

## A REVIEW OF MULTI MODAL TRANSPORTATION DEVELOPMENT IN LAGOS STATE

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### ABSTRACT

*Lagos, Nigeria is home to a growing population of many millions of inhabitants, making it a very large city. In spite of this large population, the city has struggled to meet the demands of the citizens for reliable and efficient transportation services. This paper reviews the current state of multimodal transportation and development in Lagos with the view of discussing the challenges present and the potential for future improvements. The transportation Landscape in Lagos is dominated by private vehicles, commercial motorbikes, and mass transit system such as buses. These transportation modes have been struggling to keep up with the growing demand, leading to congestion and safety issues. In addition, multimodal transportation in the city is limited due to a lack of maintenance of the existing modes of transportation, poor connectivity, and inadequate services to cater for the huge commuters. The study adopted a desk top review of several related and relevant literatures and secondary data was obtained for relevant data collection and proper review, with references used and adjusted appropriately in its list. The Review finds that the development of multimodal transportation infrastructure in Lagos is hindered by the lack of financial resources, legal and regulatory frameworks, and institutional capacity. Other challenges include poor water quality, environmental challenge, Parking challenges, as well as limited access to and affordability of public transportation services. The review explores possible strategies for improving the current system, such as investing in public transport infrastructures and services, developing a coordinated public transport system, and introducing new technologies such as autonomous vehicles. This research highlights the need for a comprehensive and integrated strategy to improve multimodal transportation and development in Lagos. The review suggests that the concerned government, organizations and citizens of Lagos need to work together to increase access to reliable and efficient transportation for better service delivery.*

**Keywords:** Agencies, Development, Infrastructure, Multimodal, and Transportation.

### INTRODUCTION

The history of road transport development in Nigeria dated back to the period before 1910 when the existing bush paths were developed into motorable routes. According to Standford Research Institute (1963), the growth of road transport in Nigeria was a later development, which did not evolve through the stage of animal-drawn carts. According to this Institute, roads were not developed until the advent of motor vehicles in the 1920s and 1930s. The end of Second World War (1945) actually marked the period when the country was served with adequate network of all season roads for lorry and passenger car traffic. According to Onakomaiya (1978), as at 1963 what was now known as Lagos State was not yet created but it should also be noted that it evolved from Lagos Colony to Lagos Town Council and then before it became Lagos State.

The history of what is now known as Lagos state dates back to 1862 when the British colonial powers annexed the area now called Lagos Island. It was then designated as Lagos colony. Following the evolution of Nigerian nationhood and subsequent political restructurings, Lagos State was created in 1967. The State has a land area of about 3, 577sq/km, making it the smallest in Nigeria, in terms of physical size. However, with a population of about 18million, Lagos is the sixth mega city in the world and the unrivalled largest city in Africa with also one of the fastest growing rates, estimated at nearly 6% per annum. It is estimated (in a recent Habitat report) that the population of Lagos will approach reach 25 million by year 2015. The state has continued to maintain its enviable position as the nation's commercial center and accounts for over 65% of the commercial and industrial activities in the country. Lagos hosts the nation's major seaports and airports, telecommunication gateways which makes it the natural hub for economic activities not only for Nigeria but also for the West African sub-region.

The mode of transport consists of Molue buses, Danfos, BRT, Taxis Okada, Tricycles, Ferries and Trains. The total passenger traffic per day is over 7million. The transport network in the state has the following features:

- Predominantly road based with 90% of total passengers and goods carried through that mode.
- It has natural water ways for ferry services;
- A federal rail network which is being complemented by the state rail network for Existing Legal frame work as it relates to the transport sector. Others include;
- MOT ministerial Responsibilities
- Lagos Urban Project Report

These policies led to strengthening of existing and the creation of additional agencies with the relevant legal framework to provide institutional support for enhancing effective discharge of the various program and operating the transport sector properly in the state. These policy documents and legal instrument guide the goals, program, projects and activities of the Ministry and its agencies since 1999. It is pertinent to point out that the creation of the legal regime to regulate institution was deliberate in order to build institutional capacities for the planning and management of the state's transport system. To implement these policies, goals and objectives, there are presently eight (8) agencies in the transport sector with different degree of autonomy.

They are:

- i. Ministry of Transportation (MOT)
- ii. Motor Vehicle Administration Agency (MVAA)
- iii. Lagos State Traffic Management Authority (LASTMA)
- iv. Lagos Metropolitan Area transport Authority (LAMATA)LAGBUS Assets Management Company Limited (LAGBUS)
- vi. Lagos State Waterways Authority (LASWA)
- vii.Lagos state Drivers Institute (LASDRI)
- viii.Lagos State Number Plate Production Authority (LSNPPA)

Ministry of Transportation is the Primary organ for managing the transportation function sector in the state in the state. Public transportation functions were initially performed by the transportation unit under the planning division of the old Ministry of Works and Planning. However, under the second republic civilian regime of Alhaji Lateef Jakande in Lagos state, a full-fledged Ministry of transportation was created in

The independence existence of the Ministry was short- lived as the military administration of Governor Gbolahan Mudashiru in 1984 merged it again with the Ministry of works and the enlarged ministry became known as the Ministry of works and Transportation.

Ten years later, 1994, another administration now under the then colonel Olagunsoye Oyinlola carved out transportation functions again from ministry of works and transportation into an autonomous ministry of public transportation.

During the administration of Asiwaju Bola Ahmed Tinubu from 2000 to 2008, the ministry has been referred to as the ministry of transportation. This was to reflect the contemporary realities and the governments' vision for the ministry and transportation sector.

Researchers have yet to fully peep into the development of multimodal transportation development in Lagos especially through conceptual viewpoint, with several strands of literature emphasizing its multifaceted and dynamic existence (Chopra & Sodhi, 2014).

In view of the foregoing, the aim of the study is to review the multimodal transportation and development in Lagos state with specific objective to look at the developmental strategies and advancement of multimodal transportation for service delivery in Lagos State. In achieving this, the paper was structured into five sections which include; Introduction, review framework, methodology, discussion of findings and conclusion.

## METHODOLOGY

This study considers review of literature (desktop review) for relevant studies having relationship with transportation in its multimodal form to corroborate this study especially in its studied area.

Creswell & Clark (2018) posited that review paper methodology such as this, should be embodied on the review of relevant information, databases utilized, and relevant keywords used for this study. In this study, major events around transportation and development have been the most relevant themes, i.e the major significance of related studies that linked or connected the concepts, perspectives to multimodal transportation in the study area. In this paper, several references were used and was adjusted appropriately to fit into the reference list. A secondary source of data collection was adopted for the study to synthesize the information gathered for proper review. Similarly, Academic journals relating to multimodal transport are consulted and some related relevant literatures were used.

## DISCUSSION OF REVIEW FINDINGS

### Transportation Agencies Reform and Development in Lagos State

Lagos has over time grappled with challenges of transportation, despite being the largest city in the whole of Africa and a mega city that is fastest growing in the world, government has over time contain pressure to improve the transportation system in the state. Before now, it will be interesting to see below the various underlisted transport reforms that has been done over the years in the various sector of transport in the state according to the Ministry of Transportation in Lagos State.

- Lagos State Transport Corporation also known as **LSTC** was a state-owned public transport service that operated from 1958 up to the early 1990s. At its peak which was during the years preceding the Nigerian Second Republic, LSTC provided extensive bus coverage within the commercial city of Lagos. It was appropriately used then to tackle the problem of road transportation in the metropolis and to also serve as an agency of transportation that comes up with various policies and importantly rolling out of buses to cater for the teeming population at that time, this was necessary in order to complement other modes of transportation which was in use then in Lagos.
- In 1958, Lagos Town Council acquired the Zarpas bus service which was operating 30 route permits and 47 buses, the service was licensed to operate in the suburbs of Obalende, Yaba, Apapa, Idi-Oro, Mushin and Ikoyi.
- The acquired operation was named Lagos Municipal Transport Service and it became the first government owned public bus service in Lagos State.
- In the late 1950s, this service competed with four licensed operators, in this group included Benson bus services and Oshinowo Transport.
- When the Lagos Town Council became the Lagos City Council, the municipal service was renamed Lagos City Transport Service. One of the council members, Julius Adeola Odeku was appointed chairman of the newly incorporated company.
- To meet demand of commuters, between 1962 and 1965, LSTC expanded with the purchase of Mercedes buses but operational deficiencies and rise of licensed and unlicensed operators hampered profitability. The essence of the acquisition of these buses was to meet the demands of the citizens at that time, despite the fact that the population was not as huge as what is obtainable now. Majorly, because this is a form of road transportation, attention was given to it, this is so because it was and still is the dominant mode of transportation then and now.
- Beginning in the second republic, technical inefficiencies, corruption and competition eroded the passenger share of LSTC. From an average of 240 operating buses in 1978, the average fell to 110 in 1983. Particularly the corruption, it hampered the advancement of the activities of the Lagos State Transport Corporation as there were lot of embezzlement that was been done ranging from public funds stealing which affected the proper maintenance of these fleet of buses available to convey commuters to their destination from their place of origin, the reduction of these number of buses as a result of these factors affected movement of passengers at the road transport level.
- Lagos Rail Mass Transit is a system being developed and under construction in Lagos, Nigeria. The system (the first modern rail-based public transport in Sub-Saharan Africa outside of South Africa) is being sponsored by the Lagos Metropolitan Area Transport Authority (LAMATA) and is envisioned to consist eventually of seven lines.
- The idea of developing rapid transit in Lagos dates from the 1980s with the Lagos Metro line network conceived by the Alhaji Lateef Jakande during the Second Nigerian Republic. The initial Metro line project was scrapped in 1985 by Muhammadu Buhari at a loss of over \$78 million to the Lagos tax payers.

- The idea of developing a light rail network for Lagos was revived by Governor Bola Tinubu in the early 2000s with a formal announcement of its construction in December 2003. In 2008, LAMATA began also to make progress with the rail project focusing on the Blue Line and Red Line
- This initial \$135 million proposal was part of the greater Lagos Urban Transportation Project to be implemented by the newly formed Lagos Metropolitan Area Transport Authority (LAMATA). LAMATA initially concentrated on developing a Bus Rapid Transit system, running from Mile 12 to Lagos Island.
- LAGBUS was created out of the experience of the Lagos state Government over the years in its various attempts to provide an efficient safe and sustainable bus transportation system for the city. LAGBUS was incorporated on 18th November, 2004. LAGBUS commenced operations on 17th February 2007, on three (3) routes with 123 Marco polo buses. Air Condition Buses: one of the first projects of LAGBUS was introduction of air-conditioned Daewoo buses. Service commenced on the 1st of March 2011 with 195 buses. These provide the passengers with stress, rides, enabling them to get to their destinations refreshed and satisfied.
- The MVAA was established in the year 2007 with the sole responsibility for the issuance of certificate of title of a motor vehicle, issuance and renewal of all categories of motor vehicle and driver's license (Local); learners permit and other related matters. The Agency also reserves the right to revoke, suspend or withdraw any License granted pursuant to the provision of the enabling Law.
- The Lagos Metropolitan Area Transport Authority (LAMATA) was created in 2002 by the Lagos state Government as the main implementation vehicle for the realization of LAGOS URBAN TRANSPORT PROJECT (LUTP).
- Thus, the LAMATA law of 2002 established and empowered the authority, which was given jurisdiction over the conurbation in Lagos State and a declared network of primary and secondary roads that carried the bulk of road traffic and power plan and coordinate public transport and make recommendations on route planning.
- Formed following the passing of a law to repeal the National Inland waterways Authority Act 1997 in 2008 and then the subsequent enactment of the Lagos state waterways authority act 2008 the Lagos state waterways authority (LASWA) is the organization responsible for regulating, developing and managing all aspects of the waterways of Lagos.
- The Lagos State Government in 2008 enacted the LASWA Act, which established the Lagos State Waterways Authority. LASWA is charged with the responsibility for coordinating and managing reforms necessary for the long-term growth and development of water transportation in Lagos state, including the granting of ferry licenses, dredging and concessions for the operation of terminals to the private sector. This was done to make the water transportation more efficient for use and by extension complementing the other mode of transportation in the state

### **Transportation Modes and Inadequacies in Multimodal Transportation in Lagos State**

In Lagos state, there are several modes of transportation that complement each other, this is so because of the huge population that is being experienced in the state as a result of migration from all other states. The essence of this transportation mode is to possibly reduce complication of liability of intermodal transport, and also deal with one operator for contract of carriage and also to importantly do door-to-door deliverables. There are three major modes of transportation that are in use in Lagos state, they are; the road, rail and water transport and all of these mode of transportation in the state comes with its inadequacies.

#### **Road transportation**

This is the movement of people, goods and services on the land surface, this mode of transportation is common in Lagos and it is accessible as the case may be. It comprises of the Lagos BRT which is being regulated by Lagos Metropolitan Area Transport Authority (LAMATA) which is now being operated by the Primero Transport Services Limited which is in charge of its operations on a daily basis. This mode of transport conveys passengers and goods from one end of the state to another using mainly a road that was created for it, known as the BRT lane for seamless movement, also the Lagos Bus Services Limited (LBSL), and the Mini buses which is painted yellow with stripes of black otherwise known as Danfo is another form of road transport that has helped in the movement of people, goods and services in Lagos metropolis which is owned by private individuals, the tricycles and okada riders are also forms of this road transport in the

state of Lagos, though okadas have been banned in some parts of the state but it is still very much effective and efficient in some major parts which has enhanced movement of people, goods and services in the state. However, this form of road transportation in the state comes with its inadequacies like good maintenance culture and enforcement for compliance.

### **Rail transport**

This is the movement of people, goods and services by rail mode, this is one of the major transport modes in the state of Lagos that is fast gathering momentum. The rail system in the state is being revolutionized, it is gradually becoming the toast of citizens of the state, the new rail system which is the Lagos Rail Mass Transit (LRMT) i.e the Lagos blue rail which is going to span across the state, recently one of the rail system was launched which stretches from Marina to Mile II (13 kilometers elevated train network) by Former President Muhammadu Buhari which is being test run for adequate use of the citizens, it has been said that it has the potential to wreak havoc in terms of electrocution, if it's not properly managed and given a wide publicity to citizens in terms of its operation. It is important to note that this train runs on an independent power supply – Electric Multiple Unit (EMU). Also, it is also important to state clearly that the next phase of this rail project will be launched soon to complement the first phase which was launched in December 21, 2022.

### **Water Transportation**

This is the movement of people, goods and services by water from one place to another in the state either by ferry, jetty or canoe. Lagos State Waterways Authority (LSWA), is in charge of the state's Waterway, like the use of ferries, boats and Jetties. LASWA regulates the activities of this mode of transport in the state for efficiency and effectiveness and especially provides the safety gadgets for passengers on board this mode of transportation in the state. It has also been a complementary mode of transportation to others too and its routes are not like that of the road transport in the state. However, citizens of the state do not find comfort in making use of this mode of transportation, this is because they assume that much attention is not being paid to it compared to other mode of transportation in the state. Also, the personnel are seen as not been adequate and sufficient to function as appropriate.

### **Multimodal Transportation Concept for Service Delivery**

The definition of 'multimodal transport' was described in the United Nations Convention on Trade and Development (Taylor & Smith 2007) as: 'carriage of goods by at least two different modes of transport based on a multimodal contract of carriage from a place in a country in which a multimodal contract of carriage transports goods'. The operator of the multimodal transporter conveys goods to a point of distribution in a specified location. However, in many less developed countries like Nigeria and specifically Lagos, the inland transport system part of international freight transport hampers international trade function. For several years running, fresh technologies have been introduced and incorporated to give room for more delivery efficiency across several modes of transport. Therefore, the multimodal transport concept, enhances the activity of origin-to-destination freight transport under the responsibility of an operator that is single that uses way of transportation that is more than one, it is a natural containerization extension (Muller, 2013). In Multimodal transport system it is not unusual to see the system's challenging situations. In most cases, these problems are more prominent in developing countries than in developed nations. Debela (2013) states that the fundamental challenge presented by various authors as factors influencing the regular operation of the system is the disparities in trade and investment policies and regulations, the legal and political climate, infrastructural facilities and the lack of skilled human capital. Harrison (2007) noted that multimodal logistics brings many challenges, along with opportunities. Infrastructure, legislation and technology, which require quite a bit, are the areas sorted out by the author for the challenges. Multimodal transport operations are carried out in different fields through the interconnected work of individuals and organizations, and this can be good but also pose a challenge for the system. In this regard, Degirmenci & Denktas (2018) emphasized the absence of international laws governing the successive carriage of goods as an issue of several transportation scheme, leading to crucial problems in the field of carrier liability and liability for loss or damage to the goods transported under the multimodal system. The multimodal transport system also has an environmental effect on the means of transport used in multimodal transport operations, according to Butta, Abegaz, & Tilahun (2016), choosing the mode of transport in the world is not just a

choice between the form of transport, but between the system and the transport mechanism. In Lagos State, the mode of transport that commuters choose is based on the fact their choice and the services with which they render whether the secondary of the tertiary for of services. The development of this multimodal transport as a result also of Agency development has helped to ease vehicular and pedestrian traffic over time in some parts of the state. In rendering service as an individual and a citizen or in search of daily bread there is need for making a choice that is best in terms of movement, hence, these modes of transportation.

### **Challenges of Multimodal Transportation system in Lagos State**

#### **Parking challenge**

One of the major challenges of the multimodal transport system in Lagos is the challenge of parking which is attributed mainly to the road transportation and also connected to traffic congestion. Parking by the side of the road and unlawfully are common features in road transportation in Lagos state, especially in the CBD which forces some people to park in roadside, as a result the road becomes narrower (Lupala, 2011). The ineffective regulation of parking has accelerated to worsen the situation. In the CBD, vehicles spend a lot of time in a parking which has increased demand of land consumption. Even when the parking facilities are provided, but the demand for parking is very high since there is an increase in motorization (Kiunsi et al, 2006)

#### **Environmental and noise pollution Challenge**

This is another challenge of multimodal transport in Lagos state. It is estimated that for the period of several years (2000-2022), Lagos has produced high tons of carbon dioxide and tons of carbon-monoxide. Pollution, including noise generated by circulating is a serious impediment to the quality of life and even the health of the urban population is endangered. Moreover, the energy consumption by urban transportation has increased and led to petroleum dependency. The notable major pollutants include carbon monoxide, lead, nitrogen and hydrocarbons (Kombe et al, 2007) which are a significant source of eye and respiratory diseases. The increased number of old and reconditions vehicles in Lagos roads makes the pollution effect more serious.

#### **Water quality Challenge**

This can be said to be the suitability of water for different purposes especially when it comes to the movement of people, goods and services on water ways. The quality of water is important for the seamless movement of people on the water ways, if there is challenge in the quality of water, then it affects the movement of this mode of transport. One of the major challenges attributed to water as it relates to transportation is point source pollution of the water with pollutants which impedes the seamless movement of the water transport like ferry, boat etc.

#### **Poor Funding**

This is also a major problem and challenge of multimodal transportation in the state, this affects the functionality of this modes of transport either directly or indirectly. The funding is necessary to get skilled workers including drivers of vehicles and those that are in charge of other modes of transportation in the state, if there is poor funding, this can't be done and also funding is required to maintain fleet of cars and buses that are used to convey passengers from their place of origin to destination, this also is applicable to other modes of transportation. If this funding is not there it sets back the system drastically.

### **Strategies For Developing and Improving Multimodal Transportation System**

#### **Improvement of Station/Terminal Infrastructures**

Station Infrastructure needs to be improved immensely for the development of multimodal transportation. This station varies according to the mode of transportation which constitutes the multimodal transportation. These stations are Terminal for buses and Mini buses, Railway Stations for trains and Mini trains, Airport system for Air transportation like Aircrafts. In all of these, there are basic infrastructures that help the functionality of these various components of the transportation modes, which requires improvement in terms of technology and human resources which will enhance the effectiveness and efficiency of these modes of transportation.

At present, there are several stations for logistics in Nigeria and specifically Lagos railways, such as small scale, backward loading and equipment that are unloading, and insufficient special machinery. Logistics stations should further increase investment in technical equipment, accelerate the development of equipment renewal, improve the adaptability of railway container transportation to the market (Leigh, 2018). Large-scale regional stations (like Airports and Ports) introduce customs, immigration for inspection and quarantine functions in compliance with inland ports requirement. In the course of transformation process, logistics station is necessary to arrange and allocate the size of the logistics stations within the established land area, which can meet the requirements of loading, unloading, handling and storage of containers.

### **Integral Implementation of operations**

Given the full play of the advantages economically of Lagos, there is need for encouragement in terms of logistics stations to conduct very good alliances strategically with huge organizations of transport, Producers and logistics companies i.e Third - Party for the establishment of multi-modal transportation operations. The logistics station can design the intermodal service products of each logistics operation entity and establish a benefit sharing mechanism (Sixin & Xiumin 2017). Logistics station also requires leaning on the logistics information tracking feedback of the Internet platform to enhance the hierarchy of services of Logistics.

### **Solidifying the establishment of station Information Unit**

In the first place, there is need to advance the work that is associated to this aspect in terms of the establishment of station information which is very important so as to promote the Air, Water, Road and Railway transportation. Also, customs, goods inspection, terminal, port and logistics organization involved in this to complement each other constructively and use the information unit, interfaces of open information, share information resources, scaling information hurdles, and advancement efficiency in operations. Secondly, is to promote advanced information technology and equipment, promote the widespread application of radio frequency identification (RFID), bar code equipment and numerous technologies that are of the modern age. Thirdly, is to come up with significant standards for multimodal transport information sharing and transmission of data, advancing the interoperability of multimodal transport with reference to information by all standards.

### **CONCLUSION**

In concluding this study and from findings of the reviews of literature gathered, it is crystal clear that over the years the state of Lagos have been improving on its transportation sector in order to cater for the needs of the people that are resident in the state or that are visitors and especially for those that deliver services in one form or the other, it is also clear that the development and advancement of the multimodal transport system ranging from the Land, rail and water transportation has received a drastic improvement in terms of transforming and creating various agencies that can and will oversee the various mode of transport and especially its traffic control, for example, the road transport which is being controlled in terms of traffic by Lagos State Traffic Management Agency (LASTMA) has been efficient in traffic control in the state. And many more Agencies that help in controlling traffic and regulating the activities of these modes of transportation, Also, the water ways which is being controlled by the Lagos State Water Ways Authority (LASWA) for safety of commuters that make use of the water ways like maintenance of the various Jetties and provision of life Jackets that will enhance the safety of lives of the commuters in case of emergency on the water ways. The Lagos Metropolitan Area Transport Area (LAMATA) which is saddled with the responsibility of realizing Lagos Urban Transport Project has been effective in transforming the system of transportation in the state with its commitment on regulating and providing the needed class for Urban transportation which is known as the Lagos BRT. In view of all these, it can only be better for the state government and critical stake holders to do more in this sector by depositing more funds to cater for these modes of transport in order for them to be well maintained and by extension encourage more commuters by enhancing their productivity in terms of service delivery in the state.

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