



RAILWAY TRANSPORTATION ENGINEERING SCHEMES IN NIGERIA-ISSUES AND CHALLENGES

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ABSTRACT

The importance of railways or railroads transportation system to the economic growth and industrialization of a nation cannot be overemphasized. Railways facilitate the mass transportation of passengers and goods to different parts of the country with a critical ingredient of economic activities aimed at improving the living standard of the people towards national development and sustainability. This paper examines railway transportation and economic development in Nigeria, challenges facing railway transportation systems and privatization of railway. The paper includes the way forward and conclusion on the subject.

Key words: - Railway transportation, Economic development challenges facing railway transportation

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INTRODUCTION

Transportation Engineering involves the movement of goods, people, services along various modes i.e. the road way, railway, water and airways. It deals with the working knowledge for initiating preliminary and final proposal for affecting such schemes of modes. Transportation engineering provides data analyses which are required for complete engineering design and construction of transportation systems. It is also a science which covered designing, planning, maintenance and operation of the roads for the convenience of the road traffic, which is called high way engineering.

Among the various modes of transportation engineering is the rail transportation engineering which deals with the planning, designing, operations and maintenance of railway tracks wagons, coaches and locomotives. The rail wagons in Nigeria move s on two rail routes, mainly western line, starting from

Lagos to Gashua, while the eastern line start from port-Harcourt to Maiduguri. The rail engines coupled to coaches run on railway tracks with moderate average low speed.

An overview of Railway Transportation Systems in Nigeria

The present existing 3500 km single narrow gauge rail system is in a terrible state of disrepair. It was built during the colonial era for the purposes of administration and exploitation of natural resources. There are two main gauge axes (North – South) serving the Eastern and western transportation corridors. The western axis connects Lagos, the former capital now the financial capital and international seaport to Kaduna and Kano from Kano a spur branched to Nguru close to Niger republic. From Zaria a spur links Kaura in Namoda via Gusau. From Minna in Niger State a line branches south to Burno which is located in the banks of river Niger.

The Eastern axis connects the international seaport. Port-Harcourt to Maiduguri, via state capitals of Umuhia, Enugu, Makurdi, Lafia, Bauchi and Gombe. In addition, a short spur connects Jos, the capital of Plateau state. The following new constructions are being undertaken by the Nigerian railway corporation (NRC):-

- (i) A 320km long standard gauge between Ajaokuta, the iron and steel factory to Warri.
- (ii) A new track is being built between Port-Harcourt and the federal ocean terminal in onne, using multi-gauge sleepers in order to allow for standard gauge use in future.

The existing Rail infrastructure is an obsolete single narrow gauge (1065mm) track with obsolete signal and communication systems, poor horizontal and vertical alignments. The needed system specification of the future rail network is given below:-

- (i) Design speed of track:-160km/hr
- (ii) Speed of freight trains:-120km/hr
- (iii) Speed of passengers trains:-160km/hr
- (iv) Gauge standard gauge:-1435mm
- (v) Design axle load= 22.5t
- (vi) Maximum design gradient= 1.25%

The above calls for adequate Engineering Capacity
Source: - E.I.I ETTEH (2009)

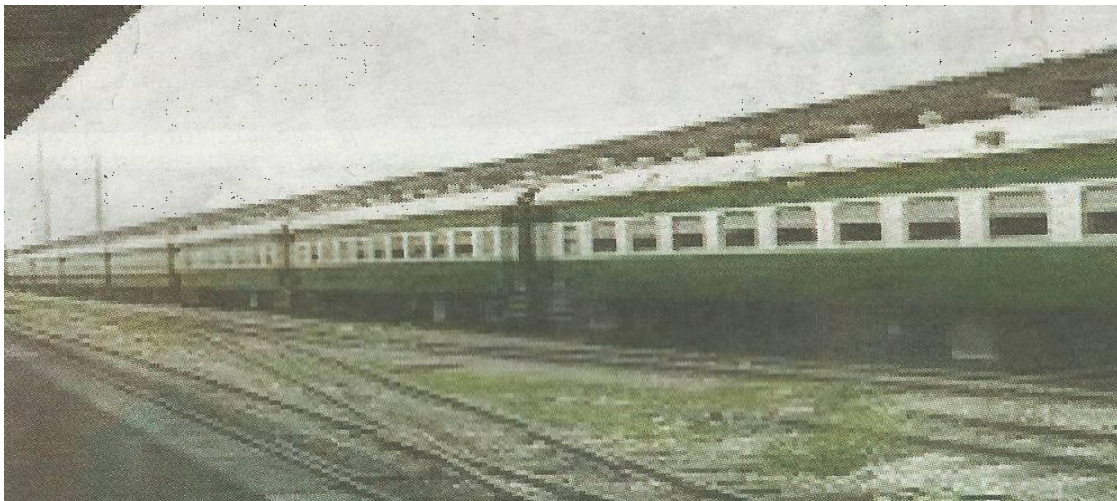


Figure 1: Nigerian Railway



Figure 2: Nigerian Railway



Figure 3:NRC building

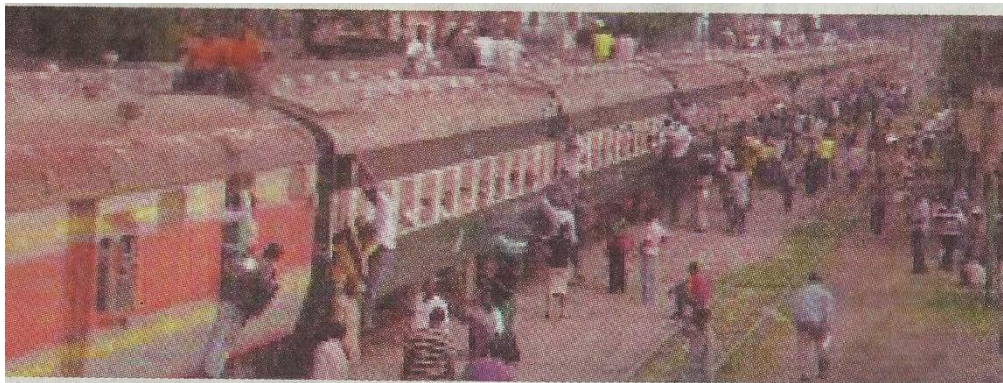


Figure 4:Nigerian railway



Figure 5: Modern train



Figure 6: Tracks



Figure 7: Old train

Source: - Sunday Mirror, May 24, 2015

Discussion

Trains were one of the greatest inventions to transform the world. They not only opened up convenient transportation system, but growth and development of new cities and employment people could find employment, building tracks or mining for coal to fuel steam engines. The cost of living dropped down as products, agriculture, clothing, animals and equipment could be quickly sent in locomotives. Railways had a huge impact on the industrial revolution in Europe and America and even replaced steam boats that were used to travel by canals and rivers.

The Nigerian railway corporation until recently maintained poor rail system with about 3,557 kilometers of 3ft 6 inches (1,067mm) gauge track which have suffered abandonment in the hands of successive government, it has two major rail lines. one connects Lagos and Yobe state. The other connects Port-Harcourt in the Niger delta and Maiduguri in the north eastern state of Borno. The Nigerian railway was regarded as the nonexistent link in the nation's development chain for over three decades that part of the nations transport sector declined with no obvious hope in sight for rehabilitation. Before the deterioration, railway transportation served multidimensional purposes. It helps very vital socio economic relevance for all aspect of the country.

The presence of articulated vehicles conveying. Goods including combustible content



Figure 8: Modern train

followed the inability to revive the rail system. This increased the pressure on the roads especially accidents with quite fatal proportions. Roads that are not meant to accommodate the weight of articulated vehicles fell into worrisome disrepair, since the state of the rail system became obvious and the cost of roads became enervating many of the major roads connecting the cities and states bowed to the immense pressure from heavy vehicles. The disturbing testament of the rail system was addressed after the commencement of the transformation agenda of 2011 was announced by the administration of president goodluck Jonathan. Due to the efforts of the administration, the tracks are alive again and the system is undergoing a revamping.

Railway Transportation and Economic Development of Nigeria

The importance of railways Transportation system to the Economic growth and proper industrialization of any nation is always on board. Railway transportation stand out to facilitate the economic growth and development of Nigeria. The chairman of Nigeria railway co-operation (Mr Bamanga Tukur) has declared that the federal government in the railway sector would trigger the development and growth of the country economy. The minister of transport (Mr. IDRIS UMAR) has equally called on Nigerians to take the proper advantage of the opportunity which the present administration is providing in the railway corporation (NRC) and called for the active

participation of the private sector in moving the project forward.

Challenges Facing Railway Transportation Systems in Nigeria

Challenges' facing the railway transportation systems in Nigeria are many, a few of these are briefly discussed below:-

- (i) Nigeria's transportation sector and engineering practice while other nations and regions are galloping with unbelievably fast rail systems, super highways, ever improving water transportation systems, harbours, airspace management, and airports that manage thousands of air traffic per diem. Nigeria's transportation sector has been the gold mine of politicians, political jobbers, and engineers political groups. The engineering profession has not been challenged to perform National goals, neither are the necessary performance of environment been set up to focused support of engineering practice for autonomous development of a modern transportation sector that includes mass trains, aircraft have not been started.
- (ii) The railway and engineering practice:- imbued with what appeared to be an unbelievable lack of patriotism, indiscipline and greed, some past Nigerian decision makers presided over the unfortunate collapse of Nigerian limping colonial railway system, later, inflated contract of dollars were rewarded, first to Indians then Chinese contractors, on which huge dollar sums disappeared. There were no visible results of those contracts and it was said to be on-going Chinese "railway contract". Politicians and unknown contractors were all on the job where the NSE was or COREN registered engineers on that Chinese contract? Where is the railway engineering practice taking place in Nigeria? All that is known about that project suggest that any accruable knowledge and experience on the new railways may be lost to indigenus Nigeria engineering practice, if the federal government of Nigeria has farmed out the

work to the Chinese, thereby denying the nurturing of further railway engineering design practice expertise to the Nigerians.

- (iii) Nigerians Leaders lack of political will power:- the decrepitude of Nigerians technological, social, economic, governance, and physical infrastructures should be the catalyst that ought to elicit the challenge to national leaders and to seek urgent solutions to constructively address the national need and to end the snowballing poverty of the people and begin to address the provision of the basic needs of Nigerians as human beings. The mindset and perspective would result in reaching out to the indigenus engineering project engineers and other allied professions with whom the nations technological and economical problems can be permanently solved. It is believe that with the new government of major General Buhari (president of the federal republic of Nigeria), all long awaited changes and transportation will be attended to, especially in the railway transportation systems in Nigeria. Other known challenges facing the railway transportation systems in Nigeria can be summarized as:-
- (iv) Low speed of the trains due to old trucks been used daily
- (v) Poor conditions of the coaches without adequate and proper maintenance
- (vi) Poor conditions of service for Nigeria railway co-operation (NRC) employed staff
- (vii) Poor communication systems within the Nigerian railway within the Nigerian railway cooperation (NRC)

The way Forward

Privatization of Nigeria railway: - the report of the federal government under President Goodluck Jonathan has revealed the plans of the federal government to privatize the railways in Nigeria. The privatization of the federal government is a welcome idea. This will grant concession to private sector companies. The private sector companies would be expected to provide train services and maintain the infrastructure. According to the federal

government, three separate concessions of 25-30 years are expected to be given out for the western, central, and eastern regions. Under the plans the NRC through its subsidiary railway property company limited, will also sell nearly 200 million squares meters of lands, landed property and other fixed assets. The service units of the NRC which provide direct service to the railway industry will be sold to private companies. The federal government will also establish the railway regulatory board, which will oversee all activities in the Nigerian railway sector. State government will also be responsible for the development and deployment of a light rail system within their states. They would be able to apply for financial assistance from the national railway fund. Interested state government would be asked to submit their proposals to the fund, which will make a determination into the amount of money, it plans to contribute towards the project. It is believed that every submission will be treated on a case by case basis, as to determine the economic viability of the project.

Nigerians at present wait eagerly for the Muhammadu Buhari's administration to demonstrate its resolve to tackling this urgent crucial economic problem in the country.

Conclusion

Railways or railroads transportation system has become a world-wide means towards the economic growth and industrialization of many countries. Nigerian as a country cannot be left out. A new leadership of the federal government has come on board. The government cannot do all that is expected to move the country forward. Every citizen of the country is needed, now to work with the government and to raise the image of the Nigerian railway schemes in the country.

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