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 **TECHNICAL**

**REPORT ON**

**THE FUNDAMENTALS OF THE TRANSPORTATION PLANNING PROCESS AND THE SOCIOECONOMIC IMPLICATIONS IN RELATION TO NATIONAL DEVELOPMENT**

BY

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1. **ABSTRACT**

Development is and will remain the most essential factor to the sustenance and growth of any nation. A country is regarded as developed when is able to provide qualitative life for her citizens, also, the pride of any government is the attainment of higher value level of development in such a way that its citizens would derive natural attachment to governance. The transportation sector could be regarded as one of the most essential sectors that is key in development of a nation.The development of transportation systems is embedded within the scale and context in which they take place; from the local to the global and from environmental, historical, technological and economic perspectives*.* This development of transport in the overall activities of a nation is the ability to deliver an improved, efficient, effective, affordable, accessible, safe, reliable and an integrated transport system which will prosper the economic, social and political segments of the nation. Transport systems are closely related to socio-economic changes. The mobility of people and freight and levels of territorial accessibility are at the core of this relationship. Economic opportunities are likely to arise where transportation infrastructures are able to answer mobility needs and insure access to markets and resources. Despite the importance of transportation, it has huge effects on the environment.

Planning foe effective development in the various sectors of Nigeria is a herculean task. Especially the aspect of transportation which forms a vital part of living. Transportation systems in Nigeria over the years and since the independence has continued on a relatively slow pace and experienced a lot of problems. Inadequacies in this sector has grossly affected urban centres across the nation and as such greatly influenced the country’s economic and social growth. It is imperative to note that transpoartation is a key element and a major driver in development economically and socially amongst other beliefs. This paper explores the transportation planning process and the importance of transportation planning to the socio economic development in Nigeria.

1. **INTRODUCTION**

The degree of development of transport systems or the rate at which transport systems develop is directly proportional to the rate of socio-economic development. Here, we establish that transportations is the bedrock of development. The mobility of people and freight and levels of territorial accessibility are at the core of this relationship. Economic opportunities are likely to arise where transportation infrastructures are able to answer mobility needs and insure access to markets and resources (Jean, Claude and Brian, 2006). The development of transport in the overall activities of a nation is the ability to deliver an improved, efficient, effective, affordable, accessible, safe, reliable and an integrated transport system which will prosper the economic, social and political segments of the nation. All these functions make transportation a derived demand as the sector in itself is not productive but is responsive to forces generation in the production and consumption sectors. A growing share of the wealth of any nation is thus linked to its trade and distribution. However, even if transportation has positive impacts on socio-economic systems, there are also negative consequences such as congestion, accidents and mobility gaps .

The [development of transportation systems](https://transportgeography.org/?page_id=11171) takes place in a socioeconomic context. While development policies and strategies tend to focus on physical capital, recent years have seen a better balance by including human capital issues. Irrespective of the relative importance of physical versus human capital, development cannot occur without both interacting as infrastructures cannot remain effective without proper operations and maintenance while economic activities cannot take place without an infrastructure base. The highly transactional and service-oriented functions of many transport activities underline the complex relationship between its physical and human capital needs. For instance, effective logistics rely on infrastructures and managerial expertise.

Because of its intensive use of [infrastructures](https://transportgeography.org/?page_id=5285), the transport sector is an important component of the economy and a common tool used for development. This is even more so in a global economy where economic opportunities have been increasingly related to the mobility of people and freight, including information and communication technologies. A relation between the quantity and quality of transport infrastructure and the level of economic development is apparent. High-density transport infrastructure and highly connected networks are commonly associated with [high levels of development](https://transportgeography.org/?page_id=277). When transport systems are efficient, they provide **economic and social opportunities and benefits** that result in positive multiplier effects such as better accessibility to markets, employment, and additional investments. When transport systems are deficient in terms of capacity or reliability, they can have an economic cost such as **reduced or missed opportunities and lower quality of life**.

The history of transportation in Nigeria dates back to the pre – colonial era. Within this period, transportation facilities such as roads, railways, air transport facilities were really non-existent with emphasis then on the bush path. At present, the modes of transport in Nigeria include road, railways, airways, inland waterways, coastal waters, the deep sea, and the pipeline . The potential significance of road development for investment, trade, growth and poverty alleviation has long been recognized. Not only does road transport infrastructure facilitate the direct provision of services to consumers, it also provides intermediate inputs that enter into the production of other sectors and raise factor productivity.

By lowering the cost and reducing the time of moving goods and services to where they can be used more efficiently, road development adds value and spurs growth. Over time this process results in increasing the size of markets which is a precondition for realizing economies of scale. Good road projects clearly contribute to poverty reduction by improving the living conditions of people and by augmenting the opportunities available for trade and employment. The economic development of Nigeria has reflected the development of her transport systems. This is particularly true of the road transport system, which is by far the most widely used mode of transport in the country. Of all commodity movements to and from the sea-ports, at least two-thirds are now handled by road transport while up to 90% of all other internal movements of goods and persons take place by roads .

Transport can contribute to the economy directly through addition to capital stock via increases in transport infrastructure. Transport provides the arteries through which the economic life of the people, information and raw materials as well as finished products can be moved from one place to the other. This therefore helps to build and maintain the society thereby leading to economic growth. It is in that context that the paper considers road development and economic growth in Nigeria.

1. **LITERATURE REVIEW**

**WHAT EXACTLY IS TRANSPORTATION?**

Transport which can also be referred to as transportation was derived from two Latin words ‘trans’ which mean ‘across’ and ‘portare’ which mean ‘carry’. According to the Oxfords learner’s dictionary, transportation is a system for carrying people or goods from one place to another using vehicles, roads, etc. Also according to Merriam Webster Dictionary, transportation is an act, process, or instance of transporting or being transported. The same dictionary also defines it as a means of conveyance or travel from one place to another or a public conveyance of passengers or goods especially as a commercial enterprise. Longman Dictionary of Contemporary English (2003) defines transportation as a process or business of taking goods from one place to another or a system for carrying passengers or goods from one place to another. Transportation refers to the process of conveying or moving of goods and people from place to place (Anyanwu et al 1997). According to Good and Jebbin (2015) transportation is a system for carrying passengers, raw materials and goods from one place to another both internally and internationally, often through power driven machines. It is commonly said to refer to movement of people and goods from one place to another (Okeafor, 1998). Transportation service is the port of physical distribution activity which is concerned with the actual movement of goods to their various consumers (Good and Jebbin, 2015).

**TRANSPORTATION AND ECONOMIC OPPORTUNITIES**

Transportation developments that have taken place since the beginning of the industrial revolution have been linked to [growing economic opportunities](https://transportgeography.org/?page_id=5325). At each stage of societal development, a particular transport technology has been developed or adapted with an array of impacts. Transportation influences economic opportunities for production and consumption. Historically, [six major waves of economic development](https://transportgeography.org/?page_id=5331) where a specific transport technology created new economic, market and social opportunities can be suggested:

* **Seaports**. Technological and commercial developments have incited a greater reliance on the [oceans](https://transportgeography.org/?page_id=5354) as an economic and circulation space. Seaports were associated with the early stages of European expansion from the 16th to the 18th centuries, commonly known as the age of exploration. They supported the early development of international trade through colonial empires but were constrained by limited inland access. Later in the industrial revolution, many ports became important heavy industrial platforms. With globalization and containerization, seaports increased their importance as a support to international trade and global supply chains. Simple economies are usually associated with bulk cargoes while complex economies generate more containerized flows.
* **Rivers and canals**. River trade has prevailed through history and even canals were built where no significant altitude change existed since lock technology was rudimentary. The first stage of the industrial revolution in the late 18th and early 19th centuries was linked with the development of canal systems with locks in Western Europe and North America, mainly to transport heavy goods. This permitted the development of rudimentary and constrained inland distribution systems, many of which are still used today.
* **Railways**. The second stage of the industrial revolution in the 19th century was linked with the development and implementation of rail systems enabling more flexible and high capacity inland transportation systems. This opened substantial economic and social opportunities through the extraction of resources, the settlement of regions and the growing mobility of freight and passengers.
* **Roads**. The 20th century saw the rapid development of comprehensive road transportation systems, such as national highway systems, and of automobile manufacturing as a major economic sector. Individual transportation became widely available to mid-income social classes, particularly after the Second World War. This was associated with significant economic opportunities to service industrial and commercial markets with reliable door-to-door deliveries. The automobile also permitted new forms of social opportunities, particularly with suburbanization.
* **Airways and information technologies**. The second half of the 20th century saw the development of global air and telecommunication networks in conjunction with economic globalization. New organizational and managerial forms became possible, especially in the rapidly developing realm of logistics and supply chain management. Although maritime transportation is the physical linchpin of globalization, air transportation and IT support the accelerated mobility of passengers, specialized cargoes and their associated information flows.

**No single transport mode** has been solely responsible for economic growth. Instead, modes have been linked with the economic functions they support and the geography in which growth was taking place. The [first trade routes](https://transportgeography.org/?page_id=1048) established a rudimentary system of distribution and transactions that would eventually be expanded by long-distance [maritime shipping networks](https://transportgeography.org/?page_id=1089) and the setting of the first multinational corporations managing these flows. Major flows of international migration that occurred since the 18th century were linked with the expansion of international and continental transport systems that radically shaped emerging economies such as in North America and Australia. Transport played a catalytic role in these migrations, transforming the economic and social geography of many nations.

Transportation has been a tool of territorial control and exploitation, particularly during the colonial era where [resource-based transport systems](https://transportgeography.org/?page_id=5337) supported the extraction of commodities in the developing world and forwarded them to the industrializing nations of the time. The goal to capture resource and market opportunities was a strong impetus in the setting and structure of transport networks. More recently, port development, particularly container ports, has been of strategic interest as a tool of integration to the global economy as the case of [China](https://transportgeography.org/?page_id=4103) illustrates. There is a direct relationship, or coordination, between [foreign trade and container port volumes](https://transportgeography.org/?page_id=4187), so container port development is commonly seen as a tool to capture the opportunities brought by globalization. The growth of container shipping has systematically been 3 to 4 times the rate of GDP growth, underlining a significant [multiplier effect between economic growth and container trade](https://transportgeography.org/?page_id=5343). However, this multiplying effect has substantially receded since 2009, underlining a [maturity of the diffusion of containerization](https://transportgeography.org/?page_id=5348) and its dissociation from economic growth.

1. **METHODOLY**

The survey research design method was adopted for this study. Using the multistage sampling technique, the 16 local government areas constituting the metropolitan Lagos were classified as low-, medium-, and high-density wards, and 25% of the wards were selected using the stratified random sampling technique. Residential buildings in the selected wards were listed using a base map, and buildings were randomly selected also using stratified sampling technique. One thousand four hundred and seventy-five households were randomly surveyed in the selected buildings through a questionnaire survey, designed to collect data on the respondents’ socioeconomic characteristics which include gender, marital status, age, level of literacy, employment status and type, income level, work place, household size, and access to telecommunication facilities. 91.6% (1351) of the sampled households were found to use public transport.

Transportation planning plays a critical role in a State’s, region’s or community’s vision for its future. It includes

 (1) a comprehensive consideration of possible strategies,

(2) an evaluation process that encompasses diverse viewpoints,

(3) the collaborative participation of relevant transportation-related agencies and organizations, and (4) open, timely, and meaningful public involvement.

 What is the Transportation Planning Process?

Transportation planning is a cooperative, performance-driven process by which long and short-range transportation improvement priorities are determined. Metropolitan planning organizations (MPOs), States, and transit operators conduct transportation planning, with active involvement from the traveling public, the business community, community groups, environmental organizations, and freight operators.

Transport planning is defined as planning required in the operation, provision and management of facilities and services for the modes of transport to achieve safer, faster, comfortable, convenient, economical and environment-friendly movement of people and goods. It is a prediction of usage demand in future travel and to ensure all the necessary facilities and services to cater to that demand. Transport planning is highly essential in shaping cities, enabling economic activities, promoting community interaction, and enhancing quality of life. It is also essential for sustainable development and ensuring safe accessibility at various levels for all individuals.



What does Metropolitan Planning Organization have to do with Transportation ?

A Metropolitan Planning Organization (MPO) has authority and responsibility for transportation policy-making in metropolitan planning areas. 1 Federal legislation passed in the early 1970s requires that any urbanized area (UZA)2 with a population greater than 50,000 have an MPO. MPOs ensure that existing and future expenditures for transportation projects and programs are based on a continuing, cooperative and comprehensive (3-C) planning process. MPOs also cooperate with State and public transportation operators to set spending levels for Federal funds that are meant for transportation projects. Note that some MPOs are found within agencies such as Regional Planning Organizations (RPOs), Councils of Governments (COGs), and others. Because MPOs typically neither own nor operate the transportation systems they serve, most MPOs will not be involved in implementing the transportation project priorities they establish. Rather, MPOs serve an overall coordination and consensus-building role in planning and programming funds for projects and operations. The MPO must involve local transportation providers in the planning process by including transit agencies, State and local highway departments, airport authorities, maritime operators, rail-freight operators, Amtrak, port operators, private providers of public transportation, and others within the MPO region. By law, an MPO is defined as a policy board comprised of local elected officials. Representatives from local governments and transportation agencies serve on MPOs and perform the six core functions that follow:

1) Establish a setting for effective decisionmaking Establish and manage a fair and impartial setting for effective regional decisionmaking in the metropolitan area.

 2) Identify and evaluate transportation improvement options Develop transportation improvement options and use data and planning methods to evaluate whether those options support criteria and system performance targets. Planning studies and evaluations are included in the Unified Planning Work Program (UPWP).

3) Prepare and maintain a Metropolitan Transportation Plan Develop and update an LRTP for the metropolitan area covering a planning horizon of at least 20 years. MPOs prepare LRTPs using performance measures and targets. These are the planning factors that MPOs and departments of transportation consider to guide their planning processes:

• Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency

. • Increase the safety of the transportation system for motorized and nonmotorized users.

 • Increase the security of the transportation system for motorized and nonmotorized users.

 • Increase accessibility and mobility for people and freight.

 • Protect and enhance the environment

• Promote energy conservation

. • Improve quality of life for the community.

 • Promote consistency between transportation improvements and planned State and local growth and economic development patterns.

• Enhance the integration and connectivity of the transportation system for all modes. • Promote efficient system management and operation.

 • Emphasize the preservation of the existing transportation system.

 4) Develop a Transportation Improvement Program (TIP) Develop a short-range, four-year program of priority transportation improvements drawn from the long-range transportation plan. The MPO creates the TIP with spending, regulating, operating, management, and financial tools. The TIP represents immediate priority actions to achieve the area’s goals and associated system performance targets.

 5) Identify performance measure targets and monitor whether implemented projects are achieving targets MPOs coordinate with State and public transportation operators to establish performance targets that address performance measures, as set forth in Federal law, related to surface transportation and public transportation. MPOs prepare plans that include performance targets addressing performance measures and standards. When updating the plan, MPOs also prepare a System Performance Report that tracks progress in meeting performance targets. In addition to Federally required performance measures, MPOs may identify additional, locally significant performance indicators that support decisionmaking.

 6) Involve the public Involve the general public and other affected constituencies related to the essential decisionmaking elements listed above.



The extent to which the desire to travel translates into actual travel will be moderated by the time and costs involved in making the desired trip. Travel times and costs are dependent on:

► the supply of suitable transport services, including speed, quality and convenience factors relating to the services (e.g. service frequency, reliability, crowding)

 ► the financial cost (or price) of the services

► perceptions of any social and environmental costs associated with the trip and the services involved (e.g. level of safety and security, adverse environmental effects). Demand for a particular transport mode, such as public transport (PT) or passenger vehicle, is dependent on a number of supply and demand factors. As an example, Table 1 lists the main ‘drivers’ of personal transport demand and modal shares in London.

STAGES OF TRANSPORTATION DEVELOPMENT IN NIGERIA

THE FIRST STAGE: This consists of scattered settlements and small ports along a coast, which arose from colonial occupation. Such coastal settlements developed trading functions, though in the beginning these were of a very limited nature and, in consequence, their hinterlands were very restricted. There was little lateral inter-connection between the scattered settlements, except for those effected by native fishing craft of occasional trading ships.

THE SECOND STAGE: This evolved slowly but gradually as lines of inland penetration developed and some of these which linked up mining settlements or centers of population became more important than the others. With the emergence of these major lines of penetration, often linked to the best located of the coastal ports, port concentration begins to develop and these commence to grow at the expense of their neighbors, some of which eventually disappear as trading centres or at best linger on as relict ports. This second stage goes on, hand in hand with the growth of an efficient administrative system and, more particularly, with the expansion of production for export.

THE THIRD STAGE: This is marked by the development of ‘feeder’ routes which focus more particularly upon the main ports and the more important centres in the interior. At the same time, as the growth in the export trade stimulates economic expansion generally in the hinterland, a number of immediate centres begin to develop along the major access routes.
THE FOURTH STAGE: These intermediate centres begin to develop into nodes which become focal points for feeder networks of their own. The beginning of lateral interconnection also takes place with land between the major ports and the major inland towns being affected.

THE FIFTH STAGE: This is the emergence of complete interconnection as the feeder networks grow around the ports, major inland centres and main-line nodes and begin to link up.

THE SIXTH STAGE: As the economy becomes more developed and integrated, all the principal centres and many of the minor centres are linked together in the transport system, while a number of high priority trunk routes develop which link the largest or most important centres .

## Findings

##  Socioeconomic characteristics of public transport users

The socioeconomic characteristics of the public transport users in metropolitan Lagos were presented under two headings, i.e., the socioeconomic characteristics and the household characteristics of the commuters.

###  Analysis of socioeconomic characteristics

The socioeconomic characteristics include the age, gender, marital status, level of education, employment status and types, location of place of work, and household monthly income, while the household characteristics include residential density, household size, access to telecommunications facilities, and auto-ownership.

Studies show the summary and the descriptive statistics of the numeric data on the socioeconomic variables, also the socioeconomic characteristics of the respondents. This explains that over 70% of the respondents are within the working age group of between 25 and 65 years. This shows that a larger proportion of public transport users fall with the working class. The male respondents are dominant (60.3%) because they are the gender that is more mobile in urban areas; hence they use the public transport more. Married respondents are about 54%. The table also revealed that over 81% of respondents have secondary school education or higher, presently a highly literate population. Almost 73.3% of respondents are employed either in the formal or the informal sectors, 28.7% of them in the trading and commerce employment sector, while 18.3% are in civil service. This observation meant that traders and civil servants constituted the larger proportion of the users of the public transport system representing an average of 47% in the entire metropolitan Lagos employment force.

1. **CONCLUSION**

The main purpose of this research was to provide information on the socioeconomic characteristics of the urban commuters in metropolitan Lagos. Examining current and projected socioeconomic data in a city is an important step in determining present and future transportation requirements. Socioeconomic characteristics, such as population, size, number of households, and employment, are key variables that aid in understanding the traveling habits of the city’s population. The aim here was to discover groups of passengers who exhibit similar behaviors from a purely temporal standpoint (i.e., passengers taking public transportation at the same times without accounting for the boarding locations). Intuitively, the discovery of these groups can help identify frequent patterns in the way passengers use public transit and characterize the public transport demand accordingly. Also it is hoped that the clear understanding of commuters’ socioeconomic may be used to construct temporal passengers’ profiles with a view to applying a generative model-based clustering approach to public transport management to discover groups or clusters of passengers who behave similarly. This may go a long way in public transport policy formulation and planning and scheduling of service.

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