International Journal of Intellectual Discourse (IJID)
ISSN: 2636-4832 Volume 3, Issue 1. June, 2020

Physically Challenged: Mobility Issues in Nigeria Public Transportation System

Omotosho B. O[1], Tunji Akinlotan[2], Fayomi F. O. [3], Adedokun R. M[4]

[1]*Ag. Director, Industrial Liaison and Placement Office, The Oke-Ogun Polytechnic, Saki*
[2]*Department of Urban and Regional Planning, The Oke-Ogun Polytechnic, Saki*
[3]*Works and Physical Planning, Abraham Adesanya Polytechnic Ijebu-Igbo*
[4]*Industrial Liaison and Placement Office, The Oke-Ogun Polytechnic, Saki*

Email: omotoshobabatunde4@gmail.com

Abstract
Access to transportation is essential for individuals to engage with their community, for obtaining employment, goods and services, healthcare, education, and social interaction. The Physically Challenged People (PCP) are integral part of the society and they are expected to be considered in the overall planning and development of transportation system. This is usually not the case in many developing countries particularly Nigeria. Transportation framework is basic to societal lives. Individuals utilize different frameworks of transportation regularly to make a trip to and from work, school, go to conferences, as well as social and health related destinations. The paper highlighted the Nigerian perspective to the Physically Challenged, how they engage in the use of public transportation and the challenges experienced in making use of the public transportation in Nigeria. An explanatory research method was adopted for the study, where secondary data were sourced to establish the difficulties experienced by the physically challenged people in public transport commuting. The paper revealed that the difficulties experienced by the physically challenged people differ significantly based on the nature of their disabilities. The paper concluded that access for all can only be achieved through improved transport system across the country. It was recommended that within various planning designs, it is important that the needs of individuals with disabilities be inclusive, to enhance the quality of life for all, and thereby support community integration. Further research can be inclusion of physically challenged to planning in developing countries.

Keywords: Mobility, Physically Challenged, Public, Transportation System

Introduction
For the general population, disability is deemed "not normal" that makes a bad stigma in the community. The stigma adversely affects the appreciation of the capabilities and skills possessed and incite pity because they will burden the environment. Though what they really need is the recognition of equality of opportunity and the rights of the environment, and not pity or mercy alone (State RI, 2009; Colbran, 2010; Kusumaningtyas, 2014). Data regarding persons with disabilities cannot be known with certainty because people still exist that cannot be open with this condition and tend to be hidden from the environment. Transportation system is critical to our daily lives. People use various systems of transportation on a daily basis to travel to and from work, school, visits to family and friends, attend business meetings, and for medical emergencies. However, the transportation network meets much more

than just an individual's needs. The transportation system is a very complex system with multiple modes each with their own complexities that make coordinating activities to build resilience of the system and the communities they support very challenging. Examples of the complexity include: within a small geographical area (a community) there may be many stakeholders responsible for the design, operation, maintenance and funding of the road network including federal, state and local public agencies, as well as private operators. The problems that arise are persons with disabilities have difficulty in accessing public services in their daily life activities (Rahayu *et al*., 2013). Yet they are also citizens who has the status, obligations, and rights to acquire equity equal to other citizens.

Intermodal Transportation. Due to the nature of our large, diverse transportation network and how it is used today, intermodal transportation is a key consideration for communities. Intermodal transportation varies by community, depending on the community's size, needs, structure, and complexity. Individual citizens in some communities may function well using only the road network on a daily basis. However, the community needs access to the larger transportation network, and thus other methods of transportation are needed to get food and supplies to local retailers in these communities.

In today's global environment, goods are often imported via airplane, ship, truck, or train. If goods are imported by airplane or ship, they are then loaded onto either trains or trucks. Depending on the goods being transported, the next stop in the supply chain may be a manufacturing or processing plant, national/regional distribution center, or a warehouse. Retailers often use warehouses or regional distribution centers to manage their products and provide goods to local stores via truck in a short time period. Therefore, coordination is needed between the different methods of transportation used by businesses to ensure that their products can be delivered to the customer. If one of the systems fails, there may not be a need for the others for example, if ships cannot import goods, there will not be any goods for the rail system to transfer to the next stop in the supply chain. People also use multiple methods of transportation on a daily basis, particularly in large urban centers, to get to/from work, school, entertainment facilities, homes, banks, among others. People who work in large cities often rely on mass rapid transit, such as bus transit for most of their commutes. However, to get to their bus stop or rail station, or final destination, individuals may rely on the roadway system, including buses, taxis, and bicycles or walking. Although several method of transportation are available to citizens and businesses. Hence, providing redundancy to the overall network, failures in one of the systems can put significant stress on other transportation systems.

Literature Review

Physically Challenged

Disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives. People with Disabilities (PWDs) report fewer healthy days than the general population (Vidhi & Sejal, 2019). They have lower rates of health promoting behaviors. Disability mostly affects vulnerable and marginalized people with a high level of prevalence among lower income people in particular women, children and older people, Mitra *et al* (2011). Inaccessibility of the natural and built environments often limits opportunities to participate in various types of recreation, sport, and leisure physical activity in both indoor and outdoor settings. A freely

accessible society without any physical obstacles is a first and foremost requirement to mainstream people with disabilities. Living with a disability poses unique challenges and can influence participation in many activities. Travelling is one activity that many people with disabilities feel must be sacrificed as it requires an orchestrated cooperation of physical, mental, and social capabilities, which are often adversely affected or compromised by a disability. People with diverse disabilities (sensory or physical) and reduced mobility (people with health problems for example respiratory, cardio-vascular, joint problems or temporary ailments); senior citizens; pregnant women; families with young children and people with heavy luggage, among others, constitute sizeable number of the population. Since majority of this segment belong to lower and middle-income group, it is beyond their economic capacity to use private taxis/three-wheeled auto rickshaws or purchase their own vehicle and are, therefore, dependent on public transport. Existing transportation system, that is vehicles, terminals and operations are either full of obstacles or impossible to use. It induces fatigue, restricts educational and employment opportunities, causing frustration. It hinders right to freedom of movement, equal participation and access to health. These days there are lot of emphasis on making our society disabled friendly. However, efforts of city planners often fall short of expectations. Having a disability places one in the world's largest minority group. Currently around 10% of the world's population, or roughly 650 million people, live with a disability. In most of the Organization for Economic Co-operation and Development (OECD) countries, females have higher rates of disability than males. As the population ages this figure is expected to increase. Eighty per cent (80%) of persons with disabilities live in developing countries, according to the UN Development Program (UNDP). The World Bank estimates that 20 per cent of the world's poorest people have some kind of disability, and tend to be regarded in their own communities as the most disadvantaged. Statistics show a steady increase in these numbers. The World report on disability, published in 2011, said about 25 million Nigerians had at least one disability, while 3.6 million of these had very significant difficulties in functioning (Nigeria 2016). The 2006 Nigerian census reported 3,253,169 people with disabilities, or 2.32% of the total population of 140,431,790 in that year (Umeh, & Adeola 2016). However, the Centre for Citizens with Disabilities, a Nigerian NGO, claims the census did not capture the full extent of disability in Nigeria, and has called on Nigeria's National Population Commission to cooperate with the Ministry of Women Affairs and Social Development for the 2016 census in order to measure disability more accurately (Nze, 2016). As at 2020, there are reportedly over 27 million Nigerians living with some form of disability. The five most common types of disabilities in Nigeria are categorized in descending order: visual impairment, hearing impairment, physical impairment, intellectual impairment, and physical impairment (Umeh, & Adeola 2016).

Methodology

An explanatory research was adopted, and secondary data were used for this paper. Theoretical and empirical data on mobility issues for the physically challenged in public transportation, its nexus, barriers, and others were generated from relevant literatures. The extracted relevant data from these sources, with reference to the discourse of the paper was subjected to narrative analysis.

Nexus between Transportation System and Physically Challenged.

Access to transportation is essential for individuals to engage with their community; for obtaining employment, goods and services, healthcare, education, and social interaction (Preston & Rajé, 2008). Yigitcanlar *et al* (2005) noted that individuals encountering difficulties in accessing transportation are considered 'transportation disadvantaged' and include aging individuals, individuals in a lower socioeconomic situation, and individuals with disabilities. Transportation disadvantaged populations are less able to access employment opportunities, education services, health services, and other community resources associated with daily living U.S. Department of Transportation, Bureau of Transportation Statistics (2003). Further, transportation disadvantaged individuals are often socially excluded, ultimately limited from participating within their community, (Casas 2007). One of the major concerns for physically disabled persons is social exclusion. According to Thoreau and Mackett (2015), refers to "circumstances where individuals or groups of people are unable to participate in activities or to access goods, services and opportunities that are available to others as a fundamental part of belonging to society. Odufuwa (2007) argued that for many persons with disabilities in Nigerian cities they have little or no access to good transportation facilities and this hinders their daily activities and participation in urban life. Poor state of public transportation services in Nigerian cities necessitated the need for disabled people to make provision for extra economic expenditure in hiring a professional attendant during trips in the society. Inaccessible transport prevents some disabled people from taking jobs or attending interviews, Campion *et al.* (2003). Accessibility is a slippery notion; one of those common terms which everyone uses until faced with the problem of defining and measuring it. Some authors defined it as "the ease with which people can reach distant but necessarily services." Bryceson *et al* (2003) noted that "accessibility denotes the physical proximity or ability and ease of reaching various destinations or places offering opportunities for desired activities. Access in transport terms is largely synonymous with accessibility. Whereas mobility is defined as a measure of the "human agency" with which people choose to move themselves and their goods around, dependent on the performance of the transport system available and characteristics of the individual." It should be noted that an efficient transportation system offers high levels of accessibility if the impacts of transport externalities are excluded. From this perspective accessibility is the measure of the capacity of a location to be reached by, or to reach different locations, Venter *et al*. (2002).

Accessibility is a key transportation element and is a direct expression of mobility either in terms of people, freight or information (Rodrique, 2004). Individuals who lack accessibility to transportation may feel disempowered from the decision-making process in relation to where they are housed, the kind of job opportunities and services which are available to them, the quality of the services they receive and their own ability to affect any changes in these aspects of their lives (Lucas, 2012). Individuals with disabilities are less likely to have access to transportation and are often not fully participants within their community (Lucas 2012). This access affects the availability of the services, education and social interaction they need to lead healthy lives. Again, transportation access has long been seen as a primary way to address individuals with disabilities' independence and self-determination, Levinson *et al* (2006).

Understanding the role of transportation access in the social exclusion of individuals with disabilities is necessary to best assure the full participation of individuals with disabilities in all aspects of society (Lucas & Currie 2012). Accessibility depends on a number of factors such as: availability of transport services, awareness of such services, frequency of services, affordability and safety issues. The disabled people are compelled to spend much part of their income on transportation, thus forcing them to be isolated and live within the margin of poverty and likewise curtail their number of trips that they make and use modes of transport that do not incur a direct cost, such as walking or to live in locations that minimize their transport costs. For some essential trips, disabled people are bound to face different mobility or travel difficulties. They face difficulties in boarding available public transport, most especially the coaster buses used in transportation for example the "BRT" in Lagos, the "Ajumose" in Ibadan, the commercial buses used in many states in Nigeria. The attitude and driving behavior of most drivers as well as the overcrowding of available modes of travel, prolong waiting time, poor travel information and unaffordable travel cost are major travel difficulties to the disabled persons. Drivers of most public transport in Nigerian cities do not give disabled people enough time to board and alight in comfort and safety. Those using wheel chairs and other mobility aid like walking stick; are unable to use public transport in most Nigerian cities (Odufuwa, 2007).

To participate more fully in their communities, individuals with disabilities may depend on their social network to mitigate barriers in transportation access. The resulting increased demand on individuals with disabilities already limited social network may further reduce their opportunities for social involvement (Graydon, 2017). This makes discrimination/ostracism another major factor in determining transportation accessibility to disabled individuals. Despite the importance of transportation as an essential component of sustainable community. The right to travel and access basic facilities were not perceived by policy makers as a key factor that can enhance the livelihood or quality of life of disabled people in developing countries (Elwan, 1999). This fact was partly justified by the non-implementation of section 8 and 9 of the Nigerians Disability Decree of 1993. Discrimination in this way is a form of social exclusion. At the individual level the impact of stigma and social exclusion can be devastating, leading to low self-esteem, poor social relationships, isolation, depression and self-harm. The impact of stigma on those individuals who are already coping with acute or chronic health problems can be profound, Mason *et al* (2011). Physical accessibility is important to disabled people. Disabled people often find public transport inaccessible. They can also experience a lack of flexibility in their travel choices, making it difficult to be spontaneous, (Centre for Research in Social Policy 2007).

The main issues identified by less mobile people in respect to accessibility are:

- Boarding and alighting vehicles
- Drivers not waiting until passengers are seated before moving
- No one to provide assistance in getting on/off the vehicles;
- Bus stops located at inconvenient places, often with no form of shelter;
- Long wait for buses, sometimes entailing standing in the cold/heat
- Difficulty in reading timetables or signage, a making bus and trams stops and stations difficult to negotiate.

Although, since, IPTs are demand-responsive, some of these problems may still be experienced while trying to access IPT. According to Bezyak *et al* (2017), the problems can include among others: scheduling problems, long waiting time, and inadequate times of service, inappropriate driver attitude and missing of pickup appointments. IPT vehicles serve according to the market demands, and hence they tend to be flexible in terms of the passenger's needs and demands. They easily alter frequencies, rates, timings, and their operations resulting in favour of the market demand. This characteristic of IPT vehicles is one of the major attracting features that enable them to get passengers who prefer IPT over public transport (IUT, 2014).

Public Transportation Barriers For Physically Challenge

The greatest problem of physically-challenged person(s) is impediment in mobility, (Segun, 2017). Access to public transportation is essential to independent living for individuals with disabilities, it facilitates mobility for employment, education, health and medical services, leisure activities, and other community living activities. In particular, for individuals who lack the ability to use fixed-route or conventional public transportation, access to paratransit services is critical for meeting their mobility needs, (Rosalyn, 1998). It is worth noting that, disabled people in most developing countries particularly Nigeria are ridiculed, exploited and often fall victims of social ostracism. They are also ignored, neglected, mistreated and experience lower levels of opportunities than the non-disabled group (Odufuwa, 2007). The Conventional Mass transits or Public transportation is not made easily accessible to the Physically-challenged individuals in terms of boarding and alighting vehicles, discrimination and lack of assistance, inconvenient bus stops location, long awaiting for buses and difficulty in reading timetables or signage among others. Hence, this public transport system available doesn't cater adequately for the needs of the physically-challenged.

Intermediate Public Transport System (IPTs)

Intermediate Public Transport (IPT), also known as para-transit or feeder service, refers to vehicles that work as a supplement to the public transport system by providing first and last mile connectivity to commuters. In urban and suburban areas, they commonly take the form of autorickshaws, cycle rickshaws, taxis, mini buses and more recently e-rickshaws. Jeeps, *chakdas* and *kadukas* (usually tractor or jeep chassis fitted with a trailer) provide feeder services in rural areas, connecting villages to the nearest towns. If the public transport system forms the skeleton of the framework, feeder services are its veins and capillaries. With the growing population, physically challenge and the rising demand for transport and mobility, many cities are looking into multimodal transport systems as a solution. The issue at hand is not a particular mode of transport, but that the transport planning in itself is fragmented, fractious and mostly ad hoc when it comes to IPT systems. IPT plays the vital role of covering the gaps in the public transport system and making up for its deficiencies and shortfalls. It caters to the excess demand for transportation services in areas as and when required, and plays the role of the sole saviour in areas where public transport is non-existent Deepthi *et al* (2018).

Importance of Intermediate Public Transportation System (IPTs) to Physically Challenge

Consequently, the lack of public transport to cater for the need of persons with disabilities inform their use of IPTs.

The nature of Intermediate Public Transport Services (IPTs) operation confers a wide range of advantages to its users. IPTs offers personalized services, particularly for passengers going to specific directions or places Aworemi *et al* (2008). They offer convenient door-to-door services or drop passengers on request at specific un-predetermined destinations, another common feature observed is that Informal Public Transport vehicles offers more flexible services than mass transit that is, it serves the mobility needs of the lower and middle classes, while allowing the passengers the convenience of boarding and alighting anywhere along the trip, IPTs provide connectivity to passengers to and from the major public transport systems like buses, metros, railways, ferries, among others, by ensuring that all parts of the city have easy access to public transport stations (Centre for Public Policy Research 2018),. In addition, the urban IPTs sector generates a considerable number of employment opportunities as much as 10-20% of total employment in some cities, ESCAP/UNCHS (1987). Since IPTs are demand-responsive, the problem of accessibility is minimal but may still be experienced. The problems include among others; scheduling problems, long waiting time, inadequate time of service, inappropriate driver attitude and missing of pickup appointments, Bezyak *et al.* (2017).
It is worthy to note that the difficulties experienced by the disabled differ significantly by the nature of disability. It is important to be inclusive of the needs of individuals with disabilities in the design of the built environment, urban facilities and services, to enhance the quality of life for all, and thus support community integration. Designing of components include accessible routes, ramps, curbs, entrances, stairs, escalators, lifts, platforms and public transport vehicles should take into account the safe and efficient travel of individuals with different disabilities that is visual impairment, hearing difficulty and reduced mobility. Access for all can only be achieved through improved transport infrastructure.

Recommendations

The paper recommended that, in order to achieve the goal of transport or access for all, all transport stakeholders in the government and private sectors must move away from vehicle-centered transport to people-oriented mobility planning. Listening to transport disadvantaged people, particularly persons with disabilities and integrating their suggestions in the design, implementation and monitoring of transport infrastructure and services are crucial in meeting their mobility needs and providing sustainable solutions to their transportation challenges. Lastly, planning for the mobility of the physically challenged people should be incorporated in the all sphere of planning like master plans, regional planning, and overall national planning to mention a few.

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