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Impact of Road Infrastructure on Economic Growth in South-South Nigeria

ABSTRACT

Road infrastructure remains a critical driver of economic growth, particularly in developing regions where transportation systems rely heavily on road networks. This study examined the impact of road infrastructure on economic activities in South-South Nigeria, a region with high economic potential but persistent infrastructural challenges. The study adopted a correlational survey research design and focused on business owners, transport operators, and government officials across selected states in the region. A structured questionnaire was used for data collection, while descriptive statistics (mean and standard deviation) and inferential statistics (simple linear regression) were employed for data analysis. The findings revealed that road infrastructure in South-South Nigeria is generally inadequate, poorly maintained, and unevenly distributed, especially in rural areas. The study further established a strong and statistically significant impact of road infrastructure on economic activities. The regression analysis showed that road infrastructure significantly predicts economic outcomes such as transportation cost, business productivity, and market accessibility. Poor road conditions were found to increase the cost of goods and services, delay movement, and reduce income generation, while improved road networks enhance efficiency and economic performance. The study concluded that road infrastructure is a major determinant of economic activities in South-South Nigeria and that its current state continues to limit the region's economic potential. It recommends increased investment in road development and the establishment of a sustainable maintenance culture to ensure long-term effectiveness. Improving road infrastructure is essential for enhancing connectivity, supporting economic activities, and promoting sustainable regional growth.

Keywords: *Road Infrastructure, Economic Activities, Economic Growth, Transportation, South-South Nigeria.*

Oteh Charles Ozule PhD
Department of Geography and Environmental Studies, Faculty of Social Sciences, Ignatius Ajuru University of Education, Nigeria.
charleoteh@gmail.com, charles.oteh@iaue.edu.ng

I. Introduction

Road infrastructure remains one of the most critical components of economic development in both developed and developing economies. In Nigeria, the road transport system accounts for over 80% of the movement of goods and passengers, making it the dominant mode of transportation and a central driver of socio-economic activities (National Bureau of Statistics [NBS], 2023; World Bank, 2022). Despite its importance, the country continues to face significant infrastructural deficits, particularly in road networks, which are often characterized by poor maintenance, inadequate expansion, and limited connectivity. These deficiencies have raised concerns about the capacity of road infrastructure to support sustainable economic growth.

Transportation infrastructure, especially road networks, plays a fundamental role in facilitating trade, enhancing mobility, and improving access to markets, services, and employment opportunities. Efficient road systems reduce travel time, lower transportation costs, and promote the movement of goods and labor across regions, thereby increasing productivity and economic output (Calderón & Servén, 2021; African Development Bank, 2022). In developing economies such as Nigeria, where alternative transport systems like rail and waterways are underdeveloped, the reliance on road infrastructure further amplifies its significance in shaping economic performance.

In the context of South-South Nigeria, the importance of road infrastructure becomes even more pronounced due to the region's strategic role in the country's economy. The region, which includes states such as Rivers, Bayelsa, Delta, and Akwa Ibom, is the hub of Nigeria's oil and gas industry and contributes significantly to national revenue (Central Bank of Nigeria, 2023). However, despite this economic relevance, the road infrastructure in the region remains grossly inadequate, with many roads in deplorable conditions, especially in rural and riverine communities. This paradox of high economic potential alongside poor infrastructure continues to hinder the region's development.

The condition of road infrastructure in South-South Nigeria has direct implications for economic activities, particularly in sectors such as agriculture, trade, and small-scale enterprises. Poor road networks often lead to increased transportation costs, delays in the movement of goods, and reduced market accessibility, which negatively affect productivity and income generation (Ogunleye et al., 2022; Eze & Ogbo, 2021). In addition, the deterioration of roads contributes to vehicle damage, higher maintenance costs, and safety risks, further discouraging investment and economic participation in the region.

The relationship between infrastructure development and economic growth has been widely documented in economic literature. Investments in road infrastructure are known to stimulate economic growth by enhancing connectivity, supporting industrial expansion, and facilitating regional integration (Calderón & Servén, 2021; World Bank, 2022). Improved road networks enable efficient distribution of resources, reduce transaction costs, and create opportunities for both local and international trade. Consequently, the quality and availability of road infrastructure are often used as key indicators of a region's development potential.

Despite various government initiatives and investments aimed at improving road infrastructure in Nigeria, the expected outcomes in terms of economic growth have not been fully realized, particularly in the South-South region. Issues such as poor project execution, inadequate maintenance culture, corruption, and weak institutional frameworks have continued to undermine infrastructure development efforts (African Development Bank, 2022; Central Bank of Nigeria, 2023). This situation raises important questions about the actual impact of road infrastructure on economic growth in the region, thereby necessitating a systematic investigation into the relationship between these variables.

II. Statement of the Problem

The South-South region of Nigeria, despite being the economic backbone of the nation due to its vast oil and gas resources, continues to experience persistent challenges related to poor road infrastructure. Many roads in the region are either poorly constructed, inadequately maintained, or completely inaccessible, especially in rural and riverine areas. This situation persists even with significant revenue generation from the region, creating a contradiction between economic wealth and infrastructural development (Central Bank of Nigeria, 2023). As a result, economic activities are constrained by high transportation costs, frequent delays, and limited accessibility to markets and services.

Furthermore, the inadequacy of road infrastructure has contributed to the underperformance of regional economies relative to their potential. Businesses face increased operational costs, agricultural produce often fails to reach markets efficiently, and investment opportunities are lost due to poor connectivity. Although there have been notable investments in road development projects, the outcomes have not translated into proportional economic growth, suggesting a disconnect between infrastructure spending and actual economic impact (World Bank, 2022; Ogunleye et al., 2022). This

raises critical concerns about the effectiveness of road infrastructure development in driving economic growth in South-South Nigeria and underscores the need for empirical investigation.

Aim and Objectives of the Study

The aim of this study is to examine the impact of road infrastructure on economic growth in South-South Nigeria. The objectives of the study were to:

1. assess the condition and availability of road infrastructure in South-South Nigeria.
2. examine the impact of road infrastructure on economic activities in South-South Nigeria.

Research Questions

1. What is the condition and availability of road infrastructure in South-South Nigeria?
2. What is the impact of road infrastructure and economic activities in South-South Nigeria?

Research Hypotheses

H_{01}: Road infrastructure does not have significant impact on economic activities in South-South Nigeria.

III. Conceptual Review

Road infrastructure refers to the network of roads, highways, bridges, and associated facilities that enable the movement of people, goods, and services within and across regions. It forms a core component of a nation's physical infrastructure and plays a critical role in facilitating economic and social interactions. In Nigeria, road infrastructure constitutes the backbone of the transportation system, accounting for the majority of freight and passenger movement due to the limited development of alternative transport systems such as rail and waterways (National Bureau of Statistics [NBS], 2023; World Bank, 2022). The effectiveness of road infrastructure is typically measured in terms of accessibility, connectivity, durability, and maintenance.

The quality and availability of road infrastructure are central to economic efficiency and regional integration. Well-developed road networks reduce travel time, lower vehicle operating costs, and improve access to markets, thereby enhancing productivity and competitiveness (African Development Bank, 2022; Calderón & Servén, 2021). Conversely, poor road conditions increase transportation costs, disrupt supply chains, and limit the mobility of labor and capital. In developing regions such as South-South Nigeria, where economic activities heavily depend on road transport, infrastructure deficiencies can significantly constrain growth and development.

Economic growth, on the other hand, refers to the sustained increase in a country's or region's output of goods and services over time. It is commonly measured by the growth rate of Gross Domestic Product (GDP), which reflects the overall economic performance of a nation (Todaro & Smith, 2020). Economic growth is not only about increased production but also about improvements in living standards, income distribution, and employment opportunities. In the context of regional development, economic growth indicates the ability of an area to expand its productive capacity and improve the welfare of its population.

The relationship between road infrastructure and economic growth is well established in economic theory and empirical literature. Investments in road infrastructure are known to stimulate economic growth by improving connectivity, facilitating trade, and attracting investment (Calderón & Servén, 2021; World Bank, 2022). Efficient transportation systems enable the smooth flow of goods and services, reduce transaction costs, and support the expansion of markets. As a result, regions with better road infrastructure tend to experience higher levels of economic activity and faster growth rates compared to those with inadequate infrastructure.

Economic growth is often assessed using several key indicators, including GDP, income levels, employment rates, and trade volume. GDP provides a broad measure of economic output, while income levels reflect the purchasing power and standard of living of individuals within an economy (Todaro & Smith, 2020). Employment rates indicate the extent to which labor resources are utilized, and trade volume reflects the level of economic exchange within and across regions. These indicators collectively provide a comprehensive understanding of economic performance and are useful in evaluating the impact of infrastructure on growth.

In Nigeria, road infrastructure is typically categorized into federal, state, and rural roads, each serving different functions within the transportation network. Federal roads are major highways that connect key cities and regions across the country and are managed by the federal government. State roads link urban and semi-urban areas within individual states, while rural roads provide access to remote communities and agricultural zones (Federal Ministry of Works, 2023). The effectiveness of these road categories varies significantly, with rural roads often being the most neglected despite their importance in supporting agricultural and local economic activities.

The disparities in the quality and distribution of these road types have significant implications for economic growth in regions such as South-South Nigeria. While federal roads may facilitate inter-state trade and large-scale economic activities, poor state and rural roads can limit access to markets, reduce agricultural productivity, and hinder local enterprise development (Ogunleye et al., 2022; Eze & Ogbo, 2021). Therefore, a comprehensive understanding of road infrastructure and its components is essential for analyzing its impact on economic growth, particularly in regions where infrastructure challenges persist despite high economic potential.

IV. Theoretical Framework: Endogenous Growth Theory

The most relevant theory for this study is the Endogenous Growth Theory, which was prominently developed by Paul Romer in 1986. The theory emerged as a response to earlier growth models that treated technological progress as an external factor. Romer's model argues that economic growth is primarily driven by internal factors within an economy, particularly investments in human capital, innovation, and infrastructure. Unlike exogenous growth theories, which assume that long-term growth is determined outside the economic system, endogenous growth theory emphasizes that deliberate policy decisions and resource allocation within a country can directly influence its growth trajectory.

The core assumptions of endogenous growth theory center on the idea that investments in infrastructure, knowledge, and technology generate increasing returns to scale and sustained economic growth. The theory posits that infrastructure, such as road networks, enhances productivity by improving connectivity, reducing transaction costs, and facilitating the efficient movement of goods and services. It also assumes that economies do not necessarily converge automatically, meaning that regions with better infrastructure and institutional frameworks can experience faster and more sustained growth than those without. In this context, road infrastructure is not merely a supporting factor but a central driver of economic expansion and development.

The relevance of endogenous growth theory to this study lies in its direct explanation of how road infrastructure influences economic growth in South-South Nigeria. The theory provides a framework for understanding how improvements in road networks can stimulate economic activities by enhancing trade, increasing accessibility to markets, and attracting investment. In a region characterized by high economic potential but inadequate infrastructure, the theory helps to explain why growth outcomes may remain suboptimal despite resource availability. Therefore, applying endogenous growth theory allows this study to critically examine how internal infrastructural investments, particularly in road development, can serve as a catalyst for sustainable economic growth in the region.

V. Empirical Review

A study conducted by Ogunleye, Adeyemi, and Siyanbola (2022) examined the topic *"Infrastructure Development and Economic Performance in Nigeria."* The aim of the study was to investigate the relationship between infrastructure development, particularly road infrastructure, and economic growth in Nigeria. The study adopted a correlational research design using secondary data obtained from national economic databases. The population of the study comprised the Nigerian economy, with data spanning multiple years, while the sample consisted of time-series data on infrastructure investment and GDP growth. Data were collected using documented economic reports and government publications, and the reliability of the data sources was ensured through the use of verified national and international databases, yielding a reliability index of 0.82. The method of data

analysis involved regression analysis and Pearson Product Moment Correlation Coefficient (PPMC). The findings revealed a strong positive relationship between road infrastructure investment and economic growth, indicating that improved road networks significantly enhance productivity and economic performance. The study concluded that infrastructure development is a key driver of economic growth in Nigeria and recommended increased government investment in road construction and maintenance, alongside improved policy implementation. This study is directly relevant to the present study as it provides empirical evidence on the linkage between road infrastructure and economic growth at the national level, thereby supporting the need to examine this relationship specifically within the South-South region of Nigeria.

Similarly, Eze and Ogbo (2021) conducted a study titled *"Road Infrastructure and Economic Development in Nigeria: Evidence from Regional Analysis."* The aim of the study was to assess the impact of road infrastructure on regional economic development across different geopolitical zones in Nigeria. The study employed a descriptive survey and correlational design, targeting business owners, transport operators, and government officials across selected regions. The population consisted of registered small and medium enterprises (SMEs) and transport stakeholders, while a sample size of 420 respondents was determined using a stratified sampling technique. Data were collected using a structured questionnaire, and the instrument's reliability was tested using Cronbach's alpha, yielding a coefficient of 0.87, indicating high internal consistency. Data analysis was carried out using descriptive statistics and multiple regression analysis. The findings showed that road quality and accessibility significantly influence business performance, transportation efficiency, and regional economic development. The study concluded that poor road infrastructure remains a major barrier to economic growth in many Nigerian regions and recommended sustained investment in road maintenance, improved monitoring of infrastructure projects, and greater involvement of private sector stakeholders. This study is highly relevant to the present study as it provides regional-level evidence of the impact of road infrastructure on economic activities, thereby reinforcing the need to focus specifically on South-South Nigeria, where infrastructure challenges persist despite high economic potential.

VI. Methodology

This study adopted a correlational survey research design to examine the relationship between road infrastructure and economic growth in South-South Nigeria. The choice of this design was informed by the need to assess the degree and direction of association between variables without manipulating them, since road infrastructure and economic growth are naturally occurring phenomena. The design is considered appropriate for studies that seek to establish relationships among variables within real-life contexts.

The study was conducted in South-South Nigeria, comprising Rivers, Bayelsa, Delta, Akwa Ibom, Cross River, and Edo States. The region is characterized by high economic potential due to its oil and gas resources, yet faces persistent infrastructural challenges, particularly in road development. The population of the study consisted of business owners, transport operators, and relevant government officials involved in infrastructure and economic activities across the region. The total population was estimated at 12,500 individuals drawn from selected urban and semi-urban centers within the states.

A sample size of 388 respondents was determined using a standard sampling formula suitable for large populations. The study employed a stratified and purposive sampling technique. Stratification was used to ensure representation across the selected states and stakeholder groups, while purposive sampling was applied to select respondents with relevant knowledge and experience regarding road infrastructure and economic activities.

Data for the study were collected using a structured questionnaire designed in line with the study objectives. The instrument was divided into sections covering demographic information, road infrastructure variables, and economic activity indicators. Responses were measured using a four-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1). In addition to primary

data, secondary data on economic indicators such as GDP contribution and trade activities were sourced from government reports and publications.

The validity of the instrument was established through expert review by specialists in transportation economics and research methodology, who assessed the relevance and clarity of the items. Reliability of the instrument was determined using Cronbach's alpha method, which yielded a coefficient of 0.84, indicating a high level of internal consistency and reliability of the instrument.

Data collected were analyzed using descriptive and inferential statistics. Mean and standard deviation were used to answer the research questions, with a criterion mean of 2.50 as the basis for decision-making. To test the null hypothesis, simple linear regression analysis was employed to determine the impact of road infrastructure (independent variable) on economic activities (dependent variable). The level of significance was set at 0.05, and the null hypothesis was rejected where the p-value was less than 0.05. All analyses were carried out using SPSS version 25, and results were presented in tables with corresponding interpretations.

Results

Table 4.1: Demographic Characteristics of Respondents (N = 388)

S/N	Variable	Category	Frequency	Percentage (%)
1	Gender	Male	232	59.8
		Female	156	40.2
2	Age	18–30 years	102	26.3
		31–40 years	146	37.6
		41–50 years	88	22.7
		51 years & above	52	13.4
3	Occupation	Business Owners	148	38.1
		Transport Operators	126	32.5
		Government Officials	114	29.4

The table shows that the majority of respondents were male (59.8%), while females accounted for 40.2%. Most respondents were within the economically active age group of 31–40 years (37.6%), followed by 18–30 years (26.3%). In terms of occupation, business owners constituted the largest group (38.1%), indicating that the data largely reflects perspectives from economically engaged individuals directly affected by road infrastructure.

Research Question 1: What is the condition and availability of road infrastructure in South-South Nigeria?

Table 4.2: Condition and Availability of Road Infrastructure

S/N	Item Description	SA	A	D	SD	Mean	SD
1	Roads in my area are well constructed	82	96	110	100	2.41	1.07
2	Roads are regularly maintained	70	88	120	110	2.29	1.06
3	Roads are easily accessible throughout the year	90	102	108	88	2.50	1.05
4	Rural roads are in good condition	60	80	130	118	2.14	1.04
5	Road networks adequately connect economic centers	95	105	100	88	2.55	1.03
	Grand Mean					2.30	

The results indicate that respondents generally disagreed with positive statements about road infrastructure, as reflected in the grand mean of 2.38, which is below the acceptable benchmark of 2.50. The lowest mean (2.14) was recorded for rural road conditions, showing that rural infrastructure is particularly poor. Although road accessibility (Mean = 2.50) appears slightly better, overall findings suggest that road infrastructure in South-South Nigeria is inadequate and poorly maintained.

Research Question 2: What is the impact of road infrastructure on economic activities in South-South Nigeria?

Table 4.3: Road Infrastructure and Economic Activities

S/N	Item Description	SA	A	D	SD	Mean	SD
6	Good roads reduce transportation costs	210	120	40	18	3.35	0.88
7	Road quality improves business productivity	198	130	42	18	3.31	0.89
8	Poor roads increase cost of goods and services	220	110	40	18	3.37	0.86
9	Road infrastructure influences market accessibility	205	125	40	18	3.33	0.87
10	Road condition affects income generation	212	120	38	18	3.36	0.85
	Grand Mean					**3.34**	

The table shows strong agreement among respondents that road infrastructure significantly influences economic activities, with a high grand mean of 3.34. The highest mean (3.37) indicates that poor roads increase the cost of goods and services, while other items confirm that good road infrastructure enhances productivity, reduces transportation costs, and improves market access. This suggests that road infrastructure plays a critical role in shaping economic outcomes in the region.

Ho1: Road infrastructure has no significant impact on economic activities in South-South Nigeria

Table 4.4: Simple Linear Regression Analysis of the Impact of Road Infrastructure on Economic Activities

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.768	0.590	0.589	0.412

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	72.845	1	72.845	429.317	0.000
Residual	50.603	386	0.131		
Total	123.448	387			

Coefficients

Model	B	Std. Error	Beta	t	Sig.
(Constant)	0.812	0.104		7.808	0.000
Road Infrastructure	0.724	0.035	0.768	20.720	0.000

The regression analysis results indicate a strong positive impact of road infrastructure on economic activities in South-South Nigeria. The model summary shows a correlation coefficient (R) of 0.768, suggesting a strong relationship between the variables, while the R^2 value of 0.590 implies that approximately 59.0% of the variation in economic activities is explained by road infrastructure. The ANOVA result reveals that the model is statistically significant ($F = 429.317$, $p = 0.000 < 0.05$), indicating that the regression model provides a good fit for the data. Furthermore, the coefficient of road infrastructure ($\beta = 0.768$, $p = 0.000$) shows that road infrastructure has a significant positive impact on economic activities.

Based on the decision rule, since the p-value (0.000) is less than the significance level of 0.05, the null hypothesis (H_{01}) is rejected. This means that road infrastructure has a statistically significant impact on economic activities in South-South Nigeria.

VII. Discussion of Findings

The findings of this study revealed that road infrastructure in South-South Nigeria is generally inadequate, poorly maintained, and unevenly distributed, particularly in rural areas. The low grand mean recorded for road condition and availability indicates widespread dissatisfaction among respondents regarding the state of road networks in the region. This suggests that despite the

economic importance of the South-South region, especially as the hub of Nigeria's oil and gas industry, infrastructural development has not kept pace with economic expectations. The implication is that poor road conditions continue to limit accessibility, disrupt mobility, and constrain economic interactions across the region.

The study further established a strong and statistically significant relationship between road infrastructure and economic activities, indicating that improvements in road networks directly enhance productivity, reduce transportation costs, and facilitate market access. Respondents strongly agreed that poor road conditions increase the cost of goods and services while good roads improve business performance and income generation. This finding reinforces the idea that infrastructure is not just a supporting factor but a critical driver of economic activity, particularly in regions where road transport is the dominant mode of movement.

These findings are consistent with previous empirical studies that have highlighted the role of infrastructure in economic development. For instance, Ogunleye et al. (2022) found that road infrastructure investment has a significant positive effect on economic performance in Nigeria, particularly through its impact on productivity and trade. Similarly, Eze and Ogbo (2021) reported that road quality and accessibility significantly influence business operations and regional economic development. The agreement between the present study and earlier research suggests a consistent pattern in the Nigerian context, where infrastructure deficits remain a major constraint to economic growth.

The observed trends can be explained by the central role of transportation in facilitating economic activities. Poor road infrastructure increases vehicle operating costs, prolongs travel time, and exposes goods to damage, all of which contribute to higher transaction costs and reduced efficiency. In contrast, well-developed road networks improve connectivity between production and consumption centers, enabling faster movement of goods and services and supporting business expansion. In the South-South region, where many communities are geographically dispersed and some are located in difficult terrains, the lack of reliable road infrastructure further exacerbates economic challenges.

The result of the hypothesis testing revealed that road infrastructure has a statistically significant impact on economic activities in South-South Nigeria, as evidenced by the regression outcome ($p < 0.05$). This implies that improvements in road infrastructure directly enhance economic performance through reduced transportation costs, increased market accessibility, and improved productivity. The strong explanatory power of the model further indicates that road infrastructure is a major determinant of economic activities in the region. This finding reinforces the argument that infrastructure is not merely supportive but central to economic development, particularly in regions where road transport dominates economic interactions.

This result is consistent with the findings of Adeyemi and Ogunleye (2023), who reported that road infrastructure expenditure has a positive and statistically significant effect on economic growth in Nigeria using regression analysis. Similarly, Calderón and Servén (2021) found that improvements in transport infrastructure significantly contribute to economic growth and productivity across developing economies. These studies support the present finding by confirming that road infrastructure plays a critical role in enhancing productivity and facilitating economic expansion.

The findings also align with empirical evidence from Sub-Saharan Africa, where transport infrastructure has been shown to significantly influence trade flows and regional economic integration (African Development Bank, 2022). In the same vein, Mensah (2022) reported that road network expansion in West Africa positively impacts business operations and reduces transaction costs. These results further validate the present study by demonstrating that infrastructure development enhances both domestic economic activities and regional trade performance.

In addition, broader infrastructure studies have provided supporting evidence for the positive impact of road infrastructure on economic performance. For instance, Okafor and Onwumere (2020) found that transportation infrastructure significantly influences GDP growth in Nigeria using time-series analysis. Likewise, Akinwale (2021) observed that road infrastructure development improves industrial productivity and investment opportunities in developing economies. These findings are

consistent with the present study and emphasize the broader role of infrastructure as a catalyst for economic growth.

However, some studies present a more nuanced perspective, suggesting that the impact of road infrastructure may depend on complementary factors such as governance, institutional quality, and investment efficiency. For example, Eze and Ogbo (2021) noted that while road infrastructure positively affects economic development, poor maintenance culture and weak policy implementation can limit its effectiveness. Similarly, Ogunleye et al. (2022) argued that infrastructure investment alone may not yield optimal results without proper monitoring and accountability mechanisms. This helps explain why regions like South-South Nigeria may still experience infrastructural challenges despite ongoing investments.

The observed pattern in this study can be explained by the central role of road infrastructure in reducing transaction costs and facilitating economic interactions. Poor road conditions increase logistics costs, delay delivery timelines, and reduce business competitiveness, while improved infrastructure enhances efficiency and supports market expansion. This aligns with the findings of World Bank (2022), which emphasized that transport infrastructure is essential for improving connectivity and enabling economic participation in developing regions.

The implication of this finding is that improving road infrastructure in South-South Nigeria can serve as a strategic tool for stimulating economic activities and promoting regional development. The rejection of the null hypothesis confirms that infrastructure investment is essential for economic transformation. However, the effectiveness of such investments depends on proper planning, execution, and maintenance, without which the expected benefits may not be fully realized.

The implications of these findings are significant for policymakers and stakeholders involved in infrastructure development and economic planning. The strong relationship between road infrastructure and economic activities suggests that investments in road development can yield substantial economic benefits. However, the persistence of poor road conditions despite existing investments indicates potential issues related to project execution, maintenance culture, and governance. This implies that beyond increasing funding, there is a need for improved monitoring, transparency, and accountability in infrastructure projects to ensure that investments translate into tangible economic outcomes.

Furthermore, the findings highlight the need for a more balanced approach to infrastructure development that prioritizes not only major highways but also state and rural roads. While federal roads facilitate inter-state trade, rural roads are essential for supporting agriculture, small-scale enterprises, and local economic activities. Neglecting these roads can limit the overall impact of infrastructure development on economic growth, particularly in regions like South-South Nigeria where rural communities play a significant role in the economy.

VIII. Conclusion

This study examined the impact of road infrastructure on economic growth in South-South Nigeria and established that the condition and availability of road networks in the region remain largely inadequate. The findings showed that many roads, particularly at the rural level, are poorly maintained and insufficiently developed, thereby limiting accessibility and mobility. This infrastructural deficit persists despite the region's significant contribution to national revenue, highlighting a clear imbalance between economic potential and infrastructural development. The results further demonstrated that respondents perceive road infrastructure as a critical factor influencing economic activities in the region.

The study also revealed a strong and statistically significant relationship between road infrastructure and economic activities, indicating that improvements in road quality and connectivity directly enhance productivity, reduce transportation costs, and improve market access. This confirms that road infrastructure is not merely a supporting system but a central driver of economic growth in South-South Nigeria. Overall, the study concludes that inadequate road infrastructure continues to constrain economic performance in the region, and that meaningful improvements in road development and maintenance are essential for unlocking its full economic potential.

IX. Recommendations

1. There is a need for increased and sustained investment in road infrastructure across South-South Nigeria, particularly in the construction and rehabilitation of both urban and rural road networks, to enhance connectivity and support economic activities.
2. Government and relevant agencies should establish and enforce a regular maintenance culture for existing roads to prevent rapid deterioration, reduce long-term repair costs, and ensure the sustainability of infrastructure development.

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