

Guangzhou as Livable City: Its Origin, Inheritance, and Development —from the Thirteen-hong to Its Ecological Status Quo

Yanjuan Han*^{1,2}, Yue Pang**, Xing Jiang***

*¹PhD, School of Arch. and Urban Planning, Guangzhou University, saup_hanyanjuan@gzhu.edu.cn

*² PhD, School of Civil Eng., Wuhan University of Technology, saup_hanyanjuan@gzhu.edu.cn

** PhD, School of Arch. and Urban Planning, Guangzhou University, Pangyue@gzhu.edu.cn

*** PhD, School of Arch. and Urban Planning, Guangzhou University, judyix@126.com

Abstract: This article intends to explore the ideas and concepts that dominate the landmark versions of planning in a historical survey on the development of urban planning for the construction of Guangzhou. From the Late 17th C. to the Mid-19th C. Xiguan in Guangzhou witnessed the booming of the Thirteen-hong characterized by gardens and buildings in Western architectural styles. These characteristics constituted the architectural features and urban spatial patterns on both sides of the Pearl River, and caused the moving westward of the ancient city center to the Thirteen-hong Business District. After The Second Opium War Western merchants began their planning and construction of Shameen with Western planning techniques, which, together with the model of the Thirteen-hong, led to the urban modernization of Guangzhou urban planning. During the years from 1911 to 1948, the urban planning and construction in Guangzhou underwent a sequence of processes from simplicity to complexity, and from part to whole. There was also a process from the simple imitation of Western ideas and concepts of urban planning in Dashatou Island to the renovation of Guangzhou urban planning marked with road and park construction. This process includes the dismantle of the city walls for road construction in 1912, the prelude of modern urban planning of Guangzhou in 1914, the planning for network and city-round road and park construction in 1918, the idea of “Traffic First” in 1921, the regional studies and planning in 1923, the concept of functional division in 1932, the idea of implementing urban function division in 1920s and 1930s, and the transference from the initial techniques and measures to land management in 1937. After that there was the adoption of the "zonal cluster layout" along the Pearl River in 1984, the idea of the Planning of Urban Agglomeration of the Pearl River Delta in 1995, and the continuation of the “four land usage modes” in 2003. The idea and concept of urban planning for Guangzhou, thus derived localized from the practice of Western urban planning in the Thirteen-hong and Shameen, later underwent the municipal planning of Dashatou, the idyllic residential districts. The innovated regional green space in 2006, followed by the livable urban and rural planning in 2016, and up to the lately ecological city in 2018, all bear the marks of the early ideas and concepts realized in the Thirteen-hong, Shameen, and Dashatou. Therefore, it can be further concluded that the urban planning of Guangzhou, developed from the initial function of landscape beautification to the regulation of regional green environment of the Pearl River Delta, underwent finally a full process of imitation, learning, transformation, and innovation, resulting in an idea of green, open, and shared urban construction.

Keywords: Thirteen-hong, livable ecotype city, urban planning ideas, modern urban planning history, Guangzhou city

Introduction

Guangzhou ranked the 40th in a list of 361 world cities selected in 2016 by the Globalization and World Cities Study Group and Network (GaWC), concerning the leading ability demonstrated and the leading role played in global activities, and has become a first-tier city of the world since then.

Guangzhou has been one of the earliest modern Chinese cities where foreign trade was granted officially. During 1910's, after 1949, and 1980's, especially since the initial period of China's reform and opening up, Guangzhou has been shouldering the leading role of Chinese modernization, and has ever since become a stage for cross-cultural communication between the Western and the East.

This paper intends to analyze the inheritance and developmental ideas and techniques of city planning mentioned above in the construction of a livable ecotype city in the light of the development of the urban planning of Guangzhou.

1 The Square and Gardens in the Thirteen-hong

Guangzhou had been the only Chinese trade port for the West since 1757, with the business halls in the Thirteen-hong chartered for the service, where Western merchants were constantly seen coming and going.

In the beginning, according to Huashiyiyan, the Thirteen-hong covered only a small area as residence for the merchants coming from the United States, Britain, France, Denmark, Holland, Brazil, Portugal, Russia and some other countries.

Close to 1795, however, the area had already covered an area of 5.1 hectares, with the Thirteen-hong in the north, the Pearl River in the south, the West River in the east, and Lianxing Street in the west (now the area for Guangzhou Cultural Park).

Afterward, the Thirteen-hong underwent several recoveries from fire damages¹, and the architectural style was changed from the early Chinese architectural style to a combined Sino–European style, characterized with European colonnade.

By the end of the Qing Dynasty, the buildings in the Thirteen-hong appeared to be in a Western architectural style, mostly white and pale yellowish brown with gray tiles and red brick, arranging neatly along the Pearl River, thus forming a unique landscape along the river (Figure 1).

The trade flourishing, the Thirteen-hong Square, initially designed as a reserved buffer for the Pearl River tides, was gradually turned into the function of a temporary goods yard. Around 1842, Isaac M. Bull (1808-1884), an American merchant, designed a garden with 9 flower beds in the Square, about an area of 130 thousand square feet or 0.012 square kilometers, in front of the business buildings of the United States (Figure 2). A flagpole, surrounded with potted flowers, was set up in the central flower bed. About 2 years later, the British merchants began to build their garden connecting to the American one in front of the British buildings. In 1856, however, these buildings, together with the gardens, were all destroyed in The Second Opium War.



Fig.1 The Thirteen-hong in 1840s



Fig.2 American Garden in the Thirteen-hong
(about 1844-1845)

Now the profound impact of Thirteen-hong on the landscape and urban spatial patterns in Guangzhou

¹ Thirteen-hong: The analysis of urban development dynamic in Guangzhou at Qing Dynasty, Honglie Yang, Famous City in China, 2014 (5) :54-61

can still be seen everywhere. And the Thirteen-hong area itself, still retaining the old street pattern and Sino-Western architectural style even today, is still one of the largest and most bustling commercial wholesale blocks in Guangzhou. Evidently, the gardens in Thirteen-hong have an important impact on Chinese gardening.

2 Shameen Concession – Miniature Models of Modern Western Planning

In 1859, Britain and French seized Shameen, and in two years developed the place into an island of about 0.8 square kilometers with 870 meters long and 290 meters wide.

In 1861, the British Government signed an Agreement on Shameen Concession with the Qing Dynasty. Soon the British and the French authorities began to uniform the planning and construction of the grid-shaped roads and the green environment in Shameen Concession.

There was a walking road along the embankment, with a football field and a tennis field. A British garden and a French garden were also planned (Figure 3). The concept of public landscape with gardens in the Thirteen-hong period was thus retained and developed.

The colonial urban planning mode applied in the Thirteen-hong was adopted in the construction of Shameen, and the experience and lessons learned from the construction of Thirteen-hong were applied as reference in the site selection, environment development, and garden construction in Shameen.

All of the urban planning strategies and techniques, the regular grid-type road system, the open fields and gardens, and all relevant constituents presented in Shameen construction, later became a template for the modernization of construction in Guangzhou, thus stimulating the booming urban modernization of the city.



Fig.3 Map of Shameen in 1910

3 Urban Planning Exploration in the Republic of China

In 1911, the then Republic of China, with the common aspiration of the Chinese people, started an urban revitalization, and soon the reform of modern urbanization began.

3.1 Municipal Planning of Dashatou Island

In 1912, the Guangdong Military Government implemented the modernization of public works in Guangzhou. They dismantled the city walls for road construction. By 1914, the Engineering Bureau of Dashatou was set up to plan and construct the Dashatou Island. The Dashatou Planning (figure 4) , designed by Guanying Jiang the engineer and Shengren Chen the assistant engineer, was quite a fairly complete and systematic planning developed by the Guangdong Military Government at the early stage of the Republic, even though it was still an imitation of the Western urban planning techniques.

The elevation of Dashatou was the same as that of Shameen, and the planning area was 814 mus, i.e. about 0.54 square kilometers, in which 340 mus were set aside for the embankment, roads, parks, meadows, and lanes, while about 470 mus were kept as the building area. The embankment surrounding the island was 13,050 feet long, enclosed was a regular road grid layout with 3 horizontal and 8 vertical streets. The spacious area of embankments, roads, parks, grasslands was very large, covering more than 40 percent of the island².

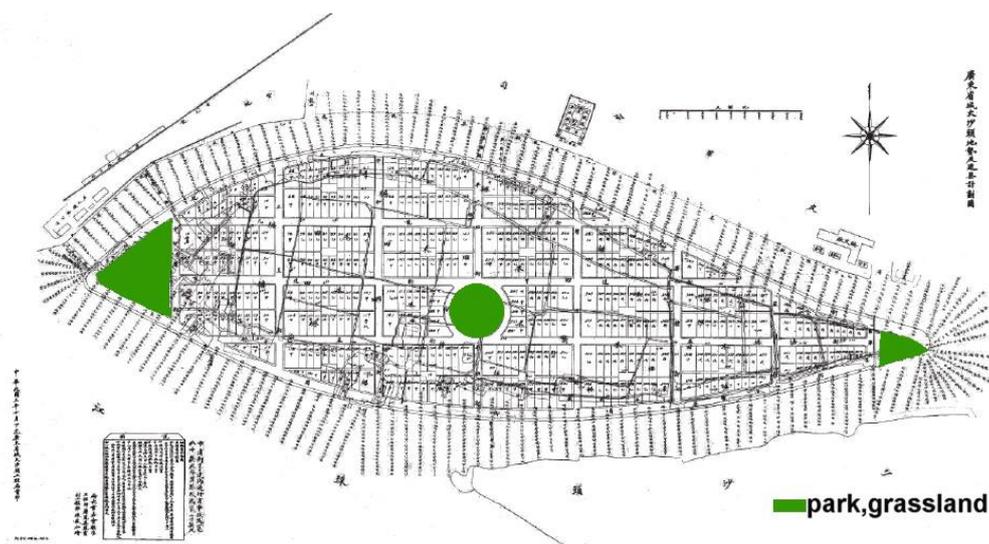


Fig.4 Plan Diagram of Dashatou

Evidently, the impact of design concept and planning techniques applied in the construction of Shameen is prominent in the planning of Dashatou with its flexible 4 times road width, regular road network, and the attention paid to the recreation spaces, public lawns and environmental greening. Unfortunately, for various reasons, the planning of Dashatou had not been implemented. But the planning ideas lived on, and would have a profound influence on the urban modernization of Guangzhou.

3.2 Municipal Planning of Guangzhou City

In 1918, the then Guangzhou Municipal Bureau issued the planning for road and park construction, focusing on the construction of the city-round road and network road. The location of the first park in Guangzhou was settled at the old government department (figure 5).

In 1921, Guangzhou was chartered, and the Municipal Department was founded. Implemented was the planning of urban road improvement and park construction, realizing the idea of “Traffic First” proposed by Sun Ke the mayor. Then, planned and constructed successively were a number of roads including Yuexiu North Road, Mapenggang Road, Zhusigang Road, Weixin Road, Yuexiu South Road, Wenming Road,

² Guangdong Dashatou Engineering Bureau revelation, 1914, Sun Yat-sen Library of Guangdong Province

Danan Road, Taiping Road, Dade Road, Panfu Road (Chang Road), Yuexiu Road, Gongyuan Road and Yong Han North Road (Figure 6). Five parks were also planned, including Dongshan park, Xiguan park, and Haizhu park. The official planning of urban modernization of Guangzhou was well on its way.

In order to solve the problems among regional division, population increase, resource allocation, and governance capacity, the Municipal Department had a planning to expand the urban area along the traffic lines outside the old city. In 1923, based on regional studies of the whole city, a regional planning for the proposed urban area was completed by the Works Bureau of Guangzhou Municipal Department .



Fig.5 Road Map of Guangzhou in 1918

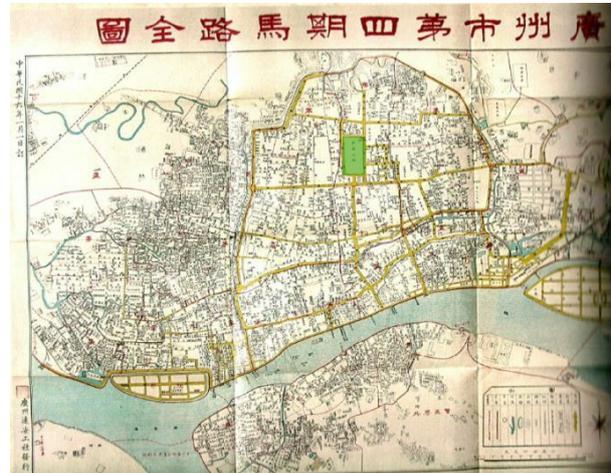


Fig.6 Road Map of Guangzhou in 1927

The planning outgrew the original scale of the old city. Included in the proposed planning of the urban area, besides the public fields, wild fields, and transport hubs, were the considerations of natural boundaries, future population growth, distance to the district or city center, reach of the police force, expectations of usefulness, industry distribution, easiness of district division, nearness to highlands, or the rivers,.

As a result, the proposed urban area was bordered by Baiyun mountain in the north, water pond at Beidi in the southwest, Henan Huangpu in the South, the line along Xiachebei river from Dongpuxu to Shuitugang in the north. The proposed urban area was, however, too large for the economic limitations. Therefore, a smaller but more appropriate, or affordable area was confirmed (Figure 7).

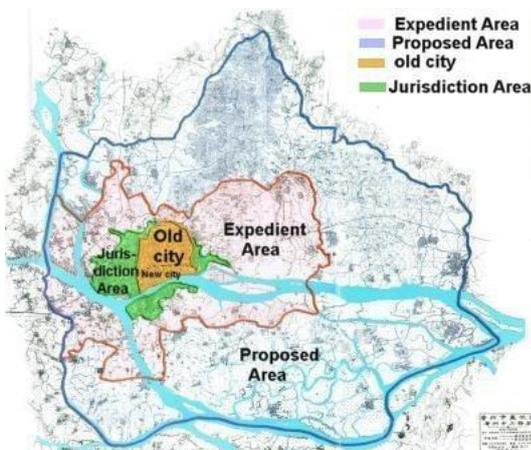


Fig.7 Demarcation of Appropriate and Proposed Areas in 1923

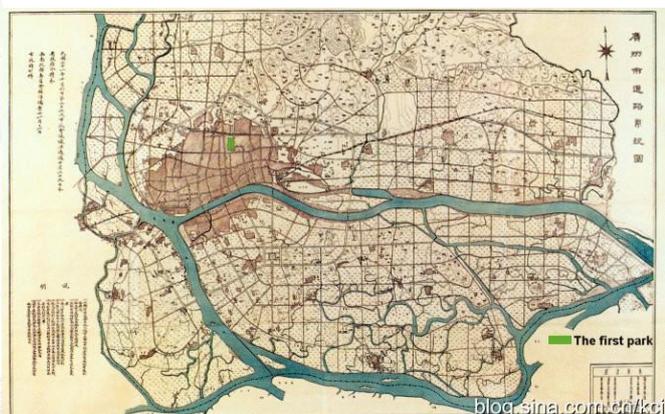


Fig.8 Road System Diagram in Guangzhou in 1932

In August of 1932, the then government promulgated the first urban planning scheme of Guangzhou—The Urban Design Outline of Guangzhou³. The planning divided the whole area into four functional districts: the industrial districts, the residential districts, the commercial districts, and the mixed districts.

The industrial districts were arranged along the Peal River, including the West Village, the southeastern part of Shiweitang, Niujiaowei, Niugusha and Luochongwei.

In addition to the original commercial districts in the old city proper, the new commercial districts were located at the East of Huangsha Railway Station and Dongshan, to the west of the provincial government office, and in the northwestern part of Henan.

The residential districts fall into two categories, the beautiful exemplary residential districts and the civilian residential districts. The former ones were located in the central-northern part of Henan, the eastern part of Dongshan, Chebei, and the southeast part of Feieling Hill. The latter ones were adjacent to industrial districts, scattered around Bantang, and Fangcun in the southwestern part of the city.

The old city proper was reserved as mixed districts. Meanwhile, 10 parks in different sizes were planned in response to the emphasis in the outline of the planning on leisure places and parks for the public.

In November of 1932, the then City Government promulgated the Road System Map of Guangzhou (Figure 8). The arrangement of the road system adopted a chessboard-style layout, with five kinds of road width, namely 40m, 30m, 20m, 15m and 10m. In order to meet the needs of automobile traffic, the cross-shaped network of wide roads and large blocks were designed to be in the administrative district, while a network of narrow roads and small plots for walking are to be built in the commercial and residential districts.

For the first time in the history, the concept of functional division is introduced, with this complete and specific planning document, into the urban planning of Guangzhou. It focused on urban function division, road and infrastructure construction, and green space and parks layout. It marked the transformation of urban planning of Guangzhou from local road planning to overall urban planning.

In 1920s and 1930s, the idea of implementing urban function division in Guangzhou was accepted and applied in actions to adopt Western urban planning methods for local needs. The idea soon became an important approach to upgrade the urban environment. In harmony with the then economic conditions and government capacities, the demarcation of the appropriate and proposed areas broke the shackles of the old administrative divisions, and made it an easier work, from macro land layout to micro building control, for the then government to manage and implement unification of urban modernization.

In 1937, the Anti-Japanese War brought the urban construction of Guangzhou to a stop(Fig.9). After the war, in 1947, the then City Planning Commission of Guangzhou resumed the procedures of land division. The emphasis of urban planning of Guangzhou transferred from the initial techniques and measures to land management (Fig.10). The city was again divided, but this time, into six districts: the ordinary residential district, the rural residential district, the commercial district, the industrial district, the scenic district, and the agricultural district. The rural residential district emphasized the idea of residential environment construction.

At that time, there were 7 parks in Guangzhou. From the Road Traffic Map of Guangzhou Special City, published in 1948, it could be concluded that the procedures were an extension and realization of the design idea of urban planning draft in 1932.

³ The Outline Draft of Guangzhou's Urban Design (Document-Politics-590), 1932, Guangzhou Archives.



Fig.9 Road Map of Guangzhou in 1937

During the years from 1911 to 1948, the urban planning and construction in Guangzhou underwent a sequence of processes from simplicity to complexity, and from part to whole. There was a process from the simple imitation in Dashatou Island to the urban renovation marked with road and park construction, a process from simple road construction to overall urban traffic system, a process from scattered green lands to the overall greening system, a process from subdistrict planning to comprehensive planning of the whole city, a process from simple planning techniques to comprehensive land management, and finally, a process from simple imitation to localization.

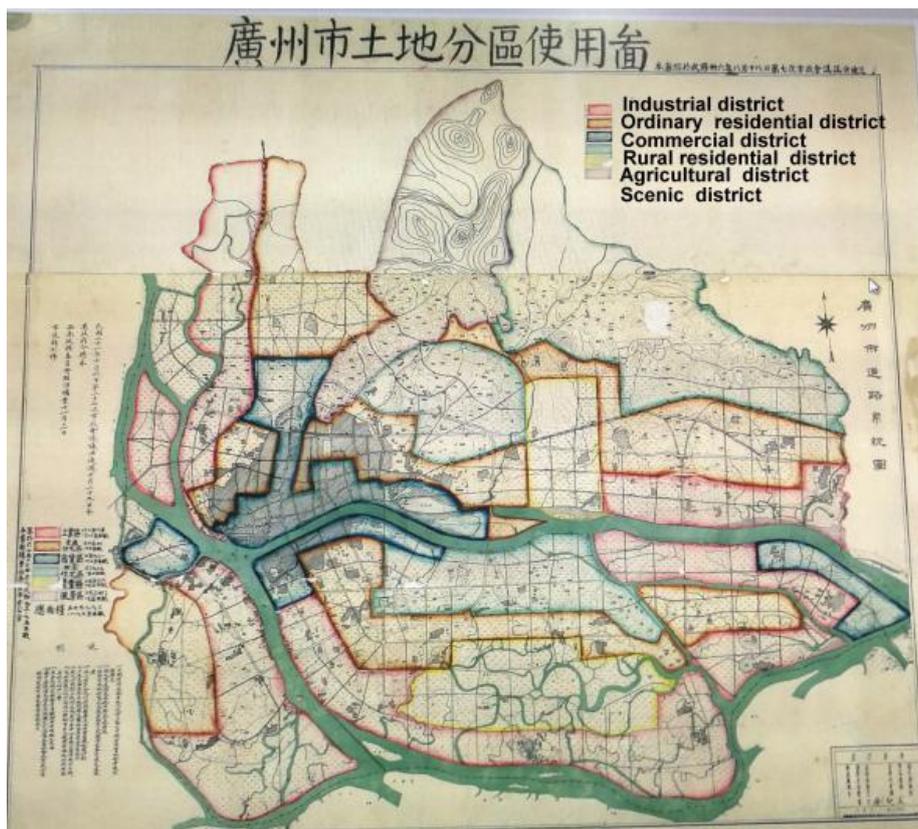


Fig.10 The Land Utilization Segmentation Map of Guangzhou in 1947

4 Planning Innovation after Reform and Opening in 1980s

On September 18, 1984, the State Council approved the City Master Plan of Guangzhou ((Fig.11)), the planning purpose of which was changed from "building Guangzhou into a socialist productive city" to "building Guangzhou into an economic center of the whole province and South China, and make it a prosperous, civilized, stable and beautiful modern socialist city" by adopting a "zonal cluster layout" along the Pearl River: the old urban area, Tianhe District and Huangpu District.

The focus of urban greening was on the downtown greening, encouraging greening in every possible patch in the old city proper. This master plan pays attention to the protection and construction of ecology and environment, but its strategies and means are not much different from those proposed by the Government of the Republic of China.

In 1995, based on the regional overall planning of Guangdong Province, the Construction Committee of Guangdong Province issued the Development Planning of Urban Agglomeration of the Pearl River Delta, proposing a conception of four modes of land use: the metropolitan district, the urban concentration district, the opening district, and the ecological sensitive district. The planning, especially the assignation of the open and ecological sensitive districts lay an emphasis on urban planning from old city reconstruction and urban expansion to co-building of urban greening and ecological protection.

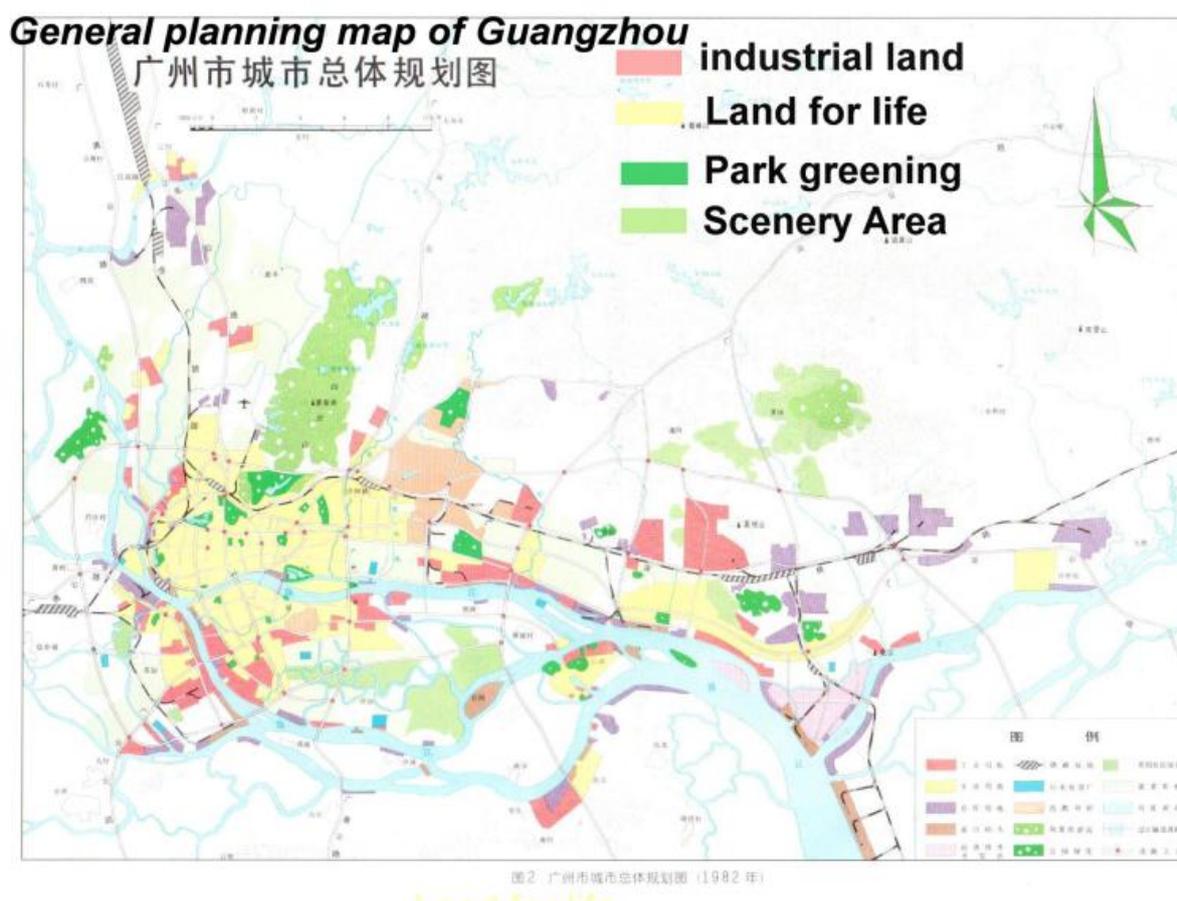


Fig.11 the General planning map of Guangzhou in 1984

In 2003, as the continuation of the “four land usage modes” advocated in 1995, The Guidelines for

Regional Green Space Planning of Guangdong Province was issued to further highlight the construction of ecotype green spaces. In 2006, the emphasis of regional green space was elevated to the legal level with the Regulations for the Implementation of Coordinated Development Planning for the Urban Agglomeration of the Pearl River Delta in Guangdong.

The planning regulations, compiled and adjusted from 1995 to 2003, all aimed at the regional planning of the Pearl River Delta. As a result, Guangzhou took the leading role in the development of the whole region, and thereby became an integral part of the Regional planning.

In 2012, a concept of planning for livable urban and rural areas was introduced and advocated in the Urban Comprehensive Planning of Guangzhou (2011-2020), proposing that the urban size should be rationally controlled with a total planning area of about 7,434 square kilometers. By the end of 2020, the urban resident population should be less than 18 million, and the construction land, less than 1,772 square kilometers, in which urban construction land less than 1559 square kilometers.

To highlight the water features of South China and construct the ecological water city, the water surface rate and drainage density of the city should also be increased to restore the ecological network of urban and rural water system, and the planning water surface rate should be 11% (Fig. 12, 13).

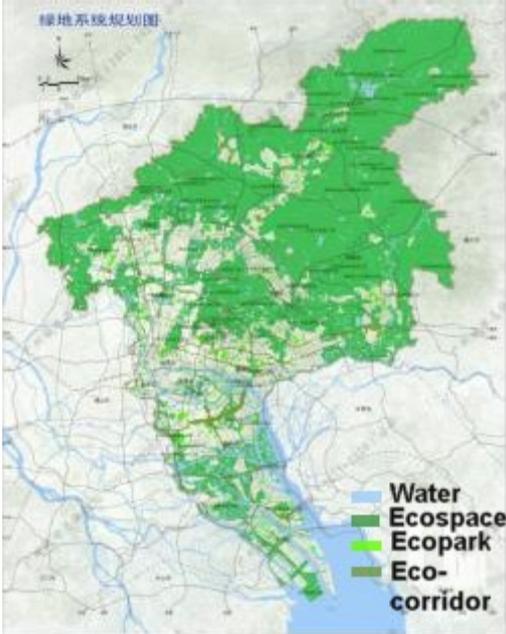


Fig.12 Green Space System Planning

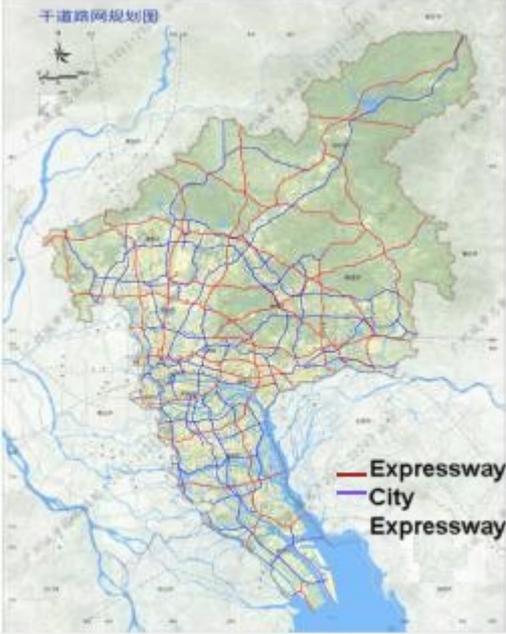


Fig.13 Urban Road Network Planning

In Feb. 2018, the Urban Comprehensive Planning of Guangzhou (2017-2035) reinforced the vision of developing a beautiful and vigorous city of flowers in the world. Taking the Pearl River Water System as the developing path, the construction of the hub-type cyberspace structure of Guangzhou is now underway, and can be completed soon with the support of the transportation system and the ecological corridors (Fig. 14, 15).

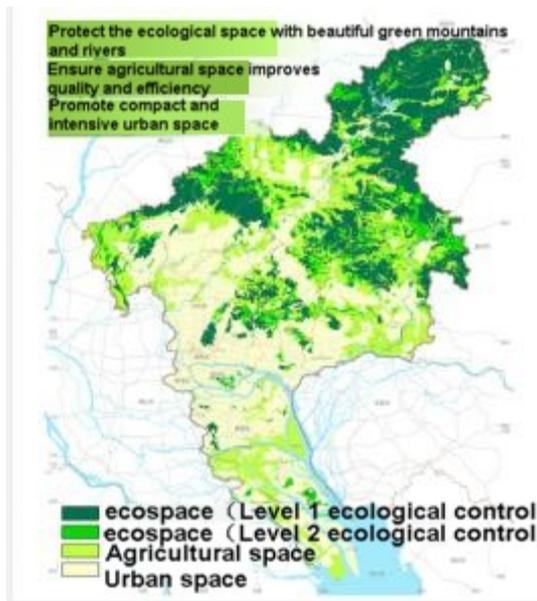


Fig.14 City Ecospace

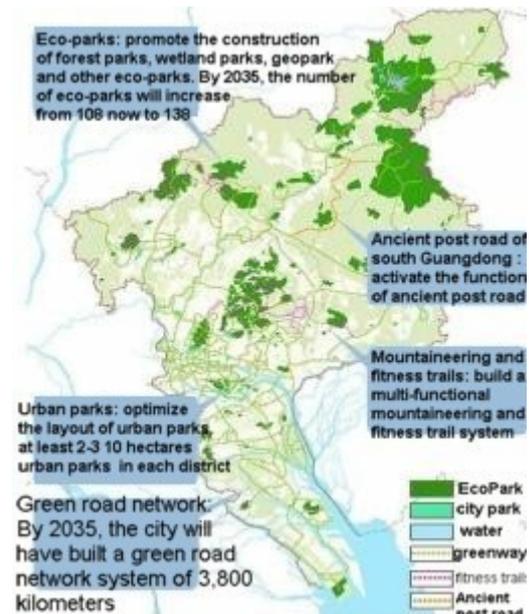


Fig.15 Park and Recreation System of the City

5 Conclusions

Upon the survey of the planning history of Guangzhou it can be concluded that, from the few parks on the Thirteen-hong square to the overall planning of ecological Guangzhou, the urban planning of Guangzhou has witnessed the development from the district planning of Dashatou, through urban function division and the idyllic residential district, to the regional greening and livable city, which completes at last the process from imitation, study, transformation, and innovation. All these have brought to the birth of a unique concept of urban construction, a unique concept of an innovation, harmony, green, open, sharing, attractive, and distinctive ecological city of Guangzhou. It can also be concluded that the planning versions at all stages of the history of Guangzhou share something in common: assigning special districts, urban function divisions, network and ring road systems, avenues, squares, parks, and green space designs.

What can be noted is that ideas and concepts of urban planning have always changing to suit the foreseeable needs. In different developing periods, the ideas and emphases of green space construction are different. In the Thirteen-hong period, the role of green gardens was only landscaping. In the period of the Republic of China, the roles of green gardens were not only landscaping and recreation, but also an important symbol of city modernization. At the 21st century, the expansion of green lands is for the improvement of air quality and living suitability. In recent years, urban planning has paid more and more attentions to the planning and constructing regional green spaces. The construction of parks and public green spaces has become increasingly important in the prevention of the city from malignant expansion and environmental deterioration, and in the improvement of ecological environment. The development of green space has experienced a constant increase of quantity and area, and has evolved into the construction of ring green space and regional green space. Finally, this development has completed the urban ecological green space system, reflecting the development trend of urban public green space, and ecological green space planning.

Finally, it must be pointed out that the urban development discipline be observed, and insisted should be the strategy of sustainable and coordinated development in a balance among economy, society, population, environment, and natural resources. It is the common aspirations and dreams for the Chinese to

make Guangzhou into a prosperous, harmonious, ecological and livable modern city by enhancing the urban comprehensive function and improving regional radiation-driven capabilities and international influence.

Acknowledgements

The research was funded by Guangzhou Science and Technology Project (201604020071) .

Disclosure Statement

No potential conflict of interest was reported by the authors.

Notes on contributor(s)

Yanjuan Han, Lecturer of Guangzhou University, PhD student of Wuhan University of Technology, major in the history of urban planning in modern China.

Bibliography

Changxin Peng. *The Beginning of Public Park in China — The American and English Gardens of Thirteen Factories of Canton*. Chinese garden, 2014 (5) :108-114.

Chunchen Zhao, Xiangdong Chen. *Spring up of Thirteen-hong of Guangzhou at Qing Dynasty*. The Qing History Journal, 2011 (3) :25-36.

City Planning Commission of Guangzhou. *the procedures of land utilization segmentation*. 1947, 33(3):206.

Guangdong military government. *Revelation of Guangdong Dashatou engineering bureau*. 1914, Sun Yat-sen Library of Guangdong Province.

Guangzhou Municipal Government. *the urban design outline of Guangzhou*. 1932, Guangzhou Archives

Honglie Yang. *thirteen-hong: The analysis of urban development dynamic in Guangzhou at Qing Dynasty*. Famous city in China, 2014 (5) :54-61.

Junming Ni. *The historical development and characteristics of urban space in Guangzhou*. Historical chronicles of Guangdong, 1996 (3) :28-36

Lihua Wei, Xiaopei Yan, Yuting Liu. *A study on the urban social space structure of Guangzhou in the Qing Dynasty*. ACTA GEOGRAPHICA SINICA, 2008 , 63 (6) :613-624.

Ruisheng Xu. *From "Central Park" to "green road" ----review of the construction of public green space in Guangzhou*. Urban Insight, 2016 (5) :122-138.

Image sources

Figure 1: http://news.china.com/history/all/11025807/20170120/30193616_1.html.

Figure 2: Views of the Pearl River Delta, Macau, Canton and Hong Kong, HK, Art Museum of HK, 2002, P426.

Figure 3, 8, 12: http://www.360doc.com/content/17/0227/17/40056926_632463165.shtml.

Figure 4, 5, 9, 11: Sun Yatsen Library of Guangdong Province.

Figure 6, 10: Guangzhou Urban Construction Archive.

Figure 7, 13: Ruisheng Xu. From "Central Park" to "green road" ----review of the construction of public green space in Guangzhou, URBAN INSIGHT, 2016 (5) :122-138.

Figure 14, 15: <https://wenku.baidu.com/view/999997257375a417866f8fb2.html>.

Figure 16,17: <http://gd.qq.com/a/20180226/009085.htm>.