

**POST COVID – 19 PANDEMIC AND ITS EFFECT ON EFFECTIVE SPACE
RE – ALLOCATION IN PLANNING**

Ayeni, F.O.; Agboola, J.T. & Adelana, J. O.S.

Department of Urban and Regional Planning,

School of Environmental Studies,

The Federal Polytechnic, Ado – Ekiti, Ekiti State, Nigeria

Email : mofoluwasoayeni@gmail.com; agboolame2002@yahoo.com ;

sogorayo@gmail.com

Abstract

Before the outbreak of the COVID -19 Pandemic, space allocation for different land uses in planning have been in line with stipulated standard, which allowed easy accessibility within and among the public spaces in our cities. However, the recent outbreak of the COVID – 19 Pandemic has placed restrictions on the use of public spaces and also introduced the issue of physical distancing. These recent restrictions have become major policy measures to reduce and curtail the spread and likely transmission of the COVID – 19 virus and more importantly, to protect the health of the general public. The public spaces are now experiencing low patronage as a result of the “stay at home” and “lockdown restrictions”. This paper assessed the post COVID-19 Pandemic and its effect on effective space reallocation in planning. The COVID-19 Pandemic will fundamentally and perhaps permanently change the stipulated standards used in the allocation of space for various land uses which will eventually alter the city designs in our various countries. There is therefore the need to assess these changes in order to inform the planners, the architects and landscape designers on recent urban planning design and space allocation in a post COVID-19 world.

Keywords: COVID -19 Pandemic, Space Re-allocation, Planning, Stipulated Standards, City Designs

Introduction

Currently, it is estimated that over 7 billion people live on the earth and that global population is expected to reach 9.5 billion people by the first half of the 21st century. Globally, a significant proportion of this population will live in the urban areas over this period of time (United Nations, 2014). Cities are arguably the most complex creation of human beings as they are the well springs of culture, technology, wealth and power. Over time, the cities have developed and transformed from mere abode of refuge to cities of various sizes and functions due to human activities. The rate of the transformation has been aided by recent advancement in Information and Communication Technology (ICT) (Olokesusi, 2011).

Over the years, several factors have affected the shape, composition and functions of the cities, thereby posing a serious economic, social and environmental challenge to planning. Within these urban areas, there is the need to deal with the overwhelming challenges confronting both human and the human environment. A case in point is the COVID – 19 Pandemic that has been and is still wreaking havoc all over the world.

Before the outbreak of COVID – 19 Pandemic, space allocation for different land uses in planning has been in line with stipulated standards, which allowed for easy accessibility within and among public spaces in our cities. The recent outbreak of the pandemic has however placed restrictions on the use of public space and also introduced the issue of physical distancing. These restrictions necessitated the review of space allocation and spatial planning for public use in line with the new regulations to safe guide the health and well – being of the general public as highlighted in Keeble’s 1969 definition of Town Planning where he defined Town Planning as “the art and science of ordering the use of land and siting of buildings and communication routes so as to secure maximum practicable degree of economy, convenience and beauty”.

Planning of any kind is a difficult process that involves altering of the natural landscape to accommodate human needs and desires. Planning on how to allocate space involves providing the right space for the right use and at the right time. Spatial planning holds together national visions, goals, policies and plans for human settlements of varying sizes at different spatial scales. As an activity, spatial planning

has a far reaching impact on the internal layout, design and functional arrangement of land use at the level of towns and cities and ultimately shape the human settlements (Acheampong, 2019).

What is Spatial Planning?

Since its establishment, the operation of planning has been known by other related terminologies such as “land use planning”, “physical planning”, “urban planning”, “town and country planning”, “regional planning and just as planning in itself. Spatial Planning according to Olokesusi (2011) is defined as the design and regulation of the uses of space that focus on the physical form, economic functions, social impacts of the urban environment and on the location of different activities within it. As the need arises for our societies to change in order to deal with the overwhelming challenges confronting human and its environment, so also has planning to change in order to confront these challenges in terms of the theories, nature and scope of the activities associated with it in practice.

The activities of planning as we know it today came as a result of the need to organize the layout and built form of human settlement as evident in the earliest civilization of Egypt, Benin and Greece. The fundamental desire to not only control the location of human activities, but also to shape the form, spacing and the interrelationship between the various land use activities are embedded in the word land use planning or spatial planning.

Need for Space Reallocation in Planning

Principles and standards including efficiency, beauty, economy, convenience and health that underlined the design and development of towns and cities have emerged from this fundamental desire (Acheampong, 2019). Globally, several planning ideas and principles have emerged in order to cope with these challenges. Nigeria in the global perspective is not immune from these challenges and its impact on both human and its environment. Activities within the various societies emerging from the confinement brought about by the lock down will be noticeably different from what it used to be before the lock down and at the centre of this challenging difference is the way in which available limited space will be reallocated.

According to Daniel and Michael (2004), standards are generally by nature normative in the sense that they do not describe what exists, but they specify what is desirable and thereby provide very valuable professional guide to planners. Standards are a set of yardsticks established for measuring quality in element of the community's make up. It could be in terms of amount of space, space use, location, convenience and infrastructure and they generally take the form of minimum to optimum standards as recommended or required necessary in public interest.

Obateru(2003) on the other hand defined space standards as land specifications which are employed to guide the use and development of urban land for the purpose of providing adequate land for the various uses of the urban land and for the creation of a balanced urban land use system. Space standards are of two types. (i) Site standard which specify the sizes or areas of land. (ii) Access standard which specify walking or driving distances to facilities and services. These space standards are guiding criteria meant to be used under an average condition or circumstance. Any form of variation in the condition or circumstance of the environment will ultimately require varied standard as is evident in the prevailing pandemic condition that has brought about the issue of physical distancing.

National health authorities and World Health Organization have gone ahead to set out detailed recommendations to limit the rate of possible transmission of the virus and among the recommendations is the need to ensure minimum separation distance between people. Generally, advice on physical distancing varies and ranges from 1 to 2 meters depending on local and national contexts (International Transport Forum (ITF), 2020). This new guideline will significantly impact on the various activities of the urban dwellers particularly in the areas of commercial, educational, transportation and recreational activities. Based on this new guideline, it is obvious that there is a variation in the condition of the human environment and this will ultimately require varied standards in the two types of space standard which must be reasonable, attainable and must satisfy the needs of the people who are to use them. The need for space reallocation in planning therefore arises so as to be able to meet up with the set guidelines that will help to curtail and limit the rate of possible transmission of the virus in our societies.

The focus of this paper therefore is to review present global event of COVID – 19 with respect to its effect on effective space reallocation in order to inform planners and other related professionals on recent paradigm shift in urban layout, shapes and patterns so as to have healthy and livable cities.

The Effect of Post Covid-19 on Space Reallocation in Planning

These discussed the expected changes that will emerge from the effect of Post Covid -19 on Space reallocation in planning as it impacts on the various urban land uses and activities:

- **Requirements for Physical Distancing, Safe and Healthy Environment for the People**

The need to maintain the health and safety of the people and the environment will be more crucial than ever before in the aftermath of the COVID – 19 pandemic. The requirements for physical distancing will in itself impose constraints on the general use of space in the sense that the need to physically distance oneself from others around will amount to an increase in the amount of space required by individual to carry out their various activities. Invariably, there is the need to increase the general space requirements for the various human activities within the environment. This is in line with Obateru (2003) where he highlighted the fact that any form of variation in the condition of the environment will ultimately require varied standards in space allocation. The outbreak of the pandemic has brought with it the need for physical distancing which is a variation in the condition of the environment. Therefore, varied standards are required for reallocation of space for the various human activities. The varied standards required are reflected in both the site standards and access standards. The good thing about standard as highlighted by Daniel et al (2004) is that standards take the form of minimum to optimum ranges as required in the interest of the general public. The stipulated standard for land allocation for urban planning according to Obateru (2003) is stated as:

Table 1: Land Allocation for Urban Master Planning

Land Use	Percentages
Residential	40.0 – 50.0
Commercial	3.0 - 5.0
Roads and Streets	25.0 - 35.0
Outdoor Recreation	8.0 – 10.0
Public Utilities, community facilities & services	10.0 - 15.0

Source: Adapted from Space Standards for Urban Development (Obateru, 2003)

Attaining the requirements for physical distancing will require a new range of minimum to optimum value that is totally different from what has been in practice as reflected in the table one. The new values will be in line with local and national context to recalibrate the ways in which space is allocated, this recalibration will result in changes in the already known stipulated standards for space allocation. Therefore, to ensure a safe and healthy environment, additional health and hygiene measures should be put in place to compliment the physical distancing requirements particularly in public spaces.

- **Change in the Use of Public Transportation**

People's reaction to the use of public transportation is a serious concern in the confinement and post confinement period as people will prefer the use of private vehicles to public transportation. A study by Null and Smith (2020), in Hubei showed that COVID -19 spread from one person to nine over the course of a single long – distance bus journey. Therefore, people will prefer to make use of personal vehicle for travel purposes. Major adjustments would be required in vehicle designs and operations before people would return to the use of public mass transit. Also, infrastructure in public spaces would require adjustment to prevent the spread of the virus. Busses and trains should carry fewer and more dispersed passengers (Null and Smith, 2020).

In a developing country like Nigeria, the use of public transportation witnessed a great decline during the confinement period, there was marked increase in walking and individual car travels. In the post confinement phase however, the use of public transportation has regained its momentum though in few places there

is a reduction in the number of passengers per vehicle, that is, reduction in occupancy ratio in line with physical distancing guidelines. As shown in figure 1, the period before the confinement, the occupancy ratio in the first bus was one driver and 48 passengers but in the post confinement period the occupancy ratio is reduced to one driver and 11 passengers to allow for the required physical distancing guideline.

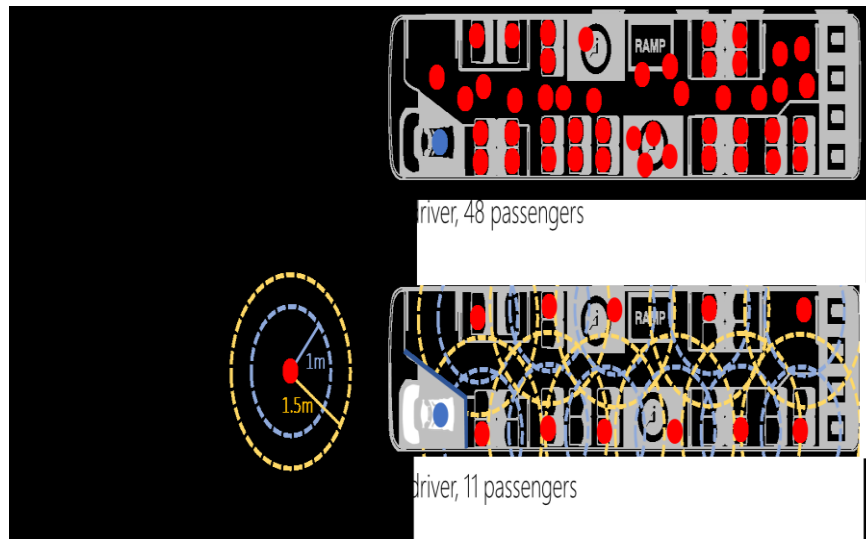


Figure 1: Spaced out: impact of physical spacing on public transport capacity

Source: Adapted from ITF Covid -19 Transport Brief (2020).

On the other hand, in some developed countries cycling, walking and individual car travels has taken over the use of public transportation in the post confinement phase. This has led to the need to restructure access routes by recalibrating the access standards to allow for creation of safe road networks that will give priority to cyclists and pedestrians and limit the access of vehicles into such newly created access routes. This will provide the cyclists and pedestrians with a safe and well connected road network that will suit their needs. As seen in figure 2, in the post confinement phase, the side walk is expanded over the vehicle lane to provide more physical distancing space for cyclist and

pedestrians while a single lane is reserved for individual and other light vehicle users.

In the early days of the pandemic, there was considerable discussion on the need to widen sidewalks and redesign pedestrian crossings in order to meet the social distancing recommendations. Some cities such as London, Portland and Vancouver have begun to reconfigure street to accommodate for more cyclists and pedestrian over long distances (Jordi, Cecil and Isabelle, 2020).

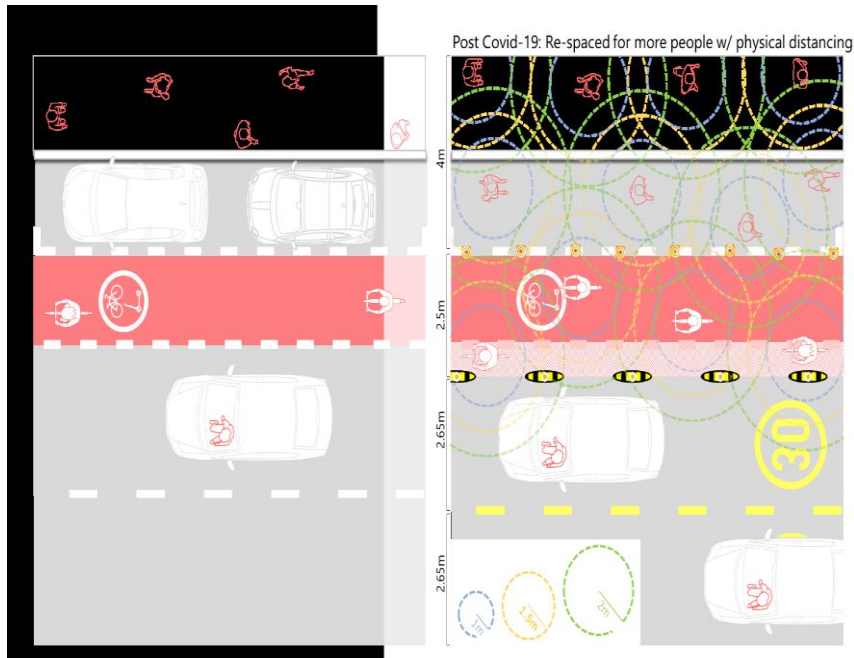


Figure 2: Quick-LIT: Rapid deployment of light individual transport lanes
Source: Adapted from ITF Covid -19 Transport Brief (2020).

Unfortunately, the same cannot be said of Nigeria as a developing country as special considerations are not given for the safety of pedestrians and cyclists in the post confinement phase. This is as a result of the bottlenecks involved in the task of restructuring that will be required for such a project and the time frame required to execute the project.

- **Increase in provision of bigger facilities and infrastructure**

The “New Normal” that the world is experiencing presently serves as an indicator of the need for an increase in the provision of new and bigger facilities, infrastructure and developments that will be in line with the newly established guidelines for safety and general wellbeing of the society. Facilities, infrastructure and developments that are physical distancing friendly allowing for physical spaced activities should be provided in the nearest future in line with both local and national contexts. These new provisions should be made in line with long term objectives so as to increase the resilience of our cities to outbreaks of disasters and pandemics like what we are witnessing globally. For instance, in the education sector, there is an urgent need to address the issue of physical distancing among the students when schools are reopened. In the pre-confinement period, a regular classroom can accommodate an average of 35 students. Post confinement phases however, the same classroom accommodate between 20 – 25 students with the 1 -2 meter physical distance requirement. This challenge is putting pressure on parents, teachers and the students alike and at the same time raising questions like:

1. What happens to the spill – over students that cannot be accommodated in the classroom?
2. Will siting arrangement in classroom be on ‘first come’ ‘first serve’ basis?
3. How convenient will it be for both students and teachers if classes are staggered so as to meet the physical distancing requirement?

These challenges point to the urgent need for recalibration of stipulated standards for space allocation for public/institutional uses. This will allow for the provision of new and bigger structures that will accommodate the required number of students and at the same time meet the 1 -2 meter requirement for physical distancing in the nearest future.

- **Community Participation in School Reopening Plans and Implementation**

According to Centre for Global Development (2020), the successful reopening of schools and the recovery of learning loss rely on public trust in the government. The trust can be built and maintained by involving the communities in planning for reopening of schools and by clear communication of final decisions through credible channels. There is therefore, the need for government to decide on the necessary strategies that will promote effective space reallocation of institutional learning spaces and the participation of the various stakeholders in the community in the school reopening process and its final implementation.

This step on the part of the government will increase the knowledge of the community on the relevance of the government plan for space reallocation in the institution of learning and will ultimately ensure compliance with the various government intervention as the schools reopen.

- **Likely change in general layout, shape and pattern of Cities**

Optimists argue that COVID-19 is an opportunity for city planners to liberate more street space for pedestrians and cyclists thereby moving us closer to greener cities and low carbon economy (Jordi, Cecil and Isabelle, 2020). The general layout, shape and pattern of our cities will undergo a change as a result of the recalibration required for space reallocation. Implementing the new calibrations in space reallocation will alter the faces of our cities positively. The shapes and patterns will reflect the new standards used in the reallocation of space for the various human activities within the cities and these will help in making our cities resilient and prepared against unforeseen situations in the future.

Conclusion

There is still more to learn about the diverse impacts of the COVID-19 on human and its environment. Policy responses to the pandemic is different, based on local and national contexts and potentials of the governments of the countries across the globe. Surprisingly, the government of the nation is focusing more on keeping the rate of transmission down as much as possible by promoting the observation

of the set health regulations of wearing facemask, regular handwashing and avoidance of cluster gatherings. All these are done outside of the underlying factor that will help in the actual realization of the set guidelines which is the adequate reallocation of spaces for various human activities. This will create an enabling physical distancing environment that will in itself promote safety and healthy living conditions in our cities and urban centres.

Recommendations

1. Make our cities resilient to all forms of environmental shocks by recalibrating the ways in which space is allocated for different activities.
2. Government should provide essential public facilities for the well-being of the society.
3. Promote the principles of dialogue and encourage citizen participation.
4. Promote public policy that enhances the economic, social and environmental designs and development that are sustainable.
5. Proper management of spatial development to achieve sustainable development outcome
6. Proper distribution of activities and population for sustainable utilization of land resource.

References

- Acheampong, R.A. (2019). Spatial planning in Ghana. The urban book series. Retrieved from https://doi.org/10.1007/978-3-030-02011-8_2 10/08/2020
- Center for Global Development (2020). Planning for school reopening and recovery after COVID -19. An evidence kit for policymakers. Center for Global Development 2055 L Street, NW Fifth Floor Washington, DC20036. www.cgdev.org Retrieved from <https://doi.org/10.1007/978-3-030-02011-82> on 10/08/2020
- Daniel, N.O. & Michael, O.I. (2004). An introduction to town planning design. Nigeria. Frank Nosagie & Sons Publishers.
- International Transport Forum ITF (2020). COVID - 19 transport brief. Respacing our Cities for Resilience. www.itf.oecd.org Retrieved from https://doi.org/10.1007/978-3-030-02011-8_2 on 10/08/2020

- Jordi, H. R., Cecil, K. B. & Isabelle, A. (2020). The impact of COVID – 19 on Public Space; A Review of the Emerging Questions. Retrieved from <https://www.researchgate.net/publication/340819529> on April 2020.
- Keeble, L.B. (1969). Principles and practice of town and country planning in Acheampong, R.A. 2019; Spatial Planning in Ghana. The Urban Book Series, retrieved from https://doi.org/10.1007/978-3-030-02011-8_2 on 10/08/2020
- Null,S. & Smith, H. (2020). COVID – 19 could affect cities for years. Here are 4 ways they are coping now. TheCityFix; World Resource Institute (WRI).
- Obateru,O.I. (2003). Space standards for urban development. Nigeria.Penthouse Publications.
- Olokesusi, F. (2011). Evolution of urban planning methods and approaches; Lessons for Nigeria. Ibadan Planning Journal. Vol. 1, (No.2). Department of Urban and Regional Planning, Faculty of Social Sciences, University of Ibadan, Nigeria.
- United Nations (2014). World urbanization prospects. The 2011 Revision. Population Division. Department of Economic and Social Affairs. United Nations Secretariat.