

# Public Space Design for Urban Complex

Public Space Design of the Metropolitan urban complex,  
Xuyong, Luzhou, China

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## **Executive Summary**

It's a large-scale urban design project , I took the responsibility of the public space design of the Metropolitan urban complex.

I begin this paper by asking myself as designer, what can we do to make the public space attractive, comfortable, and at the same time support and reflect the attributes of the urban complex? In search of the answers, I did extensive literature readings and researches to explore the fundamental principles of landscape and environmental design of urban complex. I also did plenty of case studies of excellent public space design to learn practical techniques designers employed when doing an actual project. Through studying, I concluded several principles that are particularly worth noting, such as designs should be people oriented and commerce oriented, should be integrated into larger cultural context and urban texture, and should shape a sense of place. Bases on these guidelines, I developed my public space design for the Metropolitan urban complex in Xuyong, Luzhou, China. I used Photoshop, CAD, Sketchup to come up with the final deliverables. I finished this report with acknowledgement of the significance of architectural environment, and conclusions of schemes to improve the environment during the design process.

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## **1. Relevant concepts**

### **1.1 Origin and development of Urban Complex**

In 1950s and 1960s, the popular city layout was “zoning planning”, which means of dividing the whole city into several zones with individual function, such as working, recreational, residential, and so on. As time went by, this kind of design brought about a series of “city disease”, which caused citizens move from one zone to another as migration (Xie, Y.C. 1993). Meanwhile, this kind of design also led to great waste of municipal resource, made the urban space became smaller and smaller.

In order to resolve this problem, in 1960s and 1970s, lots of urban complex derived from the concept of “Mixed use” in the West appeared, which set off a human-oriented “urban revolution”. Urban complex integrated a plenty of urban functions on the limited city land at an intensive degree and utilized the land resource effectively. When comes to the 21th century, under the influence of globalization and economic boost, the newly emerged term HOPSCA has been brought forth to China. HOPSCA refers to large-scale mixed-use commercial urban developments. It is an abbreviation of Hotel, Offices, Parking, Shopping Mall, Convention Centre and Apartments (Hu, M., Fan, Y., & Zhao, Q. 2011). Generally speaking, HOSPCA is the new expression of urban complex today.

In my point of view, an urban complex is a combination of at least three of the multiple urban functions, such as commerce, working, living, exhibition, hotels, dining, meeting, recreation, transportation etc. Each element is interdependent and mutually beneficial, comprising a multifunctional, efficient, and diversified architectural cluster. Been the commercial center of the city, HOPSCA serves as a steady driving force of the development of new towns, and the urbanization of small and medium sized cities,

### **1.2 Attributes and importance of urban complex**

#### **1.2.1 Accessible**

Urban complex is located at where the city traffic network is well established and the urban functions are relatively concentrated, thus having intimate connections with the outsides.

#### **1.2.2 Intensive land use**

The urban complex is a large-scaled construction. It aims to bring astonishing visual effect to the viewers, and become the iconic landmark of a city by displaying an image of “forests” of modern and well-designed high-rise buildings. It is a densely populated area as well, with large numbers of employees, residents, travellers, and consumers.

### **1.2.3 Unitary**

Though each composing building has its distinctive appearances, their architectural styles are in uniform. Buildings are interdependent and connected with each other. Moreover, they are incorporated into the outside environment (the public space) harmoniously.

### **1.2.4 Multifunctional and multilayered**

Combination of urban functions, such as commerce, working, living, exhibition, hotels, dining, meeting, recreation, transportation etc. These functions are all interrelated, thus establishing a complete “working-living-entertaining” system.

The superior location of urban complex urges it to create a multilayered space system, by connecting buildings with skywalks, underground passages, and corridors on the ground.

### **1.2.5 Effectively organized traffic system**

By building up a horizontal and vertical traffic network, each functional group of the complex is interweaved organically as a whole. Urban complex also has a heavy reliance on city’s traffic system, which may affect the efficiency and size of different functional groups directly. (DOND Hexuan, LU Jiwei, 2009)

### **1.2.6 Enormous social effect**

It has gained the reputation of new “City Card” thanks to its strategic location, large scale, and the social influence it possesses. Meanwhile, the urban complex, as a real estate property, occupies great potential value growing along with the city’s development.

### **1.2.7 Importance**

Urban complex is advantageous to saving energy and city’s public infrastructures, making our life more convenient and comfortable. Meanwhile, urban complex enriches the city’s public space, streetscapes and skylines, and mitigates the tension between the limited urban space and the increasing urban population, which showed important theoretic value and practical significance.

## **1.3 Public Space**

A public space is a social space that is generally open and accessible to people. Typical examples of public space are like streets, squares, and parks. Public space is physical environment that influences human activities to a varying degree and in many different ways (Jan Gehl, 2011). The planning ideology of public space was firstly seen in Ebenezer Howard’s Garden City, and evolved with the time, like the “Radburn” in the 1960’s in America. Today, the new trend of public space has put high value on human dimensions, environment infusion, and the psychological and sociological meanings associated with it (Stephen Carr, 1993).

The public spaces are indispensable constituents of urban complex, assisting the blend of interior and exterior architectural space. Such elements are like squares around buildings, spaces found within shopping streets, and roof spaces. Design for public space is extremely crucial in determining whether the urban complex can fulfill its social and commercial values.

### 1.3.1 Squares

Kevin Lynch thinks that squares are those located at the cores of highly urbanized regions and selected to be the focusing point for activities (Kevin Lynch, 1960). Square is a fundamental part of urban complex, serving both as the node for various activities, and the link between architecture and its outer environment.

### 1.3.2 Streets

Street is a social and commercial interaction, as well as a meaningful space for people to recognize and experience the whole built environment of urban complex (Huang Yi, 2008). Images of the street capture the vitality, excitements and tensions of the street.

Landscapes of shopping streets are essential. The landscape elements such as frontage, pavement, vegetation, sculptures, lighting and benches can display different landscape effects through arrangement. They are also the expression of landscape environment of urban complex.

### 1.3.3 Roofs

The diversification of shape and form of urban complex has promoted the development of roof space design. The roofs have gradually become an eye-catching sky landscape, fetching a breath of fresh green into the concrete forest and offering people more opportunities to embrace nature. Green roof is considered as dedication to sustainable design, one the most recommended design tactics nowadays. The roof landscape that of HK IFC (International Financial Center) is a notable example. While offering people enjoyment, it also helps to maximize the commercial profits.



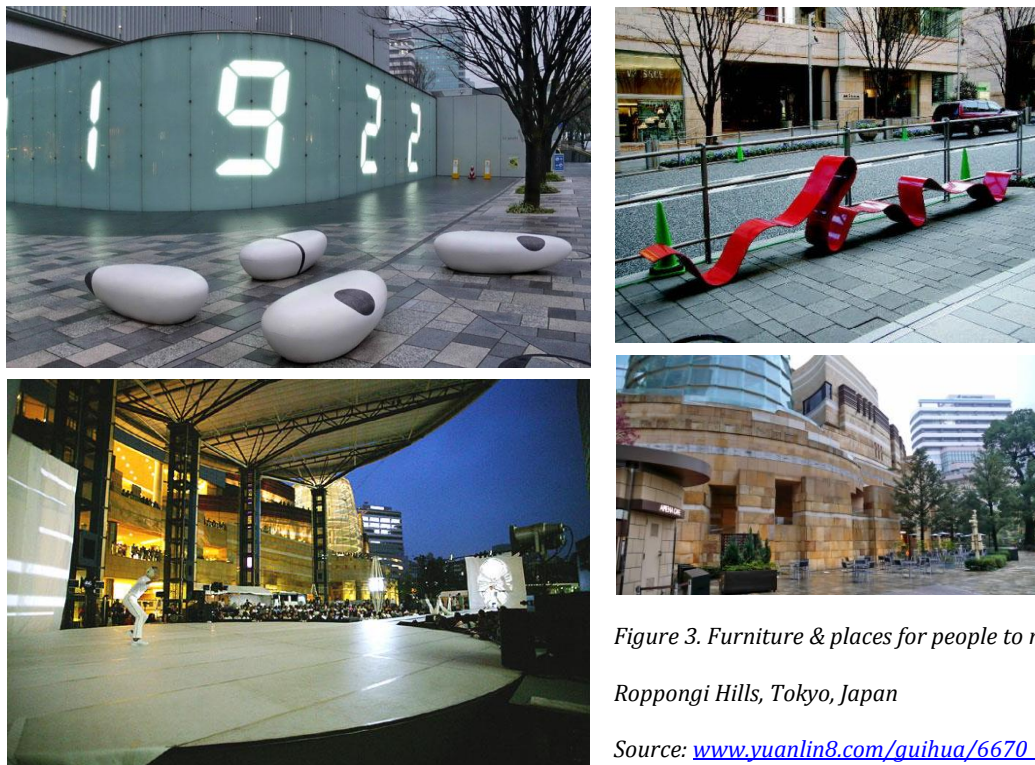
Figure 1 and 2, the roof landscape of HK IFC, HongKong, China  
Source: [www.sina.com](http://www.sina.com)

## 2. Public Space design principles

From the extensive researches and case studies, I concluded five primary design principles for public space of urban complex.

### 2.1 People oriented

The design is oriented at serving people first, the objective of which is to create high-quality livable environment for people. Many urban complexes would make efforts to incorporate more public spaces as an effective way to reduce the feeling of oppression that the massive building cluster might evoke. Besides a reasonable scale is another prerequisite for human dimension. Attentions should likewise be paid to design and allocation barrier-free facilities, street furniture, sufficient parking lots, and other public service facilities.



*Figure 3. Furniture & places for people to rest, Roppongi Hills, Tokyo, Japan*

Source: [www.yuanlin8.com/guihua/6670\\_4.html](http://www.yuanlin8.com/guihua/6670_4.html)

### 2.2 Commerce oriented

Urban complex is the embodiment of various commercial activities. It achieves its value by serving consumers. Therefore, public space should be carefully designed to provide pleasant shopping experience and convey amiable atmosphere. A good design can light up consumers' desire to come and shop, helping urban complex realize its commercial value (Oppewal, H. & Timmermans, H. 1999).

### 2.3 Fit into larger context

The public space of the urban complex should be integrated with the city, and its landscape should be an integral part of the city's landscape, to merge the edges between the complex and the city.

### 2.3.1 Function

Satisfying peoples recreational, working, and living demands. Moreover, the design should take into accounts the dissimilar demands for space as results of diverse social structure and culture, thus maintaining the coherence of space and urban life.

### 2.3.2 Spatial layout

The urban texture is a unique physical embodiment of a city’s economy, culture environment, history and transportation; therefore, the design should be in accordance with, or completed, or strengthen the existing urban texture.

### 2.3.3 Traffic

Whether people can reach the destination smoothly and conveniently defines the competitiveness of the project. Meanwhile, urban complex as a miniature of city, if cannot function properly to mitigate the traffic tension it induces, the traffic stress may implicate to the whole region,

### 2.3.4 Landscape

The landscape system of the public space is an integral part of city’s landscape system. It’s the medium through which city penetrates into urban complex. The Roppongi Hills in Tokyo has made itself the most outstanding urban landscape belt by building accorded to the topography and extending the urban landscape, based on the notions of “vertical city garden” and “cultural center”. The Roppongi Hills Complex is surrounded by mountains and urban forests, and has become the identifiable symbol of the Tokyo city.



Figure 4 & 5: extending urban landscape system, Roppongi Hills, Tokyo, Japan

Source: <http://www.chla.com.cn/htm/2011/1213/108576.html>



## 2.4 Value regional culture

Respect regional culture and cope with societies complexities, try to implant cultural features in public space through deliberate designing. For instance, designers can abstract representative symbol from folk customs, or apply the traditional regional color to their creatures, or choose local material and vegetation to make people feel related to the place, to gain recognition and resonance.

## 2.5 Make the “Sense of place”

Sense of place differs from place attachment by considering the social and geographical context of place bonds and the sensing of places, such as aesthetics and a feeling of dwelling (Robert Hay, 1998). The sense of place comes from our response to unique features, either a beautiful natural setting or well-designed architecture; comes from being in an unusual composition of spaces and forms - natural or man-made (John B. Jackson, 1996).

The arrangement of landscape sequence and application of landscape elements are of great help to accomplish this purpose. Nodes lie at the core of landscape sequence design, such as squares, courtyards, and large-scale landscape facilities. Kevin Lynch’s defines nodes as strategic focus points for orientation like squares and junctions (Kevin Lynch, 1960). It’s where the most population gathers, as well as where the scenery reaches its climax. Another vital member in landscape sequence is path - routes along which people move throughout the public space. Paths are especially important since they organize the flowing stream and connect the nodes, establishing a comprehensive landscape system. The turning of path can generate series of constant yet dissimilar visions.

Landscape elements contain two types: natural elements and artificial elements. Water, vegetation, pavement, street furniture, advertising board, structures are customary examples. Skillful utilization of them can invent interesting and discernible sceneries that will reinforce the sense of place.



Figure 6. Place with identifiable characteristics, Midtown, Tokyo, Japan

Source: <http://wenku.baidu.com/view/48d770c10242a8956aece436.html>



Figure 7&8 Place with identifiable characteristics, Namba Park, Osaka, Japan

Source: [www.searchhouse.net/op/arch?bid=628](http://www.searchhouse.net/op/arch?bid=628)

### 3. Practical design for the public space of the Metropolitan urban complex

In this part, I am going to introduce my design for the public space of the Metropolitan urban complex in Xuyong. The local government of Xuyong County commissioned our team to do an urban design for the Tunnel sub-region in Xuyong. The region is a grassroots residential area with primarily retail stores and scattered low-end department stores. The whole region began to growing old and decaying recent years, thus the objective of the project is to inject life into the region, more importantly we expect that the revitalized region will evolve progressively into the new city center, which is a powerful driving force to propel the city's growth.

Urban complex (HOPSCA) is a prevalent development mode for invigorating decaying region and stimulating regional economic boost in recent China. Based on the existent conditions of Tunnel sub-region and our ultimate goals, our team decided to transform the region into a multifunctional, diversified and intensive top-grade urban complex (HOPSCA) named Metropolitan. My major assignment is the public space design of the Metropolitan urban complex, especially the detailed landscape design.

#### 3.1 Site Location

Xuyong County is the traditional potent economic center in southern LuZhou City, Sichuan Province, and is located at the intersection of Sichuan, Guizhou, and Yunnan Province. It has been an important center for the movement of goods. (See Fig.8)

This project is located within the Tunnel Sub-region, closely tied to the eastern downtown. The infrastructure is quite well developed, as well as the transportation, as being right next to the national highway 321 and the Nada Rail Line. (See Fig.9)



Fig. 9 Location of Xuyong County  
Source: author

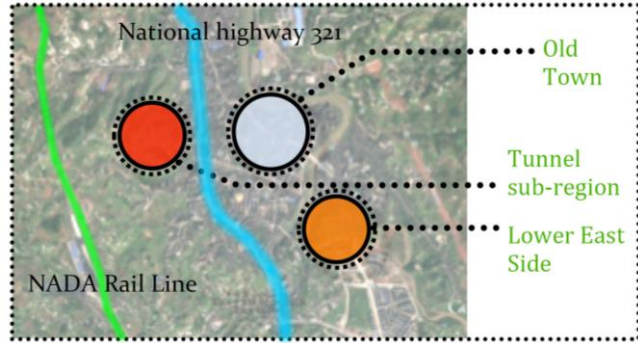


Fig.10 Location of Tunnel sub-region  
Source: author

### 3.2 Existing business environment

#### 3.2.1 Surrounding environment

The current business district has two poles. One is developed around the Yongning Road, the other is centered around the Yufu Old Street in the east. An east-west running axis – the Yongning Road, connects the two existing commercial centers. A ring road inwraps the two poles, forming the business district of Xuyong.

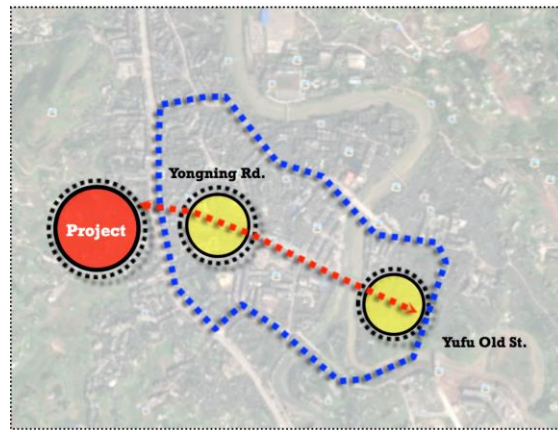


Figure 11. Outer business district Source: author

#### 3.2.2 Inner environment

- In the low-end consumer group
- Mostly are the retail stores developed along the street for the daily supply of local dwellers, with few dispersed middleclass department stores. No high-class hotels, large office buildings, shopping malls or cinemas.
- Low environment quality, lack of public space, and urban landscape is far from sufficient.
- Inadequate parking lots.

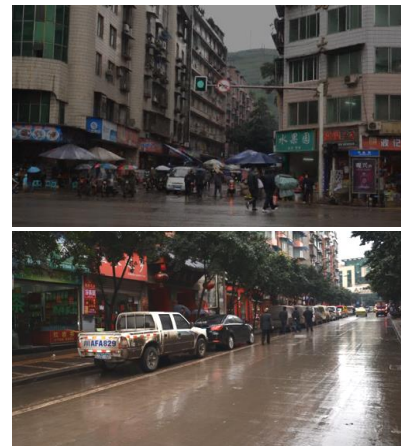


Figure 12. Inner business situation within Tunnel sub-region Source: author

### 3.3 Case Study

#### 3.3.1 The Mixc., Chengdu, Sichuan, China

**Landscape characters:** (see Figure 13 & 14)

- Annular space gives off a sense of encompassing, makes consumers felt welcomed.
- Water landscape at the entrance strengthens the visual effect and indiscernibility
- Efficient accessibility and plenty of green space attract people to come and shop.
- Integrated design for the frontage to promote the overall quality of the project.
- Emphasize the dynamic of linear space, as to be a directive guidance for people.
- Squares and other open spaces offer people multiple possibilities and ways to reach the destination.

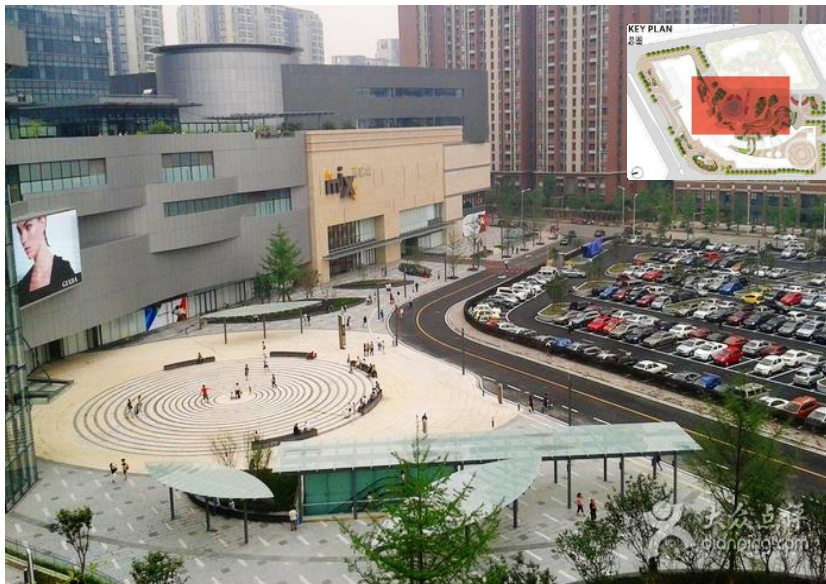


Figure 13. Entrance of The Mixc., Chengdu

Source: <http://wenku.baidu.com/view/3c2afdee19e8b8f67c1cb9b4.html>



Figure 14. Frontage and pavements of The Mixc. Chengdu

Source: <http://wenku.baidu.com/view/3c2afdee19e8b8f67c1cb9b4.html>

### 3.3.2 Conclusions:

- **Integrated design:** The outer space shape of the Mixc. can be split into two categories: the circular (the main square) and the belt. The main square fulfills the need of big events. The circular and linear space fuse rhythmically and harmoniously.
- **Variance in Space:** consistency exists between exterior pavements and streamline design, fully exhibiting modernity and consistency. The project pursues the communication between environment and architecture, and commendably utilizes spaces to organize the aggregation and diffusion of people. People are constantly immersed in a flourishing commercial air.
- **Reasonable green layout:** The commercial landscapes contain more commercial value than residential landscapes. It is necessary for designers to attain a reasonable proportion between softscape and hardscape. Vegetation is useful to craft comfortable commercial air, thus improve commercial value of the complex. (Ulrich, R. 1986)

### 3.4 Project Orientation and objectives

Introduce the ideal of urban complex (HOPSCA). The Metropolitan urban complex is a combination of shopping mall, financial center, recreational center, convention center and exhibition center. It will be the Luzhou's new city card.

The Tunnel sub-region would be the dominant growing center, and the Metropolitan urban complex lie at the core from which powers radiates outwards to boost economy, promote popularity, improve life quality, and create high quality commercial zone.

The Metropolitan advocates a newly emerging shopping style known as “shopping as leisure” as opposed to the traditional “purposive shopping”, through offering consumers enjoyable shopping experiences and satisfying their varied preferences (Newby, P. 1993).

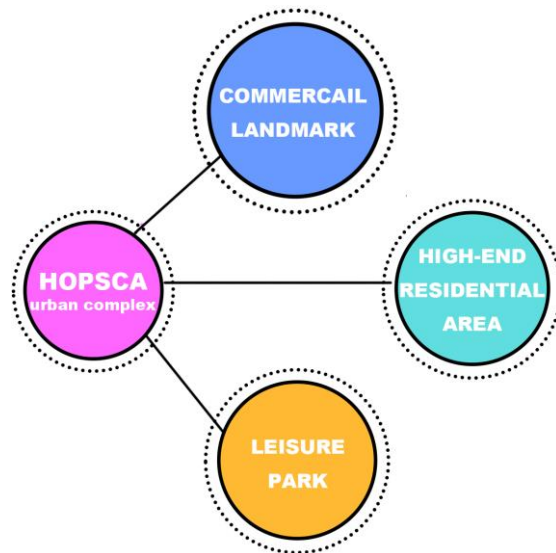


Figure 15. Orientation of Metropolitan Urban Complex  
Source: author

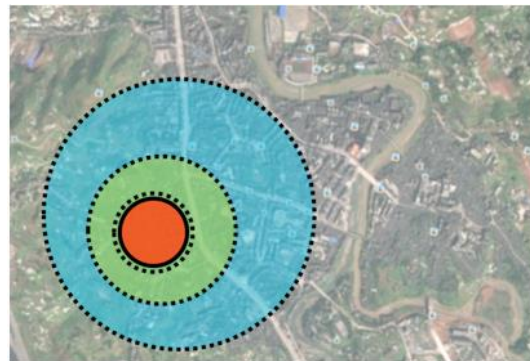


Fig. 16. Radiating effect of Metropolitan urban complex  
Source: author

The public space is aimed at creating comfortable shopping environment, enriching landscape, providing opportunities for various activities involving necessary activities, optional activities, and social activities, smoothing the circulation in and out, and stimulating consumptions. The urban complex will eventually be a “leisure park”.

### 3.5 Design Concept for the public space --- TREE

From the perspective of aesthetics and sustainability, I attempt to make a human-oriented and sustainable landscape for the public space. I derived my design prototype from a tree. I abstract the image of a tree artistically as the basic morphology that I intend to imply to the public space. The tree is a symbol of nature and vitality, signifying the ceaseless growing of the city.

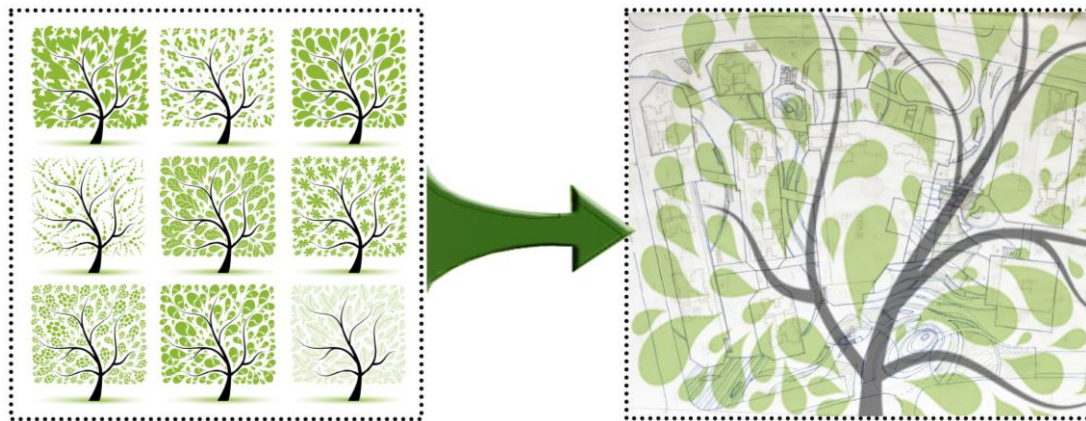


Figure 17. Design concept derived from an abstract tree  
Source: author

### 3.6 Deducting and detailing

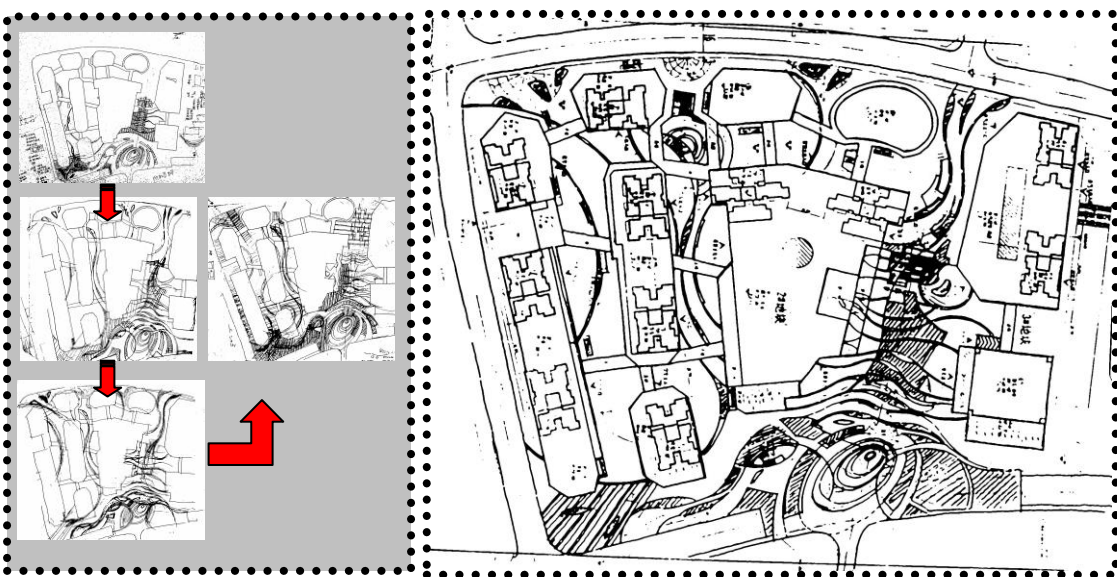


Figure 18. Process of deduction and detailing  
Source: author

### 3.7 Site scale and spatial form

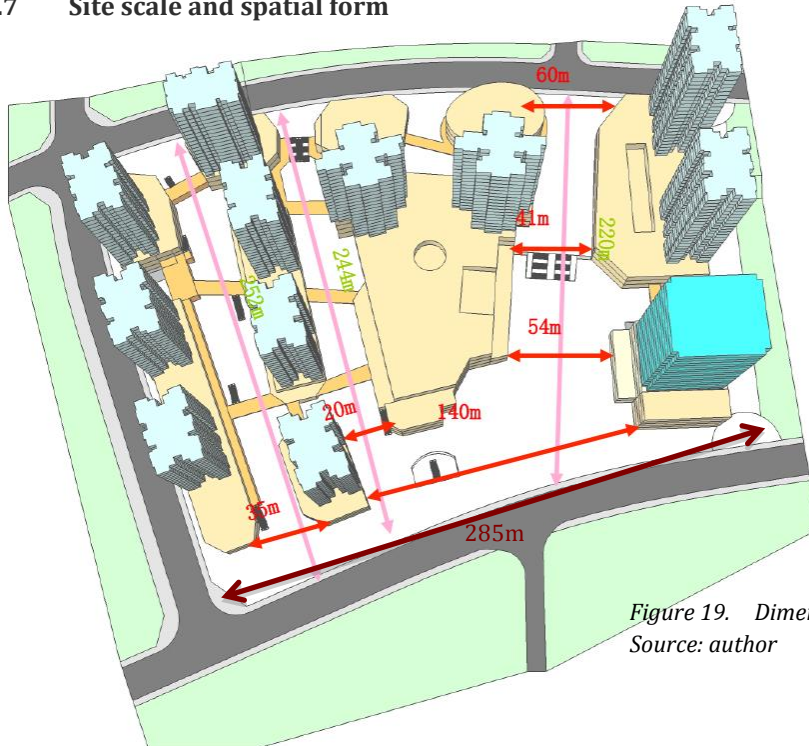


Figure 19. Dimension of the public space  
Source: author

Site Length: 295m (323 yards). Site Width: 275m (301yards). Site Area: 71,820 m<sup>2</sup> (17.8 acres).

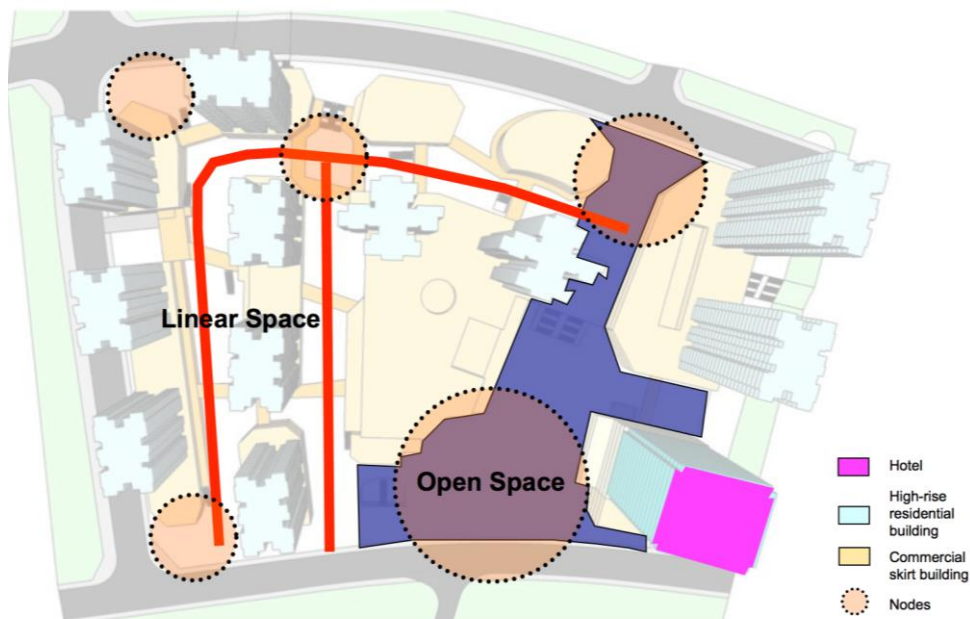


Figure 20 Analysis of characters of the spatial form  
Source: author

#### Spatial characters:

Openness: forming the large-scale shopping environment.

Linearity: linear space of shopping streets can be shared by residents living in the Metropolitan.

### 3.8 Design Outcomes

#### 3.8.1 Master Plan



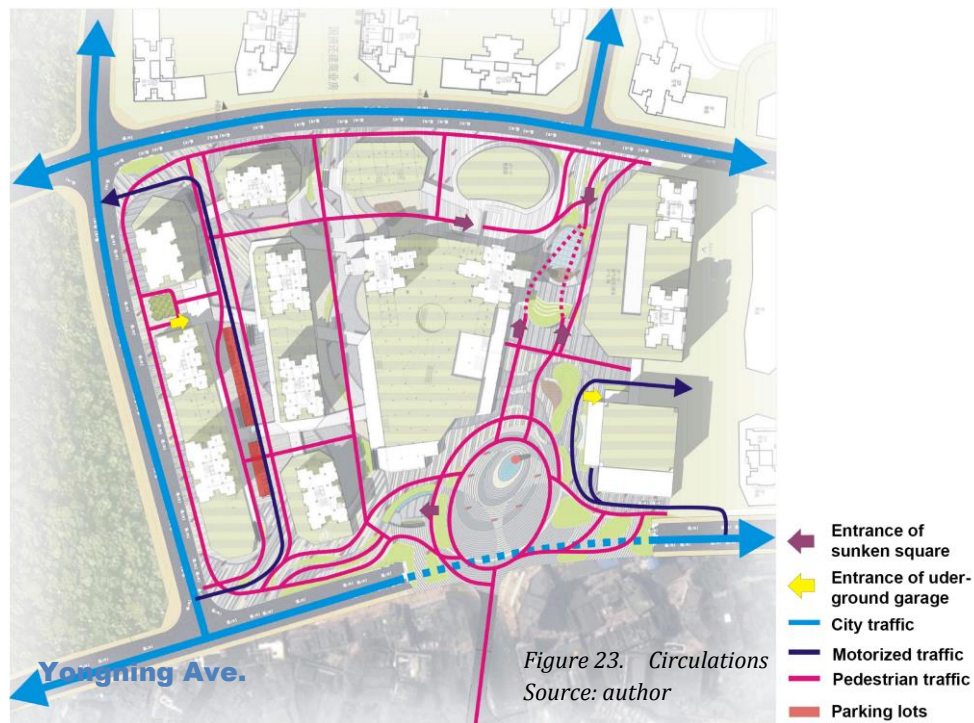
#### 3.8.2 Analysis of functional divisions





The Metropolitan's public space contains three types: roofs, squares and streets. By systematizing underground, ground and aboveground, I am intended to create a three-dimensional space system. The underground level has sunken squares that can be reached by escalators. The ground level includes assorted squares, and friendly-scaled shopping streets. The aboveground level includes green roofs, balconies, and platforms where people can enjoy scenic views and performances. I divided the entire space into seven sub-areas according to their foremost functions. The design principle is that ensure enough space and adequate amenities to support each functional area, and these functional areas should not be exclusive, but rather penetrating into each other.

### 3.8.3 Analysis of circulation



I arranged different circulations in Metropolitan's public space referring to the widely accepted notion that pedestrian movement should be separated from motorized traffic, or at least minimize the interference with each other. There are four entrances to improve its accessibility. The Music Square is the largest entrance, extending across the intersection, expanding into the existent business district and connecting the neighboring blocks, drawing the nearby residents to come. In order to facilitate city's traffic, and to alleviate the traffic burdens induced by the proposed project, I made two suggestions: 1. For major south-to-north traffic, convert the section alongside the whole block of the major traffic road – Yongning Ave. to a south-to-north one-way traffic road that continues going underneath the main square. 2. Built up another ring road as city freeway around the Metropolitan block as the bypass route for minor north-to-south traffic, so that it will not disturb the business district. (See Fig.23 blue dots)

### 3.8.4 Analysis of landscape system

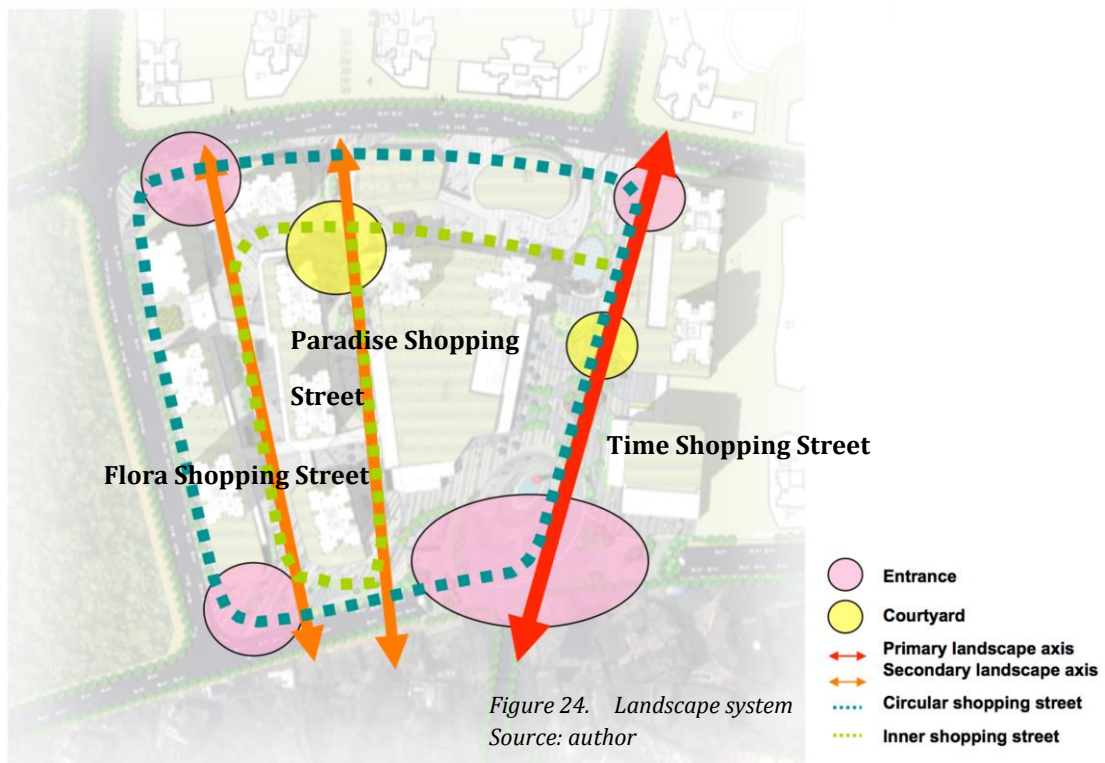


Figure 24. Landscape system  
Source: author

Four squares with respective themes are the entrances of Metropolitan urban complex. They are essential in gathering and circulating traffic flow. Focus on landscape axis and nodes; Rhythmically organize landscape sequence and elements. Structures, sculptures, vegetation, decorative pavements, street furniture, water and lights are used to enrich viewer's feelings and heighten place discernibility.

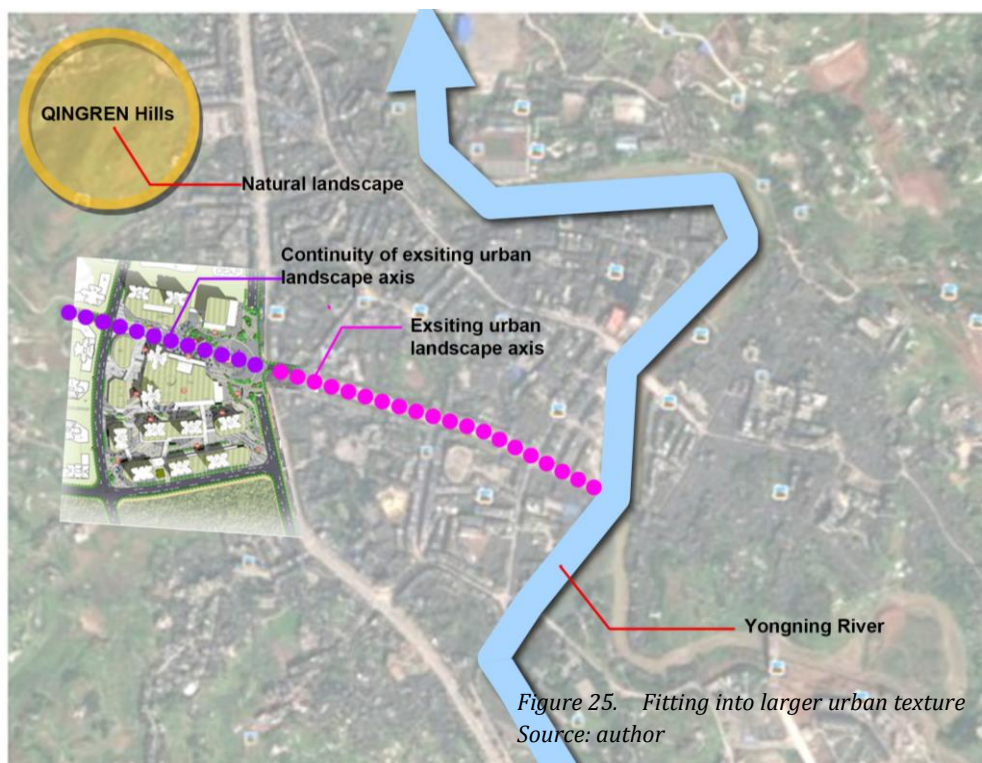


Figure 25. Fitting into larger urban texture  
Source: author

Figure 25 illustrates how the landscape system of Metropolitan urban complex is incorporated into a larger background. The primary landscape axis is developed as the continuity the current urban landscape axis, extending from the Qingren Hills – the largest natural landscape resource in the county in the west to the eastern downtown. I introduced the view of Qingren Hills into the public space via intentionally leaving the view corridor unobstructed. Meanwhile, the high-rise buildings along the established landscape axis fortify the axis and corridor.

### 3.8.5 Lightings

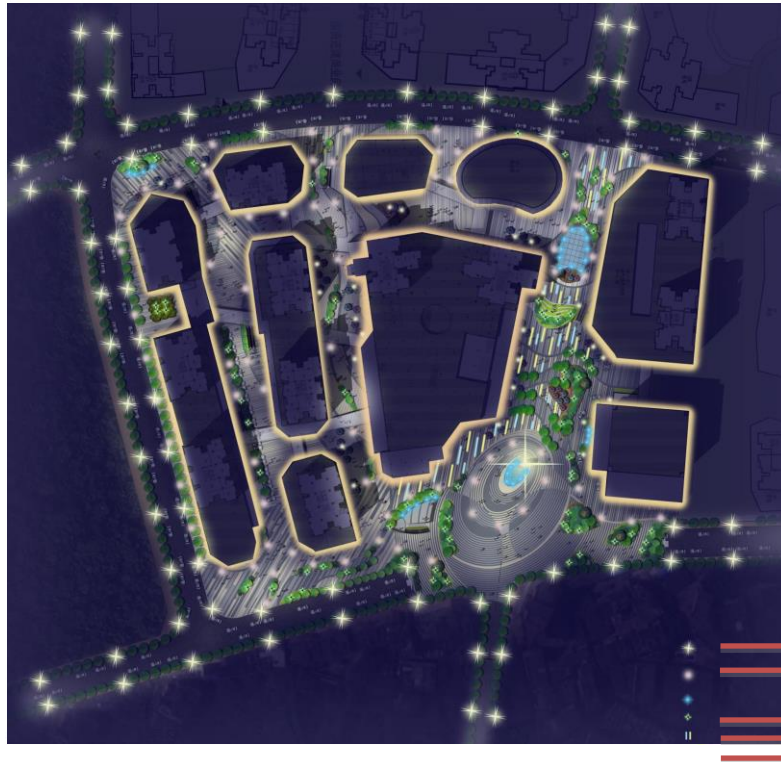


Figure 26.  
Nightscape design  
Source: author

Nightscape is similarly of great importance in shaping the urban landscape. Lighting design for the Metropolitan’s public space is expected to highlight the clustering architectural images and express Metropolitan’s high-class and modernity.

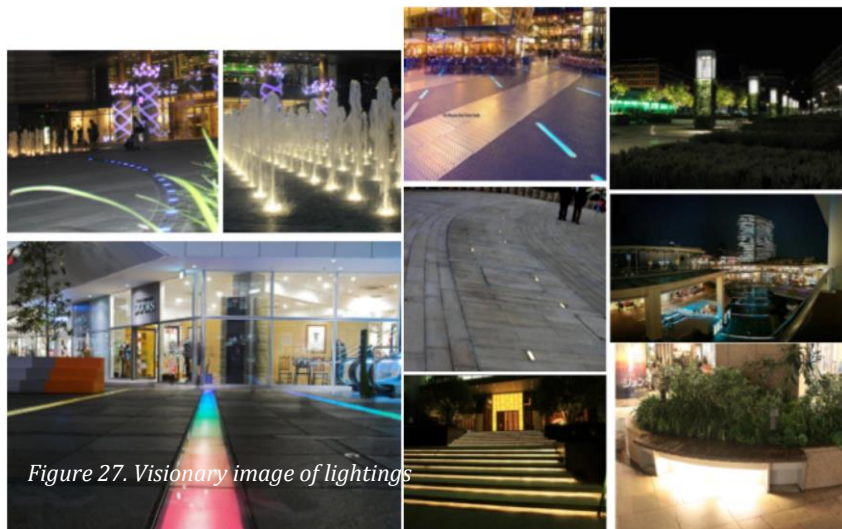


Figure 27. Visionary image of lightings

### 3.8.6 Vegetation Plan



Figure 28. Vegetation Plan  
Source: author

### 3.8.7 Bird's view of Metropolitan urban complex



Figure 29. Bird's view of Metropolitan  
Source: author

### 3.8.9 Views from different perspectives



Source: author



Figure 33. Streetscape of Paradise shopping street  
Source: author



Figure 34. Balcony and Stage  
Source: author

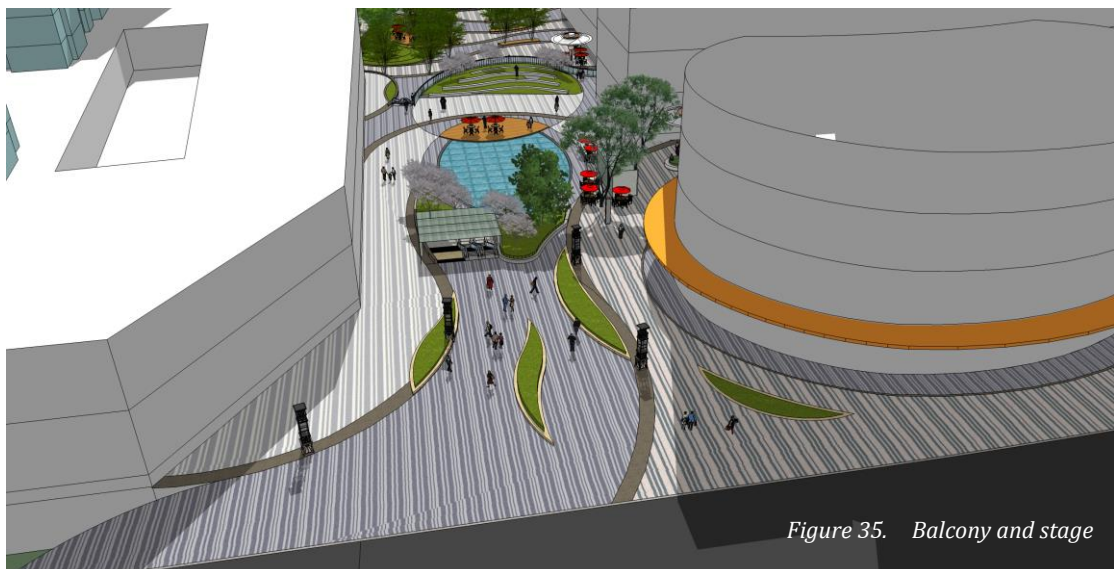


Figure 35. Balcony and stage



Figure 36. View from skywalk in Flora shopping street towards Yongning Avenue Source: author



Figure 37. Street view of Flora shopping street Source: author



Figure 38. Sunken Square

*Source: author*

#### **4. Conclusions**

People's recognition of architecture and space has evolved with time. Architecture is no longer a separated existence; on the contrary, it has been integrated with the environment. The landscape of the public space in most case a decisive criteria when evaluate the environment quality.

When designing, an environmental-design approach is recommendable. Designers should respect the character of the public space, value the regional culture, and place people as the primary serving targets. What distinguishes it from normal public space is that the public space in urban complex should fully express and promote the commercial mood. It would be most helpful if designers took into consideration environmental phycology and behavior, designing the public space with multiple scopes. Designers should likewise devote to details, because details are critical in shaping sense of place. A sophisticated design is one that incurs interaction between human and space, makes consuming experience an enjoyment, and most importantly has positive impacts on the city and people's life.



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