

## Urban spaces Post Covid-19 (Social and Humanity dimension of urban spaces in Mega cities)

Dr. Alshaimaa Hussein Mohammed Hassan

Architecture dept. faculty of Engineering Modern University of technology and Informatics (MTI)

[Alshaimaa.hussein@eng.mti.edu.eg](mailto:Alshaimaa.hussein@eng.mti.edu.eg)

### Abstract

In the last decade, humanity has been affected by epidemic illnesses, which have been associated with technical advancements, expanded use of the earth's resources, high pollution rates, biological and chemical uses, and scientific advancement towards genetic mutations affecting human life, with the beginning of 2019.

The globe has faced a pandemic that has over shadowed all aspects of life, especially in urban areas. The consequences of the redesign of urban spaces specially after COVID-19 are not a temporary consequence, but will be the beginning of sociological and ecological changes on the earth's surface. Urban areas are the main artery in large cities; they reflect the soul of the cities. Taking into account the human and social peculiarities in the design of urban space, the research discusses the influence of human and social dimensions on new urban planning considerations for dealing with epidemics.

The urban spaces of large cities have proven inadequate to cope with the Covid -19 pandemic, which resulted from the closure of urban spaces at the height of the pandemic and the reorganization of movement times in sub-cities. The research discusses a number of solutions that countries have adopted in avoiding Covid-19, particularly in urban areas.

### Keywords:

,Mega cities, Urban spaces ,Post Covid-19 ,Social And human dimension

### الملخص:

من خلال قراءه التاريخ نجد اننا أمام موجات متكرره من الأمراض الوبائيه ،والتي تتواكب مع التطور التكنولوجي وزيادة معدلات الإستهلاك لموارد الارض وإرتفاع معدلات التلوث والتطبيقات البيولوجيه والكيميائيه ،والتي تتجه بنا إلى طفرات تؤثر على حياه الانسان . ومع بدايه ٢٠١٩ م يواجه العالم جائحه انعكست على كافه أوجهه الحياه وخاصه الفراغات العمرانيه ،والتي أوجدت الحاجه إلى إعادته تقييم الفراغات العمرانيه. كما كان هذا الوباء بداية لتغيرات مجتمعيه وبيئيه على سطح الارض فهذا الوباء وما سبقه من اوبئه قد سامهوا في ظهور ابعاد واحتياجات جديده الفت بظلالها على الفراغات العمرانيه ، يتجه فيها تصميم الفراغات العمرانيه إلى مستوى اكثر انفتاحا بمعايير مختلفه تمنع التزاحم وتوفر الخصوصية بشكل مدروس لمستعملي الفراغ. وتعد الفراغات العمرانيه هي شريان اساسي في المدن الكبرى فهي تمثل روح المدن ،ويناقش البحث تأثير الوباء على تغير المعايير التصميميه للفراغات العمرانيه وخاصه من حيث الأبعاد الاجتماعيه والانسانيه في المدن الكبرى .

**المشكلة البحثيه:** تعد المدن الكبرى منبع الفرص من حيث تعدد وتنوع طرق التعليم والمصدر الدخل المرتفع والرعايه الصحيه الجيده والخدمات الاجتماعيه والثقافيه المختلفه ،وقد ذكرت الامم المتحده في تقرير لها عام ٢٠١٤ إن ٥٤% من سكان العالم يعيشون في مراكز المدن ومن هنا تتضح مشكله البحث الرئيسييه حيث ان الفراغات العمرانيه للمدن الكبرى

تواجه العديد من التحديات وخاصة بعد جائحه وباء كورونا Covid-19، والتي تستوجب إعاده التفكير فى معايير تصميم الفراغات العمرانية وخاصة من حيث الابعاد الانسانية والاجتماعيه .

وجود نقص فى الدراسات التى تناقش وتهتم بالابعاد الانسانية والاجتماعيه للفراغات العمرانية وإهمال تطور المعايير الانسانيه والاجتماعيه فى تصميم الفراغات العمرانية بعد جائحه والذي قد يختلف من فراغ عمرانى الى آخر داخل المدينة الواحد .

### اهميه البحث :

يناقش البحث الاطر والحلول المقترحة للاعتبارات التصميميه الخاصه بتطوير الفراغات العمرانية فى المدن الكبرى بعد الجائحه فى محاوله لايجاد التوازن بين الاحتياجات البشرية والمعايير الصحية فى المدن الاكثر ازدحاماً .

### الفرضيه البحثيه :

يفترض البحث ان جائحه كورونا ستعمل على تغيير مفاهيم الابعاد الانسانية والاجتماعيه فى الفراغات العمرانية من خلال تغيير الاسس التصميميه والمعايير الخاصه بتصميم الفراغات العمرانية ، وستتجه بالتصميم العمرانى الى تصميم فراغات عمرانية اكثر انسانيه تتلاءم مع طبيعه الاجتماعيه والانسانيه .

### منهج البحث :

تعتمد الدراسة البحثية فى منهجها على التكامل ما بين المنهج الإستقرائى التحليلي والمنهج التطبيقي من خلال التكامل بين ثلاثة أجزاء رئيسية بالورقة البحثية تتابع على النحو التالي:

الجزء الأول: المفهوم الأساسي للفراغ العمراني ، والعوامل الاجتماعيه والانسانيه فى تصميم الفراغات العمرانية .  
الجزء الثاني: دراسه التغييرات التي أحدثتها الوبئه ومدى تأثيرها على البيئة المبنية والفراغات العمرانية .  
الجزء الثالث: دراسة تحليلية مقارنة للاجراءات التي أتبعها عدد من الدول لتحليل العلاقة بين الانسان والفراغات العمرانية بعد جائحه كورونا Covid-19، ومدى تأثيرها على تصميم وتشكيل الفراغات العمرانية المعاصره. ودراسه تأثير وباء Covid-19 على الأبعاد الانسانية والاجتماعيه للفراغات العمرانية، انتهاءً بالنتائج والتوصيات .

### الكلمات الداله

الفراغ العمرانى - المدن الكبرى - الابعاد الانسانية والاجتماعيه - مابعد كوفيد

### The research problem

Mega cities offered opportunities in terms of the diversity of educational methods, high incomes, good health care, and various social and cultural services. As the urban spaces of major cities have proven unsuitable for avoiding the release of the Covid-19 epidemic that occurred in enclosed urban spaces.

### The Research Methodology:

In this study, validated methods were used to assess the integration of the analytical inductive approach with the applied approach by integrating three main parts of the research paper as follows:

The first part was focussed on the main concept of urban space, social and human aspects in urban spaces design . The second phase involved identifying and analyzing the changes epidemics have made in the built environment and urban spaces. A Third part A comparative analytical study for a series of global experiments used by many cities to reduce the spread of

the virus in public spaces .The research ends with social and human standards that might be taken into account when designing urban spaces post Covid-19, finally with a conclusion and recommendation.

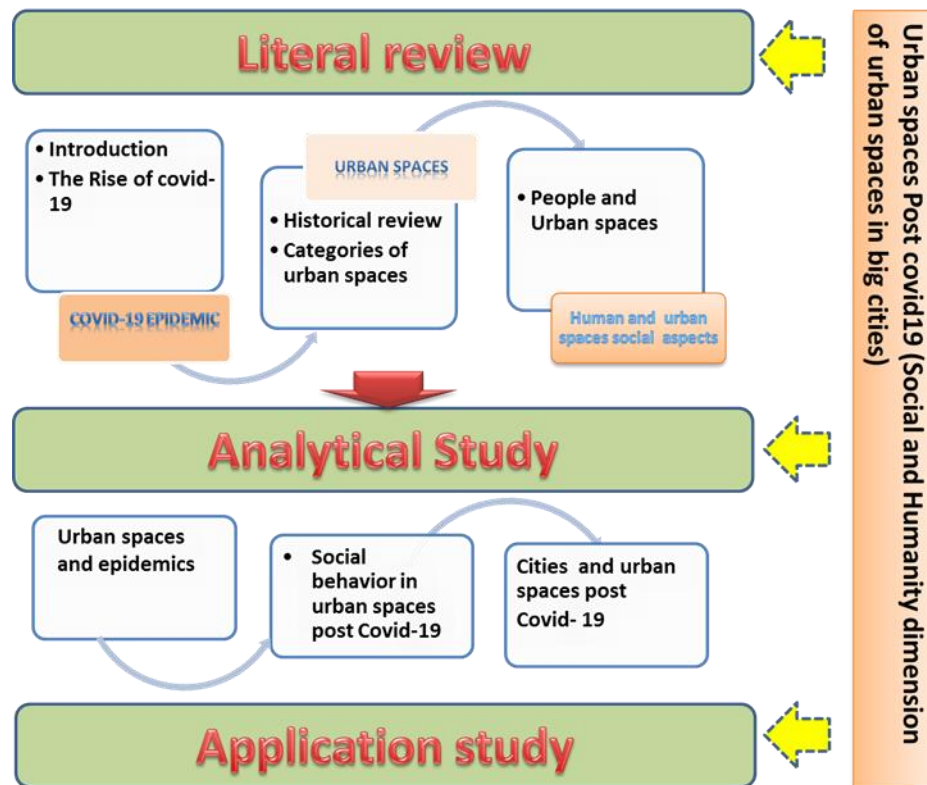


Fig (1) the Research Methodology

## Introduction

In recent years there has been a disaster from January 20, 2020. Wuhan city was the location of first group of people with an "unknown pneumonia". (Bennett, James et al. 2020) (Xu, Shi et al. 2020). Due to its rapid spread and transmission rate among humans, COVID-19 was classified as an "internal health emergency" on February 8, 2020. The virus was spread to 179 countries in March 2020, with 323,078 cases reported and 14,443 deaths recorded and increasing. After Covid-19, urbanization was not just a temporary problem; it has been the beginning of social and ecological changes on the earth's surface, especially in large cities. It has created a new dimension between cities and people and shifts urban spaces away from traditional designs to new levels with different requirements that are compatible with different environmental variables (Dixon 2020).

This research aims to develop a framework for the design of urban spaces, analysis of the dependence of the human dimension on the design of urban spaces post Covid -19.

## Urban Spaces:

Our public spaces, have been seen as a public resource and joint effort by the community and the environment (Dewey 1960). It played a crucial role in shaping our cities (Blackmar 2006). It was acted as a social catalyst, (Taucer 2017) according to Lynch, a public space provides a space in which individuals can identify themselves, take on challenges and take risks, and create a state of tension or relaxation, both of which were necessary for human cognitive and

emotional health. (Lynch and Hanson 1992). Urban space was the main center of public activity, the concept of public space originated from the Greek agora, which was a centerpiece for political, social and economic activities (Hölscher 2007). In addition, the public space was used by Roman Forum, for conferences and competitions Fig (2) (Cowan 2002).

**Categories of urban spaces**

Urban space has been known by several definitions, it could view all spaces around buildings, geometrically and artistically related to the various types of building environment surrounding urban communities; It has been seen as an active dynamic component in cities and represents the different types of mutual relationships and impacts between humans and the environment (Krier R, 1991). Urban spaces were separated into three categories Fig (3):

**Public spaces:** It reflects city life and movement - public buildings - shopping areas - public parks.

**Semi-public spaces:** could be the neighbouring yard, car parks, and green spaces for both public and private spaces.

**private spaces** which are limited to individuals or at most one private house, courtyards, forecourts and backyards, and decks . Semi-private spaces inhabited by a small number of individuals or a limited number of buildings that create a sense of community (Dursun2000).



**Fig (2) historical perspective of urban spaces social activity**  
The author



**Fig (3) a) public space reflects city life and movement b) Semi-public spaces, neighbouring yard, car parks, and green spaces c) private spaces is restricted to individuals**

**2-People and urban spaces (social dimension)**

Public spaces were known as a place of social interaction and the creation of sustainable urban environments. However, places of the public have shifted due to a variety of factors including the spread of the digital world, the appearance of various modes for transport

and cities changing image increasing movement, lifestyle habits and ignoring social values, which has resulted in some urban areas lack their own role and importance at different urban levels, fig (3). (Gehl and Gemz 2004 ) cultural dimensions and the social aspect of public places have a special reference (RAfiian and Khodai 2009) , (Danishpur and Karkashian, 2007). People are challenged as the most important factor in the dynamics of suitable urban spaces and active participation in public space (Daneshpur and Chrkchyan, 2007).

- **Key aspects of the social dimension of urban spaces**

Spaces have been interconnected to society, without social substance, it is hard to properly understand without identity, the same is the society without a spatial component, there is no doubt that physical environment has different effect on human behavior (Carmona 2021). Important aspects of the urban social dimension: Human-place connection, security, public space, neighborhoods, equitable environment.

- **People and place**

There were many perspectives as to the extent to which the environment influences human behavior such as the relationship between people and space determines the identity and image of the city. Urban planners influence human activity patterns, according to socially alternative relationship that can be shown as follow : (Dear and Wolch 1989):

- Composition of space – where the features of the location affect the kind of community.
- Space-controlled – where the environment makes human action difficult. (Gregorowicz-Kipszak 2015)
- Space mediated – where the distance makes development of different social activities easier or harder.

- **The public realm**

The public realms was known as the dimensions of 'physical' (space) and 'social' (activity) (Carmona 2021) . It comprises traditional urban components with different dimensions and functions, including streets, squares, parks or nature zones. These urban space functions were integrated in order to experience different places to enjoy and work (Richards 2017). Public life is traditionally associated with public spaces,(Banerjee 2001).

- **External public space:** certain areas of land between personal property (squares, streets, highways, parks, parking lots, forests, lakes and rivers). All of these places were theoretically accessible to everyone.
- **Internal 'public' space:** Space of different public infrastructure and public transport infrastructures (library, museums, city halls, etc) (train stations, bus stations, airports, etc.).
- **External and internal - 'Public':** Many public places — universities, sport facilities, restaurants, theatres, retail malls — are officially private, but also public areas. public space; This category also cover private and public outdoor areas (Banerjee 2001).

- **Neighborhoods**

Neighborhoods have been designed according to a social dimension as a planning technique to easily structure and organize urban regions (Gregorowicz-Kipszak 2015).

It was important to improve the neighborhood connection in regions with increased social activities by residents (Carmona 2021) as an example, Cairo's town squares, as in most historic cities, were adorned with fountains, monuments, statues and other works of art.

(Attia 2011), While the public space has been used for traditional and public celebrations, public events, and the exchange of goods and services (Madanipour 2003), special festivals include the Mawlid, traditional festivals held in Cairo's public streets to celebrate culture and tradition fig (4).



Fig (4). Public Square is the main life in Cairo, transportation Urban square and social activity,

<https://www.almasryalyoum.com/news/details/530691>

#### ▪ **Safety and Security:**

▪ **Security** management tasks in urban space can be identified by four keys (Lynch and Carr 1979), control the harmful activities, increase forgiveness towards free use, group activities are spatially and temporally separated, providing temporary locations where free behavior can continue with little harm (Jones and Newburn 2002), distinguished types of social control:

- (Formal) social controls – public police)
- (Informal) social controls –home parks-keepers, bus drivers, social management control activities.
- Tertiary (informal) Social regulates groups, churches, clubs and communities.

#### ▪ **Equitable environment**

Use the space for all people according to universal design principles (Burton and Mitchell 2006).

**Equitable:** Suitable for individuals with various skills.

**Flexible:** A wide range of individual preferences must be applied to the design.

**Simple and Intuitive:** The application of design should be simple for the sight.

**Perceptible:** The design efficiently provides the user with required information

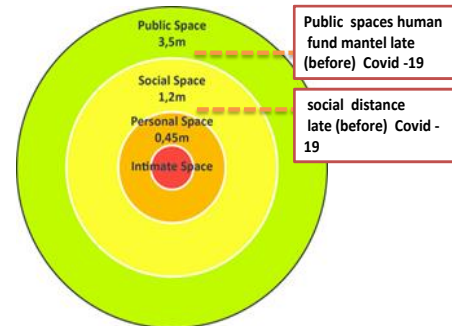
**Fault Tolerance:** The design reduces chances of unintentional acts and their harmful effects.

**Low Physical Effort:** The design is accessible and accurate to use

**Size and Space for Approach Use:**

People's perspective of their surroundings influences their social interaction. It represents their satisfaction or discomfort in other places. (Hall 1969))Four separate areas typically occur in which individuals interact Fig (5) . They have been classified as personal, societal and public. (Israa, El Araby et al. 2013)

- **Intimate space** is the private area that surrounds the individual's body. It includes both emotional and physical interactions (**45 cm**).
- **Personal space** is the area where a person contacts friends or a face-to-face conversation is mandatory (**1.2 m**).
- **Social space** is the field for transient social interactions. (**3.6 m**).
- **Public space** is that region that an individual would not anticipate to touch people directly (**7.2 m**).



**Fig (5) People social dimation with others in public spaces, (Israa, El Araby et al. 2013)modified by the author.**

### 3-Urban spaces and epidemics

There have been epidemics of political and cultural influence in the past, but this was the first epidemic to occur while the most readily available personal alternatives are absent. (Practical) from the start, the plague of Athens was in 430 BC, until the Black Death in Europe in the 14th century. We look at the effects of the adaptation of the urban design and the legislation on urban zoning and thus the first isolation idea of black death to reduce the feeling of isolation. Across the world, SARS-CoV-2 is the deadliest viral epidemic since HIV emerged in 1981 and the worst airborne virus impact since the Great Flu, the panacea of Asian cholera (1826-1837) and Spanish flu (1918-1920).

Epidemics also helped the planners to develop the new urban areas (Reyes, Ahn et al. 2012). At the beginning of the 20th century and the industrial revolution, the world have faced some epidemics, especially the Spanish flu that killed more than 50 million people around the world, urban design and planning have been valued by us as designers, and made an important contribution to reduce the spread of these diseases, taking into account social, economic factors and human dimensions according to the nature of each city and place. Despite the severe cholera damage Fig (6), in England, cholera has played a positive role in improving the urban design of London, where the spread of disease has helped highlight the importance of open spaces and the separation of polluted and clean water sources (Eltarabily and Elghezanwy 2020).

One of the most important recommendations was to replace public transport for pedestrians and street-walkers and to pay attention to the elements of the particular location of the streets and sidewalks (Salameh, 2020). Urban areas faced a major disease issue, but they also offer unique opportunities to promote health and prevent disease (Reyes, Herrera et al. 2013).

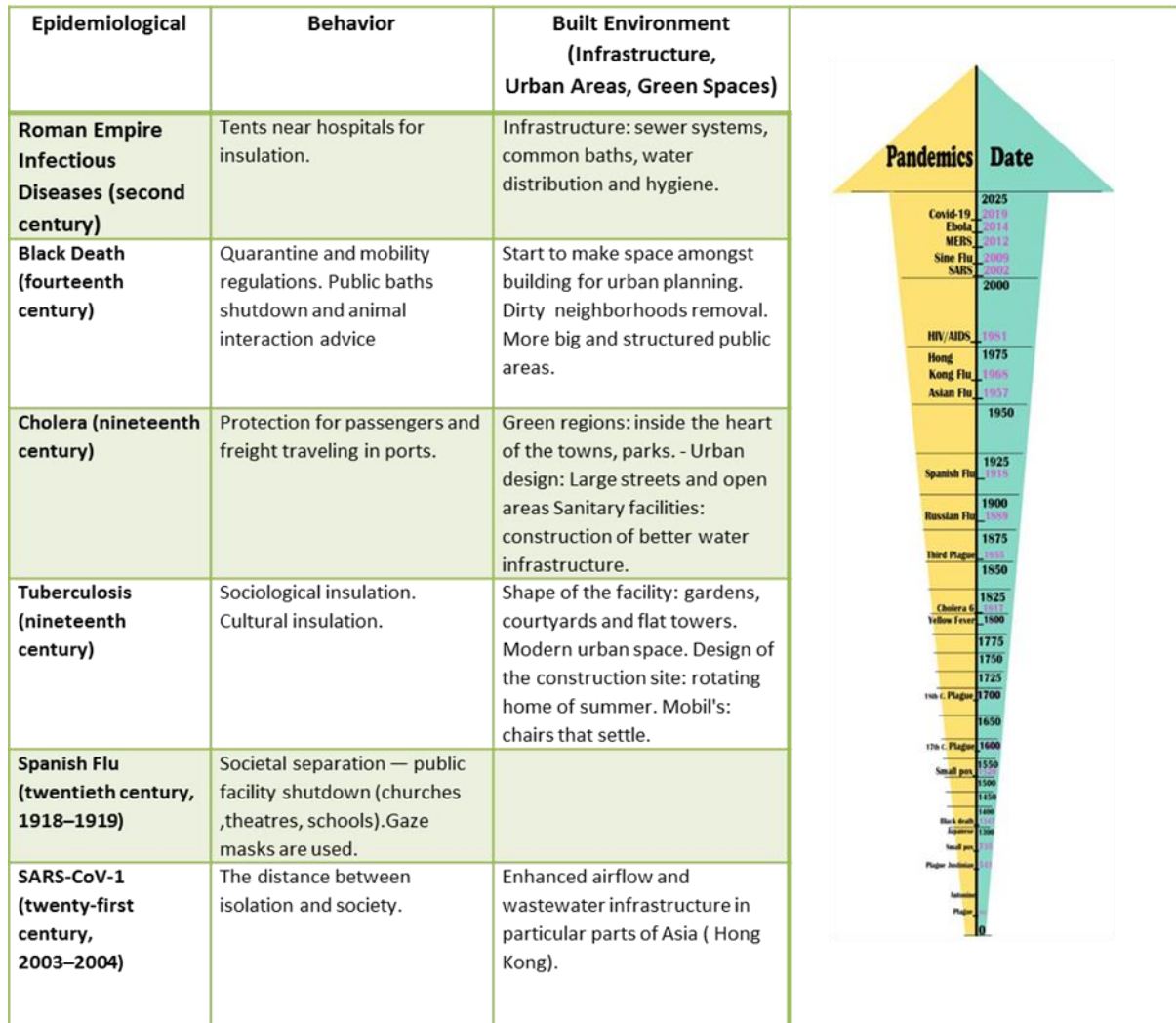


Fig (6) The Epidmic effect on the urban and built environment adopted from (Pinheiro and Luís 2020 ).

#### 4- Social behavior post covid

With the new trends in the way we have worked and lived (online), social behavior has changed and the personal connection became more about being in different dimation (virtual). Meetings were held at home virtually. (Haverland), This respectable distance may need to be adjusted if SARS-CoV-2 can be distributed as an aerosol at a government site, the consensus of health authorities recommends a radius of 2 m (Freeman and Eykelbosh 2020) .

#### Cities urban spaces post Covid -19

In order to provide quick relief in urban centers to contain the spread of Covid, several Centuries and cities around the world have introduced rules and laws:

- The Manchester City Council has expanded procedures for pedestrians and bicyclists so that tourists and workers will have an easier social disparity when they return to their stores and workplaces. In other heavily-traffic regions of Manchester, periodic "temporary" traffic orders to make room for footpaths and expanded footpaths. The intended intervention would allow individuals, while respecting social distance guidelines, to go from public transit centres to neighbouring businesses or their workplaces.



- Temporary route cycles have been set up in the Leicestercity Council for people driving across the city during the Covid-19 lockdown Fig (7).

In the city center and on Major Street around the county, Hertfordshire County Council has adopted measures that encourage and allow social distance. Public health and roads specialists have identified high density locations and small walking trails that culminate in significant amounts, and steps have been taken for each location to increase the walking area. In certain situations, crosswalks have been closed to shorten walking times . Mexico City has begun building new 54 kilometers of cycle lanes using recyclable materials that do not only cover downtown, but also connect regions across the city and encourage active transportation across the city.



Fig (7) a. Widening of footways Lond on b. High-view signage for a social distance at the London bus stop c. Markings for social distancing, separating queues <https://news.trust.org/item/20200906182335-6dx13/>

- The Milan Council has developed the current "Milan 2020" adaption strategy with the objective of rearranging the city for social separation and further measures targeted at preventing infection. Next to the main metropolitan roadways, new bicycle lanes will be built utilising existing vehicle lanes. In order to give precedence to bicycles and people, the fastest capacity on the tracks will be 20 km/h.

Table (1) The social aspects and Human dimention of urban spaces post Covid-19					
	people and place	The public realm	Safety and security	Neighborhoods	Equitable envirnment
Urban centres	Footway widening between pedestrians. Loading bays and cycle lanes. Changes to parking bays.	Give walker distinc for entry and exit paths, with obvious indications	Symbolic and spoken messages. Sitting tape for social distance maintenance. Safety concerns and the effect of disability regulations. Widespread movement.	Consider car parking layout and spacing, amending capacity if appropriate. Signs when road changes layouts. Consider additional parking or facilities.	Move bus stops to larger regions. Maximize entry and departure access.

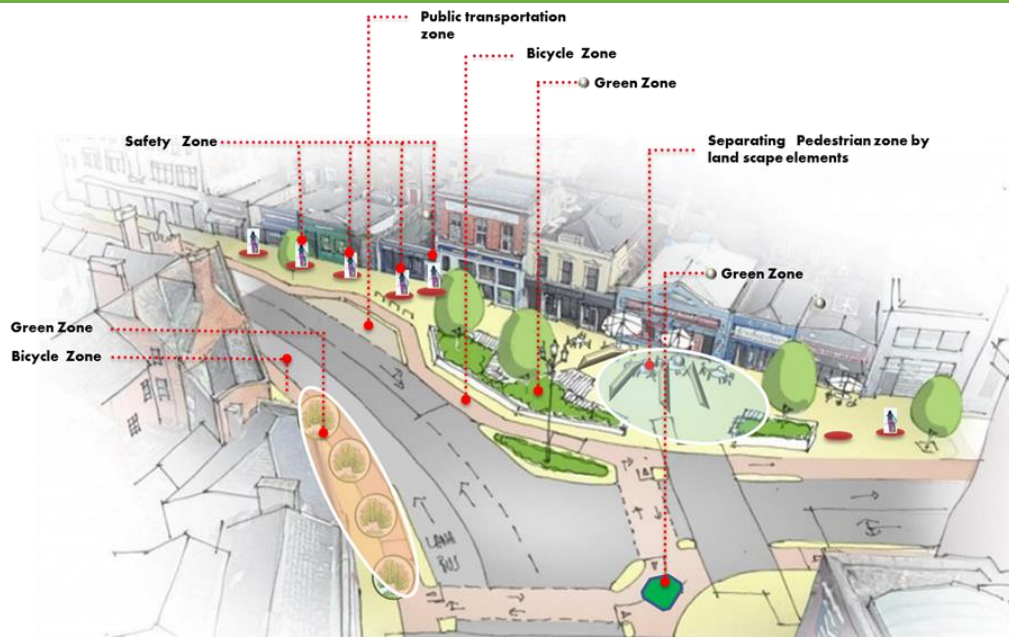


Fig (8) Social dimation for the Urban centres post Covid-19 (The researcher)

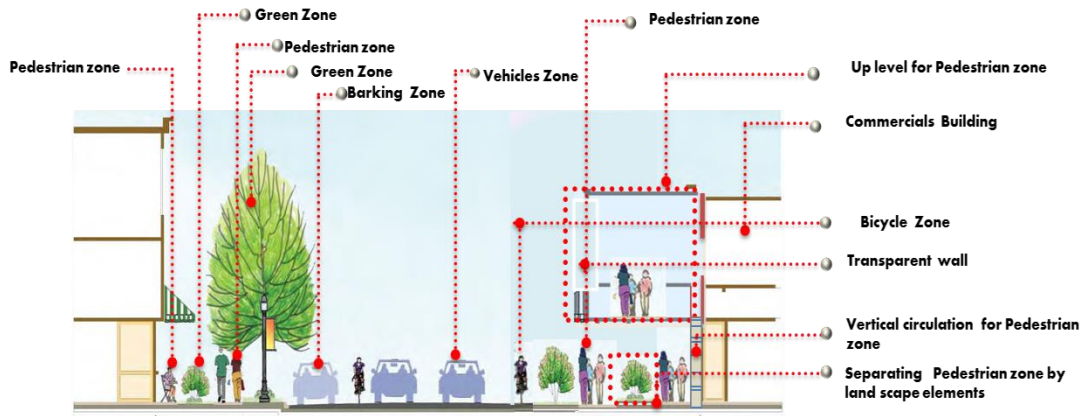
Urban centres; the main considerations include:

High footprints and highly populated regions.

- Limited entrance and departure, Multiple Questions.
- The behavior of pedestrians change as various individuals walk to various stores and installations.
- Inappropriate barriers to pedestrian movements, such as planting plants, transport stations, landscape characteristics and containers.
- Need to give room for routing points, regular, secure, formal and informal.
- Need to take people from various tracking information into and out of the place, for example automobiles, bikes, pedestrians, buses, trains and the subway into the same zone.
- Increased capacity rates and designated parking requirements.
- Multiple proprietors and settlement supporters (Jasiński 2020, Slater, Christiana et al. 2020).

	people and place	The public realm	Neighborhoods	safety and security	Equitable environment
<b>High streets in town centres</b>	Widen footways by utilising the carriageway. 8. Introduce cycle routes Keep building entrances and clear footpaths,	Suspend road parking for other initiatives. Footbridge signs with marker symbols.	Signs on social distancing and circulation. Use existing street furniture for signs.	Safe, level crossing points Reduce traffic speeds using traffic calming measures.	Take into account safety and requirements of individuals with disabilities, reduce tight spots.. Sitting places for

Max accessibility and single-way introduction.				handicapped and elderly.
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**Fig (9) Social dimensions and humans**  
**High streets in towns post Covid-19 (The researcher)**

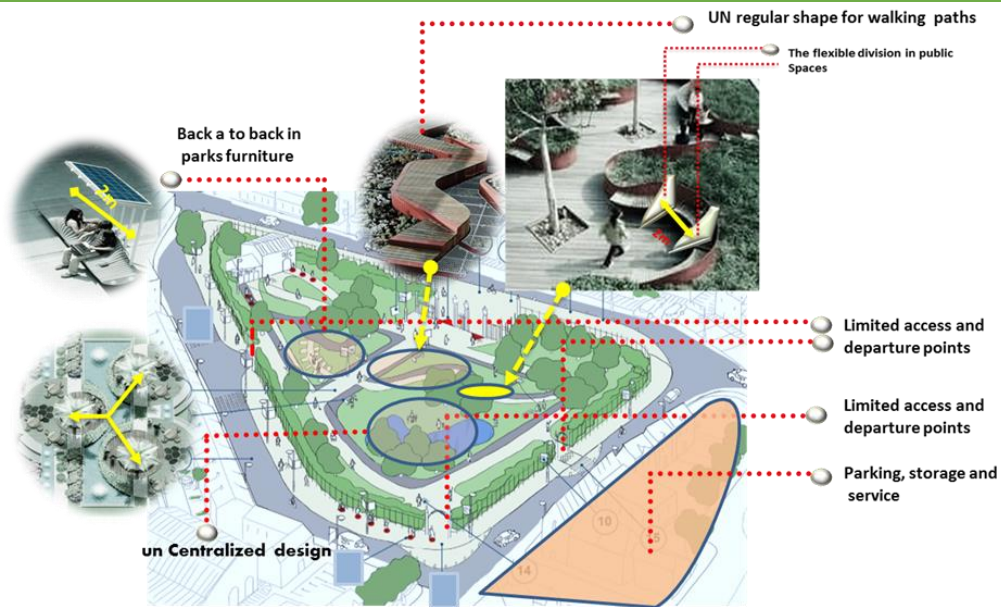
The main consideration for high streets and town centers (Christiana, and Gustat 2020 ) :

Cause fewer velocity and Extend footways.

- Football and transportation effect consideration 3.
- Disable the car park for other procedures.
- Reduce pinches and take account of safety and requirements of persons with disabilities and the elderly.
- Suitable crossing sites for level crossings.
- Disabilities and elderly resting places.
- Enter cycle paths.
- Phase of storage bays product delivery.
- Foot-and-mouth queue marking indications.
- Signs concerning social distance and movement, especially at places of contention such as crossroads and crossings.
- To prevent impacts on surrounding streets, use roadways furnishings (e.g., lightposts) for signage.
- Signs to limit queue length, helping in management.
- Maximise access and introduce one-way.

	people and place	The public realm	Neighborhoods	Safety and security	Equitable environment
Park and green	Footpath to manage distances between footpaths Footbelt.	Construct distinct approach and departure pathways • Consider	Sign to encourage people to wait.	maintain 2m distancing between people Safety and impacts of policies on	Specific locations to identify the position of individuals.

<p>One-way motion keeps 2 metres apart. Enlarging inputs and outputs to reduce queues. The roads might be shut down.</p>	<p>automobile parking and space</p>	<p>Implementation of the newest principles in published either spoken messaging. Supply park advice for mobility. To minimise affecting human movements use urban road tables and chairs for signage.</p>	<p>persons with disabilities.</p>	
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**Fig(10) Social dimation in\_Park and green spaces post covid -19 (The researcher)**

The main consideration of Park and green spaces could be as follows:

- Treat the requirements of various user groups, including for pedestrians, cyclists, visitors to cemeteries or gardens of memory, youths, families, elderly and persons with disabilities.

Limited access and departure points that impede people's flow and perhaps create lineups.

- Need to handle various people passing through these places in diverse ways.

Parking, storage and service access for visitors.

- Capacity to wash or sanities hands. :(Christiana, and Gustat 2020) .

**Conclusion:**

Taking a historical look at Urban Spaces and epidemics, the evolution of the association between viruses and urban spaces and the direct impact these epidemics have on rethinking the properties of our urban and public spaces. Many questions arise: Are these epidemics an element of awakening that helps us return to our human dimensions? If this epidemic can lead to a new vision for thinking about the human and social dimension in the design of our spaces to the following results, which research suggests to take into account the design of urban spaces. The research found that there were many studies that have suggested widening the human dimension for people in blind spaces up to two meters without applying pension standards.

**Conclusion on the social and humane dimension for urban spaces post Covid-19:****People and place:**

We should widen the footpath of urban centers between pedestrians. Loading bays and cycle paths, for high way streets and changes to parking lots in main streets, widening of the footpaths by using the lane, introduction of bicycle paths, keep building entrances and footpaths clear, maximum accessibility and one-way street. For parks and green spaces, design wider footpaths to cope with the distances between footpaths, footband one-way -Movement keeps 2 meters apart, enlarging entrances and exits to reduce queues.

**The public realm**

Urban center post Covid -19 could have the accessibility for pedestrians differentiate between entry and exit paths. For high way streets suspend street parking spaces for other initiatives without obvious signs. Pedestrian bridge signs, for Parking and green area with marking symbols in green areas.

**Safety and security**

Urban centers should design symbolic and spoken messages. Seating tape to maintain social distance .Safety Concerns and the Impact of Disability Regulations. There must be broad movement. For main roads Safety, for high way streets crossing points. Reduce the speed of traffic by taking measures to calm down traffic. In the case of Parking and green spaces, keep a distance of 2 m between people. Safety and Policy Impact on People with Disabilities.

**Neighborhoods**

Urban center should take into account adequate arrangement and spacing of parking lots, clear signs when the street arrangement is changed. Consider additional parking or facilities. For High roads, signs for social distancing and traffic, use existing street furniture, for Parking and green spaces, signs to encourage people to wait for implementing the latest principles in published spoken messages. Offer parking recommendations for mobility, to minimize the impact of human movement, use street tables and chairs for signage.

**Equitable environment**

For the urban center, bus stops should be relocated to larger regions and suspensions lasting for days should be taken into account, and entry and exit opportunities should be maximized. For high way streets, consider the safety and needs of people with disabilities, reduce narrow spaces, seating for the disabled and the elderly, for Parks and green spaces, special places to identify the position of individuals, use landscape elements to separate groups of people.

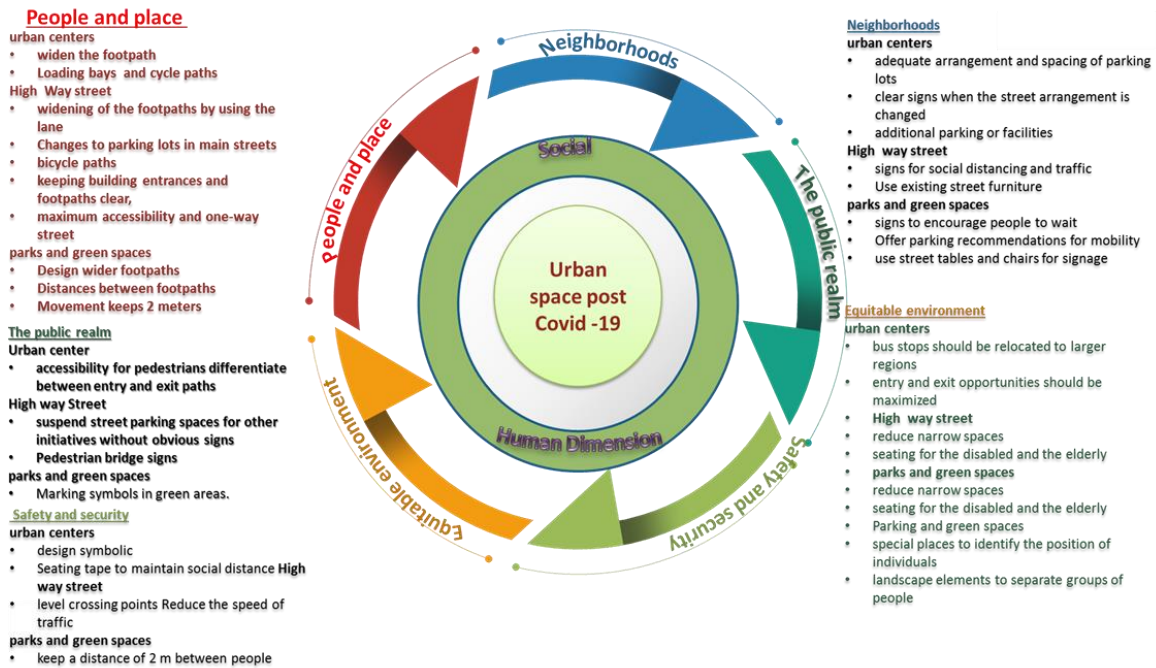


Fig (11) Social and human dimation for urban spaces post Covid -19 (The researcher)

### Recommendation:

- Increase the width of pedestrian zones and encourage walking, taking into account the distance of at least 2 m in normal condition, in order to reduce the presence in closed means of transport.
- Take into account new routes, the tendency to close the most crowded streets and swap them with other routes to reduce congestion in the more central urban areas.
- In the most crowded places and cities, whose urban spaces may be associated with religious and social customs and traditions, elements of location coordination and signs are used to create distance between the users of the space.
- Using signs that encourage distancing will help reduce convergence and encourage social distancing.
- Back to the availability of water and general hygiene on the streets.
- Using signs that encourage distancing will help reduce convergence and encourage social distancing.
- Maximize the distance between the green spaces and minimize the connection, especially if small paths and tunnels could bring people closer together.
- Aspects that induce people to collect, rearrange or delete, such as views or scultural features, regulate physical interaction activities through many occasions during the day and separate them from one another during the activity.
  - Consider access to parks in the community before moving to cut down on restricted alternatives.
  - Strengthening open spaces to promote dissemination and, above all, inactivity.
- Redesign landscape elements and use them as dividers in public gardens. Reduce the design of central rooms and paths in gardens.

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