

The Efficient City / the public city

[WHAT]

The current world population of 7.3 billion is expected to reach 9.7 billion in 2050, in which 66 percent will be living in urban areas. The current standards for cities has to be reassess... (United Nation, 2014)

Taking Hong Kong as a test case, that it is agreed as one of the most efficient cities in the world. Is that possible to push further regarding density, fully-utilise of resources and optimised space usage?

[WHY]

Introduction

Hong Kong is one of the most efficient cities in the world. But should we stop in here? What is the maximum capacity that a city could be? The world is denser and denser beyond the human history. It is inhabited by more people who consume more, who want to live with more space and more comfort. Every people wants space.

*Equilibrium of urban elements - residential, commercial and recreational

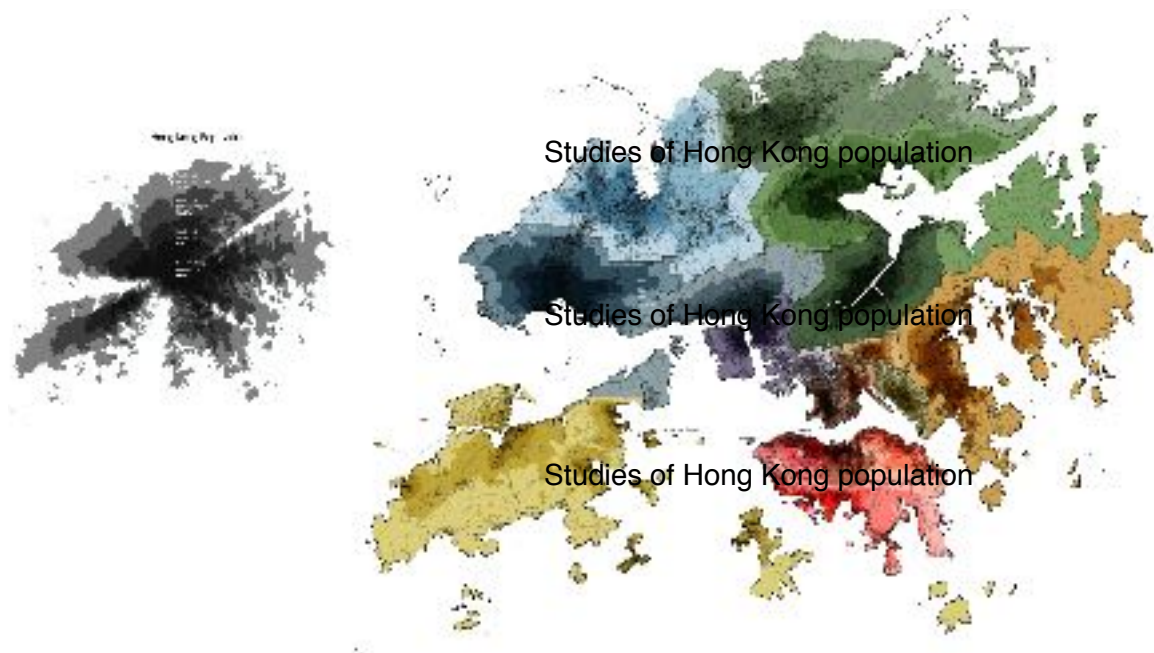
//Saved traveling time

//Spatial efficiency

1) Time efficiency:

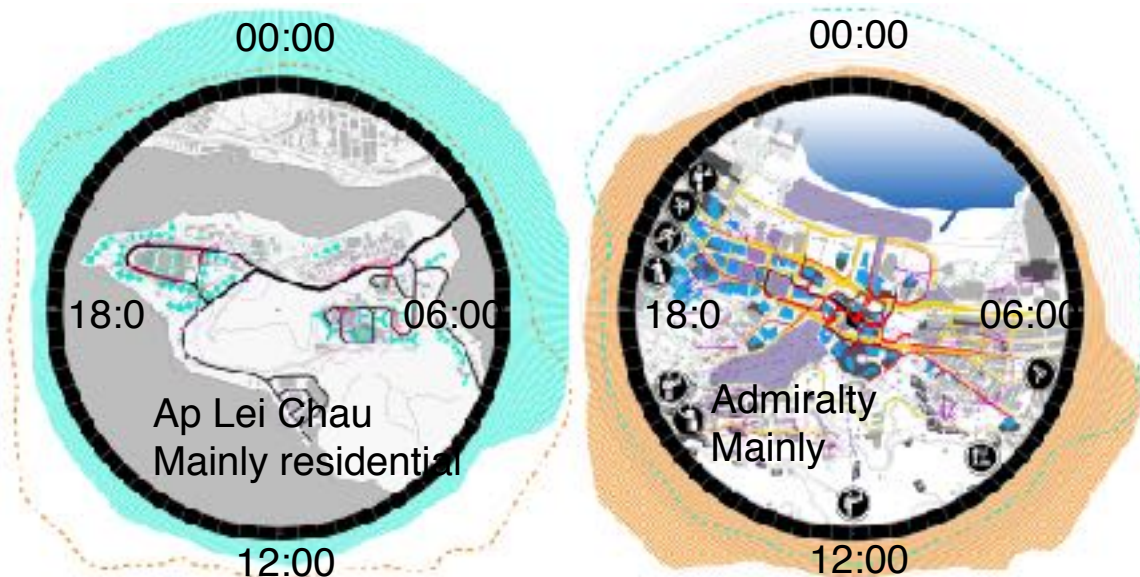
42.5% working population (around 25% of Hong Kong population working in other territories) spend 3-4 hours per day on commuting in district scale. They spend nearly 1/6 of their lifetime on traffic. (Census Results District Profiles: 2012)

Studies of Hong Kong population:



2) Spatial efficiency (District scale)

Districts are designed for single purpose - Admiralty as commercial district and Ap Lei Chau as residential district. So commercial areas are over-utilised in daytime while residential areas are left vacant.



24 Hours Analysis of Ap Lei Chau and Admiralty, 2016

What if we move productive activities to residential zones; residential activities to productive zones?

3) Spatial efficiency (Block scale/ Building scale)

In a block or building scale, composite amenities are often over provided that their operating hours could not be fully utilised by their (single) targeted user group. Club houses, shopping malls, schools etc. Club houses are one of a typical programs provided in podium residential. It mainly provide recreational use to residents. But who is the users during daytime when people go to work (around 60% of Hong Kong population is working force; 18% of Hong Kong population is student). Is there a way to share the club house to other sectors in order to fully utilised the capacity of it.

In a unit scale, look at the elements of a home. How much do people need a own kitchen, laundry, dining sets, television, living room or even bedroom? What if a city provides more choices of restaurants and low cost of food. What if a city provides all sources of entertainment and sufficient space for social activities. What is the minimal private space for the future generations.

*Share use of space, share use of belongings

//Spatial efficiency — higher density?

//Residential model/ Commercial model/ Recreational model

//RESIDENTIAL + recreational/ COMMERCIAL + recreational/ RECREATIONAL + residential

//Shared vs Non-shared



Kahn, Louis I., "Diagram of Planning", 1944-45

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How small can a Hong Kong apartment get? Emperor takes the crown with Happy Valley project

Developer plans to convert commercial building into 68 apartments as small as 61.4 square feet

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Lecture: Experts Forum: Crossing Disciplines, "How small can a Hong Kong apartment get? Emperor takes the crown with Happy Valley project", <http://www.scmp.com/property/hong-kong-china/article/2038746/how-small-can-hong-kong-apartment-get-emperor-takes-crown>, 2016

Background

In post-war era, productive zones and residential zones were separated. *'Productive, or industrial, zones should be located at a distance from residential areas to minimise the impacts of pollution, noise, and safety hazards. The zones should face a buffer zone, separating them from residential urban areas. Ideally, these buffers would be parks and other green infrastructure'*. (Ortiz, 2014: 63) However, these negative impacts on productive zones should not be a concern in nowadays as they should be largely reduced towards a sustainable development. *What are the productive/ industrial activity could you introduce near residential area today? Why? Are they sustainable? If they are sustainable, does it mean they are suitable to place near residential area?

Even though there are different housing typologies which were designed to minimise the distance in between productive zones and residential zones in Hong Kong. For example, they were Tong Lau from 1950s, composite building from 1960s-70s and podium tower since 1970s. In Tong Lau or composite building, residential units on the upper floors that can also be used for a variety of production- or service-based home businesses.



Lecture: Dr. Lee Ho Yin, HKU Architectural Conservation Programmes (ACP), "Hong Kong Composite Buildings: Modern Architectural Heritage of the 1950s and 1960s", 2015

Yet, these volumetric composite space had been eliminated by public health concerns and change of economy structure. The land efficiency has been lowered due to different controls. In Hong Kong, the introduce of podium tower provides *'an increase in the open space required around buildings, freer pedestrian circulation at ground level, and the raising of minimum standards for lighting and ventilation'* (Hong Kong Report for the Year 1962, 1962: 177). Podium structure is having a great relationship with urban form while it is shaping the function of a city. Some of the podium-tower structures will be used as commercial purpose, while many of them are mainly mix-used with the podium as commercial activities and the towers as offices, hotels or residential units. Spaces under current building typologies are designed with single-purpose.

[PROJECT INTENDMENT]

Humanism
Positivism
Idealism

"People come together in time and space... they recognise each other... out of their daily taken-for-granted impersonal dynamics, these spaces of activities evolve a sense of place that each person does his small part in creating and sustaining." (Seamon, 1979)

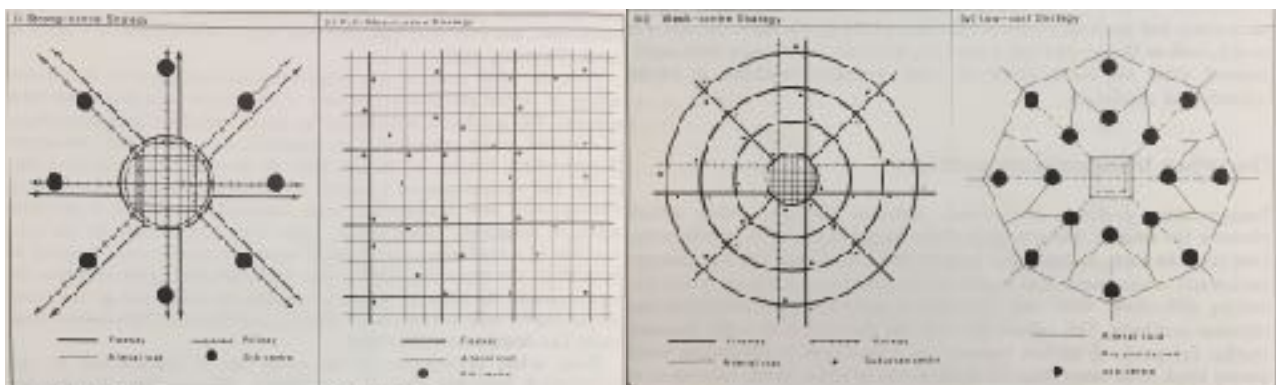
[HOW]

A balanced urban development could optimise efficiency for a future city. *'Successful places do not just provide one thing; rather they provide a range of quality of place options for different kinds of people at different stages in the life course.'* (Florida, 2010)

The idea of a balanced urban development can be examined with 5 metropolitan subsystems (Ortiz: 2004):

1. The environment
2. Transport
3. Residential
4. Social facilities
5. Productive facilities

Subsystems 1-2 are focus on geographically continuous; subsystems 3-5 are integrated systems which will be tested out in the thesis. The future metropolitan planning is the art of integrating these five systems, finding an equilibrium among environmental sustainability, social equity, and economic efficiency.



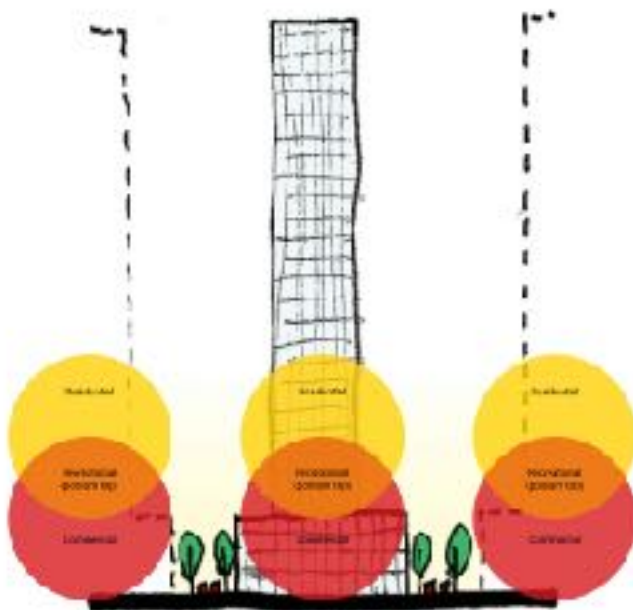
Thompson, J.M., Urban planning strategies:

(i) strong centre, (ii) full motorisation, (iii) weak centre, (iv) low cost, 1977.

Time and Spatial efficiency

If a city is developed with a balance of residential, social and productive facilities, do people still have to spend so many resources on transportation? Could the spatial efficiency and time efficiency be optimised?

According to Shanken (2009), *'Decentralisation, the post-war era, residence and industrial plants were segregated, with resulting efficiency in manufacturing and pleasanter living conditions for working people.'* I am now calling into question the truth of this statement.



Typical Podium Typology



"The Efficient City"

Existing building typology vs "The Efficient City"

The common building typology, podium tower, mainly designed for commercial and residential use. Recreational use functions as a buffer zone in between.

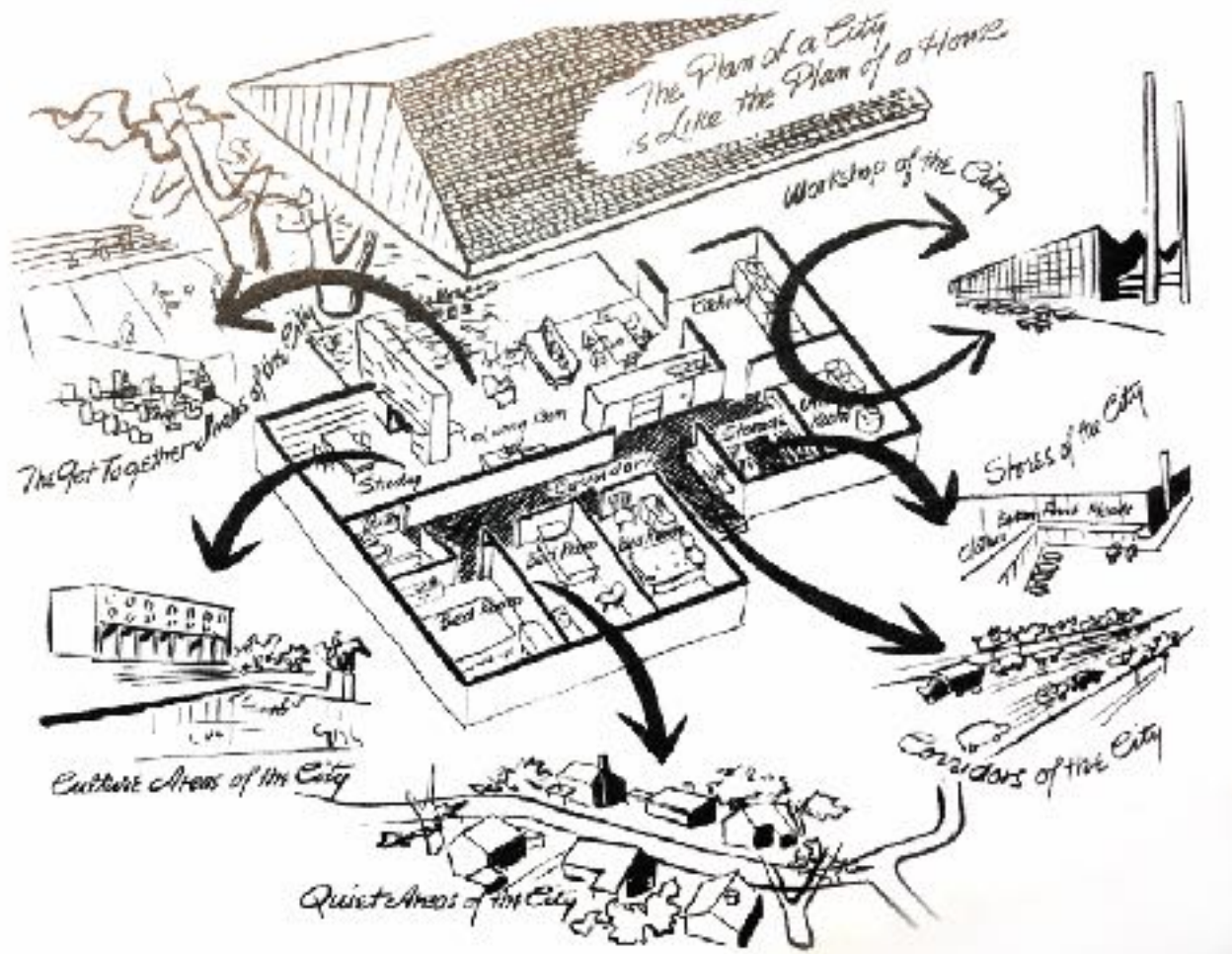
However, in "the Efficient City", space will be rearranged according to private to share.
(I- Non-sharable space; II- sharable by two zones; III- sharable by three zones)

Conclusion

Is mixed-use enough?

Tong Lau from 1950s, composite building from 1960s-70s and podium tower since 1970s, these are all example showing the mix of land uses; however, they still cannot reach to a higher level of optimisation.

Look at what the new technology enable us to share our resources, Airbnb, Uber, Tinder etc. Let's not think about what we want to own next. Let's embrace what can we share next!



Stonorov & Kahn, Louis Kahn's sketch of a neighborhood from the Museum of Modern Art exhibition, "You and Your Neighborhood," 1944

[Supporting]

Lecture: Experts Forum: Crossing Disciplines, Chongqing 101 Tower (430m)



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