

The Development of the Contested City Form of Shenzhen, China

By Hao Tian

Bachelor of Science in Architecture, McGill University, 2000

Master of Architecture, McGill University, 2001

Submitted to the Department of Architecture in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Architecture Studies

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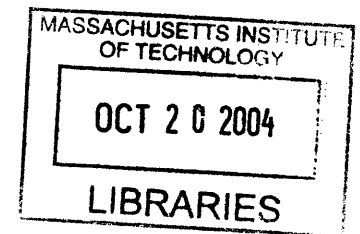
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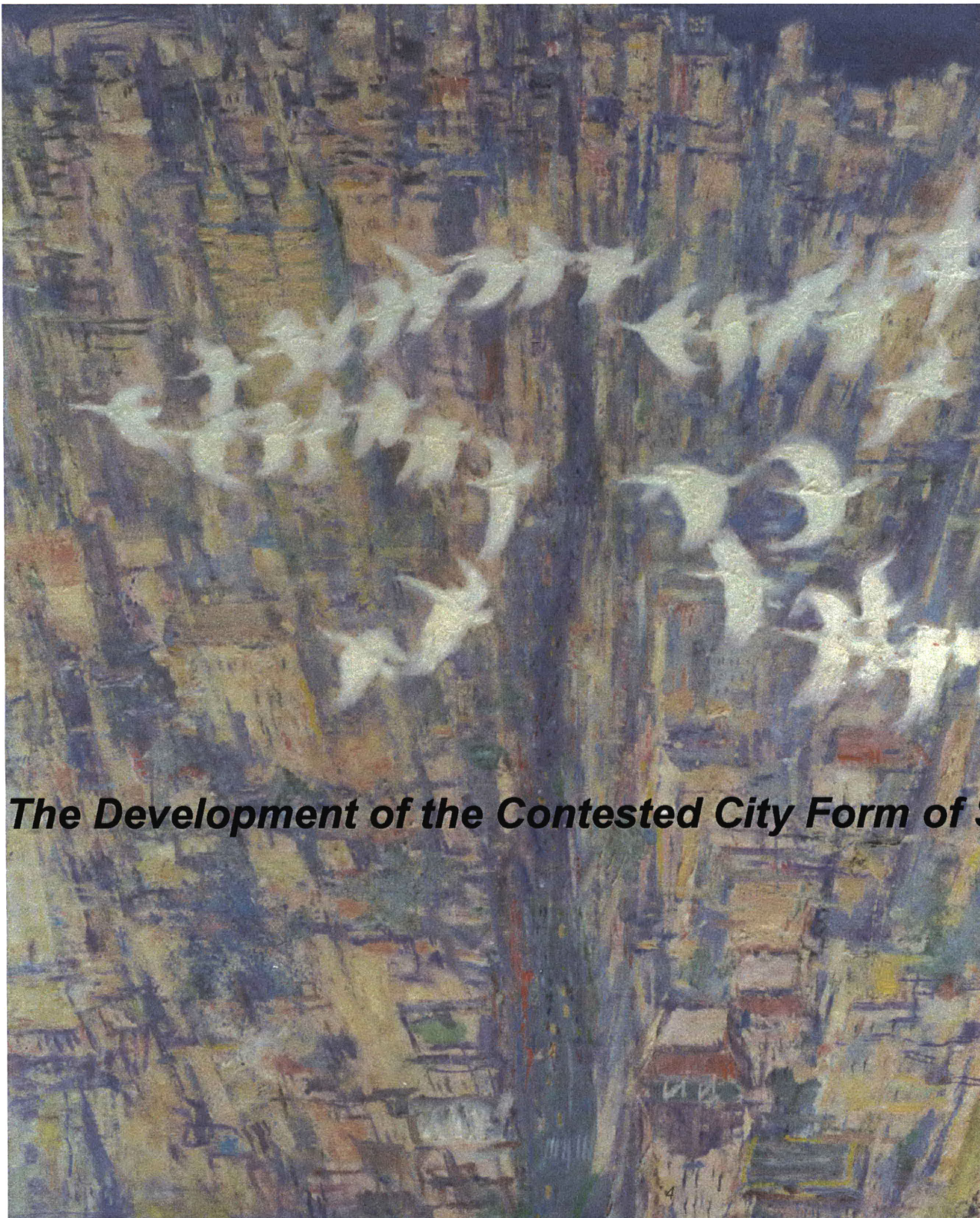
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Abstract

The population of Shenzhen Special Economic Zone has exploded, within twenty-three years, from thirty thousand to 4.7 million with average 28 percent annual per capita GDP increase. What city forms have been sustaining this rapid economic and population growth? Why has the city adopted these forms? The objective of this thesis is to demonstrate the historical, cultural, political, economic, urban planning, and architectural factors that have saliently affected the city form development of Shenzhen, China, which is illustrated extensively. *Zone, City, and Regional Nexus* are three key terms that characterize the three phases of Shenzhen's physical form nature and the corresponding political roles, economic goals, and urban planning strategy of the city. This study hypothesizes that Shenzhen's city form development tends to be *contested* in the Pearl River Delta region in the midst of globalization, in order to maintain the city's *symbiotic economic predominant posture*. A design proposal for the city's future growth is also provided, emphasizing the principles of livability, public spaces, seafront fabric, and ecological system.

Keywords: city form, development, Shenzhen, urban planning, economy, architecture, reform, market, China

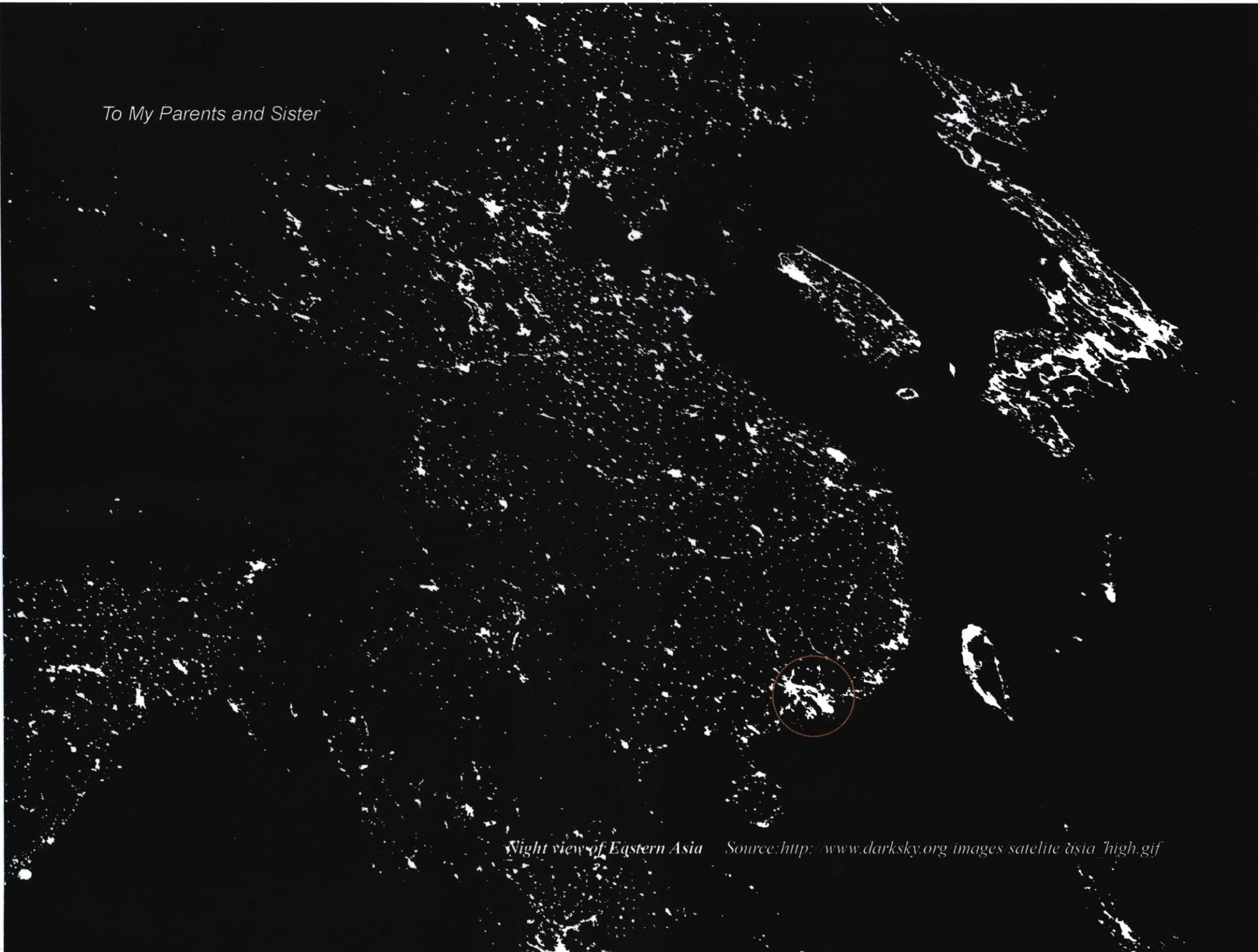
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The Development of the Contested City Form of Shenzhen, China

Hao Tian

To My Parents and Sister



Night view of Eastern Asia Source: http://www.darksky.org/images/satelite/asia_high.gif

The Development of the Contested City Form of Shenzhen, China

Hao Tian

Front Cover

Shenzhen, 1993, oil painting on canvas, by Tian Kesheng (1993)

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I. Introduction

The urban form development and arrangement, a process and an important section of a city's planning strategy, can be considered as a series of diagrams of dynamic intervening forces with cultural, economic, political, global, geographical, temporal, economic, technological, and ecological aspects. It provides a coherent standpoint from which to study the spatial resource distribution affecting human perceptions and fulfilling human visions. An optimized, flexible, controllable, and effective city form is a vital physical "bone" configuration to uphold a city's comprehensive functioning and goals.

Research on Chinese urban form development has primarily been focused on a few cities, particularly former capitals, port cities, and a few western frontier cities with deep culture and long histories. Capital cities such as Beijing, Luoyang, Nanjing, and Xi'an, port cities such as Shanghai, Guangzhou, Wuhan, Qingdao, and Tianjin, and western frontier cities such as Lanzhou (Figure 11), Kunming, and Hohhot dominate the literature on Chinese urbanism.

The population of Shenzhen Special Economic Zone has exploded, within twenty-three years, from thirty thousand to 4.7 million with average 28 percent¹ annual GDP increase. What city form sustains this rapid economic and population growth? Why does the city adopt this form? City form growth related with politics, economic development and urban planning strategies of

newly emerged coastal metropolises, Shenzhen after 1979 under the open door policy, have been touched upon by some authors, but have never been the subject of a full-scale exposition. The mechanisms behind the city's form growth and the relationships between the city's roles and its urban spaces and architecture under a new economic model since 1979 have not yet been systematically and comprehensively studied. Nor is there recent work undertaking such a study, that examines the relations among the active city form adjustment and planning of Shenzhen, the influence of globalization, and the city's gradual testing of capitalist elements and mechanisms as part of China's socioeconomic reform process.

In 2001 China had 662 cities, up from 193 cities on the eve of China's reform in the early 1980s. Although China's urbanization level remains relatively low by international standards, many scholars believe the fast economic growth in post-reform China is intimately linked with the accelerated pace of urbanization.² The central government has a strong desire to reduce the disparity between urban and rural areas and bring these two sectors into closer cooperation, and to develop "small and medium-size" counties and cities as an alternative to further concentration of people in the already crowded "large" cities.³ Most of the newly recognized cities during the period were upgraded from "small and medium-size" counties.

The introduction of the free market system and open door policy, promoted primarily by Deng Xiaoping (1904-1997), in China since 1978 have brought an urbanization surge spreading

through the country, mostly starting from small and middle-sized rural areas (cities) in the Pearl River Delta (PRD) area, instead of being driven mainly by the growth of large cities. According to Hackenberg, city form and its development pattern, within a socialist country, “depart[s] substantially from the past experience of industrialized countries or of stereotypical models of urban industrialization” (1980:391).⁴ The city of Shenzhen, established in 1979 within the PRD is one of the most important cities to initiate this ongoing phenomenon, which Deng had acknowledged as playing a key role in helping China link to the modern world economy.

The nature of China’s reform is indicated in the Chinese leaders’ description of it as “groping for stones to cross the river” or “to walk a step and watch a step.” It allows national and local leaders to adjust constantly and adapt to dynamic circumstances. The economic development within this evolving hybrid model—the interacting of planning mechanisms and emerging market forces—favors a city’s spatial shape genre having greater geographical flexibility and adaptability.⁵ It thus appears that the city’s form, landscape, and architecture run parallel with Shenzhen even China’s continuing economic transformation.

The active introduction of a market mechanism within Chinese socialist territory since 1978, in the midst of a globalization movement, has had profound impact on the form development of Shenzhen. To discuss the city’s form, I will (1) introduce the historical background of traditional Chinese city forms and the city

and its natural topography, (2) examine various urban planning schemes and infrastructure growth patterns, and inspect urban architecture, (3) analyze some economic reforms and their impact on the urban form development, and (4) design proposals for the city’s future growth.

In this thesis, I have sought to apply interdisciplinary perspectives to document, explain, and analyze the development of the *contested* city form of Shenzhen as a case study. I use *Zone*, *City*, and *Regional Nexus* as three key terms to characterize the three phases of Shenzhen’s physical form nature and the corresponding political roles, urban planning strategy, and economic goals of the city, which are actively interacting and transforming. As the role of the city in regional development, and the positions it holds in the settlement hierarchy change, the logic of the spatial organization for population and economic activities also changes.

The paper hypothesizes that the city form evolution of Shenzhen is a morphological *gaming response* to the rapid globalization, political ideological shift, local economic, and natural resource positioning and redistributing after the 1980s, experimenting with varied urban planning praxis. Therefore, its form development is *contested* in the region to maintain the city’s potential *symbiotic economic predominant posture*; however, in some ways that comes at the expense of urban identity, architectural quality, culture, and environment. As a case study, Shenzhen demonstrates an effective and timely adjustable city form making a city sustainable, restructuring its expanding economy, and

accommodating rapid population growth. This research project seeks not only to identify the critical driving forces behind the dynamic pattern of the development of the physical city form and urban architecture, but also, more importantly, to investigate the potential feasible urban growth methods for transforming existing urban spaces toward “post-instrumental” sustainable places. The city’s successes, mistakes, and possible methods identified could help other growing small and middle-sized cities benefit from the lessons of the Shenzhen experience.

A. Traditional Chinese City Forms

About six or seven thousand years ago, evidence from the archeological ruins of Banpo and Jiangzhai villages shows that the human settlement layout in China reflected the basic organic relationship between “people-place-work” in matriarchal society. People selected flat areas for villages beside rivers. Villages contained three parts: the residential section, the area for pottery making, and the burial ground. The houses were divided into five groups, with each group facing the central plaza—an open space serving for public activities. Later, when different classes and cities emerged in Chinese history, the above role of open space was relatively neglected.⁶ Outside the residential area, a trench was dug for defense.

In China’s imperial dynastic system, a city functioned as a capital and local administrative control center. Unlike Western Europe and Japan, where the city was the center of change, urban

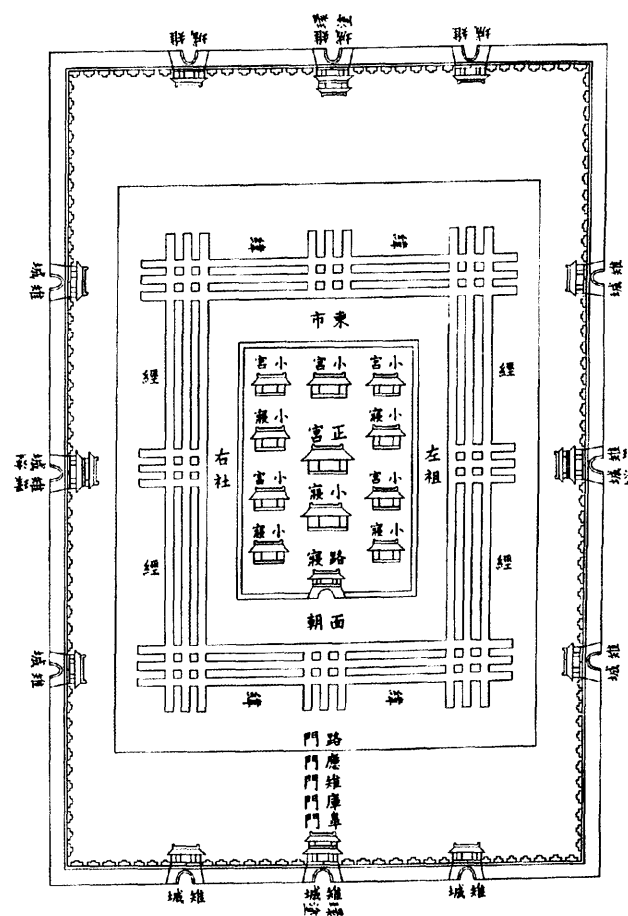


Figure 1. The ideal imperial capital derived from the *Zhou Li*
Source: Shiling Zheng and Alan Balfour, *Shanghai* (UK: Wiley-Academy, 2002), p. 13.

settlements in China were centers of dominant political authority and orthodoxy, and they were normally able to resist change.⁷ The ideal type of the Chinese city usually had cardinal orientation, cardinal axiality, and a square perimeter delimited by a massive

wall. “Kao Gong Ji” (The Artificer’s Record) in the “Zhou Li” (Figure 1), written in the early period of the Zhanguo (Warring States), is generally recognized by researchers as the *locus classicus* for the ideal layout of Chinese capitals. One section of the book dealt with the ordering of urban space:

The general layout should be a square of nine Li (1 Li = 415 meters), with three city gates on each side and nine longitudinal and nine latitudinal streets. The width of the roads should be nine times (18 meters) that of a cart gauge. The king’s palace should be placed at the center of the city, with the ancestral temple on the left and the field altar on the right.⁸

The strict and hierarchical regular planning system also stipulated different scales for the city of the emperor, the cities of the feudal lords, and those of the princes, regarding the area of the city, the height of the city wall, and the width of the roads. The ideal city layout reflected basic modes of traditional Chinese cosmic symbolism and the influence of Confucianism on organizing the government and society of the time. “Heaven was the supreme ruler, and the Sun, Moon, mountains, rivers and other natural phenomena all had their attendant deities.”⁹ The Emperor (the son of Heaven) had the “mandate of Heaven” to rule supreme on Earth. The “ideal” planning conception and system in “Kao Gong Ji” exerted a profound and far-reaching influence on ancient Chinese city planning. Its cardinal orientation principles, which expressed

closely related attitudes toward the cosmological ordering of space, were a prototypical layout for Chinese cities for all successive dynasties until the last (Qing) Dynasty, although a few innovations were made in the course of city formation. The main processional axis running from south to north, “the celestial meridian writ small,” along which were ranged the most important official and ritual buildings, was of much greater significance than any avenue running from east to west.

Early concepts of regional and city planning were also described in “Guan Zi” and “Shang Jun Shu” (“Lord Shang’s Book”). Both books oriented city development to serve agriculture and warfare. Their premise gave a dialectical explanation of the relationship between cities and regions for determining their corresponding sizes and population structure. “Lord Shang’s Book,” for example, held that there should be a certain proportion between the areas of mountains and rivers, cities and towns, and roads and farms in a given region. A tenth should be forests and hills, ponds and lakes, rivers and streams, villages and roads, respectively, in a given area. According to “Guan Zi,” the agricultural and nonagricultural population should be in proper proportion; the area of a city should be in a particular proportion to that of the farmland; it was necessary to have cities with walls and moats to protect the territory of the state, soldiers to defend the cities, and a sufficient supply of grain to feed the people who were the source of the soldiers;¹⁰ and a city should be built according to local circumstances, to save manpower and materials. The book

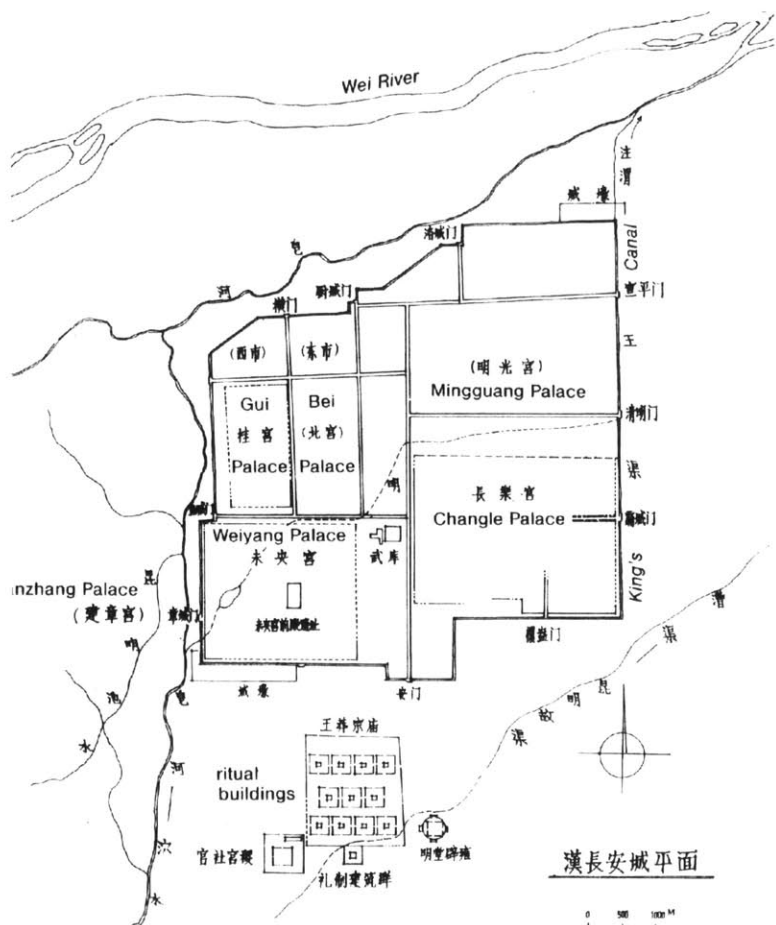


Figure 2. Chang'an, Capital of Han Dynasty (Xi'an, Shanxi, Western Han, 206 B.C. - 23 A.D.)

Source: Wu, Liangyong, *A Brief History of Ancient Chinese City Planning* (Kassel: Urbs et Regio, 1985), p. 17.

also proposed that the “officials be settled near the market places, non-officials and farmers near the city gates, and workers and businessmen near the market places.”

Liu Bang, the first emperor of the Han Dynasty (202 BC - AD 220), unified the whole country, and decided to found the capital—Chang'an—in Guanzhong Plain (Figure 2), mainly for easier military defense. It was also the starting point of the “Silk Road” in the East. To fit the topography and existing conditions, the city presented an irregular shape, but with twelve regular city gates, eight longitudinal main four-lane tree-lined streets, nine horizontal large tree-lined streets, and nine classified and supervised markets. The central and the southern sections of the city were entirely occupied by the palace districts built on rammed earth. The Weiyang Palace and Changle Palace were situated on the high land of the Dragon's Head Plain, providing a commanding view of the city and keeping it under observation and control. However, these palaces were interspersed among the residential blocks. There were 160 blocks for the common people to live in, within which the walled houses and courtyards were connected and arranged closely side-by-side.

In the late Eastern Han Dynasty, the king of Wei, Cao Cao, ordered the building of Ye city, which was rectangular in shape. Compared with former capital cities, Ye city planning made great advances. We begin to see logical functional districts and systematic street layout. A horizontal main street passed through the city and divided it into two. The center of the northern portion concentrated together the governmental office quarters and palaces: an improvement upon Chang'an, the city of the Han. The living area for the nobles was to its east. South of the main

street were four residential quarters and three market places. Three north-south arterial roads met the main horizontal street at three places with a closed square in front, respectively forming the focal points of the city, which could be considered as the prototype of Tian'anmen Square, built in the Ming and Qing Dynasties in Beijing (Figure 7). "Chang'an of the Tang Dynasty was in a sense inherited and developed from Ye. So, it could be said that the planning of Ye is a milestone in the history of early Chinese capital city development."¹¹ Another city's layout that influenced Tang Chang'an was the Luoyang of Northern Wei. With a certain degree of expansion of the flourishing commodity economy, the governmental office quarters were clustered along both sides of the north-south central axis extended from the southern city gate directly to the central palaces. Three markets, each with its own specialty, were located in the eastern, western, and southern portions of the city.

The landmark city Chang'an (Figure 3 and 4), reconstructed by the order of Emperor Wen (Yang Jian), was the political and cultural center of the Sui and Tang Dynasties. Yuwen Kai, the chief director of the construction, and other architects visited Luoyang and Ye cities on several occasions to investigate and learn positive design aspects of the cities. Chang'an city was placed on the higher piece of land named "Dragon's Head Plain," flanked by two rivers. The layout was strictly regular and grand (9,721 x 8,651 sq m), with 17 gates. Zoning had become less ambiguous. The imperial palace and most forbidden gardens were located in the middle of

the northern city. The "Fangli" (block unit) was regularly arranged. There were fourteen straight streets running from north to south and eleven running from east to west, forming a systematized regular grid, while 155-meter-wide Zhuquemen Dajie provided a north-south axis for the city. Walled street blocks of various sizes were relatively independent small cities within the big city. However, every block had its gate closed at night, even including Eastern and Western Markets. Chang'an city of the Tang Dynasty boasted a population of about one million; each block was able to accommodate 10,000 people. Industrial and commercial enterprises appeared along the major communication routes in two specifically zoned market areas and near the city gates and on the two sides of the central ceremonial axis. Buddhist and Taoist temples advocated by the government spread throughout the city and could be seen everywhere, with markets around them; these were also venues for public activities and cultural exchange. Nonetheless, throughout 300 years of construction and administration, the north portion remained unused and sparsely populated.

After the fall of Tang and more than fifty years of fighting among breakaway regimes, in 960 AD Zhao Kuangyin established the Song Dynasty. Song was a dynasty whose emperors did not impose strict rules and thought on people. China enjoyed a period of economic growth coupled with great artistic and intellectual achievement but accompanied by unsound military strategies and ideologies. The capital was shifted to Bianliang (modern Kaifeng) (Figure 5) in Henan, a transportation intersection between North

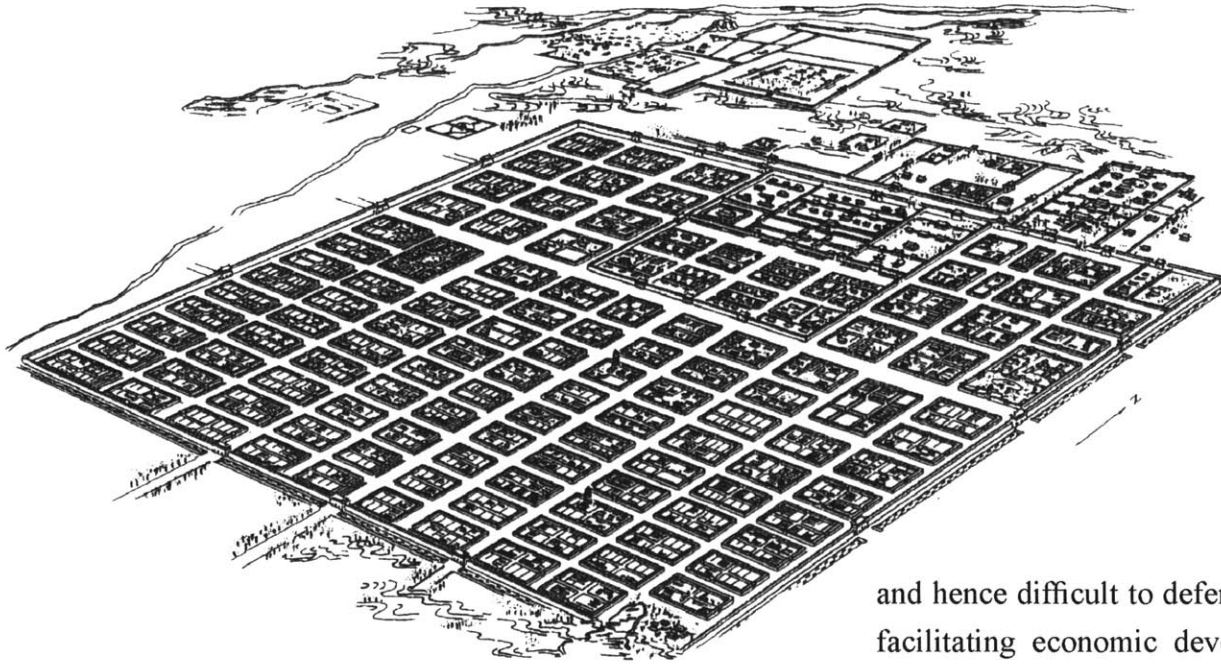


Figure 3. Perspective view of Chang'an City, Tang Dynasty
 Source: Gideon S. Golany, *Urban Design Ethics in Ancient China* (Leu-
 ington: The Edwin Mellen Press, 2001), p. 165.

and South China, and the Grand Canal and the Yellow River. The Grand Canal's route winds through some of China's most fertile and heavily populated country, making it a vital artery for moving food and goods. But even more importantly, in a country dominated by west-east-flowing rivers, the Canal provides a north-south connection between several river systems. Bianliang, located on the central section of the Canal, was the hub of traffic where goods (financial resources for the empire) converged from all directions through the canal, although the city was low and flat

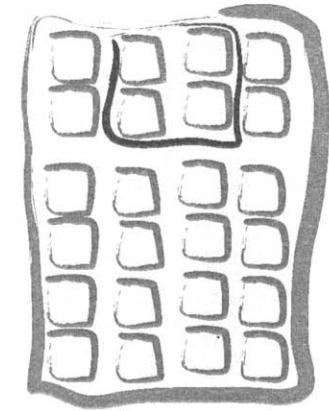


Figure 4. Chang'an city form

and hence difficult to defend.¹² Thus, macro transportation factors facilitating economic development were becoming an important consideration. Bianliang expanded three times on a small old city, whose walls and moats were thus threefold. Although its planning adhered to the traditional Chinese city philosophy, its overall shape was not rigidly square, nor were streets and lands unified and precise. "Licheng" (inner city) in the middle was rectangular in shape. North of it was the Palace City. The outer city was built for defense against aggression, with thirteen city gates and seven water gates. Due to commercial development, the Tang's "street-and-block" system was broken up and flourishing business streets were emerging, as can be clearly seen in Zhang Zeduan's "Qingming Shanghe Tu" (Riverside Scene during Qingming Festival, 1125 A.D.) (Figure 6). Four rivers flowed through the city, linked by

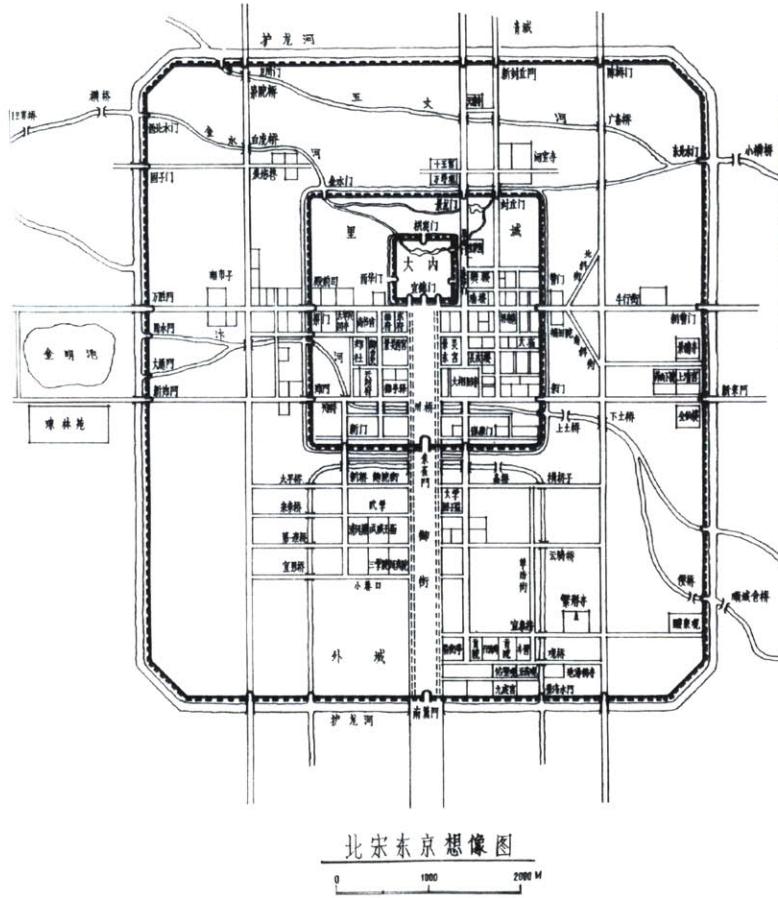


Figure 5. Kaifeng, the Eastern Capital of the Northern Song Dynasty
Source: Wu, Liangyong, *A Brief History of Ancient Chinese City Planning* (Kassel: Urbs et Regio, 1985), p. 46.

the city moats and bounding several thriving business districts. We can see the breakdown of the official marketing organization, the replacement of the enclosed marketplace with a much freer street plan.¹³ A total of thirty-three bridges enhanced the beauty



Figure 6. Life along the River on the Eve of the Qing Ming Festival, Zhang Zeduan, 11th century.
Source: Beijing Museum.

of the city. The development of urban commodity economy under the Chinese feudal form of society resulted in an inner and outer city urban structure that marked a turning point, after which cities largely exhibited similar features.

The Ming Emperor Yong Le decided to shift the capital from Nanjing to Beijing in 1419 A.D. Beijing city (Figure 7) comprehensively adopted the use of a central north-south axis (7.9 km long). Most of the main streets ran from north to south. The residential blocks were in accordance with the “Sihe yuan” courtyard pattern. The “Forbidden City” of Beijing was built on the site of the old Yuan Dynasty city. The court at the front and the living quarters at the back composed the palace buildings, with only one gate on each side of the Imperial City. Business districts were located outside the Front City Gate. It also served as the capital of the laster empire of China, Qing Dynasty.

The imperative of administrative control, from the national

明北京城圖

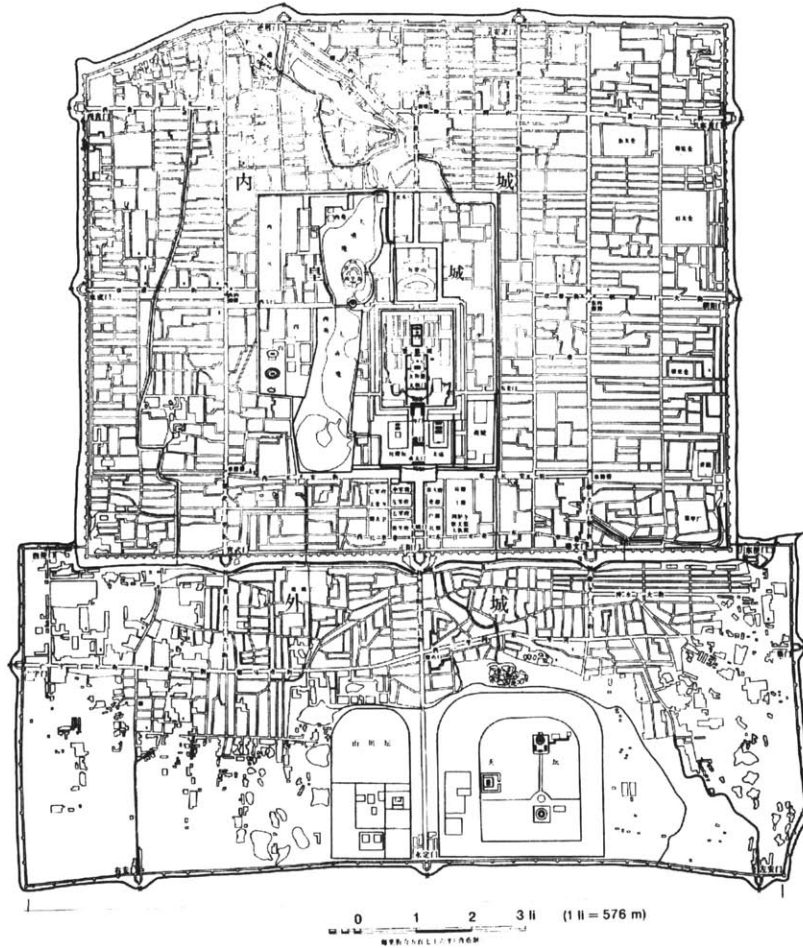


Figure 7. Beijing, Capital of Ming Dynasty
Source: Liangyong Wu, *A Brief History of Ancient Chinese City Planning* (Kassel: Urbs et Regio, 1985), p. 69.

capital through provincial and prefectural capitals, down to the *xian* (county) capital, established the framework for China's urban

system. By the late Tang and into the Song Dynasty, cities were growing additionally as commercial and trading centers, with flourishing commerce based on agriculture and transport advances.¹⁴ The large city was a multifunctional place of administration and commerce, and also of culture, education, and industrial production, which was functionally linked in mutually beneficial ways with its surrounding hinterlands. Local administrative centers were also generally political, economic, military, and cultural hubs and such cities often developed gradually and took on irregular shapes based on the various topographic, climatic, and social conditions.

B. Treaty Ports

In the 19th century and at the turn of the 20th century, certain cities along China's eastern coastline, such as Shanghai, Qindao, Tianjin (Figure 10), Dalian, and Guangzhou, came to be called treaty ports after several opium wars with Britain and other western countries. "The treaty laws gave special privileges to foreigners, permitting them to live and do business in these cities without subjecting them to Chinese laws and regulations."¹⁵ Water transport reoriented the entire urban system toward the coastal locations. Coastal locations connected to world shipping routes and the emerging international marketing network. The randomly planned and individual owner-tailored treaty ports played an important long-term role in the city evolution of the country, although the foreign intrusion had limited ability to penetrate the vast interior and traditional Chinese society and culture. The treaty port was the

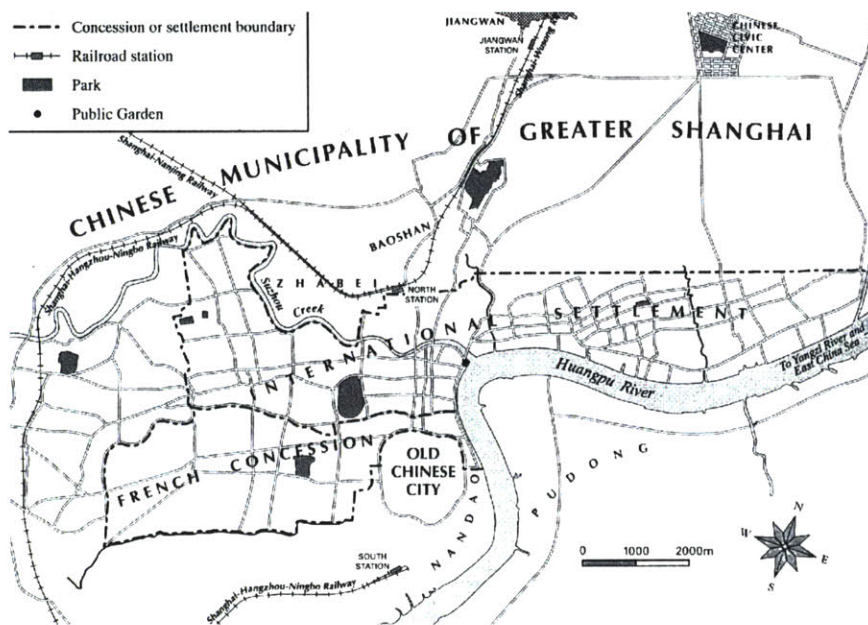


Figure 8. Old Shanghai in 1930s.
 Source: Esherick W., editor, *Remaking the Chinese City: Modernity and National Identity, 1900-1950* (Honolulu: University of Hawaii Press, 2000), p. 194.

model for rapid urban growth and development between 1842 and 1949. Large labor pools, local materials, and markets induced an inflow of foreign and domestic capital to develop manufacturing industries in these ports whose functions were commercial and industrial. Shanghai (Figure 8 and 9), commanding the estuary to the Changjiang River (Yangzi River), became the “flourishing” archetype and symbol of the foreign-dominated city. It became the largest city by 1910, with a population of more than one million. In the meantime, railroad construction linked the major nodes of the various urban systems in a vast and integrated urban and regional

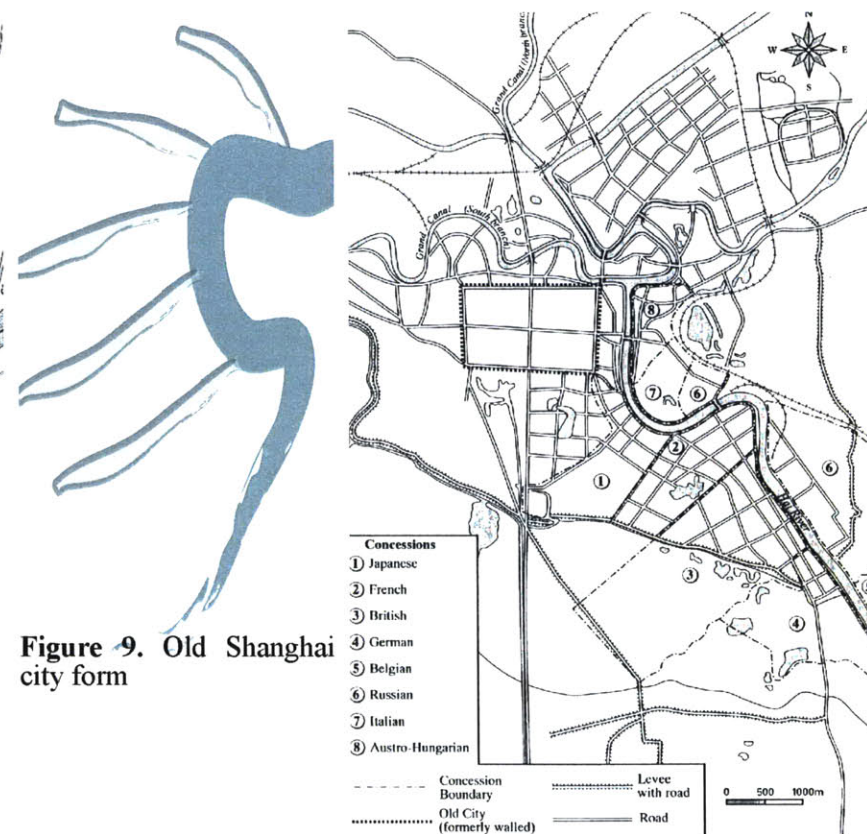


Figure 9. Old Shanghai city form

Figure 10. Tianjin in 1917. Foreign settlements occupy both banks of the Hai River southeast of the former wall city. After 1902, the Qing built a new commercial and administrative area to the north east of the old city.
 Source: Esherick W., editor, *Remaking the Chinese City: Modernity and National Identity, 1900-1950* (Honolulu: University of Hawaii Press, 2000), p. 35.

network. The two thousand years of the unified imperial urban form prototype had completely broken down.

C. Cities and Urban Planning in the Maoist Era

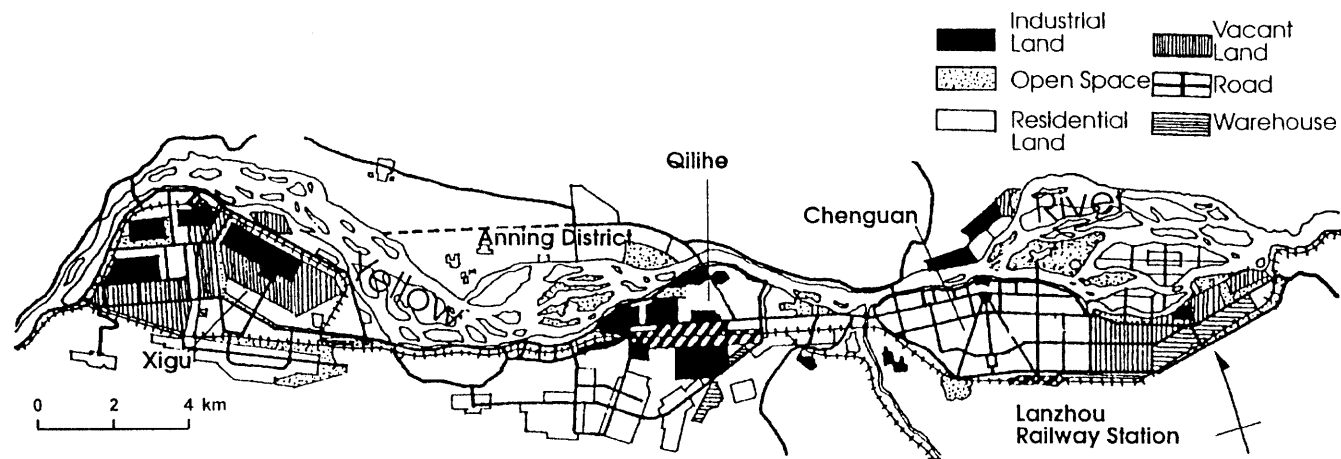


Figure 11. The master plan of Lanzhou for the First Five Year Plan of 1954

Source: Anthony Gar-On Yeh and Fulong Wu, “The Transformation of the Urban Planning System in China from a Centrally-Planned to Transitional Economy in Progress,” in *Planning* (UK: Pergamon), Vol. 51, Part 3, 1999, p. 183.

In 1949, China was a poor and backward country, and the modern industrial sector was small and mostly foreign-owned. The new leaders had their own views of the role of cities. Mao Zedong suggested “the center of gravity of the Party’s work has been shifted from the village to the city. Only when production in the cities is restored and developed, and when consumer-cities are transformed into producer-cities, may the people’s political power be consolidated.”¹⁶ Cities were categorized as “producer cities” and “consumer cities”: cities with dominant manufacturing production were deemed as “producer” and productive, whereas cities specialized in commercial, retailing, financial, and other non-manufacturing activities were categorized as “consumer,”

associated with the capitalist way of life.¹⁷ “Producer cities” were preferred. The transformation of the city from a “consumptive” to “productive” entity began. In Mao’s view, industrial cities became the focal points of government, and their purposes derived from the Marxist principle of the eradication of the three major contradictions: the contradictions between town and country, between agriculture and industry, and between mental and manual labor.¹⁸ Land, an essential component of the property industry, was nationalized and was not tradable. The state played a decisive role in the process of urbanization through central planning. Such planning affected the growth, shape, nature, and performance of (new) cities, and the rise and fall of the urban population. With central planning, urban development tasks rested completely in the state, to facilitate the paramount goal of industrialization without market mechanisms’ intervention.

Chinese urban planning methods and spatial development



Figure 12. Lanzhou city form in the 1950s

had been almost entirely determined by national development policy and central economic objectives. Before 1978 urban planning practice was limited to functionally grouping certain standard types of work-unit compounds in certain areas of the city. This created a spatially and visually homogenous and less differentiated cityscape. The city region's spatial pattern has allowed achieving the goals of urban self-sufficiency and the integration of industrial and agricultural activities through the flow of resources within the city region. As David Buck has pointed out, "the needs of production units took precedence over considerations for the environment, workers' amenities or the overall plan of a community."¹⁹ Additionally, redevelopment of the old city core, the control of the growth of the municipality, the promotion of small towns within the city region, and the integration of these planning elements were the principal goals of city planners.

A city's layout (Figure 11 and 12) was simply configured to functionally support urban productive units and provide its workers with necessary social services. Many indistinguishable districts of a city ideally were to be relatively self-sufficient, offering their

residents all or most general functions such as housing, employment, and the provision of subsistence goods and services. Controlled and walled work-units (*danwei*) embedded inside different districts provided a wide range of services for their employees: a miniature city within its wall. Industry and other functions of all scales were mixed together in close spatial proximity. Inside each work-unit production facilities and residential facilities were usually accommodated in separate structures; orderly rows of residential structures commonly consisted of "modernist" rectangular 3 to 5-story brick or precast cement buildings.²⁰ Common areas between the buildings served as bicycle parking lots, playgrounds, recreation places, and green areas. Commercial service within collective and communal enterprises reduced the functional role of small business districts. The transformation of the oldest districts of the cities was too costly or impractical to be undertaken. The notion of "city center" was different from that in capitalist cities. Commercial nodes were always either separate from the political center (typically a large public square used occasionally for political gatherings), or adjacent to the political center, to avoid "tarnishing" the lofty ideological symbolism.

In its first decade of socialist development (1949-1957), China followed the model of the Soviet Union and focused on a high rate of investment in heavy industry and producer goods to achieve the goal of industrialization and economic transformation. Soviet and Eastern European theories dominated both planning and practice. In some large cities, planners concentrated their efforts on

urban rehabilitation and community facilities that had experienced the greatest damage during the civil war. Large numbers of slums and squatter areas of the large cities were targeted for improvement by the construction of public squares and parks, and as locations for future construction. Urban housing was created to strengthen the confidence of the people in the government, in addition to numerous public buildings and cultural centers. For example, the new plan for the Tian'anmen Square complex was functionally and symbolically intended to exhibit a demand for respect and solemnity that unmistakably reflects the Soviet influence on Chinese city planning.

China enthusiastically pursued industrialization: it was a strategic decision to develop heavy industries, the responsibility of various national government ministries only, as the national backbone in major industrial bases and key cities. Large-scale suburban development, generally under the name of "new villages," was carried out around these cities.²¹ The suburban expansion of these cities, including new villages for workers that sprang up around these cities, had been so extensive that, from the beginning of 1957, planners considered the development of satellite towns around large cities, chosen on the basis of the requirements of new industries and national defense criteria, as one of the salient solutions to excessive urban growth. The concept of community planning was based on a hierarchical system of the residential classes. The residential spatial patterns (Figure 13) of the system were similar to those of the British neighborhood concept

introduced to China through the Soviet experts, but urban housing development and its related community facilities were integrated together in the Chinese context and under the administration of the municipalities.²² However, the capital and technological investment in industry far exceeded that in housing and urban utilities and aggravated the divide between city and countryside. Infrastructure and urban services were also ignored and the provision of goods for the daily consumption of city dwellers was somewhat insufficient.

During the Great Leap Forward (1958-60), the Soviet heavy industrial model was abandoned, and urban development gave equal weight to agricultural and industrial development and the rural commune system began to be established. As a result, the policy eliminated resources for urban development. The Soviet Union withdrew all aid in 1960; in this hiatus, planners themselves were reconsidering the direction, concepts, and style of urban planning and development.

The Cultural Revolution period (1966-76) after the Great Leap Forward was characterized by an emphasis on further reducing the differences between city and countryside and between industry and agriculture, mainly through self-reliance using intermediate technology and indigenous methods for community planning and construction.²³ One way to reduce the differences between urban and rural areas was to partially urbanize the countryside. Modern technology was gradually introduced into traditional rural society. A number of rural communes with industrial establishments were planned. The state provided large-scale investment to develop

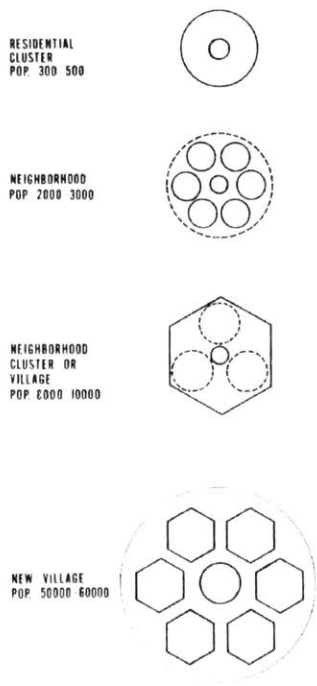
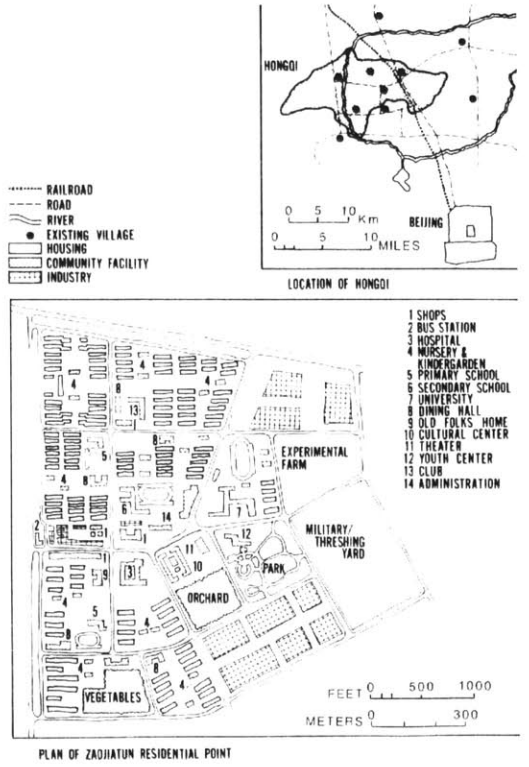


Figure 13. Residential spatial pattern
Source: Yin-Wang R. Kwok, "Trends of Urban Planning and Development in China," in *Urban Development in Modern China* (Boulder: Westview Press, 1981), editors, Laurence J. C. Ma and Edward W. Hanten, p. 156.

irrigation and drainage facilities and produce chemical fertilizers. For instance, the Hongqi People's Commune, approximately 23 km northwest of Beijing, was composed of 50 to 60 villages with the aim of developing regional industry for a more balanced agricultural and industrial growth and organizing a variety of enterprises to absorb the surplus labor force. Zhaojiatun (Figure 14) was the central residential point with 15,000 to 20,000 people. The plan of Zhaojiatun was formal yet fluid, with the changes of axes of the road network creating interesting spaces and vistas which broke the otherwise monotonous grid pattern of streets.²⁴

Petroleum-based Daqing (Figure 15), built in the bleak

Figure 14. Plans of Hongqi commune and Zhaojiatun residential point
Source: Yin-Wang R. Kwok, "Trends of Urban Planning and Development in China," in *Urban Development in Modern China* (Boulder: Westview Press, 1981), editors, Laurence J. C. Ma and Edward W. Hanten, p. 175.



environment of Heilongjiang, was an example in this period when enormous efforts were made in search of natural resource development. Workers extensively participated in decision making and plan implementation. Daqing was a new settlement and its model was to deal with (1) the reality of constrained resources and minimum state investment; (2) the national defense requirement of decentralization and self-sufficiency of settlements; (3) mass participation in community development and control.

The plan of Daqing followed a three-tier hierarchical system. Habitation points (300 households each) were separated

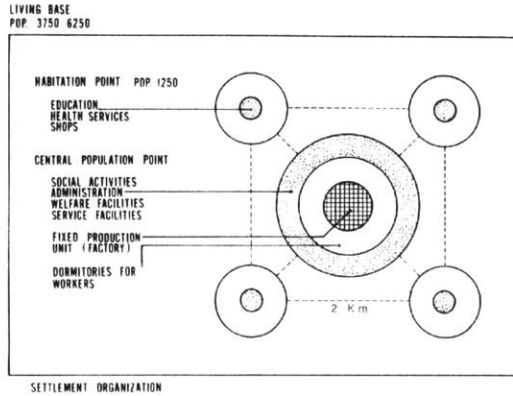
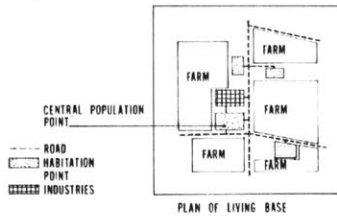


Figure 15. Settlement organization of Daqing
 Source: Yin-Wang R. Kwok, "Trends of Urban Planning and Development in China," in *Urban Development in Modern China* (Boulder: Westview Press, 1981), Lawrence J. C. Ma and Edward W. Hanten, editors, p. 179.



from each other by a distance of about two km. The only community facilities provided were related to education and health. The Living Base was the second level. Each had a population of 3,750 to 6,250, containing three to five Habitation Points and a Central Population Point. The Living Base offered a higher level of community services, including educational, health facilities, and administration, and was situated near fields to facilitate farming. Thus, other members of an oil worker's family could become involved in farming, animal husbandry, and community services. The entire city region of Daqing comprised about 30 Living Bases with a total population of 150,000 to 200,000. This type

of scattered layout pattern was adopted partly on the basis of the work requirements for oil production. Daqing became a pivotal showpiece example of the synthesis of urban and rural development in later years, which resulted in many urban centers swallowing vast rural areas to increase their population to city-status level in the 1950s and 1960s.

The ancient Chinese city form was a synthetic embodiment of cultural beliefs and political power relations; the "producer" cities of the 1950s had a linear functional layout intended only for the heavy industries promoted by the central economic plan. The designation of comprehensive economic goals for Shenzhen begins a new trajectory for city form evolution. Its earlier form was a continuation idea of the 1950s' linear functional layout. Within 23 compressed years, Shenzhen has gone from fishing town to industrialized city to a high-tech and information node of the region. Its form has gradually changed to adapt to the changing market system and ideology, as we will see, some traditional planning aspects have been adopted, albeit indistinctly, into the city's design.

(Notes)

¹ www.sinanet.com/6219011_1_gb.html (2004-04-17 02:40:47)

² Li Zhang, *China's Limited Urbanization Under Socialism and Beyond* (New York: Nova Science Publisher, Inc., 2004), p. 4.

³ In the early 1980s, some scholars suggested that a large city has 500,000 or more people; a medium-size city has 100,000 to 500,000, while a small city has fewer than 100,000 persons (Winckler, Edwin, editor, *Urban Planning in China* (National Committee on US-China Relations, 1980), p. 2.

⁴ Yu Zhu, *New Paths to Urbanization in China: Seeking More Balanced Patterns* (New York: Nova Science Publishers, 1999), p. 1.

⁵ George C.S. Lin, *Red Capitalism in South China: Growth and Development of the Pearl River Delta* (Vancouver: UBC Press, 1997), p. 7.

⁶ Liangyong Wu, *A Brief History of Ancient Chinese City Planning* (Kassel: Urbs et Regio, 1985), p. 1.

⁷ Gregory Eliyu Guldin, editor, *Urbanizing China* (Connecticut: Greenwood Press, 1992), p.188.

⁸ Liangyong Wu, *A Brief History of Ancient Chinese City Planning* (Kassel: Urbs et Regio, 1985), p. 4.

⁹ Ibid., p. 72.

¹⁰ Ibid., p. 6.

¹¹ Ibid., p. 27.

¹² Ibid., p. 41.

¹³ Spiro Kostof, *The City Assembled: The Elements of Urban Form*

Through History (Boston: A Bulfinch Press Book, 2002), p. 95.

¹⁴ Gregory Eliyu Guldin, editor, *Urbanizing China* (Connecticut: Greenwood Press, 1992).

¹⁵ Ibid., pp. 16-26.

¹⁶ Mao Zedong, in the Second Plenum of the Seventh Central Committee of the Chinese Communist Party in (1949), *Selected Works of Mao Zedong*, Vol. 4 (Beijing: Foreign Language Press), 1969, in Victor F.S. Sit, *Chinese cities: the growth of the metropolis since 1949*, quoted Dong Liming (editor, contributors, (Oxford: Oxford University Press), 1985, p. 9.

¹⁷ J. Zhu, "The Formation of a Market-Oriented Local Property Development Industry in Transitional China: a Shenzhen Case Study," in *Environment and Planning*, 1999, Vol. 31, pp. 1839-1856.

¹⁸ Victor F.S. Sit, editor, *Chinese Cities: The Growth of the Metropolis Since 1949*, Dong Liming, contributor (Oxford: Oxford University Press, 1985), p. 9.

¹⁹ Piper Rae Gaubatz, "Urban Transformation in Post-Mao China: Impacts of the Reform Era on China's Urban Form," in Deborah S. Davis, Richard Kraus, Barry Naughton, and Elizabeth J. Perry, editors, *Urban Spaces in Contemporary China* (Cambridge: Cambridge University Press, 1995), p. 30.

²⁰ Piper Rae Gaubatz, "Urban Transformation in Post-Mao China: Impacts of the Reform Era on China's Urban Form," in Deborah S. Davis, Richard Kraus, Barry Naughton, and Elizabeth J. Perry, editors, *Urban Spaces in Contemporary China* (Cambridge:

Cambridge University Press, 1995), p. 30.

²¹ Yin-Wang R. Kwok, "Trends of Urban Planning and Development in China," in Laurence J. C. Ma and Edward W. Hantep, editors, *Urban Development in Modern China* (Boulder: Westview Press, 1981), p. 150.

²² *Ibid.*, p. 153.

²³ *Ibid.*, p. 172.

²⁴ *Ibid.*, p. 174.

II. Start-Up (1978-1979)

A. Power Transition

In October 1976, less than a month after Mao's death, Jiang Qing and her three principal associates—denounced as “the Gang of Four”—were arrested with the assistance of two senior Political Bureau members, Minister of National Defense Ye Jianying and Wang Dongxing, commander of the CCP's elite bodyguard.¹ In July 1977 the Central Committee exonerated Deng Xiaoping of responsibility for the Tiananmen Square Incident (the April 5th Movement) in 1976 and he resumed all the positions from which he had been removed in 1976. During August 12 to 18, 1977, with the incarceration of the Gang, the Eleventh National Party Congress officially proclaimed the end of the Cultural Revolution.

To eradicate “leftist” influence from the Cultural Revolution and to create a secure national environment for initiating political, economic, and social reforms, Deng took three main steps. First, to establish a new balance of power that could promote and carry out a series of reform plans, Deng reinstated his former associates and personnel and others sympathetic to his reform plans; many were those purged not only during the Cultural Revolution, but as early as the mid-1950s. At the Third Plenum of the Eleventh National Party Congress Central Committee in December 1978, the party declared that the center of gravity had shifted to promoting “the Four Modernizations.”² In other words, the accomplishment of economic success would be the measure of policies and individual

leadership: economics, instead of politics, was in command. Second, to enhance mutual understanding and promote the development of relations, Vice Premier Deng Xiaoping (Figure 16 and 17) paid an official visit to the United States at the invitation of the U.S. President Jimmy Carter from 29 January to 4 February 1979. This was the first visit by a Chinese leader to the U.S. since the founding of China in 1949 and was welcomed by the U.S. government.³ In early 1977 President Carter had sent his Secretary of State, Cyrus Vance, and his White House National Security Assistant, Zbigniew Brzezinski, to visit China in August 1977 and May 1978, respectively, to hold talks on the normalization of Sino-U.S. relations. After intensive negotiations, the two sides reached three agreements and issued the Joint Communiqué on the Establishment of Diplomatic Relations between the two countries on the evening of 16 December 1978. One of Deng's motives was that new relations with the West would provide opportunities to expand trade and acquire technology.⁴

Third, the quick Sino-U.S. normalization process not only consolidated his power and inaugurated nationwide economic change, but freed Deng to launch an attack on Vietnam to punish Hanoi for its invasion of Cambodia; it served also “to clear the American flank before addressing the issue of Vietnamese imperialism.”⁵ In November 1978 Vietnam had signed a treaty of friendship and cooperation with the former Soviet Union and had begun expelling Vietnamese of Chinese descent. A month later the



Figure 16. Deng Xiaoping gave a speech at the UN in 1979.
Source: <http://museums.cnd.org/China89/images/figures/deng1.jpg>

Vietnamese invaded Cambodia and harassed the China-Vietnam border. While Deng was in Washington, he told President Jimmy Carter in a private meeting what China was about to do and why. Not only did Beijing feel Vietnam was acting ungratefully after all the assistance it had received during its Vietnam-U.S war, but also Deng saw it as a calculated move by Moscow to use its allies to encircle China from the south, which was a potential



Figure 17. Deng Xiaoping and Jimmy Carter
Source: <http://history.sandiego.edu/gen/USPics2/78520.jpg>

threat to national security.⁶ The war lasted 17 days, starting early in the morning of February 17, 1979. Although the war made a clear political point—that the Chinese could take Hanoi, if they wished⁷—the loss of soldiers' lives was tremendous: some 20,000 Chinese soldiers died, by China's own estimate. The degree of ferocity and the rate of casualties on the other side, as described by Vietnamese, were enormously greater than anything they had experienced with the U.S.



Figure 18. The location of Shenzhen is in the southern part of Guangdong Province, adjacent to the New Territories of Hong Kong.

Source: http://www.monroe.k12.fl.us/cls/Immigration/Chinese2/where_did_the_chinese_come_from.htm

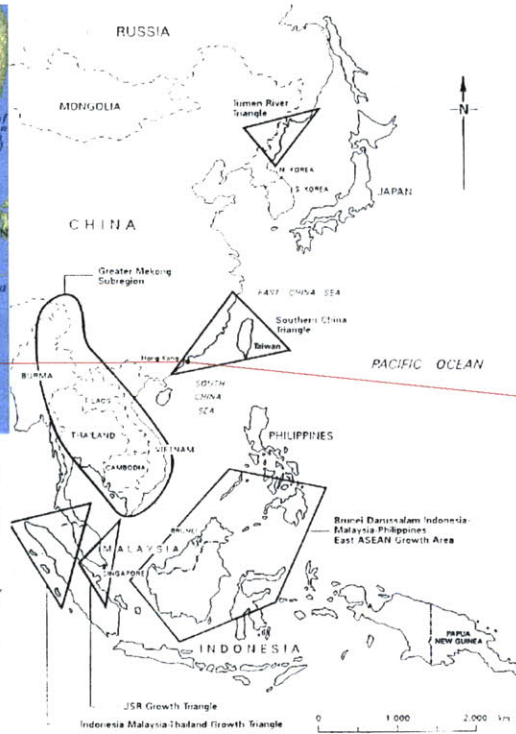


Figure 19. Emerging subregional economic linkage and growth triangles in Pacific Asia

Sources: Yue-man Yeung, *Globalization and Networked Societies* (Honolulu: University of Hawaii Press, 2000), p. 47.

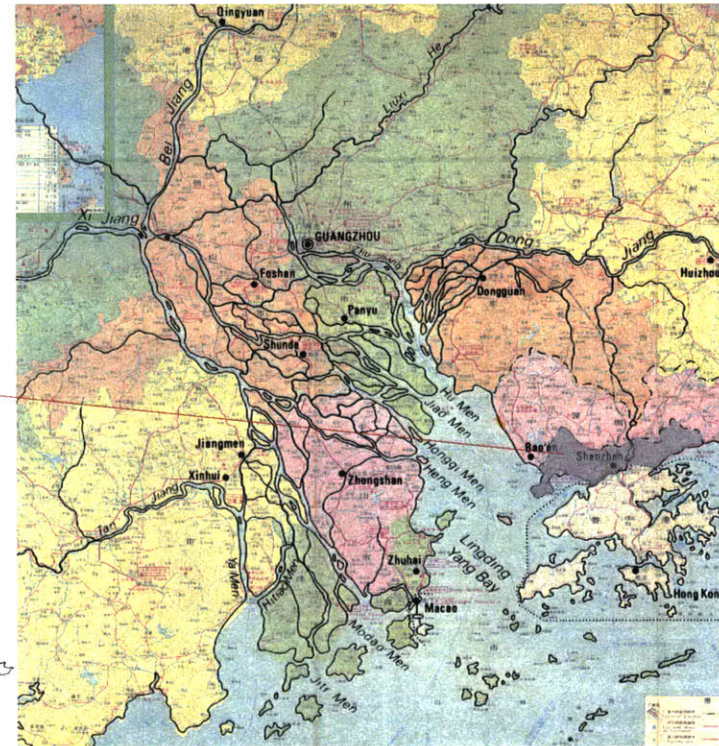


Figure 20. Pearl River Delta

The war also showed China, as well as Deng, how outdated its technology was and how weak was its economic system. Both had been hampered by the ten-year Cultural Revolution and the 30 years of isolation from Western countries. China lagged behind not only the industrialized nations of the West but also the new industrial powers of Asia: Singapore, Japan, South Korea, and Chinese Taiwan and Hong Kong. However, there were no universal

theories and ready models for China's modernization process.⁸

Deng's reform plans and "Open Door Policy" for China's social and economic systems were highly risky, both politically and practically, especially so few years after the Cultural Revolution, because there was no model to follow as to how to evaluate the market mechanism in a socialist country with a population (in 1982) of one billion. "Once and for all," abandoning previous economic structures and adopting market mechanisms, would cause

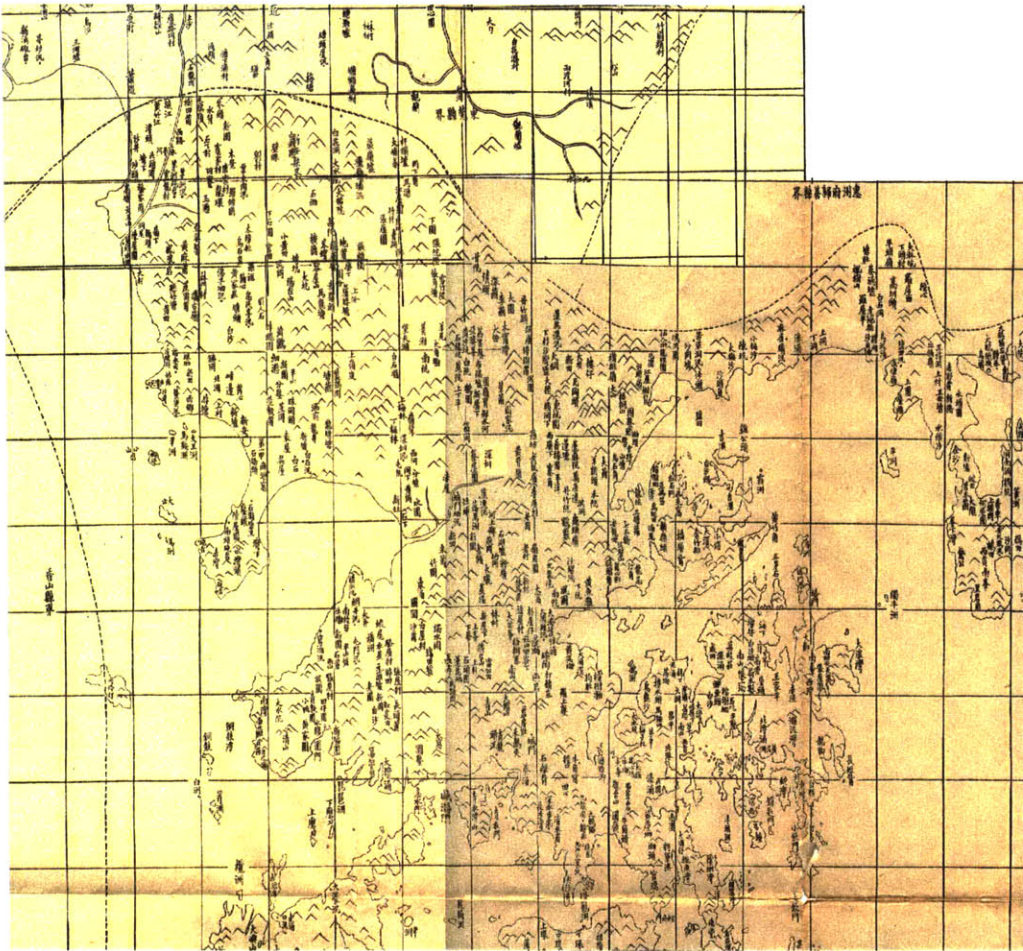


Figure 21. Xin'an County Map, 1909

Source: Guangdong Yu Di Quang Tu [Guangdong Map], *The Great Empire of Qing, 1909* (Xuan Tong), Yenching Library, Harvard University.

imminent macro-economic, and even social, chaos. This latent risk made Deng opt for an incremental process of reform: rather than subverting the remaining socialist framework through “shock therapy,” reform strategies would incorporate capitalist elements into the existing socialist economic system. The reform program was to make current institutions work better by considerably increasing the role of the market in the system and by reducing—



Figure 22. The old Shenzhen Town, 1982

Source: Haitian Publishing House, *Chronicle of Shenzhen* (Shenzhen: Haitian Publishing House, 2000), p. 306.

not eliminating—government planning and direct control. Despite ongoing criticism and debate, a decision to undertake a process of gradual but fundamental reform of the economic system was reached at the milestone Third Plenum of the Eleventh National Party Congress's Central Committee in December 1978. New capitalist and market-oriented measures and mechanisms would first be introduced experimentally in a few localities, and then would be popularized and disseminated nationally if they proved successful: “crossing the river while feeling the stones.”⁹

B. Fulcrum

During 1949-60, China accepted assistance only from the Soviet Union for instituting a centrally planned economy and establishing the industrial base and infrastructure of the country. The two countries' relationship broke down in 1960 and the Soviet Union immediately withdrew all loans and specialist and technical personnel. From 1967 to 1977, China was virtually isolated from the rest of the world during the Cultural Revolution. It then seemed that China's modernization could only be achieved through co-operation with developed countries and her Southeast Asian neighbors (Figure 18 and 19), such as Singapore, Hong Kong, South Korea, Japan, and Taiwan.

In the spring of 1977, the leader of the National Financial Department, Zhang Jinfu, made a working visit to Shenzhen. He found that many peasants were giving up their farming lands and escaping to Hong Kong. Private trading along the border between Shenzhen and Hong Kong was abnormally active, considering the state-owned economic system, and was benefiting some peasants. Research in April 1978 by the National Planning Committee and the Ministry of Foreign Economic Relations and Trade (MOFERT) of the State Council on the economics of Hong Kong and Macao suggested establishment of "special export zones (bases)" in Shenzhen and Zhuhai (Figure 20). On January 31st, 1979, the Central Government authorized the China Merchants Steam Navigation Co. Ltd (Hong Kong) to rent the western peninsula (9 sq km) of Shenzhen, Shekou, to create a separate industrial zone.

The geographic location of Shenzhen (Figure 20), nestled in the south coastal area of Guangdong Province and separated by Shenzhen River from Hong Kong, attracted Deng's attention. The city is only 50 km from the center of Hong Kong.¹⁰ Additionally, since the early fifteenth century onwards, significant numbers of people from Guangdong had emigrated to various parts of the world, most of them to Southeast Asia and Hong Kong. By the 1980s, thirty-five-thousand overseas Chinese were from the Shenzhen area.¹¹ Cantonese (Guangdong Hua) is widely spoken in the Shenzhen area and Hong Kong. Therefore, besides its attractiveness to foreign investors, the city would have particular appeal, through kinship and culture, to overseas Chinese entrepreneurs. Based on the rapidly changing situation and extensive consideration, in spring 1978 at the Central-South Sea Palace in Beijing, Deng said, "Make Shenzhen a special zone!" He needed a fulcrum to upend the rigid planning system, initiate an efficient system that could thoroughly liberate productive forces, and integrate China into the international trading system. He sensed that the coastal region of southern China could become an economically active fulcrum for the rest of China if assisted with special policies and measures to "strive for the utilization of international capital and advanced technology to assist [China's] economic development."¹² In late 1978, the emerging idea of "special zone," different from the mainstream to undertake certain economic development tasks, was becoming popular among some open-minded party leaders.

In 1979 the county was renamed from Bao'an County to Shenzhen (Figure 21 and 22) and upgraded to municipal status under the direct rule of the Guangdong provincial government.¹³ This status meant it could have greater autonomy in approving foreign investments. At the end of 1978, the Shenzhen SEZ had initially been envisaged almost as a replica of the Export Processing Zones of other countries in East and Southeast Asia, and was regarded as a "special export base" in the report by Wu Nansheng, one of the Guangdong administrative committee. It was considered likely that foreign capital would use it as such, and thus smaller and more entrepreneurial capital could be attracted into joint ventures (JVs) with large state firms, with a view to reorganization and technology transfer. Foreign capital could thereby be contained within the central plan. To cover the city's comprehensive role, the term was later changed to "special economic zone" at a working meeting for Guangdong and Fujian provinces that was headed by Vice Prime Minister Gu Mu in March 1980. Its official size and status were subsequently addressed in the Regulation on the Special Economic Zone of Guangdong Province in August 1980 that was formally approved and promulgated by the Standing Committee of the National People's Congress. The committee decided to designate southern areas in Shenzhen City for the establishment of a Shenzhen Special Economic Zone (SEZ) covering primary, secondary, and tertiary activities. The city was planned to be under separate administrative and political tutelages from the very beginning to ensure its success and to minimize red

tape. Although the city was under the direct rule of the Guangdong provincial government, a city office was created under the Ministry of Foreign Economic Relations and Trade (MOFERT) of the State Council for keeping constant contact with other authorities in the central government and their subordinates. This arrangement provided a certain political independence to the city.

C. Coastal Regions

Due to the importance of national security and spatial and social equity considerations (as early as 1956, Mao had identified the contrast between the coastal provinces and the sparsely populated central and interior western provinces as one of the ten major contradictions of China), much investment was concentrated on interior "producer" cities, such as Lanzhou, Wuhan, Xi'an, and Chongqing. A new pattern of industrial locations with centers removed from the coastal areas was created. Nevertheless, the social-economic reform in China after Mao's era has started from coastal cities such as Shenzhen in Guangdong Province.

Beginning in 1979, the reform attempted to loosen the domination of governmental structures over production decisions, and the barriers to rural-urban migration were significantly reduced as a part of reform. The Chinese now believed that a better spread of the urban population among medium-sized and small cities was essential, and therefore the further growth of the large cities (multi-million populations) must be strictly limited. Development strategy in China shifted to the growth of nonagricultural activities in the



Figure 23. LANDSAT image of the PRD and Shenzhen SEZ, taken on February 10, 1977

Source: <http://svs.gsfc.nasa.gov/vis/a000000/a002900/a002911/index.html>

countryside, and small towns were “the lowest level of a hierarchy of central places that culminates in the great economic centers of China’s macroregions,” while urban areas are for the central-place hierarchy of economic, political, and administrative characteristics of settlements.¹⁴ Over a long historical period, rural towns, identified as the base of the system, were the centers of peasant marketing. Rural residents now have assumed new economic roles and are deeply involved in the process of industrialization, even urbanization, which is typically exclusively urban in other national contexts. “There has not been significant industrial growth in the

major urban centers as the dominant paradigms might predict and as was Chinese practice in the 1950s.”¹⁵ It seems that the socioeconomic reforms from the central government have been intended to shift the focus back to rural areas. This time Chinese industrialization and even urbanization have been partially initially led by rural town and countryside development.

In the coastal regions, Guangdong and Fujian were specially granted a high degree of provincial autonomy and the provincial governments were authorized to solicit investment funds from abroad, including overseas Chinese. Three out of four Special Economic Zones (SEZs) were located in the Pearl River Delta region (PRD) (Figure 23), Guangdong province, as part of the effort to encourage technological and financial transfer from abroad. In

1985, the PRD region was designated an "Open Economic Region" including four cities and 12 counties, covering an area of 22,700 sq km. In December 1987, the Open Zone was expanded to include seven cities and 21 counties, constituting an area of 45,005 sq km,¹⁶ with existing population in the region of more than twenty million, excluding that of Hong Kong and Macao. The reform initiated significant economic and administrative changes that also consequently triggered the city landscape change and the start of regional urbanization. The rural economy of the PRD region has developed beyond its traditional definition.

D. Edge County

Shenzhen SEZ was a rural area located in the PRD. Deng's overall plan extending tested local market mechanisms to other regions designated Shenzhen as a Special Economic Zone (SEZ) serving as an experimentation and observation lab for China's entire social and economic reform program, an important component of the open policy. It was not until thirteen years after, in the 1990s, that thorough economic and social reform were extended to Shanghai, one of the most important industrial cities in eastern China.

Chinese control over the area of what is now known as the Shenzhen Municipality dates back as early as the Qin Dynasty. In 214 B.C., after the first emperor of China, Qing Shihuang, shattered the Chu State, he sent General Wang Jian and his half-million troops to Lingnan Territory to incorporate this area as part of Qin. Consequently, the Central Culture for the first time

penetrated into the territory. It was not until the Ming Dynasty that more people began to settle in this area, which was considered by the Ming emperors to be strategically important enough to justify fortification. Accordingly, a walled-garrison town was established to secure the area. This part of China was given different administrative names: Dongguang County in the Song Dynasty, Xin'an County in the Ming Dynasty, and Bao'an County after the Revolution of 1911. Nantou, a garrison town 20 km west from the present Shenzhen SEZ downtown, was its county seat, the major political and economic center of the county for the Ming and Qing Dynasties. It served, among other functions, as the regional market center for the south-central part of the area plus a substantial portion of what is now the northern part of the New Territories of Hong Kong.¹⁷ The name "Shenzhen" did not appear in historical documents until the 17th century when the Qing Dynasty (Figure 21) government built defense towers in Bao'an and named one of them Shenzhen. In 1843, after the First Opium War, Hong Kong, an island with a few fishing villages, was forcibly ceded to Britain by the Treaty of Nanjing. Kowloon Peninsula and Stonecutter's Island were ceded to Britain by the First Convention of Beijing in 1898. In 1911, when the Kowloon Canton Railway was built between Hong Kong and Guangzhou, a small station was set up in Shenzhen.¹⁸

After the establishment of the People's Republic in 1949, the county's frontier position with the British colony, Hong Kong, made it a restricted area. Bao'an remained a small town until 1979,

with a population of approximately 358,267 (1979). The population density was about 158 persons/sq. km.¹⁹ It had a weak industrial base, low agricultural and industrial production, and none of the facilities of a modern city and remained very much a rural market town serving the basic needs of the adjoining villages, despite its proximity to Hong Kong.

The traditional Chinese culture usually gives high priority to geographical centrality. Shenzhen is at the very edge of China. For this small frontier town to be a priority in the central economic planning perspective would normally seem unlikely, mainly due to military and strategic considerations related to its potential frontline position in the event of any seaborne invasion. However, it was to become the experimental center in Deng's comprehensive social reform movement.

E. Observation Lab

Deng's overall plan, extending tested local capital mechanisms within a socialist framework to other regions, designated Shenzhen as a Special Economic Zone (SEZ) serving as an experiment and "observation lab" for China's entire social and economic reform program. In 1978 the State Council approved this plan. Hong Kong, as a leading financial and manufacturing center in Asia (Figure 24)), would be able to provide Shenzhen with diverse information, banking, and other financial services as well as management expertise that could spread to the rest of China. It seems that it was never in the central planners' minds to

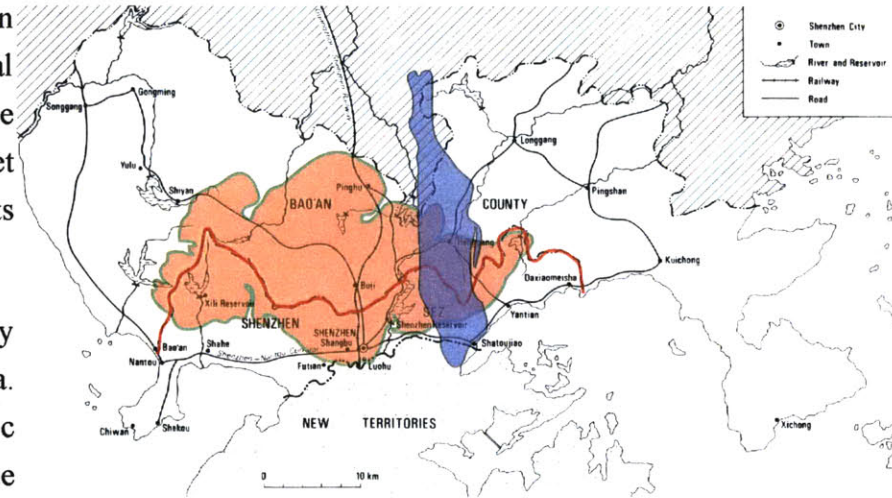


Figure 24. Size comparison among Shenzhen SEZ, New York, and Singapore

utterly replace the centrally planned system with a capitalist market economy, but only to make the existing political system more efficient.²⁰ The reforms started in a top-down manner aiming to shake up the existing political regime and were meant to improve productivity and enhance economic efficiency. The city would assume the role of a gateway regarding opening to the world and of a vanguard in restructuring China's economy²¹—"a window of China." Shenzhen, along with other SEZs, was expected to be an engine to accelerate inland development. It was not until thirteen years after, in the 1990s, that thorough economic and social reform were extended to Shanghai, one of the most important industrial cities in eastern China.

On April 5th, 1979, at the central government working

meeting in Beijing, Deng told the head of Guangdong Province, Xi Zhongxun, that “the central government has no financial assistance available for the special zones. The local government itself must figure out methods of development...” While the central government was providing the open door policy, localities were expected to fund the construction of their own infrastructure. Thus, attracting foreign capital to assist in the reconstruction of the nation’s economy, industry, and infrastructure was the pivot of policy-making in all SEZs. The Guangdong government at that time contributed very little to the central government’s coffers and what changed was that the central state loosened its constraints on local economic development to permit “moving one step ahead.” Thus Shenzhen could be an experiment with negligible investment from Beijing and with little risk to the national budget.

At the beginning, investments were mainly from domestic sources. It was not until 1985, when the whole of the Pearl River Delta (PRD) region was opened to foreign capital, that the rise of the city became unstoppable.²² The overseas Chinese (Taiwan and Hong Kong) dominated investment flows into the PRD region. Shenzhen had developed as an enclave for testing out capitalist ways of production. Since then, SEZs have become the barometers of the openness of China.

The initial objectives of the city were briefly stated in 1985 by the first mayor, Liang Xiang:

The founding of special economic zones is an

important component of the open policy that is being practiced in China. Shenzhen is not only one of the important gateways with regard to opening to the outside world, but is also a vanguard in restructuring our economy. Over the years, in line with the directive given by the Central Government that “special things should be dealt with in special ways, and new things in new ways; retain the same stand while adopting completely new methods” and that “reforms in the SEZ should be conducted beyond the existing framework, it will inspire cadres and people of the special zone to carry forward the spirit of a “wasteland-reclaiming-buffalo” and to keep making strenuous efforts to scale new heights, conducting reforms and innovations, and charging ahead in a pioneering spirit to turn Shenzhen as soon as possible into a socialist special economic zone with an export-oriented, multi-functional, technically advanced, efficiently managed, and highly civilized composite economy based mainly on its industry with a rational production structure.

23

F. Encapsulated Zone

Deng needed a fulcrum that had an advantageous geographical location exposed to the flow of capital, technology, management skills, materials, financial services, and information. Additionally, foreign participation should be extensive: housing, real estate, retail sectors, entertainment and infrastructure development, as well as in industry. Its direct linkages with the local economies

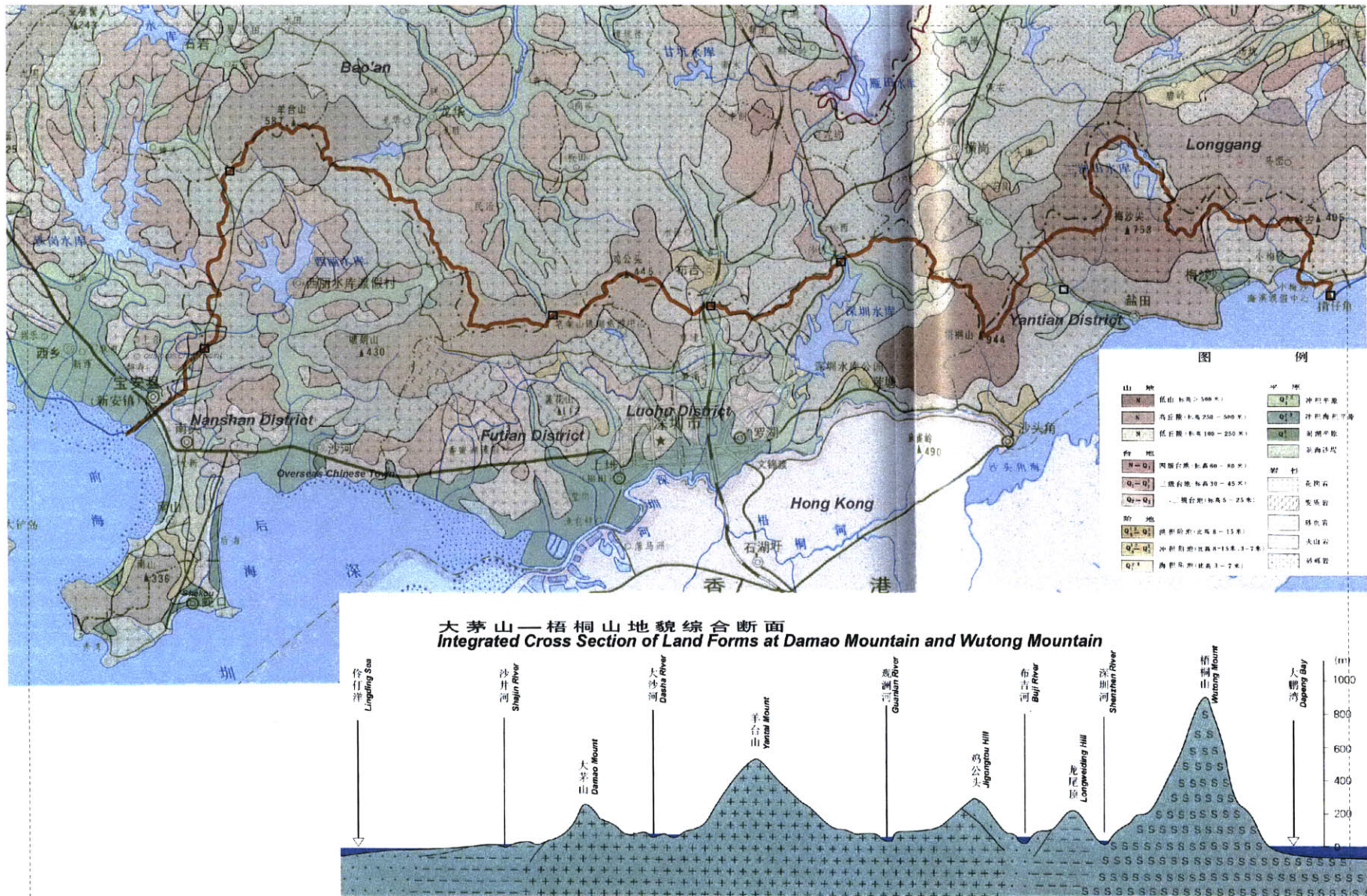


Figure 25. Shenzhen SEZ geographical land typology

LAND TYPE	AREA (HA)	AREA SUITABLE FOR URBAN DEVELOPMENT (HA)
Flat land	7,260 (22.2%)	7,260
Built-up area	1,740 (5.3%)	1,740
Rolling/undulating	5,730 (17.5%)	2,000
Low-lying	1,460 (4.4%)	—
Hilly	15,910 (48.6%)	—
Water surface	650 (2.0%)	—
Total	32,750 (100.0%)	11,000

Figure 26. The classification of land of Shenzhen SEZ
Source: Kwan-yiu Wong, and David K. Y. Chu, editors, *Modernization in China: The Case of the Shenzhen Special Economic Zone* (Oxford: Oxford University Press, 1985.)

in which it was set were not initially actively sought or anticipated. Nonetheless, it was also critical that this testing territory be well under control: its success would have significant implications for the whole country, while its unlikely failure effects would be containable.

Having witnessed the rapid growth of economic processing zones in some Third World countries in the 1970s, the Central Government announced the official establishment of Shenzhen “Special Export Zone” on July 15th, 1979. The originally planned population was 350,000, of which 77 percent was to be agricultural population. In order to cover the comprehensive characteristics, tasks, and functions of the Shenzhen Special Zone, its name was formally changed in March 1980 to Shenzhen Special Economic Zone.

The boundary of the Shenzhen SEZ was delineated, stretching 84.6 km from Beizhajiiao to its west, through Wutong Mountain, Jigongling, Tanglang Mountain, Xili Reservoir, and Nantou to Shekou, with an average 7 km width from north to south (Figure 25). This zone in China differs from the export processing zones of other countries by its comprehensiveness and flexibility. Within SEZ boundaries, not only were export processing activities promoted, but also agriculture, tourism, and real estate development.²⁴ To prevent smuggling, an 80-km-long abaties (Administration Line or Second Line), 2.8-meter-high wall, and seven-meter-wide patrol road were constructed in May 1982, with six joint checkpoints established along the path. The SEZ city’s official boundary was thus finalized. It was an enclave and controlled area testing free-market principles that could later integrate with the world economy.

The size of Shenzhen SEZ, 327.5 sq km, has remained unchanged. But in 1993, Shenzhen City’s boundary was expanded when Bao’an County was redivided into two districts that form the two northern parts of the non-SEZ section (with an area of 1692.5 sq km), which were placed under Shenzhen Municipality’s administration.

G. Linear Form

Shenzhen (22°N, 113°E) (Figure 25) is located in the southern part of Guangdong Province, adjoining the New Territories

of Hong Kong, and with the Zhu Jiang Kou (Pearl River Estuary) to the west, resembling a basin surrounded by hills of about 500 m on the north, south, and east banks. The Shenzhen River, 35 km in length, is the longest stream that separates mainland China and Hong Kong. Additionally, there are nine reservoirs of various sizes serving the dual purposes of irrigation and flood prevention, most of which were built in the 1950s and 1960s. Since the later 1960s, the Shenzhen Reservoir has provided local and Hong Kong people with potable water and resort sites. Two bays form the scenic southern coastline of Shenzhen: Shenzhen Bay and the deeper Dapeng Bay.

Shenzhen SEZ has a rugged topography (Figure 26) and a humid monsoonal climate. Most of the mountains in Shenzhen are aligned in a northeast-southwest direction. Interspersed between mountains are rolling hills and river valleys of various sizes between 200 and 400 meters. The settlement pattern of Shenzhen has been dictated by this rugged landscape. Most of the SEZ is settled along the seaside platform and plains area in the southwest of Shenzhen City. The majority of the flat land suitable for large-scale city development is confined to the western coastal lowlands and to the valley floors. Railways and roads, especially in the central part of Shenzhen, usually follow these valleys.

The landform of the city rises at the northeast corner and falls towards the southwest. Overall, the hills take up 48.6 percent of the total land and flat land percent. Extensive linear flat lands, requiring relatively little reclamation or leveling and suitable

for large-scale urban and economic development, are along the Shenzhen-Nantou corridor. Wutong Mountain has the highest peak at 943 meters above the Yellow Sea.²⁵ The northern and eastern lands are mainly rolling, hilly regions endowed with great scenic beauty favoring the development of tourist or holiday resorts. Outside the Second Line of the SEZ, vast stretches of agricultural land in Bao'an and Longgang counties are suitable for farming as well as for aquaculture, providing an important base of food production for the city and also for export.

Because of heavy rainfall, the more soluble elements in the soil are leached and residual oxides, especially iron compounds in the surface layer, render the soil deficient in nitrogen and give it its typical red color.²⁶

H. Shekou Industrial Zone

Shenzhen's western peninsula, Shekou, 30 km away from downtown Shenzhen, was entrusted to the China Merchants Steam Navigation Co. Ltd of Hong Kong (CMSN) (under the Ministry of Communication) as Shekou Industrial Zone within Shenzhen SEZ in July 1979, before the official establishment of Shenzhen SEZ. But for administrative reasons, it was under the administration of the Real Estate Company of Shekou Industrial Zone, a subsidiary of CMSN. Shekou was conveniently situated next to a potential port, Bani reservoir, and the electrical network, 50 km away from the central district of Hong Kong.

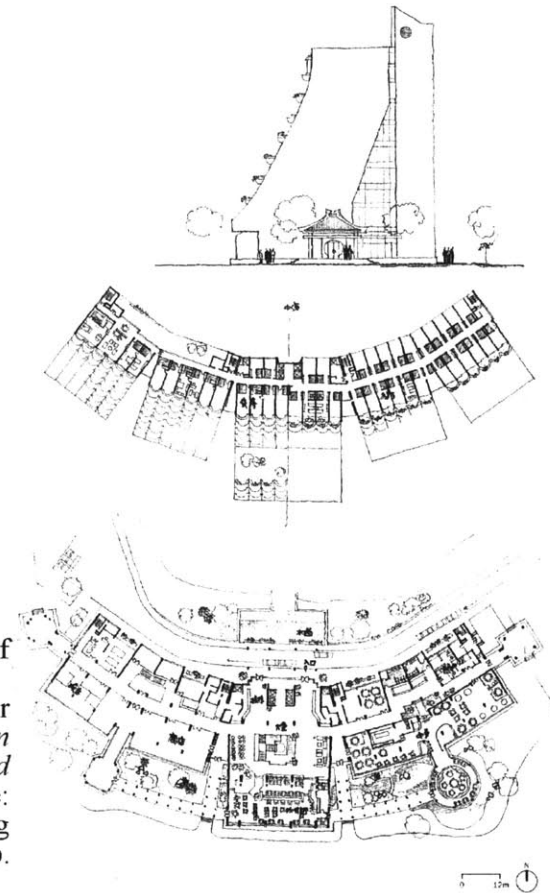
The development plan for Shekou was disclosed on

December 27, 1979, including a detailed land use zoning map. A total of 266,100 sq m area was distributed to heavy, light, and chemical industry, producing goods for export.²⁷ Shekou specialized more in heavy industrial development than any other area within the SEZ. Most of the investment types by then were “sole proprietorships.” These included the manufacture of containers, iron and steel, ship dismantling, aluminum rolling, oxygen production, and flour milling.

The construction of Shekou began from “standard mentality” “five linkages and one leveling,” which included: (a) a road link, (b) a telephone link, (c) an electricity link, (d) a navigation link, and (e) land leveling. “Leveling the land prior to construction work regardless of the topography of the site and the nature of the project is a highly questionable approach, one that fails to respect the environment and ecology. This mentality has also been responsible for the severe land erosion in Shenzhen in the past two decades.”²⁸

The main public and office buildings were grouped and orientated toward the sea. Guishan Villa sat half way up Guishan Mountain, overlooking “the World of the Sea,” a tourism boat whose name was written in Deng’s own hand. To avoid competing with the massing of the hills, the early residential plan of mimicking massive high-rise clusters in Hong Kong was abandoned. Most residential buildings were 5 to 6 stories high. This made possible keeping more green spaces, which might be more attractive to

Figure 27. The plan of Nanhai Hotel
 Source: The Master Architect Series III, *Chen Shimin: Selected and Current Works* (Mulgrave: The Images Publishing Group Pty Ltd, 1998), p. 62.



foreign investors. The designs for mixed-use residential buildings referred to the models in Hong Kong, because most of them would be purchased by people from Hong Kong. Commercial space occupied the first two stories, with two- or three- bedroom apartments (5-15 sq m each) above. High-rise architecture, 15 to 20 stories high, was placed in the central area of the zone.



Figure 28. Nanhai Hotel

Source: *The Master Architect Series III, Chen Shimin: Selected and Current Works* (Mulgrave: The Images Publishing Group Pty Ltd, 1998), p. 62.

Located on the hill side of the south tip of the peninsula, Nanhai Hotel (Figure 27 and 28) took advantage of the fan-shaped massif to merge into a backdrop of hill, facing the open sea view. Five rectangular building blocks form the master plan, distributed along a curved corridor that echoes the seashore line. The main feature of the hotel is their terraced forms, with each ascending floor set further back. To gain the full benefit of the site, and to be seen by passengers taking hovercraft from Hong Kong to Shekou, the hotel was raised one story.²⁹ Factory construction was standardized: light, dismantlable, flexible.

Shekou also provides port facilities for the SEZ. Chiwan, to the south-west of Shekou, will be developed into a ship repair and maintenance base for offshore oil drilling in the South China

Sea. Therefore, a deep-water wharf that can handle ships up to 10,000 tons was constructed, which also is used by the passenger hovercraft connecting with Hong Kong.

(Notes)

¹ <http://www.chinavoc.com/history/peoplerepublic.htm>.

² <http://english.peopledaily.com.cn/dengxp/vol2/note/B1720.html> and http://memory.loc.gov/frd/cs/china/cn_glos.html. These refer to the modernization of China's industry, agriculture, national defense, and science and technology. They were the core of a development strategy aimed at turning the country into a relatively advanced industrialized nation by the year 2000. The concept was embodied first in the Third Five-Year Plan (1966-70), launched in earnest by Zhou Enlai at the Fourth National People's Congress (1975), and adopted as the official party line at the Third Plenum of the Eleventh Central Committee (December 1978).

³ <http://www.fmprc.gov.cn/eng/5693.html>

⁴ Nancy Bernkopf Tucker, *China Confidential: American Diplomats and Sino-American Relations, 1945-1996* (New York: Columbia University Press, 2001), p. 283.

⁵ *Ibid.*, p. 345.

⁶ <http://www.time.com/time/asia/magazine/99/0927/pingxiang.html>

⁷ Nancy Bernkopf Tucker, *China Confidential: American Diplomats and Sino-American Relations, 1945-1996* (NY: Columbia University Press, 2001), p. 346.

⁸ Clifton W. Pannell, "China's Continuing Urban Transition," in *Environment and Planning*, Vol. 34, pp. 1571-1589.

⁹ Jack F. Williams and Robert J. Stimson, editors, "Shenzhen: The

Pioneer City in China's Economic Transition," in *International Urban Planning Settings: Lessons of Success* (NY: JAI, 2001), p. 163.

¹⁰ Wong, Kwan-yiu, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (HK: Hong Kong Geographical Association, 1982), p. 10.

¹¹ Jingjin Pan, editor, *Shenzhen de jue qi [The Development of Shenzhen] (in Chinese)* (China: China Archives Publishing House, 1999), p. 7.

¹² *Yearbook of China's Special Economic Zones*, 1985, p. 106.

¹³ Edward S. W. Woo, "Synthesis of Economic Reforms and Open Policy," in Yeung, Y.M., editor, *Guangdong: Survey of a Province Undergoing Rapid Change* (Hong Kong: The Chinese University of Hong Kong, 1994), p. 451.

¹⁴ Gregory Eliyu Guldin, editor, *Urbanizing China* (Connecticut: Greenwood Press, 1992), p. 186.

¹⁵ *Ibid.*, p. 210.

¹⁶ Anthony Gar-On Yeh and Mee Kam Ng, editors, *Planning for a Better Urban Living Environment in Asia* (UK: Ashgate Publishing Limited, 2000), p. 73.

¹⁷ Kwan-yiu Wong, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (Hong Kong: Hong Kong Geographical Association, 1982), pp. 16-19.

¹⁸ Mee Kam Ng, "Sustainable Development in the Rapidly Growing Socialist Market Economy of Shenzhen," in *DISP* no. 151, 2002, p. 42. (<http://www.orl.arch.ethz.ch/disp/issues/151.html>)

- ¹⁹ Kwan-yiu Wong, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (Hong Kong: Hong Kong Geographical Association, 1982), pp. 5-10.
- ²⁰ Jieming Zhu, *The Transition of China's Urban Development: From Plan-Controlled to Market-led* (London: Praeger, 1999), p. 3.
- ²¹ Xiang Liang, "Scaling New Heights and Opening Up a Path for Advance," in *New Look of Shenzhen Special Economic Zone* (Beijing: The Red Flag Publishing House, 1985), p. 1.
- ²² Tracy Noet, "The South-East: The Cutting Edge of China's Economic Reform," in Godfrey Linge, editor, *China's New Spatial Economy: Heading Towards 2020* (Oxford: Oxford University Press, 1997), p. 75.
- ²³ The Red Flag Publishing House, *New Look of Shenzhen Special Economic Zone* (Beijing: The Red Flag Publishing House, 1985), p. 2.
- ²⁴ Kwan-yiu Wong, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (Hong Kong: Hong Kong Geographical Association, 1982), p. 4.
- ²⁵ Shenzhen Urban Planning and Land Administration Bureau, *Shenzhen: An Emerging Metropolis* (Shenzhen: Shenzhen Urban Planning and Land Administration Bureau, 1999).
- ²⁶ Kwan-yiu Wong, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (Hong Kong: Hong Kong Geographical Association, 1982), pp. 5-15.
- ²⁷ Kwan-yiu Wong, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (Hong Kong: Hong Kong Geographical Association, 1982), p. 43.
- ²⁸ Kai Vockler, *Beijing Shanghai Shenzhen* (Frankfurt: Campus Verlag, 2000), p. 548.
- ²⁹ The Master Architect Series III, *Chen Shimin: Selected and Current Works* (Mulgrave: The Images Publishing Group Pty Ltd, 1998), p. 62.

III. Zone (1980-1992)

A. Backyard Workshop Zone and Kinship

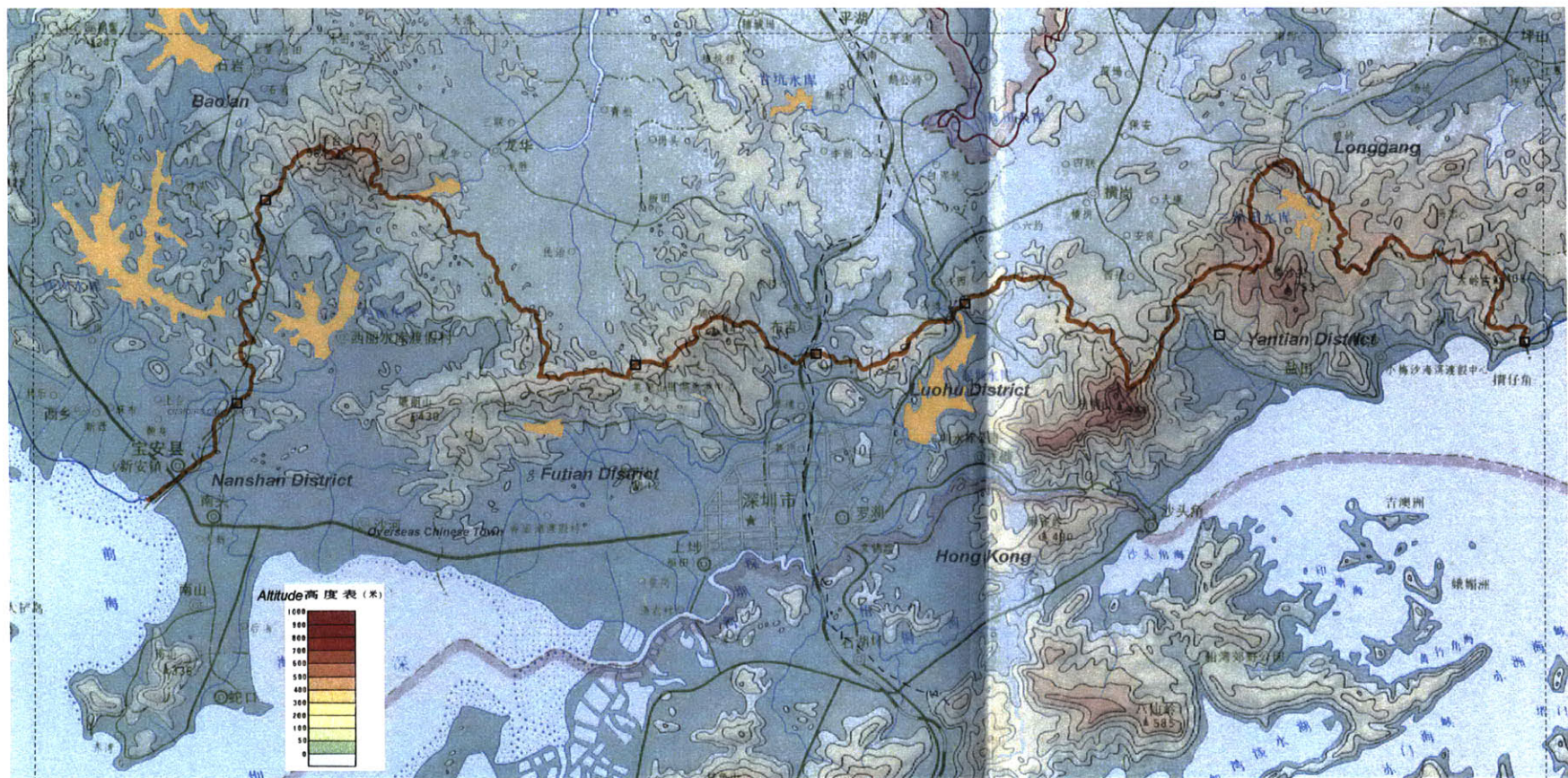
After the Second World War, foreign investments in Asian countries and districts such as Japan, Hong Kong, Taiwan, and South Korea brought their rapid industrialization, which also led to various urban problems. To tackle these problems, governments in these places encouraged industrial decentralization. But the decentralization process, economic restructuring, and keen competition among themselves within the developed countries forced the labor-intensive and low-value-added industrial sectors of these areas to search for yet cheaper production sites outside their own countries and districts. Beginning in the 1970s, manufacturing industries in Hong Kong faced serious problems both domestically and internationally. The escalating production costs within Hong Kong made the once internationally competitive labor-intensive industries decreasingly profitable or even unviable. Additionally, demanding competition and rising protectionism from developed countries posed challenges for these export-oriented industries and caused certain manufacturing industries to look for lower-cost production locations.

China's experiment with the open door policy in 1978 coincided with a period of rapid globalization. Before the open door policy in 1978, China and Hong Kong were supposed to be two separate economic and political entities. The open door policy

has provided a breathing *zone* (Figure 29) for labor-intensive and low-value-added industries, especially for Hong Kong and Taiwan, where increasing labor costs coupled with rising land prices and rents have meant that labor-intensive manufacturing was no longer sustainable. They also needed profitable new outlets for their growing capital after their success as export-oriented economies in the middle of the 1980s.¹ Therefore, Shenzhen SEZ immediately became the backyard factory of Hong Kong.

Since the early fifteenth century onwards, significant numbers of people from Guangdong have emigrated to various parts of the world, most of them to Southeast Asia. During the Cultural Revolution from 1966 to 1976, its proximity to the then British Colony of Hong Kong made Bao'an County the largest source of immigrants to the rapidly urbanizing and industrializing capitalist haven since the 1950s. By the 1980s, thirty-five thousand overseas Chinese were from the Shenzhen area.² Cantonese is commonly used in Shenzhen and Hong Kong. Besides foreign investors, the city would have special appeal—kinship and culture—to the overseas Chinese entrepreneurs. Such social relationships cooperatively provided an effective and secure channel for global capitalism to grow in uncultivated “socialist market” soil. Thus the gradually transforming economy model became a haven for global capitalism.

The overseas Chinese and foreign capital investors thus were looking for sources of cheaper labor where certain labor-



0 1km 2km



Figure 29. Shenzhen SEZ topography and reservoirs

intensive industries could be expanded. The access to a potential market of over one billion people was also a major psychological attraction to them. The opening of the whole PRD to foreign capital in 1985 accelerated the flow of foreign capital into Shenzhen.

B. Infrastructure

The early objectives of the zone were clear, though lacking a blueprint, but it was sure to be a “live incubator” for foreign investment in enterprises which would produce exports to earn foreign exchange to underwrite the nation’s modernization. After several foreign visits and research, all leaders of the city agreed that the full sound provision of infrastructure, broadly defined as roads, railways, ports, airports, water, electricity, communication, and housing, was essential to attract investors and for large-scale economic development to take place. Other export processing zones in Asia had shown that the lack of a sufficient and well-established infrastructure system could be a major cause of failure. Generally, the infrastructural layout would directly affect the city’s form.

The implication of the large size of the Shenzhen SEZ is the massiveness of the infrastructure construction task, considering that prior to its designation as an SEZ the Shenzhen Municipality was an agricultural community, deficient in road communications. Based on conservative estimates by Chinese scholars, the cost of infrastructure for 9,800 ha of land in the Shenzhen SEZ would amount to at least 36.7 billion RMB *yuan*.³ The debatable

terminology for preparing Shenzhen’s undulating lands to be “usable” before civic and architecture construction was “seven linkages and one leveling,” which include: (a) a road link, (b) a gas link, (c) an electricity link, (d) a water link, (e) a sewage system link, (f) a storm drainage system link, (g) a communication link, and (h) land leveling. The reasons that this kind of single-minded massive leveling has been undertaken without carefully considering the local environmental variation and characteristics may be the industrial goals of the city, the fast pulse of economic growth, and the mayor’s heavy industrial background. To keep pace with development needs, road network construction was given much attention from 1979-1987. Shenzhen was, however, also handicapped by the lack of a good harbor, in spite of its coastal location. Along Dapeng Bay and Daya Bay, east of the city, there are stretches of deep water, but the little available flat land is embedded in rugged topography with steep slopes running into the sea.⁴

Investments in fixed assets were the primary means for the city to allocate resources in such a manner as to advance economic growth and to take advantage of technology and innovation to develop new sectors and to enhance the structure of economic growth and change throughout the country.⁵ Building a livable place for residents was not an urgent and conscious concern at that moment. From 1979 to 1981, a total of RMB 286 million was invested in site preparation and capital construction and in 1982,

	1985				1995			
	Zhuhai	Shenzhen	Shantou	Xiamen	Zhuhai	Shenzhen ^a	Shantou	Xiamen
Government funds	1.6	1.6	0.0	6.3	0.7	—	2.4	4.3
Domestic funds	27.6	20.4	—	—	4.2	16.6	5.6	20.2
Self-financing	41.9	45.8	30.2	20.5	63.2	50.6	57.2	41.6
Foreign capital	26.2	13.1	11.7	—	17.2	19.7	30.4	10.8
Other sources	2.7	18.1	58.1 ^b	73.2	14.7	13.1	4.4	23.1

Note: Data for Zhuhai (1985, 1988) and Shantou (1995) refer to the entire city, whereas those for the other SEZs pertain to the special territorial units.

^aData for Shenzhen in 1995 included both infrastructural and real estate development.

^bBank loans.

Source: Statistical yearbooks for the SEZs (various years).

Figure 30. Financing models for infrastructure development in SEZs (percent)

Source: Yue-man Yeung, *Globalization and Networked Societies* (Honolulu: University of Hawaii Press, 2000), p. 98.

RMB 540 million was spent on large-scale development and to speed up construction. However, the return of capital investment from land use fees and taxes collected from foreign investors was rather low. Although the central government has indicated that the cities must rely on themselves for funding for infrastructure and development, Shenzhen has been able to obtain a larger share of funding from the state, particularly at the start in 1979 and 1980.⁶ Using foreign investment and capital from trade in some way temporarily provided ample help and financed the infrastructure construction in the early stage of the city's development, which later proved to be a "side attraction" to the chief goal of the SEZ. The huge capital investment in infrastructure, jumping to 4.5 billion RMB *yuan* by 1985, has played an important role

in the development of Shenzhen. From 1980 to 1990, a total of 23.1 billion *yuan* of capital investment (Figure 30) was put into Shenzhen's physical construction.

C. Capital

Most factories in Shenzhen were engaged in export-processing, urged by the city to an "external orientation" and Hong Kong was the biggest client of and investor in these factories which reflected the restructuring of global capitalism at the end of the 1970s. Domestic enterprises formed under equity share-holding are the common format for joint ventures. Investment from Hong Kong and foreign companies is usually in the form of equity joint ventures (with Chinese and foreign capital, Chinese and foreign cooperative joint ventures, and wholly foreign-owned ventures) and *sanlai yibu* enterprises (enterprises engaging in export processing, assembling and manufacturing according to foreign materials, designs and parts, and compensation trade.)

Shenzhen SEZ had the availability of labor and land resources, and continuous investment in the infrastructure and a set of preferential treatments for foreign investors (in the early stage of Shenzhen SEZ). These treatments included a 15 percent corporate tax rate, a 1- to 3- year tax holiday in general, but five years for investment over US\$5 million, repatriation of corporate profits, personal income after tax, and repatriation of investment capital after completion of contract. Custom duties were free for import

Types of Economic Activity	No. of Items	Amount of Investment (HK\$ million)	% of Total Investment
Agriculture (including livestock farming & fisheries)	211	114.1	4.13
Manufacturing	537	450.2	16.30
Commercial	12	217.7	7.90
Real Estate/Housing	23	1,090.2	39.50
Transportation	7	6.5	0.24
Tourism	20	781.9	28.30
Others	4	100.1	3.63

Source: *Economic Reporter*, No. 45, 11 Nov., 1981, p. 8.

Figure 31. Investment in various economic activities in the Shenzhen SEZ (excluding Shekou)

Source: Kwan-yiu Wong, editor, *Shenzhen Special Economic Zone: China's Experiment in Modernization* (HK: Hong Kong Geographical Association, 1982,) p. 28.

of raw materials and intermediate goods, and no export taxes were levied for items that were eventually exported from the city. But sales in the inland market were restricted to certain percentages.⁷ Other financial inducements included the ability to remit earnings and profits in “hard” currencies; foreign investors could maintain foreign bank accounts and settle foreign-exchange matters through Chinese or overseas banks. Domestic enterprises could set up their agency in Shenzhen, in which they sold their products at greatly reduced prices, to bargain-hunt directly with foreign traders, as well as gain access to foreign exchange.

Shangbu, Shahe, and Nantou District were planned to be mainly developed into areas for light manufacturing and electronics products. Because of its proximity to Luohu District and

Shenzhen town, Shangbu was planned to be an important centre for concentrated development. Shahe is located about 12 km to the west of Shangbu. Originally, the SEZ would only accommodate modern industries with advanced and “green” technology. However, some obsolete and polluting industries were also introduced. The city concentrated them in the Kuichong area; there the effluents from various factories could be collectively treated. This taught the government the lesson that advanced technology did not necessarily mean environmental protection and that it should be more stringent in considering the types of industries to be introduced.

Before 1985, the city was mostly kept going by domestic investment, while multinational capital remained largely aloof. In the initial stages of Shenzhen’s development, most of the foreign investment was channeled into such areas as housing/real estate and tourism in which the return period was short and the marginal profit was higher than in manufacturing; the small amount of it in manufacturing was confined primarily to small enterprises doing processing and assembly work. With the gradual maturing of the economy and improving of infrastructure, however, direct foreign investment accounted for two-thirds of the total realized foreign investment in Shenzhen by the end of 1987.⁸

Investment from Hong Kong has proved to be important for Shenzhen’s economic takeoff. As of December 1981, for example, 50.6 percent of the total foreign direct investment in China was being attracted to Shenzhen,⁹ and 91 percent of the total overseas

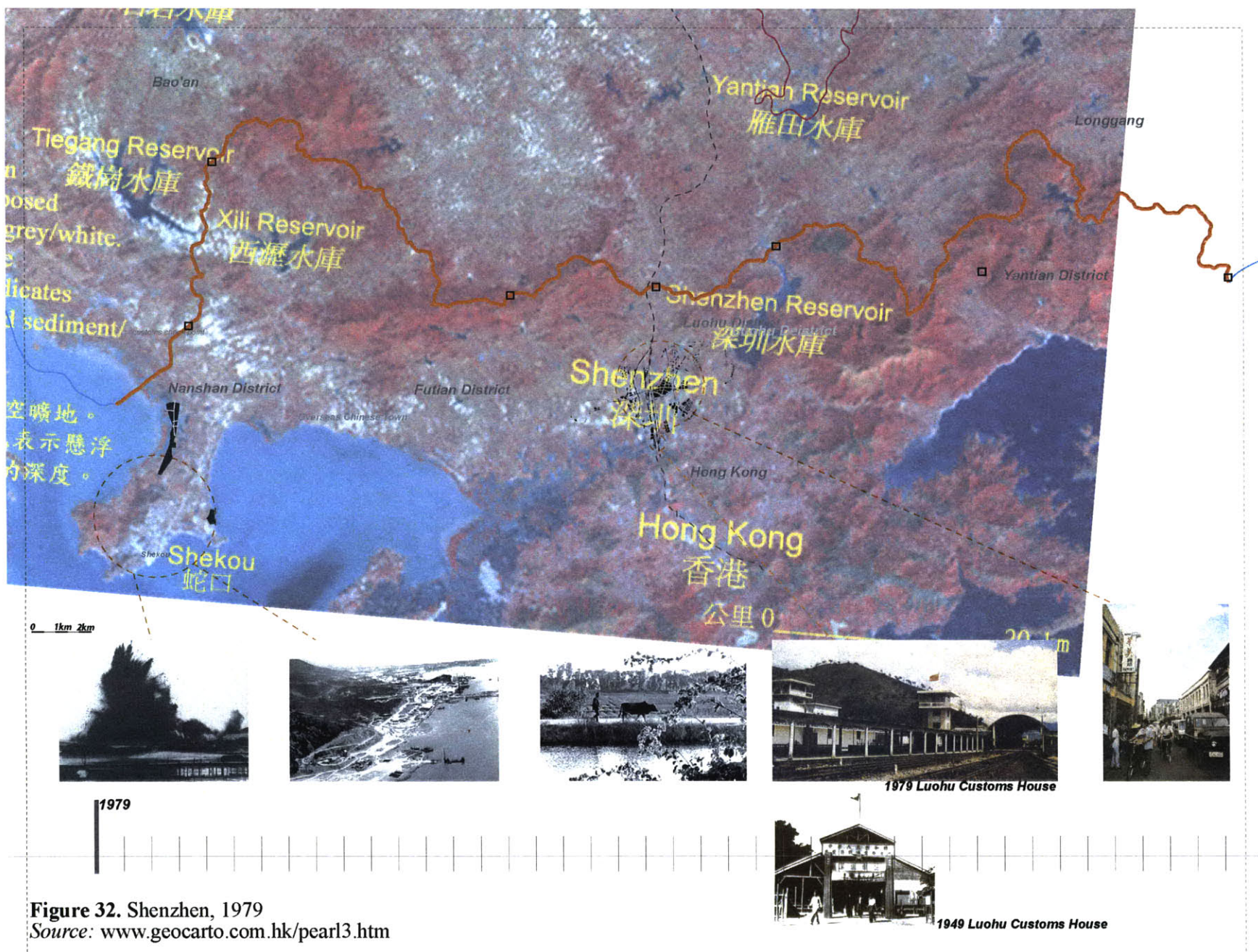


Figure 32. Shenzhen, 1979
 Source: www.geocarto.com.hk/pearl3.htm

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CCI (¥ millions)	125	270	633	886	1555	2761	1915	2157	3473	4354	4950
in which SSEZ's CCI (%)	90.4	98.0	92.7	94.4	94.8	94.2	96.5	94.9	98.5	97.5	98.5
in total CCI:											
CG ^a (¥ millions)	33.0	22.7	47.4	43.7	21.1	42.9	49.6	12.3	27.3	11.8	10.4
(%)	26.4	8.4	7.4	4.9	1.3	1.6	2.6	0.6	0.8	0.3	0.2
LG ^b (¥ millions)	9.6	33.4	64.0	78.0	212.9	450.1	345.5	286.2	383.7	594.4	568.0
(%)	7.7	12.4	10.1	8.8	13.0	16.3	18.0	13.3	11.1	13.7	11.5
OI ^c (¥ millions)	53.9	135.5	191.4	222.1	265.0	360.7	346.6	335.6	520.8	1356.2	1764.9
(%)	43.2	50.0	30.3	25.1	16.2	13.1	18.1	15.6	15.0	31.2	35.7
DBL ^d (¥ millions)	7.0	31.6	202.9	334.1	639.7	563.5	272.1	382.2	562.1	508.7	891.3
(%)	5.6	11.7	32.1	37.7	41.1	20.4	14.2	17.7	16.2	11.7	18.0
DE ^e (¥ millions)	21.3	47.0	127.0	205.2	375.5	1293.3	793.0	922.5	1466.5	1433.2	1278.8
(%)	17.0	17.5	20.1	23.2	23.4	46.8	41.4	42.8	42.2	32.9	25.8

^a CG: investment from central government; ^b LG: investment from local governments; ^c OI: investment from overseas; ^d DBL: domestic bank loans; ^e DE: investment from domestic enterprises.

Source: SSEZ Statistics Year Book, 1991.

Figure 33. Capital construction investment (CCI) in Shenzhen Municipality (1980-90)

Source: Jieming Zhu, "Denationalization of Urban Physical Development: The Experiment in the Shenzhen Special Economic Zone, China," in *Cities*, 1996, Vol. 13, no. 3, p. 193.

investment came from Hong Kong.¹⁰ By the end of 1981, more than HK 2,760 million had been distributed the SEZ's various economic sectors. It is interesting that the highest investment was in real estate development (39.5 percent) in 1981, followed by substantial capital investment in tourism, accounting for 28.3 percent. Manufacturing accounted for 16.3 percent of total investment. Compared with the above, investment in transportation, a long-term investment, was negligible. Hong Kong investors were concerned with quick return rather than long-term development (Figure 31).

Non-state sectors were also able to place 55.8 percent of the total RMB 12.7 billion investment from 1983 to 1988 into fixed

assets.¹¹ In 1980, fiscal appropriations from the central government accounted for 26.4 percent of the total capital investment in Shenzhen's physical construction, but it dwindled to 0.2 percent in 1990 (Figure 33). This clearly indicates that non-state sectors have been playing significant roles in financing and shaping the city, stimulated by land reform and market mechanisms after 1987.

D. The First Socio-Economic Development Plan (1982)

In 1979 Shenzhen (Figure 32) was an agricultural and fishing area with no funding, technology, or land development experience in building a new city. The agricultural economy predominated, with good grain production that constituted over 75 percent of the total output in the late 1970s. "Rural industry, defined by the provincial authorities as industry located at and below the village level, made up only a small portion of the total industrial output."¹² Considering the scale of infrastructure construction, Shenzhen

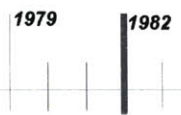
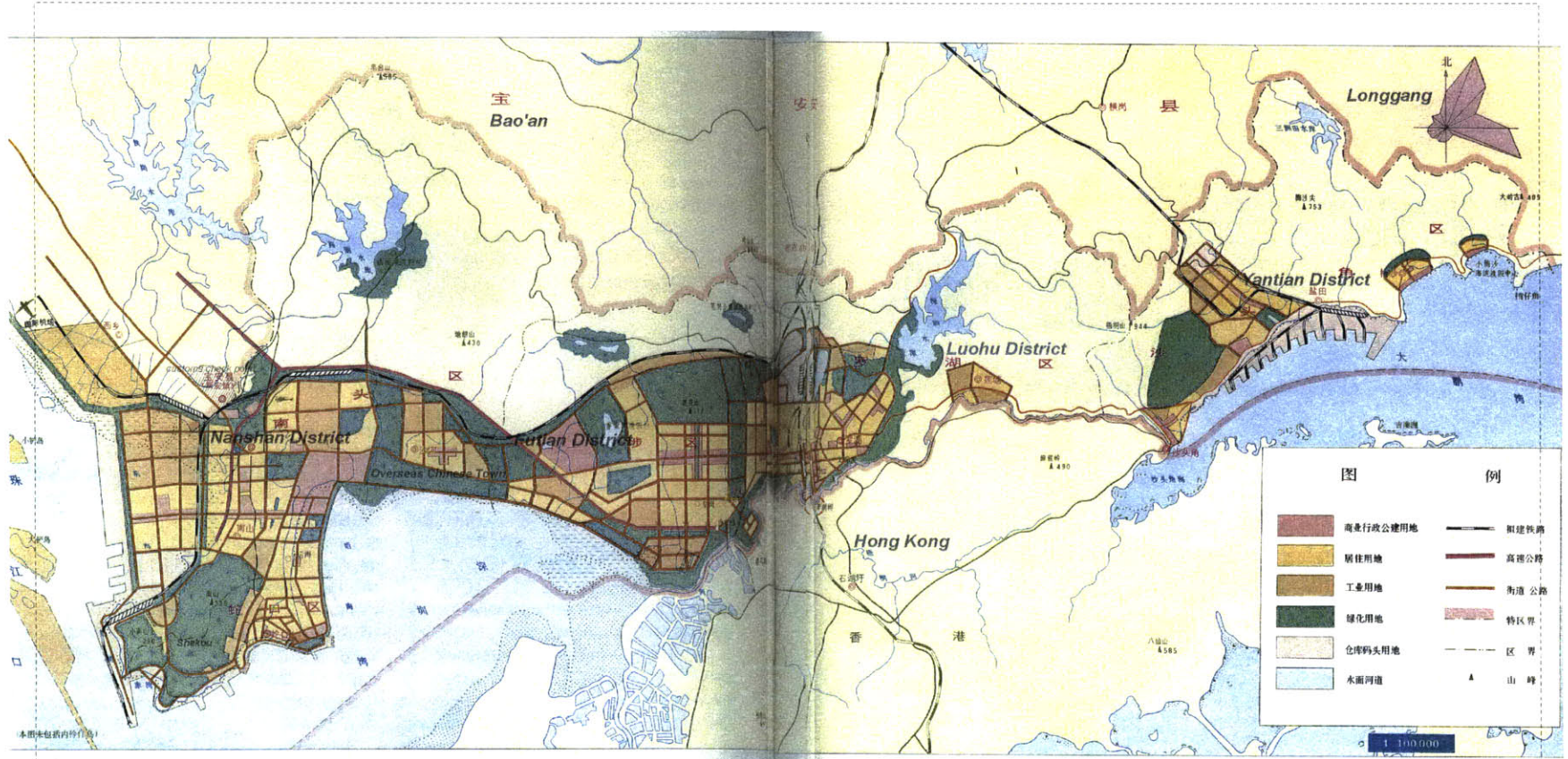


Figure 34. The First Socio-Economic Development Plan
 Source: Guangzhou Geography Institute, *Natural Resources and Economic Development Illustrations* (Beijing: Science Publishing House, 1985.)

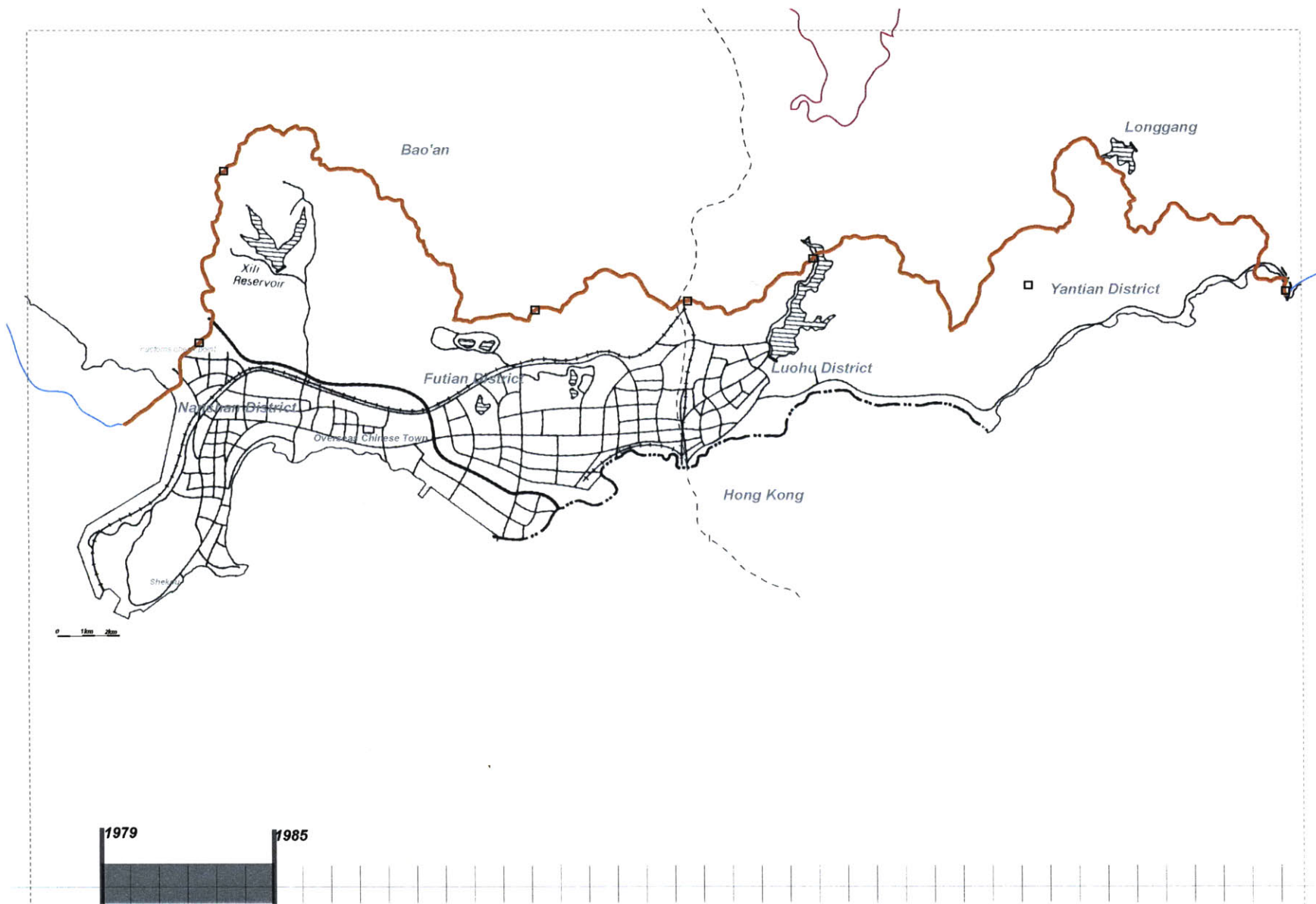


Figure 35. Transport network plan of the SEZ. It should be based on The First Socio-Economic Development Plan.
 Source: Kwan-yiu Wong, and David K. Y. Chu, editors, *Modernization in China: The Case of the Shenzhen Special Economic Zone* (Oxford: Oxford University Press, 1985), p. 155.

intended to introduce foreign capital, especially that associated with the global trading network, as a means to finance economic growth and construction. The city's early objectives and strategies were not much divergent from the other members of the free zone family, although it was a comprehensive economic development *zone* with a considerable size. The city was thought of originally as an export-processing *zone* during this period, where multinational capital could be attracted into joint ventures (JVs) with the large state-owned enterprises (SOEs), with a view to reorganization and technology transfer. Export-oriented economic activities were to be encouraged to generate and accumulate foreign exchange earnings.

Based on this comprehensive object, the plan around 1978-1979 proposed a 10.65 sq km city area and a population of 200,000-300,000. However, in 1980, after the ordinance establishing Special Economic Zones in Guangdong Province, Shenzhen organized more than one hundred experts to reassess and revise the draft plan, although the resulting plan was still sketchy by today's standards. The new city region was extended to 50 sq km and the planned population to 500,000 by 1990. This meant that even greater capital investment in infrastructure construction would be required to make the city attractive for foreign investors. Two engineers, Zhu Qihao and Deng Shang, were principal designers of this draft comprehensive plan. Five districts (Luohu, Shangbu, Shuiku, Shenzhen reservoir, and Wenjindu Customs) were planned

in detail, as well as plans for bridges, roads, a sewer system, gardens, gas, and power supply facilities. This plan designated the width of Shennan Road and Sungang Road as 50 meters. The traffic pattern in Luohu was based on the old road system, while that of new Shangbu District used a rectangular grid. The rectangular blocks obliterated the agricultural fields, hills, rivers, and woods. These changes eradicated genius-loci and stamped on a "universal" square mark, except that a few hills, such as Lianhua Mountain, were left—the land pattern always exhibits its owner's will. The Comprehensive Plan also vaguely pegged Futian as the city's new commercial business district (CBD), but its fleshing out was really carried out only after 1995.

The planning process of Shenzhen was the first in China to face the challenge of working with the so-called mechanisms of the market economy. Under the grand national goal of modernization, the long-term role of Shenzhen, still a top-to-bottom process, was clearly defined by the central government: a comprehensive economic *zone*. In September 1981 Vice Premier Bo Yibo stated that "we should treat Shenzhen SEZ as a major city, even more important than a large city." The mayor Liang Xiang then pointed out that the draft plan had not yet expansively reflected the mixed goals of the *zone*—industry, agriculture, tourism, housing, and commerce. A Shenzhen SEZ socio-economic development plan embodied in the city master layout plan was urgently needed, whose theory was grounded on the ordinance of Special Economic

Zones in Guangdong Province. In December 1982, Shenzhen City released its first Socio-Economic Development Plan (Figure 34) for the Special Economic Zone in which the planners showed a more flexible and dynamic attitude. The total planning area was 118.6 sq km and the population was about one million by year 2000.¹³ Export-oriented industrial growth was the key to the economic development plan. Major industrial sectors with 1,500 factories occupying 7.2 sq km of land, and residential areas for 200,000 workers were projected, with schematic proposed infrastructure to attract foreign investment.¹⁴ Different land uses were functionally separated.

A 30 sq km area of land around Luohu and Shangbu districts was zoned, based on 10,000 population per sq km.¹⁵ The planning system still followed the traditional two-tier planning system introduced in the 1950s: the Master Plan and the Specific Site Plan (or detailed layout plan). Master plans were generally for coordination between newly built factories and the existing urban area, while detailed layout plans were for the layout of factories and workers' villages.¹⁶ Both plans, intended to support industrial projects approved by economic planning, lacked a clear definition of the intensity, size, scale, and legal responsibility for land development and operable control mechanisms to modify the rights of both the private and public sectors.

Given Shenzhen's narrow landform, with a hilly region mainly in the north, and urgent need for external transport links

between Hong Kong and the hinterland, the city's early planners naturally applied the Western linear city concept, proposed at the end of the 19th century, with a few districts threaded along a major transportation artery, Shennan Boulevard. In its early "creating" phase, the planning of Shenzhen was focused on improving the investment environment: meeting the needs of growth and giving priority to industrial projects. Most traffic, except in Luohu District, was still laid out on the rectangular network grid (Figure 35); the principal arteries were east-west (40-60 meters wide), with north-south being the secondary traffic. "The city's layout should be based on the traffic backbones, the widths of which refer to modern traffic flow standards, and then different functional districts defined. To enhance comprehensive economic efficiency, we put residential areas relatively close to industrial zones, warehouses close to train stations and ports. Zoning is not fixed, but flexible. It may be adjusted locally, with changing situations."¹⁷ Such functional criteria to facilitate transportation for an industrial *zone* set the basic tone of Shenzhen's city form.

The planners also put some efforts into providing a decent living environment to investors. Ebenezer Howard's Garden City urban form was studied and incorporated into the linear layout, which thus included a few green-belts separating three clusters having 18 functional districts. Using green belts (12 percent of the land) and creating parks indicated that Shenzhen paid attention to its future environmental issues from its inception, and somehow these

physical features connected with a repeated call to develop the city into a “garden city.” Impressed by Singapore’s large-scale green space during his visit in 1983, the mayor, Liang Xiang, and the Government decided that “all buildings should set back the red line for 30 meters” for green spaces. A theme park, Fairy Lake Botanic Garden (to show Shenzhen’s biological diversity), People Park, Honghu Park, an 800-meter-wide north-south green strip next to Shenzhen telecommunication company, Children’s Park, and Litchi Park, next to the city hall, were thus expanded and constructed. It was thought that, by grouping all green space in confined clusters along a transport corridor, the urban form could allow “phasing and rapid growth starting from the border area near Hong Kong”¹⁸ and be an effective solution to accommodate such urban expansion. More importantly, such an urban form also “defined clearly where government funding should be allocated, and in turn, effectively led to a desirable pattern of urban construction.”¹⁹ The separation of home and workplace was taking place for enterprises of all sizes, and housing construction needed to be massive and fast.

Under a transitional centrally-planned economic model, urban planning, still intended to stimulate industrial growth, was very powerful in deciding land uses and urban development—the state controlled diverse resource allocation. This plan was in fact seeking physical transportation and financial efficiency: limited infrastructural investment could serve most industrial districts and ports. “Goods” transfer was actually paid more attention than people. Urban planning of this kind would enable urgent

city industrialization. Indeed, the government’s priority for urban development was infrastructure construction to draw foreign investment. Urban design was neglected. Its role with architecture was the simple definition of building density, height, and layout; planning involved unsystematic spatial design, apart from some parks or green belts along the main roads. Although planners wanted to use the synthetic streetscape as the basic criterion for building construction selection, in reality there was a lack of continuous execution of the plan; the plan did not impose effective legalized parameters on building design.

The master plan, although it could not guarantee the success of the SEZ, sought to enforce control over phased development and to coordinate the provision of infrastructure and public utilities. The plan concentrated largely on the contained linear zone, proceeding without coordination with surrounding counties. At this moment, the master plan acted as a guide and had no legal status; violations would be criticized, but not punished, though four other sets of regulations on the registration of enterprises, land use, visas, and labor and wages were intended to provide a secure environment for foreign investment. For instance, when a real estate company from Hong Kong showed interest in developing an area and approached the authorities in Beijing, “the planned population of the area was increased to 300,000 and it became one of the largest projects in the SEZ then.”²⁰

E. Speed: Luohu and Shangbu Districts (1980-1986)



Figure 36. Slogan [Time is money; efficiency is life.]

The government wanted to make road updating and construction the first step to attract investors and catalyze major districts' improvements such as Luohu and Shangbu Districts. Shennan Boulevard, a simple rough gravel surface, was the national road 107 to Guangzhou, the capital of Guangdong province. This major east-west road was updated to asphalted pavement, which later grew to be the central scenic boulevard of the city. Due to a limited bank loan (RMB 30 million) and to create a "good" impression for foreign visitors, the development of Luohu District became the priority, on account of its proximity to Luohu Customs House and railway station. In 1980, the infrastructure construction team led by the head Luo Changren swiftly removed the Luohu massif that was next to the old Shenzhen train station, and used that earth (1.5 million cb m) to raise the 0.8 sq m district 1.07



Figure 37. Army specialists in infrastructure construction
Source: Shenzhen Archive Bureau

meters.²¹ Until then, Shenzhen had no official master plan to guide the city's urban development. It seemed that personal experience and authorities' words were the action guidance. The 1982 master plan apparently accelerated road construction, with 25 streets in progress simultaneously in that year. By 1985, 63 streets, totaling 90 km long, were done.

To avoid lengthy bureaucratic processes (Figure 36) and speed up construction, five governmental functions (urban planning, land use, development permission, construction supervision, and management) were merged into one section and coordination among administration bureaus strictly enforced to avoid recursive procedures. This synthesis method seemed still not to be able to achieve the required development trend. The central government

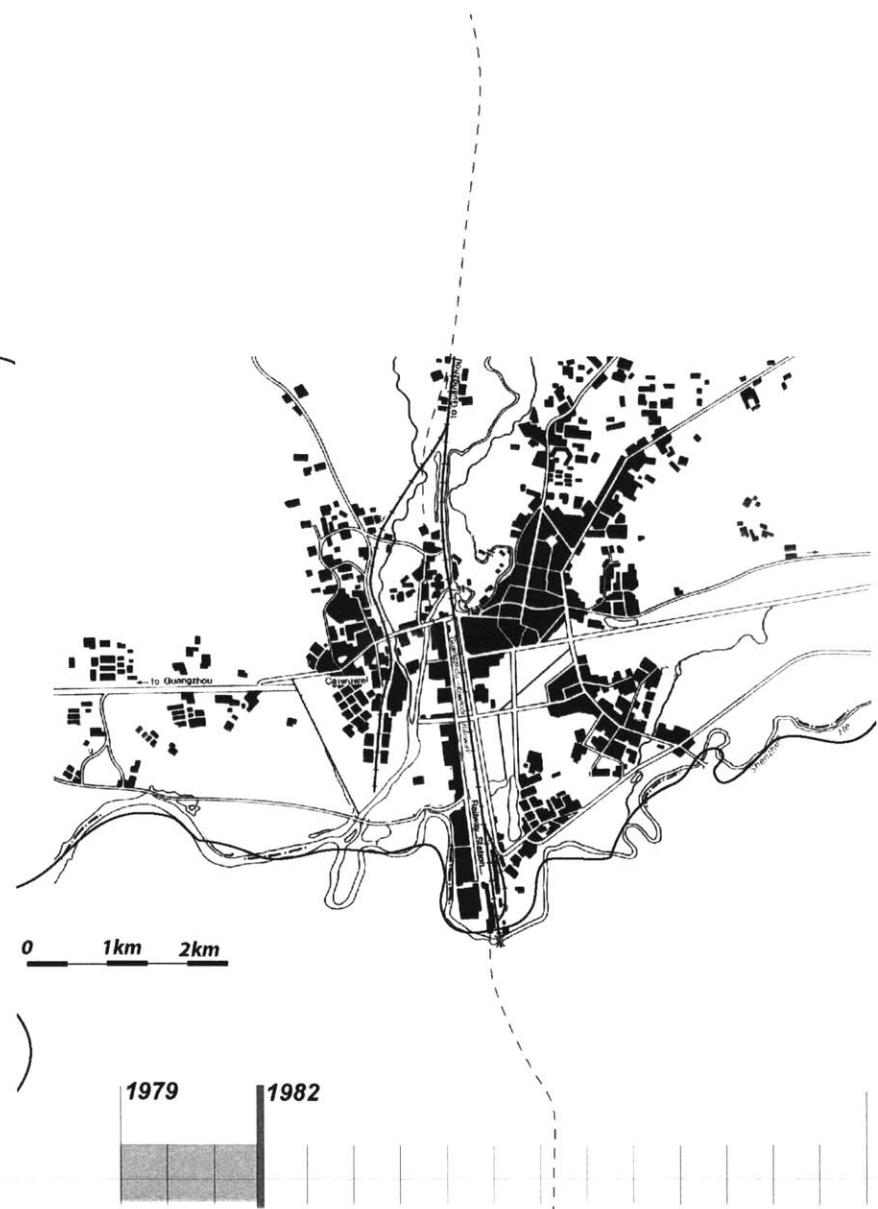
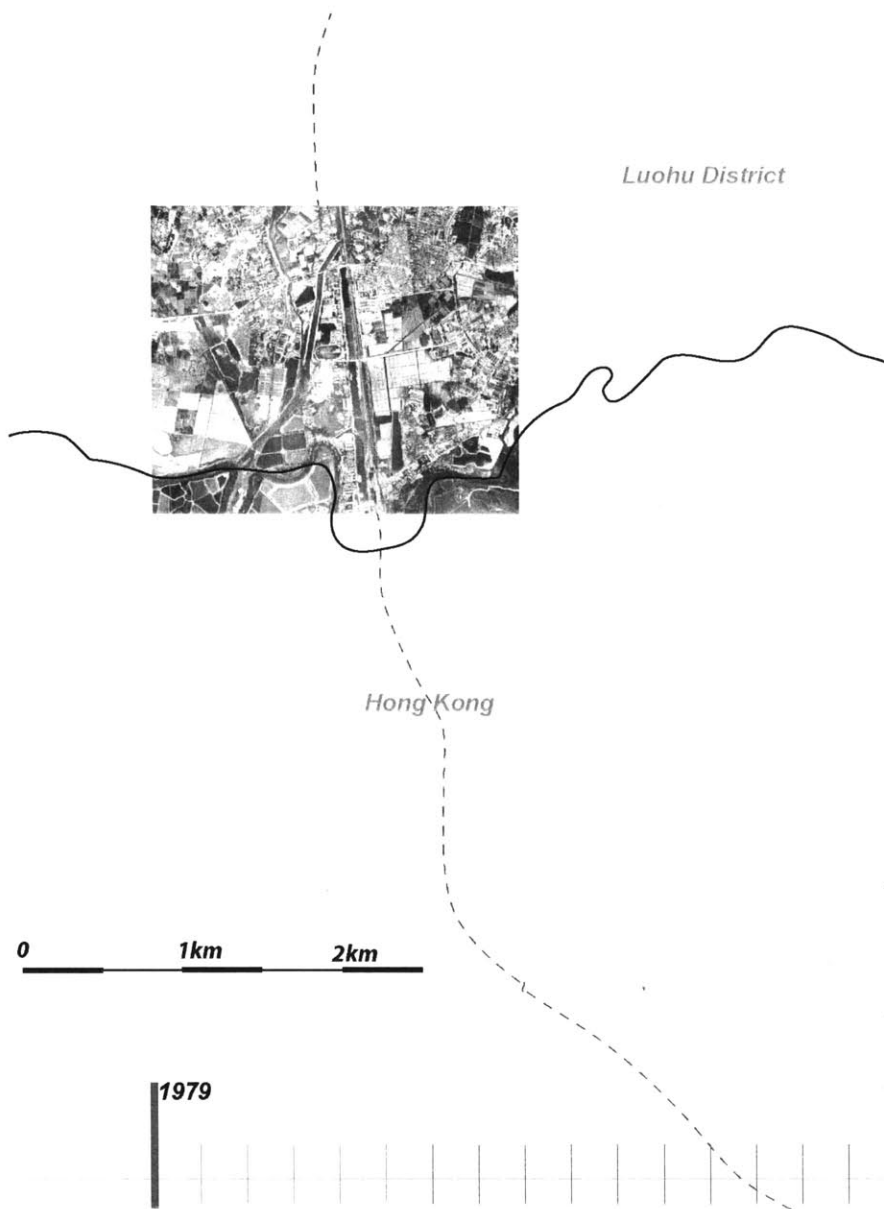


Figure 38. Luohu Customs House area, 1979

Figure 39. Luohu District, 1982

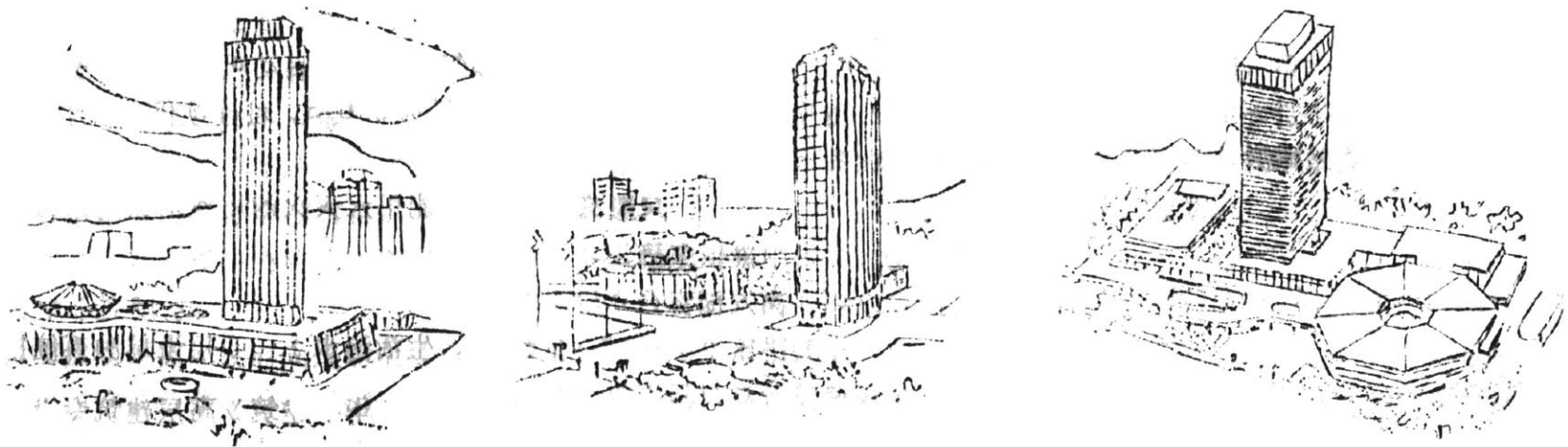


Figure 40. Design concepts of International Trade Building
 Source: Zi Ou, "The Design of International Trade Center," in *The Shenzhen Construction Technique Document Compilation* (Shenzhen: Shenzhen Building Science Center, 1987), no. 1, p. 21.

sent 20 thousand army specialists (Figure 37) in infrastructure construction to give help on civic projects. In September 1983, these troops converted to Shenzhen civic and infrastructure companies. Moreover, to ensure fast and large-scale development, five SOEs (City Construction Development Company, Industry Development and Service Company, Trust Investment Company, Guangdong Nuclear Service Company, and Nanhai Oil (Shenzhen) Development Company) from different central government departments were established to develop designated raw lands. "Fast track" could not guarantee the physical quality, but it did ensure that urban hardware could catch up with the economic growth and suit the political environment of the time.

Manufacturing industries were to be the backbone of Shenzhen (40 percent of realized direct foreign investment in the SEZ went to the manufacturing sector in the 1980s). This was to be followed by transportation and communication as well as commercial and service activities. Fifteen industrial zones, mainly composed of "international style" multi-story boxes, were established, and large attention was given to urban infrastructure construction and the balance between the needs for housing and employment. The first industrial sector was Shangbu light industry district, total building area 120,000 sq m. Next to it was the Bagualin industry zone. The Electronic Building and Huaqiang electronic complex, the Science Building, the city hall, Donghu Hotel, and Xinyuan Hotel were also under construction during this period.

Within this industrial zone, housing, shopping, and

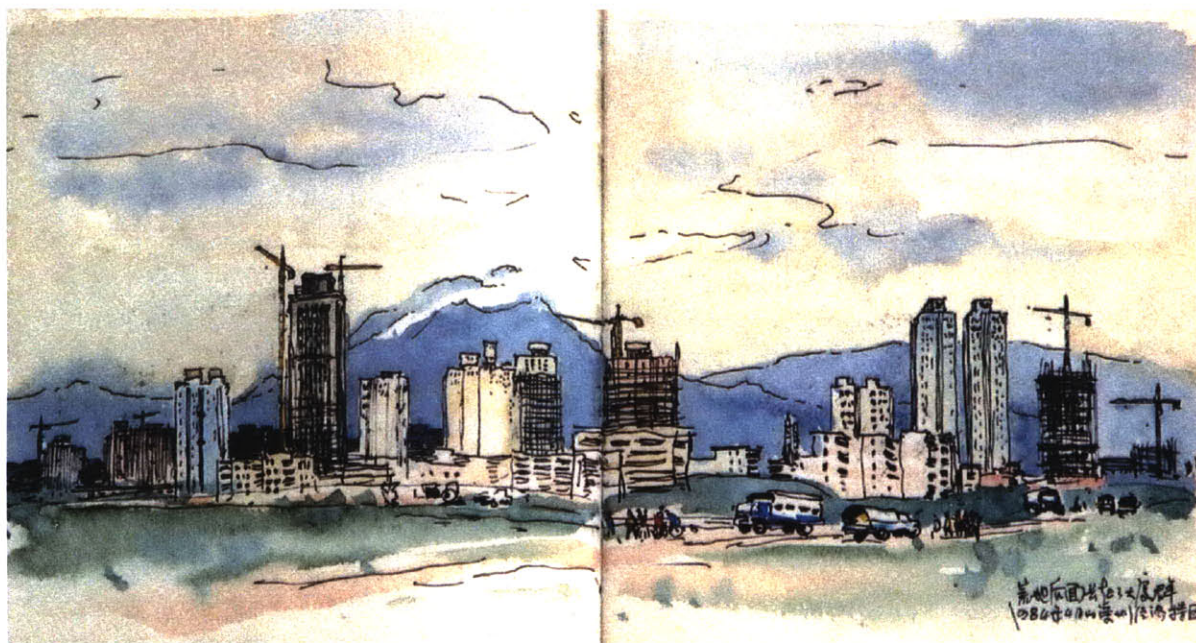


Figure 41. Shenzhen, 1984 by Tian Kesheng

entertainment were one major element of the plan. Hence, Luohu, a three sq km old town near Hong Kong's New Territories, was designated as the commercial center for the SEZ, while Shatoujiao to the east and Shekou to the west were used as industrial districts. To accommodate inter-urban representatives and stimulate domestic economic connections, the city decided to build a first mixed-use high-rise (originally 38 stories, but eventually going to 53) in May 1981: the International Trade Building (ITB). The first high-rise building had its noticeable political significance, as well as economic objectives. It symbolized that China would open its door to the world to initiate the country's modernization journey,

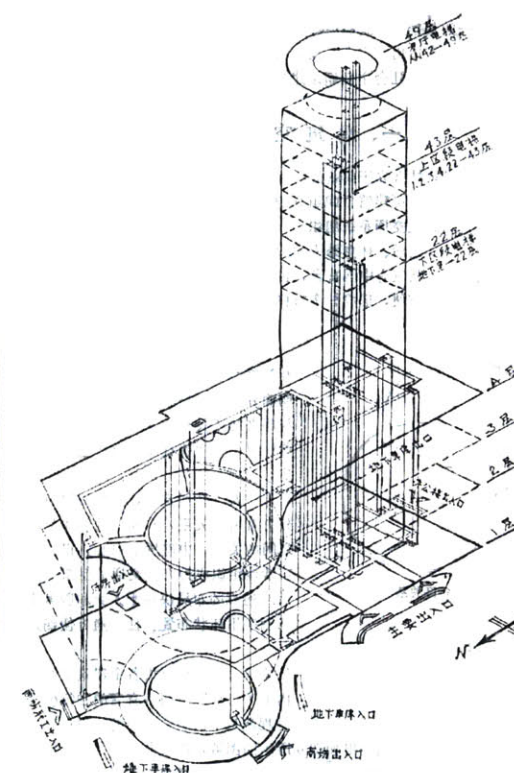


Figure 42. Movement arrangement
 Source: Zi Ou, "The Design of International Trade Center," in *The Shenzhen Construction Technique Document Compilation* (Shenzhen: Shenzhen Building Science Center, 1987), no. 1, p. 21.

and consciously delivered a message to domestic visitors, an image or vision somehow associated with modernization. Because of its height, it could be seen from the Hong Kong border, which might lure Hong Kong people to unconsciously realize what Shenzhen was becoming: the Window of China. After its completion at the end of 1985, it immediately became the symbol of the city, landmark of the district, and a tourist attraction hub in the 1980s



Figure 43. The International Trade Building

and 90s.

Among four tenders for the ITB, the Vice mayor picked the preliminary design by Li Zhuojian and Yuan Peihuang along with Zhu Zhenhui, Chen Songlin, Ou Zi, and Zhu Wenhui, from Hubei Industrial Architectural Institution (Figure 40). Movement circulation and traffic arrangement (Figure 42, 43, and 44) determined the building's siting and the relationship with neighborhood high-rise buildings. A 150-meter-long four-story commercial store and a 160-meter-high rectangle were the basic spatial organization, with two discs on top of each, seeking visual balance for the principal facades. The 49th story is a rotating restaurant: a place to observe the morphological change speed

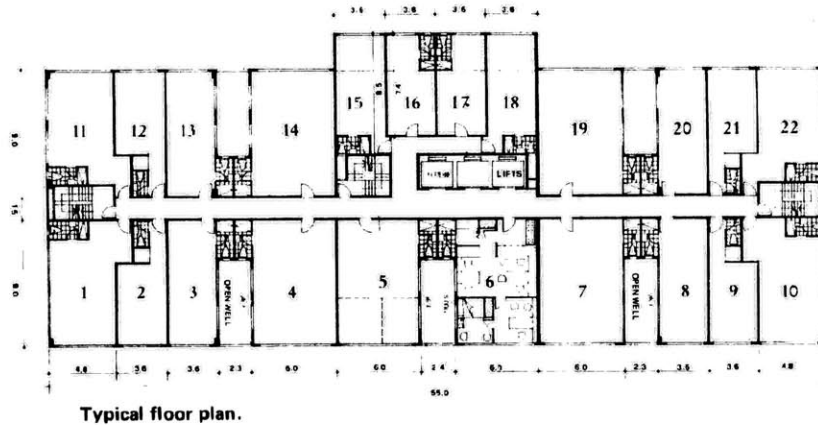


Figure 44. Luohu District, 1982

of the zone. Functional grouping was the guiding principle of the building, which included office, commercial, and entertainment space, converging at the glass-roofed 19-meter-high central court and foyer. "We start from functional requirements, technological economics; after synthetic analysis and judgment, we first sketch out the relationship diagram and then deduce the plan layout,"²² one designer said. Again, function alone was the form generator. Intensifying the visual contrast of the facade, brown vertical convex glass curtain walls and flat silver aluminum skin panels were applied. Its construction progress set the record of three days per story, by using innovative sliding module and jump crane technology, and made newspaper headlines for a while. Architectural construction speed alone, a social phenomenon maker, became a vital judgment



Perspective of International Commercial Building.



Typical floor plan.

Figure 45. International Commercial Building
 Source: *China Building Development 1982/83* (Hong Kong: A Trend Publication, 1982).

of a newly born being. The explanation might be that China lost ten entire years in the unsteady Cultural Revolution. Prompt pacing rearoused people's self-reliance to confront new challenges. This also created part of "the spirit of the Special Economic Zone," associated with time and efficiency, to show the rest of the country the SEZers' will and attitude toward the reform.

Due to the ITB's closeness to Luohu Customs House checkpoint and train station, and inadequate available land resources in the early 1980s, an increasing number of commercial transactions and liaisons of various forms would take place around this area. Existing offices and services in Shenzhen Town were far from sufficient. In addition to factories and warehouses, to accommodate the boom in Hong Kong visitors and investors, Shenzhen built a few high-rise residential compounds near the Luohu Customs House, which was the first high-rise group in China and considered to have symbolized the change and modernity brought by the reform. It formed the commercial core of Luohu District, which was a harbinger of multi-functional uses in a city intended for industrial purposes. The vicinity of the International Trade Building agglomerated the densest high-rise residential and office buildings and served as the city's early commercial business district, an initial testing place for Shenzhen's real estate. For example, Shenzhen International Commercial Building (Figure 45), 5,420 sq m, was being built jointly by Chung-Fat Tai-Tung Property Co. and Shenzhen Property Co, providing banks, display

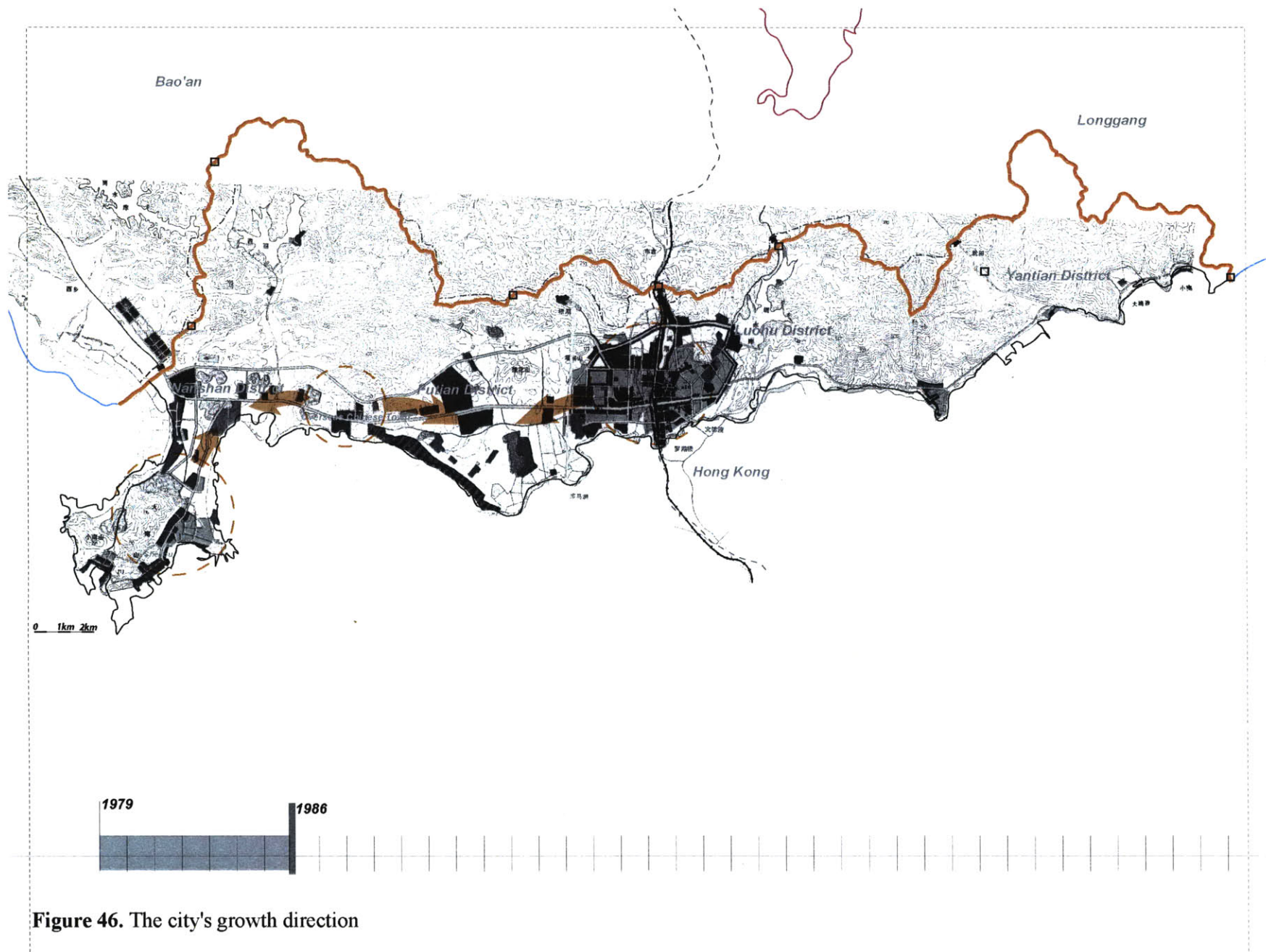


Figure 46. The city's growth direction

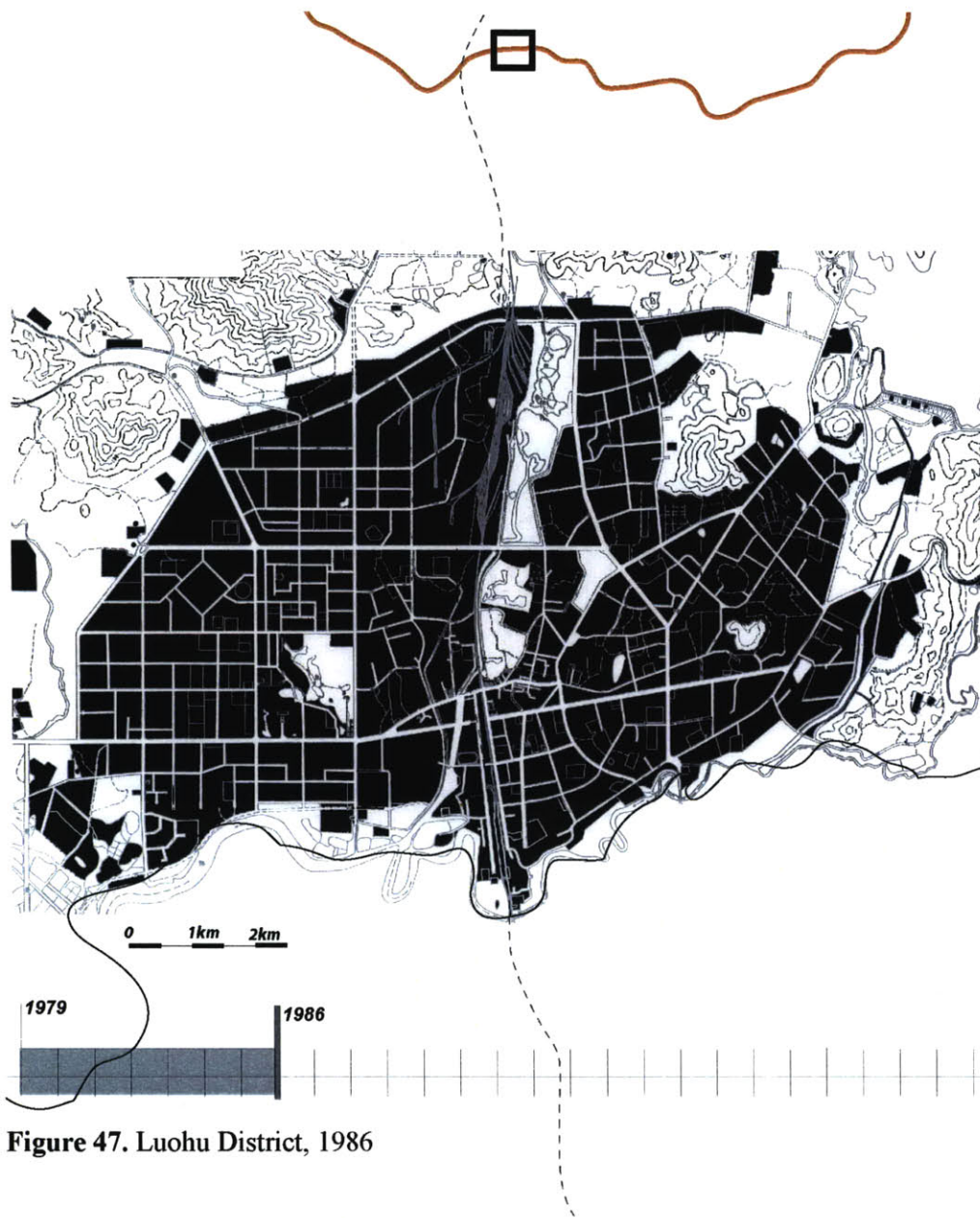


Figure 47. Luohu District, 1986

rooms, and restaurants at ground level, with an upper 18 stories devoted to office spaces ranging from 31 to 67 sq m. However, some high-rise building gaps were so small that they were called “shaking hands buildings.” The development of many of those high-rise buildings was join with Hong Kong companies and grafted on Hong Kong high-rise residential design, even some room layouts. Later, after the city managers realized that high-rise clusters required immense maintenance costs, the planning tactic shifted thereafter to assorted building densities and heights for residential blocks.

The first high-rise residential district in China was Baishalin residential district (66.5 ha. for 38,000 to 40,000; FAR 3.16 and 80 sq m/ family) (Figure 48, 49, and 50), adjacent to Baguailin industrial zone in Shangbu District.²³ In 1984, the Architectural Department of Tongji University was invited to design and plan this district. Within two months, the draft design was finished. Symbolizing open but centripetal spatial characteristics, the master plan appeared like a chrysanthemum, with higher buildings inside and lower ones outside. Fourteen curved 24 to 30-story buildings radiated outward, forming a core and an enclave central green space. Ground levels of some buildings were used for commercial purposes, connected through

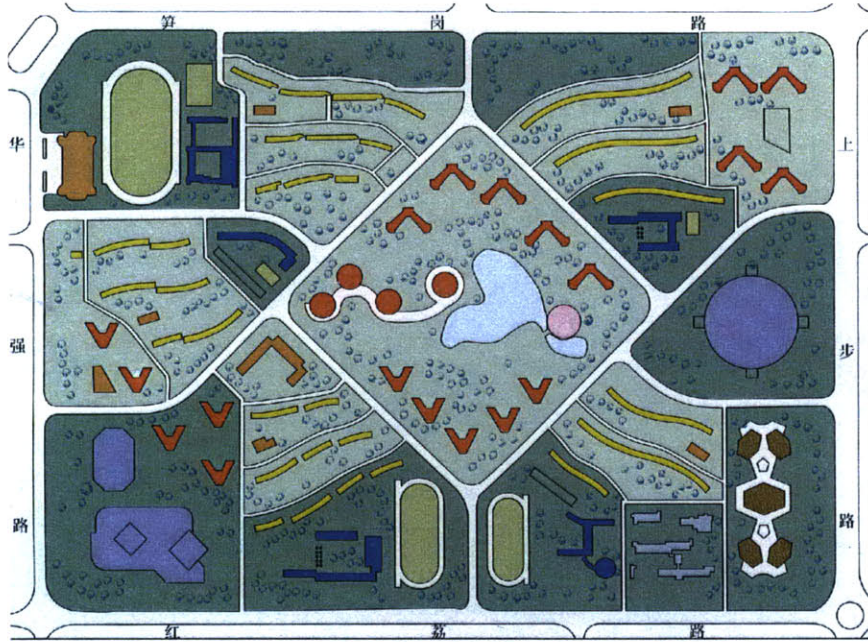


Figure 48. The master plan of Baishalin residential district
 Source: Shenzhen Urban Planning and Land Administration Bureau, *Shenzhen City Atlas* (Xi'an: Xi'an Meihang Map Publishing House, 1997), p. 92.

roofed public corridors. Separating pedestrian walks and traffic flow and connecting with four existing road entrances were also major considerations and composed a diamond-shaped framework of roads. The edge of the district was not well defined by physical forms, except a 30-meter green belt, because no design emphasis on the block edge and traffic node appeared in the city's master plan guidelines. These large elevations rarely allowed visual

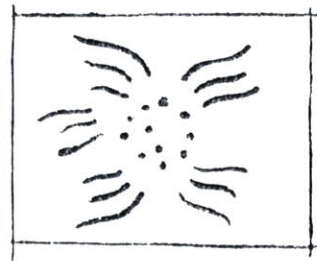


Figure 49. Design concept
 Source: Shenzhen Building Science Center, *Shenzhen Construction Technique Document Compilation*, (Shenzhen: Information Department, Shenzhen Building Science Center, 1987), no. 1.

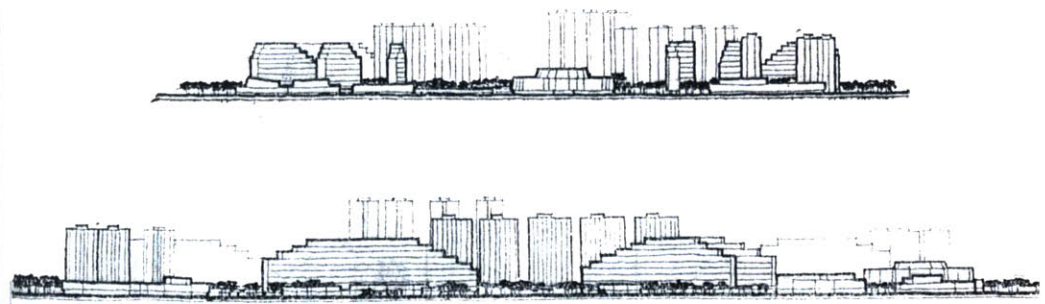


Figure 50. Elevation
 Source: Shenzhen Building Science Center, *Shenzhen Construction Technique Document Compilation*, (Shenzhen: Information Department, Shenzhen Building Science Center, 1987), no. 1.

penetration, which, combined with super block size, made people feel the overwhelming massiveness of the district. Therefore, each block of Shenzhen might functionally work well alone, but blocks had less incremental contribution to building up a unique city spatial wholeness.

Hong Kong became a convenient gateway to China, while Shenzhen was an ideal place for short-term tourists who might not want to spend more than a few days in China. Motivated by the high potential of quick return and given the severe hotel and catering



Figure 51. Summer Xiaomeisha by Li Shinan

facilities shortage, entrepreneurs from Hong Kong recommended hotel and restaurant projects to the SEZ authority; the former covered all development costs and the latter provided the land. The development of Bamboo Garden Hotel and Xiaomeisha Beach Resort Village (Figure 51) were examples. Additionally, since the city was interested in promoting the tourist industry and opening up more tourist spots to bring in more revenue to sustain the city's growth, eight spots (Shenzhen, Xili Reservoirs, Bijia Shan Silver Lake, Xichong, Chiwan, Dameisha, and Xiaomeisha Beaches) had been designated for active tourist expansion; most of them were close to reservoirs and beaches. Along with the opening of eight tourist spots, linking roads and accommodation hotels were also actively programmed by the city. Shenzhen Reservoirs Park,

constructed in 1960 for supplying water to Hong Kong, provided hiking trails, boating, pavilions, a restaurant, and an art exhibition hall. Xili Reservoir, located 30 km to the northwest of Shenzhen, was prepared for camping, cycling, horseback riding, shooting, and archery. Xiaomeisha is a fine natural beach, 36 nautical miles from Hong Kong, providing a high-end hotel, a golf course, yachting, and fishing. Some quick real estate projects located in Luohu and Shangbu Districts were developed by Hong Kong-based property companies, in cooperation with the Shenzhen Property Co. Most of them are 2 to 5-story residential buildings, with profit sharing at 4:3 (Shenzhen Government: investors).

By the end of 1985, fixed asset and infrastructure investment totaled 6.4 billion, with Luohu and Shangbu having expanded into 38.7 sq km of new districts and the total population reaching 470,000. The transportation spine, which was largely completed by 1991 with the opening of the two ports and the airport, basically follows the city's coastline from east to west, and its completion made Shenzhen a major manufacturing corridor for South China and encouraged urban development along the major routes.

F. Land and Housing Reform

Before the reform began, the Constitution stated that "no organization or individual may appropriate, buy, sell or lease or unlawfully transfer land in other ways." Land and property development had been excluded from economic activity before the

reform. Government acted omnipotently as financier, land owner, developer, and investor in all urban land and property development. Governments provided public housing and supplied offices and factories; individual initiatives and dynamic market forces were largely repressed.

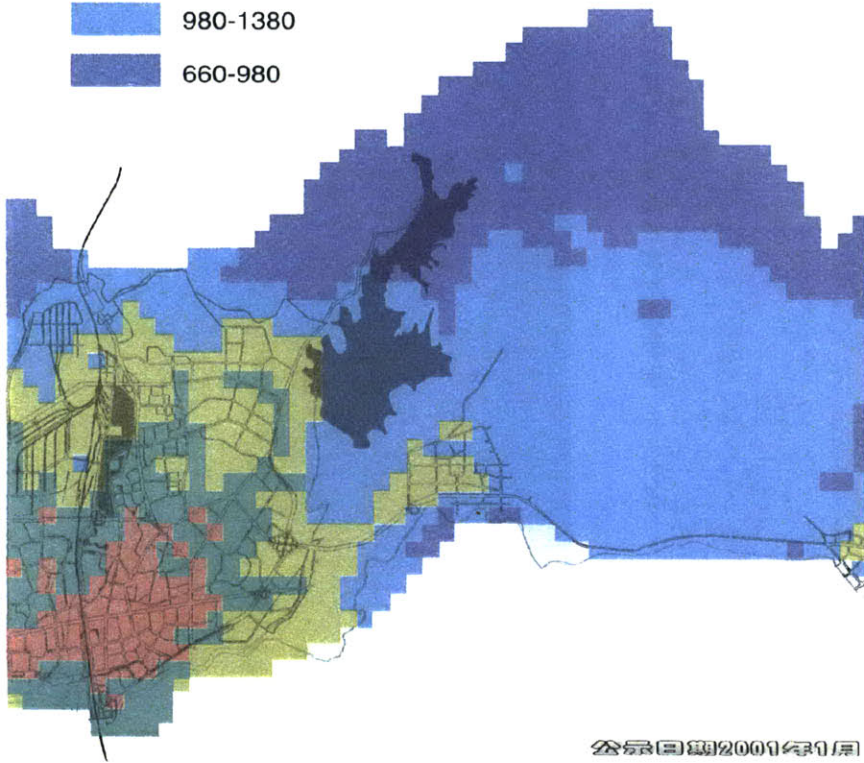
From 1982 to 1985, external projects flocked to Shenzhen with twofold annual increases. Shenzhen and all of China had had no land market, with all land owned by the state and distributed to SOEs without fees. Many investors demanded premises to rent or to buy land in order to be able to construct factories and start production immediately. Pushed by this market impulse, in January 1982, the Shenzhen Land Management Regulation declared the end of the era of free land use in the SEZ. From 1982 to 1983, the SEZ Development Company (SDC), one of the SOEs of the city, leveled and made infrastructure connections for an area of 80 ha in Luohu commercial district and let 40 ha of buildable land to tenants at an average lump sum rent of HK\$ 4000-5000/sq m, valid for 30 years.²⁴ Shenzhen Housing Company obtained three sq km of land and began the first test in China of commercial residential housing projects. From January to April 1980, the company's lands were coupled with capital from Hong Kong firms to develop Donghu, Cuizhu, and Hubin high-end housing. In September, the firm offered another 12,000 sq m of land close to Luohu Customs House to a Hong Kong company to build two 20-story high-rise buildings, the first mixed-use high-rise in China.

In 1983, the Shenzhen Government appointed 8 SOEs to be state-owned developers undertaking comprehensive urban construction in the market environment in all districts, and in 1984 some of them were allowed to become independent enterprises to compete with other foreign or private developers. SOEs in Shenzhen began to transform from being government land distributors to being market-oriented construction firms (or real estate firms). This was a unique transitional period when urban development could begin to be conducted based on the commercial principle.

In 1987, rights associated with a parcel of land were first auctioned in Shenzhen, which ended the age-old free land allocation system. This was epoch-making, although the state still owned the lands. Land use rights henceforth could be sold or transferred as a commodity in the market, which forced planners to re-think their practice. Before this, 99.8 percent of land was assigned to users through administrative allocation without transfers of land use rights and it belonged to SOEs of various government institutions. In December 1988, the National People's Congress amended the Land Administration Law to say that "the land use rights of state or collective-owned land may be transferred in accordance with the law." Allowing selling of land-use rights as a commodity was a pragmatic shift of Marxism. The value of the commercialized right to use land was recognized, which led to the establishment of a land market, permitting efficient and flexible allocation of land resources. In January 1988 new legislation—The

罗湖区 Luohu District

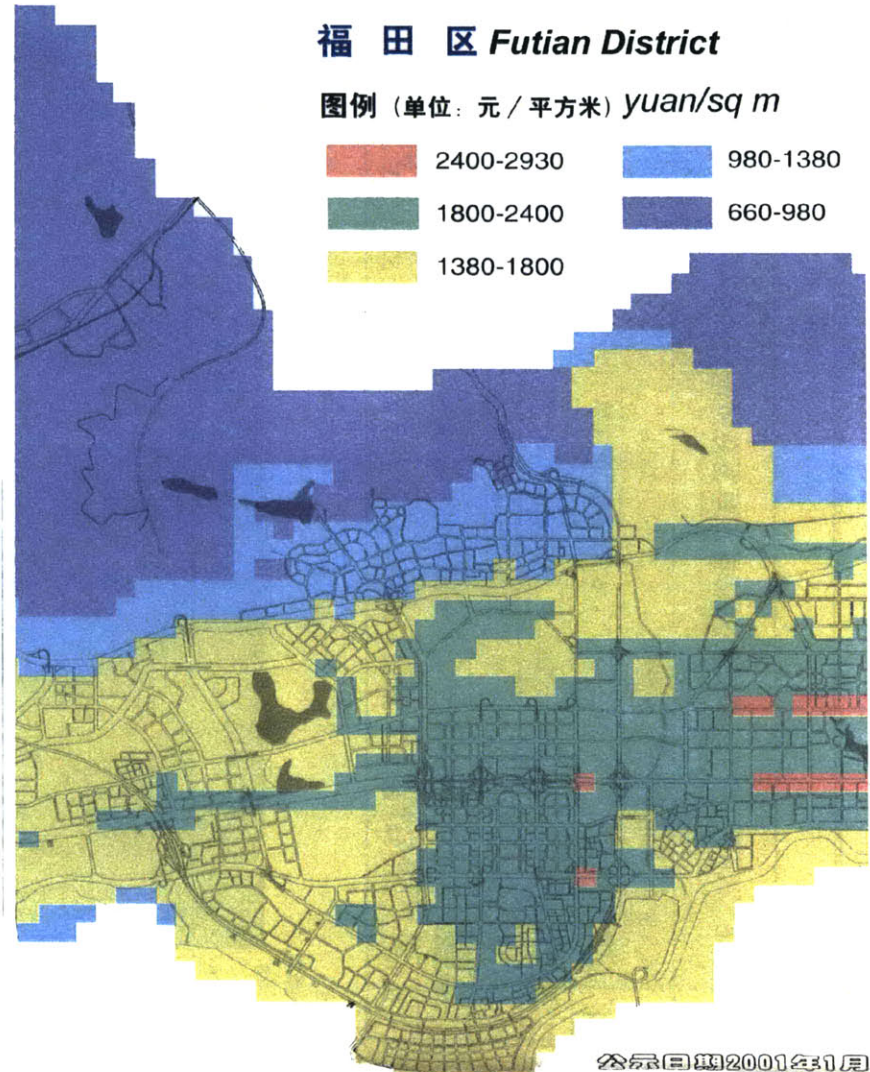
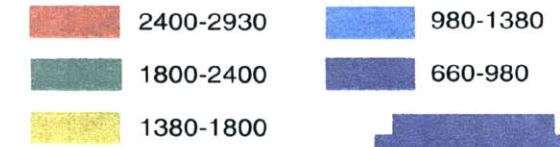
图例 (单位: 元/平方米) yuan/sq m



会录国图2001年1月

福田区 Futian District

图例 (单位: 元/平方米) yuan/sq m



会录国图2001年1月

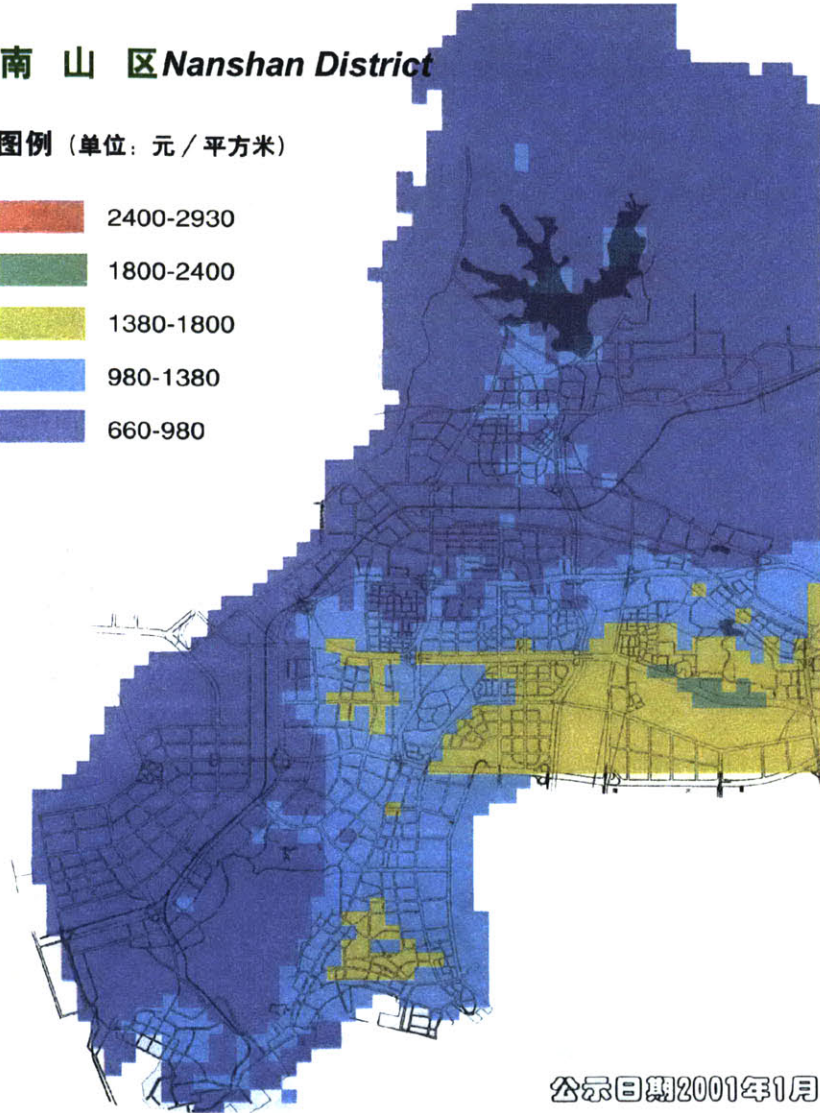
Figure 52. Land price per residential floor area (yuan/sq m), 2001

Source: *Shenzhen Real Estate Yearbook 2002* (Shenzhen: Haitian Publishing House, 2002), p.73.

南山区 Nanshan District

图例 (单位: 元 / 平方米)

- 2400-2930
- 1800-2400
- 1380-1800
- 980-1380
- 660-980

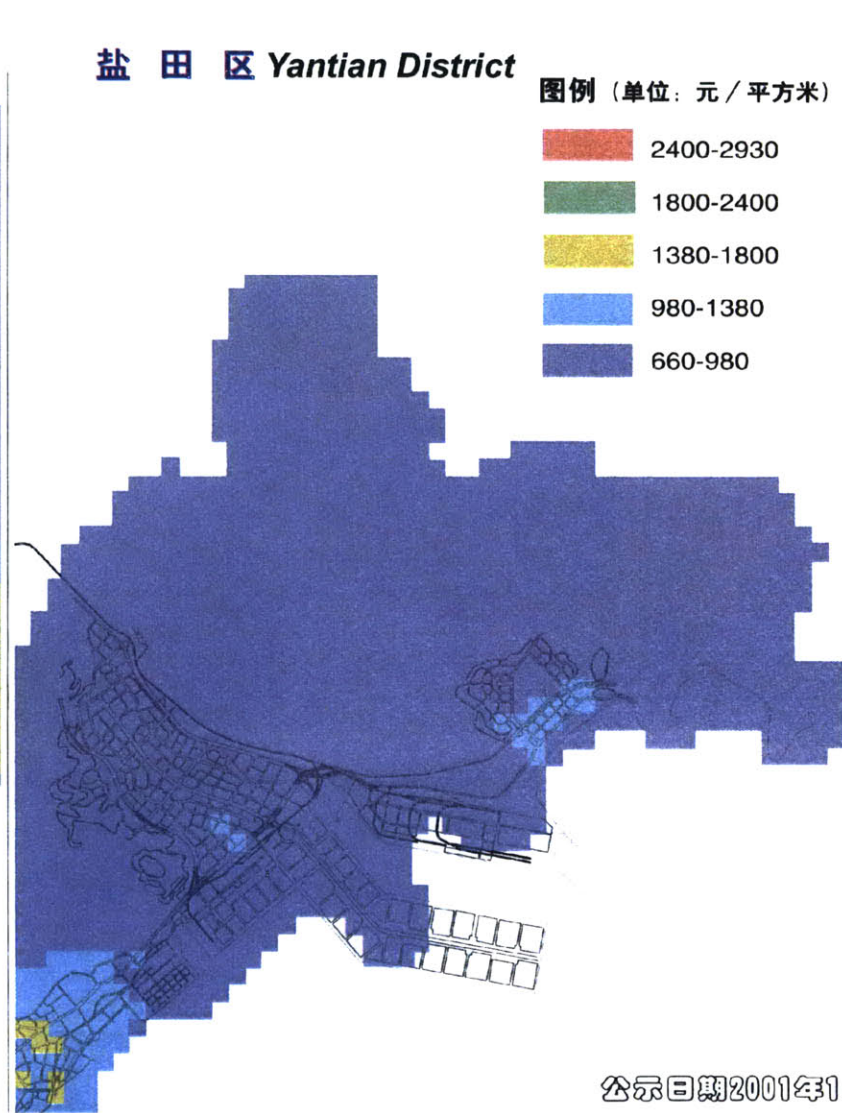


公示日期2001年1月

盐田区 Yantian District

图例 (单位: 元 / 平方米)

- 2400-2930
- 1800-2400
- 1380-1800
- 980-1380
- 660-980



公示日期2001年1月

Figure 53. Land price per residential floor area (yuan/sq m), 2001

Source: Shenzhen Real Estate Yearbook 2002 (Shenzhen: Haitian Publishing House, 2002), p.72.

深圳經濟特區總體規劃示意圖

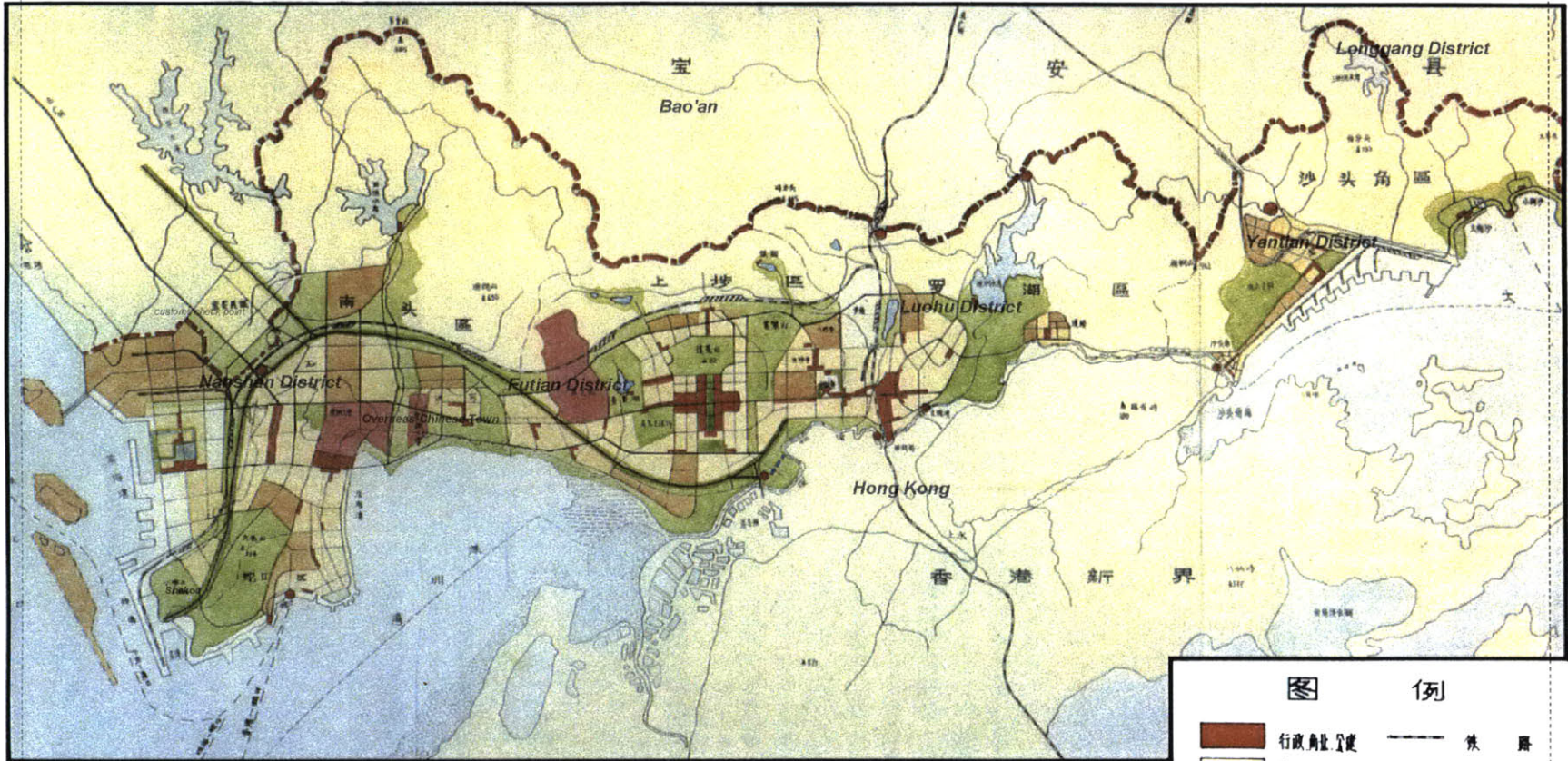


Figure 54. The First Socio-Economic Development Plan

Source: "Scaling New Heights and Opening Up Paths for Advance," in *New Look of Shenzhen Special Economic Zone* (Beijing: The Red Flag Publishing House 1985.)

Provisional Ordinances on Land Management of Shenzhen Special Economic Zone—was published. It said that land use rights could be transferred, leased, assigned, bequeathed, and mortgaged.

Before 1978, housing was also a “free good” built and constructed by the individual enterprise unit. Housing commoditization in China meant to turn housing from a free good to a “subsidized good,” and eventually to a “commodity.” Commoditization implied the right of property possession. The initial housing reform (1984-1993) focused on establishing a rental market for housing and selling publicly-owned dwellings by providing large government subsidies. The reforms can be seen as a means of raising funds to build new housing. However, although rents were low, large numbers of people were still unable to afford housing, and these programs were unable to generate significant housing sales in 1984. In 1988 the central government decided to stop the subsidy promotion of housing sales and sought to establish a market-based system of housing provision and privatization.

Of those buildings completed for the market in 1992, the residential sector accounted for roughly 82 percent nationwide. In urban areas, the major responsibility for providing housing rests with work units (SOEs and other public sector organizations) and housing bureaus. To avoid social unrest, of buildings completed in that year in Shenzhen, only 65 percent were market-rate. Housing remained a priority for the Government as the economy grew. The housing market was in a mixed and separated condition—welfare

housing for the lowest income group (mainly for people working for the Government and SOEs), minimal-profit housing (allowing developers only a certain minimal profit margin), and actual commodity housing. The commodity housing was further divided into two sub-sectors: internal market commodity housing and external market commodity housing (foreigners only). In Shenzhen, the residential price for the “internal commodity market was about 1/5 to 1/9 of that of the external commodity market.”²⁵ From 1989 onward to 1999, 50 residential neighborhoods had been developed. Residential prices (US\$1200 sq m in May 1993) in Shenzhen were always high compared to the other PRD cities.

7.1 million sq m of land were to be put on the market, of which 321,000 sq m were to be put up for tender, of which 93,000 sq m were to be available for foreign investors.²⁶ It was estimated that 6.6 million sq m of residential floor area were planned to be developed in 1993 alone. In this year, the reform of the housing system also ignited the long-awaited Chinese real estate industry. The release of land value strengthened the city’s ability to finance its construction projects and land became a major means of primitive capital accumulation for government authorities at various levels. Speculation on land by both enterprises and native villagers was widespread. Land development could be found everywhere; grounds were leveled, soil erosion accelerated, and ecological environments damaged.

The introduction of the land market has turned the urban

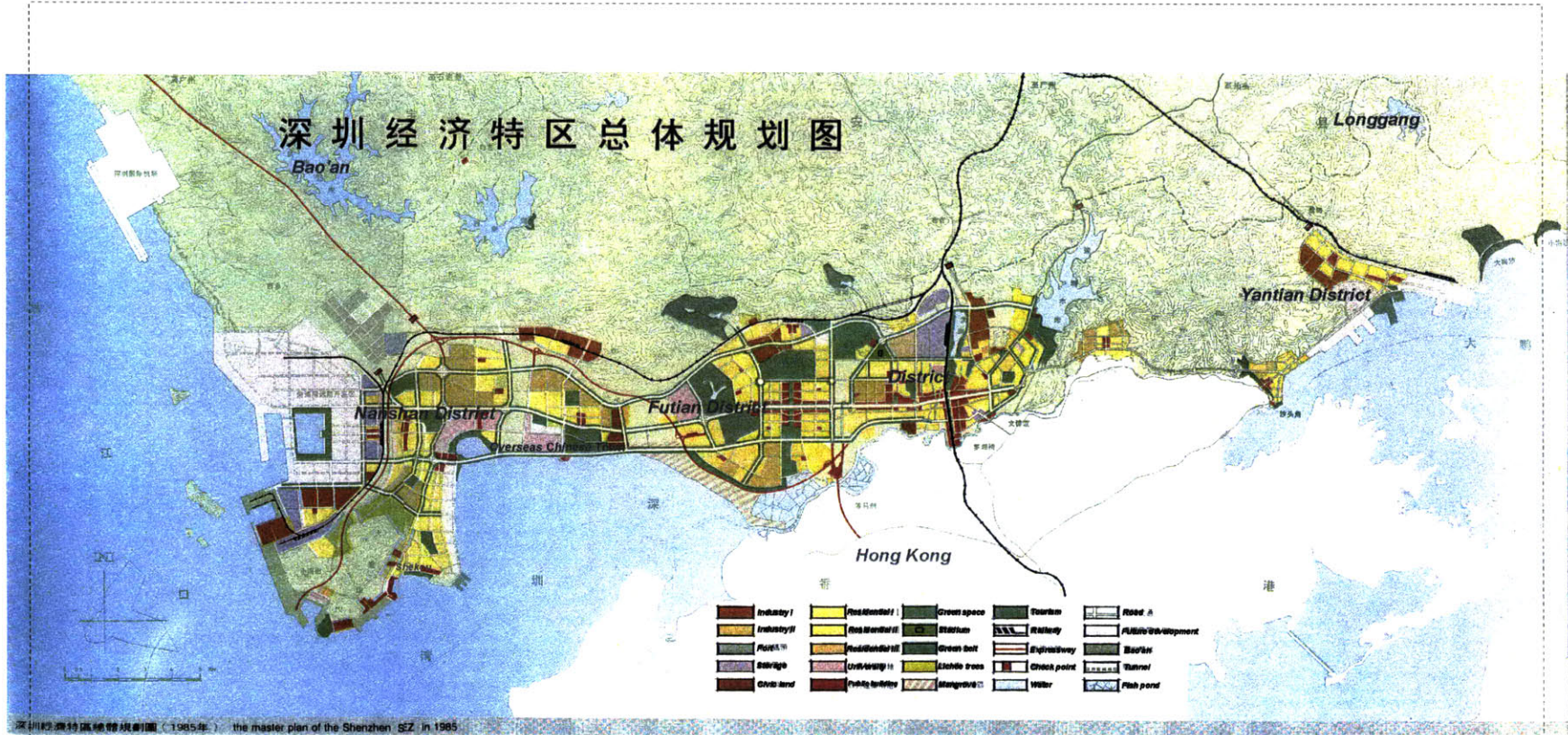
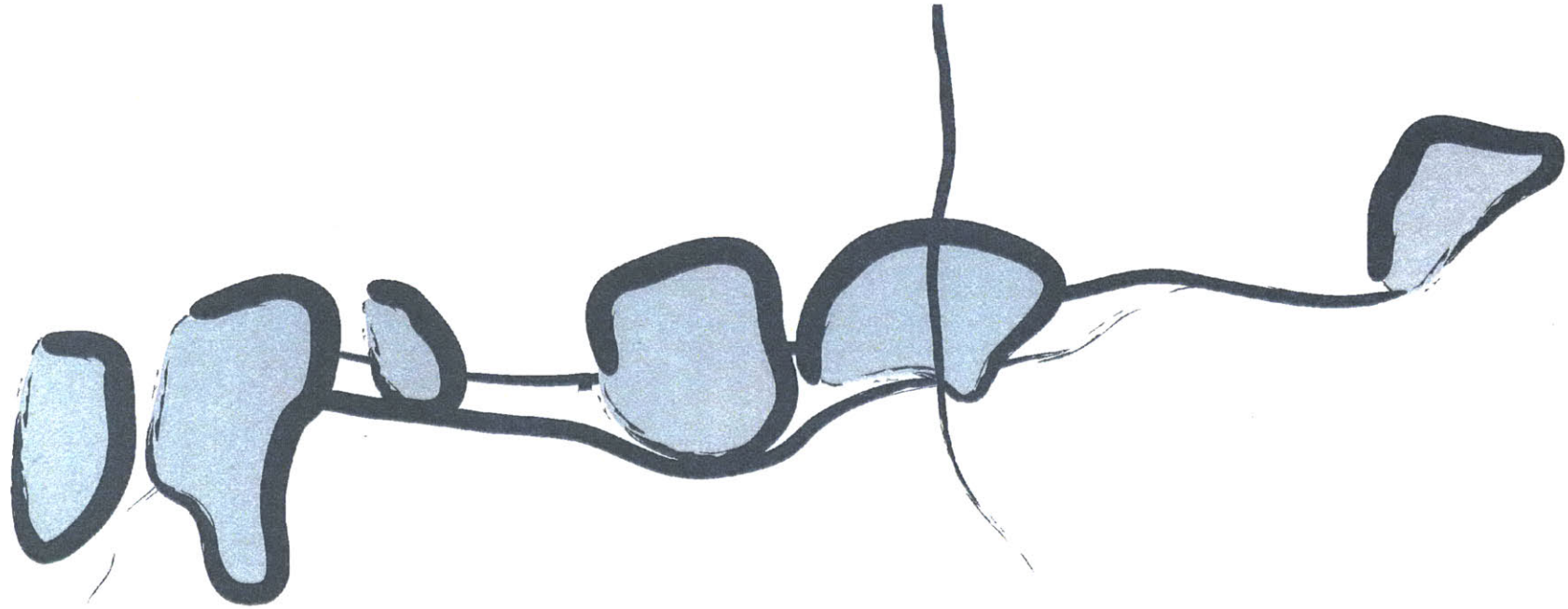


Figure 55. The Master Plan of the Shenzhen Special Economic Zone, 1985
 Source: Shenzhen Urban Planning Committee, *Shenzhen Urban Planning and Design* (Shenzhen: Haitian Publishing House 1990), p. 16.



1979

1985

Figure 56. Belt-cluster planning concept

spaces into a contested terrain of different prices (Figure 52 and 53). During the second property boom (1988-1993), partly as a result of speculation, the price of housing and shops increased by 6 times (YSRE 1995), after the new market witnessed a tremendous appreciation of property values. To curb the overheated economy and land speculation the city established special licenses to limit new projects and the central government imposed macro-adjustment measures.

G. The Second Socio-Economic Development Plan (1984-1989)

In early 1984, Deng Xiaoping paid an official visit to Shenzhen and Zhuhai, and highly praised the zones. Subsequently, fourteen coastal cities were designated as being open to foreign investment. Former premier Zhao Ziyang also visited Shenzhen in December 1984. Both men demanded that Shenzhen play a strengthened *more comprehensive* economic role on top of its original role as an exporting base—that it became a national radiation pivot

(Four Windows: technology, management, knowledge, and open windows; and Two Radiations: a medium connecting domestic and foreign). Deng reiterated the government's determination by saying "the open door policy will not be changed; if changed, it will only become even more open. Without the open policy, there is no hope for the four modernizations" (*Ta Kung Pao*, August 4th 1985). At the first meeting of the Shenzhen Urban Planning Committee in May 1986, Major Li Hao emphasized 1) using some foreign cities as good examples for Shenzhen planning's reference; 2) introducing advanced and automatically controlled public utilities; 3) gaining economic returns based on sequential development phasing; and 4) seeking balance between current needs and future visions, and economic and social development. Shenzhen's future growth should be aimed at the connection with Hong Kong, to promote the prosperity of both. Some expensive cultural projects should either be executed at a lower standard or deferred.²⁷ The government also updated the threshold of selecting those enterprises that export at least 70 percent of their goods among large-scale high-tech enterprises.

In 1985 there were widespread comments on the poor performance of the Shenzhen SEZ in terms of the heavy capital expenditure on infrastructure provision, the low level of foreign capital input, insufficient investment in manufacturing production, the draining of valuable foreign exchange in commodity trading, and the shift in the role of the city away from export-oriented

economic entities. Up to 1985, Shenzhen SEZ had spent RMB 4,500 million on infrastructure construction and an estimated 40 percent went towards urban construction, communications, and post and telecommunications installations, but only managed to obtain less than half of that amount in foreign capital (*Ming Pao*, October 16th 1985). Only 30 to 40 percent of industrial production was exported. Large quantities of foreign goods entered the city every year to penetrate into other parts of China via the stream of domestic travelers (two million in 1985 alone), taking advantage of the price differentials of a wide range of commodities. Initial projects in Shenzhen involved tourism, recreation, retail, luxury hotels, and housing development. It seemed that efficient economic structure rather than construction speed should be the government's focus.

In 1986, referencing and adopting Hong Kong's urban planning standard and experience, the China Academy of Urban Planning and Design Shenzhen, invited by the municipal government, completed the Second Socio-Economic Development Plan (Figure 54 and 55), further solidifying current, medium-term, and long-term economic goals. The planning area was 123 sq km and the projected population 1.1 million. It also defined paramount strategic issues such as the city's coordination with Hong Kong after its handover after 1997; century-crossing projects such as the utilization of Yantian and Mawan deepwater ports; and the construction of a petrol-chemistry base. The five clusters,

Shatoujiao, Luohu-Shangbu, Futian, Overseas Chinese Town, and Nantou, divided by topography and rivers and including 15 industrial districts within them, were clearly specified as relatively independent systems. To reduce cross traffic within the SEZ, comprehensive functions were allocated within each cluster, and each cluster had its own foremost role (Figure 56). Due to mountainous coastal geological features, the Eastern cluster has tourist attractions and a good port; the Luohu and Shangbu clusters are for commerce, storage, housing, government offices, and industrial zones; Futian cluster would be used for international financial, commercial, trading, and convention purposes; Shahe cluster is composed of Overseas Chinese City and colleges, tourism, and industrial zones; Nantou cluster, which is the largest comprehensive cluster, includes Shekou, Qin Hai reserved land, Nanhai Oil Logistic Service Base, Science and Technology Park, Shenzhen University, and Mawan Port. All the land uses for the five clusters along three east-west transportation arteries (Shennan Boulevard, Beihuan Road, and Binhai Coastal Road) were defined. The traffic nodes and network were deliberately organized (Figure 57 and 58). Creating expressways to Guangzhou and the rest of PRD were an urgent solution to rapidly expanding traffic volume. Wide bicycle paths were separated from main roads, which would be additional roads for cars in the future. Beihuan express road, located in the northern city, would become the chief east-west goods transportation artery.

Luohu and Wenjindu Customs Houses were expanded, and to facilitate logistic transportation from Hong Kong, three new customs houses, Shatoujiao, Shekou, and Xiaomeisha, were planned to be opened. This time, planners paid attention to city design and environmental protection. For instance, they attempted to use buildings to create an alternating “open” and “compression” spatial rhythm along Shennan Boulevard; some heavily polluting factories would be forced to move out of the SEZ; waste water would be treated before its discharging into rivers; besides existing parks, the plan also arranged for public green spaces and 22 more parks. Prospective lands were conserved in advance in case of ambitious future needs. For instance, Gongmin and Hengang counties outside the SEZ were reserved for satellite city development; the paths for the subway and light rail routes were schematically delineated and the land for the two runways of Shenzhen International Airport, based on international airport standards, was reserved to the west of the city. The plan also outlined the design for a potential new downtown, a 4 sq km site located in Futian District for the city’s future CBD development.

The plan was, a semi-open enacting process, intended to be standing on a high point to look far. It sought a flexible balanced position for the city’s rapid economic development and population growth, in order to meet possible future needs and to ensure each cluster could be strategically developed, based on economic phasing. It was the first time that each cluster was encouraged to

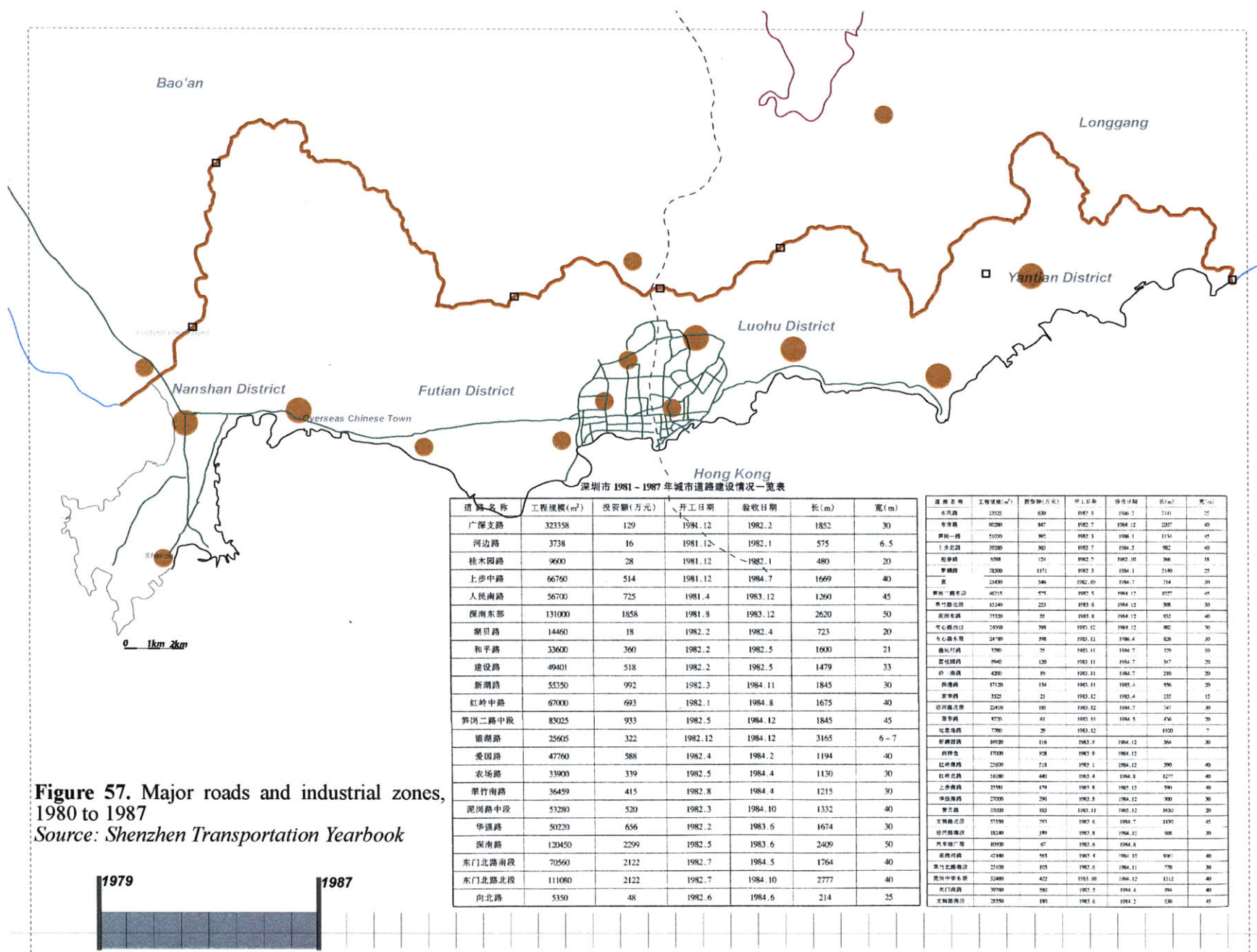


Figure 57. Major roads and industrial zones, 1980 to 1987
 Source: Shenzhen Transportation Yearbook

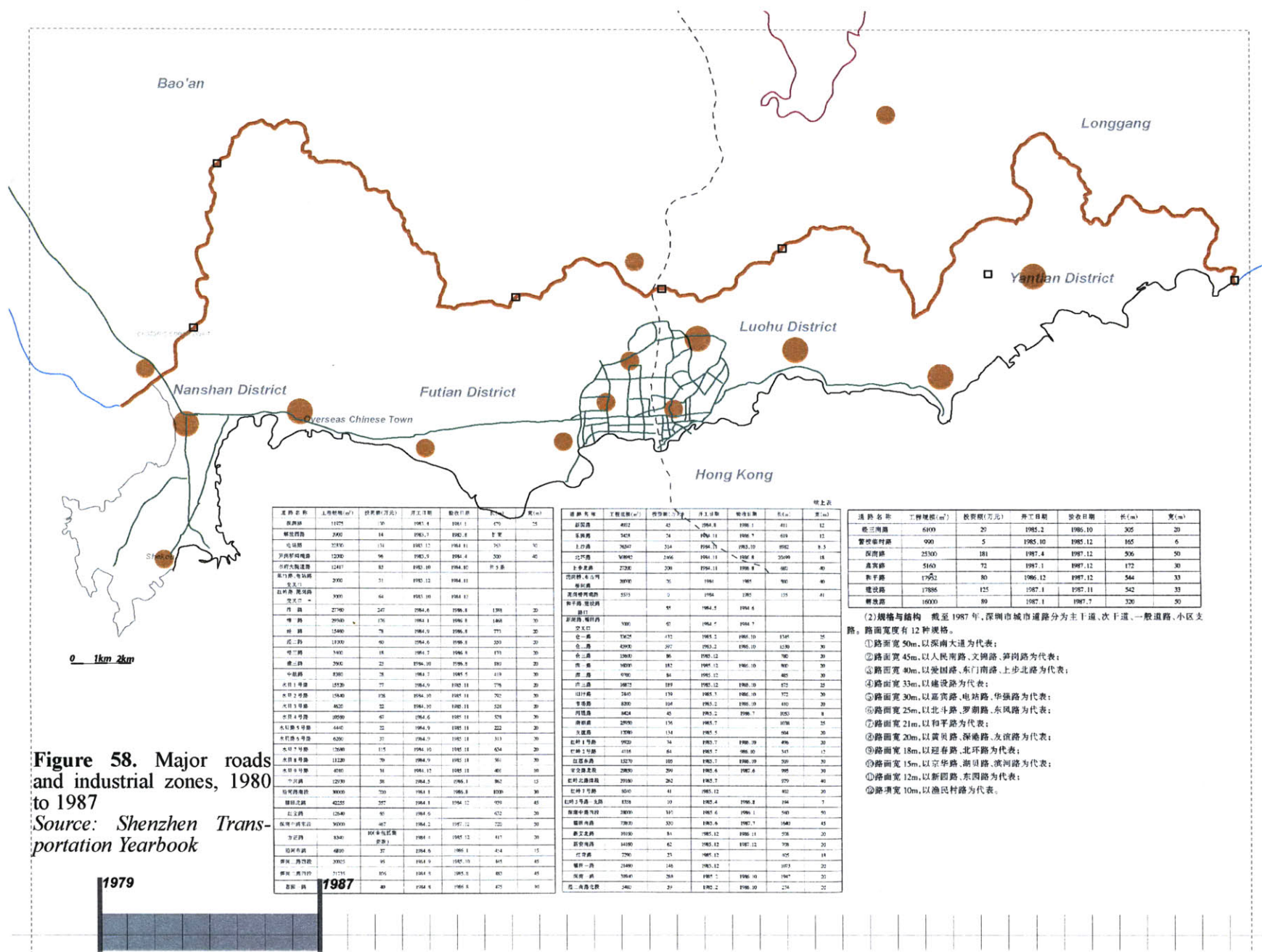


Figure 58. Major roads and industrial zones, 1980 to 1987
Source: Shenzhen Transportation Yearbook

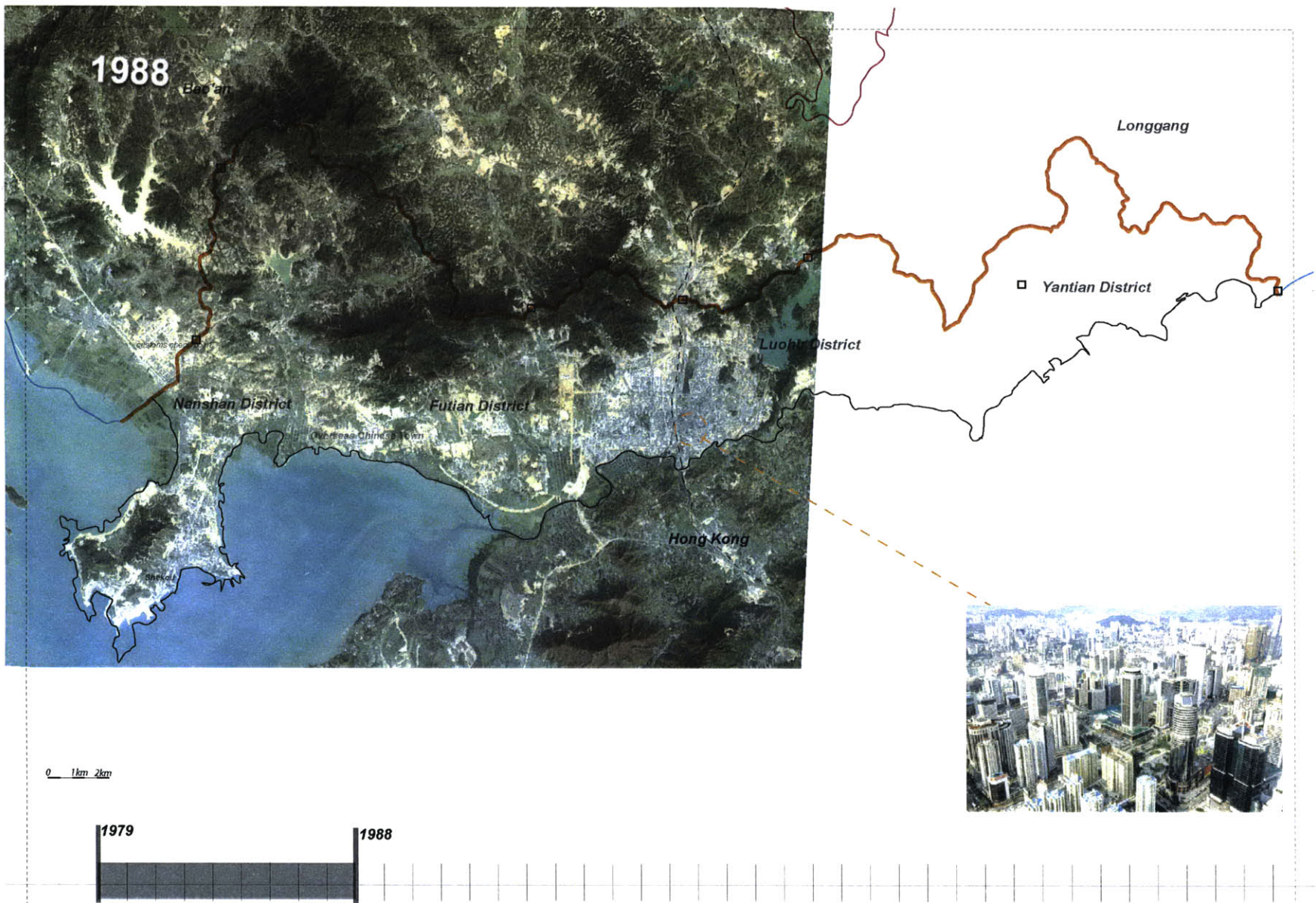


Figure 59. Shenzhen, 1988

Source: <http://svs.gsfc.nasa.gov/vis/a000000/a002700/a002763/index.html>

seek its own spatial character development (through international design competitions) and define in some detail the land uses. But the plan unnecessarily decided the benchmark color for the city's architecture's color: white and milk yellow.

The second plan was a landmark in Shenzhen's urban planning history. It integrated two indispensable elements, socio-economic and spatial planning, together. However, rural towns outside the SEZ were still not covered by the plan. These towns, working hard to attract industrial factories through the establishment of their own mini-economic zones inside villages and on arable land, randomly grew on their own for about 10 years along the major northern highway linking to the northern hinterland. Shenzhen Municipality had very limited control over the development occurring outside the SEZ. Moreover, residential housing density in some areas of Luohu District was rather high in order to obtain higher economic return, causing some unpleasantly compact high-rise groups. This plan, although it had a land use category for commercial activities, did not clearly specify the proportion for it, as it did for the other five major categories such as residential (20-22 percent) and manufacturing (15-17 percent).²⁸ Commercial land use was thus not plotted on the master plan. The plan had seriously underestimated the rate of population growth which would be encouraged by better paid employment. This plan was revised again in 1989, with a projected population of 2 million by 2000, and an urban area expanded to 150 sq km.

H. New Planning Practice (1989-)

During the Cultural Revolution, urban planning was utterly abandoned and planning bureaus were dismissed. Subsequently, within the framework of a national goal of self-sufficiency for each province or region, the planning would consider, in order of importance: (1) function, (2) economics, and (3) aesthetics. In 1984, the Regulation of Urban Planning was promoted by the State Council, a guide for urban planning practice. In 1989, the City Planning Act, a milestone in the history of Chinese urban planning, was enacted, which set up a comprehensive urban planning system by law for the first time.

The shortcomings of the earlier two-tier urban planning system had been exposed during the deepening of economic reform. In Guangdong and Jiangsu Provinces, some investors were free to ignore the local planning regulations and take advantage of some "vacant areas" of the planning system. This was a particularly serious problem at the county level outside major municipalities, in particular the misuse of arable land for urban purposes. Inadequate development control led to the diminishing effectiveness of urban planning.

One of China's most prominent renaissance men, Yu Guangyuan, pointed out in 1982 the importance of city-centered economic development regions. After 1984, to achieve the goal of annihilating the gap between town and country and integrating industry and agriculture, Chinese cities extended their

administrative boundaries to include a number of outer ring rural counties (*xian*). The outer ring constitutes the sources of the central city's grain, daily non-staple food supply, and land resources for future development. Geographers and urban planners began to rethink symbiotic relations between the cities and their counties. As Pannell has noted, the formation of the city region in China allows cities to organize their functional territory as unitary systems, which is not just a unique character of Chinese urbanization but also a remarkable achievement, for a state so dedicated to revolutionary change to grasp the traditional wisdom and incorporate it into contemporary plans for one of its most dynamic parts.²⁹ The central city or municipality (*shi*), referred to as a continuous built-up area, is subdivided administratively into various "urban districts" (*qu*). Thus, urban planning began to influence the development of infrastructure in suburban and county areas, enabling their growth in orientation to the municipality's macro-economic policy. Bao'an and Longgang counties, outside the Shenzhen SEZ, were incorporated under Shenzhen Municipality's umbrella in 1993.

Witnessing the rapid growth under the market economy, especially the booming real estate market around 1993, the planners realized that the planning enacting process should not just be a top-down procedure. They began to balance requests from the general public as the planning's feedback mechanism, and public engagement is gradually merging into the planning process, which is critical for increasing the possibilities of government's making "right" decisions. Absorbing urban planning experience of the past

and based on the two-tier framework, Shenzhen's urban planning system is evolving from a two-tier system to a five layers system. It is a notable philosophical shift—pragmatism relying on economic efficiency and technical feasibility to justify urban planning decisions.

Old two-tier planning—the master plan and the detailed plan—apparently lacked coordination between the two. Shenzhen's planning has evolved to five layers. At the top of the system is the City Comprehensive Plan that outlines the city's general function, the target planned size of the city, the standards, norms and criteria for main constructions in the city, the land use structure, comprehensive transportation system, water resources, green space system, and strategic macro-economic and sustainable goals. The City Comprehensive Plan also sets up the objective of regional coordination with the rest of the cities in the PRD.

The second level is the Sub Regional Plan that coordinates the growth of the SEZ, Bao'an, and Longgang within the city-region and among themselves, to ensure the continuity and integrity of the City Comprehensive Plan. The City Comprehensive Plan only covers the Shenzhen SEZ and leaves a large part of the city-region not covered. The Sub Regional concentrates on rational arrangement and coordination of spatial structure and form, infrastructure linking, land pattern, and resources within the city-region.

The third level, the Urban District Plan (or Administrative District Plan), is one of the efforts to link the master plan with the



Figure 60. Birds' eye view of The Windows of the World

needs of day-to-day development control. Although the master plan shows the future urban structure, it does not specify the detailed land uses at the land parcel level. Urban District Planning, converting the master plan into city land layout, attempts to complement the master plan by disaggregating land development into urban planning districts, and to achieve better coordination between master planning and detailed planning.³⁰ Each planning district has a set of indices to control its development intention, land supply, and public facilities locations and layout. This level

also clearly defines the scopes of various civic infrastructure pipes for construction purposes.

The next level is that of Regulatory Planning and Ordinances, participated in by the general public. The plan particularly concentrates on public goods, including public and civic facilities, environment, use functions, and intensity. The Ordinance level took effect in 1998 and led urban planning in Shenzhen down a legal road. A new Urban Planning Board was also established at the Ordinance level, which is comprised of

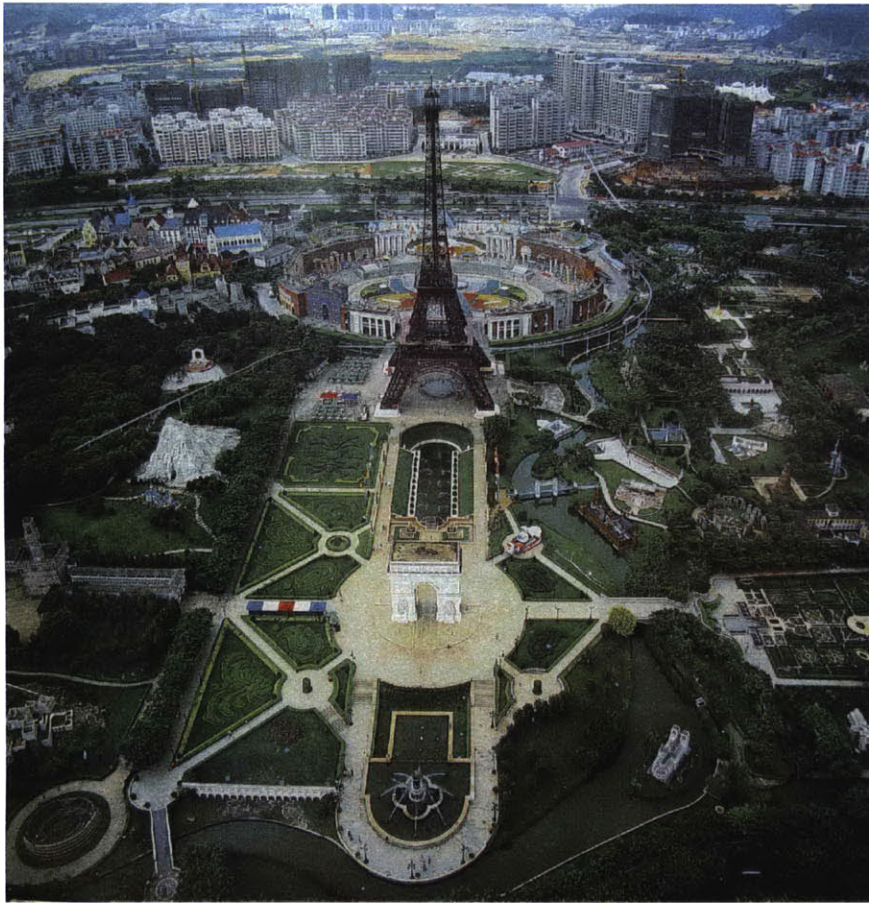


Figure 61. The Windows of the World

government officials, related experts, and societal representatives. In 1999, the first 11 “regulatory plans and ordinances” were put into effect in accordance with the statutory procedure.³¹

The last level is Detailed Development Plan. It is used as reference documentation of city construction according to Regulatory Planning and Ordinances. It provides detailed

principles, such as building group layout, public interfaces, local traffic flow directions, and environment design, for some specific important parcels. All plans are approved mainly by the Ministry of Construction or the State Council.

I. Mosaic Town: Huaqiao Cheng (The Overseas Chinese Town)

Shortly after the Special Economic Zone was established, the Central Office for Overseas Chinese Affairs and the Shenzhen government jointly commissioned a planning team headed by Mr. Meng Daqiang from Singapore (born in Taiwan) and comprised of experts from America, England, and Australia to produce a concept plan for the Overseas Chinese Town (OCT). The general concept plan of the OCT is based on the theory of the “large multi-function community,” with projected financing by overseas investors in the initial stage.³² The planning scheme suggests an adaptive development intervention with local context and topography and a phasing strategy that allows local developments to gradually merge into its final plan framework. As a result, the geographical terrain remained unaffected by the speed-driven mentality of “seven links and one leveling” that totally ignored the local ecological context. The old Chinese philosophy of living in harmony with nature seemed to revive in people’s memory, although present only in such a small area of the entire city. The entire area enjoys the best urban environment in Shenzhen and probably even in all China.

The OCT Group is a government planning and development



Figure 62. Donghai Garden

enterprise, responsible for land allotment within the Overseas Chinese Town to all enterprises, for the city's infrastructure construction, and for real estate development. In the meantime, it is also an official bureau to negotiate with foreign investors, set up at the very beginning of the Shenzhen SEZ, before the setting-up of the comprehensive market system. In 1989, the OCT Group established China's first theme park—the Splendid China Miniature Scenery Park using a piece of 28.6 ha hilly land bordering on Shenzhen Bay. Modeled on the terrain of China, the landscape consists of 9 scenic groups placed according to their real location in the country. A total of 74 views chosen for the first stage of the project are all nationally well-known cultural sites. Some traditional Chinese residential houses were built around the northern site. Its



Figure 63. Italian style villa

appealing advertising slogan, “Going Back in History in One Step and Traveling across China in One Day,” has proved magnetic and has attracted an increasing number of visitors from home and abroad. Using the management experience of Disneyland as a reference, the OCT Group has achieved exceptional success. Within a year and a half, the group had earned back its investment of more than RMB 70 million *yuan*. Following the success of the Splendid China, the OCT Group later set up several other theme parks, including the China Folk Culture Village, Window of the World, Wildlife Zoo, and Happy Valley, which have all been among the hottest tourist sites for an annual 40 million visitors

from China and abroad. Adjacent to Splendid China, the China Folk Culture Village is a museum of China's 55 ethnic groups with their distinctive architecture, customs, and exotic flavor. Twenty-four life-size ethnic villages present various ethnic flavors from Beijing's courtyards and wooden archway to the spectacular buildings of the Miao, Dong, Yao, and Jingpo ethnic groups, and from the wooded Banyans in Xishuangbanna to slender Suzhou bridges and mysterious Lijiang houses. The Windows of the World (Figure 60 and 61) covers 480,000 sq. meters right next to the Splendid China Miniature Scenic Spot and the China Folk Culture Villages. Divided into 9 areas, a total of 118 of the world's most famous monuments and scenic wonders vie for your attention. They include Grand Canyon, Mt. Rushmore National Memorial, Niagara Falls, the Pyramids and Sphinx of Egypt, the Acropolis of Athens, the Leaning Tower of Pisa, the Kremlin, the Eiffel Tower, and the world-famous Taj Mahal. All these replicas are built on scales of 1:1, 1:5, or 1:1.5. While the theme parks, in the south part of the town, have attracted millions of tourists, to the north, luxurious apartment districts situated in meticulously landscaped neighborhoods are sought after by the rich and elite class.

The OCT is a paradoxical "collage" of world architectural elements, abused by different real estate developers as selling illusion points in the consumerism age. Here, on one hand, entertaining projects such as Splendid China and Cultural Folk Villages sought to root themselves in the soil of traditional Chinese

culture and architecture and forge a local spirit. On the other hand, in order to take part in international interaction and adapt to market-oriented society, without systematic digesting both, it is superficially bringing in scenic and flamboyant alienating images like Italian villas (Figure 63), a Venetian hotel, traditional Chinese-style restaurants and gardens, the Eiffel Tower, and Dutch windmills, which definitely challenged the previous identity. The application of foreign styles did not generate feelings of insecurity and alienation as it used to do; rather the opposite, exotic foreign styles were somehow outlandish symbols of the prestige and security of a modern lifestyle. The Western postmodernism that initially started as a way out of the dead end of International Style, now provided Chinese architects a design alternative driven by the market mechanisms. The clash clearly indicates that a modern city like Shenzhen lacks profound and secure guiding and consistent ideas (theories) to create "deep" identity belonging to itself and to be able to "modernize" some traditions, without going astray in global plural culture and eclecticism. Architecture design in Shenzhen, even in China, also urgently needs non-nostalgic theoretical and procedural support to forge a new architectural language. A convincing abstract *language*, not schizoid decoration, suitable for a modernizing society, is needed to help the city image transition from a "production backyard workshop" to a livable and sustainable city.

We need new languages, because market forces will "fashionize" some decoration components and strip them off from

their organic "language grammars" and make them commercially universally applicable. Although all the schismatical and ostentatious architectural treatment of the OCT brought quick commercial success, in the long run, its "thoughtless pick up" philosophy threatens ineluctably spread to the entire city and create a fragmented city image. Actually, we can see a rendition of this consequence from some a real estate project such as Donghai Garden (Figure 62). Shenzhen does not need a "what you see is what you get" post-modernism physical environment as theorized by Robert Venturi. As Xiaodong Li pointed out "here, the adopted eclecticism was not a tool with which to perform a critique, rather an attempt to impose a visionary utopia out of their own fantasy."³³

(Notes)

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¹⁷ Changren Luo, "Shenzhen's City Construction and Architecture," in *The Shenzhen Construction Technique Document Compilation* (Shenzhen: Shenzhen Building Science Center, 1987), no.1, p. 2.

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IV. City and Regional Nexus (1993-)

A. Reflection and Restructuring

Further opening up of China was precipitated by Deng Xiaoping's Southern Tour of 1992. He encouraged the mayors of Shenzhen and Guangzhou to speed up the formation of a market economy and soon that encouragement spread throughout China. The Chinese leadership stressed the national strategy of "*Kejiao xingguo*" (developing the country with science, technology, and education) in 1995. At the same time, the domestic market had strengthened competition among cities and provinces, including to develop technology and science, attract personnel with advanced knowledge, and bring in foreign capital. PRD and Hong Kong had entered a new stage of economic structural adjustment and restructuring since the mid 1990s. Hong Kong's economy became conspicuously dependent on financial services. Shenzhen saw this opportunity to update its manufacturing to foster high-tech industry through science parks which might mutually benefit both megacities. Shenzhen aims to become a regional *nexus* of finance, trade, information, logistics, commerce, transportation, and tourism. Such a macro-strategic shift was also based on the fact that more other Chinese cities were increasingly competing with Shenzhen—more cities open to the outside world and having special policies granted to them.

How could genuine "zero pollution" high-tech firms be

attracted to Shenzhen's high-tech science parks to make the city a sustainable city? The city enacted about 300 laws, 70 percent of them related to market reform. In 1998, "Regulations on Further Supporting the Development of High-Tech Industries" and four other regulations were promulgated.¹ With legal incentives and further exemption from income tax on high-tech industry, foreign direct investment to the city increased 2.5 fold from 1993 to 2001.² Shenzhen High and New Technology Park next to Shenzhen University was established in 1996, forming the center of the 8 new technology parks (High-tech Industrial Belt) (Figure 65) with different concentrations. Shenzhen's high-tech industrial sector, including information technology, biotechnology, software, new materials, and optical-mechanical-electronic engineering as its five pillars, has experienced a phenomenal growth rate; there were a total of 1749 industrial enterprises in 2001 and 55.5 percent of total industrial output value was for export. Shenzhen, together with Guangzhou, would act as testing incubators for high-tech identified by the Ministry of Science and Technology. In fact, the industrial restructuring strategy strongly demands substantial regional coordination and cooperation, such as with Hong Kong, Guangzhou, Zhuhai, and Dongguan. With rapid economic development in the 1980s, starting in 1990 the city strives for "synthetic effectiveness" rather than "simply efficiency," pursuing a well-balanced market economy to grasp the opportunities of the age of globalization and information technology. Shenzhen has managed to move towards an "International City" with high-tech

Year	Population (in thousand)				GDP				Built-up area (km ²)
	Municipality total	Shenzhen SEZ			Shenzhen SEZ				
		Total	Permanent	Temporary	Primary sector (%)	Secondary sector (%)	Tertiary sector (%)	GDP per capita (yuan ^a)	
1979	314.1							2.9	
1980	332.9	94.1	841	10.0	11.9	38.1	50.0	1766	3.8
1981	366.9	131.3	983	33.0	7.3	48.8	43.9	2682	5.5
1982	449.5	198.6	186	70.0	5.0	50.8	44.2	3363	8.7
1983	595.2	285.0	150	12.00	4.8	50.3	44.9	3993	10.4
1984	741.3	337.5	114	146.1	2.1	48.6	49.3	5753	17.9
1985	881.5	469.8	219	237.9	1.2	48.0	50.8	6698	47.6
1986	935.6	488.7	257.4	231.3	1.8	46.6	51.6	5751	48
1987	1154.4	599.6	286.9	312.7	2.7	43.3	54.0	6596	58
1988	1531.4	784.0	321.9	462.1	1.9	45.2	52.9	8252	61
1989	1916.0	1026.9	362.0	664.9	0.9	48.8	50.3	8331	61
1990	2019.4	1009.8	395.3	614.5	0.3	50.1	49.6	11,445	69
1991	2385.3	1198.0	432.1	765.9	0.5	52.5	47.0	14,601	72
1992	2609.0	1220.1	472.8	747.3	0.4	51.0	48.6	18,432	75
1993	2949.9	1189.4	521.4	668.0	0.2	55.9	43.9	26,445	81
1994	3355.1	1475.3	565.2	910.1	0.2	55.7	44.1	33,510	84
1995	3451.2	1511.8	599.6	912.2	0.15	50.7	49.2	39,964	88
1996	3584.8	1603.0	632.8	970.2	1.70 ^b	50.3 ^b	48.0 ^b	27,005 ^b	101
1997	3796.4	1751.0	681.2	1069.8	1.40 ^b	49.3 ^b	49.3 ^b	30,619 ^b	124
1998	3949.6	1846.3	714.8	1131.4	1.30 ^b	50.0 ^b	48.7 ^b	33,282 ^b	129
1999	4051.3	1907.1	748.1	1153.8	1.20 ^b	50.6 ^b	48.2 ^b	35,896 ^b	132

^a Current price, 1 RMB yuan = 8.29 US\$.

^b As some data for the SEZ are not available, these are figures for the whole municipality, the GDP per capita of which is lower than that for the SEZ.

Sources: Shenzhen Urban Planning Committee and Shenzhen Urban Construction Bureau (1990), *Shenzhen Urban Planning and Design: A Compilation for the First Decade Celebration of Shenzhen Special Economic Zone*. Haitian Press, Shenzhen; Shenzhen Statistics Bureau (1995), *Shenzhen Statistics Yearbook*; Shenzhen Statistics Bureau (1999), *Shenzhen Statistics Information Yearbook*, obtained from the China Statistics Database provided by the Chinainfobank (<http://www.chinainfobank.com>).

Figure 64. Economic and urban development in Shenzhen Special Economic Zone between 1979 and 1999

Source: James Jixian Wang, Jiang Xu, “An unplanned commercial district in a fast-growing city: a case study of Shenzhen, China,” in *Journal of Retailing and Consumer Services*, no. 9, 2002, p. 320.

industry, but existing Luohu downtown seems unable to fulfill the new goal of the city. A new Futian CBD for the Municipality is needed for its 4.7 million population (Figure 64) (over 7 million, or even 10 million, if unregistered population is included, in 2003).

In 2001, after 10 years’ efforts, 205 high-tech firms were located within the city, including many of the world’s top 500

enterprises, such as IBM, Seagate, Compaq, and Lucent. Shenzhen’s hi-tech park became among the top three of China’s 52 high-tech parks, and led the city to jointly hold an annual China International High-Tech Achievement Fair with the Academy of the State. Some “low-end” industrial projects were moved out of the SEZ. The SEZ itself was becoming the regional center of a business services industry supporting the surrounding manufacturing economy of the PRD economic region. In the meantime, the city’s economic reconstruction began to direct its suburban districts Bao’an and Longgang’s urban economy and accordingly regulated their urban

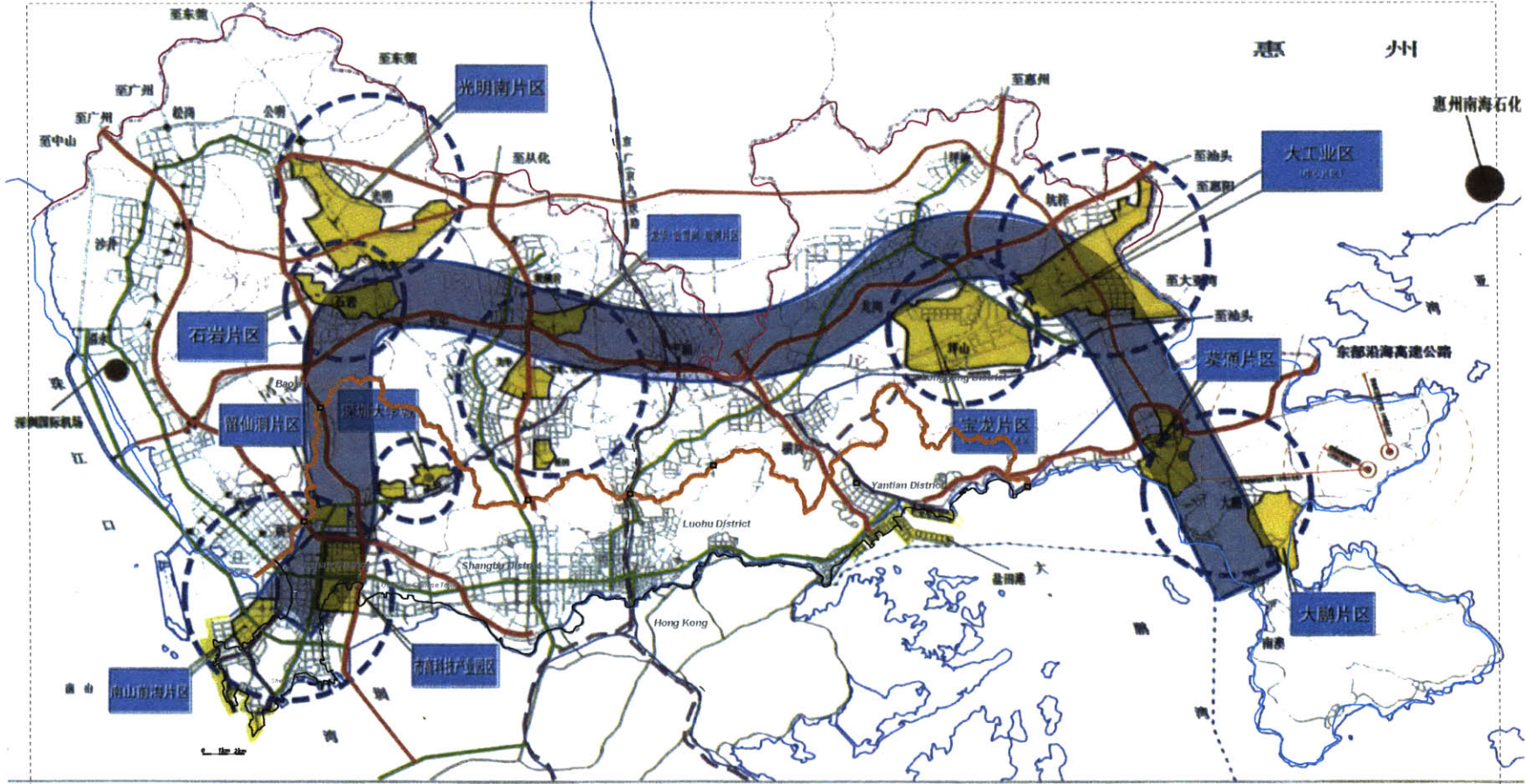


Figure 65. Shenzhen's planned high-tech industry belt

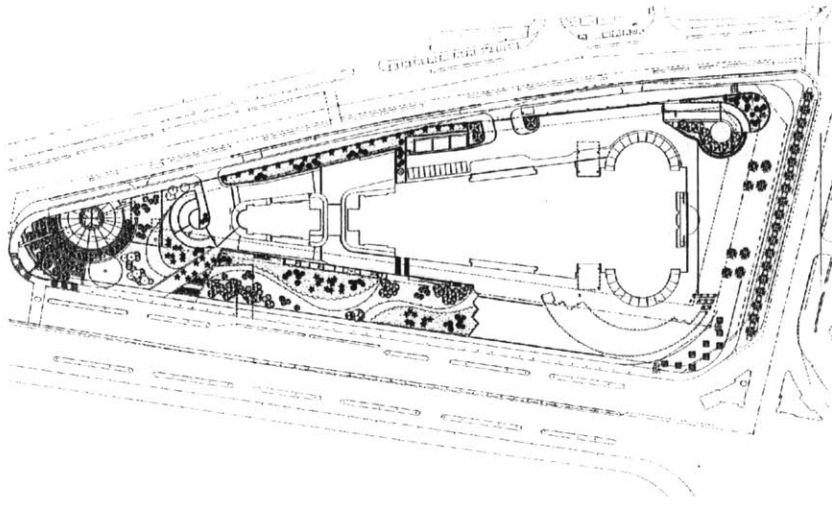


Figure 66. The site Plan of Diwang Plaza

form. Such a form tendency, combining with logistic corridors, works as “antennas” penetrating into the northern hinterland.

B. Diwang Plaza

A triangular-shaped site (Figure 66, 67, and 68), next to Shennan Boulevard and 2 km away from Luohu Customs House, was auctioned to Shenye and a Japanese company by the city via an international auction at the price of US\$ 142 million in September 1992, when China had already gone into a macroeconomic “soft landing” stage adjusted by the central government and the transaction volume of real estate in Shenzhen was obviously headed downward. It seemed that Shenye and its partner put high expectations on the site’s commercial future, especially after the 1997 Hong Kong handover. According to the government’s plan,

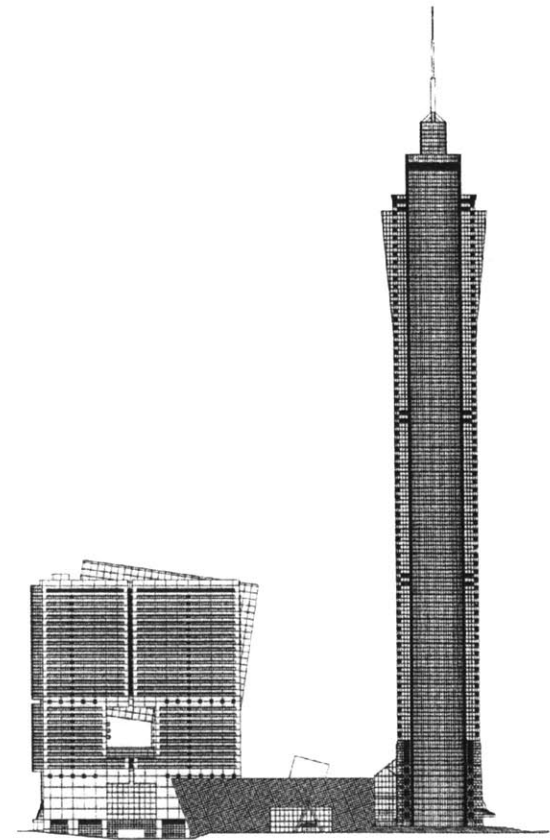


Figure 67. South elevation of Diwang

the complex was part of the extension of Luohu commercial district and would form Shenzhen’s financial street. Shenzhen was beginning its hardware preparation for economic restructuring and using the Diwang project to promote a new financial street before the realization of the new Futian CBD.

Diwang Plaza (Shun Hing Square), the eleventh highest building in the world, is 69 main stories plus 11 stories for equipment and refuge floors, totaling 385 meters tall, and designed by K. Y. Cheung Design Associates in 1996. A 33-story apartment building is linked with the shopping mall through an east-west bridge. The design was finished at a record speed of two months

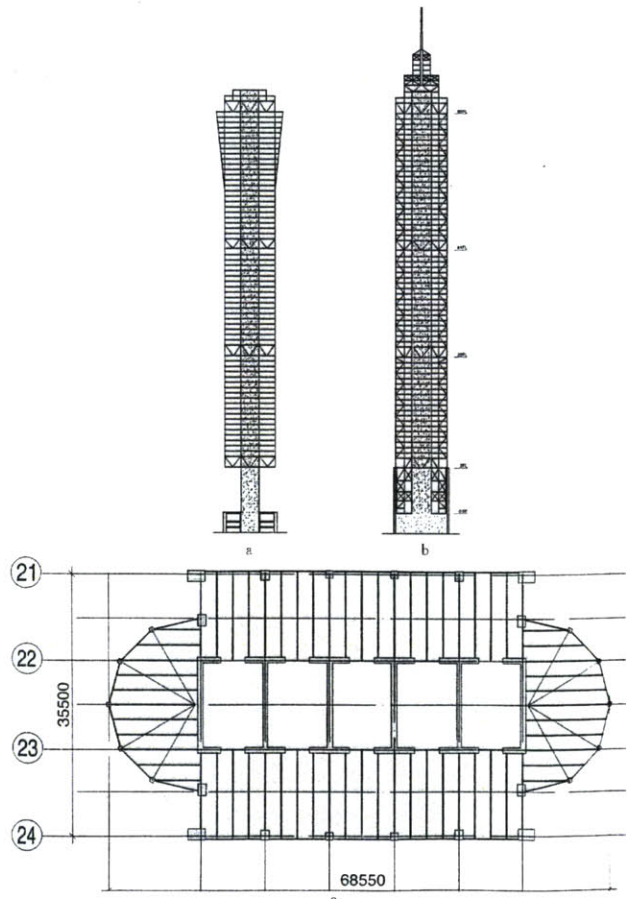


Figure 68. The structure of Diwang

and the construction in forty months, which matched the image of the instant city. Clad in a green reflective glass, the complex is mixed-use, made up of a shopping mall, an apartment block, and an office tower with an observation deck at the top. The curved corners make it sleek and futuristic, with remarkably slender proportions (transverse width to height ratio of 1:8.78). This ratio has greatly exceeded the criteria given in the current Chinese design code. Shenzhen is located in a coastal area with wind activity generated



Figure 69. Diwang

either by tropical cyclones or by monsoon winds, besides other forces such as earthquakes. Therefore, the structural system utilized both steel and reinforced concrete (SRC) (Figure 68), including an SRC core wall and perimeter steel frame coupled by outrigger trusses at four levels. Two short cylinders and masts are expressed as spires at the top with tilted volume, appearing like a keystone wedge.

C. Huaqiangbei



Figure 70. Huaqiangbei Road

By 1993, Shangbu Industrial Zone had mutated into the commercial core area of an inner city next to Huaqiangbei Road (Figure 70) with quite a number of residents living nearby; similar things also happened in other industrial zones near the city center. Most industrial factories were moved out of the SEZ due to increases in labor cost and lack of service facilities in the area; here was an obsolete zone. Some SOE landlords began to convert some industrial buildings into stock exchange halls or retail stores by their own decision, (as the government had less factual power to implement its land legislation and zoning,) producing a burst of retail growth along Huaqiangbei Road. In 1994, a large supermarket was opened along the road in a building owned and used by Hualian

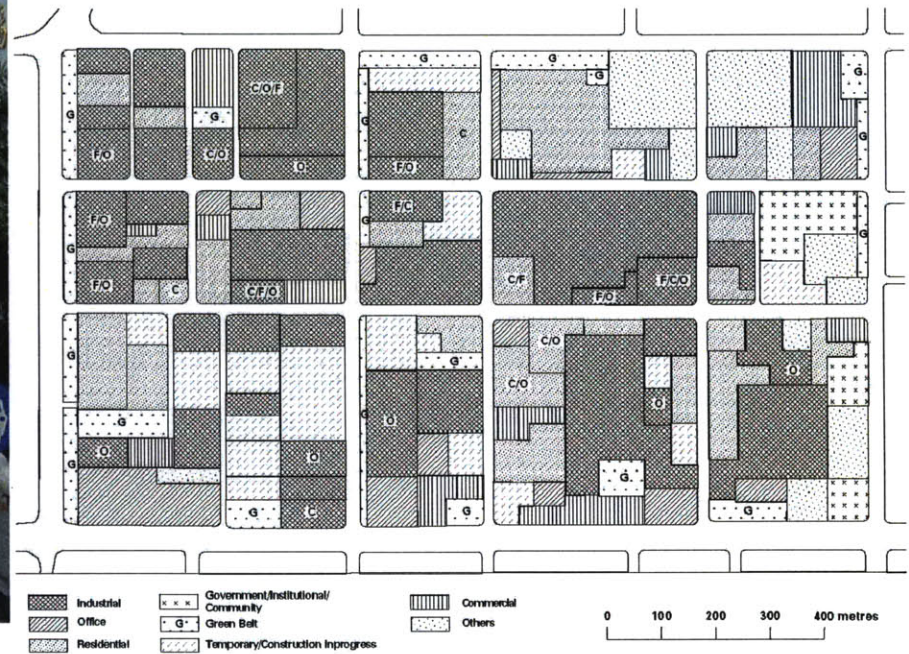
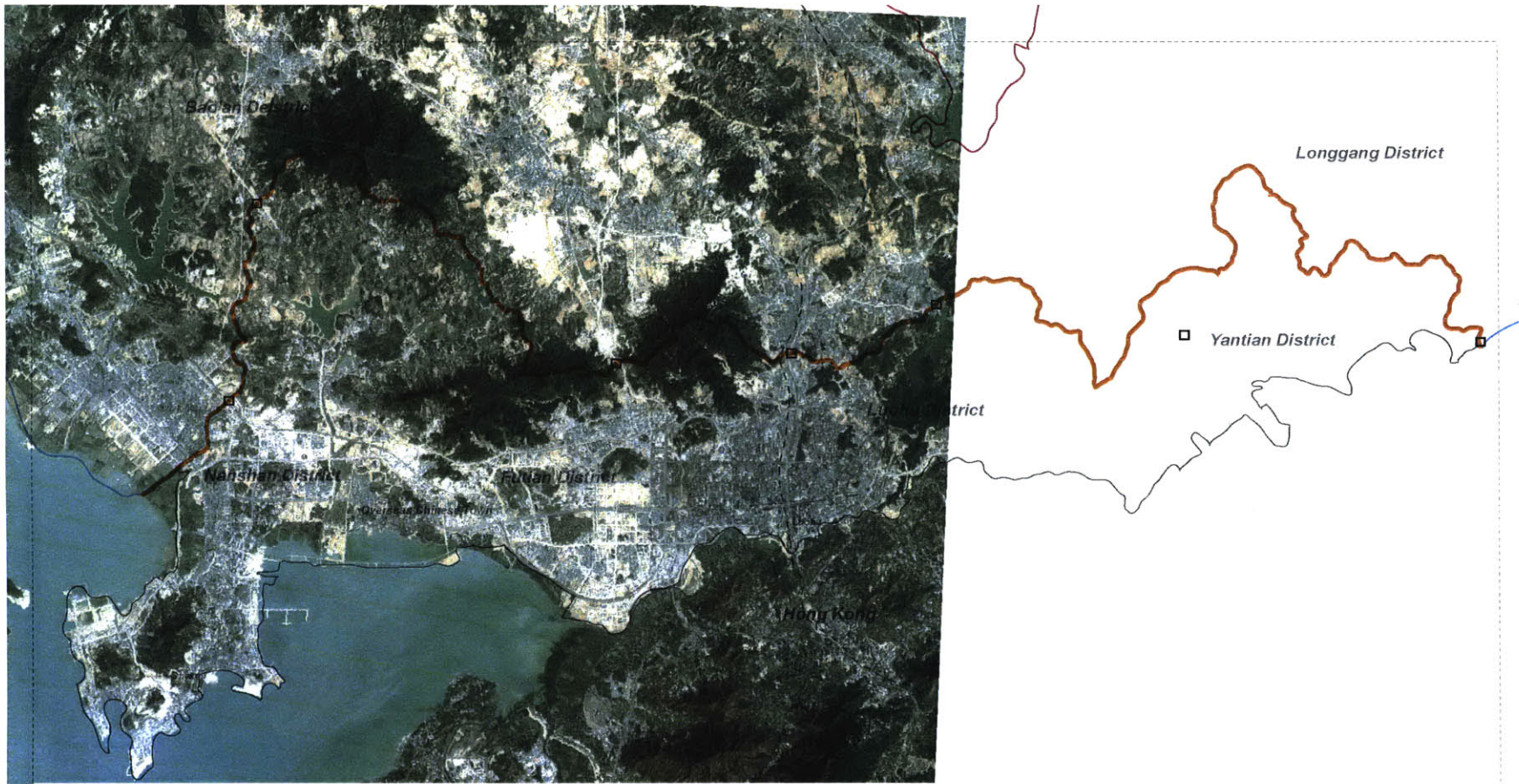


Figure 71. Land use of Shangbu Industrial Zone in 1995

Source: James Jixian Wang and Jiang Xu, "An unplanned commercial district in a fast-growing city: a case study of Shenzhen, China," in *Journal of Retailing and Consumer Services*, no. 9, 2002, p. 321.

Development Co., one block away from Xiabumiao Residential District and Hongli Village. The rental rate was US\$ 1.15 sq ft/month, which is one-tenth of that for commercial land use in the Dongmen area of Luohu District (a major downtown retail area). The store's opening ignited the flame of the process of industrial conversion to commercial use on Huaqiangbei. In 1995, 60 percent of the former factories in the district had been turned into commercial uses, almost all of which were not authorized by the appropriate authority.³ By the end of 2000, 3400 businesses were



0 1km 2km

1979

1996

Figure 72. Shenzhen, 1996
 Source: svs.gsfc.nasa.gov/.../shenzhen1996_d_web.jpg

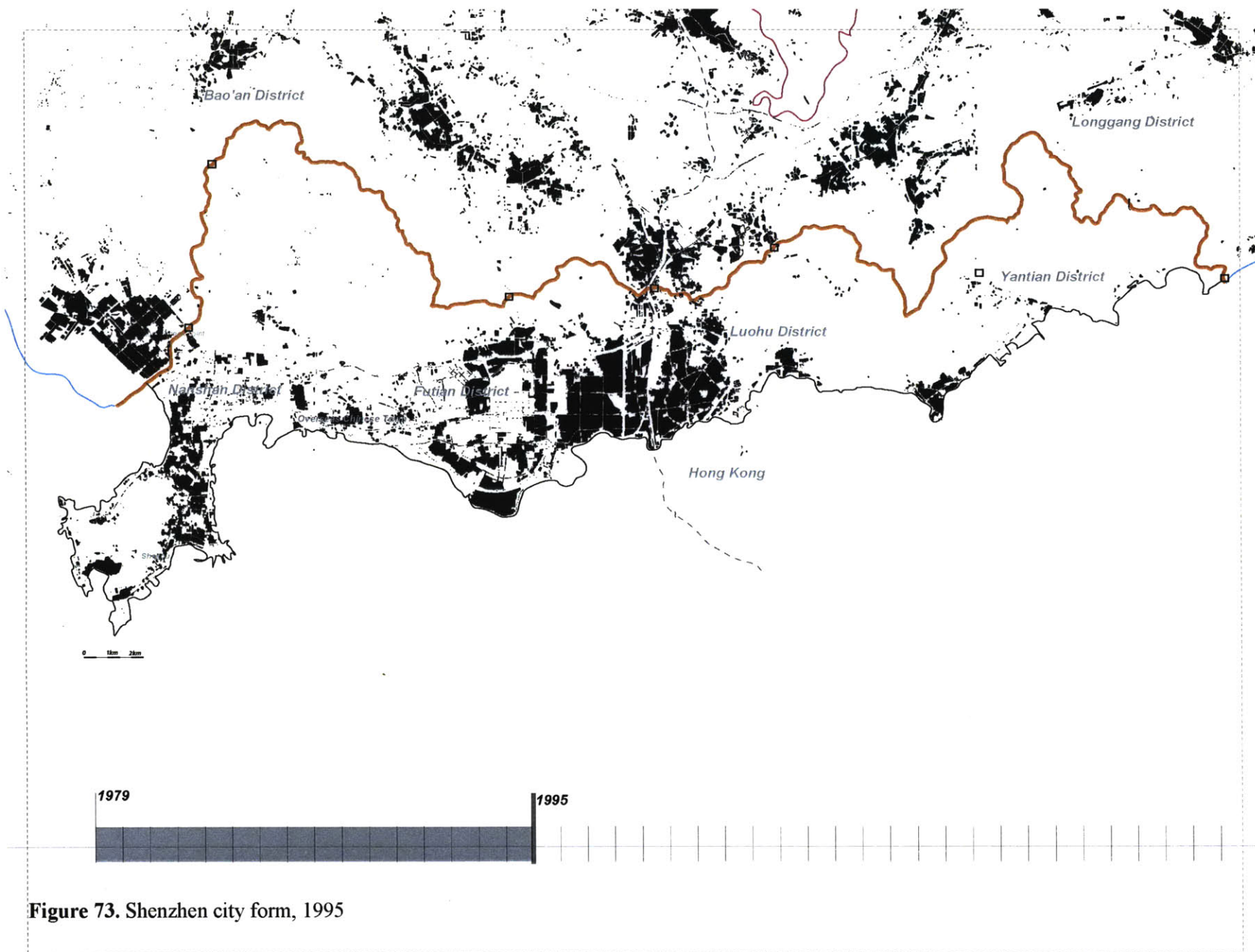


Figure 73. Shenzhen city form, 1995

aggregated here, including 20 bank branches, 40 security service agents, and 20 large shopping complexes, making it the foremost commercial core in Futian District.⁴ (Figure 71) This spontaneous commercial area showed the planners that the redistribution of retail activities driven by the market mechanism does not necessarily coincide with planned objectives, and that it was important to propose rationalized commercial land use. A mechanism that can effectively adjust and implement the detailed district plan is immediately necessary. Unlike a traditional downtown commercial hub slowly spilling over its vicinity, Shenzhen's commercial hub growth followed the "leap-frog" configuration of three "growth poles (clusters)"—Luohu on the east, Shekou on the west, and one future city center in the middle of Futian District. Each cluster has its own commercial nucleus.

D. The Third Socio-Economic Development Plan (1996-)

Shenzhen's export processing had been set up primarily by Hong Kong entrepreneurs on the basis of social capital or pre-existing personal connections. Such industry was mostly small-scale, low-tech, and labor-intensive, and environmentally unfriendly, consuming a considerable amount of working space and land. Rural townships and villages in the suburban area of Shenzhen City provided land and factories to investors, resulting in the emergence of the Hong Kong-Shenzhen-Guangzhou corridor as the export processing locus. Agricultural production of villages around Shenzhen, such as in Bao'an County, has become

diversified and commercialized and rural industry has expanded dramatically: "urbanization of the countryside." Villages of the region "left the soil but not the village," while a large number of peasants from the rest of China flocked to Shenzhen area looking for job opportunities in factories. To be able to maintain Shenzhen's leading economic position in the nation and counter-balance its disappearing uniqueness, Shenzhen decided to incorporate the "rural" areas outside the SEZ under the control of Shenzhen Municipal Government and integrate them into Shenzhen's planning strategy for better land control and interlocking of this intensive mixture of industrial/agricultural activities.⁵ In 1993, Bao'an and Longgang Counties officially turned into districts of Shenzhen, which also provided land to replenish the city's already shrinking land resources. "Big Shenzhen City" now has an area of 2020 sq km.

After fifteen years, the modernization of the early industry and the surge of Hong Kong investment had encouraged the rapid spread of development in the entire region (Figure 72 and 73). Most surrounding villages and counties started to build their own factories and economic entities, since the city-based economy remained under the tight control of the state, while the countryside was relatively free to arrange its own activities. These industrial villages and towns might not necessarily be located close to Shenzhen SEZ and the level of industrialization has little direct relation to the distance from the city, which implies that

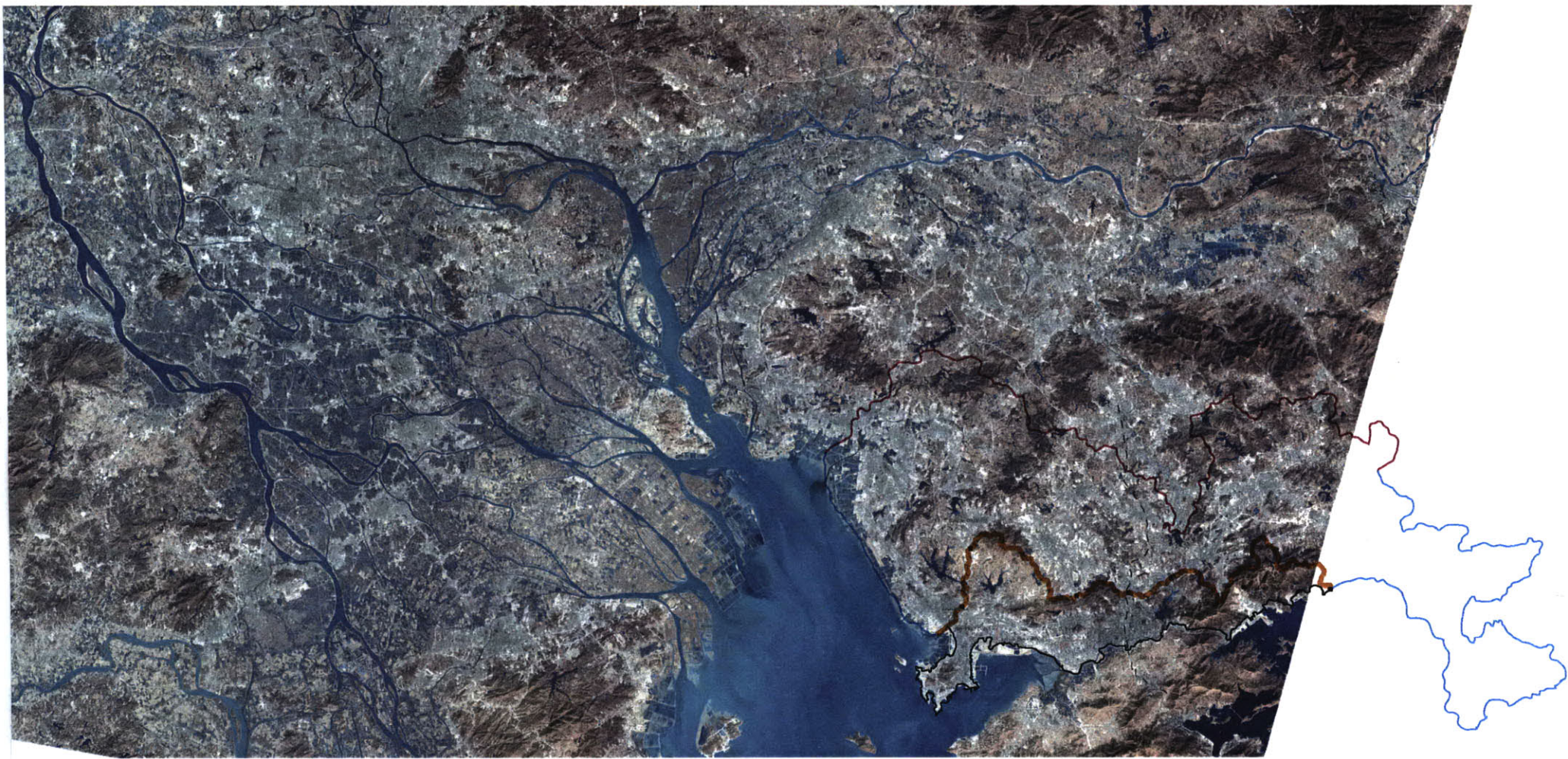
the energy of development of these towns came mainly from the efforts of local officials and peasants, rather than the municipal administration. Their industrial products were dispersed all over the country as well as to Hong Kong and foreign countries. At the end of the 1980s, the industrial development had reached its high tide, which had not only brought vitality to the SEZ, but also to the towns surrounding it. Some industrial enterprises started to move out of the SEZ to surrounding suburbs. The situation, however, reinforced the high-level multi-functional service development within the SEZ, instead of industrialization only.

All these dual-track development patterns were unanticipated by the planners and the urban plans were lagging behind the city's rural economic advancement. Due to a lack of proper planning adjustment to the pattern at this time, rural land growth, based on individual villages, spread rampantly along major highways and roads. In the 1990s, 200 sq km of hilly areas were leveled, without follow-up construction being carried out, which caused 170 sq km of soil erosion and ecological problems. It must be emphasized that rail development has had less impact on the PRD region than road extensions, mainly due to the greater flexibility and efficiency of road transport in effecting intercity (county) interactions, especially over short distances. What was remarkable was the spontaneous industrialization and urbanization of the countryside around Shenzhen SEZ.⁶ This spatial restructuring was the result of the forces of the reconfiguration of the power and capacity of the

socialist state and Shenzhen government, inflow of foreign capital, and marketization and industrialization of the local agricultural economy.

During this period, inside the SEZ, former native villagers built a large amount of illegal housing on their compensated residential lots which are permitted only up to three stories on a base area of 80 sq m—dense city villages.⁷ The city did not completely buy out the ex-farmers' lands; it compensated them with a certain amount of sq m of lot for building their own residential buildings. These were thoroughly out of control of urban planning. Many villagers built apartments up to 14 stories (up to three stories high on a base area of 80 sq m) and rented out the extra flats to the temporary population to live in. Some city villages with dense population and complicated inhabitant composition became “cancers,” causing a lot of hidden social problems.

Cities within the PRD (Figure 75 and 76) are forming an *intercity network*, their economic are multidimensional symbiotically dependent and linked with the rest of world. “Cities' boundaries” are dissolving. Shenzhen intends to be an information, service, and logistic *node* connecting Hong Kong and the rest of the PRD, and even southern China. In his 1995 visit to Shenzhen, Former President Jiang Zeming said “create new superiorities and scale new heights.” The mayor claimed that Shenzhen was moving into a second “take-off” stage whose objective was to transform a manufacturing city to a high-tech metropolis, an international



capital market, a commercial city, and a tourist magnet. With the population exploding from 30,000 to 1.5 million and then to 4.7 million, and the built-up area around 300 sq km, planners had to reaffirm the city's basic principle that the well-organized city form extends from Hong Kong to the northwest through Shenzhen's linear and clustered framework, permitting urban growth and construction to be easily phased and flexible enough to accommodate future development.

Figure 75. LANDSAT image of the PRD and Shenzhen SEZ, taken on November 20, 2001

Source: <http://svs.gsfc.nasa.gov/vis/a000000/a002900/a002911/index.html>

The 1996-2010 Shenzhen Comprehensive Plan extended the planned area beyond the SEZ to include Bao'an and Longgang Districts (Figure 78 and 79). Settlement outside the SEZ is now also restricted within clusters which focus around the three transport axes. (show new plan 1996-2010, transportation) The

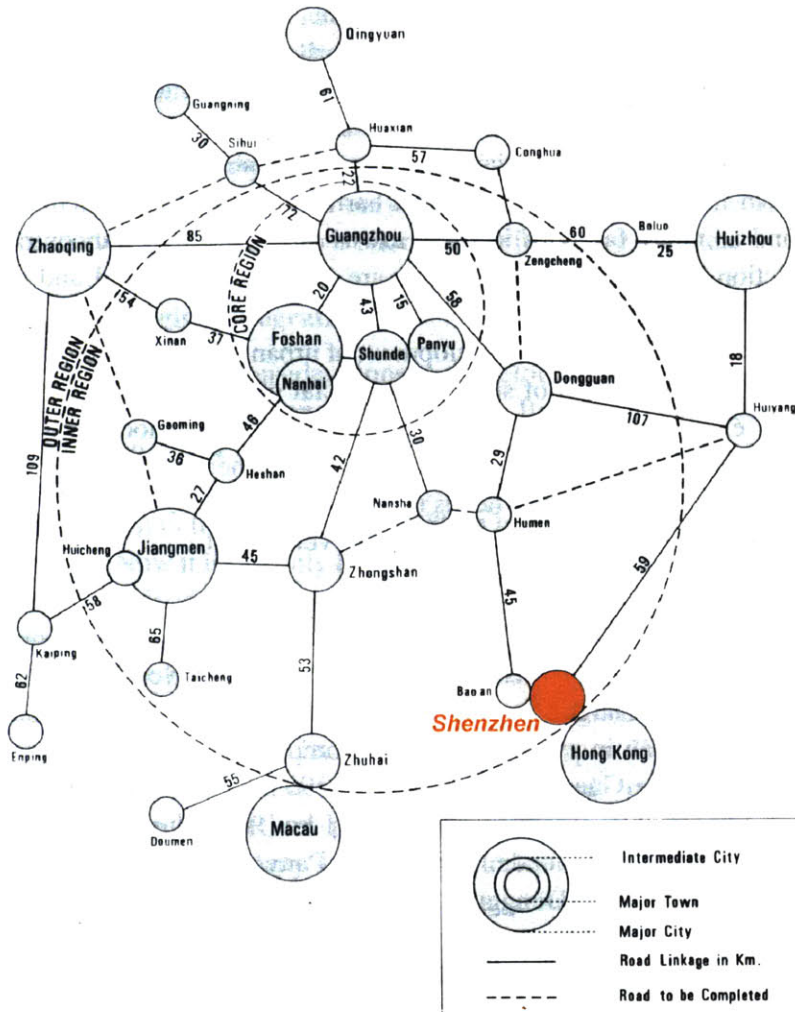


Figure 76. Major cities in the PRD

Source: adapted from Zheng Tianxiang, as shown in *Guangdong*.

first heads northwest through Bao'an; the second heads north toward Dongguan; the third heads northeast through Longgang. Open public spaces and green belts are put in between clusters to address residual problems created by speculative and uncontrolled development since 1979. The conversion of agricultural land to

urban use has been restricted.

New construction will utilize land already developed. The city form will gradually grow to a combination of linear shape with several radiating axes. The plan is divided into three stages, and population will be limited to 4.3 million by 2010. The first stage (1996-2000) remained with compact urban form based on clusters along the transportation spines, and protection of the environment by enforcing the intensive use of already developed land. The second stage (2001-2010) is to build and consolidate Shenzhen into a well-managed major livable city, with comprehensive functions such as finance, commerce, trade, information technology, high-tech industries, and tourism. The last stage is to establish the city as a modern international city with strong identity within 20 years. Additionally, Yantian port in the Eastern cluster should be developed as an international container transportation hub and Shatoujiao and Meisha as centers for business and tourism; Nanshan cluster should become the logistics and transportation hub of the SEZ, as well as its education and research base. For the towns outside SEZ, the plan limits the total population of the six free-standing towns (Gongming, Guangming, Shiyao, Kuichong, Dapeng, and Nan'ao).⁸

Sustainable development principles were established in the 1996 plan. A land use conservation strategy has been developed. The 10 categories of construction land use allow different degrees of development intensity (Figure 82); they are industrial, storage,

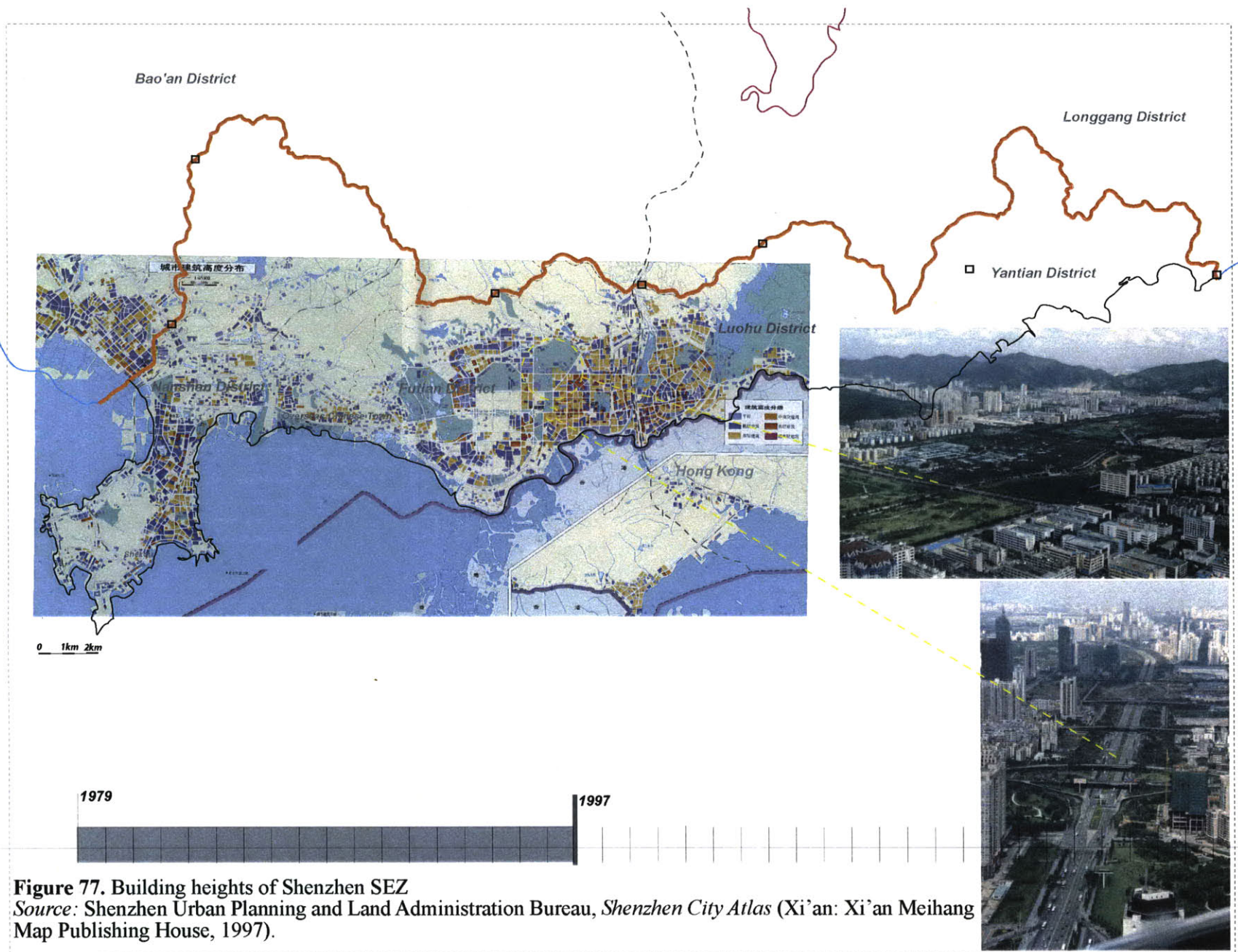


Figure 77. Building heights of Shenzhen SEZ
 Source: Shenzhen Urban Planning and Land Administration Bureau, *Shenzhen City Atlas* (Xi'an: Xi'an Meihang Map Publishing House, 1997).

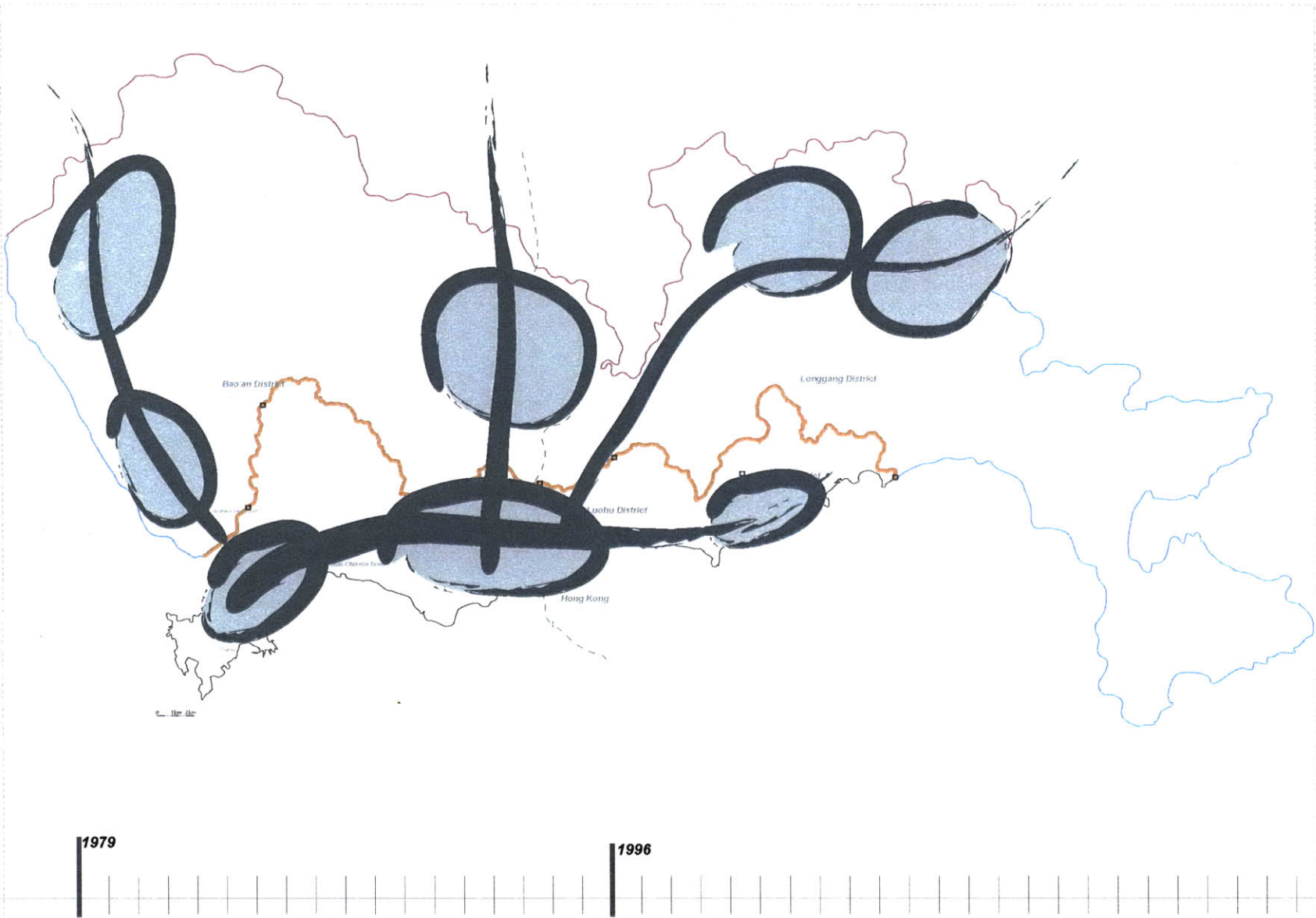
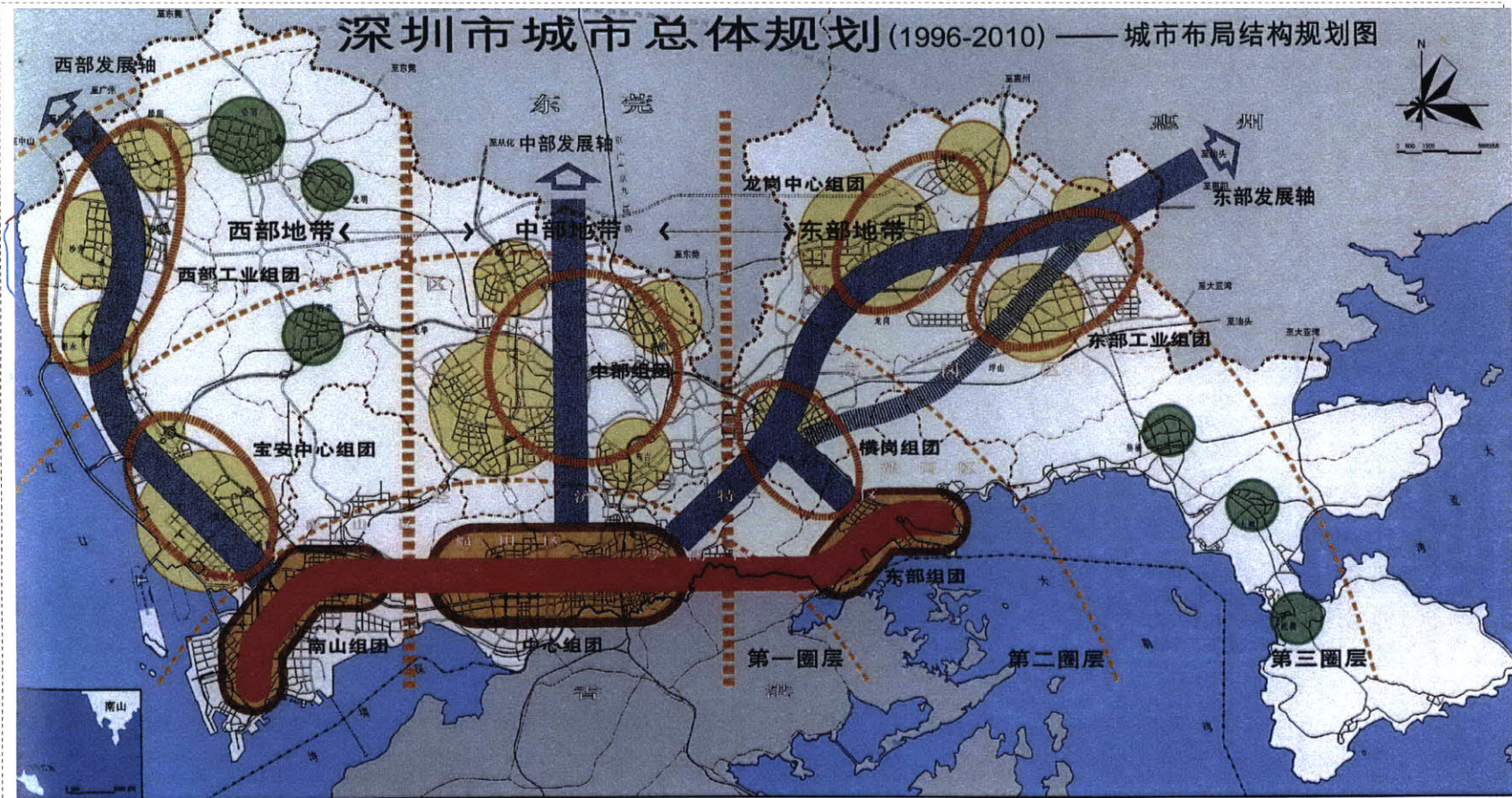


Figure 78. Planning concept



图例



特区内组团
clusters within
the SEZ



特区外组团
clusters outside
the SEZ



组团内城镇
counties and
villages within a
cluster



独立城镇
counties and
villages

深圳市人民政府编制 1997

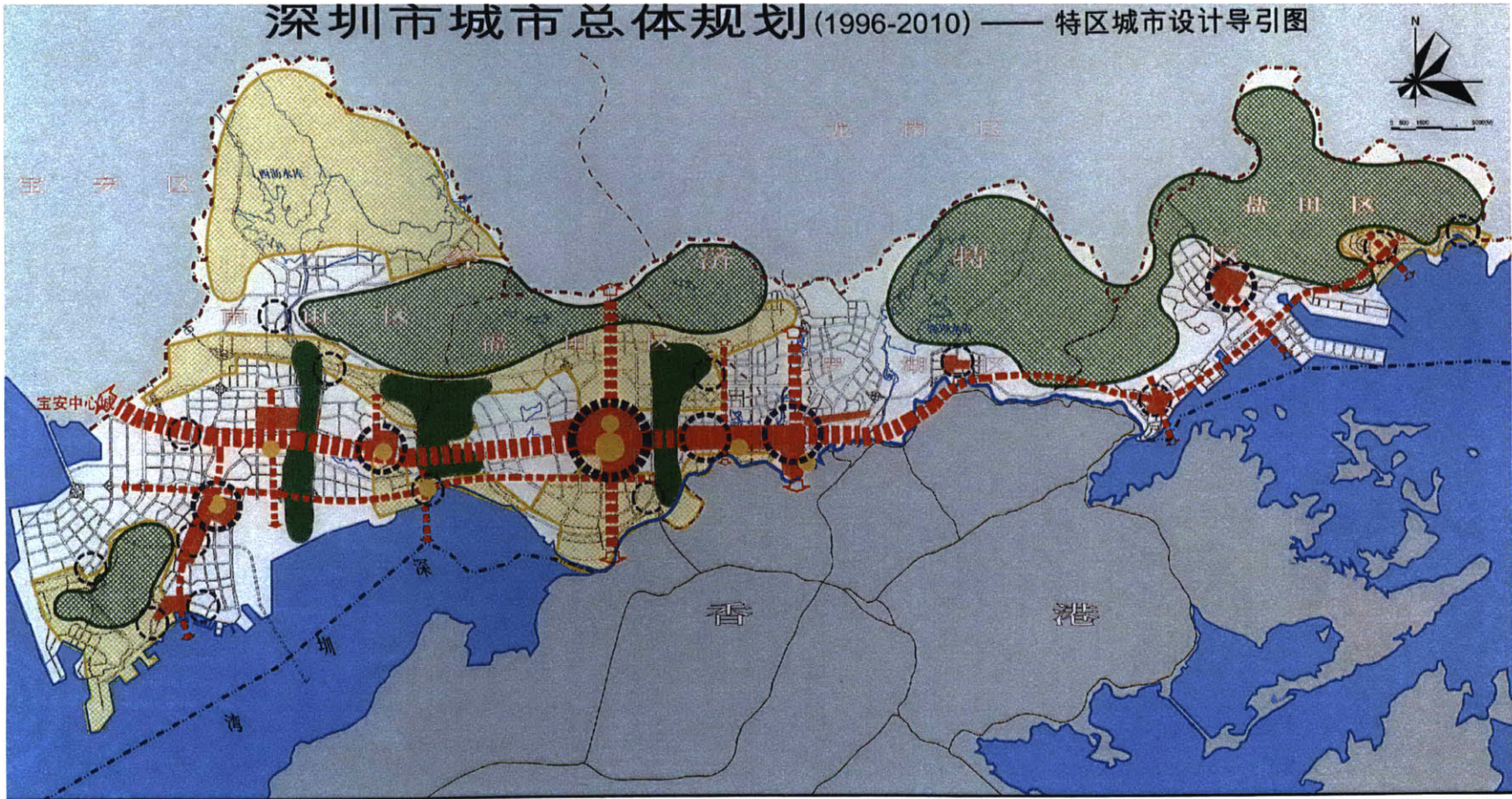
1979

1996

Figure 79. Four development axes

Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010)* (2000).

深圳市城市总体规划(1996-2010) —— 特区城市设计导引图



- | | | | |
|--------|-------|---------|------|
| 图
例 | 背景山体 | 城市广场 | 重要节点 |
| | 组团隔离带 | 引导高层发展区 | 区界 |
| | 景观轴带 | 控制高层发展区 | 特区界址 |

Figure 80. City design guide axes within the SEZ

Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010)* (2000).



Figure 81. Major scenic traffic artery Shennan Boulevard

residential, civic and social group, commercial, public green, traffic, road and plaza, public facility, and other land. Urban development will be rationalized according to natural characteristics and environmental capacity. To protect the ecological environment and curb urban sprawl, the city is divided into different ecological zones for the formulation of conservation policies. Educational, cultural, sports, health, and housing facilities for various communities are to satisfy people's material and spiritual needs.⁹ The plan, however, does not detail how these principal goals can be realized.

Based on the existing east-west linear axis of the SEZ, the 1996-2010 plan forms three other north-south axes (traffic arteries) to thread through and connect the gradually expanding clusters

(a total of 9 functional clusters, three of which are in the SEZ), making basic future city form structure, in order to incorporate city structure to the surrounding city region and the natural system. The central axis is the SEZ, which will be the economic, cultural, and political center with a controlled population of 1.2 million. The Western axis, passing through Xin'an, Xixiang, Fuyong, Shajinn, and Songgang, connects with the western Dongguan, which will be an important traffic corridor of Shenzhen-Hong Kong-Guangzhou and industrial base, with a construction area of 4942 ha. Aligned with the Beijing-Hong Kong railway, the central axis goes through Longhua, Buji, Pinghu, and Guanlan, toward the eastern Dongguan. This axis would sustain international information, culture, and technology exchange. The Eastern axis, with 1478 ha construction land and driven by Yantian Deepwater Port, will be an important logistic corridor and industrial base, with projected population of 180,000.

City design factors are included in the plan (Figure 80). "The character of city against mountains and facing the sea and cultural continuity" should be emphasized and become the city design principles. Shennan Boulevard (Figure 81), Renmin Road, and the central green space of Futian CBD are major a cityscape visual axis. FAR should not be more than 4 for building reconstruction and north-south distance between buildings should be no less than 0.8 H (except for high-rise buildings). Average green space per person should be 11 sq meter by 2010, while green

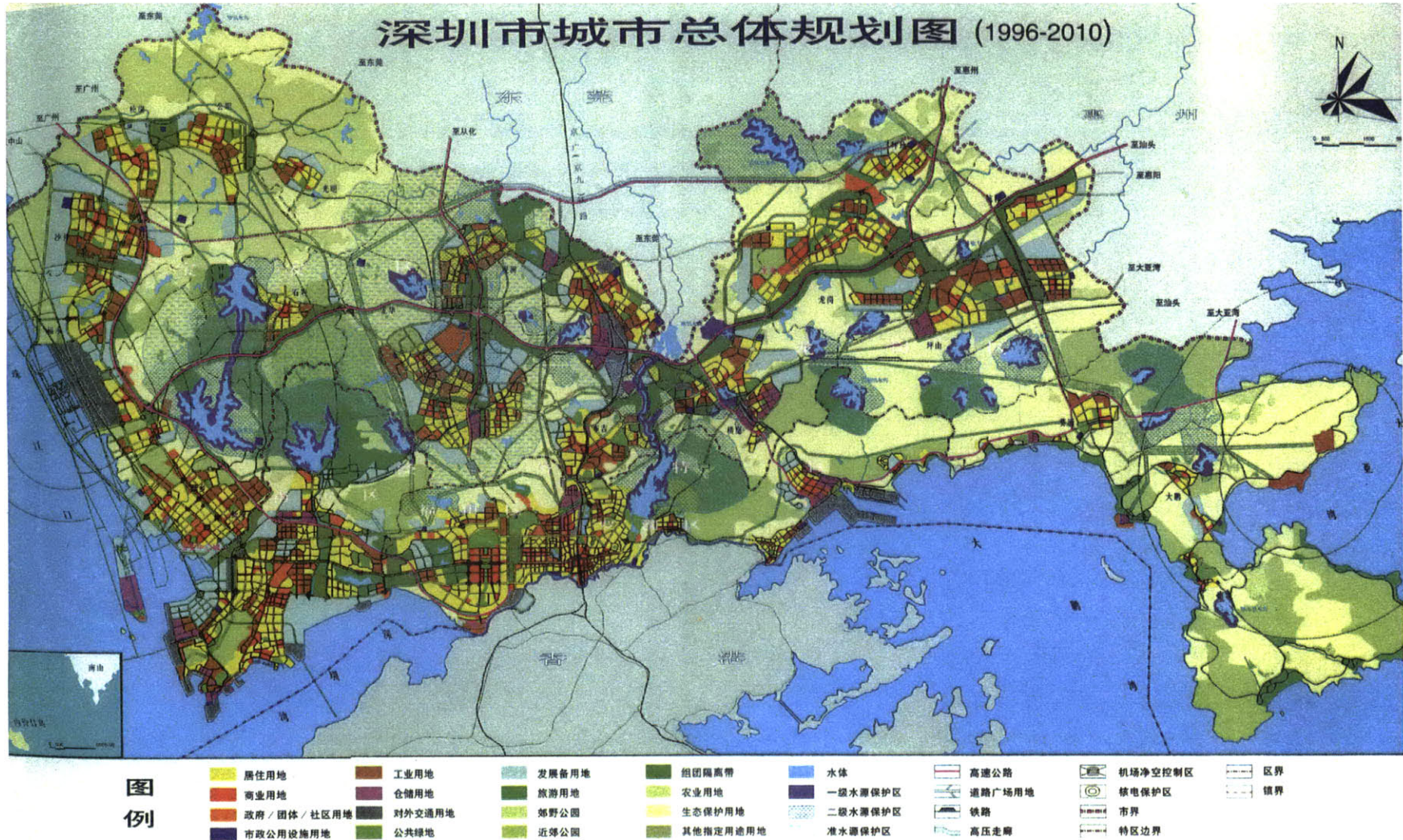


Figure 82. Land use, Shenzhen Master Plan (1996-2010)

Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010)* (2000).

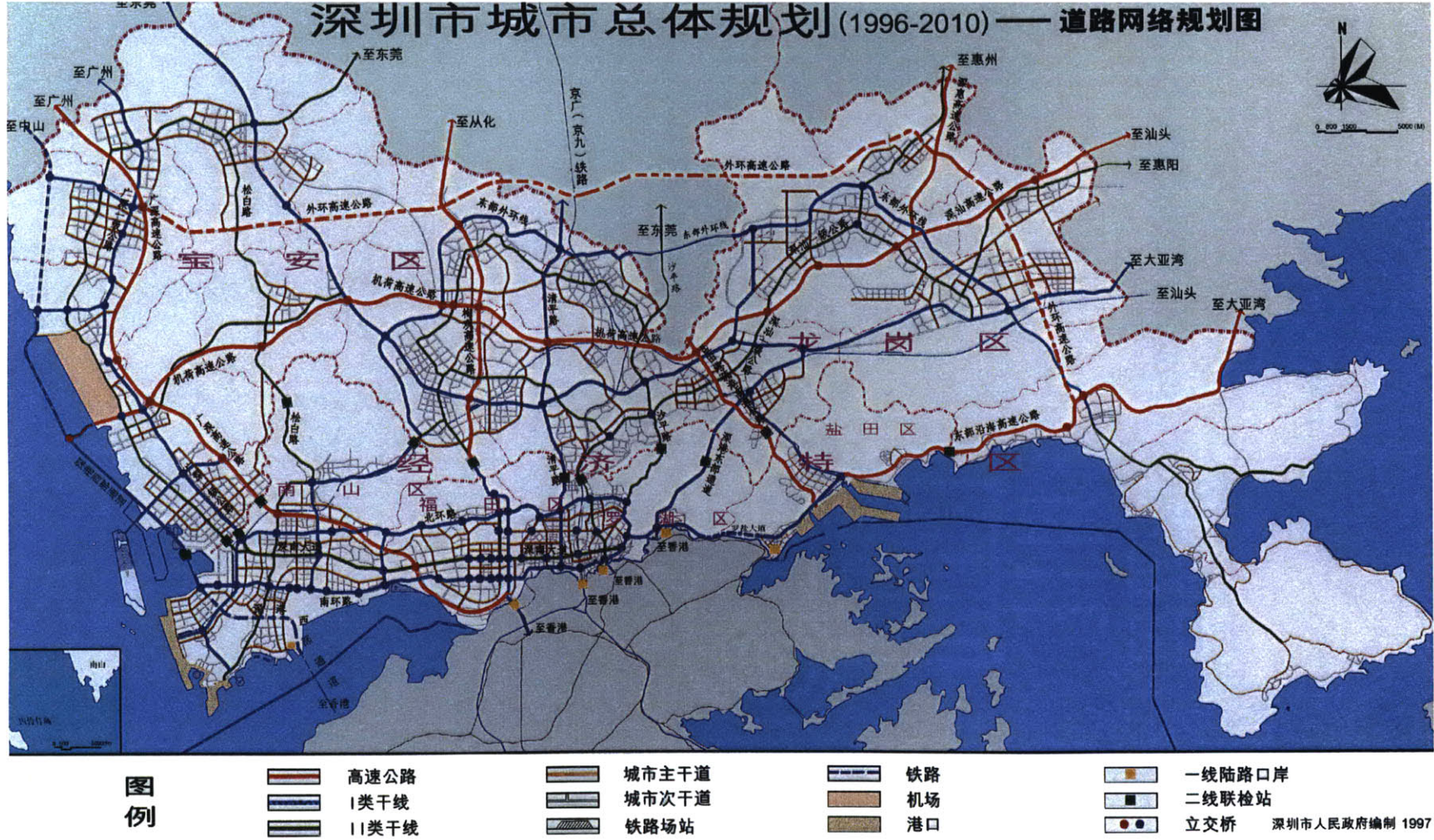


Figure 83. Planned road network
 Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010)* (2000).

space within the residential areas should be at least 25 percent, and 30 percent for civic purposes. All these numbers and design principles are indicating that the city intend to be a livable city, as well as a regional logistic node.

In 2003, the Municipal Government commissioned the China Academy of Urban Planning and Design (Shenzhen) to undertake a research study “Shenzhen 2030” to help update its urban development strategy, facing the challenges of China’s accession to the WTO, coordination with Hong Kong, and competition from Guangzhou and other cities in the PRD.

E. Transportation Hub

Industrial production processes taking advantage of lower labor costs and taking place in different parts of the world have given rise to a new mode of trade as just-in-time transportation for freight and passengers has become increasingly reliable over the past 20 years. In 1998, the container throughput of Shenzhen port was 1.95 million TEUs, turning it into the second-ranked container port in China.¹⁰ It became a trans-border ports group. In the early 1990s, the Hutchison-Whampoa Group had put heavy investment into Shenzhen Yantian Harbor. In 1998, Hutchison International Port Holdings Ltd acquired the Shekou Container Terminal from the Swire Group and the R&O Group and is now responsible for the management and operation of the container facilities, which greatly increases the container handling capacity of Yantian Harbor.

The boom of the container throughput has made the regional linkage system and cooperation more significant. The unbalanced spatial pattern has caused the highway construction in PRD to occur in an untimely and uneven manner. To alleviate bottlenecks in land transport, many highway and railway projects have been proposed and are being implemented. With the completion in September 1996 of the new Beijing-Kowloon railway and the second new line, the Guangzhou-Zhuhai railway, rail service to the rest of China and the western area of the PRD has improved and traffic has increased, carrying most of the passengers and freight between PRD and other parts of the country. The city’s Huangtian International Airport opened in 1991. The construction of Guangzhou-Shenzhen-Zhuhai superhighway, “spine of the province,” whose first phase opened in July 1994, was an important project reshaping the nature of land transport in the delta. Hopewell even proposed an ambitious future project to improve the link between the two flanks of the Pearl River estuary, which is to link Zhuhai with Shekou, with a possible extension to the western New Territories in Hong Kong.

To ease the transportation bottleneck in the mid-1990s, and with an increasing amount of foreign investment, Guangdong Province completed the Strategic Plan for the PRD in 1995. The plan, although containing insufficient detail to guide the transport development, suggests that a well-planned, integrated transport network of high quality and highly efficient coordination should be established in the Delta. This network will be connected with

other parts of the province, other provinces and southwest China hinterlands, and Hong Kong and Macao. The function of the port complex should be adjusted in accordance with its geographical position in the national context, while the cargo volume should be designed and co-distributed in the perspective of the PRD as a whole, via major transport (logistic) corridors (Figure 83, 84, and 85). It has been decided that Shenzhen's various kinds of ports should structurally ally with Hong Kong's to form an integrated international hub as part of a global logistic chain, because Shenzhen now is the only mega-city in China owning an international airport, trans-border deepwater ports, and land customs. The city will be a logistic node between Hong Kong and the rest of the PRD. This is a decision associated with infrastructure that will profoundly affect the city's long-term urban planning and, accordingly, city form, in line with the city's economic restructuring.

To reduce the flushing effect of the Estuary within Deep Bay, the Shenzhen-Hong Kong western corridor will be the fourth vehicular boundary crossing, called the Shenzhen Western Corridor, with the an associated 150 hectare reclamation at Dongjiaotou, Shekou. The section of the highway within the Hong Kong boundaries is about 3.2 km in length and will be connected to the portion about 2 km in length to be provided by the Shenzhen authorities. The proposed landing location of the bridge in Shenzhen will be located at Dongjiaotou; each end includes a cable-stayed bridge and approach viaducts. The proposed highway

will be connected to Deep Bay Link on the Hong Kong side at Ngau Hom Shek. The construction work commenced in August 2003. However, any additional major infrastructure work, such as the proposed bridge, that "includes dredging, dumping and marine excavation could elevate sediment levels resulting in potential fish kills and destruction of inter-tidal and benthic (bottom-living) organisms."¹¹

F. Futian Central Business District: Creating an International City

In the 1980s, the 53-story International Trade Building, together with old Shenzhen Town and Shekou Industrial Zone, let the world know that China was opening its door to foreign investors and defined a preliminary commercial district. In the 1990s, the 385-meter-tall Diwang Plaza and its surrounding high-rise groups symbolized the initial success of the Shenzhen SEZ's economy and the shift of its economic structure. Then what about the new goal of the city—creating an international city and a multifunctional *economic nexus* in the PRD network?¹² The Shenzhen SEZ intends to embark on high standard business services further beyond its physical territory. The planners anticipate that the city's ambitious superior infrastructure and environment will continue to attract international investment and propel rapid modernization. What morphology can Shenzhen use to instantiate the international city to anchor its planned functions, when market system and land reform have already fairly matured?

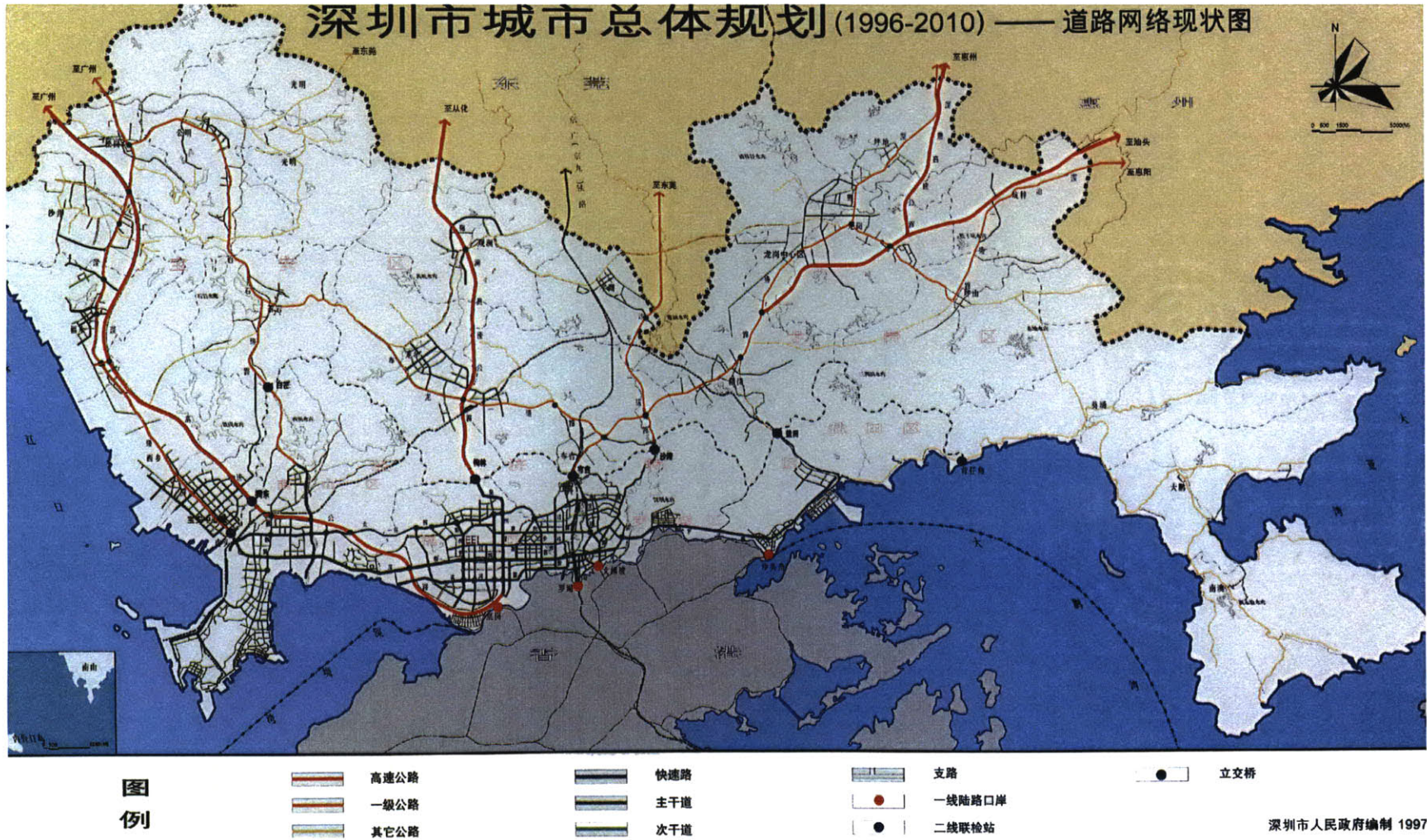


Figure 84. Existing road network

Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010)* (2000).



Figure 85. Planned comprehensive transportation network
Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010) (2000).*

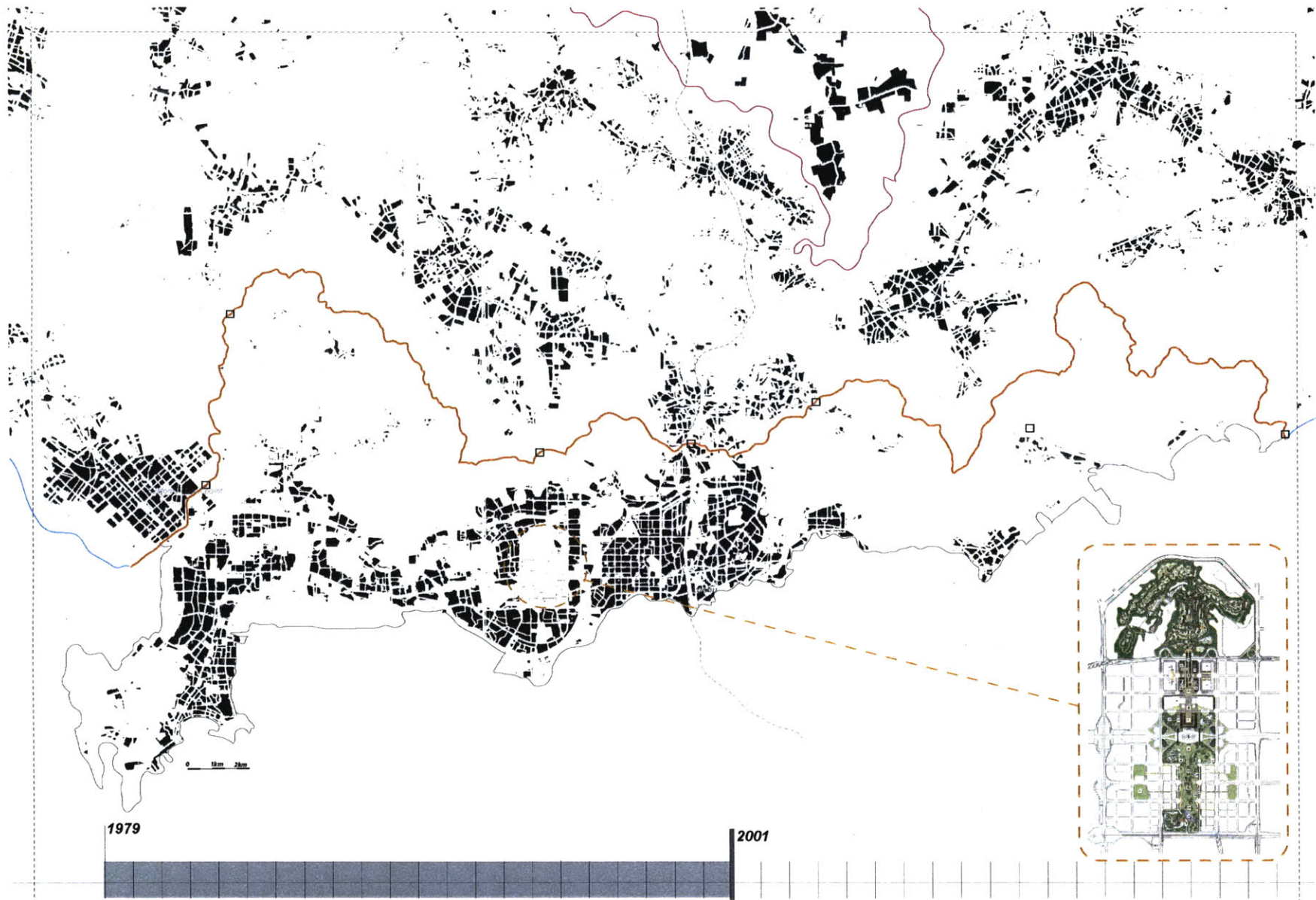


Figure 86. Shenzhen city form, 2001

Source: Shenzhen Municipal Government, *Shenzhen Comprehensive Plan (1996-2010)* (2000).

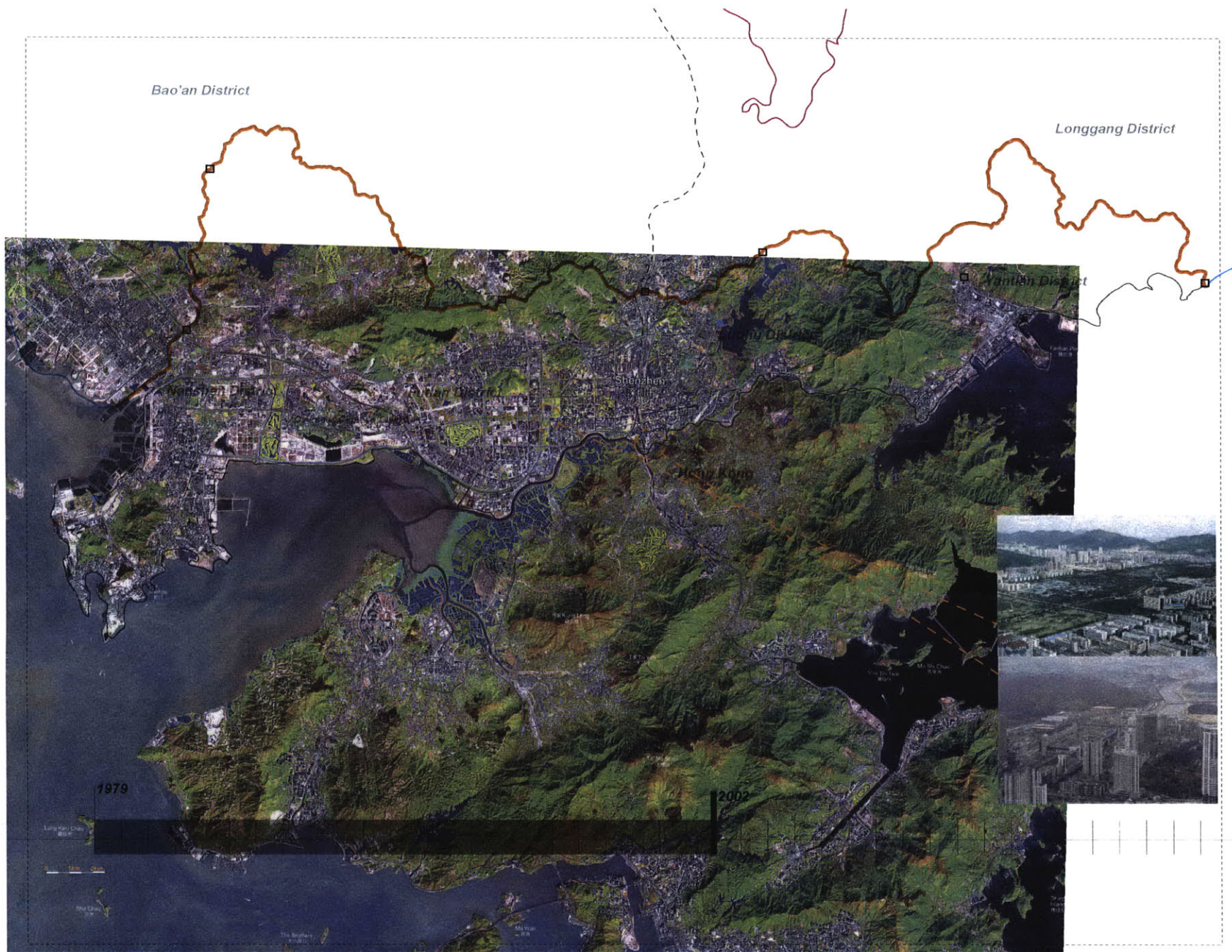


Figure 87. Shenzhen, 2002
 Source: www.geocarto.com.hk

Instead of building high, this time the approach is large-scale green urban landscaping infrastructure, including eco-parks, libraries, cultural centers, concert halls, and theaters, as well as high-rise office towers, to differentiate Shenzhen from other Asian cities (Figure 86). This involves using Chinese cultural and ecological notions to dictate the new center's physical form—a comprehensive carrier reflecting the shifted ideology for the age of life and information society evolving and overlapping with industrialization. It could sustain the city's green space and protect some original topography adaptively. The carrier can also easily incorporate and blend traditional landscaping methods with market-required land shapes, to generate local identity and humane amenity. The carrier is furthering the task of city's economic goal transition while highlighting the relation of people, nature, and economy, which are symbiotically interdependent. The city's form and its construction, constituted locally and materially, is a *gambling response* in the context of multiple and scaled globalizing processes. Shenzhen's form development is *contested* in the region to maintain the city's potential *symbiotic economic predominant posture* (Figure 87).

To develop Shenzhen as a modern international city was first brought up in the report "Shenzhen Development Strategy in 1989" by Shenzhen Urban Planning and Land Resources Bureau and China Academy of Urban Planning and Design (Shenzhen). Shenzhen would use the new Futian CBD to help the city transform

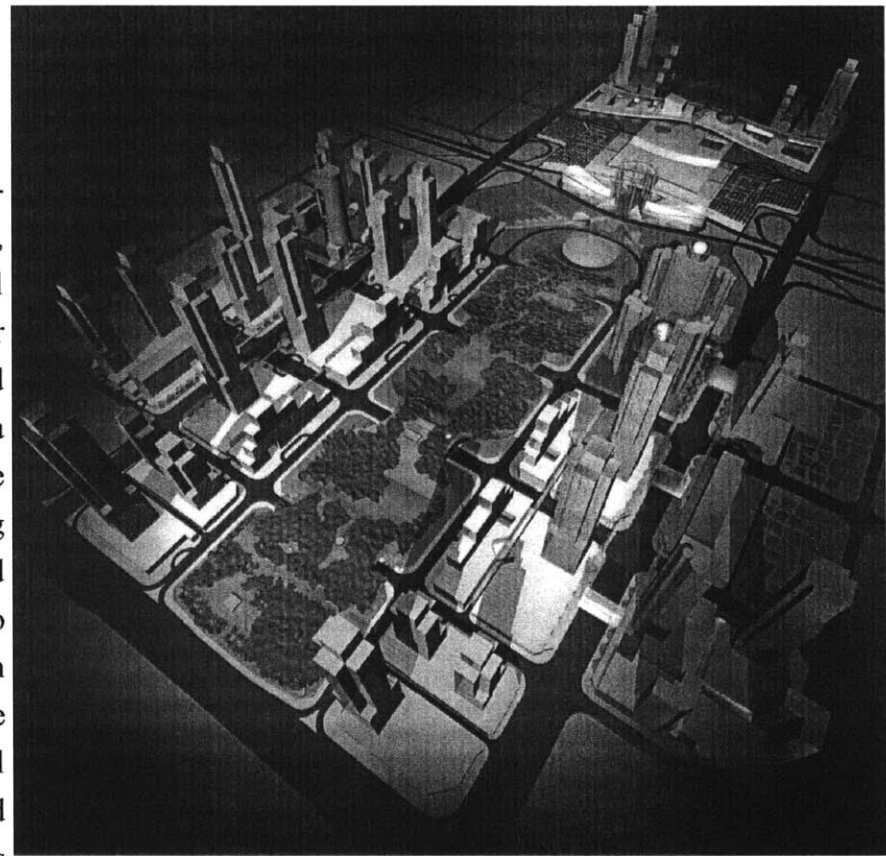


Figure 88. The Design concept by John Lee/Michael Timchula Architects

Source: Carolyn Cartier, "Transnational Urbanism in the Reform-era Chinese City: Landscapes from Shenzhen," in *Urban Studies*, Vol. 39, no. 9, 2002, p. 1522.

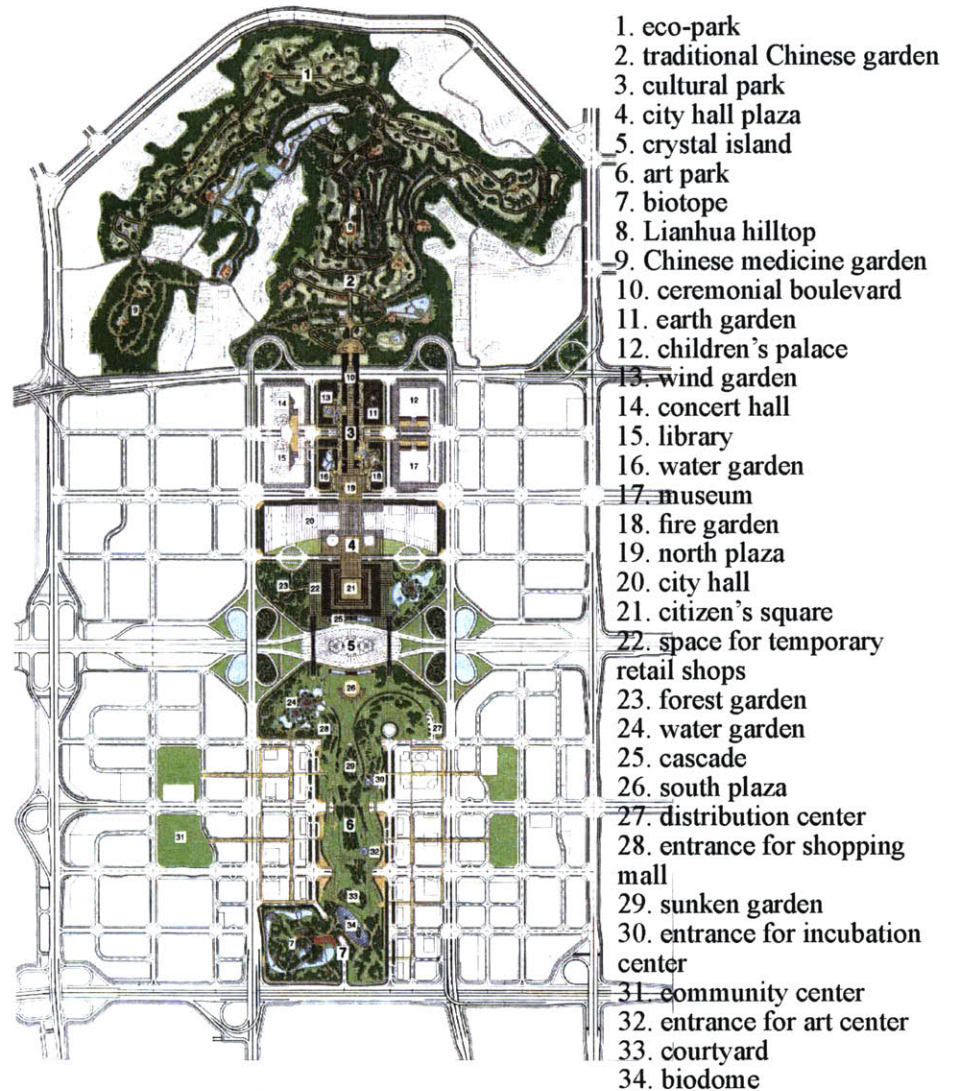
to a regional financial, trade, and information center over 30 to 40 years.¹³ The new Central District is bounded by Lianhua Mountain (140 meters high) to the north, Bijia Mountain to the east, Mangrove Eco Protection District to the west, and Shenzhen Bay and Yuanlang of Hong Kong to the south, with a north-south visual and spatial axis perpendicular to east-west- running Shennan Boulevard. In accord with the city's new goals, the entire area is intended to set new standards in urban planning. Since the mid-1990s, well-known



Figure 89. New Shenzhen City Hall

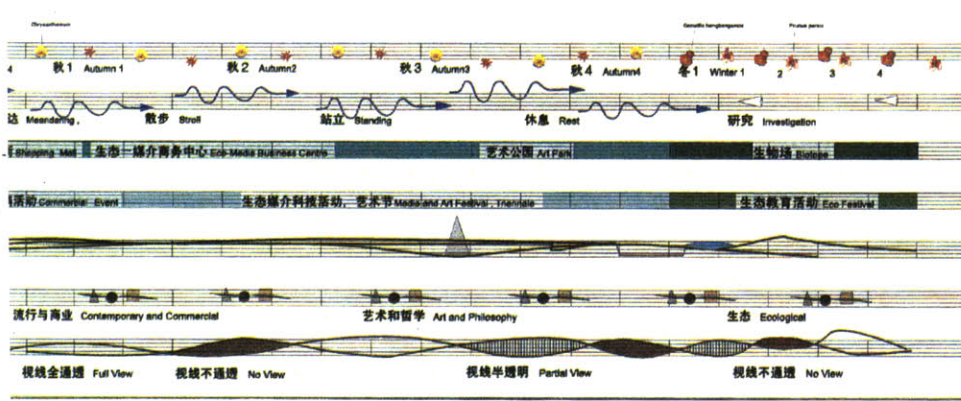
architects and planners abroad have been invited to help lay out and design various elements in the district, in line with Shenzhen's regional and international ambitions.

In August 1996, an international jury evaluated the four entries from America, France, Singapore, and Hong Kong, and the design by John Lee/Michael Timchula Architects was selected as the winning scheme, whose solution featured a continuous and undulating central public park extending along the north-south axis and going through the major artery Shennan Boulevard. The design (Figure 88) distinctively interprets the significance of the natural environment by maintaining open space in the central axis and Lianhua Mountain. The aggregated park should maintain a good ecological environment in the dense city. A business center was

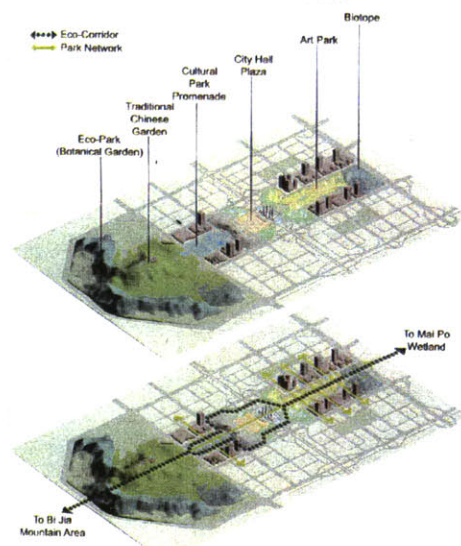


1. eco-park
2. traditional Chinese garden
3. cultural park
4. city hall plaza
5. crystal island
6. art park
7. biotope
8. Lianhua hilltop
9. Chinese medicine garden
10. ceremonial boulevard
11. earth garden
12. children's palace
13. wind garden
14. concert hall
15. library
16. water garden
17. museum
18. fire garden
19. north plaza
20. city hall
21. citizen's square
22. space for temporary retail shops
23. forest garden
24. water garden
25. cascade
26. south plaza
27. distribution center
28. entrance for shopping mall
29. sunken garden
30. entrance for incubation center
31. community center
32. entrance for art center
33. courtyard
34. biodome

Figure 90. Roof plan for Shenzhen Eco-Media city
Source: Kurokawa, Kisho, "From the Eco-City to the Eco-Media City," in *A+U (Japan)* Vol. 6, 1998, p. 25.



PARK NETWORK AND ECO-CORRIDORS



ECOLOGICAL SYSTEM

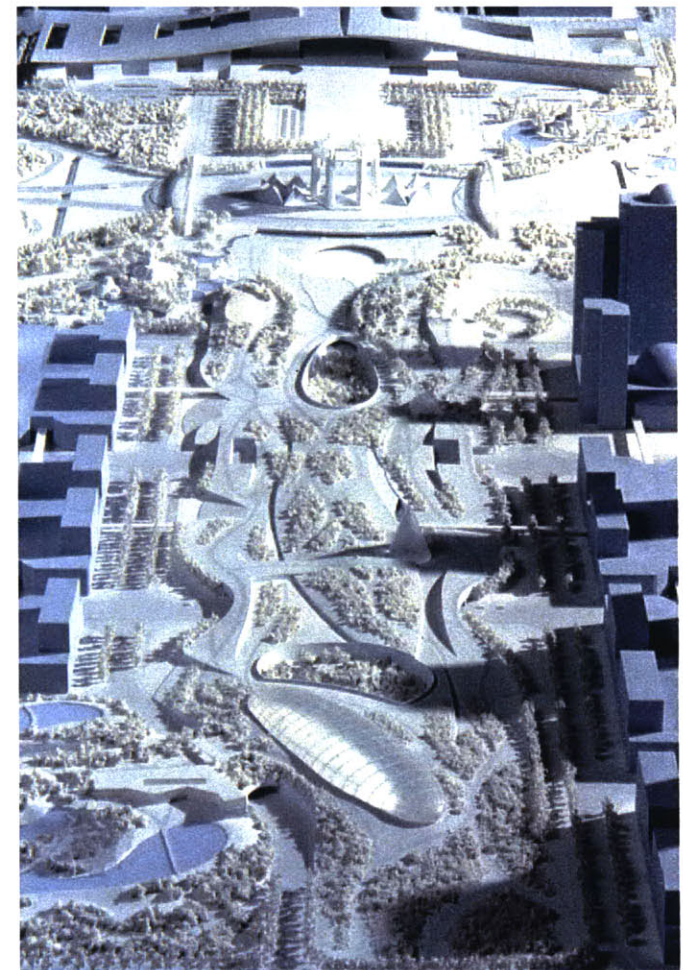
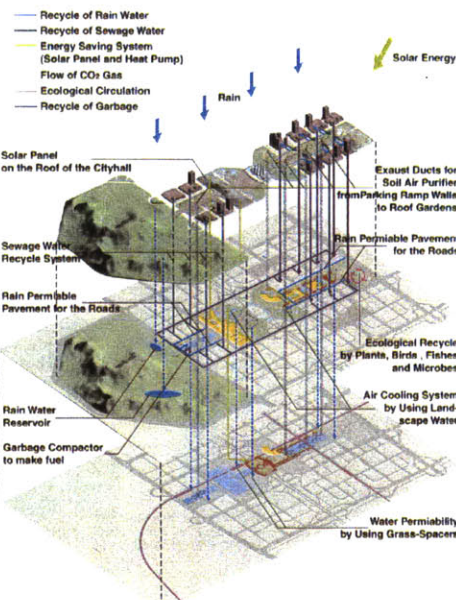


Figure 92. The central axis
 Source: <http://www.kisho.co.jp/WorksAndProjects/Works/shinsen/shenzhen19.JPG>

Figure 91. Design concept taken from the method of music composition using urban score and axonometric of Shenzhen Eco-Media city
 Source: Kurokawa, Kisho, "From the Eco-City to the Eco-Media City," in *A+U* (Japan) Vol. 6, 1998, p. 26.

arranged to the south of Shennan Boulevard and a center devoted to arts, culture, and administrative functions to its north. People can see Lianhua and Bijia Mountains, and Hong Kong, from the north-south axis formed by high-rise buildings. By establishing a strong north-south axis and having Lianhua Mountain at the end of

the north axis, the overall layout of the CBD somehow followed the general arrangement of Beijing's Forbidden City. John Lee/Michael Timchula Architects was also commissioned to design the curve-roofed 200,000 sq m City Hall (Figure 89) with a super large-scale roof on the top of the center, which is under construction and forms a "gate" of the central axis. The symmetrical curved roof may be inspired by the wings of an eagle, a symbol of the SEZ. Large

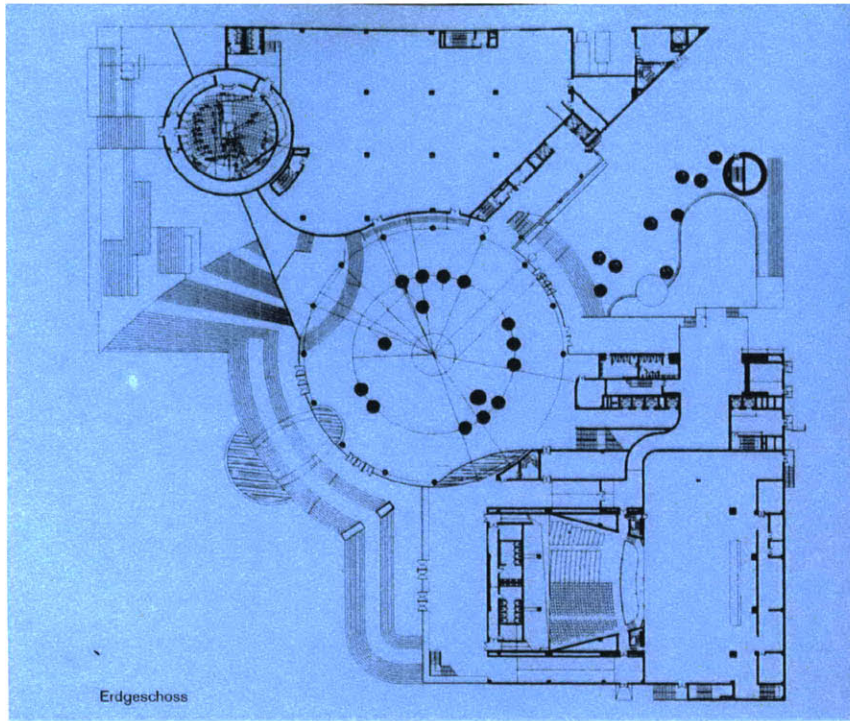


Figure 93. The plan of Juvenile Hill
 Source: Vockler, Kai, *Beijing Shanghai Shenzhen* (Frankfurt: Campus Verlag, 2000).

rectangular openings in the roof itself flood with light the five-story administrative buildings, with two large pillars penetrating through.¹⁴

In 1997, Kisho Kurokawa was invited to plan the Central Axis Public Space System to orient the urban design, which is based on his Eco-Media City Project Plan (Figure 90) and is about 174 hectares, including Lianhua Mountain. An open space of 3 kilometers in length will be planned with the new city hall at its center. Two traverse layers constitute the central axis, with the upper layer composed of man-made turf supporting a park. The facilities



Figure 94. Juvenile Hill
 Source: Vockler, Kai, *Beijing Shanghai Shenzhen* (Frankfurt: Campus Verlag, 2000).

in the huge second layer of the City Hall will serve a multiplicity of functions such as city offices, business support center, art gallery, shopping mall, etc. It starts in the north with a botanical garden and a Chinese medicine garden at the foot of Lianhua and describes a circle around it. The design concept is taken from the method of

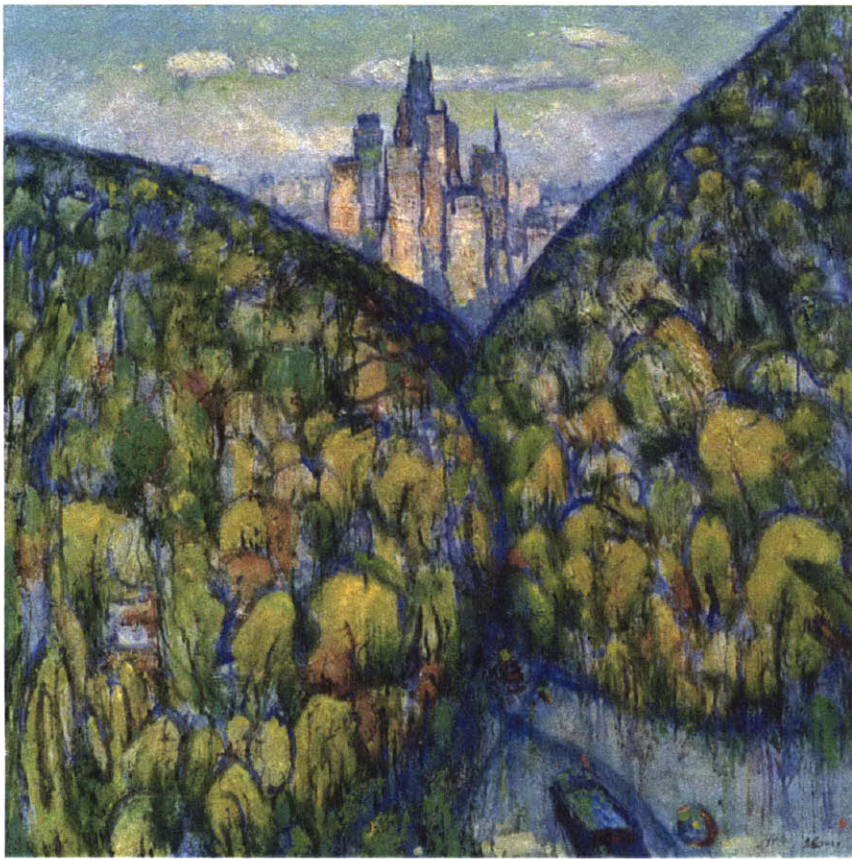


Figure 95. Green Shenzhen by Tian Kesheng (2003)

music composition using an urban score (Figure 91 and 92), as the following:

1. Culture – Politics - Science & Technology - Art- Ecology
2. Traditional Chinese Garden - Ceremonial Plaza - Tourist Information Center - Eco-Media Center - Shopping Mall - Art Park - Eco-Park
3. Spring – Summer – Autumn - Winter

4. Typical – Formal – Central – Complex - Free¹⁵

The axis is conceived of as an incubator to use advanced technology to create an ecological environment. This linear park is a multi-layered structure with an accumulation of facilities, and the roof will be a manmade park. Some eco-technologies are incorporated into this park. Rainwater collected on the huge roof of the main building in the city axis will be used for toilets in nearby commercial and office spaces. To purify exhaust gas from parking lots, the purification system will utilize the soil of the rooftop garden. Solar and wind energy is to be used for air conditioning.

The Shenzhen Cultural Center, consisting of a central library and a music concert hall, was designed by a famous Japanese architect, Mr. Arata Isozaki. The entire Cultural Center building is unique, carefully designed, and modern. It can be rated as a fine work of modern city architecture.¹⁶ Shenzhen Central Library is one of the large modern cultural facilities looking towards the information era that has been invested in by Shenzhen municipal government. It is located in the golden area of Shenzhen's CBD, covering an area of 2.96 hectares with a total construction area of 35,000 square meters. The new library is open-shelf, "intelligent," and networking-oriented. It has a capacity of housing 4 million volumes of materials, providing 2,500 reading seats and 3,000 net nodes. The Library will be able to serve 8,000 visiting readers at a time and circulate 50,000 volumes per day after it is complete.

It will be the documentation and information service center and regional library network center of Shenzhen.

The blocks 22 and 23, commissioned to SOM (Skidmore Owings & Merrill LLP), showed the philosophy of emphasizing the genius loci of southern China and attempting to impose rigorous design requirements for individual buildings. Due to the previous lack of detailed city design guidelines for individual buildings, almost every building attempted to claim its own prominence and maximize commercial return, without treating the city as having integrity and considering beneficial incremental city growth. The learning of this lesson showed in SOM's urban design. SOM's consultancy represents the importance of the city-centre projects in Futian as the "basis for Shenzhen's evolution and emergence as the first, new world-class city."¹⁷

In November 2000, a 6-meter statue of Deng Xiaoping was erected and unveiled on the top of Lianhua Mountain.

(Notes)

¹ Meng, Xiaochen, "Building Nests to Attract Birds," for 15th Annual Conference of the Association for Chinese Economics Studies Australia, p. 13.

² Mee Kam Ng, "City Profile: Shenzhen," in *Cities*, Vol. 20, no. 6, 2003, p. 434.

³ *Ibid.*, p. 439.

⁴ James Jixian Wang, and Jiang Xu, "An Unplanned Commercial District in a Fast-growing City: A Case Study of Shenzhen, China," in *Journal of Retailing and Consumer Services* 9, 2002, p. 320.

⁵ George C.S. Lin, "Region-based Urbanization in Post-reform China: Spatial Restructuring in the Pearl River Delta," in John R. Logan, editor, *The New Chinese City* (Oxford: Blackwell Publishers, 2002), p. 255.

⁶ George C.S. Lin, "Region-based Urbanization in Post-reform China: Spatial Restructuring in the Pearl River Delta," in John R. Logan, editor, *The New Chinese City* (Oxford: Blackwell Publishers, 2002), p. 246.

⁷ Mee Kam Ng, "City Profile: Shenzhen," in *Cities*, Vol. 20, no. 6, 2003, p. 436.

⁸ Bruton, M. J., Sheila G. Bruton, and Yu Li, "Shenzhen: Coping with uncertainties in Planning," in *Habitat International*, 2003.09.004, p. 6.

⁹ Mee Kam Ng, "Sustainable Urban Development Issues in Chinese Transitional Cities: Hong Kong and Shenzhen," in *International Planning Studies*, Vol. 7, no. 1, 2002, p. 27.

¹⁰ Xueqiang Xu and Xu, Yongjian “A Study on an Integrated Cross-Border Transport Network for the Pearl River Delta,” in Yeh, Anthony Gar-on, Tunney Lee, Nien Dak Sze, and Yok-shiu F. Lee, editors, *Building a Competitive Pearl River Delta Region* (Hong Kong : Centre of Urban Planning and Environment Management, University of Hong Kong, 2002), p. 130.

¹¹http://www.wwf.org.hk/eng/conservation/env_policy/green_policies/bridge250803.html

¹² The Shenzhen Municipal Government has also worked out a plan to achieve modern standards by 2005 with a GDP per capita of US\$ 6,000; nonetheless, in 2004 the proposed year has been deferred to 2010 by the new mayor.

¹³ Carolyn Cartier, “Transnational Urbanism in the Reform-era Chinese City: Landscapes from Shenzhen,” in *Urban Studies*, Vol. 39, No. 9, 2002, p. 1521.

¹⁴ *Ibid.*, p. 1525.

¹⁵ <http://www.kisho.co.jp/WorksAndProjects/Works/shinsen/>

¹⁶ <http://szlib.szptt.net.cn/englishweb/newlib/newlib.htm>

¹⁷ Carolyn Cartier, “Transnational Urbanism in the Reform-era Chinese City: Landscapes from Shenzhen,” in *Urban Studies*, Vol. 39, no. 9, 2002, p. 1522.

V. Toward the Future: Design Proposal

To a certain degree, the setting up of the Shenzhen SEZ and other SEZs in southern coastal provinces in order to actively pursue foreign technology and capital was a "return" to the foreign concessionary treaty ports that flourished economically in the earlier part of the 20th century. It seems that the relatively large size, 327 sq km, of the SEZ helped its rapid development. The linear land and belt-cluster urban layout facilitated the city's light industrial production and transportation and sustained its population explosion, which also made it easier to arrange limited phased investment. Its linear shape has helped the city to be adjusted to fit different economic goals and capital investment at different stages. The amazing thing about Shenzhen is not only its population and economic indexes explosion, but also the city's transformation: from a manufacturing zone to a regional nexus through the introduction of the capitalist market.

Within 23 years, the city has transformed from homogeneous to diversified and is shifting from an industrial zone toward an information society. Cities in the PRD are forming an intercity network. In the information and globalization age, city boundaries are dissolving; power and territory no longer coincide, and the state and cities can no longer hold the two together—the virtual territory controlled by a city may be bigger than its physical land. Cities are becoming multidimensionally symbiotic and interdependent. Therefore, the intercity forms' coordination, complementing, and

cooperation bring highly challenging issues to city managers, designers, and planners. The coordination problem manifests itself in duplication, such as the simultaneous construction of deepwater container ports in Shenzhen and Zhuhai. Another problem is the glut of airports, with new airports in Hong Kong, Shenzhen, Zhuhai, and Macau all completed and operational, while the Twenty-Year Socioeconomic Development Profile of Guangdong indicates that the largest international airport in South China will be situated in Guangzhou.¹

Land is one of the key elements of economic activities. In the old socialist regime, the state was almost entirely dominating all land resources; its ideology dictated the shape and growth pattern of a city. Shenzhen's economic and population exponential explosion indicates, at least for the success of the last 23 years, that powerful economic growth can be expected when the ideology of the land owner matches the global economic requirements and opportunities. A land owner can optimize a city's phase in the development pattern and timing, if market forces and trends are thoroughly understood. However, it is also critical to have an effective feedback mechanism for administrative institutions. Starting from a comprehensive zone covering primary, secondary, and tertiary activities, land must be available to meet the needs of various construction and development programs. Extensive land requiring little reclamation is essential in reducing development costs and facilitating the progress of construction.

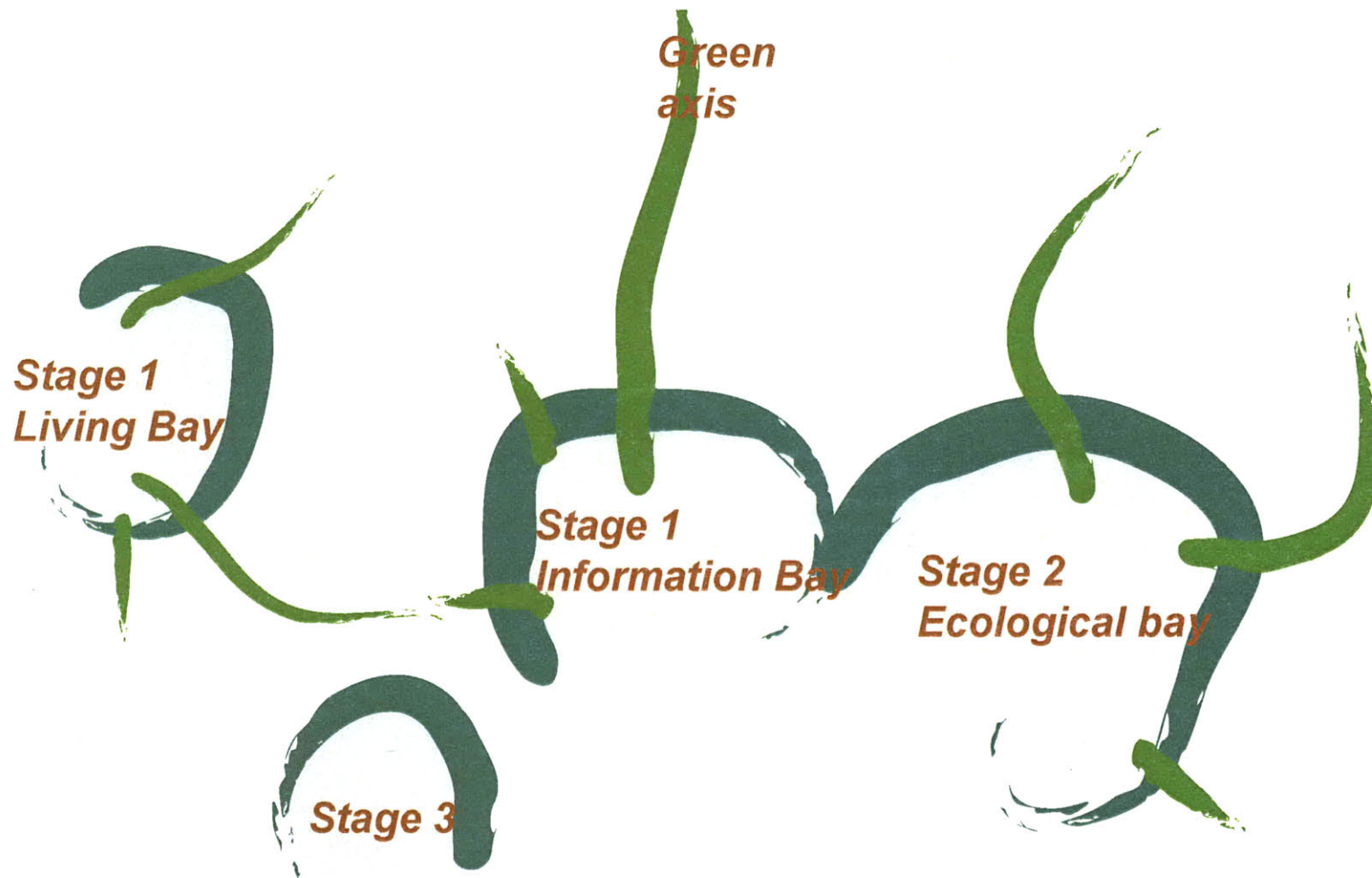


Figure 96. Design concept

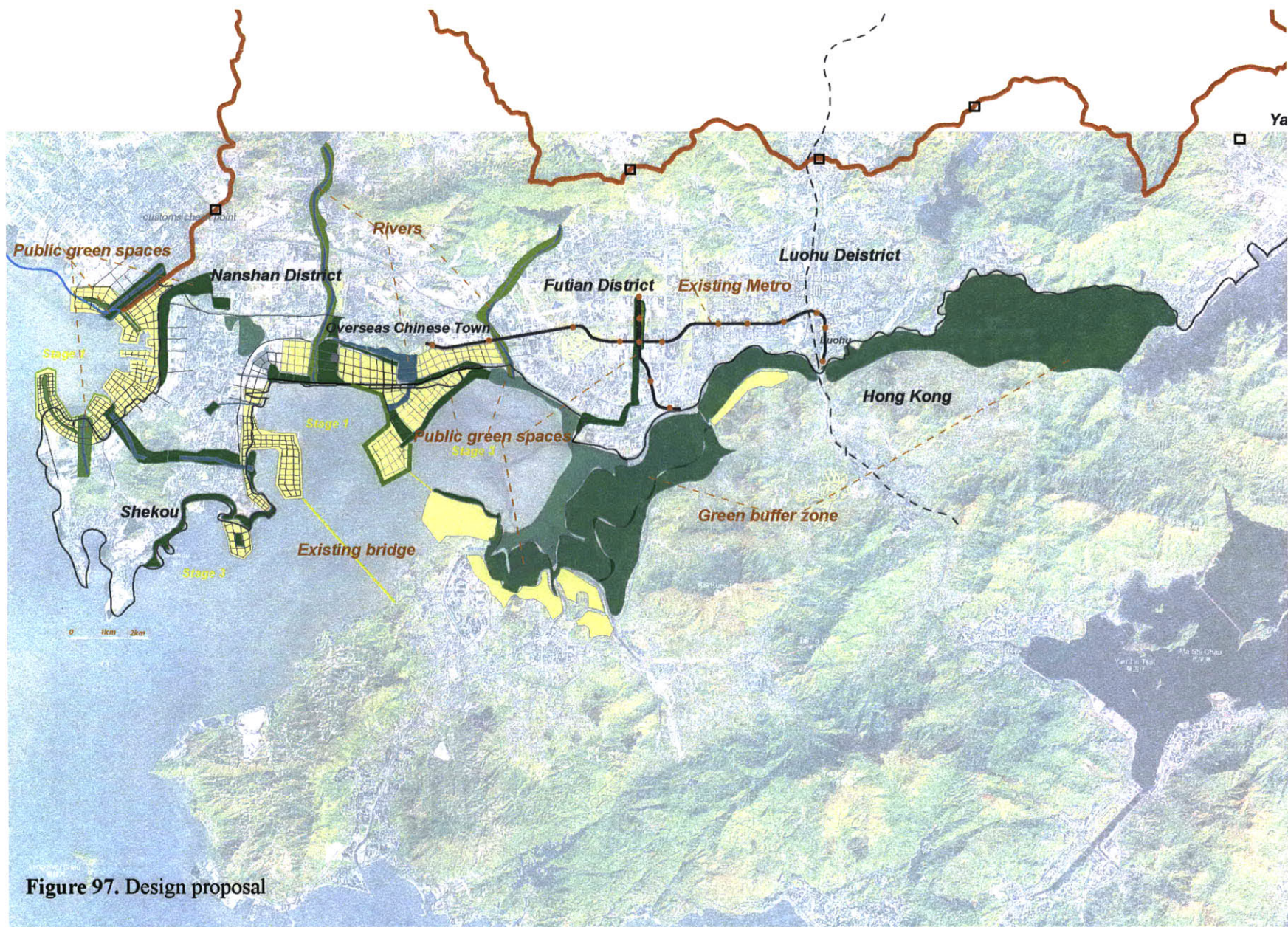


Figure 97. Design proposal



Figure 98. Design proposal

Before 1993, city planning basically controlled the city's form shape, which would follow the transportation pattern to facilitate industrial development. As economic development occurs, it is necessary to modify plans periodically. Plans are usually divided into three types: target-driven, condition-driven, and problem-driven plans. At the beginning of Shenzhen's rapid growth, planning was target-driven, and the target often changed dramatically, just as reflected in Shenzhen's master plan. In this situation, plans become outdated very quickly and modifications should be made in time. After 1993, as most manufacturing was moving out of the SEZ in response to globalization, the planning process shifted from supporting state projects to regulating undesirable land development.

The development of Shenzhen is a process of both urbanization of the city's surrounding region and its comprehensive infrastructure upgrading. The growth of Shenzhen has been essentially a process of optimization of its infrastructure, starting from upgrading gravel roads, building new ports, providing water and electricity, expanding interfaces with Hong Kong, and improving telecommunication. Shenzhen has been intending to strengthen its link to the global urban network and in order to become a logistical, informational, services, tourism, and high-tech nexus between the PRD city network and one of the second tier of global cities, Hong Kong,² within the next 10 to 20 years. In a forum on Shenzhen's economic development in September

2003, Liu Jiasheng, director of the Shenzhen Municipal Bureau of Urban Planning, said the city would speed up construction of infrastructure facilities, particularly projects linking Shenzhen to Hong Kong and other Pearl River Delta metropolises. Beginning in August 2003, the 5-kilometer "Western Corridor" will consist of a dual 3-lane expressway and connect Shekou in Shenzhen with the western part of Hong Kong. Co-funded by the Shenzhen Municipal Government and the Hong Kong Special Administrative Region and scheduled to open in late 2005, the new road link is expected to boost the mutual development of Hong Kong and the mainland, and, in particular, to further hone the competitive edge of the Pearl River Delta region. A bridge project which links Shenzhen's Huanggang Port to Hong Kong's Lok Ma Chau Checkpoint will also be completed by the end of 2004. The new bridge will boost development of finance, logistics, and tourism, and better position Shenzhen as the node between Hong Kong and the Pearl River Delta.

To become a multiplex regional node, I think the city should have a sustainable living environment, with well-built infrastructure for the information age. Its form transformation should not necessarily follow previous belt-cluster models, but foster a sustainable and livable city environment to create its own identity to enhance its competitiveness. The city's seafront form provides valuable opportunities and a decent physical platform to fulfill the city's next macro goal. Shenzhen is actually a seafront

city. However, this apparent character seems to have been forgotten, except for continuous landfill and using seafront for ports. Binhai Express Road, a coastal road, was constructed on one section of landfill and this express road in fact cut the people's daily connection with the western coastal area.

I propose three phased bay area developments in the next 20 to 30 years: *a living bay*, *an information bay*, and *an ecological bay* (Figure 96, 97, and 98). The overall design intention is to reconstruct *inter-cluster* bay areas while cleaning the bay areas; waste water will be rechanneled and treated and water ways connecting to various reservoirs will be reclaimed. Shenzhen and Hong Kong are the only two mega-cities in the world so close together. *The ecological bay* is to protect existing mangrove trees and establish a reasonably large eco-buffer zone between the two mega-cities. In the postindustrial age, the new global order is based on the ability to store and process information and generate knowledge. Therefore, *the information bay*, a knowledge incubator, should be located next to Shenzhen University and Shenzhen High-tech Park. In 2000, the Shenzhen government announced that there will be no residential land available within the SEZ. *The living bay* will thus provide extra land for living purposes. All three refilled new bays will provide large green public seafront spaces to enhance people's connection with the sea area and protect the natural environment.

As noted at the beginning of this thesis, urban form

development can be considered as a series of diagrams of dynamic intervening forces. To build a sustainable and humane environment is a major challenge in the information economy age in the midst of globalization. This design proposal is seeking a contested city form suitable for the age, in which humanity and sustainable aspects are emphasized. Such a form will enable Shenzhen to remain a leading city node in the intercity network of Pearl River Delta in the 21st century. The economic feasibility of this design would require study next. I hope this study about Shenzhen SEZ's morphological change provides valuable experience for other rapidly transforming cities in China and perhaps elsewhere.

(Notes)

¹ Yueman Yeung, *Globalization and Networked Societies* (Honolulu: University of Hawaii Press, 2000), p. 99.

² Mark Abrahamson, *Global Cities* (Oxford: Oxford University Press, 2004), p. 5.

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