Therefore, it is imperative for the Abuja authorities to take these recommendations into consideration, looking at the dynamics of

Abuja, whereby the population is not as planned for in 1973 when the masterplan was developed.

In consideration of a multimodal transport system, Sagaris, Tiznado-Aitken and Steiniger (2017) argue that urban centres in developing countries should endeavour to focus on improving and enhancing the interactions between existing modes of transport. They identified that most urban areas already have bus-bike-walk modes, but these modes are not compatible and conducive for interdependence and connectivity. They also stated that, with this focus, social sustainability will be the driver of the other two pillars of sustainability. They support this point by defining intermodal transport as "the seamless integration of diverse motorized and nonmotorized transport systems that are socially, environmentally, and economically sustainable, in response to human diversity and needs, particularly equity and social justice" (ibid. p.722).

The Transport Secretariat does not have a website; therefore, the transport policy cannot be accessed through the internet. The organisation encourages people to use public transport through the following initiatives:

- Proposed Abuja Bus Rapid Transit (BRT) Scheme.
- Proposed development of Park and Ride Scheme at the gateways into the FCT.
- There is a network of bus routes in the FCT Transportation Masterplan to encourage residents to use public transport.

As the above list illustrates, there is no provision for electric buses in Abuja. It is to be noted that the draft National Transport Policy (Federal Ministry of Transportation (Nigeria), 2010) has, as one of its policy goals, an "environmentally sound transport system" (ibid.; p. 6), and that "to develop transport infrastructure that ensures environmental sustainability and internationally accepted standards" (ibid.; p. 7) is another of its objectives. Whilst the Federal Capital Territory Administration (FCTA) is a member of the National Council on Transportation (NCT), not having the provision of electronic buses (or any environmentally friendly buses) as one of its proposals is not a positive sign. Nevertheless, Brand, Anable and Morton (2019) argue that making policies on sustainable transport and implementing those policies does not result in achieving those sustainable goals. The scholars proposed four socio-technical scenarios of achieving a sustainable transport system. They posit that reference data (projection of transport demand, supply, energy use and emissions), promotion of electric vehicles and phasing out petrol/diesel buses (with the corresponding infrastructure and regulations), lifestyle changes by commuters (change in travel patterns and mode choices) and combining a changed lifestyle with individual adaptation of electronic vehicles/buses is

what makes transport sustainable. Thus, in line with Brand, Anable and Morton's (2019) four socio-technical scenarios, it is important for citizens to know and understand why lifestyle change is needed, how they can change their lifestyle and what options are available for them in order to achieve the co-operation of the people in the pursuance of sustainable transport in the city.

Due to the factors of the status symbol of owning a car (especially for young people), having a large household, or living in disadvantaged parts of an urban centre, most car owners would not like to stop using their cars to replace them with some sustainable mode of transportation (Curl, Clark and Kearns, 2018). While conducting this study in Glasgow, Scotland, Curl, Clark and Kearns (2018), state that large families rely on the car for convenience even if it affects household budgets, and sometimes it is cheaper to use the car than the available public transport however sustainable it is. Another reason is that people who use the cars for income (through deliveries or other activities) might not want to give it up for public transport. As reported in this thesis, 62.5% of this research's respondents have a car, demonstrating a high number of car users in Abuja. Therefore, in Abuja - where there is no readily available public transport system that one can depend on effectively and efficiently - commuters may not be willing to forego the use of their cars. Due to the inadequate regulations in place, car owners who are in formal employment use their cars as commercial taxis (unregistered) at peak times of the day or as Uber drivers to complement their income. As stated by Adeyinka (2013, p. 50) "taxis (and private vehicles carrying fare paying passengers) represent about 53% of the public transport trips" and Femi (2012; p. 122) also stated that "privately–owned vehicles constitute today the most significant, though largely unregulated means of public transport in most parts of Abuja metropolis". Furthermore, when one is living in a disadvantaged part of the city (satellite towns) and one's work finishes late, it might be dangerous to start waiting at bus stops for buses or taxis because the private, unregistered taxis might be driven by robbers, which is not safe for the innocent commuter (Akinpelu, 2019). All of these must be considered and addressed before advocating for public transport in Abuja.

Li, Dodson and Sipe (2018) state that, due to the high cost of housing in the city centres, people tend to move to the suburbs to purchase houses. This leads to an increase in travel costs and dependence on personal cars because of the inadequate public transport system in the suburbs. While their research is in Brisbane, Australia, it is a similar scenario to Abuja, Nigeria. In Abuja, people tend to move out to satellite areas to rent or buy houses due to lower rents than in the city centre, and, although this affects their travel costs, they must go to work to be able to pay the rent or mortgage. Therefore, as the paper postulates, the more

fuel and rent prices increase, the higher the probability that people will move further away from the city due to low income. This is further supported by the outcry made by Nigerians when the Nigerian Senate wanted to introduce road tax by increasing fuel prices (Adebayo, 2017). If there is any increase in fuel prices in Nigeria, the ripple effect will be felt by every sector of the economy. Therefore, people moving further away from the city centre are further depriving themselves of socio-economic opportunities due to no personal fault, but because of government policies that are detrimental to their personal development. These government policies, which cause people to relocate further away from the city centre, are also affecting the policy that wants to reduce car dependence in the city. Hence, by not providing a conducive public transport system and causing citizens to be dependent on their personal cars, the government is not encouraging the usage of public transport and, thus, the reduction of carbon emissions in the city.

The proposed schemes listed above (BRT, Park and Ride, etc.) are all schemes that help in providing a relatively good commute for passengers, should it move from being proposed to reality. However, the citizens of Abuja are coping with low income and looking for ways to reduce their everyday spending. Thus, Guzman and Oviedo (2018) suggest that there are policy decisions that can be taken to cushion transport costs and improve transport accessibility to the urban poor. Guzman proposes subsidising transport fares to certain commuters (students, elderly, unemployed, etc.) to reduce exclusion in using the transport system, to encourage people to be mobile in pursuing their aspirations and, thus, be a tool in curbing the inequalities happening in some urban centres. The research was undertaken in Bogota, Columbia. However, the researchers believe that the effectiveness of the subsidies is dependent on the local authorities having a database of people to be able to link up their economic status with the criteria for receiving the transport subsidies. In the present situation facing Abuja, the public transport owners are mostly individuals with just one government owned bus company. The authorities need to convince the individual owners to subsidise the fares for commuters. Whilst it is known that even the government owned bus company does not subsidise its fares for the commuters, it remains to be seen if individual owners will reduce their own fares for those boarding their buses. This is, however, subject to full regulation becoming a reality; there is, yet no indication of when this might happen. Lastly, authorities need to take into consideration commuters who carry heavy luggage onto these proposed buses. Porter (2013) identified the dependence on walking in Cape Coast, Ghana, by women and young people due to the exclusion of this group of commuters. Despite walking having health benefits, this is not so when heavy weight is being carried.

The Transport Secretariat (TS) relayed that there is a department responsible for regulating commercial road transport in the FCT, which has approved dedicated bus routes across the territory and are aligned with the Abuja Masterplan. It should be noted that, although the bus stops in the city all have shelter against weather elements for commuters, the bus stops do not have bus times posted. The buses have defined routes across the city, however, "the bus stops very inadequate and also believed that the urban mass transits as a whole have been poor in terms of the functionality" (Nwankwo and Barimoda, 2019, p. 7). Similarly, Nwachukwu (2014, p. 115) stated that there is "poor accessibility to public bus transport services for a majority of riders in the city, and "passengers perceived that bus routes, especially high-capacity bus routes, are not well spread in the city". Furthermore, due to the "poor management of Abuja urban transport system", unregistered private taxis and buses are "plying any route without service standards" because some of the approved bus operators are "unable to adequately service the assigned routes" (Femi, 2012; pp. 123-125).

As reported in Table 60 in Appendix 4.3.3.9, the TS were able to report on the number of bus stops (twenty), kilometres of bus lanes (ten kilometres), and kilometres of bicycle lanes (eight kilometres) for three years. The figures reported illustrated that there has not been an increase in the number of these facilities during 2015, 2016, and 2017. Also, there has been no bill from the organisation which has been passed into law by the National Assembly nor assented to by the President during 2015, 2016, and 2017. In a city with 224 km of intra-city roads, of various sizes (Nigeria Data Portal, 2014), according to the Public – Private Infrastructure Advisory Facility (PPIAF) (a World Bank subsidiary), the average distance between bus stops in an urban area is 500 metres or less (Public – Private Infrastructure Advisory Facility, 2006). This benchmark is also applicable to the nearest bus stop available to commuters. The total kilometres of bus lanes are also not adequate for the total kilometres of roads in the city. In a city that is undergoing construction with new districts being built, with a population growth rate of 9% (National Population Commission (Nigeria), 2007), it might appear surprising to notes that bus stops, bus lanes, and bicycle lanes have not increased across the city. However, Oluwole (2017) suggests that bus service reliability, absence of overloading on buses, speed of buses in transit and real time availability of buses should be the factors that the city transport planners and regulators look into in subsequent decisions for the city's transport system.

Establishing a regulated and private sector-driven public transport system has been a challenge in different parts of the world (Andersen, 1992; Rizzo, 2002; Schulten, Brandt and Hermann, 2008; van de Velde and Wallis, 2013). Marsden and Stead (2011) state that adopting policies from one part of the world to implement in another "as is" is not sustainable

or beneficial to the recipient society. Thus, being a city in a developing country, Abuja would likely benefit from following the recommendations of Marsden and Stead (2011), of understanding the local cultures and values before embarking on policy transfers between nations. The scholars also note that local adaptation to suit local data and laws is an added advantage, a point that can be supported by looking at how the park and pay policy of Abuja was suspended by the courts (Mohammed, 2014) and the bill for road tax was also suspended by the National Assembly (Adebayo, 2017). Both situations are based on policy transfers internationally that have not undergone much enlightenment and understanding for the people of Abuja and Nigeria to understand why the regulations are required and what their benefits are to them.

Abuja city authorities allow the usage of rickshaws in some parts of the city. However, looking at the situation whereby not all neighbourhoods of the city have buses allocated to them and the fact that the walking distance between bus stop and destination (or first journey) might be far for the commuter, it may be advantageous for the city authorities to expand the areas of operations of these rickshaws. It also represents an alternative optional mode of transport for the city. If it is an argument of the rickshaws getting too much in the city and carbon emissions are getting higher, there are also private cars which also emit carbon, and it has been reported by *Daily Trust* (2019b) that there are plans for the introduction of environmentally friendly rickshaws. Lastly, if it is because of safety and security, as highlighted by Ibrahim (2019), then it is an indictment on the security architecture of the city. It should be reiterated that rickshaws were introduced into the city because an efficient and effective transport system does not exist. Because of all these factors, it is time for the city authorities to accept the existence of the rickshaws as part of the city's transport system. It would be counter-productive if city authorities intend to drastically reduce the spread of the rickshaws but are not willing to provide alternatives.

Collective Citizen Action

Social inclusion in transport, as defined by Church, Frost and Sullivan (2000), Solomon (2000) and Solomon (2002), is required in transport policy due to it representing the structure, direction, decision and position of government with regards to transport (Shaw, Knowles and Docherty, 2008). Social inclusion in the policy is necessary because the policy must illustrate clarity, understanding, administration, and regulation of the sector by the government, transport providers, and users (Wood, 1996). Transport policies are developed in participation and collaboration with the public, government, unions, operators, non-state actors, academicians, etc., of a country. It can be a comprehensive document for all modes of

transport (because of the modern-day approach of integrated multimodal transport) or it can be for individual modes (Banister, 2005a). In addition, it can be divided into national transport policy (for the whole country), sub-national/regional transport policy (for the region only or neighbouring towns), and for local transport policies (for local councils) (Faulks, 1981). Therefore, the government organisations are required to address issues that may hinder the usage of the road transport system by a commuter in Abuja.

The Text Search Query for Organisation B (the Federal Ministry of Transportation) using *NVivo* (for Research Objective III) illustrates that the National Transport Policy is guided by the Masterplan for Integrated Transport Infrastructure (MITI), National Vision 20:2020 (NV2020:20), the National Transport Masterplan, and the Global Frameworks on Public Private Partnerships and Urban Mobility. These policies provide guidance for Nigeria's goals in the transport sector. In its transport policy, the country proposes to encourage the people to adopt cycling and public transportation for their commute because of the benefits to the rider, the environment, and the nation. However, based on Jones (2012), the Nigerian transport managers (Ministers and transport professionals working in the sector) need to do more to encourage people to cycle. As Jones (2012) recommends, speed restriction facilities on the highways and neighbourhood streets, provision of cycle lanes adjacent to highways so cyclists can avoid unruly drivers, and bicycle racks for safety and security of the bicycles are all measures that should be implemented.

In discussing inclusion of citizens in urban transportation and how to improve public transportation in Nigeria, it is imperative for the policy makers to consider the safety and security of road transportation in the urban areas due to recent events in London (*British Broadcasting Corporation*, 2017c) and Barcelona (*British Broadcasting Corporation*, 2017a). This point is further reiterated by Elias, Albert and Shiftan (2013) where they identify that fear of these attacks on pedestrians and in buses hinders commuters from using public transport and walking in crowded areas. Due to this fear, most commuters tend to use private cars or taxis for mobility, thus increasing car usage. As stated by Jones (2012), female cyclists tend to be apprehensive of national cycle routes due to their isolation; the security of women in public transport and as pedestrians is also stated by Elias, Albert and Shiftan (2013). Furthermore, considering recent events in India (Gupta, 2018), female security (and urban transport security) should be considered and incorporated as part of the draft Transport Policy.

As *Action Aid* (ActionAid, 2016*)* states, women (especially pregnant women) and the elderly are not provided with adequate seats on buses, they are sexually harassed in overcrowded buses when alighting or boarding, and unreliable bus schedules subject them to

long waiting times at bus stops. This undermines Nigeria's international commitment to a legal framework for women and girls in the area of public transport. Nonetheless, Thynell (2016) argues that the top-down approaches of international policies face local cultures and barriers when they are to be implemented in some parts of the world. Therefore, local understanding of what women need for their mobility should be encouraged, and local authorities need to include more women in their participatory and engagement processes for an inclusive transport system.

From the analysis, elements of social inclusion have emerged in the discussion. The discussion identified that the drafting of the national and FCT transport policies demonstrated *collective action* of the government bodies, international organisations, and other non-State stakeholders. These policies were in line with the needs of the citizens, overall national plans, and international plans. The knowledge of the needs and priorities of the people and the international obligations of the nation were all taken into consideration when developing documents. However, these efforts are still awaiting approval. In pointing out the applicability of *bureaucracy* in previous sections, it was illustrated to be deemed as negative, although in this section it is illustrated as positive. Also, some of the organisations embarked on public surveys to discover commuters' needs. However, the results of the surveys are yet to be implemented because the National Transport Policy and the FCT Transport Policy is still in its draft form. The National Transport Policy has been drafted in 2010, but not approved, and the FCT Transport Policy cannot be approved before the national policy, therefore, government bureaucracy is delaying the implementation of these policies. This might indicate a certain level of indifference to governance by the policy handlers, which is a strong indictment on government if it leads to the public losing their trust.

As a result of bureaucracy, different stakeholders are needed to come together to develop the policy direction of the documents stated, thus, bureaucracy is not always a disadvantage. However, the stakeholders who developed these policy documents include governments of sub-national level in Nigeria alongside the academia and international organisations (International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO)). Therefore, they are all *members of an association* working in the transport sector, and they will feel government's *indifference* to implementing these plans, thereby jeopardising future interactions when the government needs further consultation. Nevertheless, this can be addressed if there is adequate synergy and *communication* between the government bodies to not create a *lack of trust* towards the government. However, all of these can be sorted out if the citizens are encouraged to *participate* in the decision-making

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process by knowing what they need, making them understand the process of achieving what they need, and how their needs can be positive or negative to the city (*knowledge*).

Additionally, the implementation of the Abuja Masterplan has been successful so far because the plan has been implemented up to 95% of the original concept, and there is a defined structure of decision-making processes on transportation in Nigeria at National and Sub-National levels of government. However, there is a disconnection between the policy's development and its implementation. Additionally, there are inadequate up to date data from all the participating organisations, and over the course of three years there has been a marked decrease in number of accidents, fatal accidents, and non-fatal accidents in the city of Abuja. However, there is the need for improvement of road designs in some parts of the city: the repainting and erecting of road signs and markings in some areas of the city that are lacking or faded.

Lastly, the provision of transport facilities across Abuja is uneven. Road is the only mode of transport that is constructed in Abuja. Within road transport, the public transport service is unreliable, some social groups are not able to access the existing system, consultation on transport is uneven across social groups and social strata, and some neighbourhoods have better roads than others. All these points out that the city (and Nigeria) has a long way to go in providing a socially sustainable transport system. While plans are developed and attempts at implementation are embarked upon, the implementation are not done fully for the impact of the policies to be felt by the citizens. This needs to be corrected for the people to have something that they can be proud of.

## 6.4 Linkage to Social Sustainability

There is need for *collective action*, something that all eight organisations have acknowledged as necessary for the transport system to improve. While participation is ongoing between the organisations there is still room for improvement because other unions are feeling excluded from the conversation. As a result, this creates trust issues within the system. There should be synergy between government bodies and between the unions because working at cross purposes will not be a collective action. Through *participation and engagement* between the government and the unions areas of transport system improvement can be harmonised between these bodies; presently, what one union needs is different from the others and totally different from government plans. Therefore, *poor knowledge* of the priorities of improving transportation in the city is inadequate to the unions. Feedback mechanisms between the unions and the government should be encouraged so that unions might know if their

recommendations to government are being implemented. Unions and the city managers should collaborate to explore and understand the carrying capacity of the transport system, the available public transport facilities, their operational capacity, and timeline of expansion.

Preparation of transport policies and plans involved was a *collective action* of the government bodies, international organisations, and other non-state stakeholders. However, these efforts now are facing problems of *bureaucracy* because of the delays in approving these policies for implementation. Further, the stakeholders who developed these policy documents include governments of sub-national level in Nigeria and the academia and international organisations (International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO)). Therefore, they are all members of an association working in the transport sector, and they will feel government's indifference to implementing these plans, thereby jeopardising future interactions when the government needs further consultation. Nevertheless, this can be addressed if there is adequate synergy and communication between government bodies.

The government bodies have professional bodies and regular consultants they consult regularly. They do periodic surveys to understand public views on the transport system. Nevertheless, these surveys are not consistent, and they are not incorporated into the policies. The surveys are there to be acknowledged that the task is done but not to make any meaningful impact to the system. Based on commuter responses, most respondents have not seen or heard the government requesting their view on the transport system of Abuja. The professional bodies that the government consults with do provide them with professional textbook advice. However, textbook advice is different from commuter perception. Also, this advice is based on quantitative data of commuters and other numerical data, it is not based on whether wheelchair users are able to get on the bus or ride in their chairs on the footpath. That is, numerical data is not informing the authorities whether the existing system can be used by the disabled or if women are safe on the bus. Additionally, the government organisations have not made mention of preparations for infrastructure for electronic cars. Therefore, the concerns of commuters are not fully understood by the authorities and the future uses of vehicles are not being taken into consideration.

## 6.5 Conceptual Framework

In the context of the social sustainability themes of this research - stakeholder engagement and social inclusion - the research findings indicate that they are not adequately taken into consideration when enacting and implementing the urban road transport policy of Abuja. This conclusion is made by analysing the collated feedback of the commuters and a

portion of the feedback from transport unions. Commuters and unions represent the end users of the transport system, hence the nature of their feedback. However, the government organisations were all unanimous in stating that citizens have an input into the policymaking of government organisations. While the commuters wish to be involved in the city's decision-making processes, they believe that there is a systematic disconnection between them (the citizens) and the city authorities with regards to the planning and operations of the city's transport system. Some commuters complained of this disconnection, whilst one of the participating unions stated that they are not involved in the decisions made by the city's transport authorities when compared to the other three unions.

This disconnection is identified from the discussion of the research data gathered from the commuters, the transport unions, and the government organisations. These identified disconnections highlight the linkages of the research analysis to the concept of social sustainability. This study is focused on two themes of social sustainability – stakeholder participation in decision-making and social inclusion. Therefore, during the discussion of the data gathered, the following sub-themes emerged:

1. collective action
2. knowledge
3. bureaucracy
4. illiteracy/nonchalance/indifference
5. membership of any community group or association
6. communication
7. poverty
8. lack of trust
9. participation
10. civic engagement
11. equality
12. satisfaction.

In view of this, a conceptual framework illustrating these sub-themes and how they relate to social sustainability is presented overleaf.
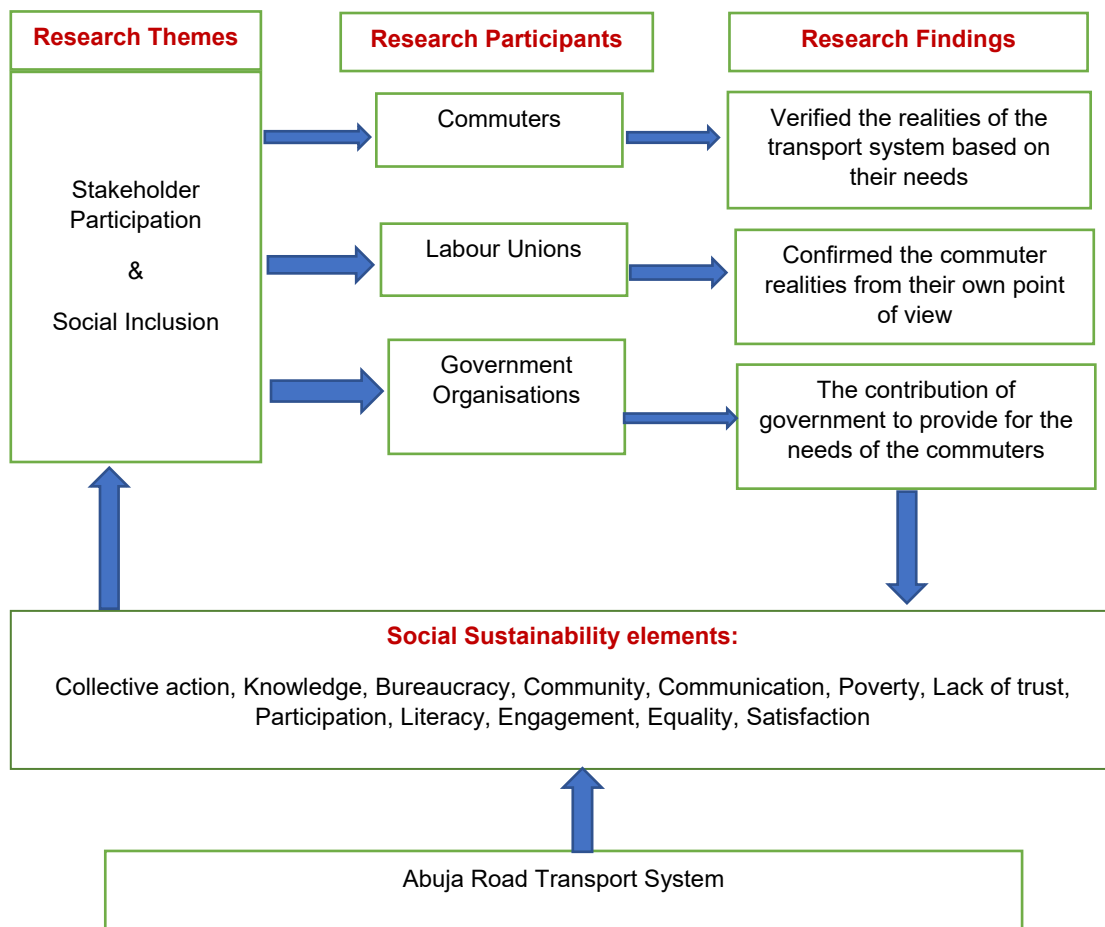
**Figure 5: Social Sustainability Conceptual Framework**

Figure 5 illustrates the two social sustainability themes of this research. These themes were studied through semi-structured interviews with research participants (i.e., commuters, unions, and government organisations). Through these interviews, results were gathered and analysed with commuters stating the realities of the road transport system in the city based on their experiences using the system. These realities were further confirmed by the unions because of their involvement in the operations of the transport system as bus, taxi, and rickshaw operators. These were followed by government organisations' contribution to the

study by stating the issues and challenges they face in implementing the desired urban transport system. Following the discussion of these research findings, the key sub-themes listed in the last paragraph are identified as sub-themes of stakeholder participation in decision-making and social inclusion. The framework illustrates a process of research, which begins by focusing on two themes of social sustainability (among the different themes), identifying research participants, collating, and discussing research findings, and lastly by identifying further sub-themes that are directly under the concept of social sustainability.

Five of these sub-themes – bureaucracy, community, communication, participation and equality – are outlined by Basiago (1999) as necessary criteria in the achievement of social sustainability. Also, they reiterate the conclusion asserted by Eizenberg and Jabareen (2017) that social sustainability is dependent on urban forms, safety, equity, and eco-prosumption, of which urban forms and equity align with the framework of this study. Finally, the framework proposed by Cuthill (2010) includes :

- Social capital, to provide a theoretical starting point for social sustainability.
- Social infrastructure, to provide an operational perspective.
- Social justice and equity, to provide an ethical imperative, and
- Engaged governance, to provide a methodology for 'working together'.

This research framework is like Cuthill's in the inclusion of the following themes:

- Social capital – collective action, community, trust, poverty, and participation.
- Social infrastructure – knowledge, literacy, and engagement.
- Social justice and governance – participation and equality.
- Engaged governance – bureaucracy, communication, trust, engagement, and satisfaction.

Following on from the cited frameworks and the framework of this research, social sustainability is founded upon that prosperity, and development in any form is dependent on the people understanding each other as a community by identifying their individual differences, finding common ground, and finding general agreement on issues that affect their welfare and well-being.

These cited frameworks illustrate the similarity between this study's framework and the other social sustainability frameworks. In the case of Basiago (1999), the geographical location of his research has similar socio-economic indices to Abuja. Eizenberg and Jabareen (2017) are similarly defining social sustainability in the urban area. Lastly, Cuthill (2010; p. 370),

illustrated that the collective benefits that accrues to a community is based on "a clear rationale for investing in policy, strategy and operational responses to build socially sustainable communities". This research is about the social sustainability of Abuja's Road transport system, hence the development of the above framework. Reference to published and cited frameworks also reveal the criteria and formats utilised to understand the needs of the stakeholders. This paper argues that understanding the needs of the commuters, the operational needs of the unions, the administrative, managerial, and planning needs of the city and transport departments using the proposed framework is a foundation for a sustainable road transport system in the city.

In view of the framework above, and the road transport-related findings of this study, it is concluded that the consideration and inclusion of all stakeholders in the transport system of the city needs to improve. The existing system of unruly drivers, unregulated taxis and buses, poor transport regulation and coordination, inadequate transport facilities and infrastructure is not manageable and sustainable if the city wants to achieve the transport policy that is still awaiting approval for implementation. Through ongoing engagement with all interested stakeholders, the city-wide transport system is more likely to undergo a more sustainable and less conflict-laden transition as and when the multimodal system of transportation comes into existence. It will also be advantageous for the system to acknowledge the technical transitions that are ongoing in the road transport sector, and how they can be localised and gain acceptance by stakeholders. Those that need to acknowledge these transitions include, but are not limited to, the policy makers, the decision makers, civil society organisations to enlighten the public, the academia for the know-how, and the public who are the users of these socio-technical transitions. Therefore, based on the research data gathered, and analysis and comparison of the data with existing literature, it can be concluded that there is low stakeholder engagement and inclusion in the road transport system of Abuja. Regarding the research questions and objectives, an effort to answer some of the questions has been undertaken, although some of the answers have further questions which need to be researched upon. Further research needed in this area will be highlighted in the final chapter of this thesis.
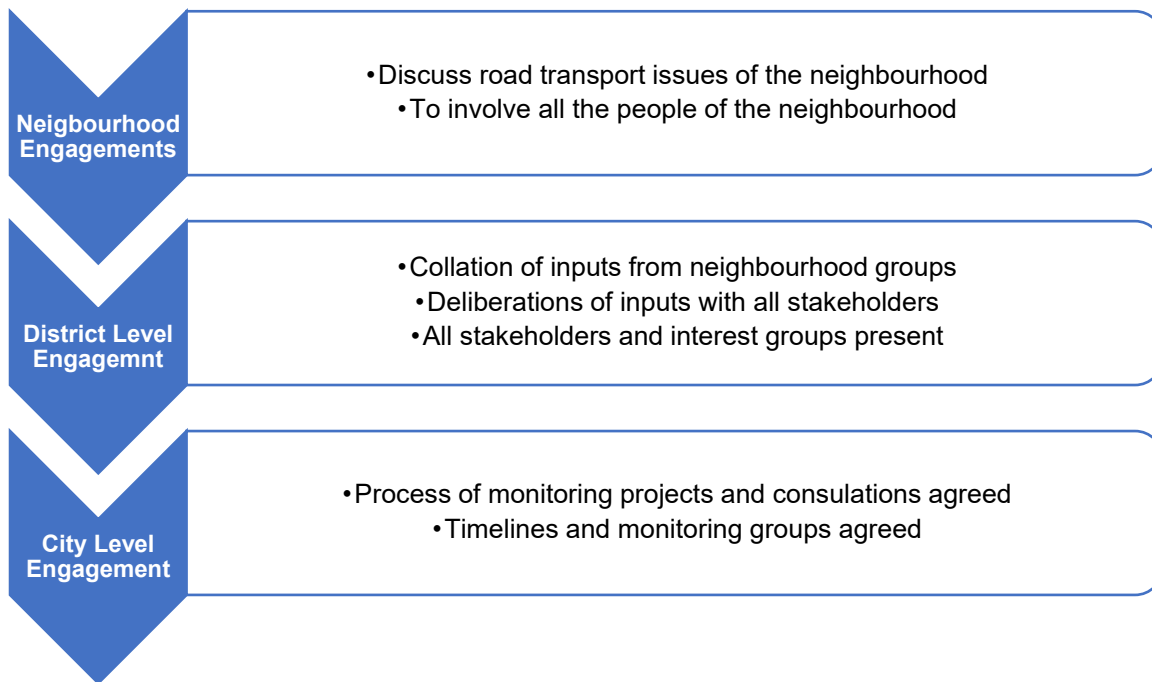
**Figure 6: Proposed Framework for Engagement and Consultation**

Figure 6 reflects the above findings and review of literatures. It proposes that the coming together of all stakeholders (state and non-state actors) to have an urban road transport system in Abuja is of paramount importance and is achievable. It is proposed that stakeholder consultations involving all the research participant groups that engaged in this study (the government bodies, unions, and commuters) should come together to listen to one another to achieve the aim of a sustainable road transport system. This list of involved stakeholders is not exhaustive, it can be expanded to accommodate any interested party, group or individual.

This research proposed that engagement amongst citizens should commence at the neighbourhood scale through communal and neighbourhood groups. This engagement should address any issue that affects the community in the context of the neighbourhood's road transport system. It should be reciprocated across the various districts of the city for all neighbourhoods. Follow-up consultation and engagement should then be held with the unions and government agencies at district level (which have collated all the inputs of the neighbourhoods) and city level. Specifically, city authorities, together with transport unions, should consult with the people at district level, followed by a city-wide consultation.

At the district level, due to the existence of the city masterplan, the plan for the district should be outlined to citizens. Following this, discussions on how to incorporate current, existing issues into the masterplan should be held and citizens' inputs adopted within the

masterplan. Professional opinions of planners are to be relied on here to convince the people in areas of dispute. That is, information and facts should be provided to citizens so that disputes (if any) might be resolved. At this stage, policy direction of government with regards to all sectors, government financial capabilities and priorities, and other factors of government decision-making processes will need to be made public to the people to enable them to understand and appreciate government efforts and hurdles in trying to provide a stakeholder-led urban road transport system in Abuja. These hurdles outlined to the people by the government should not be a permanent hindrance; ways to solve the hurdles should also be provided and together with information regarding at what stage of the process these problems should be solved.  Transport unions should be given the opportunity to put forward their own views and provide input in areas that affect them. The result of this district consultation should be presented at the city-wide consultation and ratified by the districts and transport unions as binding on the government to implement.

Similarly, at the city scale, processes of including all stakeholders to monitor the implementation of this city-wide agreement should be agreed upon. This should include details of what to monitor, tools of monitoring, roles and responsibilities of the neighbourhood bodies, the transport unions, and every other stakeholder in the monitoring process. Timelines for the decisions at district and city levels must be agreed upon. It should be noted that timelines of the various decisions agreed upon will be strictly adhered to, updates on these timelines will be given to the people at district and city level during every engagement, and the reasons for not meeting the timeline (if any) must be given at these consultations. Neighbourhoods should be encouraged to hold engagement sessions every six months. Following these periods of engagement, district and city-wide consultations with city authorities should be conducted within one month.

# CHAPTER 7: CONCLUSION AND RECOMMENDATION

This final Chapter provides detail of its contribution to knowledge, offers several recommendations for future research, followed by a summary of findings, and a concluding statement of the study.

## 7.1 Contribution to Knowledge

This research aimed to investigate the public awareness, participation and dialogue embarked upon by the government in interacting with the people in making decisions which affect them. Furthermore, it contributes to our understanding of social sustainability. This research demonstrates the significant advantages of understanding what citizens require from socially sustainable transport networks. Due to the dearth of research on the subject, there is a significant research opportunity in exploring the transport requirements of specific commuter groups, such as women, children, the elderly, and the disabled. Research on Africa and the Global South on the focus of this study – sustainable transport systems - is currently inadequate and demonstrates a gap in the literature. Whilst the lack of papers on specific commuter groups is a worldwide phenomenon, there is insufficient research from Africa, on Africa, by Africans specifically. This research is an attempt to address this gap and contribute to academic knowledge on the subject.

Addressing the gap in knowledge would help in understanding commuter requirements and providing solutions elsewhere in the world. These problems are due to a lack of understanding by commuters, slow adaptation of an evolving world by the transport governance system, and the evolution of one technology to the other by the transport operators focused on profits.

The contribution to knowledge the study intends to realise are:

i.   To highlight the level of social sustainability of a developing country by way of a general knowledge of urban road transportation around the world.
ii.  To illustrate the level of citizen participation in governance in a developing country.
iii. To aid other societies with similar issues and challenges as Abuja faces in adapting the unique strategies being implemented to achieve the desired social sustainability in transportation.

Not only does this study address a gap in the academic literature, but this research is also unique in several ways. It highlights the challenges faced in implementing the social aspect of sustainability in an urban road transport sector of Abuja, Nigeria. Although there are

journal papers on the quality of service of the public transport in Abuja, there is a dearth of studies examining the overall social aspect and social sustainability of the road transport system in the city. This research study addresses this gap. In particular, the existing literature is focused on commuter service in public transport whereas this research is focused on understanding the views of every road user (commuters, vehicle owners, commercial vehicle operators, pedestrians, etc.) and the government in a developing country. This research illustrated the complexities involved in meeting Nigeria's social sustainability goals. The literatures cited in this research that are focussed on Abuja are different to this study. These differences are in terms of methodology, scope of study, and research participants. This study used mixed methods research and two data analysis tools – SPSS and NVivo software – whereas Biliyamin and Abosede (2012) and Nwachukwu (2014) all used quantitative methodology for their research. The scope of this study covers all aspects of commuter experience, transport planning, multi-modal transport infrastructure, and transport policy and governance. In contrast, Nwachukwu (2014) and Nwankwo and Barimoda (2019) are focused on commuter experience in the public transport system of Abuja. Finally, commuters on public buses and public transport operators are the research participants for Nwaogbe, Ukaegbu and Ibe (2013) and Ojekunle (2016) respectively. Furthermore, the current research involves commuters, transport unions (operators of rickshaws, taxis, and buses), and government organisations (city planners, transport managers, and road safety officers) at state and national levels as research participants, reflecting the diversity of the study's research objectives.

Similarly, this work contributes to the literature on the rapid growing city of Abuja as highlighted by Abubakar (2014} and Obia (2016), the challenges experienced in developing a sustainable city in the developing world (Aliyu, 2016), the inadequacy of the city transport system as concluded by Ojekunle (2016) and Oluwole (2017), and the experience of users using the inadequate transportation available in the city (Bassey & Swomen, 2012; Ibitoye *et al*., 2012; Nwachukwu, 2014; Gbadamosi & Adenigbo, 2017). Some of the findings of these cited papers are the same with this study's findings but other findings are unique to this study only. The research findings of this study that are the same as the cited literatures include:

- Inadequate access to transport for commuters (Oluwole, 2017)
- Poor synergy and management of the transport governance system by the authorities (Femi, 2012)
- Most of the people of Abuja are not adequately acquainted with government plans on road transportation in the metropolis (Aliyu, 2016)

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- Inadequate sensitisation, engagement, and consultation on what is needed, how to make the people's need possible, and why not all their needs can be addressed (Aliyu, 2016)
- Poverty also affects transport affordability for commuters (Adeyinka, 2013; Oluwole, 2017)
- Inadequate infrastructure for non-motorised transport (Porter, 2007).

However, further findings that are different from the findings of cited literatures are:
- Citizens want to participate in government decisions regarding road transport in the city but the avenue for participation is not satisfactory
- Professional and organisational representations are available in policy developments but representation or feedback at neighbourhood and district level is inadequate
- There is inadequate commuter data from the transport operators and the city authorities
- The transport policy at national and sub-national (city) level is not approved for over 10 years
- Inadequate commuter data and an unapproved transport policy illustrates a weak institutional governance system within the participating organisations of this study
- With inadequate commuter data and an unapproved transport policy, it can be surmised that the long-term plan is not a priority in government.
- The inadequate data provided by these organisations indicates that authorities believe in the top-down approach of governance where the technocrats believe that they know what is best for the people rather than considering what the people need for themselves.

Another contribution to knowledge of this study is that it focusses on the needs of particular social groups (gender, particular age groups, and occupation) while the papers cited are studying all commuters.

This research can be used to aid decision makers in Abuja (and more widely in Nigeria) in understanding that there is an urgent need to realise the importance of governmental performance management. The use of measurement criteria aids in understanding and appreciating plans, programmes, and policies of government from the perspectives of the public and the government. Whilst the usage of Key Performance Indicators (KPIs) in Nigeria is ongoing within the government, this study can serve as a tool of advocacy, support and encouragement in transport-related government activities and actions. Finally, the

methodology employed and the KPIs developed for this study might be adapted by subsequent researchers and policy makers for a sustainable road transportation system or for any other mode of transport in Nigeria, or internationally. It can be adapted based on peculiar circumstances and situations that other modes (or other parts of Nigeria or the developing world) might have which are different to Abuja's circumstances.

This research identified the necessity of establishing an up-to-date database of the users and operators of urban transport in Abuja, which the organisations do not currently have. The engagement and interaction between the government and the governed in Abuja is inadequate, as this study illustrates. Therefore, by having up to date quantitative and qualitative data of road users in the city and improving the engagement and consultations through the proposed strategy outlined in Section 6.5, there is much greater opportunity for improvements to the city's road transport system. Additionally, this study contributes to the body of knowledge in Nigeria's pursuit of providing a sustainable transport system and understanding what is still required to reach such goals.

The improvement of the working relationship and synergy between government departments working in the transport sector of the city (including urban planning) and between the government and transport unions would be enhanced through the consultation strategy outlined in this study, together with utilisation of the mixed method detailed in this study, which can be further improved upon in subsequent studies. Additionally, this research found that, within the transport system of an urban place, diverse sub-themes of social sustainability can be clear when a study is undertaken. Therefore, the elements of collective citizen action, knowledge, trust, participation, engagement, poverty, equity, and equality are highlighted in this research.

## 7.2    Recommendations for Transport Policy in Abuja

Based on this thesis's analysis and findings, the provision of an effective and efficient road transport system is greatly needed in Abuja. Due to the inadequate public transport system in Abuja, it is recommended that more licenses are issued to bus operators in the city following the establishment of operational regulations. Because the population increase of the city is presently at 9% per annum the demand for public transport will, therefore, increase. Also, the transport needs of school-age children at particular times of the day increases the pressure on the available buses during peak hours. As Banister (2009) states, through the development and implementation of transport policy, the provision of a satisfactory transport system is a positive indication of a sustainable transport system. This would help to address

issues within the existing transport infrastructure to support the bus operators, to create an integrated, multimodal transport system that addresses the needs of motorised and non-motorised traffic (both public and private), and the transportation of both able-bodied and disabled commuters.

Transport infrastructure, such as conducive bus stops, bus lanes, a multimodal transport system, and funding opportunities for transport operators should be provided for the city. Where bus lanes have not been delineated, they should be identified and marked. Also, avenues should be made available whereby bus operators can be able to seek funding for their operations. Lastly, transport interchanges should be made available for seamless integration between transport modes now that an intracity train service has commenced in Abuja. This research found that bus lanes, though existing in theory are, in practice, not in place. The study also found that multiple modes of transport and seamless integration of the modes are lacking in the city. The integration of public transport in the city should be fast tracked. This should be pursued by examining citizens' dependence on buses, rickshaws, and taxis presently; the inclusion of intracity trains has made it necessary to integrate and administer these different types of transport. Presently, rickshaws operate in selected areas of the city. This type of road transport needs to be accepted fully into the city's transport system because of its acceptability and the employment opportunities it provides for operators. This acceptance can be further encouraged when the city's transport unions are included in the decision-making process for urban road transport development, and the unions collaborate to share ideas and responsibilities.

Rickshaws should be defined as a mode of public transport at the international level. The integration of rickshaws in the transport system of the city is because of their acceptability by commuters. However, it has been found that they are unruly, emit carbon, and are not accepted fully in decision-making regarding transportation in the city. Therefore, it is recommended that they be accepted fully as a mode of public transport, they should be included in the decision-making process, and environmentally friendly rickshaws be introduced to replace the carbon-emitting ones. However, this does not impede city authorities from providing environmentally friendly buses for first and last mile commutes.

Provision of transport infrastructure and facilities should take into consideration the urban sprawl Abuja is experiencing, wherein most residents are commuting from the satellite towns into the city centre. The incorporation of schools, hospitals, and markets on transport routes would be advantageous to the commuters, thus providing transportation for all manner of commuters and providing everyone with opportunities for their personal development. The

usage of healthy and active modes of commuting (cycling and walking) should be encouraged by provision of bicycle lanes, improvement of driver discipline, and bicycle security facilities in public areas, together with having room for bicycle storage on buses. This study found that the Abuja transport policy and the city masterplan have made provision for multiple modes of transport, but these have not been fully implemented. This has caused the city's commute to be dependent on roads only.

Although Banister (2009) recommends the development of a transport policy, he also states that there needs to be engagement and consultation amongst all stakeholders (most especially the citizens) and the overcoming of all institutional barriers. Geels (2020) further clarifies that, in a dynamic transport system motivated by high demand for an efficient and effective service that is technologically driven, different levels of consultation, adaptability, acceptability, and implementation are paramount. Specifically, in implementing the transport policy with contemporary facilities and infrastructure, it should undergo different forms of localisation and awareness, with all actors involved able to have a reasonable transport system. In line with this, the Transportation Secretariat (and the Federal Ministry of Transportation) should endeavour to have an evidenced-based decision-making process to assess what is needed to provide road transport, where it is needed, how it is needed, and for whom it is to be provided. The national and sub-national transport policies should take into consideration the present day thinking on public transport. The contemporary issues include usage of electronic vehicles, smart technologies for cars, and the usage of information and communication technologies to drive vehicles and traffic management. This study found that there are efforts by the city and national transport authorities to take evidence-based decisions. However, the frequency of these data gathering processes is not adequate and the data gathered are not comprehensive enough to understand the commuter needs of different social groups.

These policies need to be developed and implemented through a robust interactive system between the government and the governed, to adapt an evidence-based management process that has a database of all transport related indices across the city (and the nation). Data gathering, updating, storage, and analysis should be made paramount in the achievement. The gathering, updating, and analysis of data should be a task that government and the transport unions use to plan for the provision of road transport services in the city. The data gathered from government should involve all three tiers of government, as defined by their responsibilities in the Nigerian constitution. The capacity to gather and collate these data can be provided by the National Bureau of Statistics if requested by any organ of government. Consultation, engagement, and feedback from commuters should be made public, accessible,

and encouraging. The decisions taken in these events should be adopted, incorporated, and implemented by government for the citizen to have faith in the governance system. Periodic updates on activities of government should be made public, thus enabling the people to know what is ongoing in the government. These updates should not take the form of traditional press releases, nor traditional news bulletins, but rather direct one on one interactions at community level, through the means of a town hall event or similar. Establishing a functional and updated website for government bodies will assist in updating citizens on government activities. Citizens should be kept regularly updated on existing government policies, proposed policies and legislations, and how decisions are being made in government.

Nigeria is a signatory of the Global Plan for the Decade of Action for Road Safety 2011-2020 (United Nations Road Safety Collaboration, 2011), however its road safety issues are in need of greater attention and improvement. Citizen attitudes towards driving on the roads, as pedestrians, and as commuters using any means of transport, should be improved through enlightenment and advocacy. This should be focused on road safety and security, the rights of fellow commuters (pedestrians, drivers, or cyclists), and law-abiding drivers.  Enforcement of existing traffic laws should be vigorously pursued, and road safety officials should be supported with the tools they need to enforce these laws. Legislations enforcing the collection of parking tickets and road charges into the city centre should be established to discourage private car owners from driving into the city, thus reducing congestion and improving revenue for other needed infrastructure. Nevertheless, prior to the commencement of these charges, the public transport system must be improved to further encourage car owners to use it instead of their cars. These recommendations are made because this study has found that drivers can be unruly, their unruliness increases as they understand that the Federal Road Safety Commission do not have the necessary tools for enforcement of road safety laws. Parking tickets, together with an effective and efficient public transport system, also encourage commuters to use public transport instead of their private vehicles, thus reducing traffic congestion.

Implementation of the city masterplan, with no deviations, will have a significant impact towards improving road transport in Abuja. Government bodies implementing the masterplan and managing the city should work together to achieve the desired goal of setting up the city. This recommendation is necessitated because this study found that deviations from the city masterplan do happen; this is caused by interference from political decision makers taking decisions while disregarding professional views. The deviation also occurs when the different departments handling different aspects of the city development do not working in synergy, thus causing disaffection and working at cross purposes. The Federal Capital Territory and

the neighbouring states' authorities must come together and decide on the modalities of the increasing population that cuts across their boundaries. These decisions should be on urban planning, transportation, health, education, etc. This is because it has been found that Abuja has spread into the neighbouring states and that there is a high number of workers coming into the city from there. In particular, the city authorities should take note of the work of Banister (2005a), who linked the issues of unsustainable development leading to unsustainable urban transport. Lastly, the Federal Ministry of Transportation and the Federal Ministry of Environment need to work together to identify ways and strategies to collate the contribution of the transport sector to $CO_2$ emissions in Nigeria.

In summary, the recommendations from this research are:

1. The development and implementation of a transport policy that will provide an integrated, multimodal transport system that addresses the needs of motorised and non-motorised traffic (both public and private), and the transportation of both able bodied and disabled commuters.
2. With the emergence of smart mobility and electronic cars, in a dynamic transport system motivated by high demand for an efficient and effective service, the transport policy should undergo different forms of localisation and awareness with all actors involved able to have a reasonable transport system.
3. The Transportation Secretariat (and the Federal Ministry of Transportation) should endeavour to have an evidenced-based decision-making process to assess what is needed to provide road transport, where it is needed, how it is needed, and for whom it is to be provided.
4. An evidence-based management process that has a database of all transport related indices across the city (and the nation) should be in place.
5. Data gathering should be a collective responsibility of all three tiers of government, as defined by their responsibilities in the Nigerian constitution. The capacity to gather and collate these data can be provided by the National Bureau of Statistics if requested by any tier or organ of government.
6. A transport infrastructure (bus stops, bus lanes, foot paths, bicycle lanes, etc.) and transport interchanges should be made available for seamless integration between transport modes now that an intracity train service has commenced in Abuja.
7. Public transport operators (buses, rickshaws, and taxis) should be provided with funding for their operations.
8. The acceptability (or not) at policy level of rickshaws in the transport system should be finalised, taking into consideration their carbon emissions, their number, the employment

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they provide, the services they provide, and their regulation to operate in selected areas of the city.

9. The provision of transport infrastructure and facilities should incorporate houses, schools, hospitals, and markets on transport routes.

10. The usage of healthy ways of commuting (cycling and walking) should be encouraged by provision of bicycle lanes, improvement of driver discipline, and bicycle security facilities in public areas, and providing room for bicycle storage on buses.

11. Attitude to driving on the roads, as pedestrians, and as commuters using any means of transport, should be improved through enlightenment and advocacy.

12. Enforcement of existing traffic laws should be vigorously pursued, and road safety officials should be supported with the tools they need to enforce these laws.

13. Legislation enforcing the collection of parking tickets and road charges into the city centre should be put in place to discourage private car owners driving into the city. Nevertheless, before the commencement of these charges, the public transport system must be improved to further encourage car owners to use it instead of their cars.

14. Government bodies implementing the masterplan and managing the city should work together to achieve the desired goal of setting up the city.

15. The Federal Capital Territory and the neighbouring states' authorities need to come together and decide on the issues that cut across their joint boundaries.

16. The Federal Ministry of Transportation and the Federal Ministry of Environment need to work together to identify ways and strategies to collate the contribution of the transport sector to $CO_2$ emissions in Nigeria.

The highlighted recommendations are grouped into themes of social sustainability in transport in Table 14 below.

| S/No | Recommendations | Social Sustainability in Transport Themes Applicable to the Recommendation |
|---|---|---|
| 1 | Development and implementation of a transport policy that provides an integrated, multimodal transport system that addresses the needs of motorised and non-motorised traffic, and the transportation of both able bodied and disabled commuters | Access to transport, Provision of transportation for all users, Integrated Multi-Modal Transport System, Transport Governance |
| 2 | The Transport policy should undergo localisation and awareness with all actors involved able to have a reasonable transport system | Access to transport, Participation and engagement, Transport Governance |
| 3 | The Transportation Secretariat (and the Federal Ministry of Transportation) should have an evidenced-based decision-making process to assess what is needed to provide road | Access to transport, Provision of transportation for all users, Transport affordability, |

| | transport, where it is needed, how it is needed, and for whom it is to be provided | Participation and engagement, Transport Governance |
|---|---|---|
| 4 | An evidence-based management process that has a database of all transport related indices across the city (and the nation) should be in place | Participation and engagement, Transport Governance |
| 5 | Data gathering should be a collective responsibility of all three tiers of government, as defined by their responsibilities in the Nigerian constitution | Participation and engagement, Transport Governance |
| 6 | Transport infrastructure and transport interchanges should be made available for seamless integration between transport modes | Non-Motorised Transport, Access to transport, Motorised Transport, Provision of transportation for all users, Safety and Security of users, Integrated Multi-Modal Transport System, Participation and engagement, Transport Governance |
| 7 | Public transport operators should be provided with funding for their operations | Access to transport, Motorised Transport, Provision of transportation for all users, Transport affordability, Integrated Multi-Modal Transport System, Participation and engagement, Transport Governance |
| 8 | The acceptability (or not) at policy level of rickshaws in the transport system should be finalised. | Access to transport, Motorised Transport, Provision of transportation for all users, Transport affordability, Integrated Multi-Modal Transport System, Participation and engagement, Transport Governance |
| 9 | The provision of transport infrastructure and facilities should incorporate houses, schools, hospitals, and markets on transport routes | Non-Motorised Transport, Access to transport, Motorised Transport, Provision of transportation for users, Transport affordability, Participation and engagement, Transport Governance |
| 10 | The usage of healthy ways of commuting (cycling and walking) should be encouraged by provision of bicycle lanes, improvement of driver discipline, and bicycle security facilities in public areas, and providing room for bicycle storage on buses | Non-Motorised Transport, Access to transport, Provision of transportation for all users, Transport affordability, Safety and Security of users, Integrated Multi-Modal Transport System, Transport Governance |

| 11 | Attitude to driving on the roads, as pedestrians, and as commuters should be improved through enlightenment and advocacy | Non-Motorised Transport, Access to transport, Motorised Transport, Safety and Security of users, Participation and engagement, Transport Governance |
|---|---|---|
| 12 | Enforcement of existing traffic laws should be vigorously pursued, and road safety officials should be supported with the tools they need to enforce these laws | Safety and Security of users, Participation and engagement, Transport Governance |
| 13 | Legislation enforcing the collection of parking tickets and road charges into the city centre should be in place to discourage private car owners driving into the city | Participation and engagement, Transport Governance |
| 14 | Government bodies implementing the masterplan and managing the city should work together to achieve the desired goal of setting up the city | Integrated Multi-Modal Transport System, Participation and engagement, Transport Governance |
| 15 | The Federal Capital Territory and the neighbouring states' authorities need to come together and decide on the issues that cut across their joint boundaries | Participation and engagement, Transport Governance |
| 16 | The Federal Ministry of Transportation and the Federal Ministry of Environment need to work together to identify ways and strategies to collate the contribution of the transport sector to $CO_2$ emissions in Nigeria | Participation and engagement, Transport Governance |

**Table 14: Table Illustrating Research Recommendations and their Linkage to Social Sustainability in Transportation Themes**

## 7.3    Limitations of Research

There were several challenges encountered during the research process and a few limitations had to be managed by the researcher. A cover letter stating the objectives of the research, contact details of the researcher and supervisors, with the questionnaire attached (in print) was sent to the heads of the eight organisations. In the cover letter, a request for an appointment for the semi-structured interview was included. In seven of the organisations, an official was directed to respond to the questionnaire on behalf of the organisation and a cover letter (addressed to the researcher) stating that the questionnaire had been acted upon was attached to the completed questionnaire. For one of the government organisations, a panel of four staff was constituted for the semi-structured interview because of the diverseness of the questionnaire and the institutional memory of the various staff on the panel. In particular, the questionnaire asked questions that could not be handled by one official only, and the high turnover rate of civil servants meant that one official may not have sufficient knowledge to answer all questions. In general, organising an appointment for the eight organisations to

respond to the questionnaire was challenging due to having to undergo multiple attempts to secure an appointment.

For the commuters, questionnaires were administered at four major bus stops within Abuja. Data was gathered by interviewing commuters who were alighting or boarding buses to and from their destinations. Respondents were incentivised with a bottle of drink and a snack to respond to the questionnaire. The incentive was to encourage them to respond to the questionnaire because most commuters were in a rush. Some respondents needed guidance and explanation whilst others felt the questions were self-explanatory. However, some questions in Section I of the questionnaire, asking about attendance of public hearings and consultation at Constituency Offices by legislators, some respondents stated that they did not even know they are entitled to these engagements with their elected representatives.

The public needs to be educated regarding what is involved in civic engagement, because some respondents have difficulty understanding that engagement and interaction amongst people of the same community and neighbourhood to improve their locality is also a civic engagement. There are many people who do not believe in government and its policies, and so the thought of working together as a community to influence government policy causes some individuals to be non-participators in these activities; this is not a healthy scenario for Abuja or Nigeria more broadly. Also, engagement amongst the social groups (in the case of this research – gender, age group, occupation – but not exhaustive) also helps in influencing decisions favourable to the communities. The literatures discussed and the data analysed highlights the importance of listening to and understanding commuter needs in different parts of society. Therefore, presenting to the city authorities commuter needs based on different social groups is a step in correcting the inadequate engagement and service provision that is ongoing between the public and the government. The methods employed in this research (engagement of multiple stakeholders) provided different perspectives of all the groups, especially when the researcher reflected on the data analysis by incorporating his own personal experience of the transport system and the disconnection with the transport governance and the commuter. Consulting, engaging, and understanding the needs of the different social groups and communities is a collective action that involves representatives of these groups.  This is to ensure synergy, value for money, and a fit-for-purpose transport system. If the adults think that children and young persons do not have their own transport needs, for example, the system might need to be reviewed soon to accommodate excluded groups, with cost implications. Therefore, opportunities for everyone to be heard should be provided.

The results of the research question on taxing road users by means of a road tax or pollution tax demonstrated significant importance of the need for the government to inform citizens on why these taxes are needed. There are various reasons for this need, including for infrastructure provision, government services to the public – security, defence, and health. There are also benefits from taxation, for instance funding governments, resource distribution across the country and social groups which will be provided to the people if they are in place. However, respondents posed several questions:

- If it is about poor budgetary provisions now, why were the road infrastructures not provided when Nigeria had robust budgetary provisions?

- If it is about taxing road users to raise revenue to provide better and sustainable public transport, why aren't previous transport schemes not maintained and improved?

- How would the people know that, when they are taxed, the accumulated funds will be judiciously used for the provision of the environmentally friendly public transportation?

As presented in the Appendices, all organisations that have participated in this research have provided incomplete data sets thus highlighting significant weaknesses in the institutional governance system of these organisations. These organisations do not have adequate data that is necessary for their forward planning purposes.

Understanding the cultures and workings of these organisations is of importance to the success of the data gathering. Specifically, in one of the government organisations, the letter introducing the researcher was minuted to four different officers before it was acted upon. Therefore, following the trail of the research questionnaire (from one officer to the other) in a government bureaucracy can be a huge task, but knowing how the system works in this kind of scenario will be of much help to researchers. It should be noted that this data was collected in June/July 2018. Therefore, some data presented might have improved (or worsened), whilst others, such as election data and the national minimum wage, may have also changed.

The government organisations have different mandates and functions; however, their questionnaires also are structured in line with the research objectives. Therefore, there are differences in the questions asked but there are also particular questions that are applicable to all the organisations. Some questions are unique to an organisation because of its functions but there are other questions that are applicable to all the four organisations. Therefore, the total number of questions asked for each organisation differs, this difference is because of the functions of the organisations. Due to the different functions of the organisations as illustrated in Table 9 (section 3.4), some of the organisations have more questions than others and there is a unique question specific to one of the organisations only.

Analysing data from the four government organisations was challenging. It was challenging because while some of the questions are the same for the four organisations there are others that are not. This leads to some of the results appearing as stand-alone with no counterpart response from the other organisations. However, this does not reduce the applicability of the stand-alone results to the research objectives, they reflect that particular organisation's view according to their functions.

Similar challenges were also faced when analysing the quantitative data using the NVivo software. Importation of the collated data into NVivo differs between the three groups (commuters, unions, and government) being analysed. The electronic importation of commuter responses was done in one file due to participant administered questions being the same. This is also the same for the four unions. However, this is different for the government organisations because some of the questions asked are based on their individual functions only, that is, some of the questions are the same whilst others are unique to the mandate of those organisations. Hence, the importation of the qualitative data from Excel spreadsheet into NVivo was done individually for the government organisations but under one project folder.

The Unions have different vehicles that they use to operate in Abuja, they have different sets of members, and some of them operate across the whole city while others do not. Also, the membership spread is not equal between the unions. However, the set of questions administered to each of the unions is the same, but the difference is in the type of vehicles they use in their operations. Thus, the questionnaire administered to the Tricycle Operators Association of Nigeria has the following question – Total Kilometres of tricycle routes in the city – but the questionnaire administered to the National Union of Road Transport Workers has the following question – Total Kilometres of bus routes in the city.

Similarly, another difference with union questionnaires is that some of the data requested highlights the existence of overlaps of membership between the unions. For example, the National Union of Road Transport Workers have bus drivers, bus conductors and tricycle (rickshaw) operators as members, the Self-Employed Commercial Drivers' Association Abuja also has bus drivers and bus conductors, and the Tricycle Operators Association of Nigeria has tricycle (rickshaw) operators as their members. This highlights cases of possible conflicts between the associations, and confusion to the potential and existing members.

## 7.4 Policy Implications

With the recommendations, areas that need policy review and enactment to achieve some of the recommendations stated are identified. Densely populated areas, for example the satellite towns, should be provided with high-capacity buses for commuting, while less populated areas such as the city centre should charge parking fees and congestion charges for private cars. The need to reduce rent within the city centre through a rent law could reduce the high rate of people choosing to move away from the centre due to the high cost of accommodation. This would reduce the separation of rich and poor inhabitants within the city. Therefore, having a mixture of different social groups within a neighbourhood gives a sense of community and reduces exclusion.

The present structure of the National Council of Transportation (NCT) includes the government and non-governmental stakeholders (with civil society organisations), although the Council needs to make its decision binding on the members. Therefore, state governments should be encouraged to deliberate with their local councils about transport matters to be tabled at the NCT, since the local councils are not NCT members. NCT deliberations and decisions should take a bottom-up approach. By implementing these recommendations, every tier of government would be clear on its roles and responsibilities. Thus, clear stakeholder responsibilities should be outlined, and a reward system be introduced to members who have implemented the NCT's decisions.

Strengthening the monitoring and evaluation process of government policies and plans for national and sub-national transport policies should have clearly defined performance indicators, baselines, and targets for quarterly, biannual, and annual monitoring of the performance of the urban road transport sector in Abuja and Nigeria. Furthermore, outcome and impact indicators should be defined for evaluating these plans and policies after it has commenced operations for assessment of impact of these policies on Nigerians and Nigeria. These impacts should be evaluated at local, state, and national levels of government. Lastly, Nigeria, having ratified some international agreements and policies regarding transportation, should adapt and localise these policies to local values and situations before implementing them. If possible, the implementation should be in phases before full operations commence.

A summary of the research findings are itemised as follows:
- There is currently inadequate infrastructure for Non-Motorised Transport.
- There is currently inadequate access to transport for commuters.
- Poor synergy and management of the transport governance system by the authorities.

- Most of the people of Abuja are not adequately acquainted with government plans on road transportation in the metropolis.

- Government is not sensitising the people on policy issues, the citizens do not know what they are entitled to as commuters, and they are left to the decisions of an unregulated public transport system that does not take into consideration the commuters' needs.

- The sensitisation, engagement, and consultation on what is needed, how to make the people's need possible, and why not all their needs can be addressed, is lacking.

- Poverty plays a major role in people understanding what government plans for them because they are faced with survival problems rather than plans and how those plans affect them.

- Poverty affects transport affordability for commuters,

- There is currently inadequate funding for the government organisations on sensitisation and engagement also hinders these consultations and enlightenment.

- Citizens want to participate in government decisions regarding road transport in the city but the avenue for participation is not satisfactory.

- Professional and organisational representations are available in policy developments but representation or feedback at neighbourhood and district level is inadequate.

- There is inadequate data provided by the eight organisations who participated in this research thus highlighting a weakness in the institutional governance system within the organisations

- With inadequate commuter data and an unapproved transport policy, it can be surmised that the long-term plan is not a priority in government.

- The inadequate data provided by these organisations indicates that authorities believe in the top-down approach of governance where the technocrats believe that they know what is best for the people rather than considering what the people need for themselves.

Table 15 below illustrates the connection between the research findings and the policy implications discussed in this section.

| S/No | Research Findings | Policy Implications | | | |
|------|-------------------|-----------|--------|----------|---------------|
| | | Transport | Social | Economic | Environmental |
| 1 | Inadequate infrastructure for Non-Motorised Transport | Poor integration of all modes of transport | Excluding other road users and those who walk for leisure, sport or commute including wheelchair users and prams | Walking helps low-income earners to save their money, it is the form of commute low-income earners use when | It is environmentally friendly because it does not emit carbon into the atmosphere |

| | | | | transport costs are high | |
|---|---|---|---|---|---|
| 2 | Poor harmonisation of land use plans and population growth | Reduces infrastructure for transport | Low transport infrastructure reduces access to transport for the public | This will result in a high cost of transport, due to an uneven spread of transport, and a high cost of property leading to living in substandard housing | High population leads to an increase in demand for resources, urban growth, increase in social vices in towns and cities |
| 3 | Informal and poorly regulated transport system | Inefficient and ineffective transport system | Unruly bus operators, unsatisfied commuters, delays and unreliable public transport schedules, safety and security of commuters | Loss of man hours, high cost of transport | Poorly maintained vehicles emit more carbon than well maintained ones |
| 4 | Inadequate finance for public transport operators | Inadequate buses for commuters, stranded commuters | Low service quality | Uneven distribution of funding | Traffic congestion due to private vehicle usage |
| 5 | Needs of women, children and disabled neglected | Transport not accessible for everyone | Needs of some social groups are ignored | This affects the socio-economic development of women and children | |
| 6 | Policy bias towards road transport | Low development of a multimodal transport system | Exclusion of other modes of transport | The economic maximisation of a multimodal transport system is hindered | Though infrastructure expansion involves more usage of the land, it also reduces carbon emission and congestion if other environmentally friendly transport is provided |
| 7 | Uneven transport infrastructure and system across the urban area | Some parts of the city will have better facilities and services than other parts | There will be an exclusion of some commuters in the city | Uneven wealth distribution and infrastructure development | |
| 8 | Poor synergy and management of the transport governance system | Poorly regulated public transport system | Lack of understanding and direction on the management of the transport system by government departments and the public | Low maximisation of the economic benefits of the transport system and unintended positive development of a regulated system | Abandonment of infrastructure during construction |
| 9 | Most of the public are not adequately acquainted with government plans for road transportation | Dependence on private cars because there is no immediate or future plan for public transport | Poor sensitisation, engagement, and implementation of plans | It affects businesses because they do not know what to plan due to government inconsistencies | Dependence on private cars increases carbon emissions |
| 10 | Commuters are left to the decisions of unregulated public transport operators that does not take into consideration the commuters' needs | Inefficient and ineffective transport system | Exclusion of some commuters; poor regulation; safety and security of commuters are affected; unruly transport operators | Loss of man hours; inconsistent transport costs | Lack of environmentally friendly public transport |

| 11 | Public are prioritising survival because of poverty rather than plans for the future and how those plans affect them | Transport affordability for the commuter | Top-down decision-making by authorities; poor engagement with authorities by the commuters | Low-income earners; high cost of transport; inadequate funding for operators | More users of non-motorised transport; fit and healthy public due to walking |
|----|----|----|----|----|----|
| 12 | Inadequate funding for the government organisations | Uneven spread of transport facilities and infrastructure across the city; stranded and excluded commuters | Poor collaboration and understanding between government departments | Nonalignment of plans with budgets and need for expansion of transport system | Uneven spread of public transport encourages private vehicle usage |
| 13 | Inadequate commuter data and an unapproved transport policy illustrates a long-term plan is not a priority in government | Transport facilities and infrastructure are provided based on a top-down criterion and not based on empirical data | Exclusion of some commuters because their needs are not taken into consideration | Funding might not be channelled to the project that requires it due to low data to illustrate where priorities are | |

**Table 15: Policy Implications of the Research Findings**

## 7.5   Future Research

The need for further research into urban transportation in Abuja has been clearly identified by this study. Specifically, the findings of this study support the need for research examining how the cost of transport affects the lives of commuters in Abuja. Most commuters depend on the available public transport system, hence there is need to better understand the amount of lost person hours in traffic and the overall cost. It is also necessary to research the health of the commuters affected by the traffic and the effects on his/her funds when the individual falls ill, to understand how transport affects household finances, and its broader impact on the city's economy. As highlighted by Sovacool, Kim and Yang (2021), the commuter is bearing much of the transport costs, hence the need to understand the financial implication on the individual and, collectively,  on society more broadly.

The first and last mile of commuters' journeys should be further studied in future research to understand how commuters navigate to the bus stops (on foot or bicycle or rickshaws), and how safe and secure this part of the journey is for citizens. There is also the need to research the volume of people moving into the city from neighbouring states daily, especially during working hours. This is because Abuja receives an influx of people daily who come into the city for work only and leave after work. This has an impact on traffic congestion and hold-ups, carbon emissions in the city, impact of the traffic on individuals, productivity, government, and the economy of the city at large. This requires its own research. Furthermore, there is a need

to understand the efficiency and effectiveness of the present transport system of the city, how it is operated, who regulates it, how it can be improved, and how best to proceed.

Research on transport inclusion in Abuja looked at the commuters and residents living in the satellite towns. Inclusion concerns access to transport, transport routes, pedestrian exclusion due to lack of footpaths, lack of bicycle lanes for cyclists, and how these factors have affected people's lives. This is to understand how these facilities will impact on commuters' lives and the level of inclusion that the city provides for its people in the attainment of sustainable transport. Additionally, research on the impact of future development transportation on the commuters coming into Abuja daily, while residing in Nasarawa and Niger States, looking at accessibility, equity, and urban planning, is greatly needed. The understanding of the needs of commuters from Nasarawa and Niger States will be a positive addition to planning for the city transport system because a high number of commuters travel from these states to Abuja daily. This research can be replicated in another urban city in Nigeria to compare findings for subsequent implementation of the recommendations.

Issues of inclusion, engagement, consultation, and road safety affects the daily commuter in Abuja city; how these issues will be addressed remains to be seen. This is due to the country pursuing the achievement of its Sustainable Development Goals and the Paris Agreement; the city is still undergoing the implementation of its masterplan, and there are ongoing technological changes in the transport sector. This study contributes to understanding how these issues can be addressed by identifying these issues from the end users and the main actors in government and unions. Solving these issues is possible if the resources, the will, and the collaboration of all the stakeholders are harnessed. Therefore, now is the appropriate time for Abuja city authorities to take the necessary steps to achieve a sustainable transport system specifically developed and tailored for Abuja city.

## 7.6 Concluding Statement of the Research

Abuja depends significantly on roads for its means of transport because of the underdevelopment of other means of transportation. Through the dependence on road transport, issues and challenges have been increasing in that sub-sector of transportation. Issues are being caused by the high population of commuters, inadequate public transport, low societal and human value given to the commuters by bus operators, and inadequate regulation on public transport operations and administration.

With all these challenges experienced in Abuja, the country of Nigeria is a strong advocate for achieving the Sustainable Development Goals (SDGs) and the Paris Climate Change Agreement of 2015, with road transportation playing a significant role in meeting these

agreement goals. However, despite its advocation and involvement as a signatory, Nigeria has not been able to provide the necessary will to develop and implement the tools needed to achieve these international agreements on national and sub-national governmental scales. Since 2010, the National Transport Policy has been in a draft form and is still not approved, and the FCT transport policy is guided by the national policy, thus delaying the implementation of both policies.

Putting these policies into practice will provide the much needed and broadly demanded transport system for the city. Urban road transport is presently undergoing rapid changes globally. Such changes include the usage of electronic vehicles, smart technologies for cars, and the usage of information and communication technologies to drive vehicles and traffic management. Identifying priorities from existing challenges and integrating them with contemporary changes happening in the road transport sector, will be a strong foundation in the pursuit of an efficient and effective transport system. However, identifying the challenges that are most demanding, technological transitions that the Nigerian society and system require and can manage, and the resources available, are issues that are important to explore further and should be prioritised. These issues can be investigated through collaboration, consultation, engagement, participation, and the inclusion of stakeholders. These stakeholders can be direct or indirect, local, national, or international, government or private bodies, transport operators and unions, and the academia. Considering the findings of this study, commuters appear the most important group to be involved in a comprehensive, inclusive, participatory, stakeholder-led decision-making.

To achieve the objectives stated in Section 1.5 of this thesis, the study aimed to address the following questions:
a. Are the people of Abuja acquainted with government plans and strategies for road transportation in the metropolis?
b. Did they participate in the planning and implementation of the present urban road policy and in the future ones?
c. Can the long-term urban road policy be sustainable socially and environmentally, looking at the factors that can influence or hinder the advantages the roads provide?

**Are the people of Abuja acquainted with government plans and strategies for road transportation in the metropolis?**

Most citizens of Abuja are not effectively acquainted with government plans for road transportation in the metropolis. Knowledge of government plans and policies by the citizens is paramount, especially for road transport, which is the only mode available for the people.

However, the government are not sensitising citizens on policy issues, the citizens do not know what they are entitled to as commuters, and they are subject to the decisions of an unregulated public transport system that does not take into consideration the commuters' needs. The sensitisation, engagement, and consultation on what is needed, how to make the people's needs possible and an understanding of why not all their needs can be addressed is lacking. There is inadequate engagement amongst the city's citizens. Poverty plays a major role in citizens understanding what the government plans for them because they are faced with survival problems rather than plans and how those plans affect them. Inadequate funding for the government's organisations on sensitisation and engagement also hinders these consultations and discussions.

Considering the process undertaken by Transport for Greater Manchester (UK) (2011), this is a concept that the Abuja city authorities might adapt and adopt to seek the views of the people regarding road transportation (and other modes in future). As Stanford and Guiver (2016) proposed, every policy should be consulted with concerned stakeholders, and necessary information (from planning to closure) should be provided. Broadly speaking, most governments are uneasy when letting citizens lead the way in governance  (Head, 2007). Nevertheless, engaging citizens, understanding their needs, and simplifying government direction is a requirement for a sustainable society. Furthermore, the provision of transport should be seen as a form of social justice (Titheridge *et al.*, 2014) by the authorities so that it can address issues on poverty and integrate other societal needs together with transport provision.

**Did the citizens participate in the planning and implementation of the present urban road policy and in the future ones?**

The planning and development of the Abuja Masterplan took place when Nigeria was under military rule, and the road policy was aligned with the city's master plan. Therefore, citizen participation was minimal. Now that the country is practicing democracy, it is imperative for citizens to participate in the subsequent planning and implementation of the road policy. Though there are elements of public participation, this thesis argues that they are inadequate. The study found that citizens wish to participate in government decisions regarding road transport in the city but the avenue for participation is unsatisfactory. Due to the inadequate engagement of the people to understand their communal problems, there is less participation in the development and implementation of these policies. Professional and organisational representations are available in these policy developments but representation or feedback at neighbourhood and district level is inadequate.

However, participation is not only about listening to citizens (Gaventa and Valderrama, 1999) but is also about sensitising them, reminding city authorities of their responsibilities to citizens and their responsibility of accountability. The inclusion of citizens, listening to their views, and enabling them to lead on policies that affect their community is practiced in other parts of the world (Parthasarathy and Rao, 2017) and it would be beneficial for citizens of Abuja to mirror this system. That is, citizens should interface with policy makers and implementers when developing and implementing policies to understand local situations and contexts. Integrating other aspects of the city's infrastructure (schools, hospitals, etc.) and establishing a bottom-up approach to governance and decision-making will help in the city of Abuja (Swapan, 2016). Hence, schools, hospitals, and markets should be made accessible through the city transport system thereby making these basic socio-economic activities of the citizens reachable to the people. Through this integrated infrastructure provision, the usage of private cars will be reduced if the public transport system is provided to serve the high priority areas (schools, businesses, hospitals) of the city thereby reducing traffic congestion, unruly drivers, carbon emissions, encouraging non-motorised transport, and other intended and unintended ripple effects. Therefore, by incorporating the civil society, the government can involve and encourage people to participate in the urban transport provision process by making participation understandable, less intimidating, welcoming, and the policy to reflect commuter needs. Yet, citizen participants should be made aware that policy implementation is based on priorities at particular times and the availability of funds.

**Can the long-term urban road policy be socially and environmentally sustainable, considering the factors that can influence or hinder the advantages the roads provide?**

Considering the incomplete data provided by the eight organisations who participated in this research, and the unapproved transport policy, it can be stated that the long-term plan is not a priority in government. The inadequate data provided by these organisations indicates that authorities believe in the top-down approach of governance whereby the technocrats believe that they know what is best for the people rather than considering what the people need for themselves (Booth and Richardson, 2001). However, a top-down approach to governance, whereby the needs of citizens in the present or in the future, and transport system planning, involves little to no citizen participation, is contrary to the principles of social sustainability. Planning decisions for the present and future should be inclusive and broadly socially acceptable to all concerned, with the full involvement of all institutions, to ensure integrated development that encompasses other sectors of the city.

Hence, the qualitative and quantitative data needed for planning should be gathered in preparation for this endeavour. Funding for these data gathering processes should be made available, and data gathering should be a continuous process whether daily, weekly, monthly, or annually across the transport system. This empirical data gathering should be a statutory duty for the transport authorities. All tiers of government should key into this empirical data system for harmonised planning and understanding of the operational capacity of the system at any given time.

The researcher of this study has lived in Abuja for over 25 years. He has witnessed the evolution of the transport system and experienced the system as a commuter (in buses, taxis, and rickshaws), as a driver of a private vehicle, and as a pedestrian. Therefore, some of the commuters' responses are like the experiences of this researcher and the responses of the government organisations can be contrary to what the researcher personally knows and experienced.

On reflection, this research can be undertaken online. That is, the data gathering process can be done through data gathering softwares (e.g., *Survey Monkey* or *Qualtrics*). This will ease the necessity to print out the questionnaires, the person hours used to interact with research participants, and data reporting and analysis. However, this is not used because to coordinate the data gathering process that involves moving from one office to another and interacting with commuters on the move is not an easy task. Hence, necessitated the physical meetings and follow-ups. While this research interacted with commuters at major transport hubs across the city, it will be advantageous to understand travellers at the satellite towns and across the territorial boundaries of the FCT. This will provide the authorities transport data for the FCT to aid them in making evidence-based decisions.

As mentioned earlier, the researcher has had first-hand experience of the city's transport system. Thus, it will broaden the knowledge of the researcher if the research can be conducted in a location where there is no prior familiarity. Experiencing research in an unfamiliar location or society provides more broader understanding of different societies and their transport systems. It also gives an insight on challenges that might be faced in conducting research in unfamiliar locations. In thinking about future research, existing frameworks like SDG indicators and performance indicators used in other societies like Abuja will be employed to provide the data needed for informed decisions to stakeholders. This is because the indicators are already tested and trusted by previous research, it is left for the subsequent research to adopt or adapt it latest research circumstances.

Finally, the city authorities (and in extension Nigerian authorities) are not providing the political will needed for an efficient and effective urban transport system in Abuja or any other Nigerian towns and cities. The will to gather data and improve the transport system from these data is lacking. Most of the skills and knowhow to give direction for these systems to be in place are readily available in the country. It is understandable that funding is inadequate, however, it is expected that the system can be in place in phases in as much as the citizens are seeing the infrastructure are provided and their views listened and incorporated. The country has been independent for over 60 years, census have been conducted to understand the population growth, urban areas are growing in physical size and in population, yet the transport system is not developed to cater for movement of the people. But Nigeria wants to achieve the SDGs by 2030.

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# Appendix

## 1: Questionnaire for Commuters



**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for Individuals**

**Questionnaire Number……..**

Personal Details

1. What is your gender?   Male [      ]      Female [      ]
2. What is your age?
   18 – 27 [      ]   28 – 37 [      ]   38 – 47 [      ]   48 – 57 [      ]   58 – 67 [      ]   68 & above [      ]
3. What is your level of education

   Primary School Certificate [      ]      Secondary School Certificate [      ]      Bachelor Degree [      ]

   Master's Degree [      ]      Doctorate Degree [      ]      Islamic Education [      ]      No Education [      ]
4. What is your occupation?

   Civil Servant [      ]      Private Employee [      ]      Self Employed [      ]      Unemployed [      ]

   Student [      ]      Others [      ]

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

5. Do you think there is a strong civic engagement among the people of Abuja?

   Yes [      ]      No [      ]      Don't know [      ]
6. If yes to above, can you highlight the civic engagements you have participated in please? **(Write your comments in the box below):**

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7. If no to Question 5, why do you think there is no civic engagement in Abuja city**? (Write your comments in the box below):**

8. When was the last election held in Abuja?

2014 ☐  2015 ☐  2016 ☐  2017 ☐

9. Was it a National or a Local Government election?

National elections ☐  Local Government elections ☐

10. Did you vote in the above stated election?

Yes ☐  No ☐

11. If no to above, can you tell us the reason why you did not vote? **(Please write your comments in the box below):**

12. Have you ever heard from the radio, television or any other medium on the Federal Capital Territory Administration calling on the people for consultation on urban road transport or any other policy issue?

Yes ☐  No ☐

13. Have you ever formally requested for a policy document from an agency of the Federal Capital Territory Administration?

Yes ☐  No ☐

14. If yes to above, were you successful or not?

Successful ☐  Not successful ☐

15. If requesting for the Federal Capital Territory Transport Policy, which government agency are you going to write to and addressed to whom? **(Write your comments in the box below):**

16. Have you ever tried to access the website of the Federal Capital Territory Administration?

Yes ☐    No ☐

17. If yes to above, was it successful or not?

Successful ☐    Not successful ☐

18. Do you think the Federal Capital Territory Administration have been informing the people of their developmental plans?

Yes ☐    No ☐    Don't know ☐

19. If yes to above, can you mention any policy of the Federal Capital Territory Administration that was recently announced for implementation? **(Write your comments in the box below):**

20. How did you get to know about the policy you stated above?

Radio ☐    Television ☐    Newspaper ☐    Flyers ☐    Internet ☐    Others ☐

21. Do you think the Federal Capital Territory Administration needs to do more in involving the citizens on policy development and implementation?

Yes ☐    No ☐

22. What means and strategies can you recommend to the Federal Capital Territory Administration and her agencies on how to engage the people? **(Write your comments in the box below):**

23. Do you feel you know and understand government's policies at Local, State, and National levels?

Yes, I know and understand [　　] No, I don't know nor understand [　　]

24. Do you know your legislators at Local, State, and National level?

Yes, I do [　　] No, I don't [　　]

25. Do you know the Constituency Offices of your representatives at all levels of government?

Yes, I do [　　] No, I don't [　　]

26. Have you ever attended any consultative meeting or gathering organised by any of your legislators at all levels of government?

Yes, I have [　　] No, I haven't [　　]

27. If no to above, can you tell us why you have not attended the meeting or gathering? **(Please write your comments in the box below):**

28. Is there any community group or association that you are a member of?

Yes, there is [　　] No, there isn't [　　]

29. If yes to above, have the group/association ever approached the Federal Capital Territory Administration on problems concerning road users and usage in Abuja city or have the group/association ever approached any Department or Agency of the Federal Capital Territory Administration on any problem that affects your community/neighbourhood? **(Please write your comments below):**

30. Have you ever attended any public hearing at the National Assembly?

Yes, I have ☐  No, I haven't ☐

31. If yes to above, was that the first time, and was the experience enlightening, understanding or confusing? **(Please write in the box below):**

32. If no to Question 30, can you tell us the reason(s) why you have not attended any public hearing at the National Assembly? **(Please write in the box below):**

Research Objective II: Identifying the long-term plans of road transportation in Abuja

33. What type of vehicle do you have?

   Car ☐   Motorcycle/Tricycle ☐   Bicycle ☐   None ☐

34. How often do you use this vehicle?

   Daily ☐   3-5 times a week ☐   Weekly ☐   Monthly ☐   Not applicable ☐

35. Do you use public transport?

   Yes, I do ☐   No, I don't ☐

36. If yes to above, which do you prefer?

   Taxi ☐   Bus ☐   Motorcycle/Tricycle ☐

37. If yes to Question 35, how often do you use public transport?

   Daily ☐   3-5 times a week ☐   Weekly ☐   Monthly ☐

38. If no to Question 35, why don't you use public transport? **(Please write in the box below):**

39. With your experience using public transport, would you recommend any of the public transportation to anybody for usage?

   Yes ☐   No ☐   Not applicable ☐

40. Can you put the following actions into hierarchical order to show the priorities you think the government should focus on in Abuja **(1 is highest priority & 5 is lowest priority):**

| Actions | Hierarchical Order |
|---|---|
| Improving existing roads (filling potholes, road markings, signages, etc.) | |
| Constructing new roads | |
| Improving existing public transport services (buses, tricycles, etc.) | |
| Building new public transport infrastructure | |

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| Improving provision for walking and cycling | |
|---|---|

41. Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?

Yes ☐    No ☐    Don't know ☐

Research Objective III: Measuring the social sustainability of road transportation

42. How important are the following factors when considering your mode of travel? **(Please mark the relevant box)**

| | Very important | Important | Moderately important | Not Important |
|---|---|---|---|---|
| Convenience | | | | |
| Public transport options | | | | |
| Distance from home to public transport | | | | |
| Cost | | | | |
| Length of journey | | | | |
| Weather | | | | |
| Health benefits | | | | |
| Reliability | | | | |
| Safety | | | | |
| Frequency of Service | | | | |

43. What barriers prevent you from making more journeys without the car? **(Tick all that apply)**

- Convenience of car ☐
- Lack of information on travel options ☐
- Distance from bus stop to final destination ☐
- Cost ☐
- Length of journey ☐
- Weather ☐
- Safety ☐
- Other ☐
- Not applicable ☐

44. Rate how effective you think the following initiatives would be to encourage less use of the private car **(Please mark the relevant box)**

| | Very Effective | Effective | Neither Effective nor Ineffective | Ineffective | Very Ineffective | Not Applicable |
|---|---|---|---|---|---|---|
| Public transport routes (new routes/publicly advertised existing routes) | | | | | | |
| Cheaper fares | | | | | | |
| Fewer parking spaces | | | | | | |
| Introduction of parking fees | | | | | | |
| Introduction of bicycle parking | | | | | | |
| Car sharing scheme | | | | | | |
| Bicycle lanes | | | | | | |
| Reliable public transport service | | | | | | |
| Better side walk | | | | | | |

45. Can you please mark the relevant box that you feel is applicable to the services provided by the public transportation:

| Evaluation | Commuter Response | | |
|---|---|---|---|
| | Yes | No | Not Applicable |
| Is the public transport reliable? | | | |
| Is it efficient? | | | |
| Is it effective? | | | |

| | | | |
|---|---|---|---|
| Is it safe? | | | |
| Is it comfortable? | | | |
| Is it always available? | | | |
| Is it affordable? | | | |
| Is it accessible? | | | |

46. Please tick the relevant box in the below table:

| Indicators | Quantity | | | | Not Applicable |
|---|---|---|---|---|---|
| Waiting Time for bus/taxi | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | |
| Average travel time to work | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | |
| Average travel time to market | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | |
| Average travel time to school | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | |
| Percentage of household expenditures devoted to transport | 1% - 5% | 6% - 10% | 11% - 15% | Over 15% | |
| Number of community engagements you have attended | 0 - 2 | 3 - 5 | 6 - 8 | More than 8 | |
| Number of Government to Citizen engagements you have attended | 0 - 2 | 3 - 5 | 6 - 8 | More than 8 | |

47. Presently, are you satisfied with public transport provided in Abuja?

Yes ☐    No ☐    Not Applicable ☐

48. How did you get to know the bus/taxi routes in the city for your commute?

Radio ☐    Television ☐    Public Notice Boards ☐    Newspapers ☐

The Transport Secretariat ☐    Transport Unions ☐    Friends & Family ☐

Word of Mouth ☐    Other ☐

49. Have there been times in the past 12 months when you did not enough money for transportation that you or your family needed?

Yes ☐    No ☐

50. Which of the following will affect your decision to use a bicycle for your daily commute? **(Please tick all that apply)**

Weather ☐    Distance ☐    Road conditions/ lack of bicycle paths ☐

Lack of bicycle ☐    Feel that cycling is unsafe ☐    Worried about security of bicycle ☐

Never really thought about it ☐    I do not like bicycles ☐

51. Do you think it is safe for pedestrians and cyclists on the roads in Abuja city?

Yes ☐    No ☐

52. If no to above, why do you think it is not safe? **(Write your comments in the box below):**

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53. Do you feel affected by the noise level from vehicles in your neighbourhood?

    Yes [    ]    No [    ]

54. If yes to above, do you know what to do about the noise problem **(Please write your comments in the below box):**

55. If you know what to do about it as stated above, can you tell us what you have done to solve the problem so far?
    **(Please write your comments in the below box):**

56. How do you feel about the roads in the city, are they of good quality for vehicles, is it conducive for pedestrians and cyclist, and are the drivers abiding with the Highway Code? **(Please write your comments in the box below):**

57. Which traffic problems concerns you the most? **(Please mark the relevant box)**

| | Very serious | Serious | Not very serious | No problem | Don't know |
|---|---|---|---|---|---|
| Congestion on township roads | | | | | |
| Exhaust fumes in the city | | | | | |
| Traffic noise in the city | | | | | |
| Reckless & unruly drivers and motorcyclists | | | | | |
| Insufficient traffic lights & Traffic Wardens | | | | | |

58. What do you feel about the below statements? **(Tick the box you feel comfortable with)**

| Statements | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| I can influence people and institutions that have authority in relation to the city | | | | | | |
| Decisions made in relation to the city are generally made in the interests of the whole Territory | | | | | | |
| Outside experts can be trusted when dealing with local issues | | | | | | |
| Governments make decisions and laws that are good for the way I live | | | | | | |
| Outsiders are and will continue to be comfortable coming to live in the city | | | | | | |
| People can learn to live with people who are culturally different from themselves | | | | | | |
| Experts will always find a way to solve societal problems | | | | | | |
| Government always take decisions based on expert's opinions | | | | | | |
| Across the city there is good access to places of nature | | | | | | |
| I am concerned that global climate change will affect the city | | | | | | |
| Keeping our economy sustainable requires that a wide range of consumer needs and wants be fulfilled. | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| I feel comfortable meeting and talking with people who are different from me. | | | | | | |
| Most people can be trusted most of the time. | | | | | | |
| Places of learning, health, recreation and faith are distributed across the city in a way that ensures good access by all | | | | | | |

59. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to you. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

## 2: Questionnaire for Government Organisations

## 2.1: Federal Ministry of Transportation

**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for the Federal Ministry of Transportation**

1. Please tick the box which best describes you or your organisation:

   Federal Government Ministry ☐          Federal Government Agency ☐

   Federal Capital Territory Agency ☐      Labour Union ☐

2. Would you be happy for us to contact you again in relation to this questionnaire?

   Yes ☐          No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3. Have there been any time when the Federal Ministry of Transport embarked on a survey to know citizens satisfaction on transportation in Nigeria?

   Yes ☐    No ☐

4. If yes, when was this survey undertaken? In addition, if no, is there any plan for doing this kind of survey in the near future? **(Please write your comments in the box below):**

5. To what extent do you agree or disagree with each of the following general statements about citizen engagement?
**(Please mark the relevant box)**

| | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | | | | | | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | | | | | | |
| Most citizens we hear from are more interested in complaining than in finding solutions | | | | | | |
| Citizens wants access to information about the government's finances and operations | | | | | | |
| Citizens want access to information about the government's performance | | | | | | |
| Most citizens are not willing to take the time to become well-informed on issues facing transportation in Nigeria | | | | | | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | | | |
| Our meetings run too long because too many citizens want to speak | | | | | | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | | | | | | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the country overall | | | | | | |

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| | | | | | |
|---|---|---|---|---|---|
| Important decisions facing transportation have already been made prior to most public meetings | | | | | |
| The decision-making is transparent to our citizens | | | | | |
| The Ministry's engagement efforts mostly attract the same people over and over | | | | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | |

6.  Citizens are often asked on opinion surveys how much trust they have in their government. Now we would like to ask you about trust you have in the citizens. In terms of their engagement in your policymaking and/or operations, how much of the time do you think you can trust the citizens to be responsible participants?

Nearly always ☐   Most of the time ☐   Some of the time ☐

Seldom ☐   Almost never ☐   Don't know ☐

7.  In general, what do you think the people believe is the proper role for citizen engagement in governance? **(Please mark the relevant box)**

| | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen engagement is to…… | | | | | |
| You personally believe the role of citizen engagement is to…… | | | | | |

8.  Overall, how satisfied are you regarding citizen engagement in your Ministry's policymaking and/or operations today?

Very Satisfied ☐   Somewhat Satisfied ☐   Neither Satisfied nor Dissatisfied ☐

Somewhat Dissatisfied ☐   Very Dissatisfied ☐   Don't Know ☐

9.  Please indicate which of the following approaches – if any – your Ministry uses to engage its citizens in the government's policymaking and/or operations **(check all that apply).**

| | Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|---|
| Notices in newspapers/media | | | | | | | |
| Hard copy notices in Ministry's Notice Boards | | | | | | | |
| Federal Government or Ministry's website | | | | | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | | | | | | | |
| Conducting periodical nationwide public hearings on policies in different parts of the country | | | | | | | |
| Citizen surveys conducted by the Ministry | | | | | | | |
| Social media accounts for the Ministry (e.g., Facebook or Twitter) | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Internet discussion forums or online input/feedback forms | | | | | | |
| Informal one-on-one discussions with citizens | | | | | | |
| Focus groups conducted by the Ministry | | | | | | |
| Citizen participation on ad hoc task forces or planning teams or policy development | | | | | | |
| Citizen participation on formal government Boards or Commissions | | | | | | |

Research Objective II: Identifying the long-term plans of road transportation in Nigeria

10. Have the Draft National Transport Policy (2010) being approved by government?

   Yes ☐    No ☐

11. If yes to the above question, are there challenges or success stories in the implementation of the policy so far? **(Please write your comments in the box below):**

12. If yes to Question 10, have there being a review of the policy since its approval?

   Yes ☐    No ☐

13. Can this policy be found on the Federal Ministry of Transportation website?

   Yes ☐    No ☐

14. Based on the objective of the Draft National Transport Policy "to promote the use of public transport over private cars", have there being progress made in terms of encouraging Nigerians to use public transport? Is there any provision for public transport (buses and trains) all over the nation?

15. What were the strategies used to sensitise Nigerians on the need to use public transport and not their private cars?

16. Is there any city or town in Nigeria that have an integrated multi modal transport system? That is, a passenger having to change modes of transport from air to rail and train or bus within walking distances of each other.

Yes ☐     No ☐

**For further comments, please write below:**

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17.  What are the guiding local and international policies that guided the development of the National Transport Policy? That is, is it in line with an overall national developmental plan or it is a stand-alone document? **(Please write comments in the below box)**

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18.  Do you have a statistics of commuters and freight of all modes of transport in the country?

Yes ☐    No ☐

19.  How often do you update the data for commuters/passengers and freight on the different modes of transport in the country?

Daily ☐    Weekly ☐    Monthly ☐    Quarterly ☐    Biannually ☐    Annually ☐

20.  Apart from the National Transport Policy, is there any transport plan for Nigeria?

Yes ☐    No ☐

21.  If no to above, is there any proposal for having a national transportation plan?

Yes ☐    No ☐

22.  Is there any platform(s) whereby all State of Nigeria and other agencies involved in the transportation sector interact with the Federal Ministry of Transportation with regards to transport in Nigeria?

Yes ☐    No ☐

23.  If yes to Question 22 above, can you highlight the platform(s) below please?

24. If no to Question 22 above, can you state the challenges for setting up this platform for interaction? **(Please write in the below box):**

25. In developing the National Transport Policy, can you highlight the stakeholders involved and consulted? In addition, how long did consultations take place from inception to approval? Are the public also included in the development of the policy? **(Please write your comments in the below box):**

26. Are there strategies initiated by the Federal Ministry of Transport to bring together transport specialists to review and proffer solutions to transport issues and challenges in the country?

Yes ☐    No ☐

27. If yes to above, can you highlight the platforms and mode of interactions please? **(Please write your comments in the below box):**



28. Is there any regulatory body guiding commercial road transport in Nigeria?

Yes ☐    No ☐

29. If no to above, is there a proposal for a regulatory body for commercial road transport in the near future?

Yes ☐    No ☐

30. If yes to Question 28, what is the name of the regulatory body?



31. How many States of the Federation have a transport policy or plan?

0 – 5 ☐   6 – 10 ☐   11 – 15 ☐   More than 15 States

32. In addition, those ones that have this policy/plan, is it in line with the National Transport Policy?

Yes ☐   No ☐

33. Was there any input from the Federal Ministry of Transportation to the/those State(s) during the development of their Transport Policy?

Yes ☐   No ☐

34. Does the Federal Ministry of Transportation and the 36 States Ministries of Transport/Works have an agreed strategy for environmental monitoring in the transport sector of Nigeria?

Yes ☐   No ☐

Research Objective III: Measuring the social sustainability of road transportation

35. Introduction of safety courses into the curricula of primary and secondary schools is one of the policy strategies of the Draft National Transport Policy; have this strategy successfully being implemented?

Yes ☐   No ☐

36. If no to above, what are the challenges in its implementation? **(Please write your comments in the box below):**

37. Is there any legislation or policy with regards to cars and buses with particular noise levels or carbon emissions should not be usable in Nigeria?

Yes ☐   No ☐

38. If yes to above, can you name the law and when did it come into effect?

39.  Please fill in the data for the below table:

| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | **2015** | **2016** | **2017** | |
| 1 | Number of private cars in Nigeria | | | | |
| 2 | Number of private buses in Nigeria | | | | |
| 3 | Number of taxis in Nigeria | | | | |
| 4 | Number of commercial buses in Nigeria | | | | |
| 5 | Number of tri-cycles in Nigeria | | | | |
| 6 | Number of buses provided for public transportation by the Federal Government | | | | |
| 7 | Number of private sector collaboration undertaken by the Federal Government to provide public transportation | | | | |
| 8 | Number of buses that are conducive for the disabled | | | | |
| 9 | Number of commuters using buses nationwide per annum | | | | |
| 10 | Number of stakeholder engagements held with other government organisations | | | | |
| 11 | Number of stakeholder engagements held with the public and other non-governmental organisations | | | | |
| 12 | Number of bills presented to the National Assembly | | | | |
| 13 | Number of bills passed into law by the National Assembly | | | | |
| 14 | Number of bills assented to by the President | | | | |

40.  Finally, in the box below, please state any other issue that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Ministry. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

## 2.2: Federal Capital Territory Administration Transport Secretariat

University of Central Lancashire
Preston, Lancashire, UK
PR1 2HE
School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for the Federal Capital Territory Transport Secretariat**

1.   Please tick the box which best describes you or your organisation:

Federal Government Ministry ☐          Federal Government Agency ☐

Federal Capital Territory Agency ☐     Labour Union ☐

2.   Would you be happy for us to contact you again in relation to this questionnaire?

Yes ☐                No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3.   Have there been any time when the Federal Capital Territory Transport Secretariat embarked on a survey to know citizens satisfaction on transportation in the city?

Yes ☐     No ☐

4.   If yes to above, when was this survey undertaken? In addition, if no, is there any plan for doing this kind of survey in the near future? **(Please write your comments in the box below):**

5. To what extent do you agree or disagree with each of the following general statements about citizen engagement? **(Please mark the relevant box)**

| | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | | | | | | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | | | | | | |
| Most citizens we hear from are more interested in complaining than in finding solutions | | | | | | |
| Citizens wants access to information about the government's finances and operations | | | | | | |
| Citizens want access to information about the government's performance | | | | | | |
| Most citizens are not willing to take the time to become well-informed on issues facing the city | | | | | | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | | | |
| The meetings run too long because too many citizens want to speak | | | | | | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | | | | | | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the city overall | | | | | | |

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| Important decisions facing transportation typically have already been made prior to most public meetings | | | | | | |
| The decision-making is transparent to our citizens | | | | | | |
| The Transport Secretariat's engagement efforts mostly attract the same people over and over | | | | | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | | |

6. Citizens are often asked on opinion surveys how much trust they have in their government. Now we would like to ask you about trust you have in the citizens. In terms of their engagement in your policymaking and/or operations, how much of the time do you think you can trust the citizens in Abuja to be responsible participants?

Nearly always ☐    Most of the time ☐    Some of the time ☐

Seldom ☐    Almost never ☐    Don't know ☐

7. In general, what do you think the people believe is the proper role for citizen engagement in local governance?

| | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen engagement is to…… | | | | | |
| You personally believe the role of citizen engagement is to…… | | | | | |

8. Overall, how satisfied are you regarding citizen engagement in your Agency's policymaking and/or operations today?

Very Satisfied ☐    Somewhat Satisfied ☐    Neither Satisfied nor Dissatisfied ☐

Somewhat Dissatisfied ☐    Very Dissatisfied ☐    Don't Know ☐

9. Please indicate which of the following approaches – if any – your Agency uses to engage the people in government's policymaking and/or operations **(check all that apply).**

| | Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|---|
| Notices in newspapers/media | | | | | | | |
| Hard copy notices in Agency's Notice Boards | | | | | | | |
| Federal Government, Federal Capital Territory (FCT) or Agency's website | | | | | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | | | | | | | |
| Conducting periodical public hearings on policies in different parts of the FCT | | | | | | | |
| Citizen surveys conducted by the Agency | | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Social media accounts for the Agency (e.g., Facebook or Twitter) | | | | | | |
| Internet discussion forums or online input/feedback forms | | | | | | |
| Informal one-on-one discussions with citizens | | | | | | |
| Focus groups conducted by the Agency | | | | | | |
| Citizen participation on ad hoc task forces or planning teams or policy development | | | | | | |
| Citizen participation on formal government Boards or Commissions | | | | | | |

10. Is there a platform whereby the Transport Secretariat interacts with the public and other non-governmental stakeholders?

Yes ☐    No ☐

11. If yes to above, can you highlight this platform below please. In addition, the periods of this interaction is it monthly, quarterly, biannually, yearly, or when the need arises. **(Please write your comments below):**

<br><br><br><br><br><br><br><br><br><br><br><br><br><br>

Research Objective II: Identifying the long-term plans of road transportation in Abuja

12. Does the Federal Capital Territory Authority have a Transport Policy?

Yes ☐    No ☐

13. If yes to above, when was it approved for implementation by the Federal Government?

<br><br><br><br>

14. If yes to Question 12 above, are there challenges or success stories in the implementation of the policy so far? **(Please write your comments in the box below):**

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15.  If yes to Question 12 above, does the policy have an implementation plan?

Yes [        ]      No [        ]

16.  In the urban roads designed for future developments and the ones presently existing, are there proposals for an integrated road network that contains cars, buses, and trams?

Yes [        ]      No [        ]

17.  If no to above, as you are mandated to plan, design, provide, and maintain the roads do you think the city of Abuja needs to have a road network that can accommodate cars, buses, and trams? **(Please write your comments in the box below):**

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18.  Is there any designated bicycle path in any of the roads in Abuja?

Yes [        ]      No [        ]

19.  What are the guiding local and international policies that guided the development of the Transport Policy? That is, is it in line with an overall Federal Capital Territory (FCT) master plan, or aligned with the National Transport Policy, or is it a stand-alone document? **(Please write comments in the below box):**

20. Does the Transport Secretariat have a website?

Yes [ ]　　No [ ]

21. If yes to above, can this policy be found on the website?

Yes [ ]　　No [ ]

22. Is there any strategies or initiatives by the Federal Capital Territory Authority to encourage people to use public transport instead of private transportation?

Yes [ ]　　No [ ]

23. If yes Question 22, can you highlight those initiatives please? **(Please write your comments in the box below):**

24. Do you have a statistics of cars, buses, tricycles, commuters and freight that is in the Abuja city?

Yes [ ]　　No [ ]

25. Do you have a knowledge of the total number of commercial bus and taxi drivers operating in the city?

Yes [ ]　　No [ ]

26. How often do you update the data for commuters/passengers and freight on the different modes of transport in the FCT?

Daily [ ]　Weekly [ ]　Monthly [ ]　Quarterly [ ]　Biannually [ ]　Annually [ ]

27. Do you have a platform whereby you meet and interact with these operators periodically or do you usually have meetings when the need arises? **(Please write your comments below):**

28. Does the 36 States of Nigeria and the FCT have a body where they interact with the Federal Ministry of Transportation on transport matters for the country?

Yes ☐   No ☐

29. If yes to above, what is the name of the body? In addition, do you feel the interaction is of respect and mutual understanding between the two tiers of government? **(Please you can comment below):**

30. In developing the FCT Transport Policy, can you highlight the stakeholders involved and consulted? In addition, how long did consultations take place from inception to approval? Also, were the public consulted in the development of the policy? **(Please write your comments in the below box):**

31. Is there any platform whereby the Transport Secretariat meets and interact with other government stakeholders involved in the transportation sector in the FCT? That is, other Ministries and Agencies and the 6 Local Government Areas of the State.

Yes ☐   No ☐

32. If yes to above, what is the name of that platform and who are the government agencies included in it? In addition, how often do you meet? **(Please write your comments in the below box):**

33. Are there strategies initiated by the Transport Secretariat to bring together transport specialists to review and proffer solutions to transport issues and challenges in Abuja city?

Yes ☐    No ☐

34. If yes to above, can you highlight the mode of interactions please? **(Please write your comments in the below box):**

35. Is there any regulatory body guiding commercial road transport in the FCT?

Yes ☐    No ☐

36. If no to above, is there any plan or proposal to set up a regulatory body for commercial road transport in the FCT?

Yes ☐    No ☐

37. If yes to Question 33, what is the name of the regulatory body?

38. Is there a dedicated bus routes approved by government in Abuja?

Yes ☐    No ☐

39. If yes to above, what are the criteria used to plan the routes? In addition, do the public know these bus routes? **(Please write your comments below):**

40. If no to Question 38, is there any plan or proposal to provide designated bus routes all over the city?

Yes ☐    No ☐

41. Does the Transport Secretariat and the six Local Government Areas of the Federal Capital Territory (FCT) have an agreed strategy for environmental monitoring in the transport sector of the Territory?

Yes ☐    No ☐

Research Objective III: Measuring the social sustainability of road transportation in Abuja

42. Please fill in the data for the below table:

| S/No | Indicator | Number | | | Source of Data |
|------|-----------|--------|------|------|----------------|
| | | 2015 | 2016 | 2017 | |
| 1 | Number of private cars in Abuja | | | | |
| 2 | Number of private buses in Abuja | | | | |
| 3 | Number of taxis in Abuja | | | | |
| 4 | Number of commercial buses in Abuja | | | | |
| 5 | Number of commercial tri-cycles in Abuja | | | | |
| 6 | Number of buses provided for public transportation by the Federal Capital Territory Administration (FCTA) | | | | |
| 7 | Number of private sector collaboration undertaken by the Federal Capital Territory Administration to provide public transportation | | | | |
| 8 | Number of buses that are conducive for the disabled | | | | |
| 9 | Number of commuters using buses in the metropolis | | | | |
| 10 | Number of commuters into the city from the Satellite towns | | | | |
| 11 | Average age of cars in Abuja | | | | |
| 12 | Average age of buses in Abuja | | | | |
| 13 | Average age of tricycles in Abuja | | | | |
| 14 | Total Kilometres of road covered by designated bus routes in Abuja | | | | |
| 15 | Number of designated bus routes in the city | | | | |
| 16 | Number of bus stops/lay-bys constructed | | | | |
| 17 | Total kilometres of exclusive bus lanes in the city | | | | |
| 18 | Total Kilometres of road in Abuja designated for multimodal usage | | | | |
| 19 | Total kilometres of roads that have pedestrian paths | | | | |

| 20 | Total kilometres of road with bicycle lanes | | | | |
|----|---------------------------------------------|--|--|--|--|
| 21 | Number of pedestrian bridges in the city | | | | |
| 22 | Number of Parking Lots provided for Park and Ride in the city | | | | |
| 23 | Number motorcycle/bicycle bays constructed around the city | | | | |
| 24 | Number of jobs created in the urban transport sector of Abuja | | | | |
| 25 | Number of stakeholder engagements held with other government organisations | | | | |
| 26 | Number of stakeholder engagements held with the public and other non-governmental organisations | | | | |
| 27 | Number of bills presented to the National Assembly on FCT's transportation related matters | | | | |
| 28 | Number of bills passed into law by the National Assembly on FCT's transportation related matters | | | | |
| 29 | Number of bills assented to by the President on FCT's transportation related matters | | | | |

43. The bus stops in the city, do all of them have shelter for protecting commuters against the weather elements?

Yes ☐    No ☐

44. Do the bus stops have the times the next bus will be coming pasted in the shelter?

Yes ☐    No ☐

45. Is there penalties for road users who damage road furniture (traffic lights, streetlights, digging of roads) in the city?

Yes ☐    No ☐

46. What is the average number of penalised road users per month?

0 – 5 ☐    6 – 10 ☐    11 – 15 ☐    16 – 20 ☐    20 & aove ☐

47. What means do you use to announce bus routes in the city?

Radio ☐    Television ☐    Public Notice Boards ☐    Newspapers ☐

The Transport Secretariat ☐    The Transport Unions ☐

48. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Transport Secretariat. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

## 2.3: Federal Capital Development Authority Department of Urban and Regional Planning

University of Central Lancashire
Preston, Lancashire, UK
PR1 2HE
School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for the Federal Capital Development Authority Department of Urban and Regional Planning**

1.  Please tick the box which best describes you or your organisation:

    Federal Government Ministry ☐          Federal Government Agency ☐

    Federal Capital Territory Agency ☐          Labour Union ☐

2.  Would you be happy for us to contact you again in relation to this questionnaire?

    Yes ☐          No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3.  Is there a platform whereby the Federal Capital Territory Department of Urban and Regional Planning interacts with the public and other non-governmental stakeholders?

    Yes ☐     No ☐

4.  To what extent do you agree or disagree with each of the following general statements about citizen engagement?
    **(Please mark the relevant box)**

| | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but | | | | | | |

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| | | | | | |
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| our citizens rarely take advantage of them | | | | | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | | | | | |
| Most citizens we hear from are more interested in complaining than in finding solutions | | | | | |
| Citizens wants access to information about the government's finances and operations | | | | | |
| Citizens want access to information about the government's performance | | | | | |
| Most citizens are not willing to take the time to become well-informed on issues facing the city | | | | | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | | |
| The meetings run too long because too many citizens want to speak | | | | | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | | | | | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the city overall | | | | | |
| Important decisions facing roads typically have already been made prior to most public meetings | | | | | |
| The decision-making is transparent to our citizens | | | | | |
| The Department's engagement efforts mostly attract the same people over and over | | | | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | |

5. Citizens are often asked on opinion surveys how much trust they have in their government. Now we would like to ask you about trust you have in the citizens. In terms of their engagement in your policymaking and/or operations, how much of the time do you think you can trust the citizens in Abuja to be responsible participants?

Nearly always ☐    Most of the time ☐    Some of the time ☐

Seldom ☐    Almost never ☐    Don't know ☐

6. In general, what do you think the people believe is the proper role for citizen engagement in governance?

| | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| engagement is to…… | | | | | |
| You personally believe the role of citizen engagement is to…… | | | | | |

7. Overall, how satisfied are you regarding citizen engagement in your Department's policymaking and/or operations today?

Very Satisfied ☐     Somewhat Satisfied ☐     Neither Satisfied nor Dissatisfied ☐

Somewhat Dissatisfied ☐     Very Dissatisfied ☐     Don't Know ☐

8. Please indicate which of the following approaches – if any – your Department uses to engage its citizens in the government's policymaking and/or operations **(check all that apply).**

| | Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|---|
| Notices in newspapers/media | | | | | | | |
| Hard copy notices in Department's Notice Boards | | | | | | | |
| Federal Government or Federal Capital Territory Authority's website | | | | | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | | | | | | | |
| Conducting periodical public hearings on policies in different parts of the FCT | | | | | | | |
| Citizen surveys conducted by the Department | | | | | | | |
| Social media accounts for the FCTA (e.g., Facebook or Twitter) | | | | | | | |
| Internet discussion forums or online input/feedback forms | | | | | | | |
| Informal one-on-one discussions with citizens | | | | | | | |
| Focus groups conducted by the FCTA | | | | | | | |
| Citizen participation on ad hoc task forces or planning teams or policy development | | | | | | | |
| Citizen participation on formal government Boards or Commissions | | | | | | | |

Research Objective II: Identifying the long-term plans of road transportation in Abuja

9. Does the Abuja city have a master Plan?

Yes ☐     No ☐

10. If yes to above, when was it commissioned for implementation? **(Please write your comments in the below box):**

11. If yes to Question 9, are there challenges or success stories in the implementation of the policy so far? **(Please write your comments in the box below):**

12. If yes to Question 9, have there being a review of the plan since its approval?

Yes ☐    No ☐

13. Does the Federal Capital Territory Authority have a website?

Yes ☐    No ☐

14. If yes, can the plan be accessible on the website?

Yes ☐    No ☐

15. In developing the Abuja masterplan, can you highlight the stakeholders involved and consulted? In addition, how long did consultations take place from inception to approval? Also, were the public consulted during the development of the plan? **(Please write your comments in the below box):**

16. In the urban roads designed for future developments and the ones presently existing, are there proposals for an integrated road network that contains cars, buses, and trams?

Yes ☐    No ☐

17. If no to above, do you think Abuja city needs to have a road network that can accommodate cars, buses, and trams? **(Please write your comments in the box below):**

18. Is there any designated bicycle path in any of the roads in Abuja?

    Yes [        ]    No [        ]

19. Is there any platform(s) whereby all States of Nigeria interact with the Federal Ministry of Power, Works & Housing about urban development in Nigeria?

    Yes [        ]    No [        ]

20. If yes to above, what is this body called? In addition, do you meet annually, biannually or quarterly? **(Please write your comments in the box below):**

21. Is there any platform whereby the Federal Capital Territory Administration meets and interact with other government stakeholders involved in the road and urban development sector of the FCT? That is, other Ministries and agencies and the six Local Government Areas of the Territory.

    Yes [        ]    No [        ]

22. If yes to above, what is the name of that platform and who are the government agencies included in it? In addition, how often do you meet? (**Please write your comments in the below box):**

Research Objective III: Measuring the social sustainability of road transportation

23. Please fill in the data for the below table:

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| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of roads in Abuja | | | | |
| 2 | Total Kilometres of tarred roads in Abuja | | | | |
| 3 | Total kilometres of untarred roads in Abuja | | | | |
| 4 | Total Kilometres of road in Abuja designated for multimodal usage | | | | |
| 5 | Number of stakeholder engagements held with other government organisations | | | | |
| 6 | Number of stakeholder engagements held with the public and other non-governmental organisations | | | | |
| 7 | Number of bills presented to the National Assembly on FCT's masterplan | | | | |
| 8 | Number of bills passed into law by the National Assembly on FCT's masterplan | | | | |
| 9 | Number of bills assented to by the President on FCT's masterplan | | | | |

24. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Department of Urban and Regional Planning. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

## 2.4: Federal Road Safety Commission (Federal Capital Territory Sector Command)

University of Central Lancashire
Preston, Lancashire, UK
PR1 2HE
School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for Federal Road Safety Commission (Federal Capital Territory Sector Command)**

1. Please tick the box which best describes you or your organisation:

Federal Government Ministry ☐     Federal Government Agency ☐

Federal Capital Territory Agency ☐     Labour Union ☐

2. Would you be happy for us to contact you again in relation to this questionnaire?

Yes ☐     No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3. To what extent do you agree or disagree with each of the following general statements about citizen engagement?
**(Please mark the relevant box)**

|  | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them |  |  |  |  |  |  |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). |  |  |  |  |  |  |
| Most citizens we hear from are more interested in complaining than in finding solutions |  |  |  |  |  |  |
| Citizens want access to information about the Commission's performance |  |  |  |  |  |  |
| Most citizens are not willing to take the time to become well-informed on issues facing the Commission |  |  |  |  |  |  |
| We do not need formal engagement efforts because the Commission already know what the problems are |  |  |  |  |  |  |
| The meetings run too long because too many citizens want to speak |  |  |  |  |  |  |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). |  |  |  |  |  |  |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the community overall |  |  |  |  |  |  |
| The Commission's engagement efforts mostly attract the same people over and over |  |  |  |  |  |  |

4. Citizens are often asked on opinion surveys how much trust they have in their government. Now we would like to ask you about trust you have in the citizens. In terms of their engagement in road safety policy and operations, how much of the time do you think you can trust the citizens in Abuja to be responsible participants?

Nearly always ☐     Most of the time ☐     Some of the time ☐

Seldom ☐     Almost never ☐     Don't know ☐

5. In general, what do you think is the proper role for citizen engagement in road safety policy?

|  | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

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| | | | | | |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen engagement is to…… | | | | | |
| You personally believe the role of citizen engagement is to…… | | | | | |

6. Overall, how satisfied are you regarding citizen engagement in your Commission's policymaking and operations today?

Very Satisfied ☐     Somewhat Satisfied ☐     Neither Satisfied nor Dissatisfied ☐

Somewhat Dissatisfied ☐     Very Dissatisfied ☐     Don't Know ☐

7. Please indicate which of the following approaches – if any – your Commission uses to engage the people of Abuja in road safety policymaking and operations **(check all that apply).**

| Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|
| Notices in newspapers/media | | | | | | |
| Hard copy notices on Commission's Notice Boards | | | | | | |
| Federal Government or Commission's website | | | | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | | | | | | |
| Citizen surveys conducted by the Commission | | | | | | |
| Social media accounts of the Commission (e.g., Facebook or Twitter) | | | | | | |
| Internet discussion forums or online input/feedback forms | | | | | | |
| Informal one-on-one discussions with citizens | | | | | | |
| Focus groups conducted by the Commission | | | | | | |
| Citizen participation on ad hoc task forces or planning teams or policy development | | | | | | |

Research Objective II: Identifying the long-term plans of road transportation in Abuja

8. What are the major factors that account for accidents in the city of Abuja? **(Please write in the box below):**

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9. What strategies and initiatives do you use to reduce road accidents in the city? **(Please write in the box below):**

10. Is there a body whereby you periodically interact with other government stakeholders on road transport here in the Federal Capital Territory?

Yes [    ]    No [    ]

11. If yes to above, what is the name of the body, and how periodically do you meet - monthly, quarterly or annually? **(Please write in the box below):**

12. In terms of accident victims' evacuation, do you have an air arm in Abuja? **(Please write in the box below):**

13. Do the insurance companies duly compensate accident victims?

Yes ☐ No ☐ Don't know ☐

14. Do you have a toll free number for accident victims?

Yes ☐ No ☐

15. Do you have a database that keeps records of traffic offences of drivers in the metropolis?

Yes ☐ No ☐

16. How often do you update this database?

Daily ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Biannually ☐ Annually ☐

17. Introduction of safety courses into the curricula of primary and secondary schools is one of the policy strategies of the Draft National Transport Policy; have this strategy successfully being implemented?

Yes ☐ No ☐

Research Objective III: Measuring the social sustainability of road transportation

18. Please fill in the data for the below table:

| S/No | Indicators | Number | | | Source |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Number of accidents in Abuja city | | | | |
| 2 | Total number of fatal accidents in Abuja city | | | | |
| 3 | Total number of non-fatal accidents in Abuja city | | | | |
| 4 | Average traffic offences per month | | | | |
| 5 | Number of sensitisation and enlightenment campaigns on road safety and regulations undertaken within Abuja city | | | | |
| 6 | Average patrols within the city per week | | | | |
| 7 | Average response time to accidents within the city | | | | |
| 8 | Number of engagements with Federal Capital Territory Administration's bodies working in the urban road transport sector | | | | |
| 9 | Number drivers' licences issued for all types of vehicles | | | | |
| 10 | Number of Licenced Driving Schools in Abuja city | | | | |
| 11 | Number of designated Accident Trauma Centres in Abuja city | | | | |
| 12 | Average number of calls to the Accident Toll Free Number | | | | |

19. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Commission. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

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## 3: Questionnaire for Labour Organisations

## 3.1: National Union of Road Transport Workers (FCT Chapter)



University of Central Lancashire
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School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for the National Union of Road Transport Workers (FCT Chapter)**

1.  Please tick the box which best describes you or your organisation:

    Federal Government Ministry ☐          Federal Government Agency ☐

    Federal Capital Territory Agency ☐     Labour Union ☐

2.  Would you be happy for us to contact you again in relation to this questionnaire?

    Yes ☐                    No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3.  Have you ever been consulted by the Federal Capital Territory Administration (FCTA) or any of her Departments or and Agencies on developing policies on urban roads and transport?

    Yes ☐     No ☐

4.  If yes to above, can you mention the Department or Agency and on what policy issue please? **(Please write your comment in the box below):**

5.  Did you participate in the policy development?

    Yes ☐     No ☐

6. If yes to above, was your input consolidated into the final policy document?

Yes [       ]     No [       ]     Don't know [       ]

7. If yes to Question 5, are they implementing it to the letter or you do not know how the implementation going on?

Yes, they are implementing it [       ]     No, we do not know what is going on [       ]

8. If no to Question 5, why did you not participate? **(Please write your comments below):**

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Research Objective II: Identifying the long-term plans of road transportation in Abuja

9. The present bus routes in Abuja Yola, was it designated by government or your Union decided on it or it is a joint decision with the government? **(Please write your comments below):**

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10. What are the challenges you face working in Abuja city in terms of government support, public support and appreciation? **(Please write your comments below):**

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11. Is there a healthy working relationship between you and other transport Unions working in the city?

Yes [       ]     No [       ]

12. Is there an avenue provided by the Federal Capital Territory Administration where you can air your grievances and can be addressed?

Yes [       ]     No [       ]

13. If yes to above, what is the name of that body? **(Please write in the box below):**

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14. Do you have a system whereby commuters that have grievances with one of your members can come and complain?
Yes [ ]   No [ ]

15. Can you put the following actions into hierarchical order to show the priorities you think the government should focus on in Abuja:

| Actions | Hierarchical Order |
|---|---|
| Improving existing roads | |
| Building new roads | |
| Improving existing public transport services | |
| Building new public transport infrastructure | |
| Improving provision for walking and cycling | |

16. Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?
Yes [ ]   No [ ]

Research Objective III: Measuring the social sustainability of urban road transportation

17. Please fill in the data for the below table:

| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of bus routes in the city | | | | |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | | | | |
| 3 | Number of recommendations proffered | | | | |
| 4 | Number of inputs consolidated by the Government | | | | |
| 5 | Number of complaints from commuters about your members | | | | |
| 6 | Number of complaints resolved amicably | | | | |
| 7 | Number of bus drivers registered as Union members | | | | |
| 8 | Number of bus conductors registered as Union members | | | | |
| 9 | Number of commercial tricycle operators registered as Union members | | | | |
| 10 | Number of taxi drivers registered as Union members | | | | |
| 11 | Average age of commercial buses | | | | |
| 12 | Average time for commercial checks (weeks) | | | | |

18. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Union. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

<br><br><br><br><br><br><br><br>

## 3.2: Road Transport Employers Association of Nigeria (FCT Chapter)

University of Central Lancashire
Preston, Lancashire, UK
PR1 2HE
School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for Road Transport Employers Association of Nigeria (FCT Chapter)**

1. Please tick the box which best describes you or your organisation:

Federal Government Ministry ☐   Federal Government Agency ☐

Federal Capital Territory Agency ☐   Labour Union ☐

2. Would you be happy for us to contact you again in relation to this questionnaire?

Yes ☐   No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3. Have you ever been consulted by the Federal Capital Territory Administration (FCTA) or any of her Departments or and Agencies on developing policies on urban roads and transport?

Yes ☐   No ☐

4. If yes to above, can you mention the Department or Agency and on what policy issue please? **(Please write your comment in the box below):**

<br><br><br><br><br><br>

5. Did you participate in the policy development?

Yes ☐   No ☐

6. If yes to above, was your input consolidated into the final policy document?

Yes ☐   No ☐   Don't know ☐

7. If yes to Question 5, are they implementing it to the letter or you do not know how the implementation going on?

Yes, they are implementing it ☐   No, we do not know what is going on ☐

8. If no to Question 5, why did you not participate? **(Please write your comments below):**

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9.  The present bus routes in Abuja Yola, was it designated by government or your Union decided on it or it is a joint decision with the government? **(Please write your comments below):**

10. What are the challenges you face working in Abuja city in terms of government support, public support and appreciation? **(Please write your comments below):**

11. Is there a healthy working relationship between you and other transport Unions working in the city?

    Yes ☐    No ☐

12. Is there an avenue provided by the Federal Capital Territory Administration where you can air your grievances and can be addressed?

    Yes ☐    No ☐

13. If yes to above, what is the name of that body? **(Please write in the box below):**

14. Do you have a system whereby commuters that have grievances with one of your members can come and complain?

Yes ☐ No ☐

15. Can you put the following actions into hierarchical order to show the priorities you think the government should focus on in Abuja:

| Actions | Hierarchical Order |
|---|---|
| Improving existing roads | |
| Building new roads | |
| Improving existing public transport services | |
| Building new public transport infrastructure | |
| Improving provision for walking and cycling | |

16. Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?

Yes ☐ No ☐

Research Objective III: Measuring the social sustainability of urban road transportation

17. Please fill in the data for the below table:

| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of commercial routes in the city | | | | |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | | | | |
| 3 | Number of recommendations proffered | | | | |
| 4 | Number of inputs consolidated by the Government | | | | |
| 5 | Number of complaints from commuters about your members | | | | |
| 6 | Number of complaints resolved amicably | | | | |
| 7 | Number of bus drivers registered as Union members | | | | |
| 8 | Number of bus conductors registered as Union members | | | | |
| 9 | Number of commercial tricycle operators registered as Union members | | | | |
| 10 | Number of taxi drivers registered as Union members | | | | |
| 11 | Average age of commercial buses | | | | |
| 12 | Average time for mechanical checks (weeks) | | | | |

18. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Union. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

## 3.3: Self Employed Commercial Drivers' Association Abuja (SECDAA)

University of Central Lancashire
Preston, Lancashire, UK
PR1 2HE
School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for Self Employed Commercial Drivers' Association Abuja (SECDAA)**

1. Please tick the box which best describes you or your organisation:

    Federal Government Ministry ☐        Federal Government Agency ☐

    Federal Capital Territory Agency ☐        Labour Union ☐

2. Would you be happy for us to contact you again in relation to this questionnaire?

    Yes ☐        No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3. Have you ever been consulted by the Federal Capital Territory Administration (FCTA) or any of her Departments or and Agencies on developing policies on urban roads and transport?

    Yes ☐        No ☐

4. If yes to above, can you mention the Department or Agency and on what policy issue please? **(Please write your comment in the box below):**

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5. Did you participate in the policy development?

    Yes ☐        No ☐

6. If yes to above, was your input consolidated into the final policy document?

    Yes ☐        No ☐        Don't know ☐

7. If yes to Question 5, are they implementing it to the letter or you do not know how the implementation going on?

    Yes, they are implementing it ☐        No, we do not know what is going on ☐

8. If no to Question 5, why did you not participate? **(Please write your comments below):**

    ```

    ```

Research Objective II: Identifying the long-term plans of road transportation in Abuja

9. The present bus routes in Abuja Yola, was it designated by government or your Union decided on it or it is a joint decision with the government? **(Please write your comments below):**

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10. What are the challenges you face working in Abuja city in terms of government support, public support and appreciation? **(Please write your comments below):**

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11. Is there a healthy working relationship between you and other transport Unions working in the city?

Yes ☐   No ☐

12. Is there an avenue provided by the Federal Capital Territory Administration where you can air your grievances and can be addressed?

Yes ☐   No ☐

13. If yes to above, what is the name of that body? **(Please write in the box below):**

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14. Do you have a system whereby commuters that have grievances with one of your members can come and complain?

Yes ☐   No ☐

15. Can you put the following actions into hierarchical order to show the priorities you think the government should focus on in Abuja:

| Actions | Hierarchical Order |
|---|---|
| Improving existing roads | |
| Building new roads | |
| Improving existing public transport services | |
| Building new public transport infrastructure | |
| Improving provision for walking and cycling | |

16. Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?

Yes ☐   No ☐

17. Please fill in the data for the below table:

| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | **2015** | **2016** | **2017** | |
| 1 | Total Kilometres of bus routes in the city | | | | |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | | | | |
| 3 | Number of recommendations proffered | | | | |
| 4 | Number of inputs consolidated by the Government | | | | |
| 5 | Number of complaints from commuters about your members | | | | |
| 6 | Number of complaints resolved amicably | | | | |
| 7 | Number of bus drivers registered as Association members | | | | |
| 8 | Number of bus conductors registered as Association members | | | | |
| 9 | Number of taxi drivers registered as Association members | | | | |
| 10 | Average age of commercial buses | | | | |
| 11 | Average time for mechanical checks (weeks) | | | | |

18. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Union. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

<br><br><br><br><br><br><br><br><br><br>

# 3.4: Tricycle Owners Association of Nigeria (TOAN)

University of Central Lancashire
Preston, Lancashire, UK
PR1 2HE
School of Engineering
**Questionnaire for Assessing Social Sustainability in Urban Road Transportation of Abuja, Nigeria**

**Questionnaire for Tricycle Owners Association of Nigeria (TOAN)**

1. Please tick the box which best describes you or your organisation:

Federal Government Ministry ☐          Federal Government Agency ☐

Federal Capital Territory Agency ☐          Labour Union ☐

2.   Would you be happy for us to contact you again in relation to this questionnaire?

Yes ☐          No ☐

Research Objective I: Assessing the level of citizen participation in the enactment and implementation of government policy

3.   Have you ever been consulted by the Federal Capital Territory Administration (FCTA) or any of her Departments or and Agencies on developing policies on urban roads and transport?

Yes ☐     No ☐

4.   If yes to above, can you mention the Department or Agency and on what policy issue please? **(Please write your comment in the box below):**

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```

5.   Did you participate in the policy development?

Yes ☐     No ☐

6.   If yes to above, was your input consolidated into the final policy document?

Yes ☐     No ☐     Don't know ☐

7.   If yes to Question 5, are they implementing it to the letter or you do not know how the implementation going on?

Yes, they are implementing it ☐          No, we do not know what is going on ☐

8.   If no to Question 5, why did you not participate? **(Please write your comments below):**

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Research Objective II: Identifying the long-term plans of road transportation in Abuja

9.   The present bus routes in Abuja Yola, was it designated by government or your Union decided on it or it is a joint decision with the government? **(Please write your comments below):**

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10.  What are the challenges you face working in Abuja city in terms of government support, public support and appreciation? **(Please write your comments below):**

11. Is there a healthy working relationship between you and other transport Unions working in the city?

Yes ☐   No ☐

12. Is there an avenue provided by the Federal Capital Territory Administration where you can air your grievances and can be addressed?

Yes ☐   No ☐

13. If yes to above, what is the name of that body? **(Please write in the box below):**

14. Do you have a system whereby commuters that have grievances with one of your members can come and complain?

Yes ☐   No ☐

15. Can you put the following actions into hierarchical order to show the priorities you think the government should focus on in Abuja:

| Actions | Hierarchical Order |
|---|---|
| Improving existing roads | |
| Building new roads | |
| Improving existing public transport services | |
| Building new public transport infrastructure | |
| Improving provision for walking and cycling | |

16. Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?

Yes ☐   No ☐

Research Objective III: Measuring the social sustainability of urban road transportation

17. Please fill in the data for the below table:

| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of tricycle routes in the city | | | | |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | | | | |
| 3 | Number of recommendations proffered | | | | |

| 4 | Number of inputs consolidated by the Government | | | | |
|---|---|---|---|---|---|
| 5 | Number of complaints from commuters about your members | | | | |
| 6 | Number of complaints resolved amicably | | | | |
| 7 | Number of tricycle drivers registered as Union members | | | | |
| 8 | Average age of tricycles | | | | |
| 9 | Average time for mechanical checks (weeks) | | | | |

18. Finally, in the box below, please state any other issue in Abuja that you deem is important and is not mentioned in this questionnaire, and mention the reason(s) why it is important to the Union. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state on which question you are elaborating upon (e.g. Question 56).

## 4: Presentation of Data Gathered
### 4.1: Presentation of Data from Commuters

A total of 261 commuters participated in this research. Questions 1 to 4 of the questionnaire are asking for the socio-economic data (gender, age, level of education, and employment) of the respondents. 114 (43.7%) of those participants were female and 147 (56.3%) were male. As Chart 6 illustrates, the age of the participants varies, and it is divided into the following age brackets (number of respondents/percentage): 18-27 (84/32.2%), 28-37 (80/30.7%), 38-47 (51/19.5%), 48-57 (25/9.6%), 58-67 (9/3.4%), and 68 & above (12/4.6%).

| Age Bracket | Frequency | Percentage |
|---|---|---|
| 18-27 years | 84 | 32.2 |
| 28-37 years | 80 | 30.7 |
| 38-47 years | 51 | 19.5 |
| 48-57 years | 25 | 9.6 |
| 58-67 years | 9 | 3.4 |
| 68 & above years | 12 | 4.6 |
| Total | 261 | 100.0 |

| Educational Qualification | Frequency | Percentage |
|---|---|---|
| Primary School Certificate | 12 | 4.6 |
| Secondary School Certificate | 72 | 27.6 |
| Bachelor Degree | 145 | 55.6 |
| Master's Degree | 17 | 6.5 |
| Doctorate Degree | 3 | 1.1 |
| Islamic Education | 6 | 2.3 |
| No Education | 6 | 2.3 |
| Total | 261 | 100.0 |

**Table 17: Educational Qualification of Respondents**

Most of the respondents have western education as illustraten below:

- Bachelors' Degree level (145/55.6%)
- Secondary School certificate (72/27.6%)
- Masters' Degree (17/6.5%)
- Primary School Certificate (12/4.6%)
- Doctorate Degree (3/1.1%)
- Islamic Education (6/2.3%), and
- no form of education (6/2.3%).

    This is illustrated in Table 16 above.

As Table 17 illustrates, the self-employed are the highest participants in this study, with a total number of 73 (28.0%), followed by civil servants with 61 (23.4%), private sector employees with 53 (20.3%), students with 43 (16.5%), the unemployed with 21 (8.0%) and others at 10 (3.8%), respectively.

| Employment | Frequency | Percentage |
|---|---|---|
| Civil Servant | 61 | 23.4 |
| Private Employee | 53 | 20.3 |
| Self Employed | 73 | 28.0 |
| Unemployed | 21 | 8.0 |

| | | |
|---|---|---|
| Student | 43 | 16.5 |
| Others | 10 | 3.8 |
| Total | 261 | 100.0 |

**Table 18: Respondent's Employment**

### *4.1.1 Results from Section I of Questionnaire (Assessing the level of citizen participation in the enactment and implementation of government policy)*

This section of the questionnaire explored the level of individual participation in the development of urban road transport policy in Abuja, providing insight into the degree of interaction between citizens and the government from the perspective of the commuters.

### 4.1.1.1 Question 5 of Questionnaire:

**Do you think there is a strong civic engagement among the people of Abuja?**

**Yes** ☐  **No** ☐  **Don't know** ☐
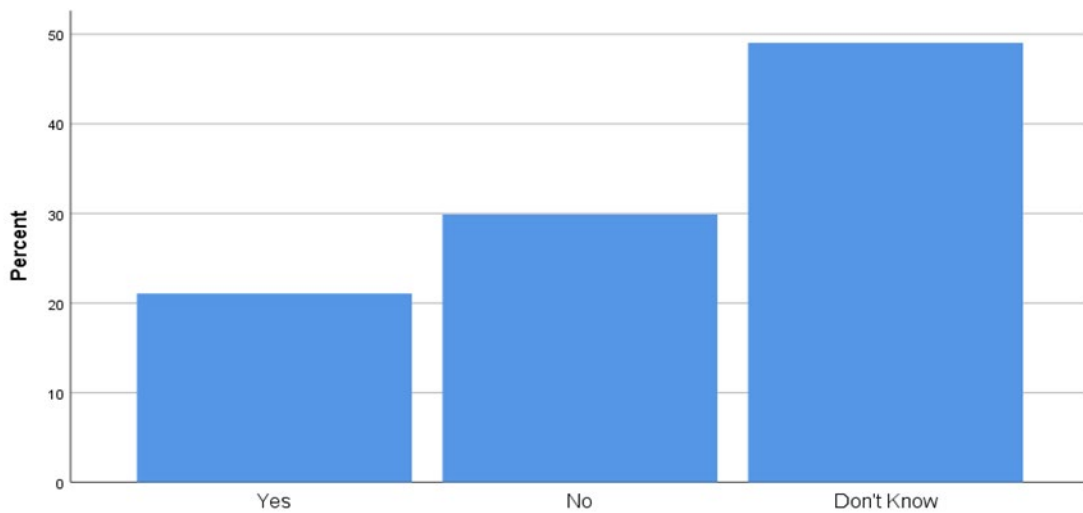


**Chart 10: Civic Engagement in Abuja**

Chart 10 illustrates that 128 (49.0%) of respondents stated they do not know if there is strong civic engagement among the people of Abuja, 78 (29.9%) stated there is no strong civic engagement, and 55 (21.1%) stated there is strong civic engagement.

### 4.1.1.2 Question 6 of Questionnaire:

**If yes to above, can you highlight the civic engagements you have participated in please? (Write your comments in the box below):**
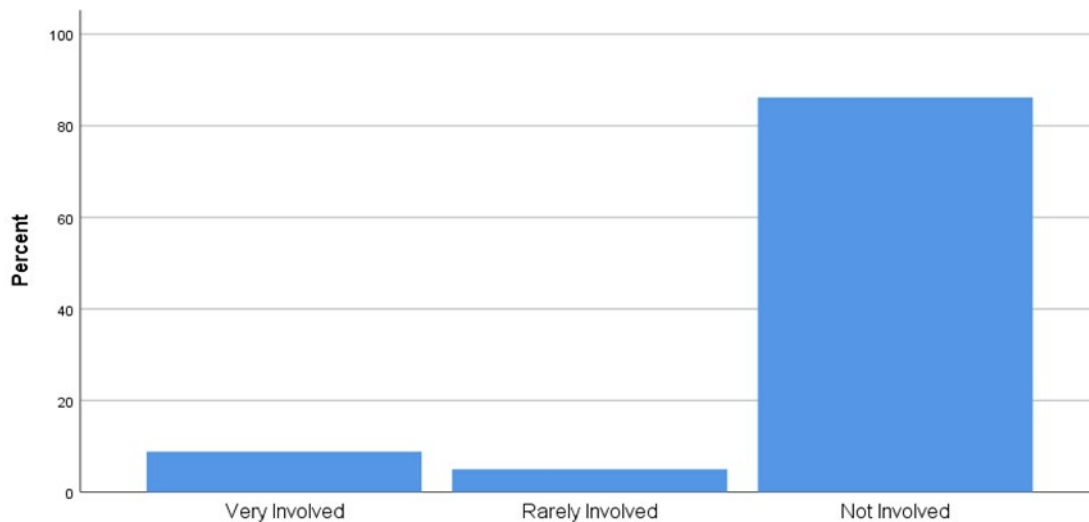
The respondents reported how involved they felt they were in civic engagements within the city, with 225 (86.2%) reporting not being involved, 13 (5.0%) being rarely involved, and 23 (8.8%) reporting being very involved (see Chart 12). This question is an open-ended question, however, and their responses are categorised into the classes as illustraten in Chart 12, while the written views were analysed using the *NVivo* software.

### 4.1.1.3 Question 7 of Questionnaire:

**If no to Question 5, why do you think there is no civic engagement in Abuja city? (Write your comments in the box below):**

The level of involvement of the people of Abuja in civic engagements is not unconnected to the various reasons they have given during this study. The reasons given (which are given while answering Question 7 of the questionnaire) are varied, and they include:

- The residents of the city are mostly more worried about making ends meet than communal engagement and development.
- The government to citizens engagements organised are mostly to tell the people about policies that have already been implemented and not for policy development/enactment nor finding ways to improve upon an existing policy.
- Engagements among citizens and between citizens and government are not usually sensitised to the populace. People do not know about these engagements (poor sensitisation) thus they are unaware of it, with an uninformed citizenry an attitude of disinterest might arise within the people of the city.
- There are elements of individuality within some of the populace, whereby, some citizens tend to think – if it doesn't happen to me, or affect me, I don't care about it.

- Elected officials only organise engagements with their constituencies during elections or they organise these meetings when the policies are to be enacted are personal to them and not because of the community.
- Others feel government only provide services they feel the populace needs and not the other way around.
- Lastly, some respondents feel they need to be contacted before they can interact with their fellow citizens or with the government.

### 4.1.1.4 Question 8 of Questionnaire:
**When was the last election held in Abuja?**

**2014** ☐     **2015** ☐     **2016** ☐     **2017** ☐
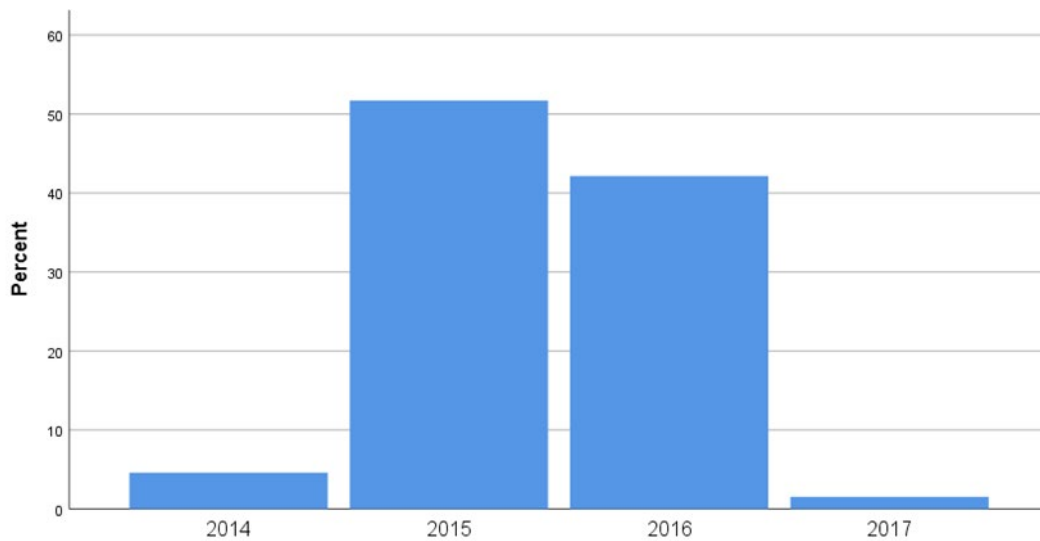


**Chart 12: Last Elections in Abuja (Years)**

As illustrated in Chart 13, 135 (51.7%) of respondents stated that the last election held in Abuja was 2015. 110 (42.1%), 12 (4.6%), and 4 (1.5%) all stated 2016, 2014, and 2017, respectively.

### 4.1.1.5 Question 9 of Questionnaire:
**Was it a National or a Local Government election?**

**National elections** ☐     **Local Government elections** ☐

In clarification to Question 8, 145 (55.6%) stated that the last election held in the city was a national election while 116 (44.4%) stated it was a local government election.

### 4.1.1.6 Question 10 of Questionnaire:

**Did you vote in the above stated election?**

**Yes** ☐     **No** ☐

119 (45.6%) of the respondents stated that they voted in the above-stated election, while 142 (54.4%) did not vote.

**4.1.1.7 Question 12 of Questionnaire:**

**Have you ever heard from the radio, television or any other medium on the Federal Capital Territory Administration calling on the people for consultation on urban road transport or any other policy issue?**

**Yes** ☐     **No** ☐

94 (36.0%) of the respondents stated they have heard from the electronic media (radio, television, etc.) about the Federal Capital Territory Administration calling on the people for consultation on urban road transport, while 167 (64.0%) have never heard about it.

**4.1.1.8 Question 13 of Questionnaire:**

**Have you ever formally requested for a policy document from an agency of the Federal Capital Territory Administration (FCTA)?**

**Yes** ☐     **No** ☐

27 (10.3%) have requested a policy document, while 234 (89.7%) have never ever requested one.

**4.1.1.9 Question 14 of Questionnaire:**

**If yes to above, were you successful or not?**

**Successful** ☐     **Not successful** ☐

15 (5.7%) of the respondents who formally requested a policy document from the FCTA successfully got the document while 28 (10.7%) were not successful and 218 (83.5%) were not applicable because they have never made any request.

**4.1.1.10 Question 15 of Questionnaire:**

**If requesting for the Federal Capital Territory Transport Policy, which government agency are you going to write to and addressed to whom? (Write your comments in the box below):**
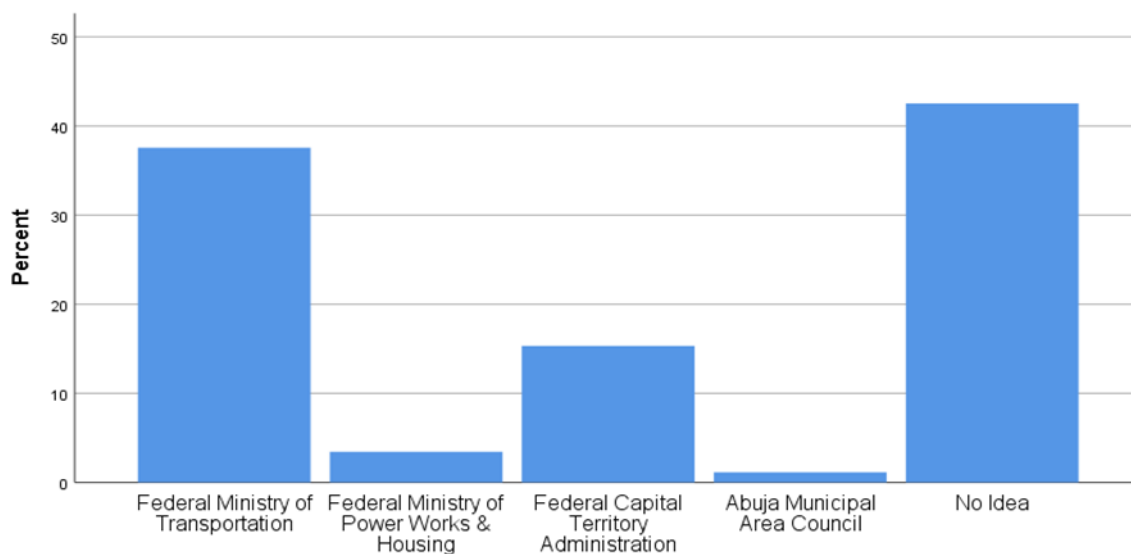


**Chart 13: Government Organisation to Approach for the FCT Transport Policy**

When respondents were asked to name the government body to write to when requesting the Federal Capital Territory Transport policy document, 40 (15.3%) answered correctly, 111 (42.5%) had no idea whom to approach, and 110 (42.2%) stated the wrong organisations. This information is illustraten in Chart 14.

**4.1.1.11 Question 16 of Questionnaire:**

**Have you ever tried to access the website of the Federal Capital Territory Administration (FCTA)?**

**Yes** ☐     **No** ☐

65 (24.9%) have tried to access the website of the FCTA while 196 (75.1%) have never tried.

**4.1.1.12 Question 18 of Questionnaire:**

**Do you think the Federal Capital Territory Administration have been informing the people of their developmental plans?**

**Yes** ☐     **No** ☐     **Don't know** ☐
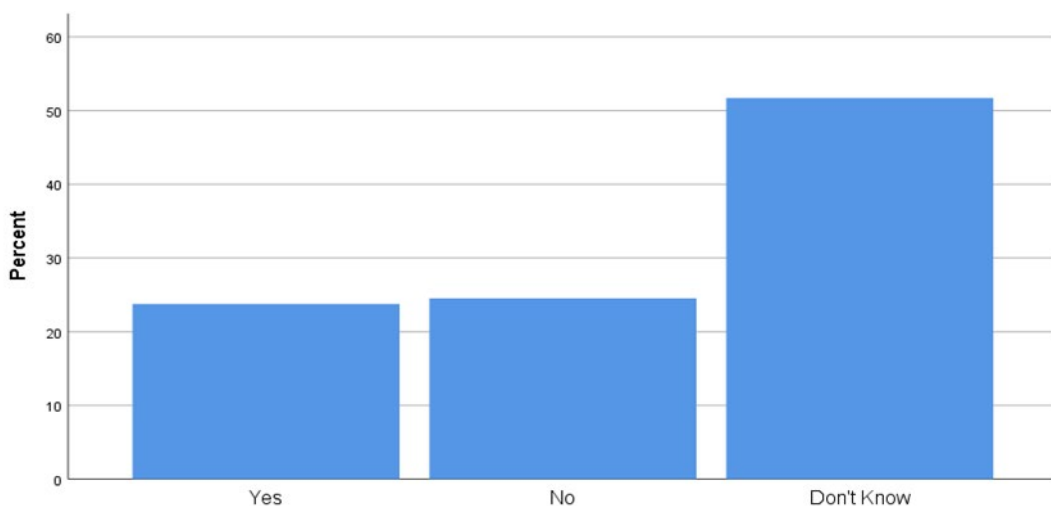


**Chart 14: Informing the People of Developmental Plans in Abuja**

Chart 15 illustrates that most respondents (135/51.7%) do not know if the Federal Capital Territory Administration has been informing the people of their developmental plans. 64 (24.5%) think they have not been informing the people while 62 (23.8%) think they have.

**4.1.1.13 Question 20 of Questionnaire:**
**How did you get to know about the policy you stated above?**

**Radio** ☐     **Television** ☐     **Newspaper** ☐     **Flyers** ☐     **Internet** ☐
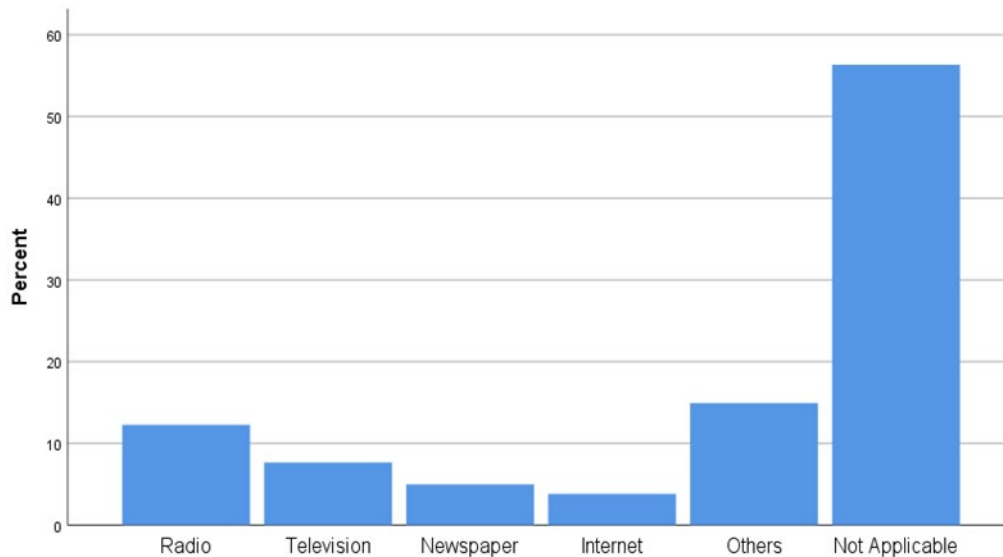
**Others** ☐

**Chart 15: Modes of Knowing Federal Capital Territory Administration (FCTA) Policies**

Chart 16 illustrates that 32 (12.3%) of the respondents found out about the FCTA's policies through the radio, 39 (14.9%) through other means, 20 (7.7%) from television, 13 (5.0%) from newspapers, and 10 (3.8%) from the internet, while 147 (56.3%) notes they have no idea about any policy from any information source.

**4.1.1.14 Question 21 of Questionnaire:**

**Do you think the Federal Capital Territory Administration needs to do more in involving the citizens on policy development and implementation?**

**Yes** ☐     **No** ☐

The respondents supported the need for the Federal Capital Territory Administration to involve the citizens more on policy development and implementation, 208 (79.7%) supported this while 53 (20.3%) did not.

**4.1.1.15 Question 23 of Questionnaire:**

**Do you feel you know and understand government's policies at Local, State, and National levels?**

**Yes, I know and understand** ☐     **No, I don't know nor understand** ☐

131 (50.2%) of respondents feel that they know and understand government's policies at Local, State, and National levels. However, 130 (49.8%) stated they do not know nor understand these policies.

**4.1.1.16 Question 25 of Questionnaire:**

**Do you know the Constituency Offices of your representatives at all levels of government?**

**Yes, I do** ☐     **No, I don't** ☐

When asked if they know the Constituency Offices of their elected representatives at all levels of government, 102 (39.1%) stated yes, they know, while 159 (60.9% stated) no, they do not know.

**4.1.1.17 Question 26 of Questionnaire:**

**Have you ever attended any consultative meeting or gathering organised by any of your legislators at all levels of government?**

**Yes, I have** ☐   **No, I haven't** ☐

63 (24.1%) of respondents have attended a consultative meeting organised by one of their elected representatives while 198 (75.9%) have not.

**4.1.1.18 Question 27 of Questionnaire:**

**If no to above, can you tell us why you have not attended the meeting or gathering? (Please write your comments in the box below):**

These reasons are followed up by the statements made by the respondents:

| S/No | Reason | Response from Participants |
|------|--------|----------------------------|
| 1 | Public apathy | *"Nothing to notes when I go there"* |
| | | *"I never cared"* |
| | | *"As a student I rarely have time"* |
| | | *"Because I was busy"* |
| | | *"I just don't feel like"* |
| | | *"Never thought about it"* |
| 2 | Poor publicity for organised meetings | *"Was never invited"* |
| | | *"Haven't heard about meeting of this nature"* |
| | | *"Never heard of such meetings"* |
| | | *"I have never heard of such gathering"* |
| | | *"They do not give enough publicity for these meetings, and they do not hold as often as they should"* |
| | | *"I have never been invited nor have a prior knowledge of the consultation"* |
| | | *"I have not attended any meeting or gathering because I am not aware and I don't know anything about legislator at Local, State, or National levels"* |
| | | *"Poor communication"* |
| 3 | Lack of public trust in the legislators | *"The legislators turn it into political gatherings and for the protection of their interests"* |
| | | *"Nigerians are not bothered with the legislators because they only relate with the people when elections are around the corner"* |
| | | *Not aware of the meetings, and even if aware he knows it will be lies and empty promises that will be given to the constituents"* |
| | | *"I attend only meetings where my support is valued not where the legislators do these gatherings not to listen to my view but to illustrate that they have done the consultation but at the end takes a decision that suits them only"* |
| | | *"Because my opinion can never be counted upon"* |
| | | *"Legislators make these gatherings strictly by invitation, and if one is not in their political party or close to them one never gets an invitation"* |
| | | *"It is a no-go area for the commoners"* |
| 4 | Incorrect understanding of the political process | *"As a civil servant I can't participate in politics"* |
| | | *"As a clergy, I am not a participating politician"* |

| | | *"I have never been involved in political gatherings"* |
|---|---|---|

**Table 19: Commuter Responses to Question 27 of Questionnaire**

### 4.1.1.19 Question 28 of Questionnaire:
**Is there any community group or association that you are a member of?**

**Yes, there is** ☐     **No, there isn't** ☐

210 (80.5%) of the respondents are not a member of any community group nor association while 51 (19.5%) are members.

### 4.1.1.20 Question 30 of Questionnaire:
**Have you ever attended any public hearing at the National Assembly?**

**Yes, I have** ☐     **No, I haven't** ☐

On attending public hearings in the National Assembly, 41 (15.7%) have attended a hearing and 220 (84.3%) have not.

### 4.1.1.21 Question 32 of Questionnaire:
**If no to Question 30, can you tell us the reason(s) why you have not attended any public hearing at the National Assembly? (Please write in the box below):**

| S/No | Reason | Response from Participants |
|---|---|---|
| 1 | Public Apathy | *"I just don't care"* |
| | | *"I have been very busy"* |
| | | *"I just don't want to attend"*, |
| | | *"I haven't been interested in attending because I feel they are biased over there"* |
| | | *"I have not seen any need to"* |
| | | *"It has never occurred to me to attend even if I see the announcement"* |
| | | *"Not in my interest"* |
| | | *"Because they are not practicing democracy at the Federal level"* |
| | | *"We only watch them on the television and hear on the radio"* |
| | | *"The masses opinion does not count so I have no reason to attend"* |
| | | *"Never thought about it"* |
| | | *"Because of my social status"* |
| | | *"I have been busy all the time attending to my businesses rather than listening to all these selfish National Assembly members"*. |
| 2 | Poor publicity for the Hearings | *"Thought it is based on invitation"* |
| | | *"Not aware"* |
| | | *"There is no general public invite and no knowledge of date and time"* |
| | | *"Going to the National Assembly is strictly by invitation"* |
| | | *"Lack of communication"* |
| | | *"Never heard of hearings that concerns me"* |
| | | *"Little or no information on such public hearings, where there is announcement of such it is usually announced very* |

| | | close to the date of the hearing with little time for preparation or presentation" |
|---|---|---|
| 3 | Lack of public trust in the legislators | "*They only invite politicians*" |
| | | "*It is all politics and I am not a politician*" |
| | | "*They do not invite people to their gatherings in order to make decisions on their own*" |
| 4 | Wrong understanding of the political process | "*I follow-up by watching on television*" |
| | | *As a civil servant I have no time to attend*" |
| | | "*As a clergy, I lack time for such meetings*" |
| | | "*Because I am not interested in any political issue*" |
| | | "*I think things like this are beyond me because I am not up to the age requirement of going to the National Assembly for public hearings*" |
| 5 | Access to the National Assembly | "*Legislators hardly grant entrance to an ordinary citizen unless one is a security personnel, journalist or working with them*" |
| | | "*Going into the National Assembly Complex is not people friendly*" |

**Table 20: Commuter Responses to Question 32 of Questionnaire**

### 4.1.1.22 NVivo Result

As stated in Section 3.5 of this thesis, some analysis was done using the *NVivo* software. The Text Search Query for individuals was done for each of the research objectives and some key words were chosen for the analysis (query). For the research objective under analysis, the following words were used for the query: citizen, satisfaction, survey, stakeholders, interaction, public, policy, challenges, and success.

The query produced the following results:

1. Announcing on social media, public notice boards, and newspapers about government policies will encourage participation and improve consultation with the people.

2. Having an interactive planning process to incorporate public input in all phases of the planning process through public education to enlighten them on the importance of supporting government in its various projects.

3. Some respondents have attended public hearings at the National Assembly, while some have never attended.

4. Radio, television, and public meetings at community levels are strategies the government can use to engage the people.

5. Some respondents have participated in civic engagements within their communities by involvement in public meetings for discussing and informing the citizens of the necessities and changes that need to be made in the future.

6. The need of more public awareness of Abuja Urban Development policies by the government, and regular campaigns to inform the public by using different media.

7. There is low understanding and knowledge of government policies, its workings, which body is responsible for what, and how the National Assembly works for people to make an informed contribution.

8. The government is advised to seek public opinion on decisions about the city before taking final decisions.

9. That there should always be public enlightenment (radio, televisions, newspapers) to tell road users of their policies and how they want the roads to be managed.

10. Some respondents feel that the city already has a masterplan, so there is little input the public can make.

11. Respondents who are civil servants stated that they do not have time to go to public hearings because it is usually held during their working hours, and they can't participate in the hearings in their personal capacities due to public service rules.

12. The public hearings at the National Assembly are restricted to only some people, even if it is called a public hearing.

13. Some respondents believe that the public hearings are not accessible to everyone and it is usually pre-arranged to fulfil the requirements of having a hearing but not to change the course of the action; and

14. People are not informed about public hearings at the National Assembly, while some do not feel like attending even if they saw the notice of the hearing because their opinions will not be heard.

As in the previous sections, the NVivo queries have analysed participant's responses and have highlighted problems and proffered some solutions to these problems. However, some of the results are reiterating the already analysed quantitative data and illustrating that qualitatively some of the responses are in line with the quantitative data.

### *4.1.2 Results from Section II of Questionnaire (Identifying the long-term plans of road transportation in Abuja)*

**4.1.2.1 Question 33 of Questionnaire:**

**What type of vehicle do you have?**

**Car** ☐     **Motorcycle/Tricycle** ☐     **Bicycle** ☐     **None** ☐
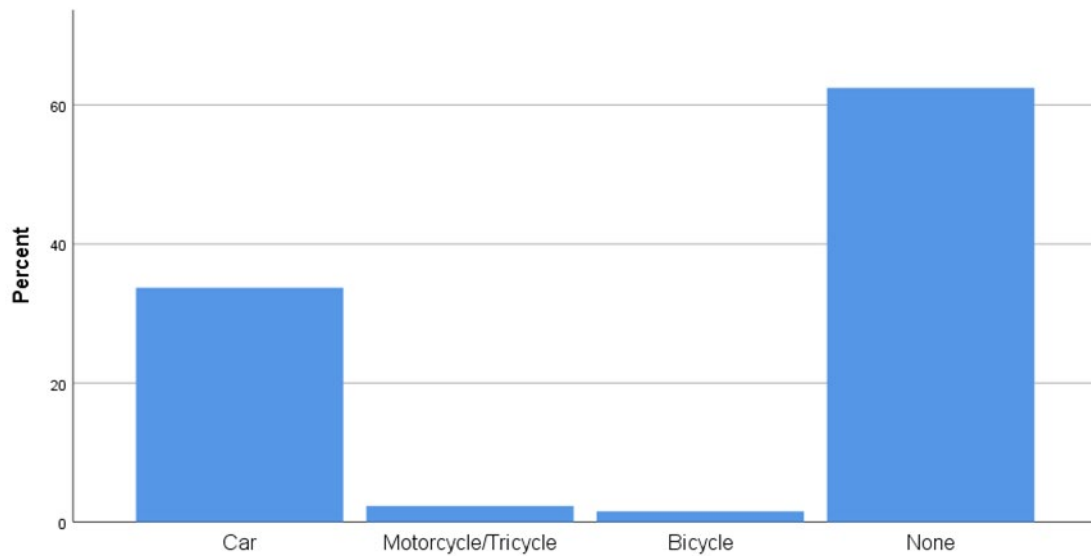
**Chart 16: Types of Vehicles Owned by Respondents**

Most of the respondents stated that they do not have any vehicle – 163 (62.5%), 88 (33.7%) do have a car, 6 (2.3%) have a motorcycle or tricycle (rickshaw), and 4 (1.5%) have a bicycle. This is illustraten in Chart 17.

### 4.1.2.2 Question 34 of Questionnaire:

**How often do you use this vehicle?**

**Daily** ☐    **3-5 times a week** ☐    **Weekly** ☐    **Monthly** ☐
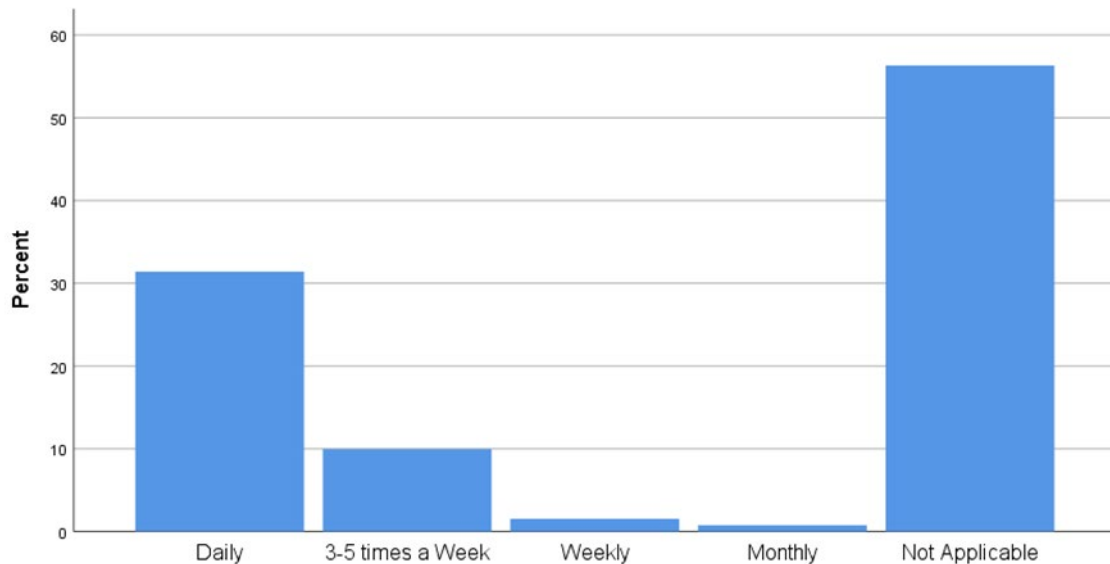
**Not applicable** ☐



**Chart 17: Frequency of Vehicle Usage**

Chart 18 illustrates the frequency of usage of these vehicles by the respondents. 82 (31.4%) use the vehicles daily, 26 (10.0%) use it 3 – 5 times a week, 4 (1.5%) use it weekly, 2 (0.8%) use it monthly, and 147 (56.3%) is not applicable, respectively.

### 4.1.2.3 Question 35 of Questionnaire:
**Do you use public transport?**

**Yes, I do** ☐     **No, I don't** ☐

Furthermore, 226 (86.6%) of respondents of this study use public transport while 35 (13.4%) do not.

### 4.1.2.4 Question 36 of Questionnaire:
**If yes to above, which do you prefer?**

**Taxi** ☐     **Bus** ☐     **Motorcycle/Tricycle** ☐
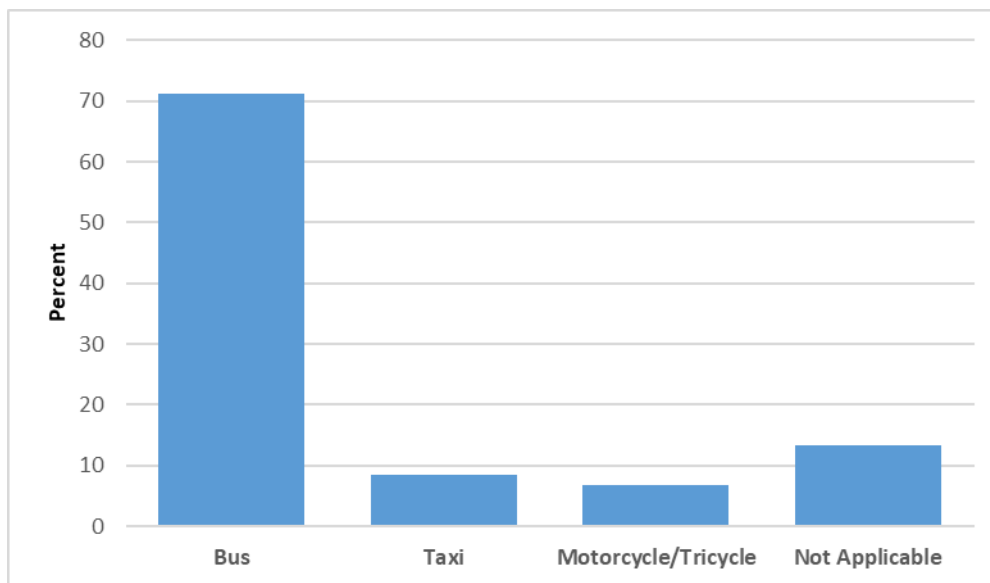


**Chart 18: Preferred Choice of Public Transport**

186 (71.2%) of those who use public transport prefer using the bus, 22 (8.4%) prefer taxis, and 18 (6.8%) prefer motorcycle/tricycle. 35 (13.4%) are not applicable because they do not use public transport. This is illustraten in Chart 19.

### 4.1.2.5 Question 37 of Questionnaire:
**If yes to Question 35, how often do you use public transport?**

**Daily** ☐     **3-5 times a week** ☐     **Weekly** ☐     **Monthly** ☐
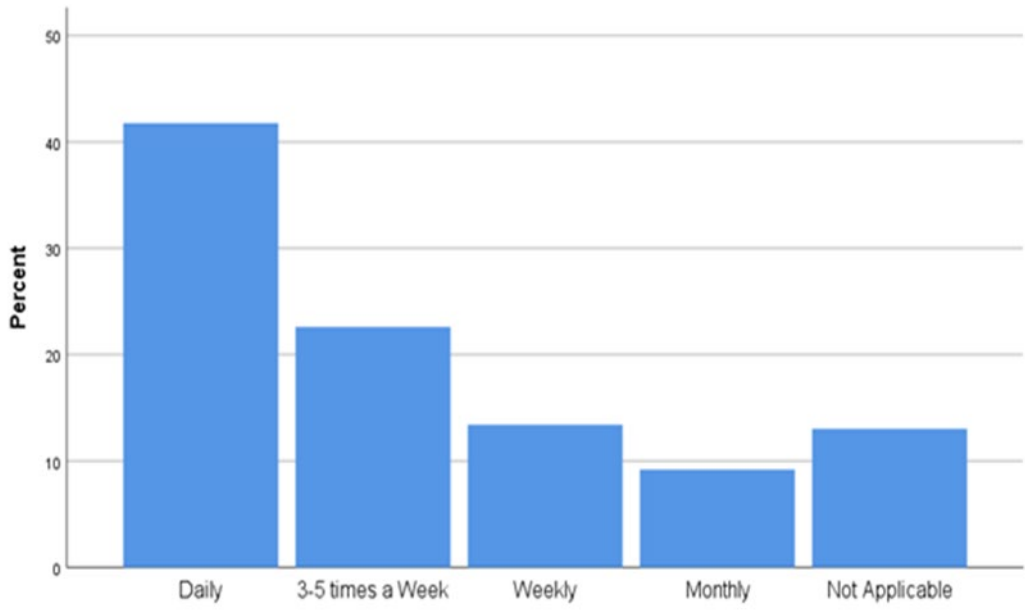
**Chart 19: Frequency of Using Public Transport**

Chart 20 illustrates that 109 (41.8%) of respondents use public transport daily, 59 (22.6%) use it 3-5 times a week, 35 (13.4%) use it weekly, 24 (9.2%) use it monthly, and 34 (13.0%) do not use it.

**4.1.2.6 Question 39 of Questionnaire:**

With your experience using public transport, would you recommend any of the public transportation to anybody for usage?

Yes ☐   No ☐   Not applicable ☐
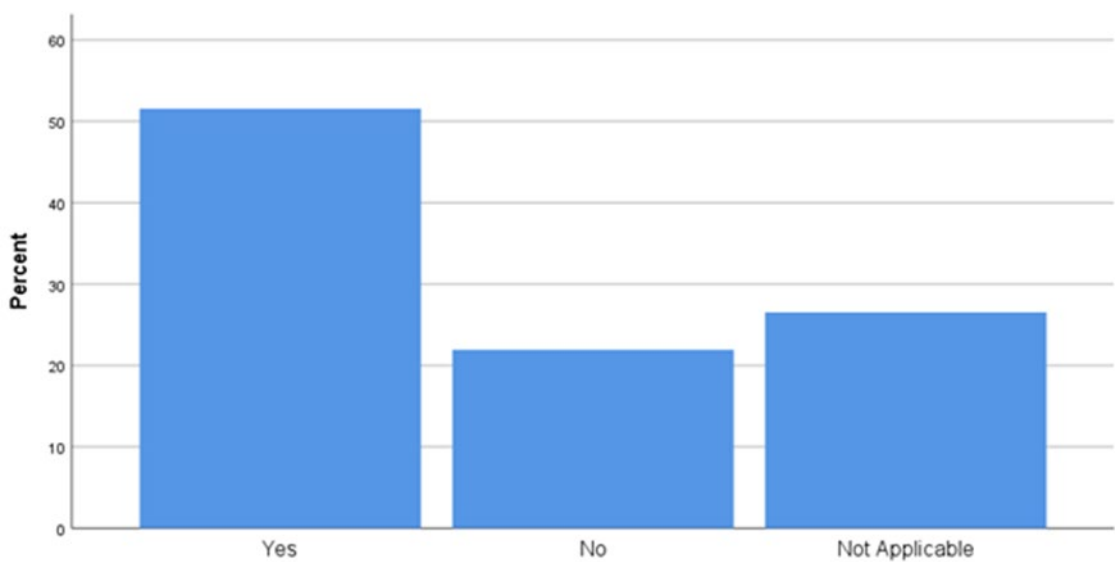


**Chart 20: Recommending Public Transport for Others to Use**

Chart 21 illustrates that 134 (51.3%) stated they would recommend others to use the public transport system in Abuja, while 57 (21.8%) stated they would not recommend it, and 69 (26.4%) chose not applicable.

**4.1.2.7 Question 40 of Questionnaire:**

**Can you put the following actions into hierarchical order to illustrate the priorities you think the government should focus on in Abuja (1 is highest priority & 5 is lowest priority)?**

| Actions | Hierarchical Order |
|---|---|
| Improving existing roads (filling potholes, road markings, signages, etc.) | |
| Constructing new roads | |
| Improving existing public transport services (buses, tricycles, etc.) | |
| Building new public transport infrastructure | |
| Improving provision for walking and cycling | |



**Chart 21: Priorities Government should focus on in Improving Road Transport in Abuja**

In Chart 22, respondents illustrateed the priorities they think government should focus on is improving commuting in Abuja. The data gathered illustrates that 141 (54%) want existing roads to be improved, 55 (21.1%) want new roads to be constructed, 42 (16.1%) support the improvement of existing transport services, and 23 (8.8%) support the building of new public transport infrastructure.

**4.1.2.8 Question 41 of Questionnaire:**

**Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?**

**Yes** ☐   **No** ☐   **Don't know** ☐
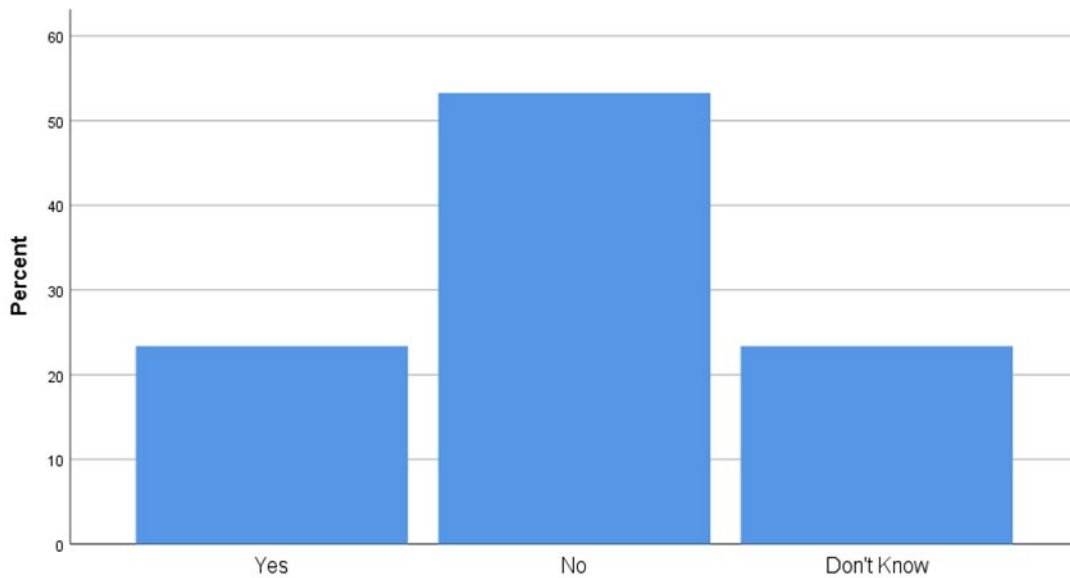


**Chart 22: Responses to Government Taxing Road Users**

The participants in this study were asked if they will support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax. 61 (23.4%) of respondents do not know if they will support government taxing. However, 139 (53.3%) do not support it and 61 (23.4%) do support it. The responses are illustraten in Chart 23 above.

**4.1.2.9 NVivo Result**

As stated in Section 3.5, data analysis was conducted using *NVivo* qualitative data management software. The Text Search Query for individuals was done for each of the research objectives and some key words were chosen for the analysis (query). For the research objective under analysis, the following words were used for the query: public transport, commuters, data, and road.

The query produced the following result:

♦ Some have their own means of transportation and believe that public transport delays their daily activities, and public transport is stressful for some people to use thus they have their personal vehicles.

As in the previous sections, the NVivo queries have analysed participant's responses and have brought out problems and proffered some solutions to these problems. However, some of the results are reiterating the already analysed quantitative data and illustrating that qualitatively some of the responses are in line with the quantitative data.

A Word Search Query was done for the whole study, whereby a query was done for all the responses from commuters, government organisations and the unions using the above

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listed words all together. The query result illustrateed that applicable, comment, roads, road, and Abuja are the most used words with a count of 2013, 525, 224, 202, and 190 times, respectively. The below chart illustrates the Word Cloud.



**Chart 23: Word Cloud for All Research Participants**

## Cluster Analysis for Commuters:



**Chart 24: Nodes (Research Objectives) Clustered by Word Similarity for Commuters**

For nodes (research objectives) clustered by word similarity, Chart 25 illustrates that Node 4 has no correlation with the words in other nodes, hence, its appearance as a single branch of the tree. The Pearson Correlation Coefficient illustrates that between Node 4 and 1 is 0.090259, between Node 4 and 2 is 0.003858, and between Node 4 and 3 is 0.189718. According to the interpretation of the Pearson Correlation Coefficient, there is no correlation between the words in Objective 1 (Node 1), Objective 2 (Node 2), and Objective 3 (Node 3) with the node tagged Other Issues (Node 4). Furthermore, between Nodes 1 and 2, 1 and 3, and 2 and 3, with Pearson Coefficient of 0.945467, 0.744704, and 0.692493, this all illustrates that there is no correlation between words in all the nodes.

**Chart 25: Nodes (Research Objectives) Clustered by Coding Similarity for Commuters**

In contrast to the word similarity for commuters in Chart 26, the Pearson Coefficient illustrates that there is positive linear correlation between the 4 codes in Chart 24. This is because the Coefficient between Nodes 1 and 2, 1 and 3, 1 and 4, 2 and 3, 2 and 4, and 3 and 4, all is calculated to be 1.

### 4.1.3 Results from Section III of Questionnaire (Measuring the social sustainability of road transportation)

**4.1.3.1 Question 42 of Questionnaire:**

**How important are the following factors when considering your mode of travel? (Please mark the relevant box):**

The importance of the following factors in deciding their modes of travel was given by the respondents:

| | Very Important (%) | Important (%) | Moderately Important (%) | Not Important (%) |
|---|---|---|---|---|
| Convenience | 69.3 | 21.8 | 4.2 | 4.2 |
| Public transport options | 32.2 | 41.4 | 14.2 | 11.9 |
| Distance from home to public transport | 31.4 | 39.1 | 18.4 | 10.7 |
| Cost | 55.6 | 27.2 | 10.0 | 6.9 |
| Length of journey | 31.8 | 40.6 | 16.5 | 10.7 |
| Weather | 36.0 | 33.3 | 19.2 | 11.1 |
| Health benefits | 70.9 | 18.0 | 5.0 | 5.7 |
| Reliability | 60.2 | 28.0 | 4.6 | 6.9 |
| Safety | 88.1 | 8.8 | 1.1 | 1.5 |
| Frequency of service | 35.6 | 34.5 | 17.2 | 12.3 |

**Table 21: Factors Considered by Respondents before Travelling**

Table 20 illustrates the hierarchical order of importance the respondents consider in their mode of travel. The order is as follows:

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i.  safety (230/88.1%)

ii.  health benefits (185/70.9%)

iii.  convenience (181/69.3%)

iv.  reliability (157/60.2%),

v.  cost (145/55.6%)

vi.  frequency of service (93/35.6%), and

vii.  weather (94/36.0%)

are the very important factors they consider in their mode of travelling within the city. For public transport options, 108 (41.4%) of the respondents stated it is important, 106 (40.6%) stated length of journey is important, and distance from home to public transport is important to 102 (39.1%) respondents, respectively.

| | Very Important (%) | | Important (%) | | Moderately Important (%) | | Not Important (%) | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| Convenience | 65.3 | 74.6 | 25.9 | 16.7 | 6.1 | 1.8 | 2.0 | 7.0 |
| Public transport options | 32.7 | 31.6 | 38.8 | 44.7 | 17.7 | 9.6 | 10.2 | 14.0 |
| Distance from home to public transport | 33.3 | 28.9 | 38.8 | 39.5 | 17.0 | 20.2 | 10.2 | 11.4 |
| Cost | 55.8 | 55.3 | 25.9 | 28.9 | 12.2 | 7.0 | 5.4 | 8.8 |
| Length of journey | 30.6 | 33.3 | 42.2 | 38.6 | 16.3 | 16.7 | 10.2 | 11.4 |
| Weather | 34.0 | 38.6 | 31.3 | 36.0 | 20.4 | 17.5 | 13.6 | 7.9 |
| Health benefits | 65.3 | 78.1 | 19.0 | 16.7 | 8.2 | 0.9 | 6.8 | 4.4 |
| Reliability | 56.5 | 64.9 | 31.3 | 23.7 | 4.8 | 4.4 | 6.8 | 7.0 |
| Safety | 88.4 | 87.7 | 8.2 | 9.6 | 0.7 | 1.8 | 2.0 | 0.9 |
| Frequency of service | 37.4 | 33.3 | 34.0 | 35.1 | 17.7 | 16.7 | 10.2 | 14.9 |

**Table 22: Factors to Consider when Travelling**

Table 21 illustrates the various factors commuters consider before travelling in Abuja. The responses analysed by gender illustrateed that convenience is important for both males (65.3%) and females (74.6%), so also cost (males: 55.8% and females: 55.3%), weather (males: 34.0% and females: 38.6%), health benefits (males: 65.3%, females: 78.1%), reliability (males: 56.5%, females: 64.9%), safety (males: 88.4%, females: 87.7%), and

frequency of service (males: 37.4%, females: 33.3%). Therefore, from a gender perspective, all of these factors are very important to consider when commuting in Abuja.

| | Age Groups (Years) | Very Important (%) | Important (%) | Moderately Important (%) | Not Important (%) |
|---|---|---|---|---|---|
| Convenience | 18 – 27 | 61.9 | 28.6 | 6.0 | 3.6 |
| | 28 - 37 | 71.3 | 18.8 | 3.8 | 6.3 |
| | 38 - 47 | 76.5 | 17.6 | 3.9 | 0.0 |
| | 48 - 57 | 72.0 | 16.0 | 0.0 | 12.0 |
| | 58 - 67 | 77.8 | 22.2 | 0.0 | 0.0 |
| | 68 & above | 66.7 | 25.0 | 8.3 | 0.0 |
| Public transport options | 18 - 27 | 28.6 | 52.4 | 11.9 | 7.1 |
| | 28 - 37 | 31.3 | 40.0 | 12.5 | 16.3 |
| | 38 - 47 | 37.3 | 35.3 | 11.8 | 13.7 |
| | 48 - 57 | 24.0 | 36.0 | 24.0 | 16.0 |
| | 58 - 67 | 44.4 | 11.1 | 33.3 | 11.1 |
| | 68 & above | 50.0 | 33.3 | 16.7 | 0.0 |
| Distance from home to public transport | 18 - 27 | 31.0 | 41.7 | 20.2 | 7.1 |
| | 28 - 37 | 35.0 | 41.3 | 15.0 | 8.8 |
| | 38 - 47 | 35.3 | 25.5 | 23.5 | 13.7 |
| | 48 - 57 | 12.0 | 56.0 | 16.0 | 16.0 |
| | 58 - 67 | 22.2 | 33.3 | 22.2 | 22.2 |
| | 68 & above | 41.7 | 33.3 | 8.3 | 16.7 |
| Cost | 18 - 27 | 57.1 | 22.6 | 14.3 | 6.0 |
| | 28 - 37 | 56.3 | 31.3 | 6.3 | 6.3 |
| | 38 - 47 | 60.8 | 27.5 | 3.9 | 5.9 |
| | 48 - 57 | 44.0 | 24.0 | 24.0 | 8.0 |
| | 58 - 67 | 55.6 | 33.3 | 0.0 | 11.1 |
| | 68 & above | 41.7 | 33.3 | 8.3 | 16.7 |
| Length of journey | 18 - 27 | 40.5 | 39.3 | 10.7 | 9.5 |
| | 28 - 37 | 28.7 | 41.3 | 16.3 | 13.8 |
| | 38 - 47 | 27.5 | 39.2 | 19.6 | 11.8 |
| | 48 - 57 | 24.0 | 40.0 | 28.0 | 8.0 |
| | 58 - 67 | 33.3 | 55.6 | 0.0 | 11.1 |
| | 68 & above | 25.0 | 41.7 | 33.3 | 0.0 |
| Weather | 18 - 27 | 44.0 | 34.5 | 10.7 | 10.7 |
| | 28 - 37 | 33.8 | 31.3 | 20.0 | 15.0 |
| | 38 - 47 | 33.3 | 35.3 | 21.6 | 7.8 |
| | 48 - 57 | 32.0 | 28.0 | 36.0 | 4.0 |

| | | Very Important | Important | Moderately Important | Not Important |
|---|---|---|---|---|---|
| | 58 - 67 | 22.2 | 33.3 | 22.2 | 22.2 |
| | 68 & above | 25.0 | 41.7 | 25.0 | 8.3 |
| Health benefits | 18 - 27 | 71.4 | 15.5 | 6.0 | 7.1 |
| | 28 - 37 | 67.5 | 23.8 | 3.8 | 5.0 |
| | 38 - 47 | 78.4 | 13.7 | 3.9 | 2.0 |
| | 48 - 57 | 72.0 | 20.0 | 4.0 | 4.0 |
| | 58 - 67 | 88.9 | 0.0 | 0.0 | 11.1 |
| | 68 & above | 41.7 | 25.0 | 16.7 | 16.7 |
| Reliability | 18 - 27 | 56.0 | 27.4 | 6.0 | 10.7 |
| | 28 - 37 | 56.3 | 36.3 | 1.3 | 6.3 |
| | 38 - 47 | 68.6 | 21.6 | 3.9 | 3.9 |
| | 48 - 57 | 64.0 | 24.0 | 8.0 | 4.0 |
| | 58 - 67 | 88.9 | 11.1 | 0.0 | 0.0 |
| | 68 & above | 50.0 | 25.0 | 16.7 | 8.3 |
| Safety | 18 - 27 | 88.1 | 6.0 | 3.6 | 2.4 |
| | 28 - 37 | 87.5 | 11.3 | 0.0 | 1.3 |
| | 38 - 47 | 94.1 | 3.9 | 0.0 | 0.0 |
| | 48 - 57 | 84.0 | 12.0 | 0.0 | 4.0 |
| | 58 - 67 | 100.0 | 0.0 | 0.0 | 0.0 |
| | 68 & above | 66.7 | 33.3 | 0.0 | 0.0 |
| Frequency of service | 18 - 27 | 35.7 | 39.3 | 15.5 | 9.5 |
| | 28 - 37 | 35.0 | 42.5 | 12.5 | 10.0 |
| | 38 - 47 | 37.3 | 31.4 | 17.6 | 11.8 |
| | 48 - 57 | 44.0 | 12.0 | 28.0 | 16.0 |
| | 58 - 67 | 33.3 | 11.1 | 44.4 | 11.1 |
| | 68 & above | 16.7 | 25.0 | 16.7 | 41.7 |

**Table 23: Factors to Consider for Mode of Travel by Age Groups**

Table 22 illustrates the various factors commuters consider before travelling in Abuja. The responses analysed by age groups illustrate that convenience, cost, health benefits, reliability, and safety are very important factors that are highly considered by all the age groups. Cumulatively, public transport options are an important factor for all the age groups. However, distance from home, weather, and frequency of service is factored by a high percentage of all the age groups.

| | Occupation | Very Important (%) | Important (%) | Moderately Important (%) | Not Important (%) |
|---|---|---|---|---|---|
| Convenience | Civil Servant | 65.6 | 24.6 | 4.9 | 4.9 |

| | | | | | |
|---|---|---|---|---|---|
| | Private Employee | 75.5 | 17.0 | 0.0 | 5.7 |
| | Self Employed | 72.6 | 17.8 | 5.5 | 4.1 |
| | Unemployed | 61.9 | 23.8 | 4.8 | 9.5 |
| | Student | 65.1 | 27.9 | 7.0 | 0.0 |
| | Others | 70.0 | 30.0 | 0.0 | 0.0 |
| Public transport options | Civil Servant | 27.9 | 44.3 | 9.8 | 18.0 |
| | Private Employee | 28.3 | 37.7 | 15.1 | 17.0 |
| | Self Employed | 37.0 | 35.6 | 17.8 | 9.6 |
| | Unemployed | 42.9 | 42.9 | 4.8 | 9.5 |
| | Student | 23.3 | 53.5 | 18.6 | 4.7 |
| | Others | 60.0 | 30.0 | 10.0 | 0.0 |
| Distance from home to public transport | Civil Servant | 36.1 | 36.1 | 18.0 | 9.8 |
| | Private Employee | 30.2 | 32.1 | 24.5 | 11.3 |
| | Self Employed | 30.1 | 37.0 | 17.8 | 15.1 |
| | Unemployed | 38.1 | 42.9 | 19.0 | 0.0 |
| | Student | 23.3 | 51.2 | 14.0 | 11.6 |
| | Others | 40.0 | 50.0 | 10.0 | 0.0 |
| Cost | Civil Servant | 54.1 | 27.9 | 9.8 | 8.2 |
| | Private Employee | 60.4 | 20.8 | 7.5 | 9.4 |
| | Self Employed | 52.1 | 35.6 | 5.5 | 6.8 |
| | Unemployed | 42.9 | 38.1 | 14.3 | 4.8 |
| | Student | 62.8 | 16.3 | 16.3 | 4.7 |
| | Others | 60.0 | 20.0 | 20.0 | 0.0 |
| Length of journey | Civil Servant | 34.4 | 37.7 | 21.3 | 6.6 |
| | Private Employee | 24.5 | 43.4 | 18.9 | 11.3 |
| | Self Employed | 24.7 | 43.8 | 16.4 | 15.1 |
| | Unemployed | 38.1 | 28.6 | 23.8 | 9.5 |
| | Student | 44.2 | 41.9 | 4.7 | 9.3 |
| | Others | 40.0 | 40.0 | 10.0 | 10.0 |

| | | | | | |
|---|---|---|---|---|---|
| Weather | Civil Servant | 37.7 | 37.7 | 14.8 | 9.8 |
| | Private Employee | 28.3 | 32.1 | 22.6 | 15.1 |
| | Self Employed | 34.2 | 30.1 | 24.7 | 11.0 |
| | Unemployed | 47.6 | 33.3 | 9.5 | 9.5 |
| | Student | 39.5 | 32.6 | 16.3 | 11.6 |
| | Others | 40.0 | 40.0 | 20.0 | 0.0 |
| Health benefits | Civil Servant | 63.9 | 24.6 | 3.3 | 8.2 |
| | Private Employee | 66.0 | 20.8 | 3.8 | 7.5 |
| | Self Employed | 76.7 | 15.1 | 5.5 | 2.7 |
| | Unemployed | 66.7 | 14.3 | 14.3 | 4.8 |
| | Student | 74.4 | 14.0 | 4.7 | 7.0 |
| | Others | 90.0 | 10.0 | 0.0 | 0.0 |
| Reliability | Civil Servant | 60.7 | 27.9 | 3.3 | 8.2 |
| | Private Employee | 52.8 | 34.0 | 1.9 | 9.4 |
| | Self Employed | 67.1 | 21.9 | 5.5 | 5.5 |
| | Unemployed | 76.2 | 14.3 | 4.8 | 4.8 |
| | Student | 46.5 | 37.2 | 9.3 | 7.0 |
| | Others | 70.0 | 30.0 | 0.0 | 0.0 |
| Safety | Civil Servant | 88.5 | 8.2 | 0.0 | 3.3 |
| | Private Employee | 83.0 | 13.2 | 0.0 | 1.9 |
| | Self Employed | 89.0 | 8.2 | 1.4 | 1.4 |
| | Unemployed | 85.7 | 9.5 | 4.8 | 0.0 |
| | Student | 93.0 | 4.7 | 2.3 | 0.0 |
| | Others | 90.0 | 10.0 | 0.0 | 0.0 |
| Frequency of service | Civil Servant | 37.7 | 39.3 | 9.8 | 13.1 |
| | Private Employee | 26.4 | 39.6 | 18.9 | 13.2 |
| | Self Employed | 37.0 | 28.8 | 19.2 | 15.1 |
| | Unemployed | 42.9 | 28.6 | 23.8 | 4.8 |

| | Student | 34.9 | 34.9 | 18.6 | 11.6 |
|---|---|---|---|---|---|
| | Others | 50.0 | 30.0 | 20.0 | 0.0 |

**Table 24: Factors to Consider for Mode of Travel by Occupation**

Table 23 illustrates the responses of the occupations on factors to consider when travelling. All the occupations responded that convenience, cost, health benefits, reliability, and safety are all very important factors to consider for mode of travel. However, the civil servants, private employees, and students feel public transport options are important but not very, although to the self-employed, unemployed, and other occupations it is a very important factor. However, an equal percentage of the unemployed feel it is not a very important factor. Furthermore, distance from public transport is important to all the occupations but an equal percentage of civil servants feel it is very important. Length of journey is very important to the unemployed, students, and other occupations but not so important to the civil servants, private employees, and self-employed, although an equal percentage of other occupations feel it is not very important. Weather is a very important factor to the self-employed, unemployed, and students but an equal percentage of civil servants and other occupations feel it is both very important and not so important. The private employees feel it is important. Lastly, frequency of service is very important to the self-employed, unemployed, and other occupations. It is important to civil servants and private employees, yet an equal percentage of students responded that it is both very important and important.

### 4.1.3.2 Question 44 of Questionnaire:

**Rate how effective you think the following initiatives would be to encourage less use of the private car (Please mark the relevant box):**

The following are responses to initiatives that would be effective (or ineffective) in encouraging the reduced use of private cars in Abuja:

| | Very Effective (%) | Effective (%) | Neither Effective nor Ineffective (%) | Ineffective (%) | Very Ineffective (%) | Not Applicable (%) |
|---|---|---|---|---|---|---|
| Public transport routes (new routes/publicly advertised existing routes) | 35.6 | 31.8 | 19.5 | 3.8 | 0.4 | 8.8 |
| Cheaper fares | 41.0 | 38.3 | 8.4 | 4.2 | 1.1 | 6.9 |
| Fewer parking spaces | 31.8 | 28.4 | 19.5 | 6.9 | 5.0 | 8.4 |
| Introduction of parking fees | 33.7 | 23.8 | 13.4 | 15.7 | 3.4 | 10.0 |
| Introduction of bicycle parking | 16.1 | 15.3 | 19.5 | 19.9 | 11.9 | 17.2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Car sharing scheme | 13.8 | 20.7 | 25.3 | 17.2 | 6.5 | 16.5 |
| Bicycle lanes | 17.2 | 24.1 | 15.7 | 13.4 | 10.0 | 19.5 |
| Reliable public transport service | 60.9 | 19.9 | 4.6 | 3.4 | 1.1 | 10.0 |
| Better side walk | 30.7 | 21.8 | 11.1 | 10.0 | 8.0 | 18.4 |

**Table 25: Initiatives to Encourage the Less Use of Private Cars**

As Table 24 illustrates, the respondents have stated that:

- reliable public transport service (159/60.9%)
- cheaper fares (107/41.0%)
- public transport routes (new routes/publicly advertised existing routes) (93/35.6%)
- introduction of parking fees (88/33.7%)
- fewer parking spaces (83/31.8%), and
- better side walk (80/30.7%)

are very effective initiatives that would encourage the reduced use of private cars. However, 63 (24.1%) stated having bicycle lanes on the roads is an effective initiative, while 52 (19.9%) of respondents notes that introduction of bicycle parking is an ineffective initiative. Lastly, a car sharing scheme is neither effective nor ineffective 66 (25.3%).

| | Very Effective (%) | | Effective (%) | | Neither Effective nor Ineffective (%) | | Ineffective (%) | | Very Ineffective (%) | | Not Applicable (%) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| Public transport routes (new routes/publicly advertised existing routes) | 32.7 | 39.5 | 37.4 | 24.6 | 19.0 | 20.2 | 3.4 | 4.4 | 0.7 | 0.0 | 6.8 | 11.4 |
| Cheaper fares | 40.1 | 42.1 | 35.4 | 42.1 | 11.6 | 4.4 | 5.4 | 2.6 | 2.0 | 0.0 | 5.4 | 8.8 |
| Fewer parking spaces | 27.2 | 37.7 | 29.3 | 27.2 | 19.7 | 19.3 | 8.2 | 5.3 | 8.2 | 0.9 | 7.5 | 9.6 |
| Introduction of parking fees | 29.3 | 39.5 | 23.8 | 23.7 | 15.6 | 10.5 | 17.7 | 13.2 | 4.8 | 1.8 | 8.8 | 11.4 |
| Introduction of bicycle parking | 15.6 | 16.7 | 14.3 | 16.7 | 19.0 | 20.2 | 19.0 | 21.1 | 12.2 | 11.4 | 19.7 | 14.0 |
| Car sharing scheme | 10.9 | 17.5 | 22.4 | 18.4 | 24.5 | 26.3 | 16.3 | 18.4 | 7.5 | 5.3 | 18.4 | 14.0 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bicycle lanes | 17.7 | 16.7 | 25.9 | 21.9 | 14.3 | 17.5 | 14.3 | 12.3 | 7.5 | 13.2 | 20.4 | 18.4 |
| Reliable public transport service | 61.9 | 59.6 | 20.4 | 19.3 | 6.1 | 2.6 | 2.7 | 4.4 | 0.7 | 1.8 | 8.2 | 12.3 |
| Better sidewalk | 27.2 | 35.1 | 25.9 | 16.7 | 12.9 | 8.8 | 8.2 | 12.3 | 7.5 | 8.8 | 18.4 | 18.4 |

**Table 26: Initiatives to Reduce Private Cars in Abuja from Gender Perspectives**

Table 25 illustrates the various initiatives that will discourage private cars users to drive within the city. The data is disaggregated by gender. The data illustrates that a higher percentage of females (39.5%) think that it will be very effective; if new public transport routes are provided and publicly advertised private cars will reduce on roads but 37.4% of males feel it is an effective initiative. Males feel that cheaper fares are very effective in reducing private car usage. 42.1% of females are supportive of this initiative but the same percentage of females believe it is an effective strategy. Fewer parking space encourage car users to use their vehicle according to 37.7% of females but 29.3% of males believe it is effective. Men and women think introduction of parking fees will encourage car usage though more of the females (39.5%) believe in that initiative than the males (29.3%). Furthermore, females (21.1%) think that introduction of bicycle parking is an ineffective initiative, but the male gender (19.0%) believes it is neither effective nor ineffective and it is an ineffective initiative. A car sharing scheme is neither effective nor ineffective according to men and women (female: 26.3%, male: 24.5%). Provision of bicycle lanes is an effective initiative according to men and women (male: 25.9%, female: 21.9%). A reliable public transport service will be very effective in the reduction of private car usage in the city according to 61.9% of male and 59.6% of female respondents, respectively. Lastly, 35.1% of females want a better sidewalk and so, also, do 27.2% of males.

| | Age Groups | Very Effective (%) | Effective (%) | Neither Effective nor Ineffective (%) | Ineffective (%) | Very Ineffective (%) | Not Applicable (%) |
|---|---|---|---|---|---|---|---|
| Public transport routes (new routes/publicly advertised existing routes) | 18 - 27 | 41.7 | 33.3 | 14.3 | 4.8 | 0.0 | 6.0 |
| | 28 - 37 | 38.8 | 35.0 | 15.0 | 2.5 | 1.3 | 7.5 |
| | 38 - 47 | 25.5 | 31.4 | 31.4 | 3.9 | 0.0 | 7.8 |
| | 48 - 57 | 20.0 | 28.0 | 28.0 | 8.0 | 0.0 | 16.0 |
| | 58 - 67 | 22.2 | 11.1 | 22.2 | 0.0 | 0.0 | 44.4 |
| | 68 & above | 58.3 | 25.0 | 16.7 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cheaper fares | 18 – 27 | 44.0 | 45.2 | 3.6 | 3.6 | 0.0 | 3.6 |
| | 28 – 37 | 50.0 | 31.3 | 8.8 | 3.8 | 1.3 | 5.0 |
| | 38 – 47 | 31.4 | 37.3 | 11.8 | 7.8 | 3.9 | 7.8 |
| | 48 – 57 | 32.0 | 32.0 | 16.0 | 4.0 | 0.0 | 16.0 |
| | 58 – 67 | 22.2 | 33.3 | 11.1 | 0.0 | 0.0 | 33.3 |
| | 68 & above | 33.3 | 58.3 | 8.3 | 0.0 | 0.0 | 0.0 |
| Fewer parking spaces | 18 – 27 | 28.6 | 25.0 | 23.8 | 9.5 | 7.1 | 6.0 |
| | 28 – 37 | 23.8 | 35.0 | 25.0 | 6.3 | 3.8 | 6.3 |
| | 38 – 47 | 43.1 | 29.4 | 13.7 | 7.8 | 3.9 | 2.0 |
| | 48 – 57 | 40.0 | 20.0 | 8.0 | 4.0 | 4.0 | 24.0 |
| | 58 – 67 | 44.4 | 0.0 | 0.0 | 0.0 | 11.1 | 44.4 |
| | 68 & above | 33.3 | 41.7 | 16.7 | 0.0 | 0.0 | 8.3 |
| Introduction of parking fees | 18 – 27 | 26.2 | 31.0 | 15.5 | 4.8 | 9.5 | 9.5 |
| | 28 – 37 | 25.0 | 23.8 | 13.8 | 3.8 | 11.3 | 11.3 |
| | 38 – 47 | 52.9 | 15.7 | 13.7 | 2.0 | 3.9 | 3.9 |
| | 48 – 57 | 52.0 | 20.0 | 0.0 | 4.0 | 16.0 | 16.0 |
| | 58 – 67 | 44.4 | 0.0 | 11.1 | 0.0 | 33.3 | 33.3 |
| | 68 & above | 16.7 | 33.3 | 25.0 | 0.0 | 0.0 | 0.0 |
| Introduction of bicycle parking | 18 – 27 | 16.7 | 19.0 | 17.9 | 22.6 | 10.7 | 13.1 |
| | 28 – 37 | 10.0 | 17.5 | 21.3 | 20.0 | 13.8 | 17.5 |
| | 38 – 47 | 23.5 | 11.8 | 23.5 | 17.6 | 9.8 | 13.7 |
| | 48 – 57 | 20.0 | 4.0 | 16.0 | 20.0 | 12.0 | 28.0 |
| | 58 – 67 | 11.1 | 11.1 | 0.0 | 11.1 | 11.1 | 55.6 |
| | 68 & above | 16.7 | 16.7 | 25.0 | 16.7 | 16.7 | 8.3 |
| Car sharing scheme | 18 – 27 | 13.1 | 26.2 | 23.8 | 15.5 | 8.3 | 13.1 |
| | 28 – 37 | 8.8 | 18.8 | 23.8 | 20.0 | 6.3 | 22.5 |
| | 38 – 47 | 17.6 | 15.7 | 31.4 | 21.6 | 3.9 | 9.8 |
| | 48 – 57 | 16.0 | 20.0 | 24.0 | 16.0 | 8.0 | 16.0 |
| | 58 – 67 | 22.2 | 0.0 | 22.2 | 0.0 | 11.1 | 44.4 |
| | 68 & above | 25.0 | 33.3 | 25.0 | 8.3 | 0.0 | 8.3 |
| Bicycle lanes | 18 – 27 | 16.7 | 31.0 | 17.9 | 9.5 | 10.7 | 14.3 |
| | 28 – 37 | 17.5 | 23.8 | 17.5 | 16.3 | 8.8 | 16.3 |
| | 38 – 47 | 19.6 | 15.7 | 15.7 | 19.6 | 9.8 | 19.6 |
| | 48 – 57 | 12.0 | 16.0 | 12.0 | 8.0 | 16.0 | 36.0 |

| | 58 – 67 | 0.0 | 22.2 | 0.0 | 11.1 | 0.0 | 66.7 |
|---|---|---|---|---|---|---|---|
| | 68 & above | 33.3 | 33.3 | 8.3 | 8.3 | 8.3 | 8.3 |
| Reliable public transport service | 18 – 27 | 48.8 | 22.6 | 9.5 | 4.8 | 3.6 | 10.7 |
| | 28 – 37 | 63.7 | 17.5 | 2.5 | 6.3 | 0.0 | 10.0 |
| | 38 – 47 | 74.5 | 19.6 | 2.0 | 0.0 | 0.0 | 3.9 |
| | 48 – 57 | 64.0 | 20.0 | 0.0 | 0.0 | 0.0 | 16.0 |
| | 58 – 67 | 55.6 | 11.1 | 0.0 | 0.0 | 0.0 | 33.3 |
| | 68 & above | 66.7 | 25.0 | 8.3 | 0.0 | 0.0 | 0.0 |
| Better sidewalk | 18 – 27 | 33.3 | 28.6 | 8.3 | 10.7 | 6.0 | 13.1 |
| | 28 – 37 | 30.0 | 21.3 | 13.8 | 8.8 | 8.8 | 17.5 |
| | 38 – 47 | 29.4 | 15.7 | 9.8 | 11.8 | 11.8 | 21.6 |
| | 48 – 57 | 28.0 | 12.0 | 12.0 | 12.0 | 8.0 | 28.0 |
| | 58 – 67 | 22.2 | 11.1 | 0.0 | 0.0 | 11.1 | 55.6 |
| | 68 & above | 33.3 | 33.3 | 25.0 | 8.3 | 0.0 | 0.0 |
| | | | | | | | |

**Table 27: Initiatives to Reduce Private Cars in Abuja from Age Perspective**

Table 26 illustrates the various initiatives that will discourage private car users to drive within the city. The data is disaggregated by age group. A high percentage of the 18 – 27 age group (41.7%), 58 – 67 (22.2%), and 68 and above (58.3%) feels new public transport routes that are publicly advertised (together with the existing routes) is a very effective initiative. The 38 – 47 (31.4%) and 48 – 57 (28.0%) age groups feel it is effective but not very effective. However, 22.2% of the 58 – 67 group also feel it is neither an effective nor an ineffective initiative. Cheaper fares is a very effective initiative according to the 28 – 37 (50.0%) and the 48 – 57 (32.0%) age groups, respectively. However, 45.2%, 37.3%, 32.0%, 33.3%, and 58.3% of the 18 – 27, the 38 – 47, the 48 – 57, the 58 – 67, and the 68 and above age groups feel cheaper fares are effective but not very effective. For fewer parking spaces, a high percentage of the 18 – 27, 38 – 47, 48 – 57, and 58 – 47 age groups feel it is a very effective initiative. The 28 – 37 and 68 and above groups feel it is an effective initiative but a very good one. By introducing parking fees, 28 – 37, 38 – 47, 48 – 57, and 58 – 67-year olds think it will reduce private car usage in the city. However, the 18 – 27 and the 68 and above age groups think it is not a very effective initiative but a worthwhile one. In the case of introducing bicycle parking, it is an ineffective initiative as responded by 18 – 27-year olds (22.6%), 48 – 57-year olds (20.0%), and 58 – 67-year olds (11.1%). However, 11.1% of the 58 – 67 age group equally believes that it is very effective, it is effective, and it is very ineffective. Therefore, if the

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responses are aggregated, 22.2% (adding up those who chose very effective and effective) of the 58 – 67-year olds are in support of the initiative while 22.2% (adding up ineffective and very ineffective) are not. Furthermore, 21.3% of the 28 – 37 years, 23.5% of 38 – 47 years, and 25.0% of 68 years and above groups responded that it is neither an effective nor an ineffective initiative. Additionally, 23.5% of the 38 – 47 year-oldsbelieve it is a very effective initiative. Car sharing scheme is a very effective initiative according to 38 – 47 and 58 – 67-year olds, but it is only an effective initiative as responded by the 18 – 27 and 68 years and above groups. However, the 28 – 37, the 38 – 47, the 48 – 57, and the 58 – 67 age groups believe it is neither an effective nor ineffective initiative. It should be noted that equal percentages (25.0%) of the 68 and above age group thinks it is very effective and it is also neither an effective nor an ineffective initiative. Similarly, an equal percentage (22.2%) of the 58 – 67-year olds think it is a very effective and neither effective nor ineffective. Bicycle lanes are very effective (38 – 47-year olds and 68 and above year-olds) and effective (18 – 27, 28 – 37, 48 – 57, 58 – 67, 68 and above year-olds). Equal percentages of 38- 47 year-olds (19.6%) thinks it is very effective and it is also ineffective. Similarly, 33.3% of the 68 and above age group think it is very effective and effective, respectively. Having a reliable public transport service is a very effective initiative to discourage car usage in the city according to a a high percentage of all the age groups. Also, a better sidewalk is a very effective initiative as responded by the 18 – 27, 28 – 37, 38 – 47, 48 – 57 58 – 67, and 68 and above age groups.

|  | Occupation | Very Effective (%) | Effective (%) | Neither Effective nor Ineffective (%) | Ineffective (%) | Very Ineffective (%) | Not Applicable (%) |
|---|---|---|---|---|---|---|---|
| Public transport routes (new routes/publicly advertised existing routes) | Civil Servant | 34.4 | 37.7 | 16.4 | 1.6 | 1.6 | 8.2 |
|  | Private Employee | 39.6 | 32.1 | 15.1 | 7.5 | 0.0 | 5.7 |
|  | Self Employed | 32.9 | 30.1 | 23.3 | 4.1 | 0.0 | 9.6 |
|  | Unemployed | 28.6 | 33.3 | 28.6 | 0.0 | 0.0 | 9.5 |
|  | Student | 41.9 | 27.9 | 14.0 | 4.7 | 0.0 | 11.6 |
|  | Others | 30.0 | 20.0 | 40.0 | 0.0 | 0.0 | 10.0 |
| Cheaper fares | Civil Servant | 41.0 | 32.8 | 9.8 | 4.9 | 3.3 | 8.2 |
|  | Private Employee | 64.2 | 20.8 | 9.4 | 3.8 | 0.0 | 1.9 |
|  | Self Employed | 21.9 | 50.7 | 9.6 | 8.2 | 1.4 | 8.2 |
|  | Unemployed | 42.9 | 38.1 | 4.8 | 0.0 | 0.0 | 14.3 |
|  | Student | 46.5 | 46.5 | 2.3 | 0.0 | 0.0 | 4.7 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Others | 30.0 | 40.0 | 20.0 | 0.0 | 0.0 | 10.0 |
| Fewer parking spaces | Civil Servant | 19.7 | 29.5 | 26.2 | 6.6 | 6.6 | 11.5 |
| | Private Employee | 32.1 | 35.8 | 17.0 | 5.7 | 7.5 | 1.9 |
| | Self Employed | 39.7 | 24.7 | 16.4 | 6.8 | 4.1 | 8.2 |
| | Unemployed | 38.1 | 28.6 | 4.8 | 19.0 | 0.0 | 9.5 |
| | Student | 27.9 | 25.6 | 27.9 | 4.7 | 4.7 | 9.3 |
| | Others | 50.0 | 20.0 | 10.0 | 0.0 | 0.0 | 20.0 |
| Introduction of parking fees | Civil Servant | 19.7 | 29.5 | 16.4 | 18.0 | 3.3 | 13.1 |
| | Private Employee | 34.0 | 22.6 | 15.1 | 18.9 | 5.7 | 3.8 |
| | Self Employed | 47.9 | 17.8 | 9.6 | 12.3 | 2.7 | 9.6 |
| | Unemployed | 28.6 | 23.8 | 23.8 | 9.5 | 0.0 | 14.3 |
| | Student | 27.9 | 30.2 | 11.6 | 18.6 | 2.3 | 9.3 |
| | Others | 50.0 | 10.0 | 0.0 | 10.0 | 10.0 | 20.0 |
| Introduction of bicycle parking | Civil Servant | 19.7 | 13.1 | 21.3 | 16.4 | 11.5 | 18.0 |
| | Private Employee | 11.3 | 15.1 | 24.5 | 17.0 | 22.6 | 9.4 |
| | Self Employed | 19.2 | 17.8 | 15.1 | 17.8 | 5.5 | 24.7 |
| | Unemployed | 19.0 | 14.3 | 9.5 | 33.3 | 14.3 | 9.5 |
| | Student | 14.0 | 14.0 | 23.3 | 25.6 | 7.0 | 16.3 |
| | Others | 0.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| Car sharing scheme | Civil Servant | 13.1 | 21.3 | 19.7 | 21.3 | 4.9 | 19.7 |
| | Private Employee | 20.8 | 15.1 | 28.3 | 15.1 | 11.3 | 9.4 |
| | Self Employed | 16.4 | 21.9 | 26.0 | 15.1 | 4.1 | 16.4 |
| | Unemployed | 9.5 | 28.6 | 28.6 | 14.3 | 4.8 | 14.3 |
| | Student | 7.0 | 20.9 | 25.6 | 18.6 | 7.0 | 20.9 |
| | Others | 0.0 | 20.0 | 30.0 | 20.0 | 10.0 | 20.0 |
| Bicycle lanes | Civil Servant | 21.3 | 27.9 | 13.1 | 13.1 | 9.8 | 14.8 |
| | Private Employee | 18.9 | 20.8 | 13.2 | 18.9 | 13.2 | 15.1 |
| | Self Employed | 15.1 | 20.5 | 20.5 | 15.1 | 4.1 | 24.7 |
| | Unemployed | 19.0 | 23.8 | 9.5 | 4.8 | 23.8 | 19.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Student | 11.6 | 30.2 | 18.6 | 11.6 | 4.7 | 23.3 |
| | Others | 20.0 | 20.0 | 10.0 | 0.0 | 30.0 | 20.0 |
| Reliable public transport service | Civil Servant | 55.7 | 23.0 | 6.6 | 4.9 | 1.6 | 8.2 |
| | Private Employee | 73.6 | 15.1 | 1.9 | 3.8 | 0.0 | 5.7 |
| | Self Employed | 67.1 | 21.9 | 1.4 | 2.7 | 0.0 | 6.8 |
| | Unemployed | 52.4 | 28.6 | 0.0 | 0.0 | 4.8 | 14.3 |
| | Student | 48.8 | 14.0 | 11.6 | 4.7 | 0.0 | 20.9 |
| | Others | 50.0 | 20.0 | 10.0 | 0.0 | 10.0 | 10.0 |
| Better sidewalk | Civil Servant | 31.1 | 23.0 | 16.4 | 9.8 | 3.3 | 16.4 |
| | Private Employee | 28.3 | 24.5 | 9.4 | 11.3 | 13.2 | 13.2 |
| | Self Employed | 38.4 | 16.4 | 5.5 | 9.6 | 6.8 | 23.3 |
| | Unemployed | 23.8 | 19.0 | 14.3 | 14.3 | 9.5 | 19.0 |
| | Student | 20.9 | 30.2 | 14.0 | 9.3 | 4.7 | 20.9 |
| | Others | 40.0 | 10.0 | 10.0 | 0.0 | 30.0 | 10.0 |
| | | | | | | | |

**Table 28: Initiatives to Reduce Private Cars in Abuja from Occupations Perspective**

Table 27 illustrates the various initiatives that will discourage private car users to drive within the city by occupation. The civil servants (34.4%), private employee (39.6%), self-employed (32.9%), and students (41.9%) responded that new public transport routes and publicly advertised existing routes are very effective initiatives to discourage the usage of private cars. The unemployed (33.3%) stated it is effective and other occupations responded that it is neither an effective nor ineffective initiative. Cheaper fares are very effective according to civil servants (41.0%), private employees (64.2%), the unemployed (42.9%), and students (46.5%). Though it is effective for a high percentage of the self-employed (50.7%) and other occupations (40.0%), it is equally effective for 46.5% of students. Likewise, fewer parking spaces is a very effective initiative for 39.7% of the self-employed, 38.1% of the unemployed, 27.9% of students, and 50.0% of other occupations. However, 29.5% of civil servants and 35.8% of the private employees responded that it is an effective initiative. Introduction of parking fees is a very effective initiative according to private employees (34.0%), the self-employed (47.9%), the unemployed (28.6%), and other occupations (50.0%). Introduction of bicycle parking is neither effective nor ineffective according to 21.3% of civil servants, 24.5% of private employees, and 20.0% of other occupations. An equal percentage (20.0%) of other occupations also responded that it is an effective, ineffective, and very ineffective initiative.

Additionally, the self-employed (24.7%) responded that it is not applicable to them, and it is not effective according to the unemployed (33.3%) and students (25.6%). For a car sharing scheme, an equal percentage of civil servants (21.3%) answered that it is an effective initiative and also an ineffective one. 28.3% of private employees, 26.0% of the self-employed, 28.6% of the unemployed, 25.6% of students, and 30.0% of other occupations stated it is neither an effective nor ineffective initiative. However, an equal percentage of the unemployed (28.6%) believe it is an effective initiative. Bicycle lanes are effective as responded by a high percentage of civil servants, private employees, the self-employed, the unemployed, and students. An equal percentage of the self-employed (20.5%) also responded that it is neither an effective nor ineffective initiative. Also, an equal percentage of the unemployed (23.8%) feel it is a very ineffective initiative, while a higher percentage of other occupations responded that it is very ineffective. A reliable public transport system is very effective according to all the occupations. For better sidewalks, it is a very effective initiative (private employees, self-employed, the unemployed, and other occupations) and an effective one also (civil servants and students).

### 4.1.3.3 Question 45 of Questionnaire:

**Can you please mark the relevant box that you feel is applicable to the services provided by the public transportation?**

Respondents evaluated the existing public transport service in Abuja, and their responses to specific direct questions are presented below:

| Evaluation | Commuter Response (%) | | |
|---|---|---|---|
| | **Yes** | **No** | **Not Applicable** |
| Is the public transport reliable? | 48.7 | 39.5 | 11.9 |
| Is it efficient? | 43.7 | 42.5 | 13.8 |
| Is it effective? | 46.7 | 41.0 | 12.3 |
| Is it safe? | 49.4 | 41.8 | 8.8 |
| Is it comfortable? | 36.0 | 53.3 | 10.7 |
| Is it always available? | 60.5 | 29.9 | 9.6 |
| Is it affordable? | 82.0 | 10.0 | 8.0 |
| Is it accessible? | 68.6 | 22.6 | 8.8 |

**Table 29: Evaluation of Existing Public Transport Service in Abuja by the Respondents**

The respondents stated that the public transport services in Abuja illustraten in Table 28 is:

a.    affordable (214/82.0%)

b.    accessible (179/68.6%)

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c.  available (158/60.5%)

d.  safe (129/49.4%)

e.  reliable (127/48.7%)

f.  effective (122/46.7%), and

g.  efficient (114/43.7%).

Furthermore, from the responses the service is not comfortable for 139 (53.3%) of the respondents.

| Evaluation | Commuter Responses (%) | | | | | |
|---|---|---|---|---|---|---|
| | Yes | | No | | Not Applicable | |
| | Male | Female | Male | Female | Male | Female |
| Is the public transport reliable? | 45.6 | 52.6 | 42.9 | 35.1 | 11.6 | 12.3 |
| Is it efficient? | 40.8 | 47.4 | 45.6 | 38.6 | 13.6 | 14.0 |
| Is it effective? | 42.2 | 52.6 | 45.6 | 35.1 | 12.2 | 12.3 |
| Is it safe? | 48.3 | 50.9 | 42.2 | 41.2 | 9.5 | 7.9 |
| Is it comfortable? | 35.4 | 36.8 | 53.7 | 52.6 | 10.9 | 10.5 |
| Is it always available? | 54.4 | 68.4 | 35.4 | 22.8 | 10.2 | 8.8 |
| Is it affordable? | 81.0 | 83.3 | 10.9 | 8.8 | 8.2 | 7.9 |
| Is it accessible? | 64.6 | 73.7 | 27.2 | 16.7 | 8.2 | 9.6 |

**Table 30: Evaluation of Public Transport Services in Abuja by Gender**

There is little disparity on how both genders see the public transport services in Abuja. As illustrate on Table 29, men and women (female: 52.6%, male: 45.6%) believe it is reliable, it is safe (female: 50.9%, male: 48.3%), it is always available (female: 68.4%, male: 54.4%), it is affordable (female: 83.3%, male: 81.0%), and it is accessible (female: 73.7%, male 64.6%). However, the female gender believes it is efficient (47.4%) and effective (52.6%) whereas the male gender believes it is not efficient (45.6%) and not effective (45.6%). Lastly, it is not comfortable for both genders (male: 53.7%, female: 52.6%).

| Evaluation | Age Groups | Commuter Responses (%) | | |
|---|---|---|---|---|
| | | Yes | No | Not Applicable |
| Is the public transport reliable? | 18 – 27 | 56.0 | 36.9 | 7.1 |
| | 28 – 37 | 46.3 | 45.0 | 8.8 |
| | 38 – 47 | 47.1 | 33.3 | 19.6 |
| | 48 – 57 | 20.0 | 48.0 | 32.0 |
| | 58 – 67 | 77.8 | 22.2 | 0.0 |
| | 68 & above | 58.3 | 41.7 | 0.0 |
| Is it efficient? | 18 – 27 | 53.6 | 36.9 | 9.5 |

| | | | | |
|---|---|---|---|---|
| | 28 – 37 | 42.5 | 46.3 | 11.3 |
| | 38 – 47 | 41.2 | 37.3 | 21.6 |
| | 48 – 57 | 16.0 | 52.0 | 32.0 |
| | 58 – 67 | 66.7 | 33.3 | 0.0 |
| | 68 & above | 33.3 | 66.7 | 0.0 |
| Is it effective? | 18 – 27 | 51.2 | 39.3 | 9.5 |
| | 28 – 37 | 45.0 | 42.5 | 12.5 |
| | 38 – 47 | 49.0 | 37.3 | 13.7 |
| | 48 – 57 | 28.0 | 44.0 | 28.0 |
| | 58 – 67 | 55.6 | 44.4 | 0.0 |
| | 68 & above | 50.0 | 50.0 | 0.0 |
| Is it safe? | 18 – 27 | 38.1 | 54.8 | 7.1 |
| | 28 – 37 | 46.3 | 47.5 | 6.3 |
| | 38 – 47 | 64.7 | 23.5 | 11.8 |
| | 48 – 57 | 60.0 | 16.0 | 24.0 |
| | 58 – 67 | 77.8 | 22.2 | 0.0 |
| | 68 & above | 41.7 | 58.3 | 0.0 |
| Is it comfortable? | 18 – 27 | 32.1 | 60.7 | 7.1 |
| | 28 – 37 | 31.3 | 60.0 | 8.8 |
| | 38 – 47 | 47.1 | 37.3 | 15.7 |
| | 48 – 57 | 36.0 | 36.0 | 28.0 |
| | 58 – 67 | 55.6 | 44.4 | 0.0 |
| | 68 & above | 33.3 | 66.7 | 0.0 |
| Is it always available? | 18 – 27 | 60.7 | 33.3 | 6.0 |
| | 28 – 37 | 56.3 | 40.0 | 3.8 |
| | 38 – 47 | 58.8 | 27.5 | 13.7 |
| | 48 – 57 | 64.0 | 8.0 | 28.0 |
| | 58 – 67 | 77.8 | 11.1 | 11.1 |
| | 68 & above | 75.0 | 8.3 | 16.7 |
| Is it affordable? | 18 – 27 | 81.0 | 14.3 | 4.8 |
| | 28 – 37 | 83.8 | 11.3 | 5.0 |
| | 38 – 47 | 82.4 | 3.9 | 13.7 |
| | 48 – 57 | 76.0 | 0.0 | 24.0 |
| | 58 – 67 | 88.9 | 11.1 | 0.0 |
| | 68 & above | 83.3 | 16.7 | 0.0 |
| Is it accessible? | 18 – 27 | 70.2 | 25.0 | 4.8 |
| | 28 – 37 | 66.3 | 26.3 | 7.5 |
| | 38 – 47 | 64.7 | 21.6 | 13.7 |
| | 48 – 57 | 60.0 | 16.0 | 24.0 |

| | 58 – 67 | 88.9 | 11.1 | 0.0 |
| | 68 & above | 91.7 | 8.3 | 0.0 |

**Table 31: Evaluation of Public Transport Services in Abuja by Age Groups**

Table 30 illustrates the responses from the perspectives of the participants' age groups. Abuja public transport is <u>reliable</u> according to a high percentage of the 18 – 27, 28 – 37, 38 – 47, 58 – 67, and 68 and above age groups. However, the 48 – 57 year-olds feel it is not reliable. It is also <u>efficient</u> according to the 18 – 27, 38 – 47, and 58 – 67 age groups. Yet, to the 28 – 37, 48 – 57, and 68 and above age groups it is not efficient. Furthermore, it is <u>effective</u> to the 18 – 27, 28 – 37, 38 – 47, and 58 – 67 age groups, although the 48 – 57 year-olds feel it is not effective. It should be noted that an equal percentage (50.0%) of the 68 and above year-olds feel it is both effective and not effective. In terms of <u>safety</u>, the public transport is safe according to a high percentage of the 38 – 47, 48 – 57, and 58 – 67 age groups. Nevertheless, a high percentage of the 18 – 27, 28 – 37, and the 68 and above age groups all responded it is not safe. It is not <u>comfortable</u> according to the 18 – 27, 28 – 37, and 68 and above age groups, but is comfortable as responded by the 38 – 47 and 58 – 67 age groups. However, an equal percentage (36.0%) of the 48 – 57 age group feel it is comfortable and not comfortable. It is <u>always available</u> and <u>affordable</u> as responded by a high percentage of all the age groups. It is also <u>accessible</u> according to a high percentage of all the age groups.

| Evaluation | Occupation | Commuter Responses (%) | | |
| --- | --- | --- | --- | --- |
| | | **Yes** | **No** | **Not Applicable** |
| Is the public transport reliable? | Civil Servant | 29.5 | 57.4 | 13.1 |
| | Private Employee | 45.3 | 35.8 | 18.9 |
| | Self Employed | 61.6 | 27.4 | 11.0 |
| | Unemployed | 66.7 | 33.3 | 0.0 |
| | Student | 46.5 | 44.2 | 9.3 |
| | Others | 60.0 | 30.0 | 10.0 |
| Is it efficient? | Civil Servant | 41.0 | 41.0 | 18.0 |
| | Private Employee | 37.7 | 45.3 | 17.0 |
| | Self Employed | 43.8 | 41.1 | 15.1 |
| | Unemployed | 47.6 | 52.4 | 0.0 |
| | Student | 48.8 | 41.9 | 9.3 |
| | Others | 60.0 | 30.0 | 10.0 |
| Is it effective? | Civil Servant | 36.1 | 50.8 | 13.1 |
| | Private Employee | 50.9 | 32.1 | 17.0 |
| | Self Employed | 52.1 | 37.0 | 11.0 |
| | Unemployed | 57.1 | 38.1 | 4.8 |

| | | | | |
|---|---|---|---|---|
| | Student | 41.9 | 46.5 | 11.6 |
| | Others | 50.0 | 40.0 | 10.0 |
| Is it safe? | Civil Servant | 41.0 | 50.8 | 8.2 |
| | Private Employee | 45.3 | 37.7 | 17.0 |
| | Self Employed | 63.0 | 28.8 | 8.2 |
| | Unemployed | 66.7 | 33.3 | 0.0 |
| | Student | 34.9 | 58.1 | 7.0 |
| | Others | 50.0 | 50.0 | 0.0 |
| Is it comfortable? | Civil Servant | 32.8 | 57.4 | 9.8 |
| | Private Employee | 32.1 | 50.9 | 17.0 |
| | Self Employed | 43.8 | 43.8 | 12.3 |
| | Unemployed | 57.1 | 42.9 | 0.0 |
| | Student | 23.3 | 69.8 | 7.0 |
| | Others | 30.0 | 60.0 | 10.0 |
| Is it always available? | Civil Servant | 49.2 | 42.6 | 8.2 |
| | Private Employee | 54.7 | 28.3 | 17.0 |
| | Self Employed | 72.6 | 17.8 | 9.6 |
| | Unemployed | 76.2 | 19.0 | 4.8 |
| | Student | 55.8 | 37.2 | 7.0 |
| | Others | 60.0 | 40.0 | 0.0 |
| Is it affordable? | Civil Servant | 78.8 | 11.5 | 9.8 |
| | Private Employee | 77.4 | 9.4 | 13.2 |
| | Self Employed | 86.3 | 6.8 | 6.8 |
| | Unemployed | 95.2 | 4.8 | 0.0 |
| | Student | 81.4 | 11.6 | 7.0 |
| | Others | 70.0 | 30.0 | 0.0 |
| Is it accessible? | Civil Servant | 57.4 | 32.8 | 9.8 |
| | Private Employee | 62.3 | 22.6 | 15.1 |
| | Self Employed | 76.7 | 15.1 | 8.2 |
| | Unemployed | 81.0 | 19.0 | 0.0 |
| | Student | 69.8 | 23.3 | 7.0 |
| | Others | 80.0 | 20.0 | 0.0 |
| | Others | 80.0 | 20.0 | 0.0 |

**Table 32: Evaluation of Public Transport Services in Abuja by Occupation**

A high percentage of the civil servants responded that the public transport is not reliable, while the other occupations believe it is reliable, as illustraten in Table 31. It is efficient according to civil servants, the self-employed, students, and other occupations while private employees, and the unemployed believe that it is not efficient. However, an equal percentage

of the civil servants also believe the system is not efficient. In terms of effectiveness, civil servants and students believe it is not effective but the private employees, self-employed, unemployed, and other occupations thinks it is effective. According to civil servants, students, and other occupations, it is not a safe system, yet, it is safe from the point of view of private employees, the self-employed, and unemployed. An equal percentage of other occupations believe it is safe. The civil servants, private employees, self-employed, students, and other occupations responded that it is not a comfortable system. To the unemployed it is a comfortable system. However, an equal percentage of the self-employed believe it is comfortable. It is always available, affordable, and accessible according to a high percentage of all the occupations.

### 4.1.3.4 Question 46 of Questionnaire:
**Please tick the relevant box in the below table:**

Participants in this study also responded to the waiting and travel time taken for them to get the public transport service for some specific journeys, this is illustraten in Table 32.

| Indicators | Quantity of respondents (%) | | | | |
|---|---|---|---|---|---|
| | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | Not Applicable |
| Average waiting time for bus / taxi (daily) | 21.5 | 29.1 | 11.9 | 7.7 | 29.5 |
| Average travel time to work (daily) | 6.9 | 22.2 | 18.0 | 28.0 | 24.9 |
| Average travel time to market (daily) | 11.1 | 23.4 | 19.9 | 11.1 | 34.5 |
| Average travel time to school (daily) | 10.7 | 14.9 | 9.6 | 8.0 | 56.7 |

**Table 33: Waiting and Travel Times by Respondents**

The respondents stated in Table 32 that they spend

- an average of 11 – 20 minutes (76/29.1%) waiting for a bus or taxi

- an average travel time of over 30 minutes (73/28.0%) going to work

- an average travel time of 11 – 20 minutes going to market (61/23.4%), and

- an average travel time of 11 – 20 minutes (39/14.9%) going to school (or taking the children to school).

| Indicators | Age Groups | Quantity of Respondents (%) | | | | |
|---|---|---|---|---|---|---|
| | | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | Not applicable |
| Average waiting time for bus / taxi (daily) | 18 – 27 | 23.8 | 29.8 | 14.3 | 7.1 | 23.8 |
| | 28 – 37 | 20.0 | 26.3 | 13.8 | 12.5 | 27.5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 38 – 47 | 17.6 | 29.4 | 9.8 | 5.9 | 37.3 |
| | 48 – 57 | 12.0 | 32.0 | 4.0 | 4.0 | 48.0 |
| | 58 – 67 | 33.3 | 11.1 | 22.2 | 0.0 | 33.3 |
| | 68 & above | 41.7 | 50.0 | 0.0 | 0.0 | 8.3 |
| Average travel time to work (daily) | 18 – 27 | 8.3 | 26.2 | 15.5 | 25.0 | 25.0 |
| | 28 – 37 | 7.5 | 22.5 | 23.8 | 22.5 | 23.8 |
| | 38 – 47 | 5.9 | 19.6 | 21.6 | 29.4 | 23.5 |
| | 48 – 57 | 4.0 | 16.0 | 4.0 | 56.0 | 20.0 |
| | 58 – 67 | 0.0 | 11.1 | 11.1 | 33.3 | 44.4 |
| | 68 & above | 8.3 | 25.0 | 16.7 | 16.7 | 33.3 |
| Average travel time to market (daily) | 18 – 27 | 14.3 | 27.4 | 17.9 | 11.9 | 28.6 |
| | 28 – 37 | 15.0 | 31.3 | 21.3 | 10.0 | 22.5 |
| | 38 – 47 | 7.8 | 11.8 | 15.7 | 11.8 | 52.9 |
| | 48 – 57 | 0.0 | 8.0 | 24.0 | 8.0 | 60.0 |
| | 58 – 67 | 0.0 | 11.1 | 22.2 | 11.1 | 55.6 |
| | 68 & above | 8.3 | 33.3 | 33.3 | 16.7 | 8.3 |
| Average travel time to school (daily) | 18 – 27 | 17.9 | 20.2 | 16.7 | 11.9 | 33.3 |
| | 28 – 37 | 10.0 | 15.0 | 8.8 | 6.3 | 60.0 |
| | 38 – 47 | 5.9 | 11.8 | 3.9 | 3.9 | 74.5 |
| | 48 – 57 | 0.0 | 4.0 | 0.0 | 4.0 | 92.0 |
| | 58 – 67 | 0.0 | 0.0 | 11.1 | 0.0 | 88.9 |
| | 68 & above | 16.7 | 25.0 | 8.3 | 25.0 | 25.0 |

**Table 34: Daily Travel Times based on Age Group Responses**

Table 33 illustrates the daily average waiting and travel times of the research participants' age groups based on particular journeys. A high percentage of all the age groups spend an average of 11 – 20 minutes waiting for a bus or taxi at the bus stops. However, the travel times to work vary between the age groups. The 18 – 27 age group (26.2%) and 68 and above (25.0%) spend a daily average of 11 – 20 minutes travelling to work while the 28 – 37 age group (23.8%) spend a daily average of 21 – 30 minutes. Additionally, the 38 – 47 (29.4%), 48 – 57 (56.0%), and 58 – 67 (33.3%) age groups all spend over 30 minutes travelling to work. Furthermore, when travelling to market, a high percentage of the 18 – 27 year-olds (27.4%), 28 – 37 year-olds (31.3%), and the 68 and above year-olds (33.3%) all spend an average of 11 – 20 minutes travelling. However, the same percentage of 68 and above year-olds (33.3%) spend 21 – 30 minutes (on average) travelling to the market. This changes with the 38 – 47, the 48 – 57, and the 58 – 67 year-olds, whereby a high percentage spend an average of 21 – 30 minutes travelling to the market. These distinctions between the groups are further illustraten in the travel time to school. 20.2% of 18 – 27year-olds spend a daily average of 11

– 20 minutes travelling to school. This is also applicable to 28 – 37 year-olds (15.0%), 38 – 47 year-olds (11.8%), and the 68 and above (25.0%) age group. Equal percentages of those 68 and above (25.0%) spend over 30 minutes travelling to school and responded as "not applicable".

| Indicators | Occupation | Quantity of Respondents (%) | | | | |
|---|---|---|---|---|---|---|
| | | 1 – 10 minutes | 11 – 20 minutes | 21 – 30 minutes | Over 30 minutes | Not applicable |
| Average waiting time for bus / taxi (daily) | Civil Servant | 18.0 | 18.0 | 14.8 | 6.6 | 42.6 |
| | Private Employee | 13.2 | 37.7 | 11.3 | 15.1 | 22.6 |
| | Self Employed | 23.3 | 30.1 | 9.6 | 4.1 | 32.9 |
| | Unemployed | 23.8 | 38.1 | 9.5 | 9.5 | 19.0 |
| | Student | 30.2 | 30.2 | 11.6 | 7.0 | 20.9 |
| | Others | 30.0 | 20.0 | 20.0 | 0.0 | 20.0 |
| Average travel time to work (daily) | Civil Servant | 4.9 | 21.3 | 27.9 | 24.6 | 21.3 |
| | Private Employee | 5.7 | 15.1 | 18.9 | 45.3 | 15.1 |
| | Self Employed | 9.6 | 27.4 | 9.6 | 23.3 | 30.1 |
| | Unemployed | 4.8 | 9.5 | 9.5 | 23.8 | 52.4 |
| | Student | 7.0 | 32.6 | 18.6 | 23.3 | 18.6 |
| | Others | 10.0 | 10.0 | 30.0 | 20.0 | 30.0 |
| Average travel time to market (daily) | Civil Servant | 9.8 | 23.0 | 18.0 | 13.1 | 36.1 |
| | Private Employee | 15.1 | 24.5 | 17.0 | 9.4 | 34.0 |
| | Self Employed | 9.6 | 16.4 | 21.9 | 12.3 | 39.7 |
| | Unemployed | 4.8 | 23.8 | 33.3 | 14.3 | 23.8 |
| | Student | 16.3 | 30.2 | 14.0 | 9.3 | 30.2 |
| | Others | 0.0 | 40.0 | 30.0 | 0.0 | 30.0 |
| Average travel time to school (daily) | Civil Servant | 11.5 | 14.8 | 9.8 | 4.9 | 59.0 |
| | Private Employee | 3.8 | 13.2 | 13.2 | 11.3 | 58.5 |
| | Self Employed | 5.5 | 12.3 | 4.1 | 4.1 | 74.0 |
| | Unemployed | 9.5 | 14.3 | 0.0 | 14.3 | 61.9 |
| | Student | 27.9 | 20.9 | 16.3 | 14.0 | 20.9 |
| | Others | 10.0 | 20.0 | 20.0 | 0.0 | 50.0 |

Table 34 illustrates the responses from the occupations. A higher percentage of the private employees, self-employed, and unemployed spend a daily average of 11 – 20 minutes waiting for a bus or taxi. An equal percentage of students spend a daily average of 1 – 10 minutes and 11 – 20 minutes waiting for taxi or bus, respectively. However, civil servants spend 21 – 30 minutes on average, and other occupations spend 1 – 10 minutes. It takes 27.9% of civil servants and 30.0% of other occupations an average of 21 – 30 minutes travelling time to work. However, 45.3% of private employees and 23.8% of the unemployed spend over 30 minutes travelling to work. The self-employed (27.4%) and students (32.6%) spend 11 – 20 minutes on average. However, a high percentage of the unemployed (52.4%) chose "not applicable" because they do not have work. Civil servants, private employees, students, and other occupations spend an average of 11 – 20 minutes travelling to market. However, the self-employed and unemployed spend 21 – 30 minutes, respectively. The students spend an average of 1 – 10 minutes travelling to school. However, a higher percentage of the rest of the occupations chose "not applicable". This is not surprising because they do not go to school but have children, wards, and siblings who they take to school. Therefore, 14.8% of civil servants and 12.3% of the self-employed spend an average of 11 – 20 minutes travelling to school. Additionally, an equal percentage of the private employees (13.2%) and other occupations (20.0%) spend 11 – 20 and 21 – 30 minutes, respectively. So also, an equal percentage of the unemployed (14.3%) spend 11 – 20 minutes and over 30 minutes, respectively.

| Indicator | Quantity of Respondents (%) | | | | |
|---|---|---|---|---|---|
| | 1 - 5 | 6 - 10 | 11 - 15 | Over 15 | Not Applicable |
| Percentage of household expenditure devoted to transport (Monthly) | 11.9 | 26.4 | 18.0 | 14.2 | 29.5 |

**Table 36: Monthly Household Expenditure on Transport**

While responding to the question about transport costs in the questionnaire as illustraten on Table 35,

- 69 (26.4%) of respondents stated that they spend 6 - 10% of their monthly income on transportation
- 47 (18%) use 11 - 15% of their monthly income
- 37 (14.2%) use over 15% of their monthly income, and

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- 31 (11.9%) use 1 – 5%.

| Age Group | Quantity (%) | | | |
|---|---|---|---|---|
| | 1 – 5 | 6 – 10 | 11 – 15 | Over 15 |
| 18 – 27 | 14.3 | 23.8 | 17.9 | 34.5 |
| 28 – 37 | 11.3 | 32.5 | 12.5 | 25.0 |
| 38 – 47 | 9.8 | 25.5 | 25.5 | 25.5 |
| 48 – 57 | 8.0 | 16.0 | 28.0 | 32.0 |
| 58 – 67 | 0.0 | 22.2 | 0.0 | 55.6 |
| 68 & above | 25.0 | 33.3 | 8.3 | 16.7 |

**Table 37: Age Group Responses on Percentage of Household Expenditure devoted to Transport (Monthly)**

Table 36 illustrates that a high percentage of 18 – 27, 38 – 47, 48 – 57, and 58 – 67 year-olds spend over 15% of their monthly income on transportation. However, 25.5% of the 38 – 47 year-olds also spend 6% - 10% and 11% - 15% of their monthly income on transport. 33.3% of the 68 and above age group spend 6% - 10% on their transport monthly.

To understand the participation of the respondents to their involvement in engagements among the citizens and with the government, the participants responded to the following indicators:

| Indicators | Quantity of respondents (%) | | | | |
|---|---|---|---|---|---|
| | 0 – 2 | 3 – 5 | 6 – 8 | More than 8 | Not Applicable |
| Number of community engagements you have attended | 26.8 | 14.9 | 4.2 | 3.4 | 50.6 |
| Number of government to citizen engagements you have attended | 33.3 | 12.3 | 2.7 | 1.9 | 49.8 |

**Table 38: Citizen Engagements**

Table 37 illustrateed that the level of involvement in engagements amongst the citizens and with the government is low. 70 (26.8%) have been to not more than 2 community engagements, and 87 (33.3%) have attended the same amount of government to citizen engagements.

**4.1.3.5 Question 47 of Questionnaire:**
**Presently, are you satisfied with public transport provided in Abuja?**

**Yes** ☐ **No** ☐ **Not Applicable** ☐
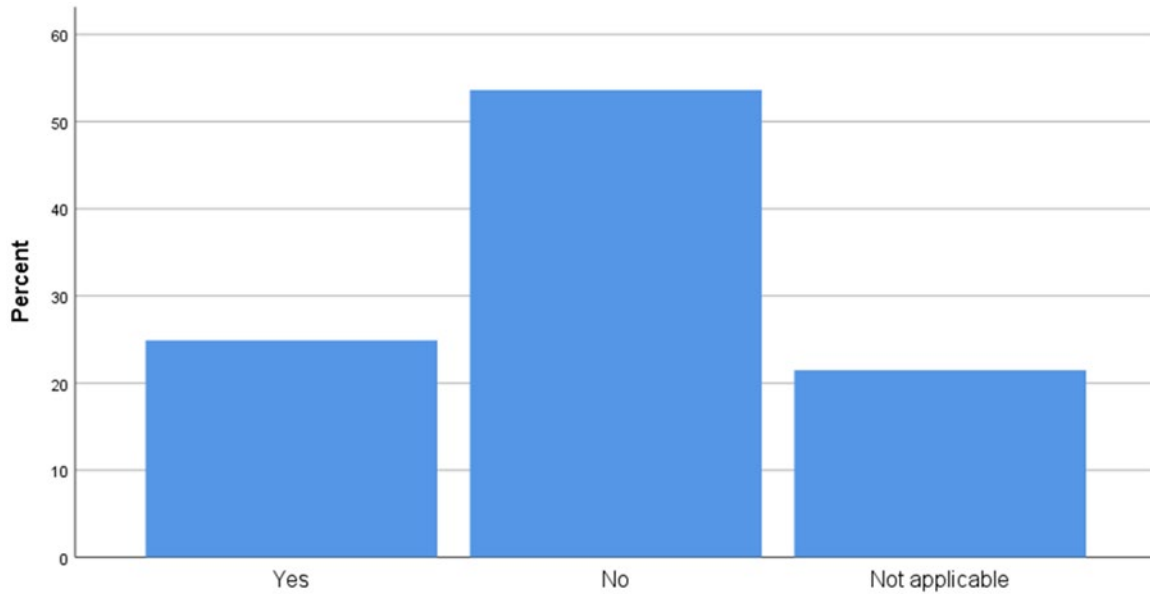
**Chart 26: Satisfaction with Public Transport**

Chart 27 illustrates that 140 (53.6%) of the respondents who use public transport are not satisfied with the services rendered while 65 (24.9%) are satisfied. However, 56 (21.5%) answered "Not Applicable".

### 4.1.3.6 Question 48 of Questionnaire:

**How did you get to know the bus/taxi routes in the city for your commute?**

**Radio** ☐    **Television** ☐    **Public Notice Boards** ☐    **Newspapers** ☐

**The Transport Secretariat** ☐    **Transport Unions** ☐    **Friends & Family** ☐
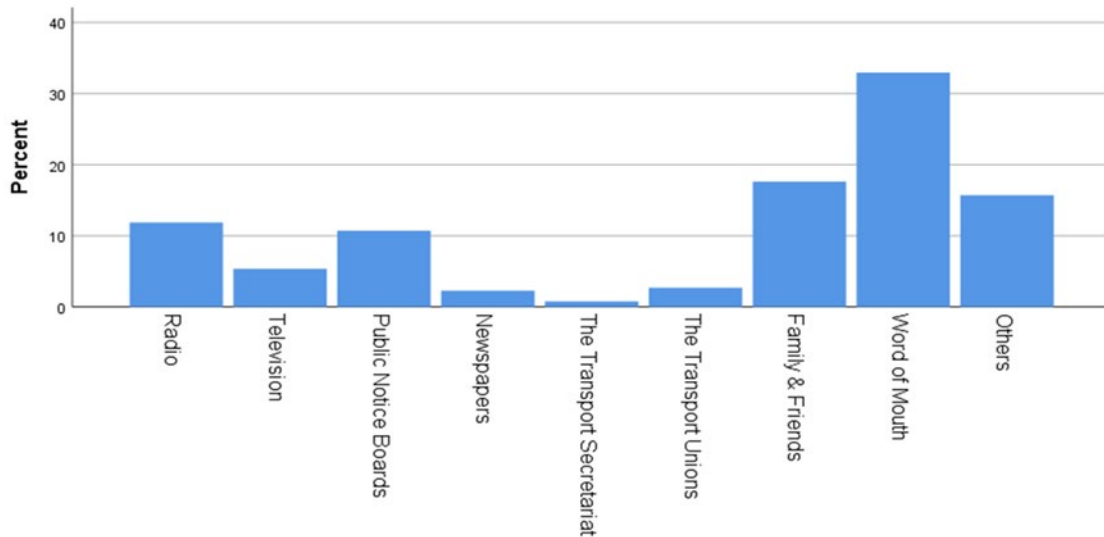
**Word of Mouth** ☐    **Other** ☐



**Chart 27: Knowing Bus/Taxi Routes in the City**

In reference to individual's familiarity with the bus and taxi routes in the city, respondents stated that they learnt about them through:

- word of mouth (86/33.0%)
- family and friends (46/17.6%)
- radio (31/11.9%)
- public notice boards (28/10.7%)
- television (14/5.4%)
- the transport Unions (7/2.7%)
- newspapers (6/2.3%), and
- the Transport Secretariat (2/0.8%).

Also, 41 (15.7%) stated they got to know the routes through "Others". This is illustrated in Chart 28 above.

**4.1.3.7 Question 49 of Questionnaire:**

**Have there been times in the past 12 months when you did not have enough money for transportation that you or your family needed?**

**Yes** ☐    **No** ☐

Additionally, 128 (49.0%) of respondents stated that there have been times within the past 12 months when they did not have money for transportation for them or their family. 133 (51.0%) have not faced this challenge.

**4.1.3.8 Question 50 of Questionnaire:**

**Which of the following will affect your decision to use a bicycle for your daily commute? (Please tick all that apply)**

**Weather** ☐    **Distance** ☐    **Road conditions/ lack of bicycle paths** ☐

**Lack of bicycle** ☐    **Feel that cycling is unsafe** ☐

**Worried about security of bicycle** ☐    **Never really thought about it** ☐

**I do not like bicycles** ☐
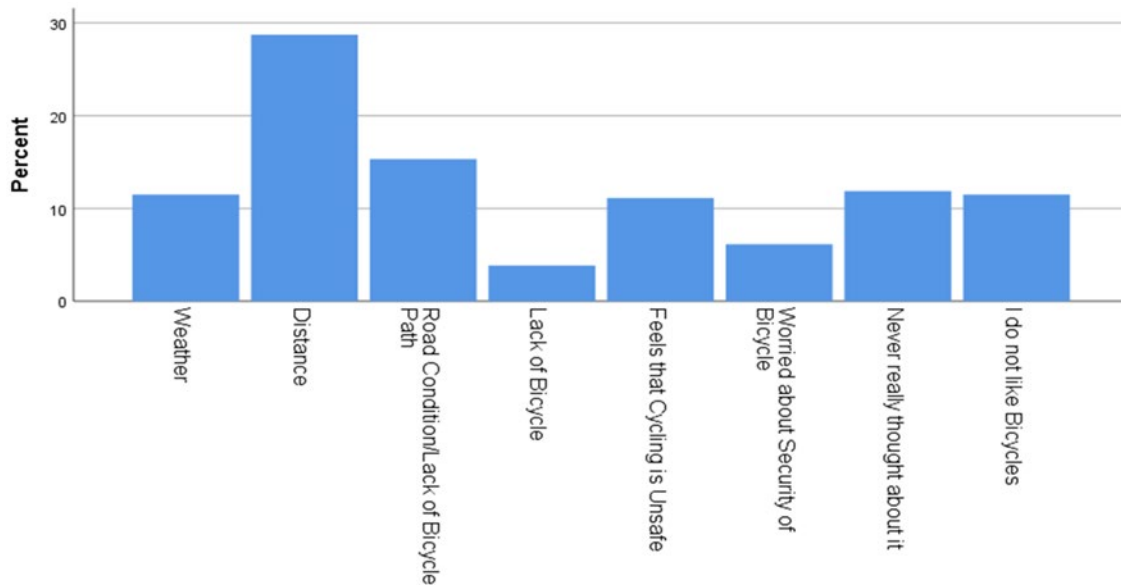
**Chart 28: Decision Affecting the Usage of Bicycle to Commute**

Respondents noted that:

1. distance (75/28.7%)
2. road condition/lack of bicycle path (40/15.3%), and
3. weather (30/11.5%)

are some of the factors influencing their decision to use bicycles for commuting purposes. Other factors include:

    a.     non-consideration of using bicycles (31/11.9%)

    b.     dislike for bicycles (30/11.5%)

    c.     bicycle safety concerns (29/11.1%)

    d.     bicycle security and theft concerns (16/6.1%), and

    e.     the non-ownership/need to purchase a bicycle (10/3.8%).

This is illustraten in Chart 29 above.

### 4.1.3.9 Question 51 of Questionnaire:
**Do you think it is safe for pedestrians and cyclists on the roads in Abuja city?**

**Yes** ☐     **No** ☐

132 (50.6%) of respondents feel the roads in Abuja are safe for pedestrians and cyclists while 129 (49.4%) do not feel so.

### 4.1.3.10 Question 53 of Questionnaire:
**Do you feel affected by the noise level from vehicles in your neighbourhood?**

**Yes** ☐     **No** ☐

175 (67.0%) do not feel affected by the noise level from vehicles in their neighbourhoods while 86 (33.0%) feel affected.

### 4.1.3.11 Question 56 of Questionnaire:

**How do you feel about the roads in the city, are they of good quality for vehicles, is it conducive for pedestrians and cyclists, and are the drivers abiding by the Highway Code? (Please write your comments in the box below)**
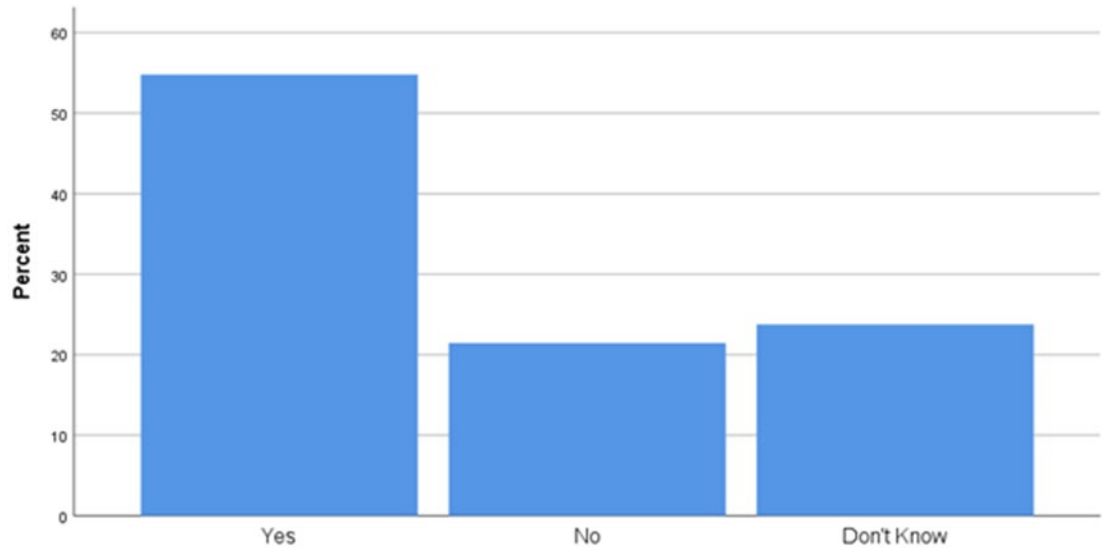


**Chart 29: Road Conduciveness for Pedestrians and Cyclists**

143 (54.8%) of respondents stated that the roads are of good quality for vehicles, it is conducive for pedestrians and cyclists, and the drivers are abiding by the Highway Code. However, 62 (23.8%) stated they do not know about the quality of the roads, and 56 (21.5%) stated the roads are not of good quality. This is illustraten in Chart 30.

### 4.1.3.12 Question 57 of Questionnaire:

**Which traffic problems concern you the most? (Please mark the relevant box)**

Respondents answered about the traffic problems in Abuja that concerned them most greatly, with the results presented in Table 38:

| Problem | Grading from respondents (%) | | | | |
|---|---|---|---|---|---|
| | Very serious | Serious | Not very serious | No problem | Don't know |
| Congestion on township roads | 61.3 | 26.4 | 6.9 | 1.9 | 3.4 |
| Exhaust fumes in the city | 24.9 | 35.6 | 25.7 | 6.1 | 7.7 |
| Traffic noise in the city | 34.5 | 23.8 | 28.4 | 8.8 | 4.6 |
| Reckless and unruly drivers and motorcyclists | 73.9 | 18.8 | 3.4 | 0.8 | 3.1 |
| Insufficient traffic lights and Traffic Wardens | 48.3 | 31.4 | 12.3 | 3.4 | 4.6 |

The traffic problems that are of '**very serious'** concern to the respondents are:

- reckless and unruly drivers and motorcyclists (193/73.9%)
- congestion on township roads (160/61.3%),
- insufficient traffic lights and traffic wardens (126/48.3%), and
- traffic noise in the city (90/34.5%).

That is, four of the listed indicators are "**very serious**" concerns to the respondents as illustraten in Table 38, while exhaust fumes in the city emitted by traffic are of "**serious concern"** to 93 (35.6%) of the respondents.

| Problem | Grading from respondents (%) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Very serious | | Serious | | Not very serious | | No problem | | Don't know | |
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| Congestion on township roads | 58.5 | 64.9 | 29.9 | 21.9 | 7.5 | 6.1 | 1.4 | 2.6 | 2.7 | 4.4 |
| Exhaust fumes in the city | 22.4 | 28.1 | 37.4 | 33.3 | 27.2 | 23.7 | 4.8 | 7.9 | 8.2 | 7.0 |
| Traffic noise in the city | 33.3 | 36.0 | 25.2 | 21.9 | 28.6 | 28.1 | 8.8 | 8.8 | 4.1 | 5.3 |
| Reckless and unruly drivers and motorcyclists | 69.4 | 79.8 | 21.1 | 15.8 | 4.8 | 1.8 | 1.4 | 0.0 | 3.4 | 2.6 |
| Insufficient traffic lights and Traffic Wardens | 46.3 | 50.9 | 31.3 | 31.6 | 12.9 | 11.4 | 5.4 | 0.9 | 4.1 | 5.3 |

**Table 40: Traffic Problems that Concerns Respondents from Gender Perspectives**

The various traffic problems that concern respondents the most are further disaggregated by gender, age group, and occupation. On Table 39, responses from both genders illustrates that congestion in township roads (female: 64.9%, male: 58.5%), traffic noise in the city (female: 36.0%, male 33.3%), reckless and unruly motorcyclists (female: 79.8%, male: 69.4%), and insufficient traffic lights and traffic wardens (female: 50.9%, male: 46.3%) are very serious problems that need to be addressed. However, both genders feel that exhaust fumes in the city are a serious problem but not that extreme (male: 37.4%, female: 33.3%).

| Problem | | Grading from respondents (%) |
|---|---|---|
| | | |

| | Age Groups | Very serious | Serious | Not very serious | No problem | Don't know |
|---|---|---|---|---|---|---|
| Congestion on township roads | 18 – 27 | 56.0 | 28.6 | 8.3 | 2.4 | 4.8 |
| | 28 – 37 | 63.7 | 25.0 | 6.3 | 1.3 | 3.8 |
| | 38 – 47 | 70.6 | 19.6 | 5.9 | 2.0 | 2.0 |
| | 48 – 57 | 56.0 | 32.0 | 8.0 | 4.0 | 0.0 |
| | 58 – 67 | 55.6 | 22.2 | 11.1 | 0.0 | 11.1 |
| | 68 & above | 58.3 | 41.7 | 0.0 | 0.0 | 0.0 |
| Exhaust fumes in the city | 18 – 27 | 33.3 | 34.5 | 20.2 | 3.6 | 8.3 |
| | 28 – 37 | 22.5 | 32.5 | 22.5 | 10.0 | 12.5 |
| | 38 – 47 | 21.6 | 29.4 | 41.2 | 3.9 | 3.9 |
| | 48 – 57 | 12.0 | 52.0 | 24.0 | 12.0 | 0.0 |
| | 58 – 67 | 11.1 | 33.3 | 44.4 | 0.0 | 11.1 |
| | 68 & above | 33.3 | 58.3 | 8.3 | 0.0 | 0.0 |
| Traffic noise in the city | 18 – 27 | 35.7 | 32.1 | 20.2 | 7.1 | 4.8 |
| | 28 – 37 | 40.0 | 25.0 | 17.5 | 10.0 | 7.5 |
| | 38 – 47 | 27.5 | 13.7 | 49.0 | 7.8 | 2.0 |
| | 48 – 57 | 24.0 | 20.0 | 40.0 | 16.0 | 0.0 |
| | 58 – 67 | 33.3 | 22.2 | 33.3 | 0.0 | 11.1 |
| | 68 & above | 41.7 | 8.3 | 41.7 | 8.3 | 0.0 |
| Reckless and unruly drivers and motorcyclists | 18 – 27 | 65.5 | 21.4 | 7.1 | 2.4 | 3.6 |
| | 28 – 37 | 78.8 | 16.3 | 1.3 | 0.0 | 3.8 |
| | 38 – 47 | 70.6 | 25.5 | 2.0 | 0.0 | 2.0 |
| | 48 – 57 | 88.0 | 12.0 | 0.0 | 0.0 | 0.0 |
| | 58 – 67 | 77.8 | 11.1 | 0.0 | 0.0 | 11.1 |
| | 68 & above | 83.3 | 8.3 | 8.3 | 0.0 | 0.0 |
| Insufficient traffic lights and Traffic Wardens | 18 – 27 | 44.0 | 29.8 | 16.7 | 2.4 | 7.1 |
| | 28 – 37 | 50.0 | 27.5 | 13.8 | 3.8 | 5.0 |
| | 38 – 47 | 41.2 | 41.2 | 9.8 | 5.9 | 2.0 |
| | 48 – 57 | 64.0 | 32.0 | 0.0 | 4.0 | 0.0 |
| | 58 – 67 | 33.3 | 44.4 | 11.1 | 0.0 | 11.1 |
| | 68 & above | 75.0 | 16.7 | 8.3 | 0.0 | 0.0 |

**Table 41: Traffic Problems that Concerns Respondents from Age Groups Perspectives**

From the perspectives of the age groups, Table 40 illustrates that congestion on township roads, reckless and unruly drivers and motorcyclists, and insufficient traffic lights and wardens are traffic problems that concerns all the age groups. However, a high percentage of the 18 – 27, 28 – 37, 48 – 57, and 68 and above age groups feel exhaust fumes are a serious concern, though not severe. Yet, to the 38 – 47 (41.2%) and 58 – 67 (44.4%) age groups it Is

not a very serious concern. Traffic noise in the city is a very serious concern for the 18 – 27, 28 – 37, 58 – 67, and 68 and above age groups. However, the same percentage of the 58 – 67 (33.3%) and 68 and above (41.7%) groups also feel it is not a very serious concern, while a high percentage of 38 – 47 (49.0%) and 48 – 57 (40.0%) year-olds responded that it is not a very serious concern.

| Problem | Occupation | Grading from respondents (%) | | | | |
|---|---|---|---|---|---|---|
| | | Very serious | Serious | Not very serious | No problem | Don't know |
| Congestion on township roads | Civil Servant | 63.9 | 26.2 | 4.9 | 3.3 | 1.6 |
| | Private Employee | 62.3 | 24.5 | 11.3 | 0.0 | 1.9 |
| | Self Employed | 61.6 | 27.4 | 5.5 | 1.4 | 4.1 |
| | Unemployed | 57.1 | 38.1 | 4.8 | 0.0 | 0.0 |
| | Student | 53.5 | 23.3 | 9.3 | 4.7 | 9.3 |
| | Others | 80.0 | 20.0 | 0.0 | 0.0 | 0.0 |
| Exhaust fumes in the city | Civil Servant | 29.5 | 41.0 | 21.3 | 4.9 | 3.3 |
| | Private Employee | 22.6 | 35.8 | 30.2 | 3.8 | 7.5 |
| | Self Employed | 23.3 | 30.1 | 27.4 | 8.2 | 11.0 |
| | Unemployed | 14.3 | 52.4 | 23.8 | 9.5 | 0.0 |
| | Student | 30.2 | 30.2 | 23.3 | 7.0 | 9.3 |
| | Others | 20.0 | 30.0 | 30.0 | 0.0 | 20.0 |
| Traffic noise in the city | Civil Servant | 36.1 | 27.9 | 29.5 | 4.9 | 1.6 |
| | Private Employee | 34.0 | 15.1 | 39.6 | 9.4 | 1.9 |
| | Self Employed | 35.6 | 23.3 | 26.0 | 9.6 | 5.5 |
| | Unemployed | 23.8 | 33.3 | 23.8 | 19.0 | 0.0 |
| | Student | 34.9 | 27.9 | 18.6 | 9.3 | 9.3 |
| | Others | 40.0 | 10.0 | 30.0 | 0.0 | 20.0 |
| Reckless and unruly drivers and motorcyclists | Civil Servant | 77.0 | 16.4 | 4.9 | 0.0 | 1.6 |
| | Private Employee | 69.8 | 24.5 | 3.8 | 0.0 | 1.9 |
| | Self Employed | 79.5 | 15.1 | 0.0 | 1.4 | 4.1 |
| | Unemployed | 66.7 | 28.6 | 0.0 | 4.8 | 0.0 |
| | Student | 67.4 | 18.6 | 9.3 | 0.0 | 4.7 |

| | | | | | |
|---|---|---|---|---|---|
| | Others | 80.0 | 10.0 | 0.0 | 0.0 | 10.0 |
| Insufficient traffic lights and Traffic Wardens | Civil Servant | 50.8 | 27.9 | 16.4 | 3.3 | 1.6 |
| | Private Employee | 43.4 | 32.1 | 13.2 | 7.5 | 3.8 |
| | Self Employed | 50.7 | 37.0 | 5.5 | 1.4 | 5.5 |
| | Unemployed | 61.9 | 23.8 | 14.3 | 0.0 | 0.0 |
| | Student | 34.9 | 32.6 | 18.6 | 4.7 | 9.3 |
| | Others | 70.0 | 20.0 | 0.0 | 0.0 | 10.0 |

**Table 42: Traffic Problems that Concerns Respondents from Occupation Groups**

From the perspectives of the occupations, Table 41 illustrates that congestion on township roads is very serious problem according to a high percentage of all the occupations, while exhaust fumes in the city are a serious problem to all the occupations, but not that severe. However, an equal percentage of students (30.2%) feel it is also a very serious problem. Likewise, an equal percentage (30.0%) of other occupations responded that it is not a very serious problem. A high percentage of civil servants (36.1%), the self-employed (35.6%), students (34.9%), and other occupations (40.0%) responded that traffic noise in the city is a very serious problem. The unemployed (33.3%) responded that it is a serious problem, but the private employees (39.6%) believe it is not a very serious problem. Reckless and unruly drivers and motorcyclists and insufficient traffic lights and traffic wardens are very serious problems to all the occupations.

**4.1.3.13 NVivo Result**

As stated in Section 3.5 of this thesis, some analysis was done using the *NVivo* software. The Text Search Query for individuals was done for each of the research objectives and some key words were chosen for the analysis (query). For the research objective under analysis, the following words were used for the query: driver discipline, factors affecting bicycle usage, knowing public transport routes, noise level from vehicles, not applicable/no comment, other issues, pedestrian/cyclist safety, and road quality.

The query produced the following results:

- It is through radio, television, public notice boards, newspapers, and family and friends that commuters can know the various bus routes in Abuja city.
- The condition of the roads, such as potholes, road markings, and signages are very poor, which may not be favourable to commuters using bicycles.
- Weather, distance, road conditions/lack of bicycle paths, lack of bicycle, feeling that cycling is unsafe, worried about security of bicycle, never really thought about it,

reckless and unruly drivers, and I do not like bicycles all affect commuter's decisions to use a bicycle in Abuja.

- The lack of development of road network in the satellite areas.

- Poor abiding by the road regulations and bad roads lead to public apathy to riding bicycles.

- Commuters face robbery and purse snatching when they use public transport.

- There should be a road created only for vehicles far from where people live to reduce noise from vehicles.

- Most drivers on Abuja roads do not abide by the Highway Code.

- The city has beautiful road networks.

- The road condition is very poor (poor traffic signals and road markings). However, some parts of the city have functioning traffic lights, and road safety officials are found sometimes to make sure drivers abide by the rules.

- The relevant authorities should make sure that all vehicles on the road are road worthy, and that cars that are not road worthy should be phased out of our roads. Government should acquire cars and give out at a subsidised rate to those who own these old ones.

- Most cars are not road worthy, and as such they tend to release emissions into the atmosphere which are hazardous.

- The government does not respond to the issues concerning roads quickly, which is why we never get good road networks; and

- Not all parts of Abuja are safe for pedestrians and cyclists to use because of bad attitudes of Abuja motor drivers to other road users. Also, there is no provision for cyclists on the existing roads in the FCT, only for pedestrians. However, others believe the road is network is conducive for road users and pedestrians but needs to improve on how the road agencies pass more information to the road users.

As in the previous sections, the NVivo queries have analysed participant's responses and have brought out problems and proffered some solutions to these problems. However, some of the results are reiterating the already analysed quantitative data and illustrating that qualitatively some of the responses are in line with the quantitative data.

### 4.1.4 Summary of Findings
This section summarises the research findings and links it to the research problem and the social sustainability sub-themes that this research is focussed on.

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**Research Questions:**
- Are the people of Abuja acquainted with government plans and strategies on road transportation in the metropolis?
- Did they participate in the planning and implementation of the present urban road policy and in the future ones?

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| Research Findings | |
|---|---|
| **Stakeholder Participation in Decision-Making** | **Social Inclusion** |
| People would like to be involved in urban road transport policy formulation and implementation (Objective I) | People would like to be involved in urban road transport policy formulation and implementation (Objective I) |
| Disconnectivity between the people and their legislators, and how the Assembly operates leading to disillusion about the system from the citizens (Objective I) | Disconnectivity between the people and their legislators, and how the Assembly operates leading to disillusion about the system from the citizens (Objective I) |
| Inadequate understanding of which government body to engage with on urban road transport by the people (Objective I) | Some have their own means of transport and believe that public transport delays their daily activities (Objective II) |
| Low citizen to citizen and government to citizen engagement in Abuja (Objective I) | Commuters depend on the available public transport for their daily commutes (Objective II) |
| Respondents think the priority in improving commuting is for existing roads to be improved (Objective II) | Respondents think the priority in improving commuting is for existing roads to be improved (Objective II) |
| The understanding of what standard of service a commuter is entitled to is lacking from the respondents (Objective II) | The understanding of what standard of service a commuter is entitled to is lacking from the respondents (Objective II) |
| Most are not satisfied with current public transport services (Objective III) | Most are not satisfied with current public transport services (Objective III) |
| Traffic problems of very serious concern are: congestion on township roads, traffic noise in the city, reckless and unruly drivers and rickshaws/motorcyclists, and insufficient traffic lights and traffic wardens (Objective III) | Traffic problems of very serious concerns are: congestion on township roads, traffic noise in the city, reckless and unruly drivers and rickshaws/motorcyclists, and insufficient traffic lights and traffic wardens (Objective III) |
| | Most commuters will recommend the existing public transport system to other people for their commute (Objective II) |
| | Inadequate funds for transportation for the family (Objective III) |
| | Factors commuters consider before deciding on the mode of travel: Convenience, cost of travel, weather, health benefit, reliability, safety, and frequency of the service (Objective III) |
| | Word of mouth is the predominant way commuters get to know the public transport routes of the city (Objective III) |
| | Effective initiatives that will discourage private car usage: Improved public transport routes (new routes/publicly advertised existing routes), cheaper fares, fewer parking spaces, introduction of parking fees, reliable public transport service, and better sidewalks (Objective III) |

**Table 43: Summary of Research Results**

Table 42 illustrates the issues from the point of view of the commuter. These issues are categorised into the 2 sub-themes and some of the issues are the same in the 2 sub themes' hence the colouring. Therefore, every issue that is of the same colour is a cross cutting issue that needs to be addressed as a challenge for both sub-themes. However, those in black are not cross cutting issues, thus, they are individual issues.

## 4.2 Presentation of Data from Labour Organisations

As stated in Chapter 4, this study interacted with both commuters and organisations. The organisations consist of the government and labour unions in the urban road transport sector operating in Abuja.

For anonymity, the labour organisations will be labelled as follows:

- Road Transport Employers Association of Nigeria (RTEAN) = 1
- Tricycle Owners Association of Nigeria (TOAN) = 2
- National Union of Road Transport Workers (NURTW) = 3, and
- Self Employed Commercial Drivers' Association Abuja (SECDAA) = 4.

It is to be noted that the unions represent different operators with distinct operations and geographical spread. The questions for the labour unions are different to those for the government organisations due to the differences in their functions. However, they all follow the same principles of the study, which is, the questionnaires are structured based on the objectives of the research. Therefore, the analysis will be in line with the stated objectives and the relationships will be highlighted. Lastly, Questions 1 and 2 of the questionnaires for the Labour Unions are asking about the type of organisation they are and if they agree to be contacted for follow-up research.

### *4.2.1 Results from Section I of Questionnaire (Assessing the level of citizen participation in the enactment and implementation of government policy)*
#### 4.2.1.1 Question 3 of Questionnaire:
**Have you ever been consulted by the Federal Capital Territory Administration (FCTA) or any of her Departments or and Agencies on developing policies on urban roads and transport?**

**Yes** ☐       **No** ☐

From the responses of the labour unions, 3 of them stated they have been consulted by the government on policies regarding urban roads and transport, while one other stated they have not been consulted.

#### 4.2.1.2 Question 4 of Questionnaire:
**If yes to above, can you mention the Department or Agency and on what policy issue please? (Please write your comment in the box below):**

The 3 labour unions stated the government body that they interacted with on the urban transport policies is the Transportation Secretariat of the Federal Capital Territory Administration (FCTA).

#### 4.2.1.3 Question 5 of Questionnaire:
**Did you participate in the policy development?**

**Yes** ☐       **No** ☐

The 3 labour unions who were consulted all confirmed that they participated fully in the policy development.

#### 4.2.1.4 Question 6 of Questionnaire:
**If yes to above, was your input consolidated into the final policy document?**

**Yes** ☐       **No** ☐       **Don't know** ☐

3 of the unions stated that their inputs were consolidated in the final policy document stated in Question 3.

### 4.2.1.5 Question 7 of Questionnaire:

**If yes to Question 5, are they implementing it to the letter or do you not know how the implementation is going on?**

**Yes, they are implementing it** ☐    **No, we do not know what is going on** ☐

However, one of the unions could not confirm if the policy they stated is implemented to the letter or not while the other two confirmed that implementation is ongoing.

### 4.2.1.6 Question 8 of Questionnaire:

**If no to Question 5, why did you not participate? (Please write your comments below):**

They responded as "Not Applicable".

### 4.2.1.7 NVivo Result

The Text Search Query for the unions using *NVivo* (for research objective I) illustrates that the unions are getting public support from the commuters, and the commuters are appreciative of their effort to provide public transport in the city. They are also stating that government support is inadequate, and they would like more support in acquiring buses for their operations. Thirdly, the Transport Secretariat of the FCTA consults the unions on the operations of public transport in the Federal Capital Territory. Lastly, they also do not have any support from the government on their operations.

### *4.2.2 Results from Section II of Questionnaire (Identifying the long-term plans of road transportation in Abuja)*

### 4.2.2.1 Question 9 of Questionnaire:

**The present bus/taxi/tricycle routes in Abuja, were they designated by government or your union decided on it or it is a joint decision with the government? (Please write your comments below):**

Two unions stated it was a government only decision, while 2 others stated it was a joint decision between the union and government.

### 4.2.2.2 Question 10 of Questionnaire:

**What are the challenges you face working in Abuja city in terms of government support, public support and appreciation? (Please write your comments below):**

All the 4 unions responded that they face challenges operating in the city. These challenges:

a. They would like government support in acquiring buses for commuting (Union 4 stated this).

b. Inadequate transport facilities like bus stops in the city (Union 3 stated this).

c. There is not any form of support from the government (Union 2 stated this).

d. Inadequate support from the government on operations (Union 4 stated this);

e. There is no standard motor park within the city (Union 1 stated this).

f. Police always harass tricycle (rickshaw) operators and taxi drivers; (Unions 2 and 3 stated this); and

g. There are frictions between the unions (Union 2 stated this).

However, all union representatives held the opinion that the commuters appreciate their efforts to provide public transportation within the city.

### 4.2.2.3 Question 11 of Questionnaire:

**Is there a healthy working relationship between you and other transport Unions working in the city?**

**Yes** ☐    **No** ☐

Unions 1, 3, and 4 all confirmed that there is a healthy working relationship amongst the transport unions, but Union 2 stated there is no healthy working relationship.

### 4.2.2.4 Question 12 of Questionnaire:

**Is there an avenue provided by the Federal Capital Territory Administration where you can air your grievances and they can be addressed?**

**Yes** ☐    **No** ☐

The unions which that stated there is a healthy relationship amongst the unions stated there is an avenue where they can air their grievances to the Federal Capital Territory Administration (FCTA) whenever the need arises. In this case also, Union 2 stated there is no avenue for airing their grievances to the FCTA.

### 4.2.2.5 Question 13 of Questionnaire:

**If yes to above, what is the name of that body? (Please write in the box below):**

Unions 3 and 4 write letters to the Transportation Secretariat of the FCTA when they need to raise an issue while Union 1 usually holds periodic meetings with the Transportation Secretariat and then present their issues. In this case Union 2 answered "Not Applicable" because they responded "No" in Question 12.

### 4.2.2.6 Question 14 of Questionnaire:

**Do you have a system whereby commuters that have grievances with one of your members can come and complain?**

**Yes** ☐    **No** ☐

Union 1 have not set up a structure to hear and address commuter grievances that occur between passengers and their members, while the other three have. Another initiative by Union 2 is that they encourage commuters to take note of their announcements on the radio of operations and how to contact them. Commuters are advised to note the fleet number of the vehicle they are boarding for ease of sorting out the grievances and for safety.

### 4.2.2.7 Question 15 of Questionnaire:

**Can you put the following actions into hierarchical order to illustrate the priorities you think the government should focus on in Abuja:**

The actions presented in Table 43 below illustrates the responses of the unions in hierarchical order of priorities they think the government should focus on to improve public transport in Abuja (from highest (5) to lowest (1):

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| Actions | Hierarchical Order | | | |
|---------|---------|---------|---------|---------|
| | Union 1 | Union 2 | Union 3 | Union 4 |
| Improving existing roads (filling of potholes, road markings, signages, etc.) | 5 | 5 | 1 | 3 |
| Construction of new roads | 1 | 3 | 5 | 2 |
| Improving existing public transport services (buses, tricycles, etc.) | 4 | 4 | 4 | 5 |
| Building new public transport infrastructure | 3 | 2 | 2 | 4 |
| Improving provision for walking and cycling | 2 | 1 | 3 | 1 |

**Table 44: Hierarchical Order of Priorities to Improve Public Transport in Abuja by Unions from Highest (5) to Lowest (1)**

Table 43 illustrates that two of the unions think improving existing roads (filling of potholes, road markings, signages, etc.) should be the highest priority in the city while Unions 3 and 4 think construction of new roads and improving existing public transport services (buses, tricycles, etc.) are the highest priority. It can be noted that three unions give higher (not highest) support to improving existing public transport services (buses, tricycles, etc.). However, two of the unions believe that improving provision for walking and cycling is the lowest priority in the city.

### 4.2.2.8 Question 16 of Questionnaire:

**Looking at the low revenues for government and inadequate budgetary allocations for infrastructure provision, do you support government taxing road users for road tax, fuel tax, pollution tax, or congestion tax?**

**Yes** ☐    **No** ☐

Unions 2 and 4 supported it while 1 and 3 did not. However, all the unions noted that, presently, the public transporters all pay a daily tax to the local government; it is only private vehicles that do not. Union 2 further stated that, yes, the budgetary allocations are not adequate but the little one budgeted for do not even go to the programme or project it is budgeted for in the first place.

### 4.2.2.9 NVivo Result

The Text Search Query for the unions using *NVivo* (for research objective II) illustrates that Union 3 stated that they are not classified as a labour union but as a transport company licenced by the FCTA Transport Secretariat to operate as a company. Secondly, Union 1 stated that the Transport Secretariat of the FCTA consulted them on sanitising of transport operations in the Federal Capital City. Furthermore, the Transport Secretariat of the FCTA consulted Union 3 on the operations of public transport in the Federal Capital Territory. The Unions air their grievances about transport operations and management in the city by writing to the Transport Secretariat. Periodic meetings are held between the Transport Secretariat

and the unions. Lastly, the Transportation Secretariat do consult the Unions on the Transport policy in the FCT.

### 4.2.3 Results from Section III of Questionnaire (Measuring the social sustainability of road transportation)

### 4.2.3.1 Question 17 for Labour Unions:

**Please fill in the data for the below table:**

To gather numerical data about the operations of the unions, tables unique to the functions of the unions was prepared for reporting by the unions. These tables have prepared Key Performance Indicators (KPIs) inserted in them for filling out by the unions from their administrative database. However, one of the unions (Union 1) did not fill out their data and no reason was given for this.

The table below was completed by <u>Union 2</u>:

| S/No | Indicator | Number | | | Source of Data |
|------|-----------|--------|--------|--------|----------------|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of tricycle routes in the city | - | - | 240 km | TOAN |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | 0 | 0 | 0 | TOAN |
| 3 | Number of recommendations proffered | 0 | 0 | 0 | TOAN |
| 4 | Number of inputs consolidated by the Government | 0 | 0 | 0 | TOAN |
| 5 | Number of complaints from commuters about your members | - | - | 11 | TOAN |
| 6 | Number of complaints resolved amicably | - | - | 11 | TOAN |
| 7 | Number of tricycle drivers registered as Union members | - | - | 3,000,000 | TOAN |
| 8 | Average age of tricycles | 3 years | 3 years | 3 years | TOAN |
| 9 | Average time for mechanical checks (weeks) | Once | Once | Once | TOAN |

**Table 45: Operational Data Reporting by Union 2**

Table 44 illustrates that the union has never participated in any stakeholder engagement with the FCTA on urban road transportation, therefore, they have no recommendations to the government nor have their inputs been heard and incorporated in subsequent policy decisions. The union reported that the average age of their tricycles is 3

years, and they do mechanical checks once a week. It can be noted that some of the spaces do not have figures in them, that is because the union has not filled out those spaces.

It can be noted that Union 2 have their routes into the next state because the built-up areas of the FCT are merged up together with the built-up areas of Nasarawa State. The union also lamented that they are not allowed to operate in certain parts of the city, and they are unable to have an engagement with the Transportation Secretariat of the FCTA.

The below table was completed by <u>Union 3</u>:

| S/No | Indicator | Number | | | Source of Data |
|------|-----------|--------|------|------|----------------|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of bus routes in the city | - | - | - | - |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | - | - | 14 | NURTW Records |
| 3 | Number of recommendations proffered | - | - | 3 | NURTW Records |
| 4 | Number of inputs consolidated by the Government | - | - | 3 | NURTW Records |
| 5 | Number of complaints from commuters about your members | - | - | 52 | NURTW Records |
| 6 | Number of complaints resolved amicably | - | - | 49 | NURTW Records |
| 7 | Number of bus drivers registered as Union members | - | - | 12,000 | NURTW Records |
| 8 | Number of bus conductors registered as Union members | - | - | 3,000 | NURTW Records |
| 9 | Number of commercial tricycle operators registered as Union members | - | - | 2,000 | NURTW Records |
| 10 | Number of taxi drivers registered as Union members | - | - | 15,000 | NURTW Records |
| 11 | Average age of commercial buses | - | - | 8 years | NURTW Records |
| 12 | Average time for mechanical checks (weeks) | - | - | Weekly | NURTW Records |

**Table 46: Operational Data Reporting by Union 3**

As with Table 44, Table 45 illustrates missing data in several cells, as data was only provided for the year 2017. Union 3 have engaged with the government on urban roads 14

times in 2017. During these engagements they were able to proffer 3 recommendations to the government and all three of those recommendations have been consolidated in the final government document. In 2017, the union received 52 complaints from commuters about their members, 49 of those complaints have been resolved amicably. They have many registered bus drivers (12,000) and bus conductors (3,000) as members. Commercial tricycle operators registered as union members are 2,000, while 15,000 members of the union are taxi drivers. The average age of the buses is 8 years, and the buses undergo, on average, a mechanical check each week.

Union 3 have tricycle operators as members, which creates friction between the tricycle operators who are members of the Tricycle Owners Association of Nigeria (TOAN) and tricycle operators who are members of National Union of Road Transport Workers (NURTW). It can be noted that Union 3 have their routes into the next State because the built-up areas of the FCT are merged up together with the built-up areas of Nasarawa State. They complained of the constant harassment of their members by the Taskforce on the Environment of the city. They stated that they are charged with exorbitant fines by the Taskforce and that they want their interactions to be of mutual respect and understanding.

The below table was completed by Union 4:

| S/No | Indicator | Number | | | Source of Data |
|------|-----------|--------|--|--|----------------|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Kilometres of bus routes in the city | - | - | 400 km (15 routes) | SECDAA |
| 2 | Number of stakeholder engagements with the Federal Capital Territory Administration on urban road transportation | - | - | 20 | SECDAA |
| 3 | Number of recommendations proffered | - | - | 8 | SECDAA |
| 4 | Number of inputs consolidated by the Government | - | - | 8 | SECDAA |
| 5 | Number of complaints from commuters about your members | - | - | 200 | SECDAA |
| 6 | Number of complaints resolved amicably | - | - | 200 | SECDAA |
| 7 | Number of bus drivers registered as Union members | - | - | 3,000 | SECDAA |
| 8 | Number of bus conductors registered as Union members | - | - | 1,000 | SECDAA |
| 9 | Number of taxi drivers registered as Union members | - | - | Not Applicable | SECDAA |

| 10 | Average age of commercial buses | - | - | 5 years | SECDAA |
| 11 | Average time for mechanical checks | - | - | Monthly | SECDAA |

**Table 47: Operational Data Reporting by Union 4**

Union 4 operates 15 routes in the city, totalling 400 kilometres, as illustraten in Table 46. The union have been involved in 20 stakeholder engagements with the authorities, 8 recommendations to the government were made during these interactions and all of them have been accepted by the government. 200 complaints were received from the commuters about their members and all these complaints have been resolved amicably. Bus drivers registered with the union number 3, 000, and 1,000 are registered as bus conductors as at 2017. 5 years is the average age of the buses and they undertake, on average, a mechanical check every month.

It can be noted that Union 4 have their routes into the next State because the build-up areas of the FCT are merged up together with the built-up areas of Nasarawa State. This union is registered as a transport company to operate in the FCT and is licensed by the Transportation Secretariat of the FCTA. They are a union of individual private buses who came together to form one transport company. This was done with encouragement from the Transportation Secretariat of the FCTA as a step to having a regulated and well managed public transport system in the city.

### 4.2.3.2 NVivo Result

The Text Search Query for the Unions using *NVivo* (for research objective III) returned with no result.

The Word Frequency Query for the Unions using NVivo (one query for all objectives), the words – transport, government, applicable, secretariat, and decision – appeared 11, 7, 6, 6, and 4 times, respectively. The words – unbearable, use, without, worrying, and writing – are the least reoccurring words, all appearing once in the database, respectively.

**Chart 30: Word Cloud for Labour Unions**

The above word cloud illustrates the most used words in the unions database. Chart 31 illustrates that the bigger the word, the more it is used from the responses. Also, the colours depict the most used words, that is, green coloured words are the least used while sky blue coloured words are the most used. As the word frequency and word cloud illustrates, the unions in their responses talked much about the most used words because that is the focus of the research which is all about urban road transport, government policies, and public engagement.

Cluster Analysis for Unions:



**Chart 31: Nodes (Research Objectives) Clustered by Word Similarity for Unions**

Chart 32 illustrates that Nodes 1 and 2 have similar words which is why they are clustered together under one branch of the tree. Also, Node 3 has no word similarity with Nodes 1 & 2, hence its appearance in another branch of the tree in the diagram above. However, according to the Pearson Correlation Coefficient, there is no correlation between Nodes 1 and 2 (0.167282), no correlation between Nodes 1 and 3 (0.039113), and no correlation between Nodes 2 and 3 (0.310018), respectively.

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**Items clustered by coding similarity**

Measuring the social sustainability of urban road transportation

Assessing the level of citizen participation in the enactment and implementation of government policy

Identifying the long-term plans of road transportation in Abuja

**Chart 32: Nodes (Research Objectives) Clustered by Coding Similarity for Unions**

According to the Pearson Coefficient, the coding for the unions all have positive linear correlation as illustraten in Chart 33. This is because the calculation illustrateed that between Nodes 1 and 2, 1 and 3, and 2 and 3 all have 1 as their Coefficient.

## 4.3 Presentation of Data from Government Organisations

Four government organisations participated in this research. The government organisations are those responsible for the national policy of transportation in Nigeria, the department handling the physical planning and development of Abuja, the body managing the transport in Abuja, and the establishment looking after safety on the roads.

For anonymity, the government organisations will be labelled as follows:

- Department of Urban and Regional Planning = A
- Federal Ministry of Transportation = B
- Federal Road Safety Commission = C, and
- Transport Secretariat = D.

It is to be noted that the questions for the organisations are different from each other due to the differences in their functions. However, they all follow the same principles of the study, which is, the questionnaires are structured based on the objectives of the research. Therefore, the analysis will be in line with the stated objectives and the relationships will be highlighted. Lastly, Questions 1 and 2 of the questionnaires are asking about the type of organisation they are and if they agree to be contacted for follow-up research.

### 4.3.1 Results from Section I of Questionnaire (Assessing the level of citizen participation in the enactment and implementation of government policy)
#### 4.3.1.1 Question:

Is there a platform whereby the Federal Capital Territory Department of Urban and Regional Planning interacts with the public and other non-governmental stakeholders? (Organisation A)

**Yes** ☐      **No** ☐

Organisation A reported that they have a platform whereby they interact with the public and other non-governmental stakeholders on urban and regional planning in the city. However, they made clear that the elites are the participants of these public engagements.

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**Has there been any time when the Federal Ministry of Transport embarked on a survey to know citizens' satisfaction on transportation in Nigeria? (Organisation B)**

**Yes** ☐ **No** ☐

Organisation B stated that they have embarked on a public survey.

**Has there been any time when the Federal Capital Territory Transport Secretariat embarked on a survey to know citizens' satisfaction on transportation in the city? (Organisation D)**

**Yes** ☐ **No** ☐

Organisation D stated that they have embarked on surveys in 2013 and 2017 to assess citizens' satisfaction on transportation in the city of Abuja. They also have stakeholders' meetings with transport operators in the city whenever the need arises. The meeting also involves the public and other non-governmental stakeholders.

### 4.3.1.2 Question:

**If yes, when was this survey undertaken? In addition, if no, is there any plan for doing this kind of survey in the near future? (Please write your comments in the box below): (Organisation B)**

Organisation B stated that they have embarked on a public survey to assess citizen satisfaction on transportation in Nigeria in April 2017.

**If yes to above, when was this survey undertaken? In addition, if no, is there any plan for doing this kind of survey in the near future? (Please write your comments in the box below): (Organisation D)**

Organisation D stated that they have embarked on surveys in 2013 and 2017 to assess citizens' satisfaction on transportation in the city of Abuja. They also have stakeholders' meetings with transport operators in the city whenever the need arises. The meeting also involves the public and other non-governmental stakeholders.

### 4.3.1.3 Question:

**To what extent do you agree or disagree with each of the following general statements about citizen engagement?  (Please mark the relevant box)**

Organisation A, through Table 47 below, illustrateed to what extent they agree or disagree with each of the general statements about citizen engagement:

| Statements | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | ✓ | | | | | |
| Some of our best engagement with citizens happens informally around the community | | ✓ | | | | |

| Statement | | | | | | |
|---|---|---|---|---|---|---|
| (such as at the markets or friendly gatherings, etc.). | | | | | | |
| Most citizens we hear from are more interested in complaining than in finding solutions | ✓ | | | | | |
| Citizens want access to information about the government's finances and operations | | | | | ✓ | |
| Citizens want access to information about the government's performance | | | ✓ | | | |
| Most citizens are not willing to take the time to become well-informed on issues facing the city | ✓ | | | | | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | | ✓ | |
| The meetings run too long because too many citizens want to speak | | | ✓ | | | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | | | ✓ | | | |
| Citizens tend to only be engaged in issues that affect them directly and not on issues affecting the city overall | ✓ | | | | | |
| Important decisions facing roads typically have already been made prior to most public meetings | ✓ | | | | | |
| The decision-making is transparent to our citizens | ✓ | | | | | |
| The Department's engagement efforts mostly attract the same people over and over | | | ✓ | | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | ✓ | |

**Table 48: Response to Statements about Citizen Engagement for Organisation A**

Table 47 illustrates the level of agreement towards several general statements concerning citizen engagement by Organisation A. The responses illustrate that Organisation

A strongly agree on six of the statements, somewhat agree on one of the statements, neither agree nor disagree on four of the statements, and strongly disagree on three of the statements.

Organisation B, through Table 48 below, illustrateed to what extent they agree or disagree with each of the general statements about citizen engagement:

| Statements | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | | | | | ✓ | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | | | | | ✓ | |
| Most citizens we hear from are more interested in complaining than in finding solutions | ✓ | | | | | |
| Citizens want access to information about the government's finances and operations | | | | | ✓ | |
| Citizens want access to information about the government's performance | ✓ | | | | | |
| Most citizens are not willing to take the time to become well-informed on issues facing transportation in Nigeria | ✓ | | | | | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | | ✓ | |
| Our meetings run too long because too many citizens want to speak | ✓ | | | | | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | | | | | ✓ | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the country overall | | | | | ✓ | |

| Statements | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| Important decisions facing transportation have already been made prior to most public meetings | ✓ | | | | | |
| The decision-making is transparent to our citizens | | | | | ✓ | |
| The Ministry's engagement efforts mostly attract the same people over and over | | ✓ | | | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | ✓ | |

**Table 49: Response to Statements about Citizen Engagement for Organisation B**

Table 48 illustrates the agreement or disagreement of some general statements concerning citizen engagement by Organisation B. The responses illustrate that they strongly agree on five of the statements, somewhat agree on one of the statements, neither agree nor disagree on none of the statements, and strongly disagree on eight of the statements.

Organisation C, through Table 49 below, illustrateed to what extent they agree or disagree with each of the general statements about citizen engagement:

| Statements | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | ✓ | | | | | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | ✓ | | | | | |
| Most citizens we hear from are more interested in complaining than in finding solutions | ✓ | | | | | |
| Citizens want access to information about the Commission's performance | | | | ✓ | | |
| Most citizens are not willing to take the time to become well-informed on issues facing the Commission | ✓ | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| We do not need formal engagement efforts because the Commission already know what the problems are | | ✓ | | | | |
| Our meetings run too long because too many citizens want to speak | | | ✓ | | | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | ✓ | | | | | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the community overall | ✓ | | | | | |
| The Commission's engagement efforts mostly attract the same people over and over | | | | ✓ | | |

**Table 50: Response to Statements about Citizen Engagement for Organisation C**

Table 49 illustrates the agreement or disagreement of some general statements concerning citizen engagement by organisation C. The organisation in question illustrateed that they strongly agree on six of the statements tabulated, somewhat agree on one of the statements, neither agree nor disagree on one of the statements, and strongly disagree on one of the statements.

Organisation C, through Table 50 below, illustrateed to what extent they agree or disagree with each of the general statements about citizen engagement:

| Statements | Strongly Agree | Somewhat Agree | Neither Agree nor Disagree | Somewhat Disagree | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| We make opportunities for engagement available, but our citizens rarely take advantage of them | | | | | ✓ | |
| Some of our best engagement with citizens happens informally around the community (such as at the markets or friendly gatherings, etc.). | | ✓ | | | | |
| Most citizens we hear from are more interested in complaining than in finding solutions | | | | ✓ | | |
| Citizens want access to information about the | | ✓ | | | | |

| Statement | | | | | | |
|---|---|---|---|---|---|---|
| government's finances and operations | | | | | | |
| Citizens wants access to information about the government's performance | | ✓ | | | | |
| Most citizens are not willing to take the time to become well-informed on issues facing the city | | | | | ✓ | |
| We do not need formal engagement efforts because we already know what the citizens want | | | | | ✓ | |
| Our meetings run too long because too many citizens want to speak | | | | | ✓ | |
| We reach out to groups that typically might not engage in our policymaking processes (e.g., low income, youths, women or the disabled). | | ✓ | | | | |
| Citizens tend to only be engaged on issues that affect them directly and not on issues affecting the city overall | | | | | ✓ | |
| Important decisions facing transportation typically have already been made prior to most public meetings | | ✓ | | | | |
| The decision-making is transparent to our citizens | | ✓ | | | | |
| The Transport Secretariat's engagement efforts mostly attract the same people over and over | | ✓ | | | | |
| We struggle to find enough citizens to serve on our appointed Boards/Commissions | | | | | ✓ | |

**Table 51: Response to Statements about Citizen Engagement for Organisation D**

Table 50 illustrates the agreement or disagreement of some general statements concerning citizen engagement by Organisation D. The organisation in question illustrateed that they somewhat agree on seven of the statements tabulated, somewhat disagree on one of the statements, and strongly disagree on six of the statements.

### 4.3.1.4 Question:

**Citizens are often asked on opinion surveys how much trust they have in their government. Now we would like to ask you about trust you have in the citizens. In terms**

of their engagement in your policymaking and/or operations, how much of the time do you think you can trust the citizens to be responsible participants?

| | | |
|---|---|---|
| **Nearly always** ☐ | **Most of the time** ☐ | **Some of the time** ☐ |
| **Seldom** ☐ | **Almost never** ☐ | **Don't know** ☐ |

Organisation A stated that citizens can be trusted **some of the time** to be responsible participants. Organisation B responded by stating that they trust the citizens **most of the time** when they are making inputs and decisions on policymaking and implementation. Organisation C stated that citizens can be trusted **some of the time** when they are making inputs and decisions on policymaking and implementation. Lastly, citizens can be trusted **most of the time** when making inputs and decisions on policymaking and implementation, was the response of Organisation D.

### 4.3.1.5 Question:

In general, what do you think the people believe is the proper role for citizen engagement in governance? (Organisation A):

| Statements | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen engagement is to…… | | | ✓ | | |
| You personally believe the role of citizen engagement is to…… | | | ✓ | | |

Table 52: Response by Organisation A on Proper Role for Citizen Engagement in Governance

Table 51 illustrates that Organisation A states that the majority of the citizens believe the role of citizen engagement is to have citizens recommend decisions while the respondent believes that the role of citizen engagement is to have citizens recommend decisions.

In general, what do you think the people believe is the proper role for citizen engagement in governance? (Please mark the relevant box) (Organisation B)

| Statements | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe | | ✓ | | | |

| Statement | | | | | |
|---|---|---|---|---|---|
| the role of citizen engagement is to…… | | | | | |
| You personally believe the role of citizen engagement is to…… | | ✓ | | | |

**Table 53: Response by Organisation B on Proper Role for Citizen Engagement in Governance**

Table 52 illustrateed that Organisation B stated that the majority of the citizens believe the proper role for citizen engagement in governance is to have citizens provide input. So also, the respondent personally believes the role of citizen engagement is to have citizens provide input.

**In general, what do you think is the proper role for citizen engagement in road safety policy? (Organisation C):**

| Statement | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen engagement is to…… | | ✓ | | | |
| You personally believe the role of citizen engagement is to…… | | ✓ | | | |

**Table 54: Response by Organisation C on Proper Role for Citizen Engagement in Governance**

Table 53 illustrateed that Organisation C responded that the majority of the citizens believe the proper role for citizen engagement in road safety policy is to have citizens provide input, and that the respondent believes the role of citizen engagement is to have citizens provide input.

**In general, what do you think the people believe is the proper role for citizen engagement in local governance? (Organisation D):**

| Statement | Low Engagement: Just keep citizens informed | Have citizens provide input | Have citizens recommend decisions | High Engagement: Have citizens make decisions | Don't Know |
|---|---|---|---|---|---|
| Majority of the citizens believe the role of citizen | | ✓ | | | |

| | | | | | |
|---|---|---|---|---|---|
| engagement is to…… | | | | | |
| You personally believe the role of citizen engagement is to…… | | ✓ | | | |

Table 54 illustrates that Organisation C stated that the majority of the citizens believe the proper role for citizen engagement in local governance is to have citizens provide input, while the respondent responded that the role of citizen engagement is to have citizens provide input.

## 4.3.1.6 Question:

Overall, how satisfied are you regarding citizen engagement in your Department's/Ministry's/Commission's/Secretariat's policymaking and/or operations today?

Very Satisfied ☐　　　　Somewhat Satisfied ☐　　　　Neither Satisfied nor Dissatisfied ☐

Somewhat Dissatisfied ☐　　　　Very Dissatisfied ☐　　　　Don't Know ☐

All the 4 Organisations stated they are **somewhat satisfied** with their organisation's citizen engagement on policymaking and operations.

## 4.3.1.7 Question:

Please indicate which of the following approaches – if any – your Department uses to engage its citizens in the government's policymaking and/or operations (check all that apply). (Organisation A):

| Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|
| Notices in newspapers/media | | ✓ | | | | |
| Hard copy notices in Department's Notice Boards | | ✓ | | | | |
| Federal Government or Federal Capital Territory Authority's website | | | ✓ | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | ✓ | | | | | |
| Conducting periodical public hearings on policies in different parts of the FCT | | | | | | ✓ |

| Approach | Col1 | Col2 | Col3 | Col4 | Col5 | Col6 |
|---|---|---|---|---|---|---|
| Citizen surveys conducted by the Department | | | | | | ✓ |
| Social media accounts for the FCTA (e.g., Facebook or Twitter) | | | ✓ | | | |
| Internet discussion forums or online input/feedback forms | | | ✓ | | | |
| Informal one-on-one discussions with citizens | ✓ | | | | | |
| Focus groups conducted by the FCTA | ✓ | | | | | |
| Citizen participation on ad hoc task forces or planning teams or policy development | ✓ | | | | | |
| Citizen participation on formal government Boards or Commissions | ✓ | | | | | |

**Table 56: Approaches to Engaging the People in Policymaking and Implementation for Organisation A**

Table 55 illustrates the evaluated approaches used by the organisation to engage the people. Five of the approaches are evaluated to be very effective, two are deemed somewhat effective, three are neither effective nor ineffective, and finally they were unsure (i.e. 'don't know') about two of the approaches.

To understand how Organisation A engages the people in policymaking and implementation, the questionnaire asked which approaches they believe are best to engage the people. The approaches that are **very effective** are as follows:

- Formally organised event for public comments (e.g. Town Hall meeting or Workshop),
- Informal one-on-one discussions with citizens,
- Focus groups conducted by the FCTA,
- Citizen participation on ad hoc task forces or planning teams or policy development, and
- Citizen participation on formal government boards or commissions.
  For the approaches that are **somewhat effective**, they are:
- Notices in newspapers/media, and
- Hard copy notices on Department's Notice Boards.

The **neither effective nor ineffective** approaches are as follows:

- Federal Government or Federal Capital Territory Authority's website,

- Social media accounts for the FCTA (e.g., Facebook or Twitter), and
- Internet discussion forums or online input/feedback forms.

Lastly, the following approaches were evaluated **don't know**:

- Conducting periodical public hearings on policies in different parts of the FCT, and
- Citizen surveys conducted by the Department.

**Please indicate which of the following approaches – if any – your Ministry uses to engage its citizens in the government's policymaking and/or operations (check all that apply). (Organisation B):**

| Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|
| Notices in newspapers/media | | ✓ | | | | |
| Hard copy notices in Ministry's Notice Boards | | ✓ | | | | |
| Federal Government or Ministry's website | | ✓ | | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | ✓ | | | | | |
| Conducting periodical nationwide public hearings on policies in different parts of the country | | | | | | ✓ |
| Citizen surveys conducted by the Ministry | | ✓ | | | | |
| Social media accounts for the Ministry (e.g., Facebook or Twitter) | | | | | | ✓ |
| Internet discussion forums or online input/feedback forms | | | | | | ✓ |
| Informal one-on-one discussions with citizens | | ✓ | | | | |
| Focus groups conducted by the Ministry | ✓ | | | | | |
| Citizen participation on ad hoc task forces or planning teams on policy development | | ✓ | | | | |
| Citizen participation on formal government Boards or Commissions | | | ✓ | | | |

**Table 57: Approaches to Engaging the People in Policymaking and Implementation for Organisation B**

Table 56 illustrates the evaluated approaches used by the organisation to engage the people. Two of the approaches are evaluated to be very effective, six are somewhat effective, one is neither effective nor ineffective, and three are don't know.

To understand how Organisation B engage citizens in policymaking and implementation, the questionnaire evaluated approaches used by the organisation to engage the people. The approaches that are **very effective** are as follows:

- Formally organised event for public comments (e.g. Town Hall meeting or Workshop),
- Focus groups conducted by the Ministry.

For the approaches that are **somewhat effective**, they are:

- Notices in newspapers/media,
- Hard copy notices in Ministry's Notice Boards,
- Federal Government or Ministry's website,
- Citizen surveys conducted by the Ministry,
- Informal one-on-one discussions with citizens, and
- Citizen participation on ad hoc task forces or planning teams on policy development.

The **neither effective nor ineffective** approach is as follows:

- Citizen participation on formal government Boards or Commissions.

Lastly, the following are **don't know** evaluated approaches:

- Conducting periodical nationwide public hearings on policies in different parts of the country,
- Social media accounts for the Ministry (e.g., Facebook or Twitter), and
- Internet discussion forums or online input/feedback forms.

**Please indicate which of the following approaches – if any – your Commission uses to engage the people of Abuja in road safety policymaking and operations (check all that apply). (Organisation C):**

| Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|
| Notices in newspapers/media | | ✓ | | | | |
| Hard copy notices on Commission's Notice Boards | | ✓ | | | | |
| Federal Government or Commission's website | ✓ | | | | | |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | | ✓ | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Citizen surveys conducted by the Commission | | ✓ | | | | |
| Social media accounts of the Commission (e.g., Facebook or Twitter) | | | ✓ | | | |
| Internet discussion forums or online input/feedback forms | | | | ✓ | | |
| Informal one-on-one discussions with citizens | | ✓ | | | | |
| Focus groups conducted by the Commission | | ✓ | | | | |
| Citizen participation on ad hoc task forces or planning teams on policy development | | | ✓ | | | |

**Table 58: Approaches to Engaging the People in Policymaking and Implementation for Organisation C**

Table 57 illustrates the evaluated approaches used by the organisation to engage the people. One of the approaches are evaluated to be very effective, six are somewhat effective, two are neither effective nor ineffective, and one is somewhat ineffective.

To understand how Organisation C engages the people in policymaking and implementation, the questionnaire evaluated approaches used by the organisation to engage the people. The approach that is **very effective** is as follows:

⬧ Federal Government or Commission's website.

For the approaches that are **somewhat effective**, they are:

⬧ Notices in newspapers/media,

⬧ Hard copy notices on the Commission's Notice Boards,

⬧ Formally organised event for public comments (e.g. Town Hall meeting or Workshop),

⬧ Citizen surveys conducted by the Commission,

⬧ Informal one-on-one discussions with citizens, and

⬧ Focus groups conducted by the Commission.

The **neither effective nor ineffective** approaches are:

⬧ Social media accounts of the Commission (e.g., Facebook or Twitter), and

⬧ Citizen participation on ad hoc task forces or planning teams on policy development.

Lastly, the following is a **somewhat ineffective** approach:

⬧ Internet discussion forums or online input/feedback forms.

Please indicate which of the following approaches – if any – your Agency uses to engage the people in government's policymaking and/or operations (check all that apply). (Organisation D):

| Approach of Citizen Engagement | Very Effective | Somewhat Effective | Neither Effective Nor Ineffective | Somewhat Ineffective | Very Ineffective | Don't Know |
|---|---|---|---|---|---|---|
| Notices in newspapers/media | | | | | | |
| Hard copy notices on Agency's Notice Boards | ✓ | | | | | |
| Federal Government, Federal Capital Territory (FCT) or Agency's website | | | | | | ✓ |
| Formally organised event for public comments (e.g. Town Hall meeting or Workshop) | ✓ | | | | | |
| Conducting periodical public hearings on policies in different parts of the FCT | | | | | | ✓ |
| Citizen surveys conducted by the Agency | ✓ | | | | | |
| Social media accounts of the Agency (e.g., Facebook or Twitter) | | | | | | ✓ |
| Internet discussion forums or online input/feedback forms | | | | | | ✓ |
| Informal one-on-one discussions with citizens | | ✓ | | | | |
| Focus groups conducted by the Agency | ✓ | | | | | |
| Citizen participation on ad hoc task forces or planning teams on policy development | | ✓ | | | | |
| Citizen participation on formal government Boards or Commissions | | | | | | |

**Table 59: Approaches to Engaging the People in Policymaking and Implementation for Organisation D**

Table 58 illustrates the evaluated approaches used by the organisation to engage the people. Four of the approaches are evaluated to be very effective, two are somewhat effective, the respondent is unsure about four of the approaches (i.e. 'don't know'), and two approaches were unanswered.

To understand how Organisation D engages the people in policymaking and implementation, the questionnaire evaluated approaches used by the organisation to engage the people. The approach that is **very effective** is as follows:

 * Hard copy notices on Agency's Notice Boards,
 * Formally organised event for public comments (e.g. Town Hall meeting or Workshop),
 * Citizen surveys conducted by the Agency, and
 * Focus groups conducted by the Agency.

For the approaches that are **somewhat effective**, they are:

 * Informal one-on-one discussions with citizens, and
 * Citizen participation on ad hoc task forces or planning teams on policy development.

Lastly, the following approaches are responded to as **"Don't Know":**

 * Federal Government, Federal Capital Territory (FCT) or Agency's website,
 * Conducting periodical public hearings on policies in different parts of the FCT,
 * Social media accounts of the Agency (e.g., Facebook or Twitter), and
 * Internet discussion forums or online input/feedback forms.

### 4.3.1.8 Question for Organisation D only:

**Is there a platform whereby the Transport Secretariat interacts with the public and other non-governmental stakeholders?**

**Yes** ☐     **No** ☐

They responded that yes, there is.

### 4.3.1.9 Question for Organisation D only:

**If yes to above, can you highlight this platform below please. In addition, the periods of this interaction, is it monthly, quarterly, biannually, yearly, or when the need arises. (Please write your comments below):**

They responded thus: "FCT TS (Federal Capital Territory Transport Secretariat) holds Stakeholders Meetings with transportation operators in the FCT when the need arises".

### 4.3.1.10 NVivo Result

The Text Search Query for Organisation A using *NVivo* (for research objective I) illustrates that there are challenges in the implementation of the masterplan of the city. These challenges inadequate finance to construct the city as planned, resettlement of inhabitants, political interference overriding, and poor synergy between stakeholder Departments within the FCTA.

The Text Search Query for Organisation B using *NVivo* (for research objective I) found that the organisation:

* Organises workshops and conferences with the following stakeholders – Members of the National Council on Transportation (NCT), Transport Consultants and experts periodically.
* Has platforms for interaction with other tiers of government; these platforms are: The National Council on Transportation (NCT), the Stakeholders Conference on Road Transportation in Nigeria, and the Forum of State Commissioners of Transportation in Nigeria; and
* Includes the transport operators in their periodic workshops, conferences, and council meetings.

The Text Search Query for Organisation C using *NVivo* (for research objective I) illustrates that the organisation organises public enlightenment - one on one interactions with drivers, media (electronic), advocacy visits to churches, mosques, traditional rulers, and motor park rallies. The Text Search Query for Organisation D using *NVivo* (for research objective I) illustrates that the implementation of the FCT Transport policy has not officially started because the policy was stepped down by the Federal Executive Council (FEC) while it awaits the pending approval of the National Transport Policy. However, the FCT Transport Policy is in line with the Abuja Masterplan.

As in the previous sections, the NVivo queries have analysed participants' responses and have brought out problems and proffered some solutions to these problems. However, some of the results are reiterating the already analysed quantitative data and illustrating that, qualitatively, some of the responses are in line with the quantitative data.

### 4.3.2 Results from Section II of Questionnaire (Identifying the long-term plans of road transportation in Abuja)
<u>**Organisation A:**</u>

**4.3.2.1 Question:**
**Does the Abuja city have a master Plan?**

**Yes** ☐     **No** ☐

    Yes, it does.

**4.3.2.2 Question:**
**If yes to above, when was it commissioned for implementation? (Please write your comments in the below box):**

Organisation A responded that the city of Abuja has a masterplan that commenced implementation in 1979.

**4.3.2.3 Question:**

**If yes to Question 9 (4.3.2.1), are there challenges or success stories in the implementation of the policy so far? (Please write your comments in the box below):**

Organisation A responded that the implementation of this masterplan has had its successes and challenges over the years. The implementation has been successful so far because the plan has implemented up to 95% of the original concept. Some deviations from the plan constitute 5%, and the original plan is still intact as it was conceived. The deviation from plan that occurred in its implementation is because of review of the plan over time. The challenges experienced in the implementation of the plan have numerous dimensions. These dimensions are financial, resettlement issues (not more than 5% of the inhabitants are resettled), the arterial roads are still not developed due to finance, and political interferences overriding professional views. These political interferences impact negatively on the development of the masterplan. It should be noted that few political decision makers abide by the plan and listen to professional views. Lastly, lack of synergy between stakeholder departments constitutes another challenge.

**4.3.2.4 Question:**

**If yes to Question 9 (4.3.2.1), has there being a review of the plan since its approval?**

Yes [ ]    No [ ]

They responded that there was no review of the plan since its approval. In 1998, a decision to review the Abuja masterplan was made and consultants were commissioned to do the reviewal. However, up to date the committee has not presented its report for adoption and implementation. Therefore, the review is ongoing. It can be noted that the masterplan's legal framework recommends the review of the plan minimally after 5 years and, maximumly, after 10 years.

**4.3.2.5 Question:**

**Does the Federal Capital Territory Authority have a website?**

Yes [ ]    No [ ]

Yes, Organisation A has a website.

**4.3.2.6 Question:**

**If yes (to 4.3.2.5), can the plan be accessible on the website?**

Yes [ ]    No [ ]

The masterplan is not accessible on the website. The masterplan is not available on the organisation's website because, when the plan was developed in 1979, the present level of Information and Communication Technology (ICT) was not in existence. However, one can get the masterplan in electronic form if it is requested formally from the organisation.

**4.3.2.7 Question:**

**In developing the Abuja masterplan, can you highlight the stakeholders involved and consulted? In addition, how long did consultations take place from inception to approval? Also,**

**were the public consulted during the development of the plan? (Please write your comments in the below box):**

A committee was commissioned by the government in 1975 to advise on the location of a new capital city for Nigeria. The committee consulted widely, visited several locations across the nation, and made the recommendations for the creation of the Abuja city. This recommendation was agreed due to the central location of the city from all parts of Nigeria and the congestion of Lagos city.

### 4.3.2.8 Question:

**In the urban roads designed for future developments and the ones presently existing, are there proposals for an integrated road network that contains cars, buses, and trams?**

**Yes** ☐ **No** ☐

Yes, there is. The existing urban roads and the ones for future developments all have been designed to accommodate cars, buses, trains, and bicycles. In particular, the city has been designed to have a multimodal system of transportation.

### 4.3.2.9 Question:

**Is there any designated bicycle path in any of the roads in Abuja?**

**Yes** ☐ **No** ☐

Yes, there is. However, in the road plan of the city, there are bicycle lanes provided, but the decision to not delineate these lanes during construction is an issue that they have no idea on. This is one of the challenges of synergy between departments stated earlier on.

### 4.3.2.10 Question:

**Is there any platform(s) whereby all States of Nigeria interact with the Federal Ministry of Power, Works & Housing about urban development in Nigeria?**

**Yes** ☐ **No** ☐

Yes, there is.

### 4.3.2.11 Question:

**If yes to above (4.3.2.10), what is this body called? In addition, do you meet annually, biannually or quarterly? (Please write your comments in the box below):**

Organisation A interacts with other States of Nigeria and the Federal Ministry of Power, Works & Housing for urban development. This interaction is held annually in a forum called the National Council on Housing. During the annual World Habitat Day, the organisation participates and interacts with other organs of government and other international organisations for achievement of national and international urban planning objectives.

### 4.3.2.12 Question:

**Is there any platform whereby the Federal Capital Territory Administration meets and interacts with other government stakeholders involved in the road and urban development sector of the FCT? That is, other Ministries and agencies and the six Local Government Areas of the Territory.**

**Yes** ☐   **No** ☐

Yes, there is.

### 4.3.2.13 Question:
**If yes to above (4.3.2.12), what is the name of that platform and who are the government agencies included in it? In addition, how often do you meet? (Please write your comments in the box below):**

At the Federal Capital Territory (FCT), Organisation A works together with other organs of government in the FCT to provide transport facilities and infrastructure across the Territory. These organs are the Local Councils, the Transport Secretariat, and the Satellite Towns Development Agency. However, there is no formally named and recognised body whereby this relationship is set up.

### Organisation B

### 4.3.2.14 Question:
**Have the Draft National Transport Policy (2010) being approved by government? (Organisation B)**

**Yes** ☐   **No** ☐

No, it has not been approved.

### 4.3.2.15 Question:
**Based on the objective of the Draft National Transport Policy "to promote the use of public transport over private cars", has there being progress made in terms of encouraging Nigerians to use public transport? Is there any provision for public transport (buses and trains) all over the nation?**

"Yes. People are encouraged to use public transport in Nigeria. Yes, there are provisions".

### 4.3.2.16 Question:
**What were the strategies used to sensitise Nigerians to the need to use public transport and not their private cars?**

1. Provision of high capacity buses
2. Use of dedicated bus lanes
3. Provision of rail mass transit
4. Creating awareness of high-volume emissions as a result of too many private cars on the roads, and
5. Educating the public on the need to reduce their cost of transportation by using public transport.

### 4.3.2.17 Question:
**Is there any city or town in Nigeria that has an integrated multi modal transport system? That is, a passenger having to change modes of transport from air to rail and train or bus within walking distances of each other.**

**Yes** ☐     **No** ☐

**For further comments, please write below:**

Yes. Lagos State.

### 4.3.2.18 Question:
**What are the guiding local and international policies that guided the development of the National Transport Policy? That is, is it in line with an overall national developmental plan or it is a stand-alone document? (Please write comments in the below box)**

In drafting the National Transport Policy, the local and international guiding documents are as follows:

- Masterplan for Integrated Transport Infrastructure (MITI),
- The Nigerian Vision 20: 2020,
- The National Transport Masterplan,
- Global Frameworks on Public Private Partnerships and Urban Mobility; and
- Extant guidelines from International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO).

### 4.3.2.19 Question:
**Do you have a statistic of commuters and freight of all modes of transport in the country?**

**Yes** ☐     **No** ☐

No, they don't.

### 4.3.2.20 Question:
**Apart from the National Transport Policy, is there any transport plan for Nigeria?**

**Yes** ☐     **No** ☐

Yes, there is.

### 4.3.2.21 Question:
**Is there any platform(s) whereby all State of Nigeria and other agencies involved in the transportation sector interact with the Federal Ministry of Transportation with regards to transport in Nigeria?**

**Yes** ☐     **No** ☐

Yes, there is.

### 4.3.2.22 Question:
**If yes to above (4.3.2.21), can you highlight the platform(s) below please?**

The platforms are as follows:

  i.   the National Council of Transportation (NCT),
  ii.  the Stakeholders Conference on Road Transportation in Nigeria, and
  iii. the Forum of State Commissioners of Transportation in Nigeria.

**4.3.2.23 Question:**

**In developing the National Transport Policy, can you highlight the stakeholders involved and consulted? In addition, how long did consultations take place from inception to approval? Are the public also included in the development of the policy? (Please write your comments in the box below):**

The following stakeholders were involved in the drafting of the National Transport policy:

a. Members of the NCT,

b. Transportation Consultants and experts,

c. The academia, research institutions, and professional bodies in the sector such as the Chartered Institute of Logistics and Transport (CILT) and Institute of Transport Administration (IOTA),

d. Transport operators and other stakeholders, and

e. Global collaborative institutions such as the World Bank/ International Bank for Reconstruction and Development, International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO).

**4.3.2.24 Question:**

**Are there strategies initiated by the Federal Ministry of Transport to bring together transport specialists to review and proffer solutions to transport issues and challenges in the country?**

**Yes** ☐ **No** ☐

Yes, there are.

**4.3.2.25 Question:**

**If yes to above (4.3.2.24), can you highlight the platforms and mode of interactions please? (Please write your comments in the below box):**

Organisation B consults the stakeholders listed in 4.3.2.23 through periodic meetings, workshops, and conferences, which are not stated above, to proffer solutions to transport issues and challenges in Nigeria.

**4.3.2.26 Question:**

**Is there any regulatory body guiding commercial road transport in Nigeria?**

**Yes** ☐ **No** ☐

Yes, there is.

**4.3.2.27 Question:**

**If yes to above (4.3.2.26), what is the name of the regulatory body?**

The organisation responded that the Federal Road Safety Corps (FRSC) is the regulatory body that guides commercial transport in Nigeria. They further stated that the unions in the transport sector also carry-out self-regulation of their members.

**4.3.2.28 Question:**

**How many States of the Federation have a transport policy or plan?**

**0 – 5** ☐  **6 – 10** ☐  **11 – 15** ☐  **More than 15 States**

They responded that 6 – 10 States have their individual transport policies.

### 4.3.2.29 Question:

**States that have this policy/plan (4.3.2.28), is it in line with the National Transport Policy?**

**Yes** ☐  **No** ☐

Yes, they are all in line with the draft National Transport policy.

### 4.3.2.30 Question:

**Was there any input from the Federal Ministry of Transportation to the/those State(s) during the development of their Transport Policy?**

**Yes** ☐  **No** ☐

Organisation B responded that transport policies of those states were all developed with the active participation and input of the organisation under discussion. Some states have transportation handled as a department, however, the NCT encouraged the states to create Ministries of Transportation to give it legal and political backing.

### 4.3.2.31 Question:

**Does the Federal Ministry of Transportation and the 36 States Ministries of Transport/Works have an agreed strategy for environmental monitoring in the transport sector of Nigeria?**

**Yes** ☐  **No** ☐

No, they do not. This is because environmental monitoring is under the purview of another government organisation. Nonetheless, the NCT refers all issues of the environment that arise in the transport sector to the organs of government concerned.

### Organisation C

### 4.3.2.32 Question:

**What are the major factors that account for accidents in the city of Abuja? (Please write in the box below):**

Organisation C listed the following as the major factors that account for accidents in Abuja:

   i.   Careless or dangerous driving,
  ii.   Over speeding,
 iii.   Drunk driving,
  iv.   Overconfidence when driving, and
   v.   Tyre burst leading to loss of control.

### 4.3.2.33 Question:

**What strategies and initiatives do you use to reduce road accidents in the city? (Please write in the box below):**

   1. Public enlightenment – one on one interactions with drivers and through the usage of the media,

2. Enforcement of traffic laws,

3. Advocacy visits to churches, mosques, and traditional rulers, and

4. Motor park rallies.

**4.3.2.34 Question:**

**Is there a body whereby you periodically interact with other government stakeholders on road transport here in the Federal Capital Territory?**

**Yes** ☐     **No** ☐

Yes, there is.

**4.3.2.35 Question:**

**If yes to above (4.3.2.34), what is the name of the body, and how periodically do you meet - monthly, quarterly or annually?  (Please write in the box below):**

Organisation C interacts with other government stakeholders on road transport in Abuja monthly, in a forum called the Strategic Session. In these government stakeholder sessions, they decide on issues regarding road safety and security within the city.

**4.3.2.36 Question:**

**In terms of accident victims' evacuation, do you have an air arm in Abuja? (Please write in the box below):**

Organisation C does not have an air arm.

**4.3.2.37 Question:**

**Do the insurance companies duly compensate accident victims?**

**Yes** ☐     **No** ☐     **Don't know** ☐

Don't know.

**4.3.2.38 Question:**

**Do you have a toll-free number for accident victims?**

**Yes** ☐     **No** ☐

Yes, we do.

**4.3.2.39 Question:**

**Do you have a database that keeps records of traffic offences of drivers in the metropolis?**

**Yes** ☐     **No** ☐

Yes, we do.

**4.3.2.40 Question:**

**How often do you update this database?**

**Daily** ☐     **Weekly** ☐     **Monthly** ☐     **Quarterly** ☐     **Biannually** ☐

**Annually** ☐

Daily.

**4.3.2.41 Question:**

Introduction of safety courses into the curricula of primary and secondary schools is one of the policy strategies of the Draft National Transport Policy; has this strategy successfully being implemented?

Yes ☐    No ☐

No, because some States have not fully implemented it.

**Organisation D**

**4.3.2.42 Question:**

Does the Federal Capital Territory Authority have a Transport Policy?

Yes ☐    No ☐

Yes, they do have.

**4.3.2.43 Question:**

If yes to above (4.3.2.42), when was it approved for implementation by the Federal Government?

Organisation D stated that the FCT transport policy was approved by the FCT Executive Council in July 2010.

**4.3.2.44 Question:**

If yes to above (4.3.2.42), are there challenges or success stories in the implementation of the policy so far? (Please write your comments in the box below):

They responded that "implementation has not started because the policy was stepped down by the Federal Executive Council (FEC). The FEC has not approved the National Transport Policy, hence, cannot approve the FCT policy".

**4.3.2.45 Question:**

If yes to Question above (4.3.2.42), does the policy have an implementation plan?

Yes ☐    No ☐

Yes, it does.

**4.3.2.46 Question:**

In the urban roads designed for future developments and the ones presently existing, are there proposals for an integrated road network that contains cars, buses, and trams?

Yes ☐    No ☐

Yes, there are.

**4.3.2.47 Question:**

Is there any designated bicycle path on any of the roads in Abuja?

Yes ☐    No ☐

Yes, there is.

**4.3.2.48 Question:**

What are the guiding local and international policies that guided the development of the Transport Policy? That is, is it in line with an overall Federal Capital Territory (FCT) master plan,

**or aligned with the National Transport Policy, or is it a stand-alone document? (Please write comments in the below box):**

"FCT Transport policy is in line with the Abuja Master Plan".

### 4.3.2.49 Question:

**Does the Transport Secretariat have a website?**

**Yes** ☐     **No** ☐

No, it doesn't.

### 4.3.2.50 Question:

**Are there any strategies or initiatives by the Federal Capital Territory Authority to encourage people to use public transport instead of private transportation?**

**Yes** ☐     **No** ☐

Yes, there are.

### 4.3.2.51 Question:

**If yes to above (4.3.2.50), can you highlight those initiatives please? (Please write your comments in the box below):**

Organisation D encourages people to use public transport through the following initiatives:

- Proposed Abuja Bus Rapid Transit (BRT) Scheme,
- Proposed development of Park and Ride Scheme at the gateways into the FCT,
- There is a network of bus routes in the FCT Transportation Masterplan to encourage residents to use public transport.

### 4.3.2.52 Question:

**Do you have a statistic of cars, buses, tricycles, commuters and freight that is in the Abuja city?**

**Yes** ☐     **No** ☐

Yes, we do.

### 4.3.2.53 Question:

**Do you have a knowledge of the total number of commercial bus and taxi drivers operating in the city?**

**Yes** ☐     **No** ☐

Yes, we do.

### 4.3.2.54 Question:

**How often do you update the data for commuters/passengers and freight on the different modes of transport in the FCT?**

**Daily** ☐  **Weekly** ☐  **Monthly** ☐  **Quarterly** ☐  **Biannually** ☐

**Annually** ☐

No response.

**4.3.2.55 Question:**

Do you have a platform whereby you meet and interact with these operators periodically or do you usually have meetings when the need arises? (Please write your comments below):

Organisation D responded that "we meet when the need arises".

**4.3.2.56 Question:**

Do the 36 States of Nigeria and the FCT have a body where they interact with the Federal Ministry of Transportation on transport matters for the country?

Yes ☐     No ☐

Yes, they do.

**4.3.2.57 Question:**

If yes to above (4.3.2.57), what is the name of the body? In addition, do you feel the interaction is of respect and mutual understanding between the two tiers of government? (Please you can comment below):

The "National Council of Transportation. Yes, it is the apex transportation interaction organ in Nigeria".

**4.3.2.58 Question:**

In developing the FCT Transport Policy, can you highlight the stakeholders involved and consulted? In addition, how long did consultations take place from inception to approval? Also, were the public consulted in the development of the policy? (Please write your comments in the below box):

"Stakeholders involved are:

- Transport operators
- Government officials from relevant Agencies, Ministries and Parastatals."

6 months consultation.

**4.3.2.59 Question:**

Is there any platform whereby the Transport Secretariat meets and interacts with other government stakeholders involved in the transportation sector in the FCT? That is, other Ministries and Agencies and the 6 Local Government Areas of the State.

Yes ☐     No ☐

Yes, there is.

**4.3.2.60 Question:**

If yes to above (4.3.2.60), what is the name of that platform and who are the government agencies included in it? In addition, how often do you meet? (Please write your comments in the below box):

Organisation D responded that "Town hall meetings are held as the need arises".

**4.3.2.61 Question:**

Are there strategies initiated by the Transport Secretariat to bring together transport specialists to review and proffer solutions to transport issues and challenges in Abuja city?

Yes ☐     No ☐

Yes, there are.

**4.3.2.62 Question:**

**If yes to above, can you highlight the mode of interactions please? (Please write your comments in the below box):**

"Interaction in form of Conferences/Summits".

**4.3.2.63 Question:**

**Is there any regulatory body guiding commercial road transport in the FCT?**

**Yes** ☐ **No** ☐

Yes, there is.

**4.3.2.64 Question:**

**If yes to above (4.3.2.63), what is the name of the regulatory body?**

The Department of Bus Rapid Transit and Transport Regulation (BRT & TR).

**4.3.2.65 Question:**

**Are there dedicated bus routes approved by government in Abuja?**

**Yes** ☐ **No** ☐

Yes, there are.

**4.3.2.66 Question:**

**If yes to above, what are the criteria used to plan the routes? In addition, do the public know these bus routes? (Please write your comments below):**

Organisation D responded that it is "designed in line with the Abuja Master Plan".

**4.3.2.67 Question:**

**Does the Transport Secretariat and the six Local Government Areas of the Federal Capital Territory (FCT) have an agreed strategy for environmental monitoring in the transport sector of the Territory?**

**Yes** ☐ **No** ☐

No response.

**4.3.2.68 NVivo Result**

The Text Search Query for Organisation A using *NVivo* (for research objective II) illustrates that:

- The original masterplan of the city is still intact the way it was conceived.
- The implementation of the masterplan is successful so far, and 95% of the original concept is implemented.
- There is a 5% deviation from the original plan, and
- Political decision makers try to deviate from the plan.

The Text Search Query for Organisation B using *NVivo* (for research objective II) illustrates that the organisation:

- organises the National Council on Transportation (NCT), and includes Transport Consultants and experts, the academia, research institutions and professional bodies in the sector in their deliberations,

- through the NCT, encourages the Institute of Transport Administration (IOTA) to interact with transport operators and other stakeholders,

- is developing the National Transport policy, which is guided by national and international policies and plans,

- is encouraging people to use public transport in Nigeria,

- is educating the public on the need to reduce their cost of transportation by using public transport, and

- understands that the road transport sub-sector is a growing and dynamic sub-sector in Nigeria.

In the Text Search Query for Organisation C using *NVivo* (for research objective II) the organisation stated that the road designs in some parts of the city need to be improved, and road signs and markings are lacking in some areas of the city.

The Text Search Query for Organisation D using *NVivo* (for research objective II) illustrates that the organisation has proposed Abuja Bus Rapid Transit (BRT) Scheme, the proposed development of Park and Ride Scheme at the gateways into the FCT, and the network of bus routes in the FCT Transportation Masterplan to encourage residents to use public transport. The organisation holds Stakeholders Meetings with transportation operators in the FCT when the need arises. The Department of Bus Rapid Transit and Transport Regulations (BRT&TR) regulates the publicly available transport in the city (buses). In developing the FCT Transport policy, transport operators, government officials from relevant agencies, ministries, and parastatals are the stakeholders involved in the drafting process. The organisation stated that one of their departments is responsible for regulating commercial road transport in the FCT. The department in question has also approved dedicated bus routes across the Territory, these bus routes are also aligned with the Abuja Masterplan.

As in the previous sections, the NVivo queries have analysed participants' responses and have brought out problems and proffered some solutions to these problems. However, some of the results reiterate the already analysed quantitative data and illustrating that qualitatively some of the responses are in line with the quantitative data.

### 4.3.3 Results from Section III of Questionnaire (Measuring the social sustainability of road transportation)
#### Organisation A

Like Union Number 1 stated earlier, Organisation A did not fill out any data as tabulated in the questionnaire administered to them.

**4.3.3.1 Question:**

**Finally, in the box below, please state any other issue in Abuja that you deem is important and is not stated in this questionnaire and mention the reason(s) why it is important to the Department of Urban and Regional Planning. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state which question you are elaborating upon (e.g. Question 56).**

Organisation A responded that following are areas they are looking into:

- issues related to volume of people coming into the city during working hours only,
- issues of traffic congestion and why it is happening,
- the impact of traffic on individuals' finances and the government,
- carbon emissions of cars within the city'
- how effective is the present transport system in the city, what are the systems and who is providing the transport system?

However, the Text Search Query for Organisation A using *NVivo* (for research objective III) illustrates that there is an impact of traffic on individuals' finances and the government, and that of carbon emissions of cars within the city due to the influx of private cars during working hours.

**Organisation B**

**4.3.3.2 Question:**

**Introduction of safety courses into the curricula of primary and secondary schools is one of the policy strategies of the Draft National Transport Policy; has this strategy successfully being implemented?**

**Yes** ☐    **No** ☐

Yes, it has.

**4.3.3.3 Question:**

**Is there any legislation or policy with regards to cars and buses with particular noise levels or carbon emissions should not be usable in Nigeria?**

**Yes** ☐    **No** ☐

Yes, there is.

**4.3.3.4 Question:**

**If yes to above, can you name the law and when did it come into effect?**

Organisation B responded that "standards are defined and regulated by the Federal Road Safety Corps (FRSC), The National Environmental Safety Regulation & Enforcement Agency (NESREA), and the Federal Ministry of Environment (FMEnv)".

**4.3.3.5 Question:**

**Please fill in the data for the below table:**

Organisation B provided the following data:

| S/No | Indicator | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Number of private cars in Nigeria | - | - | - | |
| 2 | Number of private buses in Nigeria | - | - | - | |
| 3 | Number of taxis in Nigeria | - | - | - | |
| 4 | Number of commercial buses in Nigeria | - | - | - | |
| 5 | Number of tri-cycles in Nigeria | - | - | - | |
| 6 | Number of buses provided for public transportation by the Federal Government | 0 | 0 | 0 | FMT |
| 7 | Number of private sector collaborations undertaken by the Federal Government to provide public transportation | 0 | 0 | 0 | FMT |
| 8 | Number of buses that are conducive for the disabled | - | - | - | |
| 9 | Number of commuters using buses nationwide per annum | - | - | - | |
| 10 | Number of stakeholder engagements held with other government organisations | 1 | 2 | 2 | FMT |
| 11 | Number of stakeholder engagements held with the public and other non-governmental organisations | 1 | 2 | 4 | FMT |
| 12 | Number of bills presented to the National Assembly | Not Available | Not Available | Not Available | |
| 13 | Number of bills passed into law by the National Assembly | Not Available | Not Available | Not Available | |
| 14 | Number of bills assented to by the President | Not Available | Not Available | Not Available | |

**Table 60: Reporting by Organisation B**

Table 59 illustrateed that some of the data requested are not available from the organisation. Specifically, indicators 1, 2, 3, 4, 5, 8, and 9 are not reported because they fall under the mandate of State Governments to report, while indicators 12, 13, and 14 are not available to report in the questionnaire. However, indicators 6, 7, 10, and 11 are reported as requested.

**4.3.3.6 Question:**

Finally, in the box below, please state any other issue that you deem is important and is not stated in this questionnaire and mention the reason(s) why it is important to the Ministry. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state which question you are elaborating upon (e.g. Question 56).

Organisation B responded that "the road transport sub-sector is a growing and dynamic sub-sector in Nigeria. Many issues such as need for data confronts its development. However, this has been identified and is being addressed in order to have an evidence-based policy making process".

## Organisation C

**4.3.3.7 Question:**

Please fill in the data for the below table:

<u>Organisation C</u> provided the following data:

| S/No | Indicators | Number | | | Source of Data |
|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | |
| 1 | Total Number of accidents in Abuja city | 1,314 | 1,323 | 1,065 | FCT, FRSC |
| 2 | Total number of fatal accidents in Abuja city | 208 | 180 | 171 | FCT, FRSC |
| 3 | Total number of non-fatal accidents in Abuja city | 1,106 | 1,143 | 892 | FCT, FRSC |
| 4 | Average traffic offences per month | - | - | 1113 | FCT, FRSC |
| 5 | Number of sensitisation and enlightenment campaigns on road safety and regulations undertaken within Abuja city | 31,000 | 3,000 | 2,080 | FCT, FRSC |
| 6 | Average patrols within the city per week | - | - | 54 | FCT, FRSC |
| 7 | Average response time to accidents within the city (minutes) | - | - | 15 | FCT, FRSC |
| 8 | Number of engagements with Federal Capital Territory Administration's bodies working in the urban road transport sector | - | - | 12 | FCT, FRSC |
| 9 | Number of drivers' licences issued for all types of vehicles | - | - | 65,468 | FCT, FRSC |
| 10 | Number of Licenced Driving Schools in Abuja city | - | - | 69 | FCT, FRSC |
| 11 | Number of designated Accident Trauma Centres in Abuja city | - | - | 2 | FCT, FRSC |
| 12 | Average number of calls to the Accident Toll Free Number | - | - | - | |

Table 60 illustrateed that, over the course of 3 years, there has been a marked decrease in the number of accidents, fatal accidents, and non-fatal accidents in the city of Abuja. Furthermore, there is an average of 1,113 traffic offences per month, an average of 54 patrols per week, with an average response time to accidents of 15 minutes in 2017. The organisation has issued 65,468 driving licensing to drivers who have undertaken their driving tests in 69 licensed driving schools in 2017. It is expected that 2 accident trauma centres can cater for the 1,065 accidents that occurred in the city in 2017. Lastly, there have been a total of 12 engagements with the Federal Capital Territory Administration's bodies working in the urban road transport sector about road safety in 2017.

### 4.3.3.8 Question:

**Finally, in the box below, please state any other issue in Abuja that you deem is important and is not stated in this questionnaire, and mention the reason(s) why it is important to the Commission. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state which question you are elaborating upon (e.g. Question 56).**

Organisation C recommended the following:

a. improvement of road designs in some parts of the city,

b. the repainting and putting up of road signs and markings in some areas of the city that are lacking or faded,

c. the need for resurfacing of some neighbourhood streets, and

d. the replacement and commissioning of traffic lights in some parts of the city.

### Organisation D

### 4.3.3.9 Question:

**Please fill in the data for the table below:**

Organisation D provided the following data:

| S/No | Indicator | Number | | | Source of Data |
|------|-----------|--------|--------|--------|----------------|
| | | 2015 | 2016 | 2017 | |
| 1 | Number of private cars in Abuja | - | - | - | |
| 2 | Number of private buses in Abuja | - | - | - | |
| 3 | Number of taxis in Abuja | - | - | - | |
| 4 | Number of commercial buses in Abuja | - | - | - | |
| 5 | Number of commercial tri-cycles in Abuja | - | - | - | |
| 6 | Number of buses provided for public transportation by the Federal Capital Territory Administration (FCTA) | - | - | - | |
| 7 | Number of private sector collaboration undertaken by the Federal Capital Territory Administration to | - | - | - | |

| | | | | | |
|---|---|---|---|---|---|
| | provide public transportation | | | | |
| 8 | Number of buses that are conducive for the disabled | - | - | - | |
| 9 | Number of commuters using buses in the metropolis | - | - | - | |
| 10 | Number of commuters into the city from the Satellite towns | - | - | - | |
| 11 | Average age of cars in Abuja | - | - | - | |
| 12 | Average age of buses in Abuja | - | - | - | |
| 13 | Average age of tricycles in Abuja | - | - | - | |
| 14 | Total kilometres of road covered by designated bus routes in Abuja | - | - | - | |
| 15 | Number of designated bus routes in the city | - | - | - | |
| 16 | Number of bus stops/lay-bys constructed | 25 | 25 | 25 | Transport Secretariat |
| 17 | Total kilometres of exclusive bus lanes in the city | 20 | 20 | 20 | Transport Secretariat |
| 18 | Total kilometres of road in Abuja designated for multimodal usage | - | - | - | |
| 19 | Total kilometres of roads that have pedestrian paths | - | - | - | |
| 20 | Total kilometres of road with bicycle lanes | 8 | 8 | 8 | Transport Secretariat |
| 21 | Number of pedestrian bridges in the city | - | - | - | |
| 22 | Number of Parking Lots provided for Park and Ride in the city | - | - | - | |
| 23 | Number of motorcycle/bicycle bays constructed around the city | - | - | - | |
| 24 | Number of jobs created in the urban transport sector of Abuja | - | - | - | |
| 25 | Number of stakeholder engagements held with other government organisations | - | - | - | |
| 26 | Number of stakeholder engagements held with the public and other non-governmental organisations | - | - | - | |
| 27 | Number of bills presented to the National Assembly on FCT's transportation related matters | - | - | - | |

| 28 | Number of bills passed into law by the National Assembly on FCT's transportation related matters | None | None | None | Transport Secretariat |
|---|---|---|---|---|---|
| 29 | Number of bills assented to by the President on FCT's transportation related matters | None | None | None | Transport Secretariat |

**Table 62: Reporting by Organisation D**

Table 61 illustrates the figures reported by Organisation D. They were only able to report on the number of bus stops (25), kilometres of bus lanes (20 kilometres), and kilometres of bicycle lanes (8 kilometres) for 3 years. The figures reported illustrateed that there has not been an increase in the number of these facilities between 2015, 2016, and 2017. Also, there is no bill from the organisation that is passed into law by the National Assembly nor assented to by the President between 2015, 2016, and 2017.

**4.3.3.10 Question:**
**The bus stops in the city, do all of them have shelter for protecting commuters against the weather elements?**

**Yes** ☐ **No** ☐

Yes, they do.

**4.3.3.11 Question:**
**Do the bus stops have the times the next bus will be coming pasted in the shelter?**

**Yes** ☐ **No** ☐

No, they don't.

**4.3.3.12 Question:**
**Are there penalties for road users who damage road furniture (traffic lights, streetlights, digging of roads) in the city?**

**Yes** ☐ **No** ☐

Yes, there are penalties.

**4.3.3.13 Question:**
**What is the average number of penalised road users per month?**

**0 – 5** ☐ **6 – 10** ☐ **11 – 15** ☐ **16 – 20** ☐ **20 & above** ☐

No response.

**4.3.3.14 Question:**
**What means do you use to announce bus routes in the city?**

**Radio** ☐ **Television** ☐ **Public Notice Boards** ☐ **Newspapers** ☐

**The Transport Secretariat** ☐ **The Transport Unions** ☐

The Transport Secretariat.

**4.3.3.15 Question:**

Finally, in the box below, please state any other issue in Abuja that you deem is important and is not stated in this questionnaire, and mention the reason(s) why it is important to the Transport Secretariat. Please use this space to expand or comment on any of your answers in the questionnaire. Please clearly state which question you are elaborating upon (e.g. Question 56).

No comment.

**4.3.3.16 NVivo Result**

The Text Search Query for Organisation C using *NVivo* (for research objective III) returned with no results.

The Text Search Query for Organisation D using *NVivo* (for research objective III) illustrates that the FCT Transport Policy is in line with the Abuja Masterplan, and the network of bus routes in the FCT Transportation Masterplan, to encourage residents to use public transport.

The Word Frequency Query for the government organisations (one query for all objectives), the words – transport, transportation, council, federal, and national – appeared 21, 10, 8, 8, and 8 times in the database, respectively. The words – working, workings, works, workshop, and worthy – are the least reoccurring words, in the database, respectively.



**Chart 33: Word Cloud for Government Organisations**

The above word cloud illustrates the most used words of the government organisations' responses. Chart 34 illustrates the most used words by the responses from the government organisations. These most used words correspond with the total number of times the words appeared in the responses. This is because the responses from the organisations were all about policy making and implementation., Therefore, words such as council, federal,

and national are all illustrateing the organs of decision-making processes. Transport is the focus of this research, hence, its appearance.
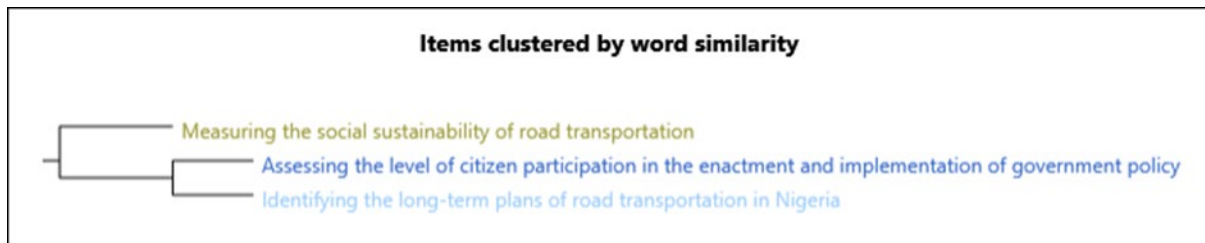
Cluster Analysis for Government Organisations:



**Chart 34: Nodes (Research Objectives) Clustered by Word Similarity for Government Organisations**

Chart 35 illustrates that Nodes 1 and 2 have similar words, which is why they are clustered together under one branch of the tree. This is further supported by the figure calculated by the Pearson Correlation Coefficient – 0.252915. Node 3 has no word similarity with Nodes 1 and 2, hence its appearance in another branch of the tree in the diagram above. The Pearson Correlation Coefficient between Nodes 1 & 3 is -0.034818 and between Nodes 2 & 3 is -0.130426.
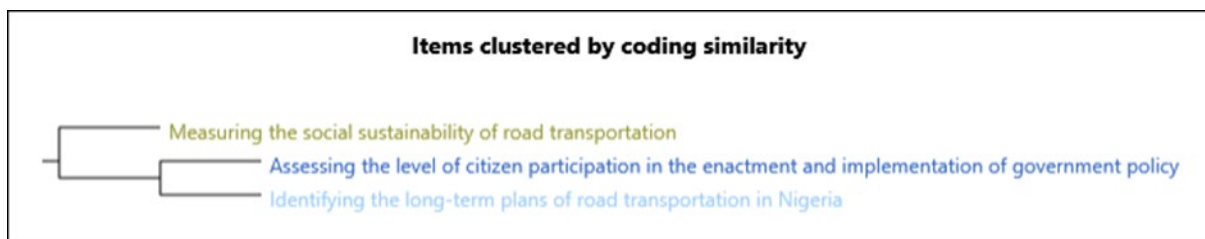


**Chart 35: Nodes (Research Objectives) Clustered by Coding Similarity for Government Organisations**

Chart 36 illustrates that Nodes 1 and 2 have similar codes, which is why they are clustered together under one branch of the tree. Also, Node 3 has no code similarity with Nodes 1 and 2, hence its appearance in another branch of the tree in the diagram above. However, according to the Pearson Correlation Coefficient, there is no correlation between all the nodes because the result of the calculation is 0.

# 5: Agencies Handling Modes of Transport in Nigeria

In line with her mandate and to assist in the discharge her functions, the Federal Ministry of Transportation have some bodies under it that works in the different modes of transportation that Nigerians use. These bodies (and their functions) are as follows:

- Nigeria Ports Authority (NPA) –
  - To develop, own and operate ports and harbours
  - To provide safe and navigable channel
  - To offer cargo handling and storage services
  - To maintain Port facilities and equipment
  - To ensure safety and security at the ports

- To develop and own property (NPA, 2017);
- Nigeria Railway Corporation (NRC) –
  - Passenger services on railways
  - Freight services on railways (NRC, 2018);
- Nigeria Shippers Council (NSC) –
  - To provide a forum for the protection of the interest of shippers on matters affecting the shipment of imports and exports to and from Nigeria
  - To encourage the formation of Shippers' Associations all over the country
  - To provide a forum for consultation between the conference and non- conference lines, tramp-owners, the Nigerian Ports Authority and the Government of the Federation on matters of common interest
  - To negotiate and enter into agreements with Conference Lines and non-Conference Lines, ship-owners, the Nigerian Ports Authority and any other bodies on matters affecting the interests of shippers
  - To advise the Government of the Federation, through the Minister of FMT, on matters relating to the structure of freight rate, availability and adequacy of shipping space, frequency of sailings, terms of shipment, class and quality of vessels, port charges and facilities and other related matters
  - To assess the stability and the adequacy of existing services and make appropriate recommendations in that behalf
  - To consider the problems faced by shippers with regards to coastal transport, inland waterways transport and matters relating generally to the transportation of goods by water and advise Government on possible solutions thereto
  - To promote and encourage the study and research into problems affecting shippers in Nigeria
  - To arrange from time to time seminars and conferences on any matter relating to its functions in Nigeria
  - To carry out such other activities as are conducive to the discharge of its functions (NSC, 2018);
- Nigeria Maritime Administration and Safety Agency (NIMASA) –
  - Pursue the development of shipping and regulatory matters relating to merchant shipping and seafarers
  - Administration and regulation of shipping licenses
  - Administration, Regulation and Certification of Seafarers
  - Establishment of Maritime Training and Safety Standards
  - Regulation of safety of shipping as regards the construction of ships and navigation

- Provision of Maritime Search and Rescue Services
- Provide direction and ensure compliance with vessels security measures
- Carry out Air and Coastal Surveillance
- Control and prevent Maritime Pollution
- Develop and implement policies and programs, which will facilitate the growth of local capacity in ownership, manning and construction of ships and other maritime infrastructure
- Enhance and administer the provision of Cabotage Act. 2003
- Perform Port and Flag State duties
- Provide Maritime Security
- Establish the procedure for the implementation of conventions of the International Maritime Organization (IMO) and the International Labour Organization (ILO), and other international conventions to which the Federal Republic of Nigeria is a party on Maritime Safety and Security, Maritime Labour, Commercial Shipping, and for the implementation of Codes, Resolutions and Circulars arising there from (NIMASA, 2018);

- National Inland Waterways Authority (NIWA) –
  - Provide regulation for inland water navigation
  - Ensure development of infrastructural facilities for a national inland waterways connectivity with economic centres using the River Ports and nodal points for inter-nodal exchanges
  - Ensure the development of indigenous technical and managerial skills to meet the challenges of modern inland waterways transportation
  - grant permit and licences for sand dredging, pipeline construction, dredging of slots and crossing of waterways by utility lines, water intake, rock blasting and removal
  - undertake the production, publication and broadcasting of navigational publications, bulletins and notices, hydrological year hooks, river charts and river maps
  - represent the Government of Nigeria at national and international commissions that deal with navigation and inland water transportation (Federal Republic of Nigeria, 2004);

- Nigeria Institute of Transport Technology (NITT) –
  - Provide Management Training for Personnel employed in all modes of transport
  - Serve as a Transport Intelligence Centre for monitoring transport and logistics systems
  - Provide equipment and facilities for the encouragement, promotion and conduct of applied research in all modes of transport (NITT, 2017);

- Maritime Academy of Nigeria (MAN) –

- ▪ Education and training of shipboard officers and ratings of shore-based management personnel.
- ▪ Train all levels and categories of personnel required for the effective and efficient operation of all facets of the Nigerian maritime industry (MAN, 2015);

- • Nigerian Meteorological Agency (NIMET) –
  - ▪ To advise the Federal Government on all aspects of meteorology
  - ▪ Project, prepare and interpret government policy in the field of meteorology
  - ▪ To issue weather (and climate) forecasts for the safe operations of aircrafts, ocean going vessels and oil rigs
  - ▪ To observe, collate, collect, process and disseminate all meteorological data and information within and outside Nigeria
  - ▪ To-ordinate research activities among staff, and publish scientific papers in the various branches of meteorology in support of sustainable socio-economic activities in Nigeria (NIMET, 2013);

- • Nigerian College of Aviation Technology (NCAT) –
  - ▪ To conduct Civil Aviation courses for use in flight training or airport operations & management as may be prescribed from time to time
  - ▪ To conduct training of approved persons in the installation, maintenance and operation, as the case may be, of technical equipment, the use of which is calculated or likely to increase the margin of operational safety of civil aircrafts
  - ▪ To conduct training on equipment and necessary facilities for technical research or normal use (NCAT, 2016);

- • Nigeria Airspace Management Agency (NAMA) –
  - ▪ provide air traffic services in Nigeria, including air traffic control, visual and non-visual aids, aeronautical telecommunication services and electricity supplies relating thereto, to enable public transport, private, business and military aircraft fly, as far as practicable and as safely as possible
  - ▪ provide aerodromes at all the major Nigerian airports, the navigation services necessary for the operation of aircraft taking-off and landing and integrate them into the overall of air traffic within the Nigerian airspace
  - ▪ minimize or prevent interference with the use or effectiveness of all apparatus used in connection with air navigation and for prohibiting or regulating the use of all such apparatus and display of signs and lights liable to endanger aircraft and endanger the use of Nigerian airspace
  - ▪ generally secure the safety, efficiency and regularity of air navigation

- require persons engaged in or employed in or in connection with air navigation, to supply meteorological information for the purpose of air navigation, as may be deemed appropriate from time to time

- provide adequate facilities and personnel for effective security of navigational aids outside the airport perimeters

- create conditions for the development, in the most efficient and economic manner, of air transport services

- procure, install and maintain adequate communication, navigation and surveillance and air traffic management facilities at all airports in Nigeria

- ensure an effective co-ordination in the use of Nigerian airspace in line with established standards and procedures

- ensure the co-ordination at all levels of decisions relating to airspace management and air traffic control in Nigeria

- hold meetings with the Armed Forces on Nigeria's international obligations as they relate to civil and military co-ordination

- promote familiarisation visits by civil and military personnel to air traffic service units

- maintain permanent liaison with the civil air traffic services units and all relevant air defence units, in order to ensure the daily integration or segregation of civil and military air traffic operating within the same or immediately adjacent portions of the Nigerian airspace, employing civil or military radars as necessary

- obviate the need for civil aircraft to obtain special air defence clearance

- take necessary steps to prevent, as far as possible, penetration of control airspace by any aircraft, civil or military without co-ordination with the air traffic control unit concerned

- encourage research and development relating to all aspects of the Nigerian airspace designed to improve air safety

- undertake systems engineering development and implementation for communications, navigation and surveillance and air traffic management

- charge for services provided by the Agency

- co-ordinate the implementation of search and rescue services

- discharge the operational, technical and financial air traffic service commitments arising from  Nigeria's membership of international organization and other air navigation Agencies (NAMA, 2018);

- Federal Airports Authority of Nigeria (FAAN) –
  - to develop, provide and maintain at airports and within the Nigerian air space all necessary services and facilities for the safe, orderly, expeditious and economic operation of air transport

- to provide adequate conditions under which passengers and goods may be carried by air and under which aircraft may be used for other gainful purposes, and for prohibiting the carriage by air of goods of such classes as may be prescribed
- to prohibit the installation of any structure which by virtue of its high position is considered to endanger the safety of air navigation
- to charge for services provided by the Authority at airports
- to provide accommodation and other facilities for the effective handling of passengers and freight
- to develop and provide facilities for surface transport within airports
- to carry out at airports (either by itself or by an agent or in partnership with any other person) such economic activities as are relevant to air transport
- to carry out at airports (either by itself, its agents or in partnership with any other person) such other commercial activities which are not relevant to air transport but which in the opinion of the Authority may be conveniently carried out without prejudice to the functions specified in this subsection
- to provide adequate facilities and personnel for effective security at all airports
- generally to create conditions for the development in the most economic and efficient manner of air transport and the services connected with it (Federal Republic Nigeria, 1995);

- Nigerian Civil Aviation Authority (NCAA) –
  - Regulation of safety of aircraft operations, air navigation and aerodrome operations
  - Monitoring of aircraft operating environment for safety and security
  - Regulating of methods of entry and conduct of air transport business
  - Advising the Federal Ministry of Transportation on policy formulation on aviation related matters
  - Balancing the economic interest of operators, users of aviation services as well as the general public and the nation as a whole
  - Setting of Aviation Training Standards and approval of Training Institutions
  - Facilitating take off and operation of E-Ticketing and Billing Settlement Plan (BSP) (NCAA, 2018); and

- Accident Investigation Bureau (AIB) –
  - the conduct of investigation into any accident or incident arising out of or in the course of air navigation and either occurring in or over Nigeria or occurring elsewhere as applicable to an aircraft registered in Nigeria or operated by Nigerian operator
  - the gathering, recording and analysis of all relevant information on air safety data, in particular, for accident or incident prevention purposes, in so far as those functions do

not affect its independence and entail no responsibility in regulatory, administrative or standards matters

- if appropriate, the issuance of safety recommendations
- if possible, the determination of the causes and/or contributory factor(s) of accidents
- the compilation, completion and publication of the accident's Final Report (Office Gazette, 2016a).