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Transportation Systems, Problems and Challenges Affect Their Contribution to an Analysis of the Issues of the Economic Development in Nigeria

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Abstract: *The purpose of this article is to examine the current issues and difficulties that Nigeria's four main transportation modes are facing. The data utilized in this research were gathered by field observations, oral interviews, and a thorough literature search of books, journals, and pertinent government documents. After discussing the difficulties and issues affecting each mode's ability to continue contributing to the nation's economic development, the historical evolution of each mode and its historical role in that development are provided. The main effects of driving being preferred over other modes of transportation are the environmental issues associated with driving and the high rate of traffic accidents on Nigerian roads. There are numerous inland waterways of capacity that is underutilized as a result of the antiquated railway system. Despite being widely utilized, the airways still require significant development and refinement. In order for these modes to continue contributing to Nigeria's economic development, the study offered viable solutions to these issues and obstacles.*

Keywords: *Nigerian transport system; economic development; transportation development; the path forward and the path traveled thus far. Common Issues*

1. INTRODUCTION

One of the key components of Nigeria's economic development is transportation. Scholars have disagreed throughout the years over a variety of topics pertaining to the precise role that transportation plays in economic development, including when and how much money should be invested in transportation infrastructure expenditure required for a particular stage of development, among many other factors. The four forms of transportation that have played, are playing, and will continue to play major roles in Nigeria's political, social, and economic growth will be the main topic of this essay. Together, these inland waterways, ports, railroads, highways, and airplanes manage more than 99% of the nation's transportation. Developed nations often focused a lot of effort on transportation development in the early years of their industrialization, but same nations are now preoccupied with updating or changing their inherited transportation infrastructure. However, emerging nations like Nigeria keep enhancing their transportation infrastructure to make it possible for to accelerate their economic development Sulaiman (2020).

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Nigerian Transportation Developments

Walker (1958) asserts that the growth of communication and transportation during colonial authority mirrored the technological and economic conditions of the area as well as the priorities of the metropolis. The ports, both coastal and riverine, served as the bases of entry and entry for the first phase of engagement, which was waterborne. Because of this, the early British attempts to develop transportation were focused on river clearing and dredging, especially from 1900 to 1931. Until the northern and southern railway systems were connected in 1912, the waterways served as the only means of mass transit between the two regions Ajiteru, (2021).

But as the railway network expanded and integrated, the internalWaterways were given up on. Despite the introduction of motor vehicles as early as 1909, a systematic plan for organizing a road system did not exist until 1926. Therefore, significant road building did not begin until the late 1930s. However, after that, the field of road construction developed so quickly that, as stated by Ajiteru (2021), road transportation quickly took the lead for medium- and long-distance trips Abalaka (2022). According to Abalaka (2022), the development of transportation can be divided into six stages:

The First Stage: These were left over from colonial occupation and are made up of small ports and dispersed communities along a coast. These coastal communities established trading activities, albeit initially of a very restricted kind, which therefore resulted in relatively constrained hinterlands. There With the exception of those facilitated by sporadic commerce ships and native fishing vessels, there was minimal lateral connectivity between the dispersed communities Ajiteru, (2021).

The Second Stage: This changed gradually but steadily as interior penetration lines were created, some of which connected mining sites or population centers gained importance over the others. Port concentration starts to form with the emergence of these main lines of penetration, which are frequently connected to the best-located coastal ports. These ports then start to grow at the expense of their neighbors, some of which eventually vanish as trading hubs or, at best, persist as remnant ports. This second phase continues in tandem with the development of an effective administrative framework and, in particular,with the increase of export-oriented production.

The Third Stage: 'Feeder' routes are developing, with a specific concentration on the major ports and the more significant centers in the interior (Ajiteru, 2021). At the same time, other immediate centers start to emerge along the main access roads Abalaka, (2022) as the development in export commerce encourages economic expansion generally in the hinterland.

The Fourth Stage: These intermediary centers start to grow into nodes, which turn into hubs for independent feeder networks. Beginning with the territory between the major ports and the impacted big inland towns, lateral interconnection also occurs.

The Fifth Stage: In this stage, total interconnections emerges as the feeder Networks expand and start to connect around the ports, important inland cities, and main-line nodes.

The Sixth Stage: As the economy grows more integrated and developed, all major centers and many smaller centers are connected via the transportation system, and several high-priority trunk routes are created to connect the biggest and most significant centers (Culled from geographynotes Abalaka, (2022)).

Abalaka (2022) asserted that the railway development phase in Nigeria represents the second phase, and the association between the concentration of modern facilities and the railway line is still overwhelming. This is in reference to Ajiteru's (2021) colonial model of transportation expansion. It reflects the third phase The development of high priority links is still ongoing in the context of the fast expansion of road transportation between 1945 and 1960. The routes Lagos-Kano, Port Harcourt-Jos, and Lagos-Onitsha are currently the last to be completed and serve to maintain the previous pattern of dominance. Furthermore, as noted by Abalaka (2022), ultra-modern roads have now appeared in almost every region of the nation. These include Trunk 'A', the federal road network, which consists of the East-West and North-South routes that form the fundamental grid of the national network and into which other link roads entwine. Trunk 'B' and 'C' roads are also included. Furthermore, there are international highways that connect Nigeria to the Niger Republic via Zinder and Cameroon via Marocia or Mamfe; the Republic of Chad from Ndjamena Sulaiman; the Republic of Ghana, Togo, and Benin via Idiroko (2020).

A few important statistics could be used to describe the main development trends for the different modes of transportation. Thus, based on Ajiteru's (2021) estimates, motorable roads in Nigeria spanned approximately 1,300 km in 1925, 40,000 km in 1950, 100,000 km in 1975, and 114,768 km in 1980. The additional length of Federal Government roads between 2003 and 2006 was 34,340.95 km in 2003 and 34,341.25 km in 2006. The following figure provides a summary of the data:

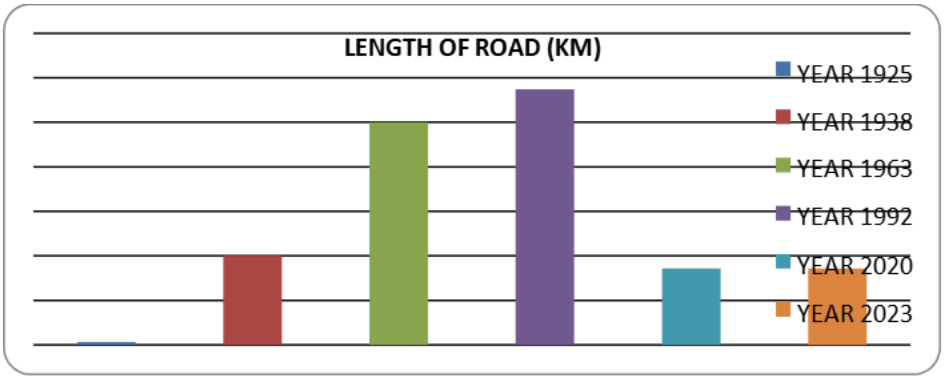


Figure 1. Nigerian road length is graphically represented

Source: Written works by authors

However, the train arrived at the peak of its traffic in 1960–1961, carrying 7.9 million people, and then dropping to 4.7 million in 1973, according to Sulaiman (2020). Nonetheless, Abalaka (2022) reported 9.6 million passengers between 1960 and 1971; 6.1 million between 1972 and 1978; 8.2 million between 1979 and 1982; 11.5 million between 1983 and 1987; and 4.4 million between 1988 and 1992, indicating a peak in 1983–1987. According to NBS (2008), the numbers during the first ten years of the twenty-first century are 987,088 in 2002, 1,622,271 in 2003, 1,751,159 in 2004, and 752,482 in 2005. Additionally, it is seen in picture 2 below;

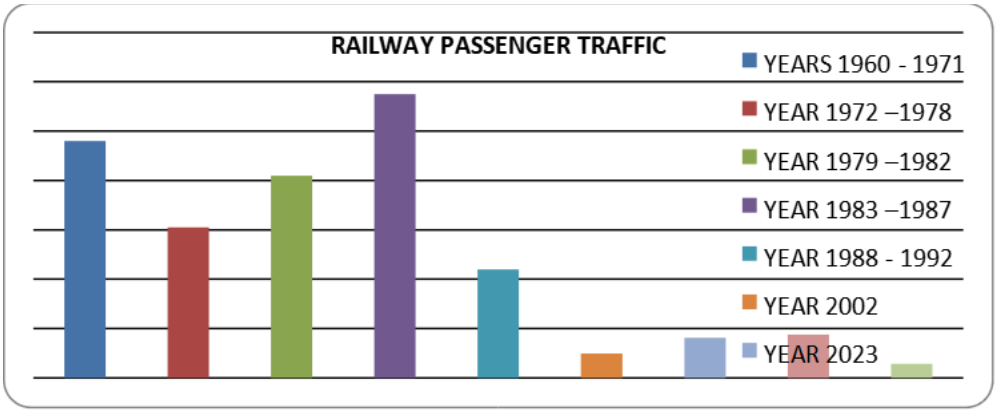


Figure 2: A graphic depiction of Nigeria's passenger train activity.

Source: Written works by authors

Since the 1970s, air travel has rapidly increased, however not all cities are connected, and the Road and rail connectivity structures are further reinforced by them (Ajiteru, 2021). There are now 20 airports in Nigeria, including Murtala Muhammed-Lagos, Aminu Kano-Kano, and Port International airports at Harcourt, Margeret Ekpo-Calabar, and Nnamdi Azikiwe-Abuja. Additional locations include the newly constructed Akwa-Ibom airport at Mbo, as well as Akure, Benin, Enugu, Ibadan, Ilorin, Jos, Kaduna, Maidiguri, Makurdi, Sokoto, Yola, Minna, Owerri, and Katsina. Given that the majority of currently operating airports have names

that correspond to state names or capitals, this suggests that 19 of the 36 states have airports Sulaiman (2020). Passenger volume increased from 597,270 in 1975 to 2,575,038 at its peak in 1985, when it began to decline and reached a low of 354,000 in 1993 (Anyanwu at el, 1997). Lately, the numbers for passenger arrivals at For the years 2003, 2004, 2005, 2006, and 2007, the numbers for both international and domestic airports are 3,920,031; 4,938,077; 4,501,785; 4,532,334 and 5,700,311 correspondingly. The equivalent numbers for passenger departures are 3,930,644; 4,443,537; 4,785,263; 4,573,457 and 4,725,785 (NBS, 2008). Figure 3 provides an illustration of the data.

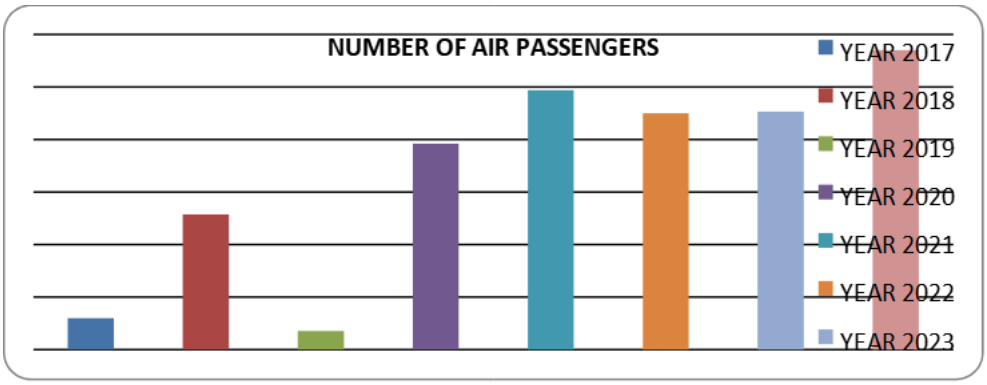


Figure 3: A graphic depiction of Nigeria's air passenger volume.

Source: Written works by authors

Nigeria now has 14 seaports, up from two in 1960, which is a significant boost in terms of maritime traffic. These include Bonny, Warri, Koko, Sapele, Apapa, Tin-Can Island, Port Harcourt, Okrika, Federal Lighter Terminal, Roro, Federal Ocean Terminal, Calabar, and Tuma. For example, the following numbers represent the amount of foreign trade cargo that was loaded and unloaded at Nigerian ports between 1999 and 2005: 96,817; 111,279; 10,679,109; and 13,551,854 for 1999, 2000, 2003, 2004 and 2005 respectively for the loaded, while those for discharged are 13,975; 15,991; 23,099,847; 23,359,879 and 26,051,234 respectively for the 1999, 2000, 2003, 2004 and2005 periods; and the net registered tonnage of vessels entered in Nigerian ports between 1999 and 2003 are 57,193; 123,037; 130,014; 118,211; and 132,388 respectively for 1999, 2000, 2001, 2002 and 2003 (NBS,2008). Figure 4 below also depicts the information.

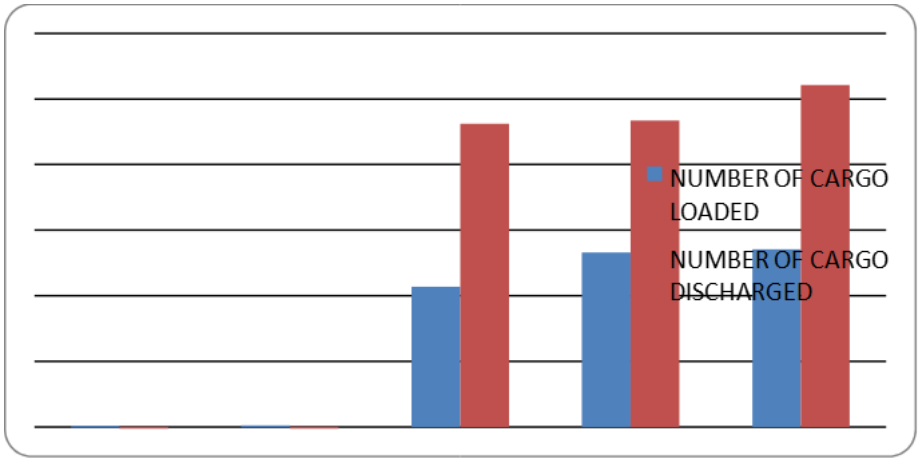


Figure 4: Analysis of loaded and discharged cargo in Nigerian port movement in the country.

Source: Authors' work

There are currently two pipeline networks in the nation, namely;

a. Petroleum and
b. pipes for gas. The petroleum pipeline network consists of five subsystems: the Warri to Benin to Ore pipelines; the South-West system linked the major depots at Mosimi to Atlas Cove, Lagos, Ikorodu, Ikeja, Ibadan, and Ilorin depots; the Kanduna to Jos to Gombe pipelines; the Kaduna to Zaria to Gusau pipelines; and the Kaduna to Zaria to Kano pipelines. The 606km transmission line connecting Warri and Kaduna comprises the pipelines that transport imported heavy crude and Escravos crude oil to the Kaduna refinery. The other is the South to East line, which connects Markurdi, Enugu, Aba, and Port Harcourt. The Warri to Escravos route is anotherline mostly intended for Sulaiman crude oil exports (2020). Additionally, the network of natural gas pipelines consists of two systems:
    1) The systems in the West and
    2) The systems in the East.

The Delta Steel Aladja to Ughelli area line and another that connects Escravos to Warri, Ajaokuta/Abuja, Egbin, and Sapele thermal power facilities comprise the Western system. Natural gas, which powers the nation's numerous power plants, steel mills, and rolling mills, is transported via these pipelines. The natural gas pipeline system in the east is not as advanced as the system in the west. Nonetheless, gas pipelines link the ONELGA gas field's Obrikom and Obite, as well as Soku's Rumuji to Bonny for the Liquefied Ajiteru Gas Plant, 2021.

A brief overview of Nigeria's aviation industry's historical development

Nigerian air travel began in World War II (1939–1945), when it became imperative to transfer troops and supplies quickly throughout the nation. At that time, a number of air strips were constructed and later converted for civilian usage (Ajiteru, 2021). The British Overseas Airways Corporation (BOAC), Elder Dempster Lines, and the Nigerian government formed Nigerian Airways as a joint venture in October 1958. The West African Airways Corporation (WAAC), which was dissolved in 2020, was replaced by the Airways as the operator of domestic flights. The WAAC had been flying commercial planes within the nation since 1946. Following the purchase of the remaining shares by the Nigerian Federal Government in 1963, Nigeria Airways was fully owned by the government of Nigeria. In Nigeria, the airline has the exclusive right to offer domestic aviation services. Additionally, according to Ajiteru (2021), it served as the flag carrier for foreign travel to Europe, the United States, and the West African coast.

Issues with Nigeria's aviation industry

Over the course of the year, the following issues have made it more difficult for Nigeria to have effective air travel:

a. **Lack of a Coherent Air Transport Policy:** The National Transport Policy has made it clear that action must be taken to improve the network's coordination and rationale. Ajiteru (2021) claims that attempts at coordination characterized the early history of transportation development in Nigeria. These endeavors were, however, all but abandoned in following years. Because of this, Nigerian Airways was able to declared insolvent and supplanted by a commercial/private airplane. The demise of Nigerian Airways is unmistakably proof that there was a lack of cogent policy, which allowed the national carrier to fail. Furthermore, as many of the nation's major airports were constructed in the 1970s with antiquated architectural styles, if there is a coherent program in place, it should have been enlarged and renovated long ago. A well-thought-out policy is required to strike a balance between the economy's and society's needs for sufficient transportation infrastructure and the transportation sector's capacity to supply it. Abalaka (2022).
b. **Poor Management:** The transportation systems have been mismanaged by transport businesses. This clarifies the management contracts that Royal Dutch Airlines and Nigerian Airways had in the late 1970s and early 1980s. Following the decline and near failure of Nigerian Airways Sulaiman in 1999, poor management caused a crisis in the Nigerian civil aviation sector (2020). Finally, as a result of this poor management,

Nigerian Airways was declared bankrupt in 2004. It is evident that Nigerian Airways, the country's flag carrier, has struggled to operate profitably throughout the years. As a result, Nigerian Airlines' fleet of aircraft has seen a significant decline. For instance, the country could take pride in having twenty-nine in its Nigerian Airways fleet, which operated both domestically and abroad, in 1979. However, by 1999,There were only two functioning Sulaiman (2020). The Aviation Ministry underwent a complete makeover in 2014 as a result of allegations of corruption made against its main personnel (Ajiteru, 2021).

c. **Decaying Facilities:** The nation's international airports in Lagos and Kano are overloaded with amenities. Seats, air conditioning, a conveyor belt, restrooms, and other amenities are deteriorating. This occurs because they are not updated in response to the spike in human traffic. The worst airport in Imo State is Owerri Airport; there are no trolleys to help passengers load and unload, which causes problems for travelers waiting to board a flight. While the amount of passengers and freight moving through Nigeria has expanded, the country's infrastructure has not undergone a matching renovation as well as growth over time. Since airports are the first point of entry for foreign visitors, the country's deteriorating infrastructure, particularly at international airports, casts a negative light on the nation. Any country's ability to thrive economically depends on its airport infrastructure (Carruthers, 2012).

d. **Lax Security:** Nigerian airports have lax security. Every airport in the nation lacks a sturdy perimeter fence. In certain airports, grazing was permitted by the runway due to a lack of surrounding fencing. For instance, the landing gear of the aircraft Ajiteru was damaged when an Air France jet crashed into cows on the Port Harcourt International Airport runway in 2005, killing seven of them (2021). Additionally, the routes that go to certain airports, includingTravelers in Sulaiman are attacked by armed robbers and militants, leaving those in Owerri and Port Harcourt unsecure (2020). There have also been instances of armed robberies on the Isolo Expressway, which leads to Lagos International Airport. These robbery events happen because of lax security on the highways that lead to airports, which should be guarded to ensure the protection of passengers and their belongings. In certain airports, there are also small-time criminals who take advantage of the lax security to enter visitors' cars and steal useful items. Also, because of lax security, a wide variety of persons can be found at the airport. This year (2016), Turkish airline customers protested at Abuja International Airport against the

airline's inadequate baggage policy, which led to a security breach at Ajiteru Airport (2021).

e. **Air crashes:** Nigeria experiences sporadic air crashes that harm the nation's airlines' safety record. Because air crashes are deadly, this further instills fear in passengers who wish to go by air. For instance, a Bellview Airlines Boeing 737 headed for Abuja crashed shortly after takeoff from Lagos in October 2005, killing 117 people. 103 passengers were killed when a Sosoliso Airlines DC-9 crashed in Port Harcourt in December of that same year. Following the Sosoliso Crash Ajiteru in 2021, Port Harcourt International Airport was closed to prevent more flight crashes.

The Problems' Economic and Managerial Implications

There are managerial and economic ramifications to the issues facing air travel, which include: first, Nigeria's deteriorating airport infrastructure presents a negative image to foreign investors, who are therefore reluctant or unwilling to make investments there. Additionally, if security is lax, these same investors will be afraid to enter the nation for fear of being attacked by terrorists or armed robbers Abalaka, (2022). As a result, Nigeria loses a lot of foreign investments, which hurts the country's economy. Second, less people are traveling for business by air due to the declining trust of domestic customers in airlines. This results in a significant loss of time as other modes of transportation are utilized, and in business, time is money. Additionally, due to the frequent airline catastrophes, travelers will get afraid to fly and will instead choose road transportation, which has a high accident rate that results in additional property and life losses. Thirdly, industries that primarily rely on air travel may see negative economic growth as a result of the issues affecting the aviation sector. Moreover, domestic airlines are unable to secure business contracts that entail the transportation of both freight and passengers, such as the yearly airlift of pilgrims to Saudi Arabia for the Hajj. Fourth, the abrupt and protracted shutdown of airports, particularly foreign ones, results in significant financial losses for local businesses at the airports as well as income that FAAN is expected to collect. Another financial loss, according to Ajiteru (2021), is the international carriers' discontinuation of direct flights. Fifth, the issues with air travel depict Nigerians as poor managers who are unable to effectively and financially manage public companies and were forced to collaborate with foreigners as a result. Sixth, the Nigerian civil aviation sector is plagued by a recurrent crisis brought on by poor management, which has a detrimental impact on the country's economy. In order to achieve entrepreneurship, particularly in emerging nations, these problems must be addressed head-on Sulaiman (2020).

Nigerian Road Transportation

The history of road transportation in Nigeria began in 1904, according to Abalaka (2022), when Lord Laggard sought to build a mule route connecting Zaria and Zungeru, two Northern States of Nigeria. Later, Sokoto, Katsina, and Maiduguri were included to the road's extension from Zaria. However, the first motorable road ever built is said to have been the one that connected Ibadan with Oyo in 1906 in Nigeria. Nigeria's national government established a Road Board in 1925. H.E. Walker suggested in 1926 building a basic trunk road network to connect the nation's main administrative hubs. The general road system may now be viewed as a cohesive whole rather than as a jigsaw puzzle of small, disconnected portions since these highways were intended to serve as a framework for the network of minor roads. The government's entire road length quickly increased from 6,160 km (5,875 miles) to 9,453 km (5,875 miles).

Train travel

The National Bureau of Statistics and Transport states that when speed is also a factor, rail is typically the best form of transportation for large traffic volumes because as train load increases, the cost per person per cargo decreases. During the colonial era, Nigeria's lone narrow-gauge railway line served as the sole means of freight transportation between the country's northern and southern regions. In Nigeria, rail transportation contributes less than 0.5 percent of the country's transportation sector's GDP. Rail has traditionally made up a very small percentage of the value added in transportation, but because vehicle transportation—both passenger and freight—has essentially supplanted rail in carrying most of the traffic, rail's share of value added has been declining (Sulaiman, 2020).

The majority of nations have plans in place for network growth and restoration. For instance, Algeria has a massive plan to construct a construct a high-speed network, expand the Highlands network, and renovate current networks. Morocco, on the other hand, has expanded its passenger and freight network to include Nador and the recently opened port of Tanger-Med. With the establishment of multimodal freight logistics platforms Sulaiman (2020), it has started the construction of high-speed lines (Tangier, Casablanca, and Marrakesh).

Transport by Water

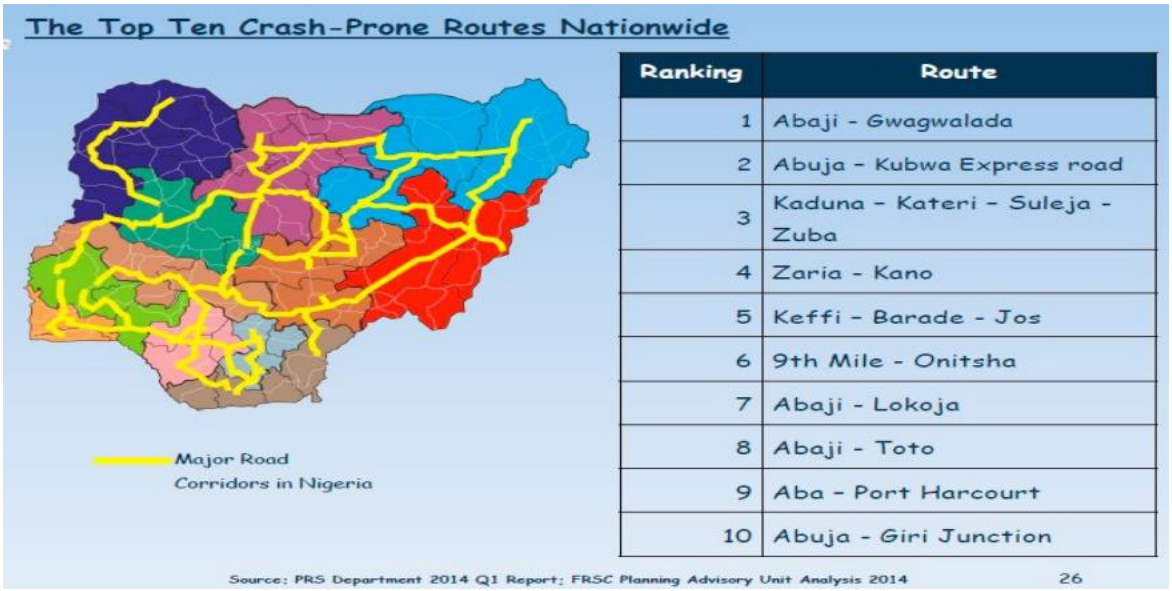
Transport via Water With an average share of roughly 1.6% of Nigeria's GDP, water transport trails behind road transport by a wide margin. With the exception of vacation and

tourist traffic when time is not of the essence or when other modes of transportation are unavailable, water transportation is slow and so inappropriate for the movement of passengers. There are three parts to water transport: inland, coastal, and ocean transit transport via water. Only when it comes to carrying large amounts of traffic—especially when cost is more essential than speed—is inland water transport advantageous. The topography of the nation in question determines the significance of water transport statistics Ajiteru, (2021). With the possible exception of inland water transport, landlocked villages won't be as concerned with water transport statistics as inland or peninsular settlements. In Nigeria, water transportation has not gotten the attention it deserves. Since there are no boats or ships that can transport people and cargo freely from one place to another in Sulaiman, 2020, this means of transportation is discouraged.

The route taken thus far and the future

Thus far, the journey has demonstrated that the nation's progress has not been balanced system of transportation. Currently, road transportation dominates the movement of people and all types of products throughout the nation due to the notable increase in road building and the concurrent operational and organizational challenges faced by the railway and inland waterways systems. In actuality, Nigerian roadways are abused and overused, whereas the country's waterways have a lot of untapped potential. Airways are frequently used yet still require a great deal of improvement and expansion, whereas railways and pipelines were used extensively in the past but are now used sparingly. Ajiteru (2021).

However, there are a lot of traffic accidents in Nigeria as a result of the overuse and abuse of road transportation. This is rather awkward loss of resources and human lives for the nation. Nigeria has been at the top of the African and occasionally global rankings for the most road traffic accident deaths since the 1980s. Sulaiman (2020) investigated the reasons behind and effects of traffic accidents on Nigerian roadways. They determined that human, vehicle, and road variables were among the reasons. These elements are exacerbated by Nigeria's over-reliance on road transportation, which has led to a low degree of development and integration of the nation's transportation system Abalaka, (2022). According to FRSC (2014), Fig. 1 displays a table and a map of the top 10 highways in the country that are most likely to crash.



Ranking	Route
1	Abaji - Gwagwalada
2	Abuja – Kubwa Express road
3	Kaduna – Kateri – Suleja - Zuba
4	Zaria - Kano
5	Keffi – Barade - Jos
6	9th Mile - Onitsha
7	Abaji - Lokoja
8	Abaji - Toto
9	Aba – Port Harcourt
10	Abuja - Giri Junction

Figure 5. The Top 10 Crash-Prone Roads in the Country

Nigeria's Provincial and Local Government Authorities have made significant minimal progress in building and/or maintaining rural roads. On the other hand, the provision of other infrastructures is exceedingly difficult, if not impossible, without roads, which makes a strong rural road network essential to the economic growth of rural areas. For the purpose of determining which roads need to be built in Nigeria's rural areas, the regional specialization strategy is advised. As a result, the areas will be able to focus on the commodities in which they have a comparative advantage, leading to increased economic development Ajiteru, 2021.

With the help of the private sector, which is able to use market forces, the government can revitalize the nation's railway network Abalaka, (2022). This can be accomplished by direct access concessions made to certain regions and the involvement of the private sector access to the main thoroughfares of Calabar, Warri, Port Harcourt, and Lagos. According to Sulaiman (2020), a concessioned railway entails a public-private partnership (PPP) for the current railway infrastructure and services.

Methods of Research

In this study, a survey research design was employed. This is due to its focus on gathering and evaluating data from a small number of subjects or objects that are thought to be representative of the total group. The Nigerian Maritime Administration and Safety Agency (NIMASA), located in Delta State (250); Peace Mass Transit Ltd., located in Enugu State (390); Royal Mass Transit Ltd., located in Anambra State (210); and Eastern Gateway Mass Transit Ltd., located in Ebonyi State (130) comprised the population of the study. The study population consists of 980 (nine hundred and eighty) management and administrative employees

(Companies Resource Center 2019). Using Taro Yamani's statistical procedure, a sample size of 284 was selected from the study population:

N

n = 1t

N(e)2 where:

n = sample

N = Population

1 = Constant

e = Margin of tolerable error

Thus, n = 980/ 1+ 980 x 0.05 x 0.05

n =980/ 1+ 980 x 0.0025

n=980/ 1 + 2.45

n=980 / 3.45

n= 284

This study used probability sampling as its sampling strategy, which ensured that each member of the sample had an equal chance of being chosen and that the sample was representative of the population from which it was drawn. Systematic random sampling was the probability sampling technique employed, according to Sulaiman (2020). The primary data sources used for data collection are those that produce information using researcher on the study's relevant variables). The respondents' completion of a questionnaire produced the primary data. Using a questionnaire review panel that conducted an objective assessment of the questions and guaranteed their relevance to the topics at stake and coverage of the entire study, the content validity of the instrument was determined. The test/retest approach was applied to produce the reliability estimate. The same set of people received the instrument twice, separated by a period of time ranging from seven to fourteen days. The dependability of the instrument was assessed by calculating the Pearson product moment correlation coefficient between the two sets of data from the two occasions Ajiteru, (2021). How much the coefficient of The correlation value of 0.6 validated the instrument's reliability and acceptability, according to Sulaiman (2020). Simple Linear Regression, an inferential tool of the statistical package for social sciences version 21, was the statistical technique used in assessing the hypotheses.

2. DATA ANALYSIS

Table 1. Road vehicles should be accessible, available and capable of carrying the maximum load by weight and size as prescribed by law

Response options	Frequency	Percentage
Strongly Agree	80	28
Agree	180	64
Strongly Disagree	5	2
Disagree	10	4
Neutral	5	2
Total	280	100

Source: Survey Data, 2019

Table 1 above showed that 260 respondents, or 92% of the total, agreed that road vehicles should be readily available, accessible, and able to carry the maximum load by weight and size as specified by law, with 15 (6% of respondents) disagreeing. Just 5 (2%) of the responders to the research Abalaka, (2022) were unsure.

Table 2: The train transports a lot of commodities and services across the nation, particularly livestock and agricultural products, which need to be sent in quantity for disposal.

Response options	Frequency	Percentage
Strongly Agree	70	25
Agree	140	50
Strongly Disagree	27	10
Disagree	43	15
Neutral	-	-
Total	280	100

Source: survey Data, 2019.

Table 2 above shows that 210 respondents, or 75% of the sample, agreed that the train is involved in large-scale nationwide shipments of goods and services, particularly livestock and agricultural products, which need to be moved in bulk for disposal. The remaining 70 respondents, or 25% of the sample, disagreed with the statement Sulaiman (2020).

Table 3: Due to the absence of quick returns on investment and high profit margins, Nigerian investors prefer land and air transportation modalities over water.

Response options	Frequency	Percentage
Strongly Agree	85	30
Agree	90	32
Strongly Disagree	25	9
Disagree	50	18
Neutral	30	11
Total	280	100

Source: Survey Data, 2019

Table 3 above showed that only 75 respondents, or 27% of the sample, disagreed with the statement that Nigerian investors favor land and air transport modes over water due to the latter's potential for low profit margin and slow returns on investment. In contrast, 175 respondents, or 62% of the sample, agreed with the statement. Merely thirty respondents, or 11% of the sample, had no opinion regarding the research conducted by Ajiteru (2021).

Test of Hypotheses Hypothesis I:

Ho: There is a significant effect of road transport system on economic development in Nigeria.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648[a]	.419	.347	12.199

a. Predictors: (Constant), Road Transport

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	859.524	1	859.524	5.776	.043[b]
	Residual	1190.476	8	148.810		
	Total	2050.000	9			

a. Dependent Variable: Economic Development

b. Predictors: (Constant), Road Transport

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.143	11.934		-.180	.862
	Intensive Distribution	.905	.376	.648	2.403	.043

a. Dependent Variable: Economic Development

Regression coefficient value of 0.648, which is noteworthy in attaining economic development in the analyzed companies, is displayed in the above summary of the regression model. Road transport can account for 41% of the variability in economic development in the enterprises under study, according to the coefficient of determination (R2) of 0.419. Ajiteru (2021) notes that additional relevant parameters that were overlooked in the regression model can account for the remaining 59%. This suggests that the road transport sector and economic development in the Nigerian enterprises under study have a considerable impact and a linear relationship. Thus, we agree with the hypothesis that road transportation has a major impact on the Sulaiman(2020), Nigeria, businesses under study in terms of their economic development.

Hypothesis 2:

H2: There is a significant effect of rail transport system on economic development in Nigeria.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.548	.492	3.8461

a. Predictors: (Constant), Rail Transport

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.758	1	143.758	9.718	.014[b]
	Residual	118.342	8	14.793		
	Total	262.100	9			

a. Dependent Variable: Economic Development

b.Predictors: (Constant), Rail Transport.

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.076	4.413		2.963	.018
	Product positioning	.427	.137	.741	3.117	.014

a. Dependent Variable: Market share

The regression model above shows a regression value of 0.741 which is positive and significant in achieving economic development in studied companies respectively. The coefficient of determination (R2) of 0.548 indicates that 54% of variation in economic development in the studied companies can be explained by rail transport Abalaka, (2022). The remaining 46% can be explained by other related factors not noted in the regression model. This implies that there is an evidence of existence of significant effect and linear relationship rail transport and economic development in the studied companies. Therefore, we accept the hypothesis that there is a significant effect of rail transport system on economic development in the studied companies Sulaiman (2020).

Hypothesis 3:

H3: There is a significant effect of water transport system on economic development in Nigeria.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704[a]	.495	.432	6.772

a. Predictors: (Constant); Water Transport

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	360.000	1	360.000	7.850	.023[b]
	Residual	366.900	8	45.863		
	Total	726.900	9			

a. Dependent Variable: Economic Development

b. Predictors: (Constant), Water Transport

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	11.100	6.772		1.639	.140
Intensive Distribution	.600	.214	.704	2.802	.023

a. Dependent Variable: Economic Development

A regression value of 0.704, which is positive and significant in attaining economic development in the analyzed companies, can be seen from the regression model above. Water transport system Ajiteru, (2021) can account for 49% of the variation in economic development in the enterprises under study, according to the coefficient of determination (R2) of 0.495. Other relevant factors not included in the regression model can account for the remaining 51%. This suggests that there is proof of a linear link and a considerable impact between water transport and economic development in the businesses under study. Thus, we agree with the alternative theory that water transportation has a major impact on the economic growth of the enterprises under study Sulaiman (2020).

Analysis of the Results

System of road transportation as well as Economic Growth and Development according to the study's first hypothesis, Nigeria's economic development is not significantly impacted by the country's road transportation infrastructure. The examination of this hypothesis yielded a coefficient of determination of 0.419 and a regression value of 0.648. This finding suggests that the road transportation system has a major impact on economic growth. This outcome is consistent with Ajiteru's analysis from 2021, which found that Nigeria's road transport system significantly influences the country's economic growth. He went on to say that although rural roads are the least developed and used, they nonetheless make up more than 80% of all roads in Nigeria since these areas and towns are home to the majority of the country's population who conduct business Abalaka (2022). Rural roads only make up a small percentage of all motor traffic, but they are crucial for the transportation of people and commodities in agricultural areas, according to Sulaiman (2020).

Economic Development and the Rail Transport System

According to this study's second hypothesis, Nigeria's economic development is significantly impacted by the country's rail transportation infrastructure. A regression value of 0.741 and a coefficient of determination value of 0.548 are found by analyzing this hypothesis. This finding suggests that Nigeria's economic progress is significantly impacted by the rail transport system. According to Ohmae (2015), train transportation makes it easier to evacuate agricultural and mineral resources from the northern producing regions to the southern seaports Nigeria for further export to foreign nations Ajiteru, (2021). In bolstering this claim, Abalaka (2022) asserts that the rail transport system offers a readily available mode of transportation for the diverse imports originating from the United Kingdom and other European nations.

The Water Transport System and Economic Growth

According to the study's third hypothesis, Nigeria's economic development is not significantly impacted by the country's water transportation system. The examination of this hypothesis yielded a coefficient of determination value of 0.495 and a regression value of 0.704. This finding suggests that Nigeria's economic progress is significantly impacted by the water transport system. This is consistent with a study conducted by Abalaka in 2022, which demonstrated that rivers utilized by ships and Despite the existence of numerous bodies of water and the large population of people and commodities eager to utilize the water transport Sulaiman (2020), boats are one of Nigeria's least developed modes of transportation, with the majority of them still being unused.

In summary

Given its direct impact on inventory management and warehousing, transportation's role in physical distribution is still crucial Ajiteru, (2021). A poor transportation decision will nearly instantly impact distribution services, including route, delivery speed, delivery reliability, and lead time (the amount of time it takes to order and receive items). Poor transportation would result in a lengthier lead time, which could lead to lost sales, customer delays, and production delays. It would also have low speed, transit delays, and breakdowns. Fast stock replenishment and potential warehouse decongestion could attract customers with an efficient and low-delay mode of transportation that eliminates the need for bulk inventory. Abalaka (2022). According to the study's conclusion, transportation networks—road, rail, and water—have a major impact on economic development in Nigeria Sulaiman (2020). These networks support clusters and agglomerations, boost productivity, improve accessibility for

jobs and the labor force, improve supply chain efficiency, and open up new markets for enterprises.

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REFERENCES

Abalaka, J.N, (2022). An Empiric Analysis the Impact of External Debt on Nigeria's Economic Growth: The Nexus on VAR, Cointegration and VECM Methodological Approach International Journal of Advanced Research in Statistics, Management and Finance Hard Print: 2315-8409 Online: 2354-1644 Vol. 10, No. 1 January, 2023http://internationalpolicybrief.org/journals/internationalscientific-research-consortium-journals/intl-jrnl-of-advresearch-in-stats-mgt-and-finance-vol10-no1-january-2023

Ajiteru,S.A.R (2021). Interrogating the Impact of International Monetary Fund (IMF) Policies on Economic Development in Nigeria: Lending Preconditions, 1999 - 2022 Perspective Research Journal of Humanities, Legal Studies & International Development p-ISSN: 2536-6564 | e-ISSN: 2536-6572 |RJHLSIDVolume 5, Number 1 April, 2023.

Babatunde, A.I. (2019). Efficiency of railway transport as a sustainable mode of transport in Nigeria: A Study of Rail Mass Transit in Lagos and its Environs. Electronic Research Journal of Social Sciences and Humanities, 1(1), 102-126.

Bassey, S.I., & EkpenyongNsa, M. (2018). Problems and prospects of developing inland water transportation in Nigeria: The case of Calabar river. Journal of Humanities and Social Science, 23(7), 26-37.

Dueker, K., Bultler, A., Bender, P., & Zhang, J. (2005). A clearing house approach to sharing transportation gis data. Transportation Research Record, 1768, 203-209.

Gbadamosi, K.T., & Olorunfemi, S.O. (2016). Rural road infrastructural challenges: An impediment to health care service delivery in Kabba-Bunu local government area of Kogi State, Nigeria. Academic Journal of Interdisciplinary Studies, 5(2), 35-44.

Hashidu, B.R., & Adamu, M.K. (2018). effects of road development on commercial activities in Gombe City, Gombe State, Nigeria. Global Scientific Journal, 6(4), 17-33.

Ikejiofor & Ali (2014). the effects of road transport characteristics on the marketing of agricultural produce in Nsukka LGA, Enugu State, Southeastern Nigeria. Innovative Journal of Social Sciences, 2(1), 1-4.

Jakpa, P.E. (2000). Nigerian railways in the 1980s. in Onakomaiya, S.O. and Ekanem, N.F. (eds) transportation in nigeria national development, Ibadan: NISER

Knowles, R., & Hall, D. (2009). Transport policy and control. in Hoyle, B.S. and Knowles, R.D. (ed), modern transport geography. New York: Belhaven press

Shapiro, R.D. (2009). Get lexerage from logistics, Harvard Business Review 5(2), 14-20.

Sulaiman T.H, (2020). Interrogating the Impact of International Monetary Fund (IMF) Policies on Economic Development in Nigeria: Lending Preconditions, 1999 - 2022 Perspective Research Journal of Humanities, Legal Studies & International Development p-ISSN: 2536-6564 | e-ISSN: 2536-6572 |RJHLSIDVolume 5, Number 1 April, 2023.

Yaqub, J.O., Olateju, A.O., & Aina, B. (2012). Urban transportation challenges: The impact of the Lagos Brt-lite. Journal of Social Science and Public Policy, 4, 44-51.