

ACCESSIBILITY, MOBILITY AND THE
DEVELOPMENT PROCESS

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Abstract

The creation of a modern transportation system in any country is not only a function of resource utilization, technology and will power of the people but also the political economy of the state. While the transport system which evolved in the U.S.A. facilitated the development of a self-centered economy, the situation in Ghana is different. The geometry of the transport system in Ghana was tailored to assist the growth of an external metropolitan economy. The result has been the neglect of rural feeder roads which should necessarily form the backdrop against which the improvement of the rest of the national transportation network must be seen.

In this paper a comparative analysis of the evolution of the transportation systems of the U.S.A. and GHANA is carried out and the impact of the transport systems on socio-economic activity in both countries examined. Finally recommendations are offered for improvement of the Ghanaian transport system.

The Concept Of Development

The concept of development² is one issue that has received tremendous attention and comments in the literature and it is not intended in this paper to go over already covered ground. It is pertinent however to draw attention to the view presently held by many, that development means something more than economic growth, (that is the GNP) or economic development. Development has been conceptualized in modern times as socio-economic transformation (Mabogunje, 1980 passim).

Three important issues immediately derive from this position. First, attention is drawn to the fact that development is essentially a human issue. This dwells on the ability and capacity of individuals to realize their inherent potential and use this potential effectively to cope with the changing circumstances of their lives. In other words, "the key to development lies in men's minds, in the institutions in which their thinking finds expression and in the play of opportunity on ideas and institutions" (Cairncross, 1961, p.250).

Secondly, development implies and involves the total mobilization of society. Changing the 'institutions in which the thinking of individuals finds expression' is unattainable through the initiation of ad hoc piecemeal measures. The adopted strategy should be comprehensive and must invoke total political commitment. This underscores Myrdal's view that development connotes "the movement of the whole social system upwards" (Myrdal, 1968, p.1868).

Thirdly, as Akin Mabogunje stresses, "development represents a redefinition of a country's international relations. It involves a shift from an outward-oriented, dependent status to a self-centered and self reliant position with regards not only to the processes of

decision making, but more importantly the pattern and style of production and consumption" (Mabogunje, 1980, p.46). The three dimensions highlighted above, i.e., individual, societal, and international, are critical for an appreciation of the complexity and multi-faceted nature of the development process.

Production is a major aspect of development and production is made possible through the assemblage of the necessary factors at a particular point in space. This implies movement and therefore both the original locales of these factors - natural or artificial - and the selected production points must be accessible.

The Concept Of Accessibility

Accessibility connotes the ease with which human activity points in space can be reached from different positions using a particular mode of transport (Morris, Dumble, and Wigan, 1979). The concept of accessibility therefore forms an integral part of the land-use/transport mosaic within urban centres and socio-economic regions. Accessibility indicators can be categorized into two broad groups, namely 'potential' accessibility, and 'behavioural' accessibility. 'Potential' accessibility refers to the existence of opportunity to travel to selected activity points because the channels along which movement can take place are available. 'Behavioural' accessibility on the other hand implies actual usage of the traveling medium in existence in space. We can therefore derive from above classifications what we may call 'process' indicators of accessibility, that is, measures of the supply characteristics of systems, and 'outcome' indicators which suggest actual use and possibly, levels of satisfaction.

In dealing with 'potential' accessibility one must recognize a distinction that ought to be made between 'relative' accessibility, and 'integral' accessibility. While 'relative' accessibility, describes the relation or degree of connection between any two points, 'integral' accessibility describes the relation or degree of inter-connection between a given point and all others within a spatial set of points. It has been argued that the former is a measure of the effort involved in making a trip, while the latter is a measure of total travel opportunities (Morris et al, 1979). There is a positive relationship between high travel opportunities and lesser effort in trip making on the one hand and complex transportation networks on the other hand. Similarly, there is a positive relationship between complex transportation networks and high levels of development (Brian Berry, 1960).

In highly developed economies, the citizens often take mobility for granted. For, not only are channels and modes of travel abundant, there is also a relatively higher purchasing power on the average, compared with less developed economies, which makes mobility not only available but affordable. The situation is generally different in the less developed economies.

The relationship between the two variables, transport and development mentioned above is illustrated better by B.S. Hoyle as follows:

"The transport/development relationship is essentially a two-way interaction process, and the results of the interaction depend upon the type of economy involved and upon the level of development at which transport improvements are effected. At a given stage of development, an area requires a certain level of transport provision in order to maximize its potential; there is thus an optimum transport capacity for any development level. The existence of unsatisfied demand for transport may, over time,

have serious effects on the economy; conversely, the results of over-capitalization may be unpleasant if too much is spent on transport provision in anticipation of demand which never materializes" (Hoyle, 1973, p.11).

The two evils of unsatisfied demand, and over-capitalization were avoided by the Americans and it is necessary at this point to draw a few lessons from the American experience.

Transport And Development In The U.S.A.

There was no traditional society to be transformed in the United States of America. Here was a landmass, virtually a whole continent, relatively empty and waiting to have the stamp of a vigorous and developing society put on it (Mabogunje, 1980). The U.S.A. chose the capitalist model and soon after independence the government passed an Ordinance in 1785 aimed at ensuring the easy transfer of public land into private ownership. The Ordinance established for the country a base line, known as 'the Geographer's Line', for a new system of surveying the Whole country. This Line ran from the point where the west boundary of Pennsylvania cuts the Ohio, due west along the parallel of latitude. From this line, a number of equally spaced north-south lines or ranges were to be surveyed. Each state was to appoint surveyors who were to be directed by a geographer. The surveyors were to divide up the land into square blocks. Each block was again to be divided into square sections, each a mile square, or 640 acres in area. Each section was further subdivided into square subsections. Each of the sections was defined by parallels of latitude and by locally adjustable meridians. The land division lines always crossed each other at right angles, and the rectilinear grid system of townships, sections and farmland that resulted became the most characteristic feature of the American Landscape.

In addition to the division of the land, the surveyors also compiled notes which represented at first, if superficial, inventory of the land resources of the country (Mabogunje, 1980; Watson 1963; Johnson, 1976).

On 20th May, 1862, the United States Congress passed into law the Homestead Act which ensured the allocation of land to any citizen or intending citizen who was 21 years of age, a head of a family and who had lived in the country continuously for a minimum period of 5 years. Eighty years after the passage of the Homestead Act all the cultivable land was allocated to citizens who met the requirements under the Act.

It was within this framework of land allocation that the impressive overland transport system of the U.S.A., especially west of the Appalachians, developed with the railway emerging as the dominant mode. Prior to the emergence of the railway as the dominant mode of transport, river transport, aided by a system of canals carried most of the passenger and goods traffic.

The Civil War helped confirm emerging east-west flow of traffic by turning the Midwest away from its river-based cities with the South and strengthening Midwestern Linkages with the industrial East through the railways. Expansion and interconnection of the rail network escalated after the Civil War due to competitive building associated with post-war speculation and industrial expansion. Well-interconnected subsystems began emerging in groups bounded by the variety of rail gauges existing at that time. Prior to 1880 transfer of cargo was a common practice because of the break in gauge at such cities as Chicago, Pittsburgh, Cincinnati, and Louisville. Interconnection was accompanied by extension of new penetration lines due west and the first trans-continental link was completed in 1869 to be followed by three others in the 1880s. High-priority linkages became evident as gauges

became standardized and rail travel between larger cities became possible. Electrification at the beginning of the twentieth century strengthened the ability of the railways to offer good inter-city and intra-city passenger services (Taaffe, and Gauthier, 1973). Today, the U.S.A. has over 360,000 kilometers of railways in the country and together with road and air transport the country has been transformed into a place where production points and consuming centres are some of the best accessible in the world (Fig. 1).

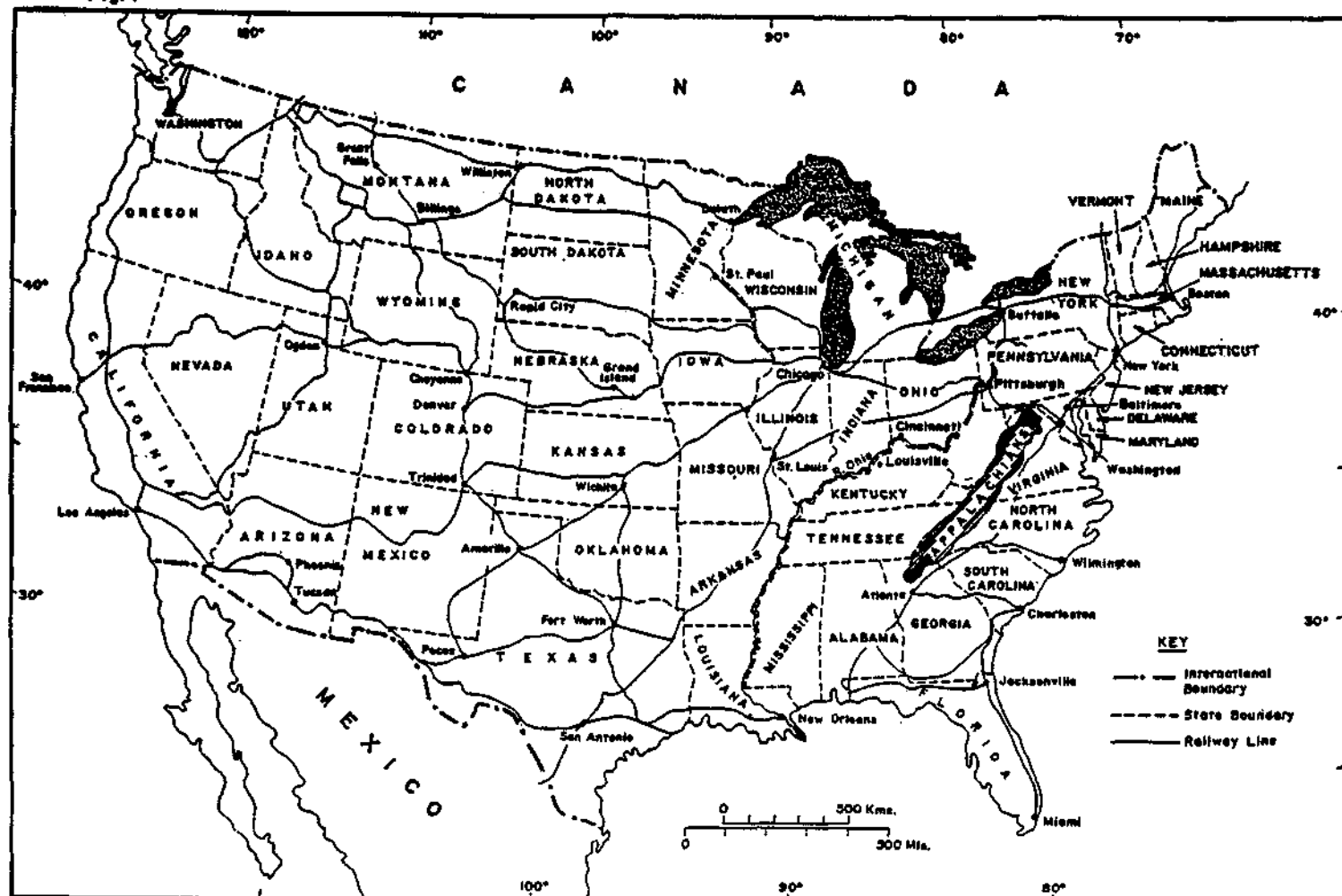
Impact Of Improved Transportation

The impact of improved transportation on regional specialization and urbanization is almost overwhelming. A visible example is the tendency for certain patterns of specialization to develop in areas far from markets on the east coast of the U.S.A. This development was aided both by the railway tapering fare structure, and the policy of setting even lower promotional rates on some long-haul commodities. This gave agriculture a start in new western areas by keeping transport costs low enough to permit competition in east coast markets. Low promotional rates accompanied the rise of citrus-growing in California. The low rates made California oranges competitive in east coast markets with Florida oranges and as a substitute for other fruit products. With the entire country as a potential market, California farmers could expand their scale of production and make effective use of their natural resources. Agriculture in California still epitomizes the far-flung patterns of regional specialization associated with low-cost, long-haul U.S. transportation. Many nationally consumed fruit, vegetable, and nut specialties have more than eighty per cent of their production concentrated in California (Taaffe and Gauthier, 1973).

Regional specialization was also evident in the field of urbanization and industrialization. A rapid growth of industry occurred during the period of railway dominance, that is, between the end of the Civil War and World War I. The break-of-bulk principle was exemplified in the growth of cities located at break-of-gauge points such as Cincinnati and Pittsburgh. The practice of basing freight rates on these cities, as well as such major entry points like Chicago and St. Louis consolidated the transport advantages of these cities even after the 1880s, when gauges became standardized and an effective national rail system came into existence. Interdependence and complementarity in manufacturing increased as cities developed manufacturing specialties and sold them in other cities. Agglomeration economies reinforced this process and demands for more effective transport between the largest cities were increased.

The impression should not be formed that overland transport in the U.S.A. was virtually monopolized by the railways. On the contrary, there was healthy competition between road and rail especially after the first world war. The development of the State and Federal Highway systems took away part of the freight which originally went to the railways especially those involving short and medium distance haulage. In some cases, the highways even served as feeders to the railways. After World War II the airlines entered the U.S. transport arena and their presence was soon felt as they slashed off significant percentages of passenger traffic hitherto enjoyed exclusively by road and rail. All these were made possible partly through the greater strides made in the field of technology in the post-war years. By the late sixties U.S. railway accounted for over 40% of the total freight movement while road transport took 22%. The rest was shared between air transport and internal waterways.

Fig. 1



In intercity passenger traffic, however the railways played a minor role. The private automobile accounted for 88% of the total intercity passenger traffic. The railways took only 1.8% of the traffic while the airlines were responsible for carrying 7.3% of the traffic.

Result Of Explosion In Transport Technology

The overall result of the explosion of transport technology and the rise of competition during the last sixty years or more has been the general lowering of transport costs and the broadening of areas of high accessibility to national and regional markets, which in turn has increased the opportunities for regional specialization and the resultant interdependence of cities and regions in different parts of the country. Manufacturers, wholesalers, and retailers in widely separated areas have become more dependent upon each other for the quick supply of materials and distribution of a diversity of products.

Much of the impact of improved transportation on regional specialization has been transmitted through the effect of transportation upon economies of agglomeration. The more effective linkages between cities have accelerated the growth of the largest cities by expanding their markets. This tendency has been evident at local, regional, and national levels. In the constellation of villages, towns, and cities surrounding a large metropolitan centre, there is a continual tendency for the large centre to reach out and usurp small city and town functions as travel into the metropolis becomes easier (Berry, 1967). The small cities, in turn, reach out to take over functions of towns and villages. The virtual disappearance of the hamlet at the lowest end of the urban hierarchy is clearly related to the improvements in highway transportation (Taaffe and Gauthier, 1973).

The overall improvement in transportation, accessibility and income led to the acquisition of more than one saloon car in most families living above the poverty line. This increase in the number of cars on the road created parking problems and raised the level of atmospheric pollution. But necessary steps have since been taken to reduce the level of atmospheric pollution and the regulate parking of automobiles throughout the country.

The Ghanaian Experience

A year after the first trans-continental railway line was completed in the U.S.A. the Legislative Council of the Gold Coast, on 30th September, 1870 assigned the following reasons among others for failing to build good carriage roads:

i). The few good roads constructed experimentally deteriorated with amazing rapidity. The Cape Coast-Anomabo road, for example, was 15 to 20 feet wide, but in a very short time a deep narrow hollow was stamped in the middle of it, to which the Africans persistently kept. The existing trucks were sufficient for all traffic, and would probably continue to be so for many more years.

ii). Before experimental and costly roads were built in the countryside, the streets and roads about the towns should first be put in proper state of repair. Besides there was no prospect of concentrated traffic that would repay the public for making good roads, except in Krobo (palm oil) which already had access to the Volta. Good cart roads were not worth constructing west of Accra or, indeed, in any part of the country, except a short stretch of road from Accra to Abokobi to facilitate travel to the sanatorium at Aburi. It will suffice, for all practical purposes, to improve the existing pathways, that is, convert them into good hummock roads 6 feet wide.

iii). Even if good roads were built, there would be no vehicles to travel on them.

iv). The Africans preferred headloading to wheeled transport. The Governor had failed to introduce wheelbarrows and carts for public works, if left to their own devices, the Africans put into the barrow half of what they could carry and place both upon their heads. Nature has endowed them with a power of neck and dorsal muscles, such as no other men possess, and they use this power in preference to any other etc. etc." (Dickson, 1969, p.218-219).

Above reasons could only be given by a group of people who were not citizens and has no serious attachment to the country. They were simply there to exploit any known resources for their benefit. The actual development of the country was of secondary importance, if any at all. The infrastructural development which took place in the field of transportation almost three decades after the utterance of these views confirms the conclusion spelt out above. The railways were built purposely to help exploit the mineral and other natural resources of the country for the benefit of a metropolitan power.

The Gold Coast had to wait for nearly half a century after the Legislative Council decided not to build any good roads before she was blessed with a Governor whose views on infrastructural development were broader and focused on the general development of the country for the benefit of both his majesty's government and the people of the Gold Coast. Governor Gordon Guggisberg refused to yield to pressure from the Advisory Council to postpone the construction of Takoradi harbour in the face of threatening economic slump in 1922. "He was convinced that the proper reaction to an economic slump was to build for the future when prosperity should have revived, and not to sit supinely under adversity" (Wraith, 1967, p.104).

Guggisberg contributed to the development of the railways by bringing a certain urgency and drive upon it, and by formulating a more coherent policy which sought to make road and rail complement each other. He even reversed Clifford's policy and prepared plans for the extension of the railway into the Northern Territories (Wraith, 1967). It must be recalled that Clifford, in framing an economic policy, had requested for what amounted to a virtual abandonment of the North for an indefinite period. Administration was to be cut down to the barest minimum and attention concentrated on the potentially more prosperous areas of the Colony and Ashanti.

This recommendation, in terms of economic development, appeared respectable to many but Guggisberg would have none of it. In a despatch to the Secretary of State within six weeks of his arrival he suggested a reversal of Clifford's policy and an extension of the railway from Kumasi to Gambaga to open up the Northern Territories for economic development and not to meet any existing need (Wraith, 1967). It is my contention that had Guggisberg's tenure been longer he might have done for the Gold Coast, now Ghana, what the United States Congress did for their country in the nineteenth century.

A Transport Development Model

Whatever emerged on the cultural landscape of this country as the transportation network in the early 1960s in mostly a colonial edifice and has been used together with information from Nigeria, to formulate, what has since been referred to as a transportation development model, for underdeveloped countries. The model has four phases. The first phase which coincides with the pre-colonial period is characterized by the dotting of small ports along the coast, with each of them having a highly limited trading hinterland linked by

short and inconsequential routeways. There is little connection between these routeways except by the occasional fishing boats and irregular arrivals of trading vessels.

The second phase fits into the period of colonial rule and starts with the appearance of the first major penetration lines from the coast to the interior. There is differential growth of ports and a rise in the economic importance of the inland transportation terminals. The local hinterland shows signs of expansion and generates the construction of diagonal arteries, all linked effectively with the ports. The railways constitute the major penetration lines built for economic, political and military reasons.

The third phase exhibits greater emphasis on lateral interconnections based on feeder routes. The development of these routes results in the expansion of tributary areas of particular ports generating competition and trade capture among the ports. Trade capture leads to expansion and the growth of intermediate centres located between the coast and interior terminals giving rise to a seemingly integrated system. Theoretically, this third phase marked by lateral interconnections should continue until all the ports, interior centres and major intermediate nodes are linked.

The fourth phase is dominated by an emphasis on high priority linkages. By this point, most lateral connections have been established and a fairly complete and coherent network of routes has emerged. A new process of concentration, similar to that noticed in the second phase, begins to take place. This is revealed by steady rise in the importance of road traffic first complementing the railways but later competing and overwhelming it. A second manifestation is the disproportionate growth of road traffic between certain interior centres and the port. This development leads to the laying of improved transport facilities which sets up a spiralling effect of more traffic calling forth still further improvement. Major national trunk routes become strongly discernible and according to Taaffe, Morrill and Gould, such high priority linkages in developing countries are not likely to emerge along export trunk routes but along routes connecting two centres concerned with internal exchange activities (Taaffe et al, 1963).

This last statement is the strongest weakness of the model. It is inconceivable that the export trunk routes which had received the greatest attention in the colonial and post-colonial space economy would suddenly be abandoned in preference for new lines of exchange while the economy still remains dependent and shows no signs of becoming self-centred and self-reliant (Mabogunje, 1980). As highlighted (further) by Akin Mabogunje, "the ideal sequence model of transportation ignores most of the crucial aspects of the role of transportation in development, noting only the growth in network density and volume of traffic on the major routes. It misses the fact that one major weakness of colonial and neo-colonial transportation systems is their inadequate interlinkages and intermodal connections and their limited integration into the total spatial economy of these territories" (Mabogunje, 1980, p.289).

It is my view that the model described above simulates better what happened in the United States of America than what occurred in Ghana and many other developing countries.

The State Of The Transport System Today In Ghana

(a) Roads

Attention must be drawn time and again to the fact that the transport system we have today is largely a colonial and neo-colonial system which we have even allowed to deteriorate through wilful neglect, incompetence, misjudgment and misplacement of priorities by successive governments of this country³. Who can explain why a government of a country

will spend money to build an expensive bridge across the Black Volta at Bamboi only for a succeeding government to ignore the reconstruction of what is identified as a trunk road from the northern bank through Bole, Sowla to Wa, presently a regional capital (Fig.2). The road, in its present form (particularly from Bamboi to Sawla) hardly qualifies for a description as a feeder road, yet it is used by heavily loaded articulator trucks day and night carting timber boards apparently to Burkina Faso. It is very difficult to discern from what is on the ground the criteria used for upgrading roads. One would have thought that the economic factor will stand supreme above all others.

The road from Bechem junction off the Kumasi-Sunyani road passes through Ahafo-Ano District and notable settlements like Tapa, Acherensua, Hwidiem, Goaso and Mim, all rich agricultural centres and noted particularly for the production of cocoa, an export crop (Fig.2). In addition to this is the magnificent Mim Industrial Complex, a wood processing concern which exports all its products. Scanstyle Furniture Company is next door and it also exports more than 90% of its products. The frequency of movement of fully loaded articulator trucks with cocoa and wood products is better imagined than described. And yet the road, apart from not being properly graveled, is so narrow at points that the smaller of any two vehicles approaching each other from opposite directions will have to move dangerously into the bush to avoid a brushing of the sides of the vehicles or near head-on-collision. When a reader raised questions about the state of this particular road in the columns of the People's Daily Graphic some time in 1988, the Public Regions Officer of the Highway Authority issued a statement in the columns of the same paper a few days later explaining that the Highway Authority has entered into special arrangements with Mim Timbers which mandates Mim Timbers to resurface the road as and when necessary and claim reimbursement from the Highway Authority. My immediate reaction to this is, why handover a road building exercise to a non-road building company?

Our lack of appreciation for things of major historical significance has resulted in the near abandonment of what was once referred to as the "Great North Road". In August, 1988 it took a team of researchers travelling in a Toyota 4 wheel drive Landcruiser one and a half hours to cover the distance of 30 kilometers between Asante Mampong and Ejura (Fig.2). This can tell you indirectly the nature of the road. The presence of Ejura Farms Limited (a state enterprise) and major farms of International Tobacco did not exert enough influence to generate even levelling and re-graveling of the road. It takes very close to three hours to cover the distance of 60 kilometers between Ejura and Atebubu. It is alleged that moving a very seriously ill person by hired truck in the night from Atebubu to Asante-Mampong (the nearest hospital) costs eighty thousand cedis (quoting late 1988 figures) but on many occasions the patients arrive as bad cases. There is a hospital at Atebubu but it has been without a resident doctor for the past ten years because the operation theater is in a poor state.

The northern part of the country suffers from a paucity of roads. Direct linkages among the major urban centres are either weak or non-existent. It does not make economic, administrative, political or even military sense for vehicular movements between Tamale and Wa to pass through Damango and Sawla (Fig.2). It will be very rewarding if the Tamale-Daboya road is extended to Konkori (near Wa) to help establish a direct link between Tamale and Wa. My attention has been drawn to seasonal flooding of the area but the use of suitable technology should help solve the problem. The poor state of what should otherwise be a good trunk road between Wa-Han-Tumu-Navrongo and Bolgatanga is better not described (Fig.2). And yet when there is disruption in vehicular movement on both Tamale-Bolgatanga, and Tamale-Yendi roads (as occurred at the height of the northern

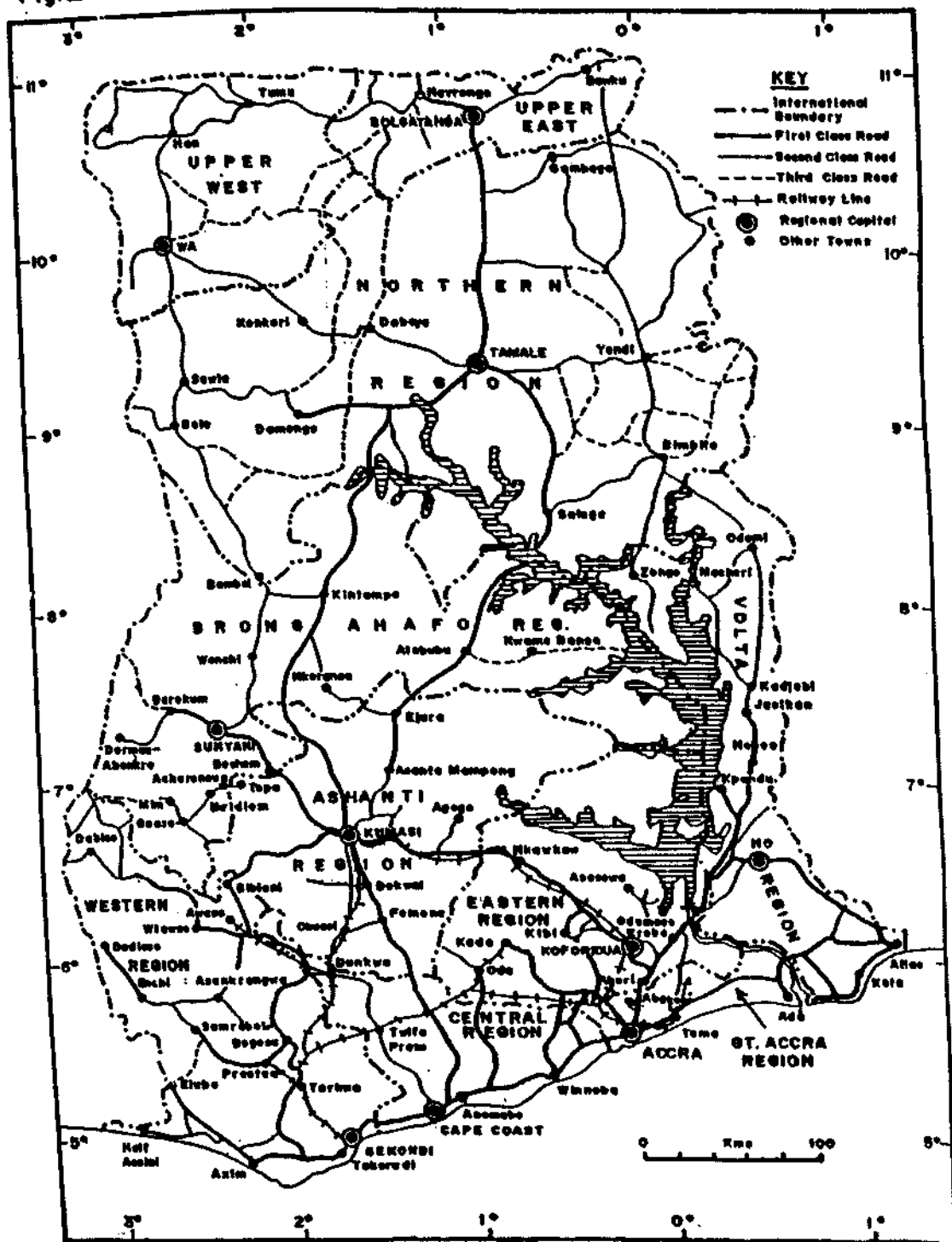
KEY

- - - International Boundary
- First Class Road
- Second Class Road
- - - Third Class Road
- + Railway Line
- Regional Capital
- Other Towns

The map displays the following regions and their capital cities:

- Upper West Region:** Wa
- Northern Region:** Tamale
- Brong Ahafo Region:** Berekum
- Ashanti Region:** Kumasi
- Western Region:** Sekondi-Takoradi
- Eastern Region:** Koforidua
- Central Region:** Tarkwa
- Volta Region:** Lome
- St. Accra Region:** Accra
- Cape Coast Region:** Cape Coast

Other notable locations include Bolgatanga, Nalerange, Yendi, Salaga, Odumase, and various smaller towns throughout the country.



rains in 1988) it is the only alternative route left to reach the Upper East Region. The bridges are old and weak and show visible signs of imminent collapse⁴.

The terrible state of roads in the Western Region are too well-known already to deserve any fresh comment from me. If what we have heard so far is a sample of the state of some of the country's trunk roads we may as well by logical extension foretell the state of the country's feeder roads. Manya Krobo is one district in this country which has continuously supplied the major urban centres of this country (including Accra, Takoradi, Kumasi, Tamale and Bolgatanga) with foodstuffs from colonial times to the late seventies. This is well documented in the Literature (La Anyane 1962; Field, 1943; Addo, 1988). In modern times the Krobo farmers have had to reduce acreage partly due to population pressure and land scarcity but more importantly to the lack of a market for their produce. This has been occasioned by the extremely poor state of the roads in the area making even the famous Asesewa market inaccessible and reducing it presently to a level of local significance only. Any group of our hardworking rural folk do not deserve this type of treatment⁵.

Similar situations abound virtually in many regions of the country. The newly created Sene District in Brong Ahafo is a typical example. Fortunately, there is a high concentration of tractors in Brong Ahafo notably in Nkoranza, Kintampo, and Atebubu districts and they are used to cart people and goods when the roads cannot be used by regular trucks.

(b) Railway

The greatest harm ever inflicted on the overland transport system of this country occurred during the late Mr. Acheampong's period of governance (1972-1978). It was during this period that the articulators were introduced into this country without any regard whatsoever to the nature of our already fragile road network and axle-load capacity of the newly introduced vehicles. The result - they damaged the roads, and took away most of the traditional freight of the railways. The railways needed rehabilitation to stay alive but their call for assistance fell on deaf ears partly because the articulators were performing a sizeable portion of their duties, at greater cost though. The railways are yet to recover fully from this willful neglect. The current derailments in spite of the on-going rehabilitation may be a pointer to this effect.

(c) Inland Waterways

The most important of the inland waterways is Lake Volta which can be utilized for cheap movement of freight in bulk. This function is currently being performed by the Volta Lake Transport Company, a subsidiary of the Volta River Authority. Unfortunately, even though the company has operated profitably between 1983 and 1987, it operates far below targeted values. For example in 1987 the company was able to move only 3.57% of the targeted freight to be carried. This is definitely due to a host of problems including falling water levels, navigational hazards, inefficient marketing of its services, inadequate capital, to mention a few (Siayor, 1988). The removal of these bottlenecks will help the country reap immense benefits since water transport remains the cheapest means of transport in the world.

(d) The State Shipping Corporation (BSL)

Since the early 1980s the Black Star Line has been saddled with numerous problems which resulted in the sale of 12 of its 16 vessels. The remaining 4 vessels are being used for multi-purpose services. Two of the vessels are employed in the liner services of UKWAL (United Kingdom West African Joint Service), and COWAC (Continent West African Serv-

ice). The remaining two vessels are engaged on the charter market to the Far East, South America and the East Coast of the United States. The rationalization of the fleet is due to the poor cargo support the line enjoys in the Liner Services.

(c) Ghana Airways

Ghana Airways has four aircraft i.e. a DC-10, DC-9, and two F28s. The services fall far short of demand partly due to inadequate numbers in aircraft supply. The situation is made worse by under-utilization of the F28s due to high operational cost. In terms of present stock of aircraft the airline is over staffed with a ratio of 400 workers to an aircraft. The over booking and over ticketing which has become a feature of the airline derives basically from shortage of aircraft, the monopoly the airline enjoys on certain routes and the fact that the cedi ticket traveller can only travel by Ghana airways. These problems are characteristic of many African airlines and a comment from a tourist who visited West Africa recently is worth noting.

Writing in the Letters Column of the February 13 - 19th (1989) issue of West Africa a Mr. Drennan states: "Having recently returned from extensive travel in West Africa, I feel compelled to point out that my experiences with airlines and airports was almost entirely negative. Confirmed tickets don't seem to ensure a seat. Bribery does. And the airports themselves seem to be dens of iniquity. While at Dakar international airport as a transit passenger, I was forced to "buy" a totally unnecessary Senegalese visa by an airport official and, at the infamous Lagos international airport money was extorted from me at each check point. Furthermore, a bogus policeman in complete police attire informed me that for his services (he had snatched my ticket and thrust me into the wrong queue) he changed one hundred dollars for his breakfast. Perhaps he eats gold. Until such time as service rather than seizure becomes the norm at airports, tourists will arrive and leave with a sour taste. Perhaps others could follow the example of Banjul airport officials. There I was treated courteously and assisted in a friendly manner. Some even smiled and a policeman said 'welcome': (West Africa No.3730, 1989).

Anybody who had travelled a few times along the West African coast by air is sure to narrate discomforts either similar or dissimilar of varying degrees. The fact that the writer did not mention Ghana is no reason for self complacency. The authorities in charge of our airports should be on the look out and nib anything near the experiences of this unfortunate traveller in the bud long before it raises its ugly head.

Effect Of Poor Transportation Services On Costs Of Goods

The poor condition of our rural roads and some highways has had one negative effect on prices of goods. In the case of charcoal between 30 and 50% of the wholesale price per maxi bag of 50 kg. in Kumasi and Accra is accounted for by transportation cost. This is partly due to the relatively long distance between source and destination but also due to the extremely poor condition of the rural roads which lead off the trunk roads to the sources of charcoal. While a 50 kg. bag of charcoal attracts a transport fee of ₵300 from Kintampo area to Kumasi, the same item attracts only an additional charge of ₵100 to be moved to Accra even though the distance between Kumasi and Accra is 30% over or above the distance between Kintampo and Kumasi. In the foodstuffs trade prices at origin are known to double or even rise to 300% or more by the time they get to their urban destinations and a sizeable portion of this rise goes in to defray transportation charges. Attention must be drawn to the fact though that only between 5 and 10 percent of gross earnings of vehicle operators could be considered as actual profit. The rest goes into payment of running cost

and servicing of loans used to purchase vehicles (Addo, 1990).

There is a strict adherence to the per/tonne km system of fixing transportation rates in the country. The overall transport charges incurred on a unit of any commodity therefore increases with increasing distance. The benefits the American derive from bulk long distance haulage through the operation of tapering and grouped fares are non-existent in our country. Rather farm sizes decrease with increasing distance from the few motorable roads (Addo, 1976; Depaah 1984). Reports in the press about foodstuffs being locked up here and there at the peak of the major harvest season due to inaccessibility have become an annual ritual. The benefits to be derived from moving goods in bulk by the railways and water transport are not being realized because of either under-utilization of capacities or limited capacities deriving from operational problems.

Recommendations

The United States of America would not have become the rich, great and powerful nation it is today if her transportation system had been any where near ours for a greater part of its existence as a nation. If Ghana wants to develop properly, its transportation system must not be taken for granted again. There rural roads come up for particular mention for, "in a self-centred development, rural feeder roads should form the backdrop against which the improvement of the rest of the national transportation network must be seen" (Mabogunje, 1980, p.295). Their frequent neglect in the scheme of things has been in part responsible for the backwardness of the rural areas of this country.

Specifically the following recommendations are made to redress problems associated with the national transportation system to improve accessibility and mobility and help accelerate the pace of development of the country.

1. Government is called upon to establish a national transportation commission⁶ which will serve in an advisory capacity. Its immediate task must be the submission of proposals for the formulation of a national transportation development policy, and plan. Thereafter the commission should be charged with monitoring implementation of the plan and make suggestions as and when necessary in the fields of integration of the overall system and the performance of the individual modes. In view of present developments the envisaged national transport planning commission can be a sub-set of the National Planning Commission.
2. The formation of a national transportation plan must be based on a well prepared scheme of land classification which must be backed with necessary legislative instruments that will prohibit human interference in certain micro-ecological zones which by their very nature need to be left intact if the rate of environmental degradation is to be kept at the bare minimum. The density of route ways will therefore depend on the suitability of selected areas for particular forms of activity.
3. The on-going rehabilitation of the national railways system must be intensified and discussions for the possible northward extension of the system must be re-opened.
4. Current problems associated with Lake transport must be redressed for the nation to benefit from cheap bulk-haulage by water. In this connection it may be useful to extend the railway from Shai Hills to Akosombo to permit further bulk haulage by train to Tema and Accra. This will eliminate the use of trunks in the movement of

goods to the metropolis since movement by trunk is expensive and is likely to wipe out the benefits derived initially from the use of the Lake transport facility.

5. The assignment of the responsibility of maintenance of rural roads to the District Assemblies is a step in the right direction. But this must be accompanied by mandatory budgetary allocation for that and other functions to be performed by the District Assemblies. The situation where the Government virtually collects all the revenue and is asking the District Assemblies to search for new sources of revenue (which are almost non-existent in some districts) is unhealthy. If decentralization is to be meaningful and touch the lives of the people at the grassroots then it is recommended that central government should commit at least 30% of national income on an annual basis to programmes in the districts. The present allocation of 5% of national income to the District Assemblies is woefully inadequate. This amount should be shared among the districts on the basis of well-defined and acceptable criteria to promote equity and justice. Any extra revenue generated by any district could then be added to this main grant and will together form the overall capital which the districts will use to support carefully initiated programmes.
6. The introduction of an efficient and very reliable mass transport system in the urban sector is long over due. The introduction of such a system will not only curtail the excessive reliance on private saloon cars and decongest the streets but also help bring down fuel consumption and the frequency of replacement of damaged parts of vehicles.
7. It is also recommended that all bridges in the country be thoroughly examined immediately and weak ones either strengthened or replaced.
8. The movement of trucks with high axle capacities should be restricted to only trunk roads in good condition.
9. Road building is an expensive exercise especially when it is done with borrowed money. Every road is built to specifications which guarantee a certain minimum life span. But the longevity of the road can be shortened if truck drivers are allowed to carry excess capacity each time they ply the road. This is why there is the need to install a few weighing bridges at carefully selected points within the network to check drivers who carry freight far in excess of their licensed weights.
10. Government is called upon to consider the possibility of subsidizing the price of tractors sold to our farmers since they are used for both ploughing and transport and since they constitute the only viable alternative to headloading in the rural areas where good roads are a rare phenomenon.
11. Last but not the least, the present fleet of aircraft of Ghana Airways need to be increased to enable them perform efficiently.

Conclusion

"The movement of goods and services across a country represents a major aspect of the integration of the country. It denotes a progressive move to interdependence based on

increasing regional specialization and a better appreciation of the benefits derivable from the full exploitation of the principle of comparative advantage" (Mabogunje, 1980 p.302). But this can only be done in the face of a carefully planned and integrated transport system which is not only built but efficiently maintained.

Foot Notes

1. An inter-faculty lecture delivered at the University of Ghana, Legon on March 16, 1989
2. Sustainability has always been an important ingredient of the concept of development. The phrase "sustainable development" has been introduced into the literature due to failure of some development efforts in the third world where sometimes 'development' has erroneously been equated with concretization. The new phrase 'sustainable development' is to remind policy makers and implementors that development does not imply merely erection of structures. The required 'energy' must always be available to sustain it.
3. By 1987, the ground transport of Ghana consisted of the following:-
 - i) 14,000 km. of trunk and urban arterial roads,
 - ii) 14,000 km. of feeder roads,
 - iii) 950 km railway system,
 - iv) an over-aged road vehicle fleet of about 87,000 vehicles both state and privately owned.
4. On reaching the bank of the Kulpawn River, a major tributary of the White Volta in floods in 1988, I took a quick look at a notice strategically positioned by the Highway Authority and asked the driver to stop. The notice read, "weak-Bridge - Drive Slowly". I look into the face of a colleague who sat next to me without uttering a word. We both realized that it was necessary to say our prayers (silently though) before continuing with the journey. What made the situation even more precarious was that the flood water was flowing over the bridge. We crossed safely and stopped at nearby Nakong to offer thanks to God for our safety. You can therefore imagine our reaction, when on the 'return journey' three days later, we encountered a State Transport Corporation articulator truck fully loaded with goods, just at the outskirts of Tumu heading towards Bolgatanga. We could only wish the driver and his mate good luck.
5. On Monday, 13 March, 1989, a Radio Newsreel report quoted an official of the Ministry of Finance and Economic Planning to the effect that a Pamscad package had been put in place to take care of feeder roads in Manya Krobo.
6. Today's issue of the Ghanaian times (16 March, 1989) carried information on the setting up of a committee to review transport sector policies. This is a good example of ad hoc measures.

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