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A REVIEW OF NIGERIA'S NATIONAL TRANSPORT POLICY: THE INDISPENSABLE ROLE OF TECHNOLOGY AND INNOVATION (TI)

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Abstract

This paper reviews and discusses the Nigerian Transport System and the emergence of the Nigerian National Transport Policy (NTP). It highlights the National Transport Policy and its adequacy or otherwise in the globalizing world. It concluded that the National Transport Policy is not enough without Technology and Innovation. It pointed out some important issues such as Technology and Innovation that could create advancement in the Nigerian transport sector but which was not included in the NTP, and explores the overall impact of technology on society. It suggests why it is necessary to include Technology and Innovation as a unit in the Nigerian National Transport Policy.

Keywords

Transport, Policy, Technology, Innovation, National, Nigeria

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INTRODUCTION

Transport is an indispensable component that contributes immensely to the growth and development of a nation. An effective transport system allows market operation by permitting free movement of goods and services; encourages the development of a nation and improves the quality of life for all; offers access to health, employment, services and education; enables social connection and communication and promotes national integration; encourages access to markets and creates linkage between local, regional, national and international markets; and stimulates economic development by increasing access to labour and physical resources therefore enabling the realisation/actualisation of the country's goals and objectives.

There are five different modes of transport (Road, Rail, water, Air and pipeline) with precise features and merits. The general productivity and effectiveness of the Transport system depends on the development of these five major modes and their integration.

Road transport connects one place to another on the surface of the land while Air transport is used for the carriage of goods and passengers through airways by using different aircrafts like cargo aircraft, passenger aircraft, helicopters, etc. It is the fastest mode of transport. Water transport is the movement of goods and passengers on waterways using various means like ships, boats, launches, steamers, etc. Rail transport is the movement of goods and passengers on rail lines through trains. It plays a major role in the land transport system of any country and it is the most reliable mode of transport to carry goods and passengers over a long distance. Pipelines transport is used for several purposes like; water supply to residential and commercial areas; movement of petroleum and natural gas from one place to another with the help of pipelines. This is the most suitable and economical mode of transport for petroleum and natural gas compared to road and rail transport.

TRANSPORT SYSTEM IN NIGERIA

Transportation provides access to work, education, goods and services and other social activities. It also helps to reduce environmental, social and economic effects and assist to certain extent in the management of traffic congestion (Litman, 1998). Generally, the transport industry is regarded as an engine of development, owing to its crucial role of linking all the segments of the economy into one main stream. Transportation is useful in the movement of people, goods and services, and provides time and place utilities for all factors of production within the economy (Paul and Wilfred, 2011).

The transport industry has made significant contribution towards the growth of Nigeria's economy. For instance, between 1999 and 2005, the industry has employed a total of 1,318,688 people, which is about 4.64% of the 28,421,008 workers engaged in all sectors of the economy (National Bureau of Statistics (NBS), 2006). During the same period, the transport sub-sector recorded growth in employment at a rate of 8.2% on average, which was higher than 3.76 % achieved by all sectors in the Nigerian economy (NBS, 2006). Furthermore, economic analysis also showed that Nigeria's Gross Domestic Product (GDP) at 1990 constant basic prices rose from N477, 532.99 million naira in 2003 to N634, 251.10 million naira in 2007 and showed an annual increase of 6.56 % (Central Bank of Nigeria (CBN), 2007 and NBS, 2008). Similarly, the transport industry contributed to the increase by accounting for 2.68% of the GDP, on average during the same period. The sector also rose from N13214.08 million in 2003 to N17017.72 million in 2007, which is an average annual increase of 5.76% (CBN, 2007; NBS, 2008). These analysis shows that the transport sector plays an important role in the socio-economic development of Nigeria. (Paul and Wilfred 2011).

For instance, between 1990 and 1994 the transport and allied sub-sector accounted for 3.00% of the total approved budget (N1112 million naira) on average (World Bank, 1996). Oni and Okanlawon (n.d) noted that the Federal Government of Nigeria allocated huge investment in transport sectorial allocation between 1990 and 1999 rolling plan period. During the period, the Federal Government sectorial allocation to transport grew from N22, 100,000 million naira in 1990-1992 plan periods to N52, 310, 162 million naira in 1997-1999 plan periods (Oni and Okanlawon, (n.d). In spite of the Federal Government of Nigeria huge expenditure on transport sub-sector, the transport infrastructural facilities have been deteriorating on daily basis and this has impacted negatively on service delivery. For example, the road conditions and fleets, rail services, air services and river transport are all declining (World Bank, 1996). The deterioration of the facilities has resulted to inefficient transport system, which has caused great havoc to the economy (Paul and Wilfred 2011).

THE EMERGNCE OF NATIONAL TRANSPORT POLICY IN NIGERIA

The first explicit National Transport Policy was introduced in 1993 and was reviewed in 2010. The introduction to the National Transport Policy document of 1993 states that: "At present, the Nigerian transport system functions in a crisis situation", and one of the principal causes, it identified was "a major imbalance between the needs of Nigerian society and economy for adequate transport facilities and the ability of the transport sector to meet such demands".

This statement remains feasible till today because between 1993 and 2010, no policy review has been done. As a result of this, there has been an imbalance in the demand and supply for overall transport capacity and the growth of the different modes of transport as a matter of fact has increased over the period since 1993. Though during these years, efforts were made to maintain and improve the function of the Nigerian transport system but the overall demand for Transport Services in Nigeria has far surpassed the supply.

The Nigerian Transport System till present is still in a very challenging and demanding situation that needs urgent solutions. There is need for change and improvement in the Nigerian Transport system. These pressing issues led to the emergency of a new National Transport Policy in 2010 which strives to attain maximum realism both in the identification of the problems and possible strategies to remedy them. In addition, high-level policies of Government in particular, for instance, the New Vision 20:2020, Economic Transformation Blueprint, 7-Point Agenda, National Empowerment Development Strategy (NEEDS), Public Private Partnership (PPP) and international commitments such as the Millennium Development Goals (MDGs) all require a functional, reliable and effective Transport System to, among other things, connect people, places, services, opportunities, etc together. The new National Transport Policy (2010) provides the guidelines for the planning, development, co-ordination, management, supervision and regulation of the Transport Sector. The contents of the document also:

- Explains government's decisions and actions in the sector by clearly stating the goals and principles that guide it;
- Identifies existing gaps and short-comings and how to address them;
- Shows how actions in the different modes are linked in pursuit of common goals;
- Provides the basis for a system of monitoring and accountability; and
- Ensures consistency in the application of policy principles across all modes and in pursuit of different objectives. (Source: NTP, 2010)

HIGHLIGHTS OF THE NATIONAL TRANSPORT POLICY

a. General Goal of the National Transport Policy

The major goal of the Nigerian National Transport Policy is to develop an adequate, safe, environmentally sound, efficient and affordable, preferred integrated transport system within the framework of a progressive and competitive market economy.

b. General Objectives of the National Transport Policy

With the existing condition of the Nigerian transport sector, The Government's policy objectives for the sector are:

1. To promote economic development, expand trade, and improve Nigeria's competitiveness through an efficient and affordable integrated transport system;
2. To promote the use of public transport over private transport;
3. To promote a culture of maintenance and continuous upgrading of transport infrastructure and services;
4. To promote competition and efficiency and continuous reduction in cost of transport services in Nigeria;

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5. To improve the safety, security, reliability, quality, and speed of movement of goods and people, at local, national, and international levels;
6. To develop transport infrastructure that ensures environmental sustainability and internationally accepted standards;
7. To support States and the Federal Capital Territory in the development and promotion of urban transport systems and local governments in developing and promoting rural accessibility; and
8. To encourage and remove all barriers towards private sector participation in the development, provision, maintenance, operation, and upgrading of transport infrastructure and services. (Source: NTP 2010).

Other Major Areas in the National Transport Policy Include;

a. Public Private Partnership (PPP) In Transport Sector Projects

For the private sector to play an important role in providing some new investments, The Federal Government has adopted a Policy framework which is the Public Private Partnerships (PPPs). In line with the Government's commitment to transparency and accountability, the legal and institutional framework provided for PPP is to ensure that the transfer of responsibility to the private sector follows best international practices and is achieved through open competition.

Policy Objectives

1. To accelerate investment in new Transport Infrastructure and ensure that existing infrastructure is upgraded to a satisfactory standard that meets the needs and aspirations of the public;
2. To ensure that all investment projects provide value for money and that the costs to Government are affordable;
3. To improve the availability, quality, and efficiency of Transport Services in order to increase economic growth, productivity, competitiveness, and access to markets;
4. To increase the capacity and diversity of the private sector by providing opportunities for Nigerian and international investors and contractors in the provision of Transport infrastructure, encouraging efficiency, innovation, and flexibility;
5. To ensure that Transport infrastructure projects are planned, prioritised, and managed to maximise economic returns and are delivered in a timely, efficient, and cost effective manner;
6. To manage the fiscal risks created under PPP contracts within the Government's overall financial and budgetary framework; and to utilise Federal, States, and Local Governments assets efficiently for the benefit of all users of public services;
7. To ensure balanced regional development; to increase access to quality public Transport services for all members of society;
8. To ensure that user charges for new or improved public transport services are affordable and provide value for money;
9. To respect the employment rights and opportunities of existing employees and to ensure that any redundancy or other social safety net issues are resolved before final project approval;
10. To enhance the health, safety, and wellbeing of the public; and to encourage the direct or

indirect participation of small and medium sized enterprises in PPP projects;

11. To protect and enhance the natural environment; and to minimise greenhouse gas emissions and other pollutants.

a. Water Transportation

In Nigeria as elsewhere in the world, Ports play a strategic role in the economy of a country. Basically, all imports and exports move through the Sea Ports. Therefore, the efficiency or inefficiency of the Ports affects greatly the costs of imports and the competitiveness of exports.

Policy Objectives

1. Complete the legislative framework by passing into law adequate legislations that will establish the Regulatory framework for the Ports and stimulate inter-port competition;
2. Restructure NPA to adequately promote Port Development and make it suitable to perform its role as a landlord;
3. Rationalize the activities and streamline the processes of Government Agencies operating within the ports;
4. Address the problem of congestion by rehabilitating the road and rail links within the Ports and to Inland Container Depots; and Establish plans for the long term development of Nigeria's Port System.

b. Land Transportation

Land Transport involves movement of people and goods on land, from one location to another. It is the dominant form of transportation in the World and includes Rail, Road and Pipeline. In the National Transport Policy, Land Transportation includes; Rail, Road, Rural accessibility, Urban Transportation and Pipeline.

Policy Goals and Objectives for Rail Transport

1. To transform the system from its present condition to an efficient, flexible and competitive mode.
2. Government is determined to reverse the decline of the Nigerian Railways System, to enable it play its full part in the country's Transport System.
3. Rehabilitate existing Railway infrastructure; concession the existing Rail lines; Moderate and Expand the network to link all Sea Ports, International Airports, Major Economic and Industrial Centres etc.

Policy Goals and Objectives for Road Transportation

1. To achieve adequate and efficient maintenance of existing road network and axle load control;
2. Promotion of Private Sector Investments in the upgrade and maintenance of roads through PPP.
3. New sources of revenue to close the resource gap; Measure efficient road maintenance and rehabilitation; and protect the roads from premature deterioration.

c. Pipeline Transport

Pipeline transport as a mode of overland transport has been in existence since 1955 following the discovery and exploitation of petroleum in Nigeria. The initial lines were limited to

the oil producing regions of the Southern Nigeria and were owned by the oil exploring companies. The increasing demand for fuel in the Northern Nigeria and the need to ensure safe transportation of these hazardous products over long distances led to the construction of pipelines. Today, the country has a total of over 4,000 km of pipelines owned by both the public and the private sectors. The pipeline has become a very important mode of transporting petroleum products from refineries to NNPC pump stations and depots across Nigeria. (Source: NTP 2010)

Policy Objectives:

1. To provide an adequate and safe pipeline transport for the movement of petroleum products and other liquids as a complementary mode to the road and rail transport systems.

d. Air Transport

Air transport is an important component of Nigeria's Transport System. From a functional perspective, it provides complementary services to other modes; for passengers and freight; on both domestic and international routes. The Air Transport sub-sector comprises Airports and Air Transport Services. The significance of this mode derives from its ability to satisfy human needs by making goods and people available not only where they are needed but also when they are needed. Of all the different modes of transport, air transport performs the "place and time utility" functions best.

Policy Goals and Objectives

1. To create an enabling environment for the private provision of air transport services and to ensure air transport safety in line with global best practices and ICAO (industry) standards.
2. To provide safe, efficient reliable, dynamic, customer-focused and market-driven air transport services which would make the country a leading hub in Africa and major actor in global aviation, and at the same time make significant contribution to Nigeria's Gross Domestic Product (GDP).

Generally, the National Transport Policy also talked about the Policy Regulatory Framework, Integrated and Intermodal Coordination, Intermodal Transport, and other cross-cutting issues in transport like; safety in all the modes of transport, handling and storage of dangerous goods, Energy and Environment and the policy implementation frame work. (Source: NTP 2010)

THE ADEQUACY OR OTHERWISE OF THE NIGERIAN NATIONAL TRANSPORT POLICY FOR EFFECTIVE TRANSPORT SYSTEM IN NIGERIA

The National Transport Policy of Nigeria highlighted in section 4 of this paper was formulated to meet the needs of the Nigerian transport sector and contribute to the economic growth and development of the country at large. However, after a critical assessment it was observed that the policy did not define the systematic ways in which stated objectives are to be achieved. Also, the following issues were not clearly stated in the policy document: Technology and Innovation (TI) and its capabilities. It is vital that these issues be included in the policy. Brief explanations on the two are presented below to justify the need for their inclusion in the National Transport Policy.

Technology refers to the application of knowledge to produce tools and machines that may be used to help solve problems; Science & Technology (S&T) combine human knowledge with the

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ability to produce and use tools and machines in order to solve real life problems; Innovation simply means the application of knowledge in production. Innovation is the economic application of ideas, technology or processes in new ways to gain a competitive advantage. To be called an innovation, an idea must be replicable at an economical cost and must satisfy a specific need. Innovation involves deliberate application of information, imagination and initiative in deriving greater or different values from resources, and includes all processes by which new ideas are generated and converted into useful products.

IMPORTANCE OF TECHNOLOGY & INNOVATION (TI) TO THE NIGERIAN TRANSPORT SECTOR

Technology and automation will define the future of transport in Nigeria considering its huge impact on transport in other countries. In the face of geopolitical and economic uncertainty in the country, technology-driven innovation will be key to meeting the challenges in the Nigerian transport sector. Innovation are significant factors in solving transportation challenges, which may include: congestion, infrastructure degradation, volatile energy prices, environmental concerns, climate change impacts and changing demographics. Innovation will help to improve the performance of the transport system and improve productivity.

In view of the above, making TI unseen in the National Transport Policy is inadequate. A gap is observed in the National Transport Policy (NTP) between national perceptions of the importance of Technology & Innovation and current innovation needs of the transport sector. There is an insufficient level of awareness about the importance of innovation among both public and private transport stakeholders. TI is a key in addressing transportation challenges in Nigeria.

Many countries are implementing strategies for sustainable mobility in their transport policy by introducing new technologies. The hopes on new technologies to provide solutions to transport problems are high. In improving the transport system in Canada, Canada has Innovation Policy as a branch of their Transportation Technology Directorate and this department serves as a focal point for monitoring and providing policy advice on developments, trends and initiatives related to transportation innovation. The branch undertakes research and analysis on issues facing the sector, and participates in the development of policy frameworks aligned to the strategic objectives of Canada's Transport system and the federal government's priorities for innovation. The Government of Canada is increasingly focused on innovation as a means of improving competitiveness and productivity and ways to promote innovation in Canadian transportation.

100 years ago, the movement of goods and people in Japan was carried out largely on foot and by oxcart. Presently, Japan is currently leading in the areas of high-speed rail transport and automobile manufacturing. Government transportation policy in Japan consisted of two parts: reforming the old system and introducing new technology in all the transport modes. The creation of a modern transportation system in Japan is as a result of technology transfer, technology adoption, domestic development and improvements of technology, and the achievement of technological independence inclusive in Japan's government's policy on transportation. Technology and Innovation helped the advancement of Japan from lagging behind the industrialized countries of the late nineteenth century to attaining one of the world's most advanced transportation systems.

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Also, in India, Technology is highly encouraged in the transport sector. In order to facilitate the proper evaluation of all the available technologies around the world, the Indian government created a knowledge centre that would provide the necessary information required for taking the right technological decisions in their transport system for specific cities and support was also provided for techno-economic studies to be conducted by leading global consultants.

In the Transport Sector Strategic Directions document of New Zealand, the government of New Zealand endorsed the concept of a transport research strategy. A significant amount of money and effort goes into transport related research every year, and it is important to the government that the funding is spent in a coordinated manner and results in innovation and sound knowledge. The Transport Research Strategy sets out the government transport sector's research needs for the shorter-term future. New Zealand government is committed to building a sustainable nation across the four pillars of the economy, society, the environment, and nationhood and they understood what that meant for transport in terms of Technology and innovation.

“As one high level policy maker interviewed remarked: ‘there is no such thing as transport policy without taking the development of new technologies into account and the more involvement between Technology and Innovation (TI) and transport policy, the easier it is to benefit from development in the other policy areas. (Source: Innovation Policy and Transportation in Canada)”

CONCLUSIONS

The Nigerian transportation system faces many challenges to growth as mentioned above. Innovative solutions, particularly the application of new technologies, are critical to address the need for improvements in transportation productivity, sustainability and safety. There is need to focus on Technology and Innovation (TI) in the National Transport Policy as it applies to the advancement of the Nigerian transport sector. The transportation modes are all technological products and processes interwoven that needs proper guide in the area of planning, development, procurement and implementation to make it serve better as a means of enhancing economic benefits to keep the system on track and enable productivity and efficiency in the Nigerian transport.

Conclusively, with adoption of Technology and Innovation in driving the Nigerian National Transport Policy, the future will bring dramatic technological improvements to the Nigerian transportation sector. For this to be achieved, the government may need to get involved and cooperate more closely with private investors, innovators and other stakeholders as an agent of public interest. Transportation has a rich history of both technical and policy innovation, a history that is likely to persist. Transportation is in an upheaval as it struggles to continue to support the prosperity and quality of life of our nation and others on the planet. (Source: Marsh & McLennan Agency (MMA))

RECOMMENDATIONS

The following recommendations are made in order to enhance the effectiveness and efficiency of the Nigerian National Transport Policy.

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1. Technology and Innovation (TI) should be given importance in achieving the NTP goals and objectives.
2. The policy document should include objectives and strategies for TI.
3. The transport sector should focus on innovation as a means of improving competitiveness and productivity in the country.
4. In the National Transport policy context, there is need to look at ways to promote TI in Nigerian transportation.

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