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Mitigating Traffic Gridlock in Apapa and its Effects on Nigeria's Economy

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ABSTRACT

This study evaluated the effect of Apapa Gridlock on the economy of Nigeria. It explored the importance of Transport Infrastructure Projects (TIPs) in the economic development of Lagos and the country at large. Empirical research was adopted to evaluate Transport Infrastructure Projects' effects on societal transformations and economic growth of the nation's economy. Data was collected using a structured questionnaire. The gathered dataset was analyzed using the Google Scholar Statistical tool and the results presented in simple graphs. The summary of the findings shows that 94% of the respondents had experienced Apapa Gridlock. 100% of the respondents agreed that it affects Lagos economy in general. While 55% posited Apapa Gridlock contributed to Lagos traffic. 76% of the respondents agreed that previous attempts did not record meaningful success on reducing Lagos traffic. The result of the T-test was lesser than 0.05, therefore, the null hypothesis was rejected and the research upholds that there is a positive relationship between Nigeria economy and Apapa Gridlock; because Apapa traffic slows down economic activities in Lagos which is the capital base of the country. The work concluded that reforms are critical to solving Apapa Gridlock and recommended the use of a comprehensive multi-tier PPP solution.

Keywords: Gridlock, Economy, Infrastructure, Mitigation, Project

INTRODUCTION

Apapa Port is Nigeria's biggest port according to [1]. It has six (6) berths alongside 10.5 meters and a total quay length of 950 meters, with 6.4 thousand square meters of covered storage. The container yard has a capacity of 19.5 thousand TEUs, and it contains 298 reefer plugs. As at 2011, Tin Can Island Port handles over 28,000 metric tonnes, with a daily average of 4,000 metric tonnes, Vessel calls of 465 and Container traffic of 555,564. With all these activities, there are limited narrow roads to outflow the goods, with no rail or waterways alternative routes for moving items to the hinterlands. The Nigerian Port Authority (NPA) is the statutory agency responsible for managing Nigerian ports. Some parts of Apapa Port assets or operations are leased or in concession arrangements with private entities under PPP arrangements. [2] argued that the gridlock has crippled commercial and private activities in Lagos, and has led to the breakdown of law and order in the axis. The task force set up by the Federal and Lagos State governments to restore sanity had seemingly abandoned the road. There are shreds of evidence to suggest that the various government efforts to restore normalcy have failed. For instance, on Sunday 11, August 2018, the gridlock was caused by a long queue of trucks extending from Mile 2 to Ijesa along Oshodi-Apapa Expressway; a distance of about 14.2km, which usually takes about 37 minutes (drive time). Trucks parked on the road for days,

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thereby locking up the entire Lagos City with an estimated population of 23.42 million persons (2018 projection figure). The current situation has ripple effects on the nation's economy. Omotosho stated that the estimated loss to the national economy is \$500m [3]. The Blue Rain Project remains uncompleted, notwithstanding the cost sunk on it thus far. From the above scenarios, commuting in Lagos is highly complicated and stressful. The cost of transportation goods and services from the port to other parts of the country has increased. This study examines the problem and covers areas which other researchers have not deeply attended to, with a view to contributing to enhancing a sustainable solution to Apapa Gridlock and minimising its negative effects on the nation's economy. [4] opines that lack of investment in transportation infrastructure in the form of road networks has hindered economic development in Lagos. It must be understood that transport facilitates economic activities in any nation. [5], further stated that a loss of profit of N27 billion annually due to a lack of functional roads. The effects of Apapa Gridlock have far reached impacts on Lagos Economy as evident from Plate 1.1 below where a typical traffic caused by Apapa gridlock paralyzed traffic movement for hours slowing down economic hours and affecting productivity. [5] noted that Apapa Gridlock has constituted a considerable bottleneck to businesses. Projected contribution to the government in 2018. Private sector and government suffer huge lost due to poor transport menace from grill lock in Lagos. Based on the above losses and others to the economy, this work intends to evaluate the effect of Apapa gridlock on Nigeria economy.

Statement of the Problem

Nigeria loses on daily basis due to unchecked Apapa Gridlock as noted by [6], There is over 360% hike in haulage cost; for instance, a 40-foot container now cost N600,000 from N190,000 (a distance of 89km) from Apapa APM to Ibafo, which has led to increase in the price of goods and services as asserted by [5]. Several efforts had been taken by the state government such as setting up traffic management and enforcement team comprising the Police, the Federal Road Safety Corps, FRSC; Lagos State Transport Management Agency, LASTMA; the Nigerian Navy; the Nigerian Security and Civil Defence Corps, NSCDC, and NPA security officials. Soldiers of the Nigerian Army were co-opted into the traffic enforcement team. Unfortunately, the relief that motorists felt on account of interventions by these agencies, was short-lived as the roads and bridges were later re-invaded and seized by these tankers and trucks. Goods that ought to have been distributed to other parts of the country gets stocked in Lagos and therefore affect negatively the cost of those materials and delay in arrival and final point. This paper succeeded in identifying factors responsible for gridlock in Apapa and mitigating measures to solve the observed problems.

REVIEW OF RELATED LITERATURE

Transportation entails the movement of goods, services, passengers and labour from one location to another. To attain optimal growth, infrastructure investment in this sector is required. Transport provides the basis for all other forms of activities (mobility). [7], explored China's investments in Africa and concede to a term that modern societal growth is premised on the provision of functional and sustainable movement of persons, goods, services and labour. Financing costs and structures are essential for meeting these objectives. Some road projects are megaprojects, with long-term impacts on societies.

Transport plays a critical role in nation-building. [8], opined Nigeria has invested in transport networks but remains to be seen the impacts on Apapa Transport Network. [9], posited that in the report of Lagos Chamber of Commerce and Industry (LCCI) infrastructure plays a critical role in promoting economic growth, improving the standard of living, poverty reduction and competitiveness: The World Economic Forum (WEF) had in its 2017-18 competitive index report ranked Nigeria's infrastructure low (131 out of 138). Authored explored the linearity between transport government allocations and Apapa Gridlock. Transport infrastructures have contributed to the development of many societies as opined by the World Health Organization [10]. Unarguably, there are concerns that Apapa Gridlock has serious impacts on Nigeria economy, at least theoretically by many industry experts.

The Theories

Many theories underpinned the study of transportation. In mathematics and economics, transport theory is a name given to the study of optimal transportation and allocation of resources as posited in the works of Gaspard Monge in 1781. From [11], transport theory is the tendency to travel physically or mentally; which involves a strong sense of absorption into a narrative, including emotional and cognitive responses to content that mirrors reactions to real-world events. [12] argued that transportation is a spatial and physical form of communication based on his review of Cooley's works. Cooley developed an interactionist theory of valuation and articulates that value as an end of action is shaped and transformed by communication and interaction. The degree of economic transformation depends on how efficient the transportations sector. Nations invest in transport infrastructures because of their collateral functional benefits [13, 14].

Empirical

Factors responsible for Apapa gridlock as identified in the literature and observations include (a) bad roads as a result of usage of inferior and substandard materials, poor design, lack of adequate supervision and awarding contracts to quacks (b) poor maintenance culture (c) population explosion (d) Inadequate planning (e) systematic failure and lack of implementation framework (f) human errors (g) expansion of industries on the Apapa axis; (h) poor driving habits (i) Over-concentration on the use of Apapa Port (j) lack of effective collaboration among government agencies and (k) poor policing



Plate 1: Apapa Wharf

Lagos population has geometrically increased from 1.1 million in 1967 to 23.42 million in 2018; an increase of 22.32 million persons from 1.1 million is a huge cause. The implication is that Lagos population has grown 21 times occupying the same seemingly size of land as it was in 1967. Lack of adequate planning and corresponding infrastructure capacity to cater for this explosion, has significantly contributed to the gridlock. Below is the city of Lagos in plate 2.2



Plate 2: Lagos City

The expansion of industries in Apapa Port area without corresponding adequate infrastructure; bad driving habits; infrastructure breakdown; over concentration on the use of Apapa Port; lack of collaboration among government agencies; and lack of linearity between the input and output process in Apapa Port contributed to Apapa Gridlock. The challenges will be reduced with the implementation of a research-based multi-tier solution through legal reforms of Ports Management in Nigeria and the use of PPPs to crowd in private investments. [15] stated that application of public, private partnership (PPP) is the panacea for infrastructural development and maintenance in most states of Nigeria. Some initiatives used in the past include Private-Public-Partnership schemes, direct government interventions and the creation of dry ports in Lagos State. Governments have used PPP schemes such as Built, Operate & Transfer (BOT) and Leasing, Concession to execute Apapa Port projects, which have not yielded the expected results. [16] argued that transport infrastructures are needed to enhance economic activities. Data obtained from the National Population Commission and the National Bureau of Statistics confirmed a population explosion exists in Lagos. [1] argued that Apapa Port is the largest port in Nigeria. It is of modest to refer to Apapa port as the only functioning port in Nigeria. Apapa Gridlock has increased the cost of delivery goods posited [17, 18]. The empirical review revealed that previous interventions have recorded marginal successes in resolving Apapa Gridlock challenges.

The economic impacts of Apapa Gridlock on Nigeria include high cost of imported goods, delayed delivery of goods and low productivity as a result of man hour lost as revealed through reviews of literatures. According to [19], an adequate supply of transport infrastructure services has long been viewed by both academics and policymakers as a key ingredient for economic development. Sub-Saharan Africa ranks consistently at the bottom of all developing regions in terms of transport infrastructure

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performance, and an increasing number of observers point to deficient infrastructure as a restrictive obstacle to growth and poverty reduction across the region. There are pieces of evidence to suggest that previous initiatives at solving Apapa Girdlock have not achieved the desired goals. [20] opines that though investments in infrastructure have increased over the past 15 years in Africa, the infrastructure deficit remains largely widespread. This is consistent with Apapa Infrastructure deficit. [21] examined the short and long terms economic impacts of TIPs investment. The dataset showed that the biggest boost in Gross Domestic Product (GDP) and jobs comes from financing new investments in transport infrastructures. The provision of a functional transport system remains one of the cardinal objectives of governments. Lagos State government undertook various transport developmental projects to resolve the chaotic traffics experienced by commuters daily along Apapa axis such as the Blue Rain Project. Transport systems enhance economic growth and reduce crimes. Over a ten (10) period: 2008– 2018; the budgetary allocations to security at the Federal Government level are estimated at ₦6Trillion, [22].

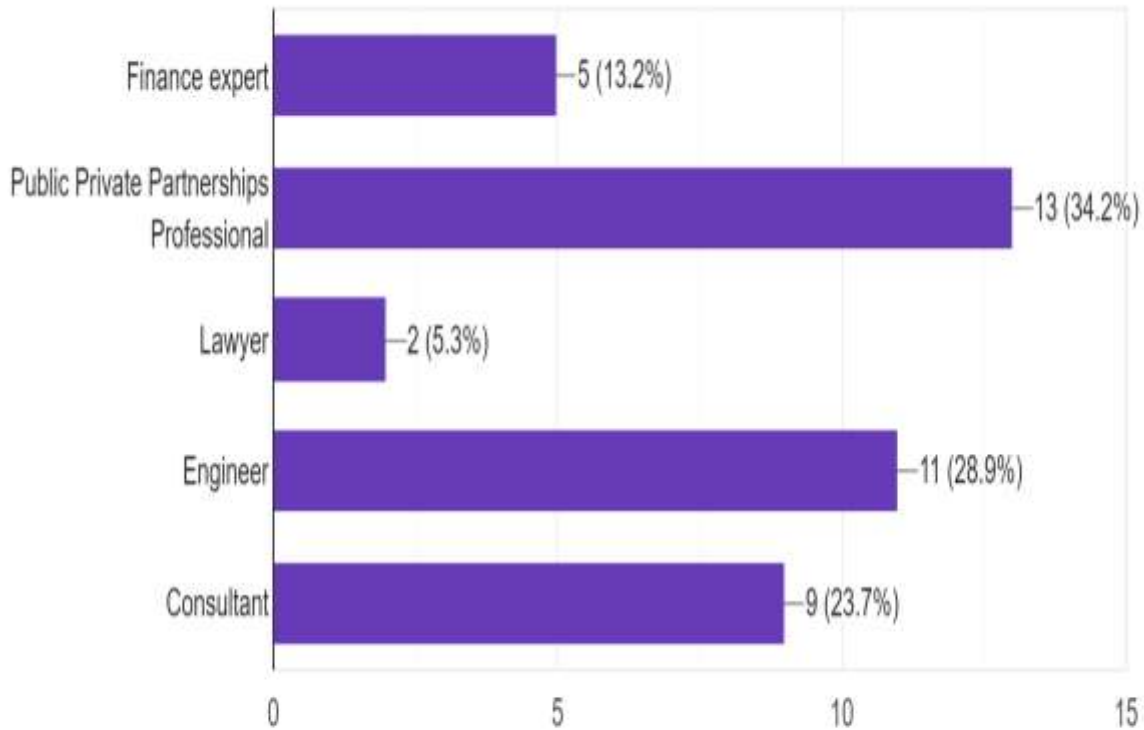
RESEARCH METHODOLOGY

Qualitative research design was used for this paper while the data was sourced through administration of a well-structured questionnaire for the target audience administered through Online Google Scholar Tool [23, 24]. The population of the study consists of a total number of 154 respondents such as the academia, finance experts, PPP Experts, Engineers formed the population for this study. The study employed the use of Purposive Sampling Technique in the selection of defined respondents, who have certain characteristics or criteria in the research element related to the research topic. The questions were validated by two other experts in the field of study. The language, content and structure of the items were critically examined and corrected. The reliability of the study was determined using the split-half method. The instrument was administered to the same group of respondents systematically. To ascertain the reliability coefficient of the instrument, the researcher used Kuder Richardson's formula 20. A reliability coefficient of $r = 0.71$ was obtained. The two hypotheses formulated in this study were analyzed using Chi Square (X^2) Statistical tool which is considered the most reliable and scientific in nature and especially in analyzing frequencies.

DATA ANALYSIS AND PRESENTATION

The data obtained from this study were presented using cross tabulation, simple percentage (%), pie charts and bar charts. The sum of the subjects on the items measured laid emphasis on those questions which have a close relationship with the research objectives. The analysis was performed using Google Statistical tools and SPSS. The questionnaire which was a means of data collection for this study was administered to 154 respondents using Online Google Scholar Survey Tool. The author did not receive responses from all participants. The administration of the questionnaire was carried out within six (6) weeks.

Fig 1: Chart on Respondents



Education Analysis

Out of 38 respondents, 34.5% had first degrees, 50% had Master degree, 13.2% had professional qualifications and 2.3% had PhD

Years of Experience

39 responses

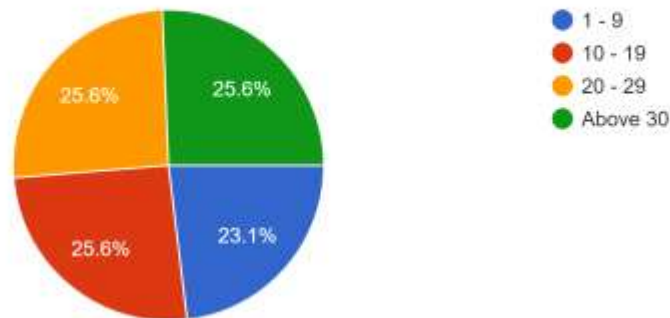


Fig 2: Response to familiarity with Apapa Gridlock

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55.3% of 38 respondents agreed they are familiar with Apapa Gridlock, 18.4% work in Apapa area, 21.1% visit Apapa regularly, while 5.2% are importers & exporters.

Effect of gridlock on respondents

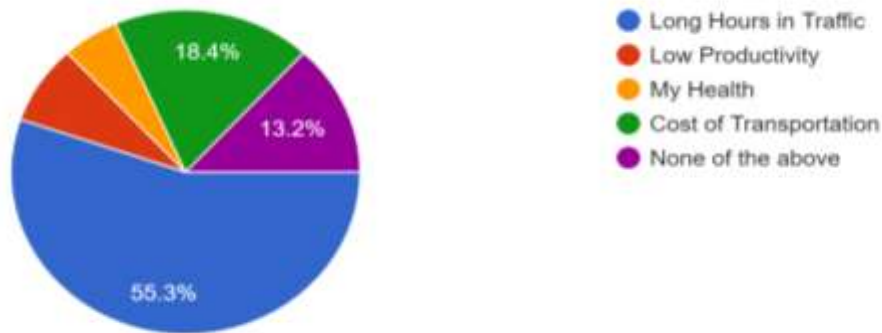


Fig 3: Effects of gridlock on respondents

55% agreed that Apapa Gridlock cause long hours in traffic, 18.4% opined that it increased transportation cost, 13.2% agreed it has no relationship with them and others agreed that it affect productivity and workers health.

Role Played as TIPS Professional

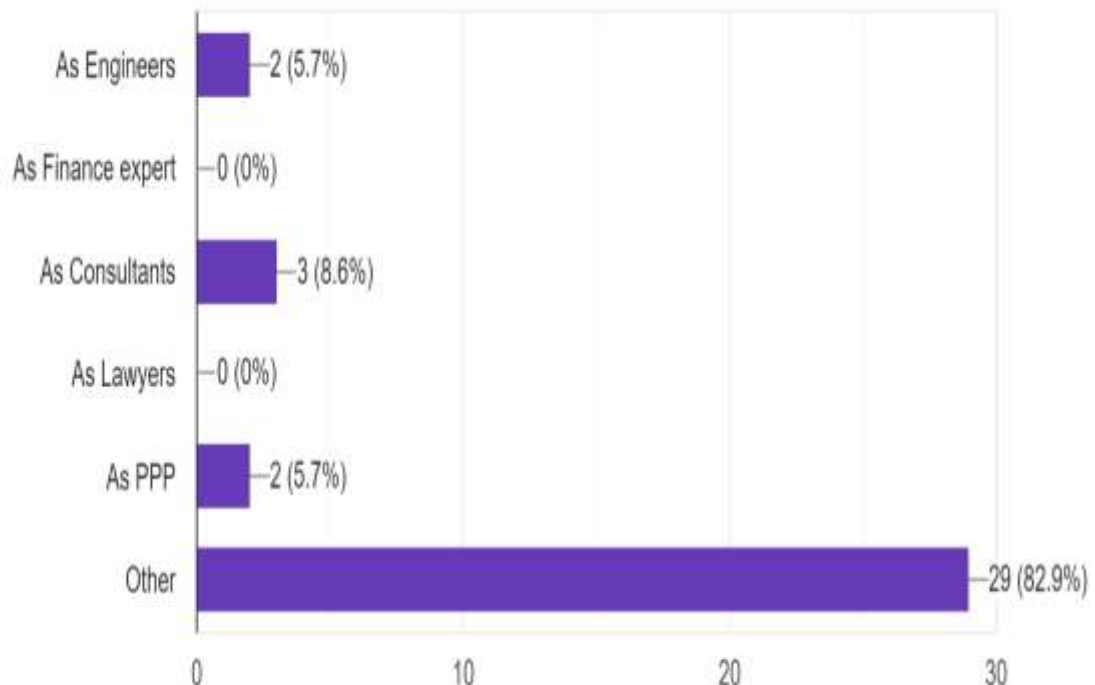


Fig 4: Roles played as TIPS professionals

**Test of Hypothesis
Hypothesis One**

H₀; There are no significant factors causing gridlock in Apapa

Table 1: One-Sample Test

Test Value = 0						
Null Hypothesis	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
There are no significant factors causing gridlock in Apapa	0.042	2	.012	0.03301	0.023	0.202

Source: SPSS Computation 2023

From the test of hypothesis above using one sample test t-statistics, based on the decision rule, accept null hypothesis if the value of the t-statistics is greater than 0.05, from the result; the value of the t-statistics (0.042) is less than 0.05 hence we reject the null hypothesis and conclude that there are significant factors causing gridlock in Apapa.

Hypothesis Two

In testing this formulated hypothesis in research question two, the author used data collected and presented.

H₀: There is no relationship between Apapa Gridlock and Nigeria economy.

Table 2: One-Sample Test

Test Value = 0						
Null Hypothesis	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
There is no relationship between Apapa Gridlock and Nigeria economy	0.045	2	.011	0.04300	0.031	0.312

Source: SPSS Computation 2023

From the test of hypothesis above using one sample test t-statistics, based on the decision rule, accept null hypothesis if the value of the t-statistics is greater than 0.05, from the result; the value of the t-statistics (0.045) is less than 0.05 hence we reject the null hypothesis and conclude that there is a relationship between Apapa Gridlock and Nigeria economy

DISCUSSION OF FINDINGS

From the above findings, 55.3% of 38 respondents agreed they are familiar with Apapa Gridlock, 18.4% work in Apapa area, 21.1% visit Apapa regularly, while 5.2% are importers & exporters. It further revealed that 55% agreed that Apapa Gridlock cause long hours in traffic, 18.4% opined that it increased transportation cost, 13.2% agreed it has no relationship with them and others agreed that it affect productivity and workers' health. The value of t-test is lesser than 0.05, therefore, the null hypothesis was rejected which concludes that there are significant factors causing gridlock in Apapa such as bad road, poor driving, overpopulation also that there is a relationship between Apapa Gridlock and Nigeria economy.

SUMMARY, CONCLUSION AND RECOMMENDATION

The summary of the findings revealed that 100% of the respondents agreed that Apapa Gridlock affects Lagos economy. The respondents identified causes of gridlock ranging from poor road network, corruption, population and so on. It was concluded that there is a linear relationship between Nigeria's economy and Apapa Gridlock, as it affects productivity and increases transportation costs.it delays supplies and causes accidents on the roads due to fatigue and so on. Furthermore, previous attempts recorded marginal success, as the problems persist after many years of intervention, instead of abetting.

The research thus recommends that reforms are critical to solving Apapa Gridlock be carried out. More ports should be opened along core water ports in Nigeria such as in Portharcourt, Onitsha and Bayelsa. The research further recommends the use of a comprehensive multi-tier PPP solution. This work provides further insight into this field of knowledge by systematically evaluating Apapa Gridlock effects on Nigeria economy. The researcher has contributed effectively to mitigating economic risk through effective solving Apapa gridlock and also to the field of knowledge in transportation study.

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