

# **A review of urbanisation and transport challenges in developing countries**

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## **Abstract**

*This paper provides a review of the challenge of urbanisation and urban transport from a planner's perspective. Following the establishment of the relationship between urban structure and transportation, it goes ahead to describe urbanisation and how its rate varies from developed countries to developing one. It also presents urbanisation as a challenge planner are having difficulty with combating. It then identifies transport planning as an important component of urban planning, points out some of the challenges of transport planning, and describes why some approaches were unsuccessful. Finally, some promising planning options are described. It concludes that while the uptake of these promising options is slow, they have the potential to resolve development problems in cities facing urbanisation challenge.*

## **1.0 Introduction**

There exist a close relationship between the nature of the urban transportation and the urban structure (Pacione, 2009; Ogunsanya, 2002; Muller, 1986). This is more so as transport plays a significant role in the origin and continual survival of any settlement. The movement of people, goods and services within the urban area has been a vital aspect of the city life. Urban form was compact and walkable prior to the invention of modes of transport that enhances long distance travel and as transport technology improves, various urban forms emerges (Pacione, 2009; Ogunsanya, 2002; Muller, 1986). The invention of the motor vehicle ushered in the most dramatic innovation in transportation by radically overhauling the transport system (Glaser and Kahn, 2004). It facilitated the public transport which made dispersal of jobs, shopping and residential locations possible (Muller, 1995; Ogunsanya, 2002; Glaeser and Kahn, 2004). What this process leaves behind is urbanisation.

Urbanisation is a global phenomenon that is occurring mainly in the developing countries of the world. The world's urban population was estimated to be 220 million in 1900. By the year 1950, this figure has risen to 730 million and 2.3 billion by 1990 (Devas and Rakodi, 1993). It reached an alarming 3.2 billion in 2005 and is still growing (Akunnaya and Adedapo, 2014). At city level, the situation is similar: In 1950, there were two megacities in the whole world - New York city with a population of 12 million and; Tokyo with 11 million inhabitants (UNPFA, 2011). By 1975, the number has increased to three and by the year 2004, there were already about 20 megacities and the number is expected to have greatly increased by year

2020. These cities now account for about a tenth of the world's urban population with most of the megacities in the developing countries of the world. Most developed countries are now experiencing counter urbanisation process (Grimsrud, 2011) whereas rapid growth is being experienced in the developing countries especially in Asia and Africa where there is acute shortage of basic infrastructure (Akunnaya and Adedapo, 2014). Specifically, it is estimated that by 2020, Mumbai, Delhi, Mexico city, Dhaka, Jakarta, Sao Paulo and Lagos will be having over 20 million inhabitants thereby making the cities extremely difficult to manage (UNPFA, 2007).

Moreover, while the rate of urbanisation in Europe and other countries of the West was a gradual process initially influenced by increase in agricultural productivity and industrialisation that translated into economic growth, that of developing world, especially those of the global south has been more rapid, dramatic, challenging and resulting majorly from rural-urban migration (Devas and Rakodi, 1992; Njoh, 2003; Kessides, 2007). The case of Africa is particularly intense. The current rate of urbanisation is put at 40%, far exceeding those of Europe, America and Australia (Parnell and Pieterse, 2014) and is expected to reach 50% by the year 2030 (UN DESA, 2011). For most of these countries, this urbanisation is unplanned for. The rapid unplanned urbanisation is therefore leading to increased pressure on available urban infrastructures and services, and resulting in degeneration of such infrastructures and their inability to meet the need of the ever increasing population.

Urban transportation and mobility have therefore come to be one of the planning and development issues with which urban planners and city managers in developing countries in general. This paper explores the challenges of transport development in urban planning with emphasis on developing countries of the world. It begins by describing how transport development facilitated the growth of urban centres and the subsequent increase in the rate of urbanisation. It goes on to show how this situation ultimately led to increased geographical separation between areas of activities in urban areas requiring efficient transport facilities. Specifically, section two provides a description of the advent of urbanisation and how planners are having challenges with combating it. Section three identifies transport planning as an important component of urban planning and points out some of the challenges of transport planning. In section four, transport development approaches and the reasons why they were unsuccessful is the subject of discussion while the last section, section five, is dedicated to options that might work for transport development in challenging cities. The paper ends with a short summary.

## **2.0 Urbanisation and planning challenge**

Urbanisation is described as “the increase in the urban share of the total population” (UNPFA, 2007: 1). Urbanisation was not important before 19th century. Urban growth witnessed in the nineteenth and early twentieth century was brought about by the invention of mass transportation modes such as the horse drawn and electric tramways, railway and motor cars (Tolley and Turton, 1995; Ogunsanya, 2002; Pacione, 2009). Before then, cities were principally compact because people had no choice than walking to places of their daily activities. They lived at or close to their work places thereby creating high density living environments that were of relative sizes and functionally integrated (Tolley and Turton, 1995; Hanson, 1986). The industrial revolution that saw the invention of modes of transportation other than walking which allowed

for greater distance to be covered and larger goods to be transported led to geographical extension of human settlements and as technology advanced, so did the extent covered by the urban built-up areas (Hanson, 1986; Tolley and Turton, 1995; Glaeser and Kahn, 2004). As transport improved from walking, through the use of horse bus and tramway to the invention of the railway system, there came some level of dispersal as a result of the fact that much distance could be covered within a relatively short period of time (Ogunsanya, 2002). This dispersal, coupled with increasing population growth led to what is known as urbanisation and its attendant problems.

The goal of the planners is to ensure that urban development is taking place in a planned and sustainable manner (Garba, 2004). This is however not being achieved in most countries, particularly those of the developing world. Thus, while urbanisation is being experienced, particularly, in the developing countries across the world, it is often regarded as highly undesirable as majority of the countries are not adequately prepared for it (Cohen, 2006; Pacione, 2009; Pieterse and Parnell, 2014). This is more so as the process of urbanisation exhibits some of the characteristics which include, among others, low level of industrialisation, high incidence of rural-urban migration resulting in higher level of younger population, high rate of unemployment and high crime rate (Barredo et al., 2004). These problems which always require the attention of planners are difficult to tackle. Thus, they are central political issue in most developing countries as they create some undesirable consequences some of which include “leapfrog development, proliferation of scattered settlements, unregulated population growth, shortage of affordable housing, insufficiently funded public services, increasing social difference, overly long commuting times, traffic congestion, and severe ecological problems” (Mandeli, 2008: 513). These problems have also been cited by other researchers and called different names some of which include increased rate of urban sprawl (Glaeser and Kahn, 2004), uncontrolled land-use, housing shortages, high unemployment rate, increased urban crime rate, environmental pollution as well as unhealthy urban economy (NITP, Undated; Stren, 1991; Gandy, 2006). In reflecting on these issues, Kessides (2005: 61) observed that many of the problems with urbanised African cities “should be recognized as a signal of serious neglect”. She went further to state that “Much better-managed urban development could therefore play a significant role in launching the (African) economies onto a stronger, more sustained path of economic growth” Kessides (2005: 61).

### **3.0 Relationship between transport and urban planning**

Transport planning and development is an important aspect of urban planning. This is demonstrated in the land use - transport relationship. For example, improved transport infrastructure and services helps in bridging the gap created by the spatial separation between different land uses in the city. But also improved transportation enables people to travel farther and thus facilitates the increased separation of places of activities in the city as well as promotes increased suburbanisation. It is therefore worthy of note that the transport-land use relationship is symbiotic and complex (Mitchell and Rapkin, 1954; Hanson, 1986). The characteristics of the transport system are determined by the level accessibility, which in turn affect the location of activities (Land use). The location of activities in space affects the pattern of daily activity, which informs the need to travel (Huang, 2003). According to Oduwaye, Alade and Adekunle (2011), land

use pattern generates interaction needs (trip generation) which, in efficient urban planning, should be directed (with definite goals in mind) to specific transportation facilities (trip distribution and modal split). Thus, urban transportation and mobility is one of the planning and development issues urban planners and city managers have to grapple with. This is so due to the significant role of transport to the origin and continual survival of any settlement. The concepts of mobility and accessibility are very vital to the understanding of urban transportation. “‘Mobility’ is the ability to move between different activity sites due to the geographical separation existing between them while ‘accessibility’ refers to the number of opportunities or activity sites within a certain distance or travel time” (Pacione, 2009: 266). The movement of people, goods and services within the urban area is therefore a vital aspect of the city life.

The role of transport in the spatial and economic development of cities and regions are enormous. Cities develop around their transport network and as the city develops its transport needs also increases. Various places of activities within the urban area are geographically separated and so transportation is required to overcome the spatial barriers and for cities to function efficiently. Hanson (1986), in underscoring the importance of mobility and accessibility, stress the fact that the location of goods and services, employment locations, as well as location of public facilities are often (though inappropriately) widely spread geographically and so require efficient transport system for these places to be connected. Thus, cities consist of different land uses to which transport help connect. Nevertheless, cities of the world and those of the developing countries are continuing to grow in size, complexity and importance with economic improvements and increased population. These have serious implications for managing future growth as well as maintaining city mobility and liveability.

As earlier noted, many cities in the developing countries of the world have experienced significant level of urbanisation which has resulted in increased need for mobility of human population and goods. But this mobility need is grossly unmet (Pirie, 2014). With particular reference the transport planning in many African cities; many cities are defined by inadequate planning and deteriorating transport infrastructure and services (Pirie, 2014; Sietchiping et al., 2012). This failure in transport does have its feedback effect. Particularly, the transport options available in these places are limited and mode use is dependent on individual’s income level. Kessides (2005: xviii) noted that the failure in urban transport policy seriously compromise movement and shuts the urban marketplace. Sietchiping et al., (2012) noted that these problems are mostly borne by the poor with the consequence of reduced capacity of citizens to participate in work opportunity as well as satisfy daily domestic transport requirements. Carruthers (2004 in Kessides, 2005: 46) reiterated Sietchiping et al.’s finding when he showed that “a transport and poverty impact assessment for Lagos found that the average bus fare for normal use would require over 50 percent of household income of the poor, although drivers may charge less or more than posted fares. These figures compare to an affordability benchmark of 15 percent” – an indication people’s level of accessibility. Furthermore, Kessides (2005: ii) shows that these shortcomings in urban transport system results in the premature experience of the “downside of urban concentration”. She further claims that policy neglect is responsible for a situation where the upper middle class use motorised vehicles unrestrained with attendant effects such as congestion and less efficient public transport, and then more cars and more congestion (Kessides, 2005: 47). Moreover, she went further to state that “the virtual absence of public transport

services and lack of traffic management should be blamed first for serious congestion, not the size of the city itself” and that “neglect of urban transport” explains in part the pollution problem some cities are facing (Kessides 2005: 54-55). From economic dimension, attempts to create regional trading arrangement have been found to be slowed down by the lack of policies that promote city-regional corridors and inter-city transport linkages (Kessides: xxi). These planning failures do have wider impact than are usually imagined.

#### **4.0 Transport planning policies: Why they fail**

According to Greed (2000: 5) “Towns and cities are not God-given or natural. They are the result of centuries of decision-making by individual owners and developers, and of government intervention”. Hence, to achieve orderly towns and cities, there is the need to carefully work out how it is to be achieved over a long period of time. To achieve this, Stren (1991) suggests the need to re-evaluate approaches to the management of urban areas (Stren, 1991).

Transportation planning should normally involve a forecast of how future travel demand is affected by land use as well as how transportation policies may be used to modify land use. To a large extent, however, this has not been achieved in many of the developing countries. For example, Aljoufie (2014) found that isolated land use and transportation policy interventions which are limited in their capacity are the practice in many instances. Several reasons have also been adduced for this. Garba (2004) explained that there is usually the problem of multiplicity of government agencies and departments involved in urban management and so the multiplicity of development objectives. Because these are not being coordinated as well as continuously revised in the development process, planning often fails. He went further to say that where planning involves multiple participation each participating agency requires clearly defined institutional responsibilities while the whole requires a framework for cooperation so as to achieve concerted effort with others from time to time. This unfortunately is not the case in most instances.

Speaking further on this note, Mandeli (2008) pointed out that the limitations of both conventional urban planning practices and public actions for regulating urban development and service delivery are usually responsible for urbanisation problems. Many of the places witnessing the problem lack appropriate and coordinated policy guidance. In addition, usually there is the challenge of absence of collaboration among government units responsible for the planning duty. He described this situation as “weakness in local management and limited financial and legal power to cope with the urbanisation process” Mandeli (2008: 513).

Garba (2004) builds further on the concept of capacity and noted that this capacity also includes the level of understanding of the public sector of the development problem and not just their capacity to implement appropriate intervention measure. Even where the capacity exists in financial and legal terms, good management capacity should combine both resources available for management as well as develop appropriate institutional structure and practices in management (Garba, 2004). In this sense, the understanding and knowledge capacity of human resources saddled with planning role is a vital part of good management capacity. He also pointed out the problem of multi-agency conflicts which have been found in many places. Aljoufie (2014) gives a typical example of where this deficiency in structure and

practices come to play when he noted that isolated land use and transportation policy interventions which are limited in their capacity is still a popular approach.

As earlier pointed out, transportation planning should normally involve a forecast of how future travel demand is affected by land use as well as how transportation policies may be used to modify land use. All too often, however, especially with the use of conventional land use and transportation planning practices, the awareness of the relationship between the two does not reflect in planning policies. As Aljoufie puts it: “the conventional practice focuses on separate visions, scenarios, plans, policies and projects related to a specific land use or transport issue” (Aljoufie, 2014: 205). The wider impact of development plans and policies on both land use and transport is often not considered. This is the case with many developing countries of the world (Aljoufie, 2014; Mandeli, 2008; Al-Hathloul et al, 2004).

It is usually the case that transport planners and land-use planners are working independently of one another with different goals and expectations. As a result, planners keep coming up with new policies, reviewed master-plans and other attempts from time to time. But these efforts usually have too little effect on the problems being tackled so that urbanisation challenges keep rising (Aljoufie, 2014). Aljoufie shows the situation in Jeddah to be such that: “Urban development policies have not considered the consequences for transportation. Conversely, transportation policies have not addressed the long term effects of different policies on urban development”. This is the case in many other developing countries of the world (Akinbami and Fadare, 1997).

Another cause of the problem has also been noted. Mandeli (2008) remarks that ascertaining the effectiveness of policies would require time but more often than not policy makers always want immediate result. Furthermore, good policies do fail when they are not implemented properly, especially when municipal authority implementing plans are not adequately empowered legally to enforce such plans and when the roles are not clearly marked out. Garba (2004) emphasised this issue of authority and discretion further by showing that some countries leave planning to national government and this restrict the ability of the local administration to plan for itself as well as cause delay in decision making and implementation process.

Other factors that might contribute are the organisation behaviour and practices, political philosophy of the country, the social orientation of the citizenry, and the attitude towards administrations as well as the system of governance. According to Garba (2004: 596), these all affect the ability of city government to effectively manage urban development.

## **5.0 Transport development approaches: What might work**

The realisation of failures that result from the disaggregated type of planning is therefore bringing a new way of conceiving urban planning that tries to treat both transport and land use development as one. Such measures include participatory planning, sustainable transportation approaches, “inclusive city” (Mandeli, 2008), sustainable smart growth, participatory planning, transit-oriented development (Aljoufie, 2014), job-housing balance and many others. Planning approaches that shifts emphasis from spatial planning to “strategic thinking” and “public policy management” concepts are being promoted by multilateral agencies

such as World Bank, United Nations Development Programme (UNDP), and United Nations Human Settlements Programme (UN-Habitat) (Mandeli, 2004).

The adoption of participatory planning is an approach to dealing with the problem of planning (Oduwaye, 2009) to achieve the “inclusive city” and improve the capacity of local governments and other stakeholders in achieving good governance. This method, as noted by Mandeli (2004) is not generally agreed to because of the mix of risks and opportunities it offers. In addition, this method would depend on the political will and an institutional environment that allows it. In this respect, as Garba (2004: 596) notes, appropriate organisational behaviour and practices are essential. “Certain behaviours and practices such as the acceptance of change as constant, aspiration to a high level of effectiveness and efficiency, continuous monitoring and assessment and improvement of activities, practices and procedures, and establishing a feedback mechanism to policy and decision making are necessary for effectiveness in urban management”. Jobs-housing balance is another planning concept that aims at achieving a balance between residential accommodation and the number of job opportunities in a given neighbourhood within the metropolitan area (Cervero, 1989; Giuliano, 1991). It is based on the assumption that workers choose to live as close as possible to their place of employment and that the shorter the distance between home and work the less the need to commute. The major aim is reducing traffic congestion and other transport related problems by reducing the need to travel (Bookout, 1990). One of the problems with this policy is that it places too much emphasis on journey to work while neglecting other factors affecting the decision of where to live such as housing cost, neighbourhood quality, and availability of recreational infrastructures amidst other.

Sustainable transport is yet another approach. Oduwaye (2009) argues that urban planning has a role to play if sustainable development is to be achieved. He identifies urban planning as a means to an end rather than an end in itself by providing the needed instrument for the achievement of sustainable development. Sustainability is a concept that has gained relevance over the years. It was popularised by the World Commission Environment and Development’s(WCED) definition of sustainable development as a “development that meet the needs of the present without compromising the ability of the future generation to meet their own needs” (WCED, 1987: 43). Since most urban problems being faced are consequences of poor planning, imbibing sustainability as a culture has been proposed as a way of addressing urban problems (Barredo et al., 2004).

However, these new policies have not become widely adopted in developing countries. Aljoufie (2014) notes that integrated land use and transportation planning has not been as rapidly adopted as one would expect despite available knowledge. These are not without reasons. Aljoufie (2014) noted that one of the challenges responsible for this is the availability of tool to undertake such planning. Mandeli (2008) too suggests that disaggregated planning may be another reason for this poor take off.

## **6.0 Conclusion**

This paper emphasises two major issues: it has discussed published literature relating to the relationship between transport development and urban planning; it has also highlighted some urban transport development approaches that have failed and suggested options that are being considered to address the challenges. These particularly address the need to understand the nature of the planning challenges in cities

of developing countries and how they can be addressed using appropriate solutions. The discussion in this paper therefore adds to the literature on the need to develop appropriate approaches to addressing urbanisation in developing countries.

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