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Public-Private Partnership (PPPs) in Transport Infrastructure Development in Nigeria

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ABSTRACT

The study examines public-private partnership in transport infrastructure development in Nigeria. The objectives were to: evaluate the effectiveness of public-private partnerships (PPPs) in enhancing the quality and accessibility of transport infrastructure in Nigeria; analyze the challenges and barriers faced by stakeholders in implementing PPPs for transport infrastructure projects in Nigeria; assess the impact of PPPs on the economic growth and development of transport infrastructure in Nigeria; investigate the role of government policies and regulations in facilitating successful PPPs in the transport sector and compare the outcomes of PPP-led transport infrastructure projects with traditional public sector-led initiatives in Nigeria. The study adopted the Taro Yamane formula to determine the sample size of 436 out of a population of 43,426 (with a response rate of 98.17%), and the accepting sample was 428. Questionnaire and structured interview were used for the collection of data. Quantitative data was analyzed using descriptive statistics, while qualitative data was coded and analyzed using the 4-point Likert Scale. The study finds that apart from regulatory hurdles significantly impeding the successful implementation of public-private partnerships in Nigeria's transport infrastructure projects, PPPs have: significantly improved the quality of transport infrastructure in Nigeria; significantly contributed to economic growth of Nigeria by facilitating the movement of goods and services across different sectors, supporting economic diversification away from oil dependency; attracted foreign investors, leading to increased foreign direct investment thereby reducing operational costs for local businesses and thereby making Nigeria more competitive in the global market; and thus, clear and transparent institutional and regulatory frameworks are essential for the successful implementation of PPPs in Nigeria's transport infrastructure; PPP-led transport infrastructure projects are more efficient in terms of time and resource management compared to traditional public sector-led initiatives in Nigeria. Accordingly, among others, the study recommends that Government should streamline regulatory processes in order to help reduce delays and costs associated with PPP projects and encourage financial institutions to provide credit facilities at reasonable rate to prospective investors who are interested in public-private partnerships in transport infrastructure development in Nigeria.

1. INTRODUCTION

Transport infrastructure refers to the physical components and networks that enable the

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movement of people, goods, and services in social interactions, economic activities, and personal mobility. It is made up of fixed installations, structures, and networks that provide a framework for the movement of people and goods (ACB Consulting Services, 2021). The physical components of transport infrastructure include bridges, tunnels, pavements, rail tracks, culverts, wharves, aprons and pipes. Broadly, transport infrastructure has been categorized under the following headings, namely: roads, ports and harbours, airports, bridges and tunnels, rail and trams, waterways and bike paths and walkways and pipeline networks (Taylor, 2021).

Transport infrastructure is complex and is often seriously impacted by environmental and climate conditions and this is why it requires adaptation to changing circumstances. Thus, due to the rapid wear and tear of commercial transport infrastructure arising from constantly varying environmental and climate conditions, and human use, there is need for prompt rehabilitation or outright replacement (as the case may be) in the course of time.

The provision of new transport infrastructure or the repair, rehabilitation or outright replacements of ageing transport infrastructure come at an exorbitant cost. Thus, with fiscal and budgetary funding constraints bedeviling governments at all levels in Nigeria, the unvarnished truth is that private participation in transport infrastructure provision is an economic necessity, rather than mere optional financing solution, as hitherto thought (Oluyede, 2021). Public-private partnerships explore private capital in the provision of transport infrastructure and they reduce the financial burden of the government towards delivering transport infrastructure projects. This approach helps to relieve the government of any major cost associated with financing projects (NESG Policy Brief, 2017). Public-private partnerships such as leasing, franchising, concessions, equity, and joint venture are supported in Nigeria. Lagos State is among States in the country that subscribes to PPP initiatives, with the aim that 70% of its present and future projects will be public-private partnership driven (Ojima, Okonkwo, Ejike and Joseph, 2024).

Capital investments in transport infrastructure development have an aim, and that is to engender sustainable economic development and inclusive growth. Accordingly, linkages between economic growth/sustainability and transport infrastructure development are authenticated by the observation that developed economies characteristically record core infrastructure (roads, rail, ports, airports, power, water, ICT) stock value of about 70% of GDP, with power and transportation accounting for at least 50% of total volume. However, Nigeria's core infrastructure stock is estimated to be about 20% to 25% of GDP, for which the National Integrated Infrastructure Master-Plan (NIIMP) estimates that about USD 35billion is required annually over the next 5 years to sustain robust economic growth, in the near term, and USD 3 trillion is needed over 30 years (Oluyede, 2021).

Consequently, the low level of Nigeria's transport infrastructure stock value necessitates the adoption of public-private partnership. This would shore up investments in transport infrastructure development and bring about the much desired sustainable economic development and inclusive growth.

1.1 The Problem

The Draft National Transport Policy (2021) describes an efficient transport system as comprising transport services provided in such a way as to ensure that resources are used efficiently and appropriate modern technology is used to achieve sustainable gains in productivity in order to reduce costs

and improve service quality. Overtime, governments at all levels have been unable to finance the huge capital required for the provision of transport infrastructure that can support an efficient transport system in Nigeria as described by the Draft National Transport Policy, 2021 (Okon and Eto, 2024).

An inefficient transport infrastructure contributes more than 7 to 8% to the cost of doing business in Nigeria and this is detrimental to the country as per attracting foreign direct investments. The current administration plans to implement reforms across all divisions of transport infrastructure in the country in order to bring about substantial improvement in investment drive (Hamza, 2019).

Consequently, in light of the fact that transport infrastructure investment is not a one-time activity but one which requires the continuous maintenance and rehabilitation or replacement of the infrastructure stock**,** steady investment drive through public-private partnership is required (Ahmed, 2021). The need for public-private partnership in transport infrastructure development in Nigeria stems from the inability of government to meet up with maintenance and repairs schedules. In most cases, transport infrastructure collapses to the point that huge losses of goods and passengers in transit occur before remedial measures (which are hardly adequate) are taken (Nwangwu, 2021). Thus, in the wake of dilapidating infrastructure, the Marine and Blue Economy policy subscribes to private sector investment and public private partnership to drive upgrade port infrastructure, improve logistics, and enhance Nigeria's role as a leading trade hub in West Africa (Olujobi, 2025).

The Economic Recovery and Growth Plan (ERGP) highlights the government's desire to use PPPs to deliver critical projects, such as roads, rail, seaports and airports. However, the ERGP's aim has not been matched with the intended action and the result is that government continues to be the unsustainable carrier of financial burden in respect of financing transport infrastructure development in Nigeria (NESG Policy Brief, 2017).

The cost associated with providing, maintaining and repairing transport infrastructure is so capital intensive that government appropriated budget is usually insufficient to cover the expenditure. For instance, maritime transportation infrastructure which facilitates various maritime auxiliary services such as: pilotage, marine salvage (towing and tug assistance), emergency repairs, anchorage berth and berthing services, etc. and supporting services (such as storage and warehousing, maritime cargo handling services, customs clearance services, etc.) are capital intensive and they require the involvement of private sector participation for efficient performance. These were part of what informed the port concession arrangement in Nigeria that led to the adoption of the landlord model of port administration in 2006 (Eto, 2021)

The efficient operations of seaports require occasional expansion and modernization of port facilities with multimodal connectivity to ensure efficient cargo transportation and evacuation. This has been made possible by the partial port privatization in Nigeria that has allowed for maritime and port infrastructural upgrade (Igbintade, 2025). The deregulation policy of the aviation sector in 1991 resulted in increased competition, relaxed price controls and provided open market access for potential private investors thereby breaking the monopoly of Nigeria airways (Hassan and Dina, 2015).

The deregulation and liberalization of the aviation industry did not only result in growing trends in air traffic in Nigeria, it guaranteed more choices with reliable and competitive services; it also increased

efficiency and higher patronage in the aviation industry because the private sector was invited to participate in providing part of aviation transport infrastructure like cargo handling and ancillary services (Bamigboye, 2000).

As regards public-private partnership in air transport infrastructure in Nigeria, the deregulation led to improvement in air traffic experience, with private operators investing in modernizing, upgrading and expanding terminal facilities. The Federal Airports Authority is exploring partnership with private investors to improve airport infrastructure. Private investors have been involved in implementing efficient operational processes and technologies to reduce wait time, streamline check-in and security procedures, and improve overall airport efficiency. However, poor standard runways, unreliable power supply, overregulation and bureaucratic processes, and poor emergency response procedures are some of the factors hindering public-private partnerships in air transport infrastructure in Nigeria (Enyinnia, 2024).

Rail transport services have been removed from the Exclusive Legislative List of the Federal Constitution and placed on the Concurrent List by the Fifth Alteration (NO. 32) Act of the 1999 Nigerian Constitution to allow both Federal and State Governments to have legislative powers on rail transport to make laws, invest and operate their rail transport system within the framework of the Draft National Transport Policy (Policy and Legal Advocacy Centre, 2023). However, the absence of private sector participation is still a yawning gap. Hence, the Federal Government has invited the private sector to participate in providing efficient railway services in Nigeria (Nwaoku, 2025).

Accordingly, in view of the high cost of providing rail transport infrastructure in Nigeria, the proposed Railway Development Authority Bill aims to set up an independent agency that can expand the railway network via private investments, promoting public-private partnership in railways. Thus, against the backdrop of the capital intensiveness of providing transport infrastructure of the key transport modes, this paper focuses on examining public-private partnerships in transport infrastructure development in Nigeria. The central research question is "What are the contributions of Public-Private Partnerships in transport infrastructure development to the economic growth of Nigeria?"

The objectives of the study were (a) to evaluate the effectiveness of public-private partnerships (PPPs) in enhancing the quality and accessibility of transport infrastructure in Nigeria; (b) to analyze the challenges and barriers faced by stakeholders in implementing PPPs for transport infrastructure projects in Nigeria; (c) to assess the impact of PPPs on the economic growth and development of transport infrastructure in Nigeria; (d) to investigate the role of government policies and regulations in facilitating successful PPPs in the transport sector and (e) to compare the outcomes of PPP-led transport infrastructure projects with traditional public sector-led initiatives in Nigeria.

2. LITERATURE REVIEW AND CONCEPTUAL CLARIFICATION

2.1 Transport Infrastructure

Transport infrastructure refers to the physical facilities and systems that enable the movement of people and goods from one place to another. It includes the various structures, networks, and services that support transportation activities. Transport infrastructure is essential for economic development, and result in enabling trade, promoting mobility, and connecting communities (Roumboutsos, 2016).

- *Roads and Highways*

Roads and highways are transport infrastructures that facilitate vehicle movement, which commuters use daily. They are used to connect separate places with each other and make it easier for people to travel. Road transportation accounts for 95% of all freight and passenger movement in Nigeria. The Federal Road network is 35,000km representing about 17% of the national road network of 200,000km. However, they are strategic routes that carry 70% of road traffic in Nigeria and connect major cities in the six (6) geopolitical zones of the country (Fashola, 2021).

Roads can be classified into three categories: highways, arterial roads, and local roads. Highways are the largest type of road in terms of capacity and speed. They have limited access points and can be used by all types of vehicles, including trucks and buses. Arterial roads provide more access points than highways do but they have a lower capacity as well as slower speeds. Local roads provide less access than arterial and highways, serve smaller areas, and have lower speeds than both (Taylor, 2021).

- *Railways, Rail Tracks and Trams*

Rail tracks, stations, and related facilities for train transportation are built for freight and passenger transport. The most common use of rail transport is in urban areas where they provide quick and efficient access to places not connected by road. They provide a form of transportation that is more efficient and cleaner than many other forms of transportation. By transporting large numbers of people, railways help to relieve congestion on our roads and reduce noise and air pollution in our cities (ACB Consulting Services, 2021). Railway transport is essential for port competitiveness, as it is reputed to increase accessibility, provide more efficient and reliable services, or promote the spatial growth of ports with less adverse impact on people. However, the share of rail in the modal split of freight transport differs quite remarkably across various regions of the world (Fall Bulletin (2012).

Trams are a type of rail transport powered by electricity, and they can be found in many cities across the world. City trams fall into two categories: street trams, which run on rails in the middle of the street (like buses), and tramways, which run on rails along a set route (ACB Consulting Services, 2021).

- *Airports*

Airports are categorized based on their functions, including commercial service, cargo, general aviation, and reliever airports, each serving different aviation needs. These are facilities for air travel, and they include runways, terminals, and control towers. An airport is a designated area equipped for the arrival, departure, and ground movement of aircraft. It generally includes: runways: paved surfaces for aircraft takeoff and landing; taxiways and aprons**:** paths and parking areas for aircraft movement and maintenance; terminals: buildings for passenger processing, including check-in, security, and baggage claim; control towers**:** Facilities housing air traffic controllers who manage aircraft movements; support services: Such as fire and rescue, customs, immigration, cargo handling, and fueling stations (Bamigboye, 2000).

Airstrip: An airstrip is a simpler aviation facility, often featuring a single runway with minimal infrastructure. Airstrips are commonly found in remote or rural areas and may serve purposes such as: emergency landings: providing landing options in case of in-flight emergencies; agricultural operations: supporting activities like crop dusting; access to remote areas: facilitating transportation to regions without major airports (Bamigboye, 2000). Airstrips may have unpaved runways and lack extensive facilities, making them suitable for light aircraft and specific operational needs.

Nigeria has been actively developing its air transport infrastructure, with numerous airports and airstrips constructed across the country. Efforts are ongoing to optimize the use of existing facilities, including exploring freight services and improving management models to ensure sustainability and broader economic benefits. In the view of Egbejule (2024), while this expansion aims to enhance connectivity and stimulate economic growth, the following challenges persist due to limited PPPs in that sector:

(1) Underutilization: despite the proliferation of airports, a significant portion of air traffic is concentrated in a few major airports, leading to underuse of others;

(2) Maintenance costs: some newly built airports face high operational costs and struggle to remain financially viable

(3) Economic considerations: the high cost of air travel and associated taxes can limit accessibility for the general population.

- Ports and Harbors**:** Infrastructure for maritime transport, such as docks, piers, and cargo handling facilities are important transport infrastructure for international trade.
- Public Transit Systems**:** Bus stops, metro/subway stations, tram lines, and related stations.
- Logistics and Freight Facilities**:** Warehouses, distribution centers, and logistics hubs.

Supporting Infrastructure**:**

- These include signage, traffic management systems, maintenance facilities, and communication networks. They are significant transport infrastructure that aid movement.
- Bridges and tunnels

Bridges are physical structures that allow people to cross obstacles like a rivers, valleys, or roads, on foot or by vehicle. There are two main types of bridges: suspension bridges and arch bridges. Suspension bridges use cables to support the weight of the bridge, while arch bridges use arches that form an opening at both ends of the bridge ─ this allows less weight on each side, which makes them more stable than suspension bridges (ACB Consulting Services, 2021).

A tunnel is an underground passageway for pedestrians, vehicles, and/or trains. A tunnel can be either a subway or highway that runs on or beneath ground level.

- Waterways

Waterways have been used for transporting goods and people for centuries. Nigeria has well over 10,000 km of inland waterways with total navigable length put at 3000km (Eto, 2021). They offer a unique way to get from one place to another. Some waterways are natural, and others are man-made. Natural waterways include rivers, streams, and brooks. Man-made waterways include canals, ditches, and trenches. Every type of waterway has its own set of pros and cons that make it desirable to use as a form of transportation infrastructure. For example, natural waterways often have more issues with flooding than man-made ones.

- Bike paths and walkways

Bike paths and walkways make it easier for people who want to bike around the city to do so without having to worry about cars or pedestrians getting in their way. They also help cyclists stay safe by providing a clear path for them to ride on their bikes. Bike paths can be separated from the road, or they can be right next to it. However, they should always be separated from sidewalks to protect pedestrians (ACB Consulting Services, 2021).

2.2 The Concept of Public Private Partnership

In an attempt to facilitate the provision of certain maritime transport infrastructure, the Federal Government has been faced with certain hindrances such as: (i) Insufficient or inadequate transport infrastructures (ii) Bottlenecks and missing links and (iii) Lack

of funds to remove barriers to infrastructural development (Okon and Eto, 2024). It was the deficiency in port infrastructure and the concomitant poor port services in Nigeria (which resulted in country's poor port competitiveness with decline in revenue generation, productivity and capacity) that prompted the Federal Government of Nigeria to embark on the partial privatization of the major seaports in 2006.

Against the backdrop of the benefits of Public-Private Partnership [PPP] (see Figure 1), the Federal Government of Nigeria encouraged the private sector to inject private capital, deploy their managerial expertise and channel their technical skills into port operations in the country (Utulu, 2023). Thus, the Public-Private Partnership arrangement in Nigeria's port sector is mostly on a Build-Operate and Transfer basis. It is on this basis that the Federal Government has been inspired to start scouting for private investors to drive the inland dry port initiative in Nigeria (Eto, 2021).



Figure 1: Key Benefits of Public Private Partnerships
Source: Shadik (2019)

According to Travel and Tour World (2024), in a move to signal an unwavering commitment to transport infrastructure development, the Federal Government of Nigeria has established task forces within the Infrastructure Concession Regulatory Commission (ICRC) and the Ministry of Aviation and Aerospace Development to promote PPP in the sector. These partnerships aim to attract private investments, address infrastructure gaps, and stimulate economic growth. The task forces set up are working together to modernize airport infrastructure, leveraging private sector expertise and funding.

There are Public-Private Partnerships (PPPs) in Nigeria's road transport sector. According to Nwangwu (2021), the following are some of such arrangements: (1) through the Niger State Transport Authority Revival, the state government in partnership with the private sector, aims to revive the state-owned Transport Authority to boost transportation (2) Lagos State Roads, Bridges and Highway (Bus Rapid Transit – BRT System) infrastructure provides platform for PPP towards improving urban mobility and

general road transport infrastructure development. These PPPs aim to address transport infrastructure gaps, stimulate economic growth, and improve transportation services in Nigeria.

2.3 Challenges facing PPPs in Nigeria

The factors that militate against the successful execution of PPPs in Nigeria have been identified to include: legal and regulatory challenges, undue political interference, lack of transparency, lack of proper management of stakeholders' interest and lack of proper contractual framework (NESG Policy Brief, 2017). Worse still, as per the port concessions arrangement in Nigeria, the enabling legislation (i.e. the Ports Act of 1999) governing the port sector at the time of its enactment did not anticipate port concession as a model of port administration. Consequently, this eroded the confidence of investors and made terminal operators diffident and unsure of the safety of their investments in the port sector prior to the eventual consummation of the concession arrangement in 2006 (Eto, 2021).

2.4 The Absence of a Clear Infrastructure Roadmap

NESG Policy Brief (2017) asserts that the success of PPPs depends on mutual trust among investors and one measure to inspire stakeholders' confidence is to develop a clear and coordinated policy direction for infrastructure development in Nigeria. NESG Policy Brief (2017) further observes that Nigeria's overall plan on transport infrastructure is neither articulate nor coherently captured in a specific document but found spelt out incoherently in several unrelated policy documents. This, therefore, limits investor's confidence, given the capital intensive and high-risk nature of infrastructure investment. This situation highlights the lack of clear strategic direction regarding infrastructure investment in Nigeria.

Regulatory Challenges Impeding PPPs in Nigeria's Transport Infrastructure Projects

According to Ojima et al. (2024), regulatory hurdles can impede the successful implementation of Public-Private Partnerships in Nigeria's transport infrastructure projects. They identified the following regulatory challenges:

1. Inconsistent policies: Frequent changes in policies and regulations (as it happens each time there is change in administration) create uncertainty and discourage private investment.
2. Lack of clear guidelines: Unclear or ambiguous regulations can lead to confusion and delays in PPP project implementation.
3. Overlapping jurisdiction: Multiple regulatory agencies with overlapping responsibilities can create confusion and hinder project progress.
4. Corruption: Corruption can increase the cost of doing business and undermine the integrity of PPP projects.
5. Inadequate institutional framework: Weak institutional frameworks can hinder effective PPP project implementation and management.

2.5 Impact of Regulatory Challenges on PPPs

Ojima et al. (2024) have identified the following impact of regulatory challenges on PPPs in Nigeria:

1. Increased costs: Regulatory hurdles can increase the cost of PPP projects, making them less attractive to private investors.
2. Delays: Regulatory challenges can cause delays in project implementation, which can lead to

cost overruns and reduced project viability.

3. Reduced investor confidence: Regulatory uncertainty and inconsistency can reduce investor confidence in PPP projects, making it harder to attract private investment.

In the view of Shadik (2019), the following could be employed to address regulatory hurdles militating against PPP project implementation:

1. Clear policies and guidelines: Establishing clear policies and guidelines can help reduce uncertainty and promote PPP project implementation.
2. Streamlining regulatory processes: Streamlining regulatory processes can help reduce delays and costs associated with PPP projects.
3. Strengthening institutional frameworks can help ensure effective PPP project implementation and management.
4. Transparency and accountability: Promoting transparency and accountability can help reduce corruption and increase investor confidence in PPP projects.

2.6 Empirical studies

In a study on PPP in transport infrastructure in Spain, Roumboutsos (2016) observes that Spain has over 50 years' experience in the delivery of transport infrastructure through PPP-type approach, with local investors and contractors being involved. The author asserts that PPPs are awarded through an 'open procedure' and use standard contracts and affirms that this is an evidence of a transparent and competitive process, with reduced procurement transaction costs, which, however, leads to incomplete contracts. Moreover, the author acknowledges that this approach has the deficiency of transferring more risk than is manageable to the concessionaire, to which Roumboutsos and Pantelias (2015) confirm. Roumboutsos (2016) concludes that in view of the high transaction costs and the need to (1) continue without disrupting transportation services, (2) monitor mechanisms during re-negotiations to safeguard the public interest and (3) place a ceiling to public budgetary commitments makes PPPs in Transport infrastructure in Spain, it is apparent that PPPs cannot be used to cover the entire transport infrastructure gap in Spain.

Siemiatycki (2009) examines three case studies of transport infrastructure delivered through PPPs, namely: (1) Croydon Tramlink in London, UK; (2) the State Route 91 toll lanes in Orange County, California, USA; and (3) the Cross City Tunnel in Sydney, Australia. The author concludes that in the short term, the PPP model was effective at raising funds for new facilities and in transferring financial risks to the private sector; however its limited transparency minimized meaningful community engagement in project planning. Therefore, over the long term, complications set in with the result that law suits followed as relationships between the partners deteriorated, and all three concessions were ultimately sold under duress, two to public sector agencies. Hence, Siemiatycki (2009) identifies the need for new ex ante evaluation tools, risk transfer mechanisms, community engagement processes, and data tracking and performance monitoring procedures, in order to prevent negative consequences that arise from PPPs in transport infrastructure development.

3. METHODOLOGY

The study used cross-sectional survey design which involved 4-point Likert Scale questionnaire and structured interview to gather data from the population. The sample selection was by multi-stage sampling

techniques that involved stratified and random sampling techniques due to its thoroughness and accuracy of representation. In order to analyze the data gathered, descriptive statistics was used. Respondents used a scale of 1 (Strongly Disagree) to 4 (Strongly Agree) for their answers.

Table 1: Population of the study

S/N	Respondents	Population
1	Industry Regulators (NIMASA, NRC and FAAN)	34,400
2	IDP/Seaport and Airport Terminal Operators	1,433
3	Trucking Industry Operators/Carriers	1,551
4	3rd Party Logistics Providers/Freight forwarders	5,308
5	Shippers (Importers and Exporters)	734
	Total	**43,426**

Source: Researcher's compilation, 2025

The study used primary and secondary sources of data. Questionnaire and structured interview were the instruments used for sourcing primary data. The study adopted the Taro Yamane formula to determine 436 as the sample size, out of population of study of 43,426.

In determining the sample size for this research, the Taro Yamane's formula given as *equation 1* was used:

$$n = \frac{N}{1 + N(e)^2} \qquad 1$$

Where:

N = sample size

N = population size (43,426)

e = level of significance (our level of significance is chosen at 5%)

Applying the formula at significant level of 5%.

$$\frac{43,426}{1 + 43,426\ (0.05)^2}$$

$$\frac{43,426}{1+108.565}$$

$$\frac{43,426}{109.565}$$

$$\frac{43,426}{109.565}$$

$$= 396$$

Therefore, the sample size = 396. However, 40 (i.e.10%) was added to accommodate non-response and this brought the sample size to 436. From the above calculated value, a sample size of 436 was drawn at 95% confidence level and 0.05 error rate.

Sample Size Determination

The sample size for the study was 436. Below is the number of copies of questionnaire that were administered to each group of respondents. Probability proportional to size (PPS) method was employed in selecting the sample size of respondents from each of the

selected group of respondents. This was utilized in order to have an equal sample size representation and adequacy of the respondents in each of the group of respondents. The formula used to achieve this representation from each group of respondents is as follows:

$$\frac{\text{Number of questionnaires} \times \text{population of each group of respondents}}{\text{Grand total}}$$

Table 1 Population of the study

S/N	Respondents	Population	Proportion	Sample size
1	Industry Regulators (NIMASA, NRC and FAAN)	34,400	436 (34,400) / 43,426	345
2	IDP/Sea and Airport Terminal Operators	1,433	436 (1,433) / 43,426	14
3	Trucking Industry Operators/Carriers	1,551	436 (1,551) / 43,426	16
4	3rd Party Logistics Providers/Freight forwarders	5,308	436 (5,308) / 43,426	54
5	Shippers (Importers and Exporters)	734	436 (734) / 43,426	7
	Total	**43,426**		**436**

Source: Researcher's compilation, 2025

4. RESULTS AND DISCUSSION

4.1 Summary of Questionnaire Distributed

The questionnaire distributed and the number of copies retrieved is presented in Table 3.

Table 3: Copies of Questionnaire Administered

Number of copies of Questionnaire Distributed	Number of copies of Questionnaire Retrieved	Registrar of Copies of Questionnaire Retrieved
436	**428**	**98.17**

Source: *Field survey* (2025)

A total of 436 copies of the questionnaire were distributed to major stakeholders in the maritime transport sector. 428 copies were returned to represent 98.17% response rate as shown in the Table above.

4.2 Socio-economic Characteristics of Respondents

The gender distribution of the respondents is shown in Table 4. The distribution shows that 295 or 69% of the respondents were male while 133 or 31% were female. This shows that majority of the respondents were male.

The age distribution in Table 4 shows that respondents that were 18 years of age were nil. Those whose age fell into the age bracket 18-35 years were 208 or 49%. Those who fell within the 36-59 years range were 220 or 51% and they were the majority. There were no respondents whose age was 60 years plus.

The formal education of respondents in Table 4 shows that all the respondents attained various degrees of formal education. There

were no respondents with Primary School education. Those who attained Secondary School education were 47 or 11% and the

Table 4: *Demographic Analysis of Respondents*

Characteristics	Frequency	Percentage (%)
Gender		
Male	295	69
Female	133	31
Total	**428**	**100**
Age (Years)		
Less than 18	Nil	Nil
18-35	208	49
36-59	220	51
60 plus	Nil	Nil
Total	**428**	**100**
Educational Level		
Primary	Nil	Nil
Secondary	47	11
Tertiary	381	89
Total	**428**	**100**
Occupation		
Logistics providers	21	5
Boat owners	24	6
Civil servants	7	2
Importers	190	44
Exporters	147	34
Freight forwarders	23	5
Truck owners	16	4
Total	**428**	**100**
Status Distribution		
Top-Level Management	98	23
Senior-Level Management	279	65
Junior-Level Staff	51	12
Total	**428**	**100**

Source: *Researchers' Field Survey, 2025*

respondents who attained Tertiary education were 381 or 89%.

The occupations of the respondents in Table 4 shows that logistics providers constituted 21 or 5%; boat owners were 24 or 6%; civil servants were 7 or 2%; importers were 190 or 44%; exporters were 147 or 34%; freight forwarders were 23 or 5% and truck owners were 16 or 4%. The status of the respondents in Table shows that top level management staff were 98 or 23%; senior management staff were 279 or 65% and junior level staff were 51 or 12%.

4.3 Discussion of Results

Tables 5 to 7 show the responses to fifteen 4-point Likert Scale questions based on research objectives 1 to 5.

Objective 1 aimed to evaluate the effectiveness of public-private partnerships

(PPPs) in enhancing the quality and accessibility of transport infrastructure in Nigeria. The questions aimed to help gather valuable insights into the quality of transport infrastructure, accessibility of transport services and the level of satisfaction with transport facilities developed through PPPs in Nigeria. Based on objective 1, Table 5 shows the responses to question 1 which states that: public-private partnerships have significantly improved the quality of transport infrastructure in Nigeria. The Table shows that 41 (9.58%) respondents strongly disagreed that public-private partnerships have significantly improved the quality of transport infrastructure in Nigeria;

Table 5: To evaluate the effectiveness of public-private partnerships (PPPs) in enhancing the quality and accessibility of transport infrastructure in Nigeria

S/N	Question Items	SD	%	D	%	A	%	SA	%	Total	%
1	Public-private partnerships have significantly improved the quality of transport infrastructure in Nigeria	41	9.58	32	7.48	58	13.55	297	69.39	428	100
2	The implementation of PPPs has enhanced the accessibility of transport services for the general population in Nigeria	39	9.11	46	10.75	61	14.25	282	65.89	428	100
3	I am satisfied with the transport facilities developed through public-private partnerships in Nigeria	55	12.85	49	11.45	81	18.92	243	56.78	428	100

Source: *Researchers' Field Survey, 2025*

32 (7.48%) disagreed; 58 (13.55%) agreed while 297 (69.39%) strongly agreed. This implies that public-private partnerships have significantly improved the quality of transport infrastructure in Nigeria.

The Table also shows responses to question 2, which states that: the implementation of PPPs has enhanced the accessibility of transport services for the general population in Nigeria. The Table shows that 39 (9.11%) respondents strongly disagreed that the implementation of PPPs has enhanced the accessibility of transport services for the general population in Nigeria; 46 (10.75%) disagreed; 61 (14.25%) agreed, while 282 (65.89%) strongly agreed. This implies that the implementation of PPPs has enhanced the accessibility of transport services for the general population in Nigeria.

Furthermore, Table 5 shows responses to question 3, which states that: I am satisfied with the transport facilities developed through public-private partnerships in Nigeria. The Table shows that 55 (12.85%)

respondents strongly disagreed that they were satisfied with the transport facilities developed through public-private partnerships in Nigeria; 49 (11.45%) disagreed; 81 (18.92%) agreed, while 243 (56.78%) strongly agreed. This implies that majority of the respondents were satisfied with the transport facilities developed through public-private partnerships in Nigeria.

Objective 2 aimed to analyze the challenges and barriers faced by stakeholders in implementing PPPs for transport infrastructure projects in Nigeria. The questions aimed at determinining if PPPs in transport infrastructure in Nigeria are faced with (1) regulatory challenges (2) financial constraints and (3) lack of effective stakeholders' collaboration.

Table 6: To analyze the challenges and barriers faced by stakeholders in implementing PPPs for transport infrastructure projects in Nigeria

S/N	Question Items	SD	%	D	%	A	%	SA	%	Total	%
1	Regulatory hurdles significantly impede the successful implementation of public-private partnerships in Nigeria's transport infrastructure projects	47	10.98	49	11.45	64	14.95	268	62.62	428	100
2	Financial limitations are major barriers against stakeholders who are involved in public-private partnerships for transport infrastructure in Nigeria	39	9.11	41	9.58	78	18.23	270	63.08	428	100
3	Lack of effective collaboration among stakeholders is a significant challenge in the implementation of PPPs for transport infrastructure projects in Nigeria	51	11.92	62	14.49	89	20.79	226	52.80	428	100

Source: *Researchers' Field Survey, 2025*

Based on objective 2, Table 6 shows the responses to question 1 which states that: regulatory hurdles significantly impede the successful implementation of public-private

partnerships in Nigeria's transport infrastructure projects. The Table shows that 47 (10.98%) respondents strongly disagreed that regulatory hurdles significantly impede the successful implementation of public-private partnerships in Nigeria's transport infrastructure projects; 49 (11.45%) disagreed; 64 (14.95%) agreed while 268 (62.62%) strongly agreed. This implies that regulatory hurdles significantly impede the successful implementation of public-private partnerships in Nigeria's transport infrastructure projects.

The Table also shows responses to question 2, which states that: financial limitations are major barriers against stakeholders who are involved in public-private partnerships for transport infrastructure in Nigeria. The Table shows that 39 (9.11%) respondents strongly disagreed that the implementation of PPPs has enhanced the accessibility of transport services for the general population in Nigeria; 41 (9.58%) disagreed; 78 (18.23%) agreed, while 270 (63.08%) strongly agreed. This implies that financial limitations are major barriers against stakeholders who are involved in public-private partnerships for transport infrastructure in Nigeria.

Furthermore, Table 6 shows responses to question 3, which states that: lack of effective collaboration among stakeholders is a significant challenge in the implementation of PPPs for transport infrastructure projects in Nigeria. The Table shows that 51 (11.92%) respondents strongly disagreed that lack of effective collaboration among stakeholders is a significant challenge in the implementation of PPPs for transport infrastructure projects in Nigeria; 62 (14.49%) disagreed; 89 (20.79%) agreed, while 226 (52.80%) strongly agreed. This implies that lack of effective collaboration among stakeholders is a significant challenge in the implementation of PPPs for transport infrastructure projects in Nigeria.

Table 7: To assess the impact of PPPs on the economic growth and development of transport infrastructure in Nigeria

S/N	Question items	SD	%	D	%	A	%	SA	%	Total	%
1	Public-private partnerships have significantly contributed to the economic growth of Nigeria through improved transport infrastructure	51	11.92	43	10.05	67	15.65	267	62.38	428	100
2	The implementation of PPPs in transport infrastructure projects has led to increased job creation in Nigeria	48	11.22	44	10.28	69	16.12	267	62.38	428	100
3	Public-private partnerships have enhanced Nigeria's attractiveness to	53	12.38	47	10.98	65	15.19	263	61.45	428	100

	both local and foreign investors in the transport sector										

Source: *Researchers' Field Survey, 2025*

Objective 3 aimed to assess the impact of PPPs on the economic growth and development of transport infrastructure in Nigeria. The questions aimed at assessing if PPPs in transport infrastructure in Nigeria have contributed significantly to (1) economic growth (2) job creation and (3) enhancing Nigeria's attractiveness to both local and foreign investors in the transport sector.

Based on objective 3, Table 7 shows the responses to question 1 which states that: Public-private partnerships have significantly contributed to the economic growth of Nigeria through improved transport infrastructure. The Table shows that 51 (11.92%) respondents strongly disagreed that public-private partnerships have significantly contributed to the economic growth of Nigeria through improved transport infrastructure; 43 (10.05%) disagreed; 67 (15.65%) agreed while 267 (62.38%) strongly agreed. This implies that public-private partnerships have significantly contributed to the economic growth of Nigeria through improved transport infrastructure.

The Table also shows responses to question 2, which states that: The implementation of PPPs in transport infrastructure projects has led to increased job creation in Nigeria. The Table shows that 48 (11.28%) respondents strongly disagreed that the implementation of PPPs in transport infrastructure projects has led to increased job creation in Nigeria; 44 (10.28%) disagreed; 69 (16.12%) agreed, while 267 (62.38%) strongly agreed. This implies that the implementation of PPPs in transport infrastructure projects has led to increased job creation in Nigeria.

Furthermore, Table 7 shows responses to question 3, which states that: Public-private partnerships have enhanced Nigeria's attractiveness to both local and foreign investors in the transport sector. The Table shows that 53 (12.38%) respondents strongly disagreed that public-private partnerships have enhanced Nigeria's attractiveness to both local and foreign investors in the transport sector; 47 (10.98%) disagreed; 65 (15.19%) agreed, while 263 (61.45%) strongly agreed. This implies that public-private partnerships have enhanced Nigeria's attractiveness to both local and foreign investors in the transport sector.

Table 8: To investigate the role of government policies and regulations in facilitating successful PPPs in the transport sector in Nigeria

S/N	Question Items	SD	%	D	%	A	%	SA	%	Total	%
1	Government policies in Nigeria effectively support the establishment and operation of public-private partnerships in the transport sector	32	7.48	47	10.98	63	14.72	286	66.82	428	100

2	Clear and transparent institutional and regulatory frameworks are essential for the successful implementation of PPPs in Nigeria's transport infrastructure	29	6.78	38	8.88	78	18.22	283	66.12	428	100
3	Government incentives and support mechanisms significantly enhance private sector participation in transport infrastructure projects through PPPs	41	9.58	36	8.41	76	17.76	275	64.25	428	100

Source: *Researchers' Field Survey, 2025*

Objective 4 aimed to investigate the role of government policies and regulations in facilitating successful PPPs in the transport sector in Nigeria. The questions aimed at investigating if government's (1) role towards PPPs in transport infrastructure in Nigeria has contributed to supportive policies (2) regulations are clear enough to contribute to successful implementation of PPPs in Nigeria's transport infrastructure and (3) incentives and support mechanisms contribute meaningfully to enhance private sector participation in transport infrastructure projects through PPPs.

Based on objective 4, Table 8 shows the responses to question 1 which states that: Government policies in Nigeria effectively support the establishment and operation of public-private partnerships in the transport sector. The Table shows that 32 (7.48%) respondents strongly disagreed that Government policies in Nigeria effectively support the establishment and operation of public-private partnerships in the transport sector; 47 (10.98%) disagreed; 63 (14.72%) agreed while 286 (66.82%) strongly agreed. This implies that Government policies in Nigeria effectively support the establishment and operation of public-private partnerships in the transport sector.

The Table also shows responses to question 2, which states that: Clear and transparent institutional and regulatory frameworks are essential for the successful implementation of PPPs in Nigeria's transport infrastructure. The Table shows that 29 (6.78%) respondents strongly disagreed that clear and transparent institutional and regulatory frameworks are essential for the successful implementation of PPPs in Nigeria's transport infrastructure; 38 (8.88%) disagreed; 78 (18.22%) agreed, while 283 (66.12%) strongly agreed. This implies that clear and transparent institutional and regulatory frameworks are essential for

the successful implementation of PPPs in Nigeria's transport infrastructure.

Furthermore, Table 8 shows responses to question 3, which states that: Government incentives and support mechanisms significantly enhance private sector participation in transport infrastructure projects through PPPs. The Table shows that 41 (9.58%) respondents strongly disagreed that Government incentives and support mechanisms significantly enhance private sector participation in transport infrastructure projects through PPPs; 36 (8.41%) disagreed; 76 (17.76%) agreed, while 275 (64.25%) strongly agreed. This implies that Government incentives and support mechanisms significantly enhance private sector participation in transport infrastructure projects through PPPs.

What are the contributions of Public-Private Partnerships in transport infrastructure development to economic growth of Nigeria? Respondents were unanimous in their assertion that PPPs in transport infrastructure development have significantly contributed to economic growth of Nigeria in the following ways (i) PPPs have facilitated the construction and improvement of roads, bridges, airports, seaport terminals, which enhance connectivity and accessibility. Thus, improved infrastructure reduces travel time, lowers transportation costs, and boosts trade (ii) Nigeria has been able to leverage additional financial resources for infrastructure projects thereby allowing for faster project implementation (iii) PPPs have created jobs during both the construction phase and through ongoing operations and maintenance (iv) PPPs facilitate the movement of goods and services across different sectors, supporting economic diversification away from oil dependency (v) PPPs have attracted foreign investors (leading to increased foreign direct investment), thereby reducing operational costs for local businesses and making Nigeria more competitive in the global market (vi) PPPs have streamlined logistics, reduced delays and inefficiencies in cargo movement, improved trade facilitation and encouraged local businesses to expand and engage in international business.

Table 9: To compare the outcomes of PPP-led transport infrastructure projects with traditional public sector-led initiatives in Nigeria

S/N	Question Items	SD	%	D	%	A	%	SA	%	Total	%
1	PPP-led transport infrastructure projects are more efficient in terms of time and resource management compared to traditional public sector-led initiatives in Nigeria	42	9.81	36	8.41	66	15.42	284	66.36	428	100
2	The quality of transport infrastructure developed through PPPs is superior to that of projects	31	7.24	43	10.05	71	16.59	283	66.12	428	100

	executed by the public sector alone										
3	Transport infrastructure projects led by PPPs demonstrate greater sustainability and long-term viability compared to those led by the public sector	32	7.48	41	9.58	69	16.12	286	66.82	428	100

Source: *Researchers' Field Survey, 2025*

Objective 5 aimed to compare the outcomes of PPP-led transport infrastructure projects with traditional public sector-led initiatives in Nigeria. The questions aimed at investigating if in terms of (1) project efficiency, PPP-led transport infrastructure projects are more efficient compared to traditional public sector-led initiatives in Nigeria (2) quality of outcomes, transport infrastructure developed through PPPs is superior to that of projects executed by the public sector alone (3) sustainability of projects, transport infrastructure projects executed through PPPs bear the mark of greater sustainability and long-term viability compared to those driven by the public sector.

Based on objective 5, Table 9 shows the responses to question 1 which states that: PPP-led transport infrastructure projects are more efficient in terms of time and resource management compared to traditional public sector-led initiatives in Nigeria. The Table shows that 42 (9.81%) respondents strongly disagreed that PPP-led transport infrastructure projects are more efficient in terms of time and resource management compared to traditional public sector-led initiatives in Nigeria; 36 (8.41%) disagreed; 66 (15.42%) agreed while 284 (66.36%) strongly agreed. This implies that PPP-led transport infrastructure projects are more efficient in terms of time and resource management compared to traditional public sector-led initiatives in Nigeria.

The Table also shows responses to question 2, which states that: The quality of transport infrastructure developed through PPPs is superior to that of projects executed by the public sector alone. The Table shows that 31 (7.24%) respondents strongly disagreed that the quality of transport infrastructure developed through PPPs is superior to that of projects executed by the public sector alone; 43 (10.05%) disagreed; 71 (16.59%) agreed, while 283 (66.12%) strongly agreed. This implies that the quality of transport infrastructure developed through PPPs is superior to that of projects executed by the public sector alone.

Furthermore, Table 9 shows responses to question 3, which states that: Transport infrastructure projects led by PPPs demonstrate greater sustainability and long-term viability compared to those led by the public sector. The Table shows that 32 (7.48%) respondents strongly disagreed that transport infrastructure projects led by PPPs demonstrate greater sustainability and long-term viability compared to those led by the public sector; 41 (9.58%) disagreed; 69 (16.12%) agreed, while 286 (66.82%) strongly agreed. This implies that transport infrastructure projects led by PPPs demonstrate greater sustainability and long-

term viability compared to those led by the public sector.

4.4 Discussion of Results

In general, the study finds that public-private partnerships have significantly improved the quality of transport infrastructure in Nigeria, though as NESG Policy Brief (2017) and Ojima et al. (2024) observe, legal and regulatory hurdles significantly impede the successful implementation of public-private partnerships in Nigeria's transport infrastructure projects. This situation limits investor's confidence, given the capital intensive and high-risk nature of infrastructure investment.

The finding that clear and transparent institutional and regulatory frameworks are essential for the successful implementation of PPPs in Nigeria's transport infrastructure mirrors the view of Shadik (2019) and Nwangwu (2021) who observe that strengthening institutional and regulatory frameworks can help ensure effective PPP project implementation and management. Furthermore, the study finds that PPP-led transport infrastructure projects are more efficient in terms of time and resource management compared to traditional public sector-led initiatives in Nigeria as postulated by Oluyede (2021). Consequently, in light of this, with fiscal and budgetary funding constraints bedeviling governments at all levels in Nigeria, Oluyede (2021) asserts that private participation in transport infrastructure provision is an economic necessity, rather than an optional financing solution, as hitherto thought.

5. SUMMARY OF FINDINGS AND CONCLUSION

The study found that PPPs have significantly contributed to the economic growth of Nigeria in that they have facilitated the movement of goods and services across different sectors, supporting economic diversification away from oil dependency; clear and transparent institutional and regulatory frameworks are essential for the successful implementation of PPPs in Nigeria's transport infrastructure; PPPs have attracted foreign investors, leading to increased foreign direct investment thereby reducing operational costs for businesses and thereby making Nigeria more competitive in the global market; PPPs have streamlined logistics, reduced delays and inefficiencies in cargo movement, improved trade facilitation encourages local businesses to expand and engage in international business; public-private partnerships have significantly improved the quality of transport infrastructure in Nigeria; the implementation of PPPs has enhanced the accessibility of transport services for the general population in Nigeria and regulatory hurdles significantly impede the successful implementation of public-private partnerships in Nigeria's transport infrastructure projects.

Overall, PPPs in transport infrastructure development in Nigeria have played a crucial role by enhancing infrastructure development, attracting investments, creating jobs, and improving general economic efficiency, which ultimately leads to a more vibrant and diversified economy.

Recommendations

1. Government should streamline regulatory processes to help reduce delays and costs associated with PPP projects.
2. Government should create an atmosphere that encourages effective collaboration among stakeholders in the implementation of PPPs for transport infrastructure projects in Nigeria.
3. Government should encourage financial institutions to provide credit facilities for prospective investors who are interested in public-private

partnerships in transport infrastructure development in Nigeria.

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