

CHALLENGES IN TRANSPORTATION SECTOR IN GHANA

WYZWANIA DLA SEKTORA TRANSPORTOWEGO W GHANIE

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Abstract: *The goal of developing societies or countries in establishing high thriving economic environments cannot be given a more concrete push than a much more critical attention to their transportation sectors which is at the heart of every business or service that is undertaken. However, the imposing challenges facing this fast growing transportation sector all over the world cannot be over emphasized particularly for developing countries. This paper takes a look at major problems of the transport sector in Ghana and provides critical measures from policies to areas that require pragmatic commitments in fully improving the sector.*

Streszczenie: *Artykuł podejmuje istotne dla sektora transportowego w Ghanie zagadnienia wymagające rozwiązania, w rezultacie ich identyfikacji i rozwiązań celem udoskonalenia istniejącego systemu.*

1. INTRODUCTION

Transport in Ghana is accomplished by road, rail, air and water. Animals are scarcely used except in the extreme north, where horses and donkeys are sometimes employed. Ghana's transportation and communications networks are centered in the southern regions, especially the areas in which gold, cocoa, and timber are produced. The northern and central areas are connected through a major road system as shown in Fig.1. Some areas, however, remain relatively isolated. Only about one-fifth of the country's roads are paved.

The provision of infrastructure and operations in all modes of transport in Ghana are dominated by the state. Except in the case of road transport, the public sector has been heavily involved in operations in all modes and has monopoly over rail and inland water transport.

Ghana hopes to improve its road conditions to meet a target ratio of 70% (good), 20% (fair) and at most 10% (poor) by 2015. The intention is to have many of the existing highways tolled and private-sector participation in road construction and ownership.

Public transportation is the dominant method of travel in Accra, and the nation as a whole. Nearly half of all trips to work are completed by one of many types of buses that operate like jitneys. This means they have no fixed schedules or stop locations although they may run specific origin to destination routes. Nearly 15% more of work trips are by taxis, which are shared-ride for which passengers pay per person per ride. A healthy 25% of work trips are conducted on foot. About 10% of commuters use private automobiles. Due to climate and lack of safe facilities, less than 3% of trips are by bicycle or motorcycle. The country has in the pipeline a draft for the establishment of a Bus Rapid Transport System by the end of 2012 to complement the current Metro Mass Transport system with a lot of deficiencies.

In rails, a triangular rail network (of 950km) links the three cities of Kumasi in the heart of the country, Takoradi in the west and Accra-Tema in the east. The network connects the main agricultural and mining regions to the ports of Tema and Takoradi. It has mainly served the purpose of hauling minerals, cocoa and timber.

Ghana is also working to position herself as the gateway to West Africa since its sole international airport remains the leading and preferred airport in the sub-region, having attained Category One status by the US Federal Aviation Administration (FAA) audit as part of their International Aviation Safety Audit (IASA) programme.

2. MODES OF TRANSPORTATION IN GHANA

2.1. Road Transport

Road transport is by far the dominant carrier of freight and passengers in Ghana's land transport system. It carries over 95% of all passenger and freight traffic and reaches most communities, including the rural poor and is classified under three categories of trunk roads, urban roads, and feeder roads.



Fig.1. Road Network of Ghana (source; Easy Track Ghana Limited, 2010)

The Ghana Highway Authority oversees road maintenance and improvement. Road quality ranges from first-class paved (asphalt-surfaced) roads to third-class unsurfaced roads. First-class roads run between the country's large urban centres. A concrete-surfaced motorway with two lanes in each direction runs from Accra to Tema. Second-class roads are narrower than first-class roads and have a base of swish (sun-dried earth) rather than quarried stone.

The Ghana Highway Authority, established in 1974 is also tasked with developing and maintaining the country's trunk road network totaling 13,367 km, which makes up 33% of Ghana's total road network of 40,186 km.

Trunk roads in Ghana are classified as National roads, Regional roads, and Inter-regional roads, all of which form the Ghana road network. National roads, designated with the letter N, link all the major population centers in Ghana. Regional roads, designated with the letter R, are a mix of primary and secondary routes, which serve as feeder roads to National roads; while Inter-Regional roads, designated with the prefix IR, connect major settlements across regional borders. By virtue of National roads linking major cities in the country, they sometimes double as Regional and Inter-Regional roads.

2.2. Railways

The railway system in Ghana has historically been confined to the plains south of the barrier range on mountains north of the city of Kumasi. The rail system forms a triangle joining Sekondi-Takoradi, Kumasi, and Accra. Additional lines run within the triangle, and branches connect to the mining towns of Tarkwa and Dunkwa as well as to the port of Tema. Rail transport is much less popular than road transport. Railways are primarily used for the transport of freight, especially minerals and logs, and the rehabilitation of key railway lines began in the 1990s as gold exports became more significant. However, the 1,067 mm (3 ft 6 in) narrow gauge railway, totaling 935 kilometres, is presently undergoing major rehabilitation and inroads to the interior are now being made. In Ghana, most of the lines are single tracked, and in 1997 it was estimated that 32 kilometres were double tracked as shown in Fig. 2.



Fig. 2. Modern Rail Line in Ghana (source: 2009 Africa Updates Inc.)

2.3. Aviation

Ghana has twelve airports, six with hard surfaced runways. The most important are Kotoka International Airport at Accra and airports at Sekondi-Takoradi, Kumasi, and Tamale that serve domestic air traffic. In 1990, the government improved Accra's facilities. Workmen resurfaced the runway, upgraded the lighting system, and built a new freight terminal. Some construction was also extended and upgraded to the terminal building at Kumasi.

2.4. Ferries and Waterways

The importance of sea transport has dwindled with the expansion of air services. Most goods entering and leaving the country, however, are still carried by sea. There are modern harbours at the ports of Takoradi (opened 1928) and Tema (opened 1961). Takoradi specializes in exporting timber, manganese, and bauxite, while Tema specializes in the export of cocoa beans. The Volta, Ankobra, and

Tano rivers provide 168 km of perennial navigation for launches and lighters; Lake Volta provides 1,125 kilometres of arterial and feeder waterway. There are ferries on Lake Volta at Yeji and Kwadjokrom.

2.5. Animal Transport

The use of the animal cart is not widespread in Ghana' except in areas where animals are used for cultivation. Most of the carts are owned by individual farmers and the same animals are also used for other agricultural activities. The most widely-used draught animals in Ghana are the donkey, horse, and the ox. The donkey is used on a small scale by shepherds in the savannah north of the country. The horse is mostly used for transport and recreational purposes; its use for traction is almost non-existent. The ox is the most important of the draught animals for the following reasons that its harnessing is simple and the neck yoke can be made locally at low cost, the local purchase price is attractive compared to that of the horse, at the end of its useful life it can be fattened and sold for meat and it has a slow but steady working style.

3. MAJOR PROBLEMS FACING TRANSPORTATION SECTOR IN GHANA

Generally there is limited regulatory/institutional effectiveness, lack of a clear and comprehensive policy on public transport. Vehicle operators are subject to minimal regulation in terms of the authority to operate as commercial vehicles, area of coverage, standards of operation, maintenance of vehicles and related emissions. This situation has led to freedom to enter the sector and the liberty to leave at will. The industry is dominated by the informal sector and they provide about 95% of transport services but their services are unreliable, uncomfortable and unsafe. Finance is a limiting factor due to the capital intensive nature of public transport operations. The operations are mainly foreign exchange intensive, that is, vehicle spare parts, maintenance equipment, tyres and fuel all need to be imported. In spite of the fact that managements of public transport fail to incorporate asset replacement policies and programmes in their corporate plans, gains recorded in their operations which could be used to finance asset replacement programmes are eroded in no time by the inflationary and other negative features present in the economy.

The sustenance and growing concern of public transport is therefore disturbed to the extent that to replace vehicles, especially at the end of their useful lives become very difficult. The vehicles get older, cost of operations and maintenance soar up, eventually operations grind to a halt. In the same vein, appropriate and effective maintenance procedures and controls to ensure safe roadworthy vehicles, which will meet a defined level of reliability and availability within economic cost levels is also compromised. Reactive repair maintenance procedures are preferred to preventive maintenance, which constitute a planned programme throughout the

vehicle's life. As such vehicles experience frequent breakdowns and ultimately fail to live up to the recommended technical lifespan.

Sourcing for genuine spare parts for the maintenance of vehicles either through the importation from the manufacturers or local purchase, poses a great problem due to the variety of vehicles used for public transport. In some cases the type of vehicles may be out of the production line and spare parts simply unavailable. Sometimes the spare parts available are obsolete and are not suitable for vehicle maintenance. This situation has led to the concept of fabrication, improvisation and "trial and error" at maintenance workshops especially the "wayside" workshops. The costs of genuine spare parts obtained from the manufacturers' representatives are too high and prohibitive. Generally, there is lack of requisite human resource needed for vehicle maintenance, more especially; technicians manning wayside garages lack adequate technical skills. The liberalized economy and the absence of a comprehensive transport policy has resulted in the dumping of inferior/fake spare parts and used spare parts on the market which is posing a great challenge to public transport operations. The dumping of used spare parts poses a great environmental risk and distorts the microeconomic stability of the country.

Traffic congestion is so intense, especially in the cities and demands on existing public transport system have overgrown the country's capabilities, making travel by all forms of road transport during peak hours very frustrating and disgusting, resulting in long uncomfortable commuting times that ruin the productivity of workers. The collapse of the rail system in the country has exacerbated the congestion problem.

Due to the high cost of road construction and maintenance, bad roads still form a greater proportion of our roads. The bad nature of roads also contributes to high vehicle operating/maintenance costs. Inadequacy of roads has also contributes to the problem of congestion but the underlying factor is the absence of effective traffic management. Terminals are poorly designed, planned and in unkempt conditions, but vehicle operators focus on these to gain traffic and keep their vehicles employed. Buses in particular are of major importance for public transport operations, but there are no traffic management systems in place to give buses priority, for example, bus lanes that will allow buses unimpeded flow and advantage over the other operators of public transport.

Road safety is a major problem, since high motor accident rates are recorded, often resulting in loss of life and severe injuries inflicted on innocent victims. In a country where so many options are not available for road travel, patrons of the road are re-adjusting to only particular vehicle types, for example, buses of high carrying capacity for travel.

Comprehensive transport planning is not given as much importance it deserves and this is evidenced by the fact that several studies, research, surveys on urban transport planning and management still gather dust on shelves of officialdom. Academic institutions have failed to introduce transport courses in their curriculum

and engineers, transport planners and administrators still consider transport planning as problems of economics and civil engineering.

Urban transport policy is now at a crossroads, as affluence and increase in income levels have resulted in rapid car ownership. There is widespread concern for the environment, lifestyles are changing and information communication technology (ICT) and telecommunications are beginning to present a real alternative to travel, especially for urban transport. The ICT employment in the transport sector has been a more difficult area for Ghana which holds the key to modern transport direction as its involving branches have not seen an equally fast development to support the transport sector. (Source: *ghanaweb.com*)

4. FUTURE TARGETS IN GHANA'S TRANSPORTATION SECTOR

In order to meet the country's growing transport needs, the nation under the direction of the

The Ministry of Road and Transport (MRT) has established the following major objectives:

- Establish an efficient and integrated transport network for the movement of goods and people
- Reduce traffic congestion in urban centers by providing mass transport

Provide other transport systems and ensure safety measures throughout the country. They have also identified the provision and sustainability of these resources for an efficient management and promotion of these good transport systems and in turn hope to work with related bodies to achieve this in the shortest possible time;

- Availability of transport fuel and a number of automotive service centers
- Raw materials for roads construction, including affordable-priced gravel, chipping, sand and laterite
- Excellent electricity and water systems, internal and external communications, and sea and airport facilities

There are firm plans by the Government to develop the rail network more extensively to handle up to 60% of solid and liquid bulk cargo haulage between the ports and the interior and /or the landlocked neighbouring countries to the north of Ghana and elsewhere.

The sole international airport's runway will also need further extension to cater for all types of aircraft allowing direct flights from Ghana at maximum take-off weight without the need for technical stops en-route.

5. MEASURES TO IMPROVING GHANA'S TRANSPORTATION SECTOR

5.1. Comprehensive Transport Policy

In the establishment of an efficient transport system in Ghana, the first and foremost requirement will be the drawing of a pragmatic national transport policy that identifies all the problems facing the transport sector with its attending feasible solutions in the short, medium and long term situations. All sectors of the economy

with a related contribution to the successful implementation and realization of the goals must be included to buy and share in the idea and direction of such policy. A policy draft is not necessarily a big issue when it comes to drawing it for developmental goal achievements but what Ghana needs now is a more informed realistic draft that must be seen to be achievable and make an impact in the nearest future having looked at our human capacity, available resources and experience of other nations in the transport sector similar to our situation. A consortium of all levels of industry players must be invested into to make input both locally and internationally to come out with such an instrument if transportation must be uplifted to meet future targets as the country hopes considering all possible financial implications and sources.

5.2. Human Resource Development

The capacity of every system determines its production level. The transportation industry in Ghana cannot be developed and sustained to its desired points if there are not capable people to man and develop the industry. Critical areas of attention will be the research and education sectors as well as the professional sectors which can yield the potential human capital. Transportation education and professionalism in Ghana is not given its due recognition in the sense that it is even difficult to see courses streamlined along that path, mostly civil engineers in road constructions are the easily noticeable group known in this industry. Growing global development in transport has necessitated the streamline of new and modern courses and researches along that path to meet its growing complexities. From the point of planning, production, maintenance, safety, reliability and management, courses must be tailored to suit and develop man power for this industry in Ghana if the transport must be improved.

5.3. Infrastructural Development

Development of infrastructure is the concrete proof of growing strides made in the transport industry but the transport industry is much complicated and related to so many sectors in that it cannot be improved in isolation. Some few but critical sectors of the economy which must provide support for a growing transport sector is the telecommunications, electricity, energy and information technology industries. An equal attention and development in the above areas must be carried out in all commitments thereby perhaps expanding the human capacity in such areas as well for an efficient transport system to be established. Roads with particularly bus lanes must be constructed to aid the idea of the mass bus transport system. Rails in Ghana is not a so common transport option and must be expanded to cut through the city centres and towns to help reduce the over reliance on road transport. Water ways and air transport must be developed to handle more of freight transport to reduce their carting on roads.

5.4. Establishment of a Supporting Manufacturing Industry

The issue of maintenance and regular supply of good quality transport facilities can be handled with an efficient manufacturing transport industry producing the machines, roads, rails and spare parts needed to sustain its continuous operation and reliance. There must be assembly plants and equipment repair industries to offer ready reliable, safe and available transport facilities for the operating transport companies at good prices to enhance the interest of stakeholders in this industry. A growing manufacturing industry can be set by inviting car and transport producing companies to set up their assembly plants, technology transfer and innovations by creation of the right business environment and investments in research and education in these areas.

5.5. Cultural Re-orientation

A major problem of transportation in so many cities is road traffic congestion, which makes movement of passengers and goods from one point to another quite frustrating. A rapid mass transport system with less traffic prone lanes will be a motivation for the public. A national orientation in Ghana to appreciate mass public transport systems will reduce vehicle population since driving in one's car is seen as a mark of a successful individual in the society. A culture of road safety rules compliance in the absence of policing on roads, regular maintenance of vehicles and transport equipment by service providers to reduce accident risks must all be inculcated into the society by continuous education as well as heavier legal fines to appreciate the effect of these factors on road safety.

6. CONCLUSION

The staring challenges of the transportation sector in Ghana today remains quite huge comparing the current level of continuous advancement in transportation in developed societies. The solution to developing and improving Ghana's transportation sector is however not insurmountable if effort is put into human, technical, capital and technological resources as outlined in this report.

Transportation today is now wider and broader in the sense that several areas of human technology and institutions are needed to make the necessary developments and upgrading of the different transport systems and devices for both passengers and freight. The proposed measures captured in this report will be good points of reference for the advancement of transportation in most if not all challenged environments facing similar level and participation of unaddressed problems in the sector. Mostly a measure of development recognized in many transportation sectors including Ghana focuses on the level of infrastructure available but this report clearly also reveals the amount of human capital, manufacturing and strategic management policies which must be boosted with an efficient Research and Development (R&D) projects institutions in the transportation field to maintain and improve an efficient transport sector.

The measures described in this report are however given a more scientific approach of addressing growing sophistication and complexities in the transportation needs of society today under the term of Intelligent Transportation Systems (ITS) which

is a subject of particular interest in most technologically advancing transportation sectors the world over.

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