

# Urban Design, Social Well-Being and Livability.

## *Deciphering the urban design framework of the most livable city of Singapore.*

Gayatri Ranjeet Jagtap, Research Asst.,

VP's School of Architecture, Savitri Bai Phule Pune University, (Maharashtra)

Email id : gayatrijagtap1@gmail.com

**ABSTRACT** - The paper analyzes how urban design and 'urbanscape' can impact livability of a city, the residents' health and social well being, and examines a case example of one of the most livable cities of today, Singapore. And to further adopt the lessons from the analysis to mould cities into saner, happier and livable places. What majorly affects the social well being of a city/country is its economy, social support, policies, relatively honest and accountable governments, changing governments, the public response that follows and the city's ability to cope with the fallout from a crisis. Ways of living affect the well being too, and urban design is a vital part of the way of living of the population of a certain place/city.

This paper examines specific urban design principles by which urban living can positively impact social well being, and recognizes practical strategies that cities can adopt to improve urban mental health and well-being. The analysis is a suggestion that developing urban cities with a fast-paced living can adopt a flexible urban design framework according to their respective challenges.

**Keywords** - holistic development, livability, social well-being, urban design, urban living.

## I. INTRODUCTION

### 1.1 Research Background

The 'capital centric' urban design is turning humans into machines and massacring the character of cities, sucking life out of them. Yes, you have got a fancy house, yes you have your own vehicle to help you commute several miles to your work place. But if you are not stuck in your fully air-conditioned office for 7-8 hours a day (having no connection with the outdoors whatsoever), you either must be stuck in traffic with a pollution mask on. But is this really the quality of urban lifestyle you would want?

And what is the magnitude of the impact it has on a population's mental and social well being? At this point in time, more than half of the global population resides in an urban area. By the year 2050, it is going to rise up to 70 percent. And over forty years from now, it is estimated that our earth would have underwent the largest rise in urban growth and at the fastest rate ever in the history of humankind. And to add on to this, it is projected that an additional area - as large as the size of South Africa would be transformed into urban, by the mid-century.

The modernism of the twentieth century apprehends of itself as a response to the stimuli of a global catastrophe, but it is not so. Rather, it is the modernism itself that has justified itself to be a catastrophe for decades now. Or, to term this in another way, "modernism conceives of itself as a movement of global communication, as a

universalized public realm. Yet, it has revealed itself to be one of the greatest foemen of that realm."

How is it that we have managed to reach such a peak of urbanization? And how wild an impact is it going to have on our future? Is it compromising with our social well being and the mental health of individuals, globally? How can architects and urban designers contribute to get the pace of this 'Rat Race' to a sane level and positively divert its impact on the well being of the citizens? It is now that we tame this wild impact to bring in maximum benefits from the immense potential it adheres. At this very same time we are going to deal with and gather solutions for coping with the climate change, the very same time we also have to construct an urbanscape for over 3 billion people. That is doubling up of the urban environment. And in a case where we do not get that correct, it remains uncertain if all the climate solutions that have been devised till date will save the humankind.

Because a lot depends on how we mould our cities, how we shape this urbanscape; not only the environmental impact but how it would affect our social well being, economic vitality, our sense of community and connectedness.

A city is operating strenuously at all hours. It is unarguably true that a city is shaped by the forces of its economy, and it is these forces that are governing today in the international market. Complimenting to this how can a city be 'livable' and assure a healthy lifestyle and well being for its people? How can the design of these cities

manage well enough to do that? And how can it gain relevance to improve the local as well as the global environment for the people?

"Urban form plays multiple roles in the perceived and objective social environment, and the social environment has an impact on the social-well-being of individuals. Social participation and integration in the immediate social environment are important to both mental and physical health" (De Silva, 2005).

## 1.2 The primary aim and objective of this research.

The aim is to explore the potentials of urban design, the discipline's contributions in better enhancing social well being and livability in a cityscape amidst the crucial challenges of urbanism, and in improving the life of neighborhoods with Singapore as an ideal case of example. The objective is to decipher the urban design framework of the most livable city of Singapore and to establish solutions for the cities of today.

## 1.3 Research Methodology

The research begins by reviewing studies and literature to understand the relationship between urban design, social well-being and the criteria that defines livability of a place. It then proceeds to discuss the cities of today, focusing on Tokyo and Singapore. It further justifies the research question and then goes on to deciphering the urban design framework of Singapore to understand in depth the process and the principles that go into the planning of that city making it the most livable city (for the 17th year).

The research concludes with the urban design strategies and lessons that can be adopted to transform the cities of today into better living environments that enhance social well-being and livability.

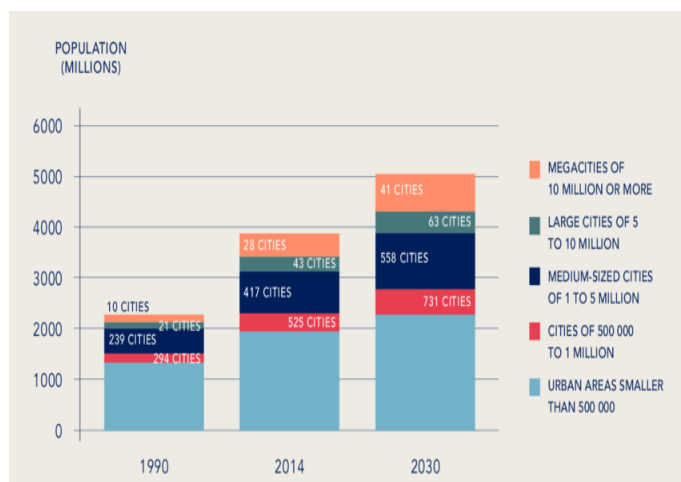


Figure 1.1: Urban growth over the years (source : www.visualcapitalist.com, accessed in April, 2020)

## 1.4 Research Scope.

The scope of this research is limited to the city of Singapore as it focuses on the urban design of the city

while it deciphers the details of the framework that make it one of the most livable cities. The data and the analysis for this research is based on the latest urban planning principles, concept plans and the master plans devised as per the conditions projected in 2019. These master plans are officially subject to any changes and alterations after its review every five years depending on the opportunities and challenges to come.

# II. URBAN DESIGN AND LIVABILITY

## 2.1 Urban Design.

Urban design is a multi-disciplinary procedure of designing towns and cities, streets and spaces, landscapes and a myriad of places like : city centers, residential neighborhoods, and edges of villages, towns, green patches, industrial estates, or the areas around local bus or train stations. From business districts to pedestrian oriented pathways. Urban design should define, illustrate and inspire the improvement of society at large. It is a collaborative process and involves the formulation of frameworks, policies and programs that promote growth and successful development.

## 2.2 An efficient urban design framework and its relationship with social and mental well being and livability of a place.

Does growing up in the urban jungle pose a risk to mental health? Can a place impact our well being and mental health, either positively or negatively?

Yes, indeed. Human behavior is fundamentally influenced by the stimuli that surrounds us, and the environment will live in plays one of the key roles into shaping and developing us - both, as an individual and as a society too. In an article featured by the "Hames Sharley's Brisbane studio", David Carroll (one amongst the principal designers at the studio) mentions, "In a country where one in five people are said to experience symptoms of mental illness in a given year, it is important to look to all facets of our environment to explore ways to improve the psyche."

From New York City to Tokyo, a large number of cities across the globe are acknowledging how a fine urban design framework is major in encouraging social well being, the mental well-being of its citizens, and curbing the stresses of a fast-paced urban living wherein the negatives of it seem predominating. A city that is well designed will not only strengthen the social bonds, foster community engagements and healthy interactions, feed to the growth of a populace with resilience but also positively impact their creativity and enhance the infrastructure's productivity - Prospering the city and its people collectively.

While an inefficient urban design framework and a poorly planned city could lead to more issues for its residents

harming their well being and adding to stress. Multiple researches have concluded that the frantically fast paced and detached nature of the urban life could be a catalyst in amplifying the risk of anxiety, depression, and other mental diseases severely affecting the people.

The Department of Design and Construction (for The Highline, NYC) mentioned in its booklet of policies, "With healthy living as a guiding principle, we are widening our lens and encouraging design teams to think about aspects in the built environment that can aid mental health."

### 2.2.1. How does one evaluate the wellness and health benefits of a city/any place?

A healthy and well city, as the World Health Organization (WHO, 2016) would describe it as : "...one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential."

There definitely is a positive strength to the co-relation between the types of values that are derived from a place and the often-intangible qualities of place. These qualities of a place are usually subjective, and generally quite tough to quantify. And thus, this 'tough' characteristic of the qualities makes it extremely challenging to study about them. Hence, it is often noted that there is not much research available which concludes a way that would help make a definitive evaluation.

A critical review of some of the most-cited studies is suggestive that the reports are sometimes incomplete or biased and the scope, limited. Although, there are very generic ways (those of which could be variables depending from place to place and very subjective as well) to measure and examine what constitutes a healthy community.

"For human beings in the modern world, a lot can be said for the impact of well-designed urban spaces in terms of the mental, physical, and spiritual wellbeing of people."

David Carroll explains referring to his experience that was gathered during his work all around Australia and Asia in multiple developments. However, there is no rigid index or a universally adopted wellbeing criteria. In Department of Health in New South Wales, Australia has formulated a report termed as the "Healthy Urban Development Checklist", which aims at generating a better and inclusive dialogue amongst the sectors of health and those of planning. The report checklist to measure the degree of a healthy environment in an urban framework is dependent upon the accessibility to:

- physical connectivity and efficient transport
- social infrastructure

- housing choices
- healthy food and personal health
- job opportunities and quality employment
- safety and security of all
- access to public open space
- physical activities
- community connectedness and social cohesion
- environmental health.

### 2.3 The cities of today.

With urban populations expanding, cities are growing at an exponential rate. People migrate to urban areas which have better access to job and employment opportunities, educational facilities, economic developments, business nodes, effective social mobility, efficient transit framework, access to health resources, safety and security compared to that of rural areas. The countries which were once observed amongst those in the "third world" are actively managing to make leaps for accommodating the population explosions in their new urban centers by effective design strategies and considerate planning. The urban trends are shifting and with it

what is considerably shifting is the population. Thus, contributing to multiple highly dense and some densest cities ever witnessed in the history of urbanism. Our cities and the urban settlements housing high densities of population have reached their saturation point, which if not addressed will only multiply the problems that these "mega-cities" already face, adversely affecting its people.

A city is operating strenuously at all hours. It is unarguably true that the city is shaped by the forces of its economy, and it is these forces that are governing today in the international market. Complimenting to this how can a city be 'livable' and assure a healthy lifestyle and well-being for its people? How can the design of these cities manage well enough to do that? And how can it gain relevance to improve the local as well as the global environment for the people?

Amongst the highly dense and developed cities around the globe, and also to be the most livable as well - are those of Tokyo and Singapore.

#### 2.3.1 Tokyo

To briefly elaborate the role of urban design in the city of Tokyo, Japan;

Urban design lessons that make Tokyo a place for ensuring better mental health are as follows:

- Street parks: inserting parks along the street which are easily accessible, ensure better pedestrian movement and active social engagement. Also, plugging in green

- spaces wherever possible to bring nature close to people.
- Superblocks: These 'blocks' are essentially clearing and nudging vehicles into wider and primary streets to prioritize pedestrians, enhance the street life, activate smooth movement and more green spaces.
- Active transit: A choice of transport that is affordable, works with great efficiency, is accessible and convenient to all.
- Promoting social exercise outdoors: a provision for storage and changing facilities and easy access to outdoor exercising spaces.
- Interior place making: bringing in nature into indoor spaces such as business hubs, shopping malls etc., making them interactive, pro-social, vibrant and lively such as the ambience of a high street.
- Interventions for suicide prevention: plugging in elements of nature, blue light and calming images at train stations.

- Urban design steps that have contributed in improving the public mental health of Tokyo are as follows:
- Increasing awareness: Appreciation and making the most of the opportunities at hand by the urban planners and the designers.
- the opportunity for walking and cycling: removing the barriers at workplaces to encourage commuting on foot or bicycles.
- Harnessing the neglected walkways: revitalizing the neglected walkways as interaction spaces, for relaxation and socializing and spaces for sports.
- Social interaction: the active public and community interaction should be at the core of urban design frameworks.
- Optimizing workplace: the importance of well-designed office spaces and convenient commute choices is to be done to promote good mental health considering the long working hours.



Figure 2.1: Top five cities ranked by health % (source : www.arcadis.com, accessed in April, 2020)

### 2.3.2 Singapore - Where well being involves going green and a closely-knit community.

Studies have concluded a significant improvement in memory and attention of the people when they happen to be in touch with nature. Also, being around nature makes them calmer and happier. In Singapore, the concerned authorities and the government, together are ensuring that plans are in place to enhance and rejuvenate the natural assets - the green and the blue natural features and to incorporate more greenery throughout. As the "Sustainable Singapore Blueprint" by the government of this city-state suggests, by the year 2030, almost nine out of ten households in Singapore will be in close proximity to any park. A green space will not be more than 400 meters away from any home.

The National Parks Board of Singapore is intensifying its efforts since 2016 in planning and executing therapeutic gardens as a key component of a public park. This would further help to enhance the users' mental health along with emotional comfort and well being. The research that goes into designing and sensitively planning these gardens involves environmental psychology and a study of natural elements such as water, wind, etc. To state an example of a

code, in a case where an ongoing development has to clear a part of some green space for construction then the concerned developers ought to replace a part of it, if not all, in their respective site. And the ones inserting rooftop gardens and more such features into their developments are legible to seek bonuses for gross floor area.

A leading-edge care centre for the community, plugged in with a childcare centre along with a senior care and nursing facility, was introduced in Singapore in the year of 2017. The kids and the senior citizens together, participate in recreational and interactive activities. The young and the elderly together, involved in arts and craft, karaoke, while the staff of the nursing home and the childcare crew collaborates to formulate projects and routines that are inclusive of these diverse age groups. During the inaugural of this community care centre, Singapore's Senior Minister of State for Health - Dr. Amy Khor, mentioned that, around ten recent housing developments throughout the city-state will be integrated with childcare and senior care amenities since the government plans to co-locate them to build more strongly knit and healthy communities. (2017)

"We hope to create more opportunities for seniors to gain from the infectious energy of the young, as well as for the

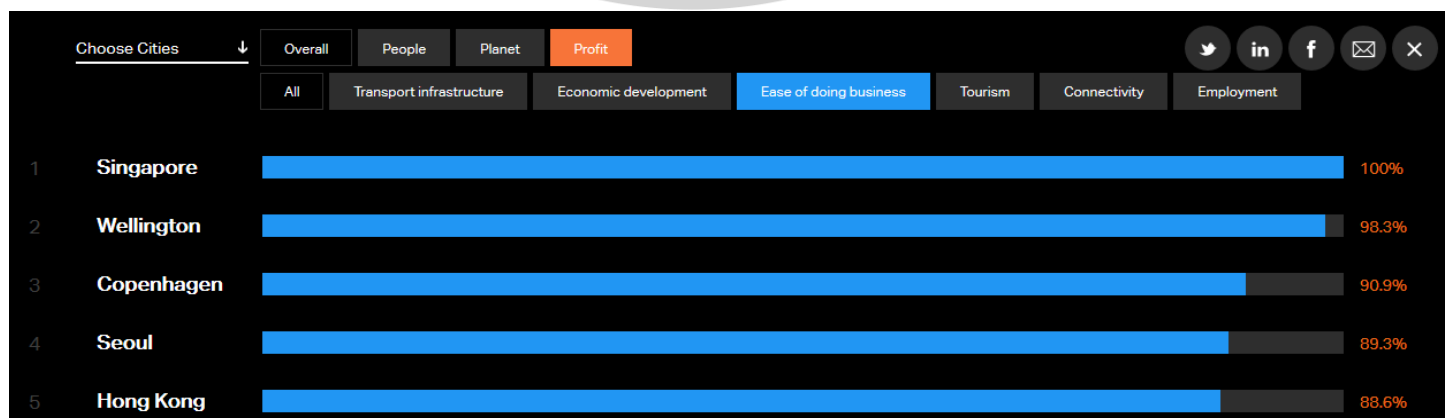
young to better understand the seniors who share their community.” The executive director of nursing home, Sister Geraldine Tan continued, “Such a model of care, which I call the Full Circle Model, is also where everyone can find a place to co-exist – the young, the old, the dying and the sick. We learn to embrace one another and live-in harmony.”

#### 2.4 Why Singapore poses as an apt example to study and learn from? And why should the developing cities implement lessons from this city-state?

Singapore is amongst the most developed cities around the globe and a highly dense one as well. The latest survey done by the Strait Times concluded Singapore's outstanding infrastructure and quality amenities that the island city-state has to offer and also cited its low crime rate. The survey statistics also confirm the broad population of a diverse expat community which imparts and enhances Singapore's accessibility to an international social network. This collectively, has ranked Singapore to be the most livable city for the 17th year (as of 2019).

It has confronted some major challenges that a majority of cities across the global continue to face today. Within a considerable brief amount of time, it has addressed these challenges, developed urban design principles and policies accordingly, implemented them and continue planning the urban framework according to the challenges and opportunities they encounter in the present. Keeping the framework open and flexible to achieve their idea of a livable city.

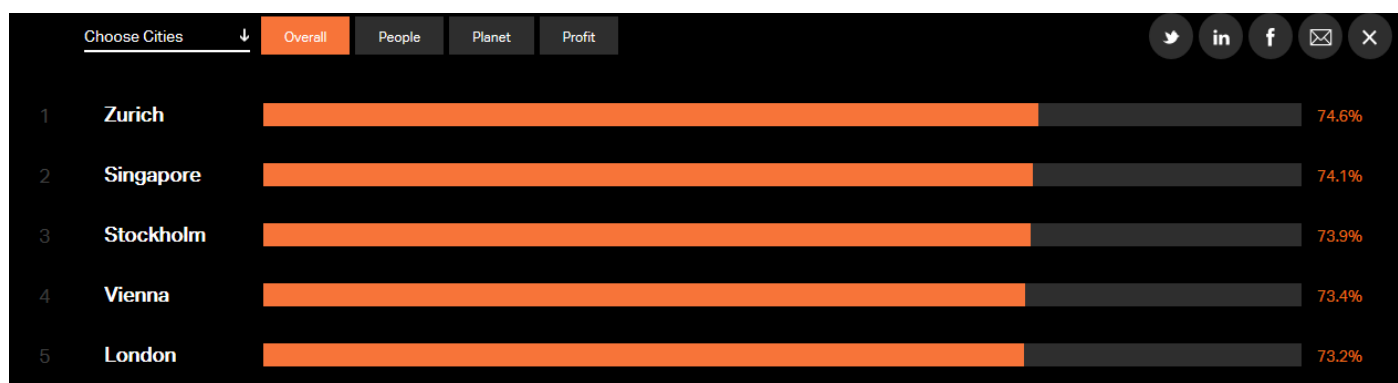
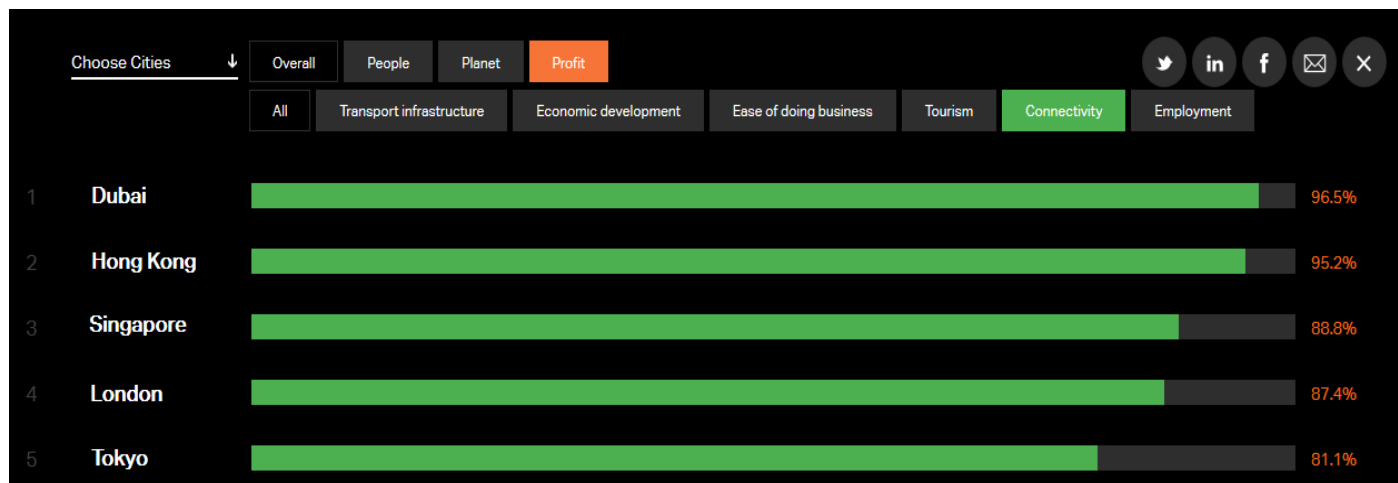
Looking back at the history of Singapore, over fifty years ago, and comparing that with its position as of today, there is an immense, magnificent change. Today, it is nothing like the country it was then. It has encountered the very similar vulnerabilities and set of challenges that a majority of the cities now deal with — those of impoverished infrastructure, an unskilled labor force, lack of employment, the growth of urban slums and sanitation issues. According to a study by 'Development Asia', within Singapore's 1.6 million of the total population, 14% lacked any sort of employment in the year 1959, an increase by 5% to that of the year 1957. Between 1947 and 1957, the annual birth rate shot up by 4.5%. Adding to that, poverty grew too. One out of four people was poor, and around 250,000 of the total population lived in the slums. However, only one generation went by and this entire scenario had transformed, for the better. Singapore remolded itself from the urban blight into the finest places, globally. It now stands amongst the most livable and economically developed countries of the world. The greatest characteristic and one the key aspects for the prosperity that Singapore witnessed is the foresight that went into sensitively planning its cities with a "people first" game plan. Patrick I. Phillips, the CEO of the Urban Land Institute (ULI) mentions "What, where, and how we build to accommodate these changes [restructured capital markets; changing energy costs; population and demographic shifts; changing housing needs; and advances in technology] will distinguish the successful cities from those that struggle." (Urban Land Magazine, 2013).





A comparative chart of cities based on the elements of humanities, economic profit, connectivity and summarizing all of the above.

Chart 2.1: Top five cities ( source : [www.arcadis.com](http://www.arcadis.com), accessed in April, 2020)



continued. Chart 2.1: Top five cities (source : [www.arcadis.com](http://www.arcadis.com), accessed in April, 2020)

### III. THE URBAN DESIGN OF SINGAPORE

#### 3.1 The URA - Urban Redevelopment Authority.

The Urban Design Authority (URA) of Singapore is a body that develops strategic plans while embracing an approach that is comprehensive and long term. It formulates a design framework to guide the development and enhance the growth of Singapore with sustainability and in a livable manner. This framework includes plans and policies such as the Concept Plan and the Master Plan. The focus of these plans is to ensure that the city-state of Singapore achieves a quality living and healthy environment.

Further, the URA takes upon a multi-faceted role while executing and transforming these visions and plans into reality. The URA's Development Control, the guidelines for Urban Design and Conservation are involved. Their job is to evaluate planning and to grant approval for developments. These guidelines ensure order in the development and facilitate its feasibility and compatibility with the communities and the neighborhoods, followed by the long-term objectives of planning for the site. In addition to functioning as the planning authority, the URA is also the main sales agent of the government land, they invite and channelize private capital investment through the sale of the city-state land to reinforce the social and economic intentions.

Being the authority of conservation as well, they have been successful in not only conserving the buildings but also entire precincts - with their internationally appreciated conservation programme. They also encourage the participation of communities in planning of public and social spaces to produce a 'people-oriented', pedestrian friendly, car-lite, sustainable and livable city for everyone. They ensure excellence in architecture and urban design while modeling a livable and resilient city; and encourage innovation into building a city that provides for opportunities and satisfies the aspirations of its citizens.

The Urban Design authority of Singapore has translated its urban design intentions into a framework of guidelines that aims at preserving and enhancing the character of various areas in urban planning. The framework helps to make certain that the developments and the urban environments surrounding these developments are well integrated within each other. These frameworks constitute of guidelines on usage of the basements, first and second storey levels, public spaces, building form and height, pedestrian network, greenery, night-lighting, Outdoor Refreshment Areas (ORAs) (for example: open cafes, outdoor dining areas) etc.

#### 3.2 The Structure of Planning

A long-term approach is the way in which the land use planning of Singapore is done. This helps optimize the limited land present and also ensures that the needs of

people - current as well as in the future are adequately met. To ultimately establish the overall development pace of Singapore, this long-term planning involves holistic strategies, identification and categorization of land for a variety of needs. These strategies further lead into construct the required infrastructure and planning for resources that would assist the land use proposal. The URA sees to it that the social, economic and environmental considerations are in balance, and emphasizes on the underlining objective of shaping Singapore into a sustainable city - an urban environment that delivers a quality living environment, provides numerous growth and employment opportunities for the people, and preserves a healthy and clean landscape. The process of planning adopted by the URA involves three major segments : Digitalization, Concept Plan and Master Plan.

### IV. URBAN TRANSFORMATIONS AND REGIONAL HIGHLIGHTS, SINGAPORE

#### 4.1 DEVELOPING HOUSING COMMUNITIES

Locations in the city such as the Central Business District, Marina South, Orchard, and those of Marina Bay and Pearl's Hill will see the introduction of more homes. These plan to offer the citizens with a variety of lifestyle options, multiple choices of the 'city living' and recreation along with easily accessible and convenient nodes of transport, businesses and employment opportunities.

Creating mixed used, flexible and inclusive neighborhoods that ensure amenities of childcare, senior citizen care centers; interactive and sociable public spaces, streets that are pedestrian friendly will be plugged into neighborhoods making them more livable and vibrant. All of this for fostering and strengthening the sense of community.

Exploring successful examples of such residential communities in Singapore:

##### I. A hillside homeland.

The site of Singapore's York hill and Pearl's hill rises above by 40 to 50 meters relative to the normal level of the city core. The Urban Redevelopment Authority (URA) has managed to optimize this topographic advantage and use it to attain the fullest benefits. The citizens residing in Pearl's and York Hill can expect an urban living environment amidst this natural green atmosphere with a city park that is plugged in with interaction spaces for everyone, the residents as well the general public.

##### II. Waterfront residency.

The Rochor Canal houses and offers easy access for new residential developments along the water front. It

also integrated with diverse opportunities for relaxation, amusement and recreation towards the Marina Bay.

### III. Urban neighborhoods.

The Gardens by the Bay, popularized by the tourists visiting Singapore and the citizens alike will see an urban 'car-lite' neighborhood housing 9000 homes right next to it.



**Figure. 4.1. The Central Area - the financial hub, the most dynamic area in the city, continues to grow as it accommodates a set of diverse uses.** (source: [www.ura.gov.sg](http://www.ura.gov.sg) | accessed in June, 2020)



**Figure. 4.2. The site of Singapore's York hill and Pearl's hill have optimized the topographic advantage.** (source: <https://dusp.mit.edu/cdd/project/singapore-housing-pearl%E2%80%99s-and-york-hills> | accessed in June, 2020)



**Figure. 4.3a. The Rochor Canal housing, the waterfront residency.** (source: [www.flickr.com/photos/reggiewan/5266957126](https://www.flickr.com/photos/reggiewan/5266957126) | accessed in June, 2020)

## 4.2 Establishing inter-park connectivity and open space network.

A robust image that Singapore carries is that of "a water front city in a garden." This image is strengthened when the key open and green spaces like those of "Marina Bay", "Gardens by the Bay", "Fort Canning Park" and "Singapore River"

Ensuring spaces for recreation and abundant greenery, they provide opportunities to establish a network of these spaces by enhancing their connectivity amongst each other, making the Green and Blue features of the city like the water front promenades, gardens and parks easily accessible to more citizens.

Examples of such networks are as follows:

### I. Singapore River via Orchard.

The citizens look ahead to a seamless and delightful walk through the spaces involved with the green and the blue assets in the city centre that stretches from the Singapore River to Orchard and engaging Fort Canning Park, the Botanic Gardens and Pearl's Hill park.



**Figure. 4.3b The Recreational zones along Rochor Canal housing, the waterfront residency.** (source: [www.indesignlive.sg/articles/in-review/redefining-rochor-canal](https://www.indesignlive.sg/articles/in-review/redefining-rochor-canal) | accessed in June, 2020)



## II. Promoting active mobility

A total of about 23 kilometers of cycling paths, most of them in the Marina Bay, stretch throughout the centre of

### 4.3 The Downtown.

The commercial centre of the city of Singapore - 'Downtown Singapore' celebrates diversity - of spaces and of lifestyles. In the last decade, Singapore has been from an office-dominated downtown towards a one that is more flexible, is more inclusive, mixed use and offering a vibrant after office time. Singapore's Downtown continue to attract talent, new concepts, innovation while it accommodates creative possibilities for lifestyles. This will help combine work with leisure, making the downtown a livelier place enhancing the public realm.

#### I. Dynamic neighborhoods

##### a. City arcades of Cecil.

The precinct of Cecil of the downtown benefits from its connectivity to residential areas. And multiple amenities such as markets, community facilities, shopping centers, grocery stores and other social facilities are in close proximity of these precincts adding to their convenience.

When people wander into side streets, intimate city arcades from the primary streets and through the buildings housing multiple facilities, an element of delight and surprise is added.

##### b. Streets and squares of Anson.

The precinct of Anson, with its location being adjacent to many residential areas and it housing an array of streets,

the city. According to the master plan (2019) by the URA, the network of these cycling paths within the city centre will further be increased by at least 5 km.

cozy squares, is on its way to be a vibrant urban neighborhood.

##### c. The vacant land and empty properties re-imagined.

d. Empty state land and buildings can be re-modeled into creative usage, social and community spaces, and also into added green landscape elements.

#### II. A place to call 'home'

Cities with precincts infused with a lot culture, a character of its own, rich history, heritage and a swirl of charm make great cities for its people to call 'home'.

To develop and enhance such vibrant precincts, the private sectors work alongside the public agencies involved with great sensitivity towards the needs of the residents while planning and introducing programs. Stakeholders involved in the precincts have already devised plans. They come forth to engage and celebrate communities by organizing entertaining activities and programs. The ones involved with the precinct of Tanjong Pagar have stepped up to enhance and strengthen a sense of community by organizing events and celebrating festivals, plugging in pop-up spaces of play for the kids, and a Christmas campaigns. While Singapore River provides a platform for the local artists, craftsmen and vendors as it organizes and celebrates the Singapore River Festival every year. It is carnival where communities engage in multiple games along with street parties that bring in a huge crowd. It is indeed a fun, entertaining night out. A party for the entire city by the river.

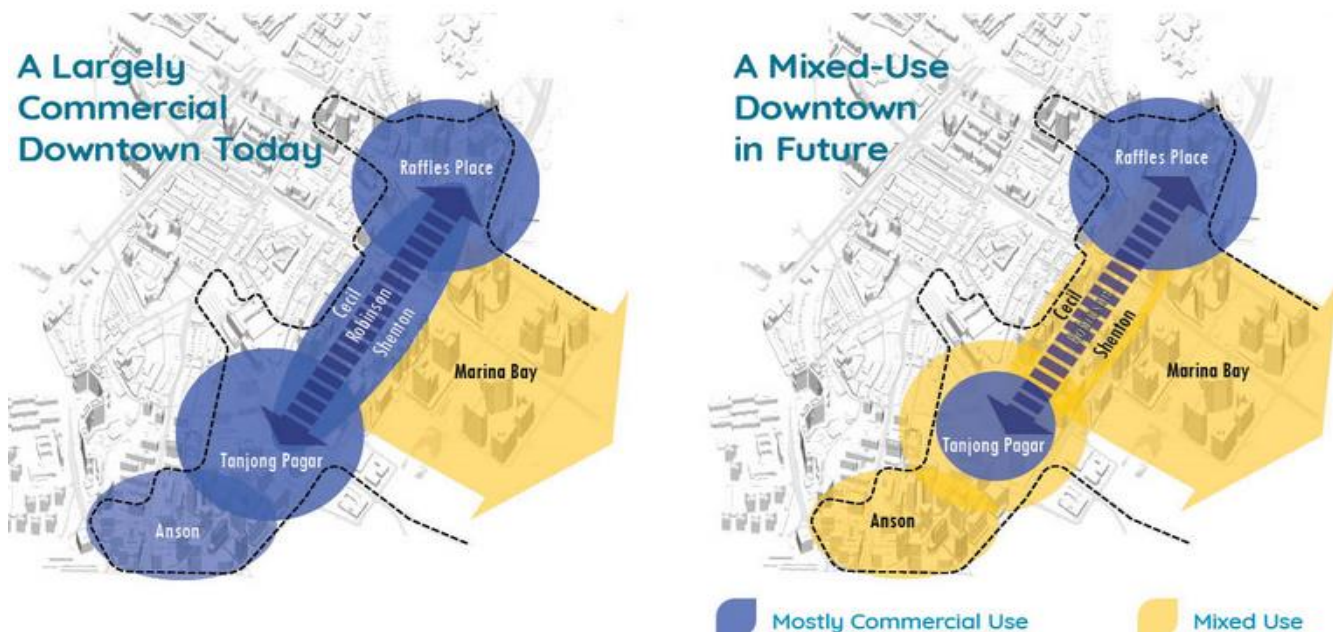


Figure. 4.5 Downtown will continue to embrace diversity and mixed use.  
(source: www.ura.gov.sg | accessed in August, 2020)



**Figure. 4.6 Pop-up play spaces at Tanjong Pagar**  
(source: GuocoLand | accessed in August, 2020)



**Figures. 4.7 Singapore River Festival** (source: © Singapore River One)

## 5. Lessons and learnings.

### CONCLUSION

After a thorough review of the urban design framework of one of the most livable cities, and deciphering the process and planning involved in it, the study recognizes the potential of a sensitively designed, inclusive and sustainable built environment to transform the cities of today into better living environments that enhance social well-being and livability. It also encourages the cities of today that have been challenged by the impact of rapid urban growth and an impoverished design framework to look up to Singapore as an inspiration - the city that emerged stronger after confronting similar urban challenges and still continues to retain that strength.

#### Lessons from Singapore's urban design framework:

##### **Lesson 01: Long-Term planning for the city's development and renewal.**

In the midst of a changing demography, population explosion and hence, the fluctuating needs and demands of the citizens, and shifting economies, it is the backbone of the long-term plans and goals that would help a city support the needs and hold steady its hope for the future. It is with the collaboration of the government, urban

designers, planners and the concerned agencies that a responsive yet flexible urban framework and set of land use policies can be established.

To devise and execute strategic development control plans and programs that acknowledges the altering demands of the population and the goals of the city as a whole.

Thus, a long term yet a flexible master plan provides the blueprint upon which a "livable", model city can be built.

##### **Lesson 02: Fostering inclusiveness and embracing diversity.**

It is the element diversity in the cities that add an identity and vibrancy into the urbanscape that make them interesting as places to live and flourish, while strengthening their cultural aspect as well. Along with this, urban designs prioritizing diversity and planning for inclusiveness give way for enhancing the economic opportunities. A diversity in the provision of amenities and in the supply and consumption of resources amongst varied cultural and economic groups. A design framework for mixed and flexible land usage makes it certain that communities and neighborhoods do not entirely depend on a single industry for their economic needs.

It also helps acknowledge any cultural differences, if at all, amongst exclusive communities and promotes harmony overall.

##### **Lesson 03: Drawing people closer to nature.**

The environmental health of a city is an integral element of its livability. This lesson thus stresses on the significance of allotting and dedicating land for greenery, water features, gardens, for enhancing the existing natural assets and natural heritage, for parks and other recreational spaces that would help get people closer to nature. Greenery in abundance is quite a natural way to counteract air pollution, cool down temperatures, and achieve better air quality especially these times of climate change and global warming in a world dominated by emissions, concrete, glass and steel.

##### **Lesson 04: Developing mixed use and affordable neighborhoods.**

Gentrification is a huge issue in the urbanscape of today and contributes to defeating a city, culturally. Planning for self sufficient, mixed use and compact neighborhoods helps to strengthen the bonds within communities while providing access to facilities that can be utilized and cherished by all. It also ensures to ease the stresses of lives in mega cities, adding a sense of belonging. Mixed use and flexible places also involve the diversification of multiple socio-economic backgrounds and functioning in proximity with the principles mentioned earlier in lesson 02.

### Lesson 05: Revitalizing unused spaces.

Often the edges of infrastructure are left hanging like loose ends and not much thought goes into their planning compared to the city core, producing inactive and unused spaces. Rejuvenating these spaces and other dormant properties can be an opportunity for development thus, enhancing communities around them as they would serve a place for providing better amenities.

### Lesson 07: Mitigating density with diversity.

Singapore is an inspiration to all the cities handling high densities. It has encouraged diversifying developments by allowing close proximity of low rise and high-rise buildings as a part of its zoning strategies. And it is quite naturally that the mixed zoning, flexibility of spaces motivate mixed use.

Also, a variation in the skyline also helps to acknowledge the intimacy of streets and levels, and prevents the formation of narrow and tapered corridors around the avenues flanked by skyscrapers.

### Lesson 08: Activating spaces for safer environments.

The idea of "eyes of the neighborhood on the street" is applied by multiple high rise residential developments of Singapore as they've undertaken efforts to ensure better visibility of the streets. While enhancing the safety of neighborhoods, it also establishes inclusiveness for trust amongst the communities adding a sense of security within neighborhoods.

### Lesson 09: Encouraging unconventional and innovative solutions.

Addressing the urban issues and shortcomings of a place while devising solutions that are context and problem-specific encourage new developments, innovative land use choices and options, and resource management strategies which are city-specific.

### Lesson 10: Investing in the 3Ps partnerships: People - Private - Public, 'Collaboration for progress'.

The 3Ps partnerships allow ensuring that the issues and diverse demands of the citizens, the private and the public realms are addressed through mutual collaboration. It also makes certain that the government, the concerned authorities and the people together, have their share and say in their city's growth and development.

These show how Singapore has counteracted the impact of rapid urbanization and channelized the same momentum towards the growth and development of the city, creating opportunities from challenges while focusing and enhancing its strengths, producing vibrant living environments, lively and relaxed working atmospheres.

### Lesson 06: Prioritizing Green options.

Establishing a framework that prioritizes green building options and cleaner modes of transport help control and minimize the gross energy consumption and lower the dependence on resources. A sensitive development with a conscious outlook towards the environmental health while formulation of strategies and policies. Developments include expanding networks to promote public transportation and ensuring routes for safer pedestrian movement.

The power of the lessons mentioned above is that they can be adopted globally and contribute to progressive development and transformation of cities and urban environments that find themselves surrounded by challenges of rapid urbanization, very similar to those of Singapore and other developing nations. If cities and built environments follow similar set of framework and urban design guidelines modifying the variables as per their context, then they will create places and cities that enhance the well being of its people and its livability as a whole.

### REFERENCES

- [1] DALE, O.J. (1999) Urban Planning in Singapore: The Transformation of a City, Oxford University Press, Oxford.
- [2] HENG, C.K. (2016) 50 Years Of Urban Planning In Singapore, World Scientific, Singapore.
- [3] YUEN, B., HAMNETT, S. (2019) Planning Singapore: The Experimental City, Oxfordshire, U.K.
- [4] CHO, I.S.(2016) Community-Based Urban Development: Evolving Urban Paradigms in Singapore and Seoul, Spring Nature, Singapore.
- [5] BISWAS, A., TORTAJADA, C., YUGAL, J. (2013) The Singapore Water Story: Sustainable Development in an Urban City State, Routledge, New York.
- [6] HEE, L., ROWE, P. (2019) A City in Blue and Green: The Singapore Story, Spring Nature, Singapore.
- [7] WONG, T., CHEE, W., ADRIEL, H. (2004) Four Decades of Transformation: Land Use in Singapore, 1960-2000, Eastern Universities Press.
- [8] YUEN, B.(1998) Planning Singapore: From Plan to Implementation, NUS Press, Singapore.
- [9] LITMAN, T. (2016) 'Urban Sanity: Understanding Urban Mental Health Impacts and How to Create Saner, Happier Cities' The city fix blog, 14 November.
- [10] CBRE & GEHL ARCHITECTS (2017) 'Place Making, Value and the Public Realm', London : CBRE.
- [11] BARTON, H. (2017) 'City of Well-Being, a Radical Guide to Planning' , Abingdon Oxon.: Routledge. [Google Scholar]
- [12] MCCAY, L., SUZUKI, E., CHANG, A., (2017) 'Urban design and mental health in Tokyo: a city case study', Journal of Urban Design and Mental Health, 3:4.
- [13] Layla McCay (1,2), Emily Suzuki (2) and Anna Chang (3)

- [14] Centre for Urban Design and Mental Health, UK and Japan.
- [15] Tokyo Medical and Dental University, Japan.
- [16] Southern California Institute of Architecture, USA.
- [17] SARKAR, C., (2018) 'Towards quantifying the role of urban place factors in the production and socio-spatial distribution of mental health in city dwellers', Journal of Urban Design and Mental Health, 4:2.
- [18] KAMIL, A. (2016) 'Singapore ranked world's most livable location for Asian expats for 17th year', Todayonline.com , 25 February.
- [19] <https://www.todayonline.com/singapore>.
- [20] BENJOSEPH, E. (2010) Singapore Urban Design Studio Housing for Pearl's and York Hills', Massachusetts Institute of Technology School of Architecture and Planning, 18 May.
- [21] LEYDEN, K. M., GOLDBERG, A., DUVAL, R. (2011) 'The Built Environment, Maintenance of the Public Sphere and Connections to Others and to Place: An Examination of Ten International Cities', Journal of Urbanism, 4:1, pp. 22-39.
- [22] CARMONA, M. (2014) 'The Place-Shaping Continuum, a Theory of Urban Design Process', Journal of Urban Design 19 (1): 2-36.10.1080/13574809.2013.854695 [Taylor & Francis Online], [Google Scholar]
- [23] FRUG, J. (1996) 'The geography of community', Stanford Law Review, 48 (5): 1047-1108.
- [24] FRUMKIN, H., FRANK, L., JACKSON, R. (2004) 'Urban sprawl and public health: Designing, planning, and building for healthy communities', Washington, DC : Island Press.
- [25] MEHAFFY, W. (2008) 'Generative methods in urban design: a progress assessment', Journal of Urbanism: International Research on Placemaking and Urban Sustainability, Vol. 1, Issue 1, 23 May.
- [26] CARMONA, M. (2019) 'Place value: place quality and its impact on health, social, economic and environmental outcomes', Journal of Urbanism, Vol. 24, Issue 1, pp.1-48, 12 June.
- [27] NOURI, S.A., COSTA J.P. (2017) 'Placemaking and climate change adaptation: new qualitative and quantitative considerations for the Place Diagram', Journal of Urbanism: International Research on Placemaking and Urban Sustainability, Vol. 10, Issue 3, 04 March.
- [28] BALLAS, D.(2013), 'What Makes a 'Happy City'?' Cities, Vol. 32, issue. 1, pp. S39-S50, 26 July.
- [29] MCCARROLL, D., MAHER, C., PRESTON, J., (2018) 'Enhancing health and wellbeing through urban design', Hames Sharley, 10 September.
- [30] DE SILVA, M. J., MCKENZIE, K., HARPHAM, T., HUTTLY, S. R. (2005) 'Social capital and mental illness: a systematic review', Journal of Epidemiology & Community Health, 59(8), 619-627.
- [31] CUDMH - Centre for Urban Design and Mental Health
- [32] [www.urbandesignmentalhealth.com](http://www.urbandesignmentalhealth.com)) is an academic organization that investigates how cities can be better designed for mental health.
- [33] Biophilic Cities Network(<http://biophiliccities.org>)
- [34] Arcadis : Design and Consultancy for natural and built assets (<https://www.arcadis.com/en/global/>)
- [35] WHO World Health Organization
- [36] [https://www.who.int/healthy\\_settings/types/cities/en/](https://www.who.int/healthy_settings/types/cities/en/)
- [37] <https://www.who.int/healthpromotion/about/HPG/en/>
- [38] BCA - Building and Construction Authority
- [39] [www.bca.gov.sg](http://www.bca.gov.sg)
- [40] NEA - National Environment Agency
- [41] [www.nea.gov.sg](http://www.nea.gov.sg)
- [42] PA - People's Association, Singapore
- [43] [www.pa.gov.sg](http://www.pa.gov.sg)
- [44] URA - Urban Redevelopment Authority
- [45] [www.ura.gov.sg](http://www.ura.gov.sg)
- [46] SLA - Singapore Land Authority
- [47] [www.sla.gov.sg](http://www.sla.gov.sg)
- [48] PUB - Public Utilities Board
- [49] [www.pub.gov.sg](http://www.pub.gov.sg)
- [50] LTA - Land Transport Authority
- [51] [www.lta.gov.sg](http://www.lta.gov.sg)
- [52] HDB - Housing and Development Board
- [53] [www.hdb.gov.sg](http://www.hdb.gov.sg)