

Chapter 2

Second Metamorphosis? Urban Restructuring and Planning Responses in Guangzhou and Shenzhen in the Twenty-First Century

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Abstract The chapter gives an overview of the current role of urban planning at different levels of development and restructuring in the cities of Guangzhou and Shenzhen. It shows that government-led strategic planning continues to play a vital role in preparing and implementing economic and physical restructuring, producing differential impacts on the life and livelihood of various stakeholders. It makes clear that economic competition between cities in a maturing mega-urban region amidst globalisation is backed by a rather localised understanding and practice of planning. Strategic and neighbourhood-related planning efforts in the cities of the Pearl River Delta have been instrumental in regenerating space for the restructuring economy and building up the city image. Are they equally successful in upgrading the quality of life for the urban residents?

Keywords Urban restructuring • Planning responses • Guangzhou • Shenzhen • Government-led strategic planning

2.1 Introduction

China's open door policy has unleashed developments on all geographical scales. This chapter attempts to review the evolution of urban developments and planning responses in two major cities in the Pearl River Delta (PRD), one of the earliest cradles of economic reforms in the 1970s and 1980s: the city of Guangzhou, the capital of Guangdong Province with a history of over 2,100 years, as old as some of the oldest European cities, and the city of Shenzhen, one of the country's first Special

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Economic Zones with a history of less than 40 years. Both are rapidly growing sub-provincial cities identified as central cities in the PRD urban system plan. However, unlike Guangzhou, which has the obligation to pay tax to Guangdong Province as its capital, Shenzhen was a creation of the central government and is not obliged to pay tax to the province.

Geographically, Guangzhou lies at the northern tip of the PRD, at the union of the Dong (East) and Bei (North) Rivers, and swallows more than a 1,000 miles of waterways (Xu and Yeh 2003). Due to its advantageous geographical location, Guangzhou has long been a regional transportation hub and a major export port in southern China. Administratively, the Guangzhou Municipality covers an area of 7,434 km² with a resident population of 12.7 million in 2010, among which 8.07 million are hukou residents (Guangzhou Statistical Bureau 2011a). It is comprised of two county-level cities (Conghua and Zengcheng) and ten city districts (Yuexiu, Haizhu, Liwan, Tianhe, Baiyun, Huangpu, Nansha, Luogang, Panyu, and Huadu) (Fig. 2.1).

The city of Guangzhou, however, only comprises the ten districts with an area of about 3,843 km² (51.7 % of the total municipal area) and a resident population about 11.07 million (87.2 % of the total municipal population), including 6.64 million hukou residents in 2010 (Guangzhou Statistical Bureau 2011a). In this chapter, the city of Guangzhou is the main focus of discussion, excluding the two county-level cities under its administration.

To most people, Shenzhen is a young city. Yet, according to some recent archaeological findings, parts of the city had served important administrative and military functions as early as 331 AD (Liu and Ng 2009:289). Nevertheless, the name “Shenzhen” only appeared in the seventeenth century when the Qing Dynasty built defence towers in Bao’an (Shenzhen Museum 1999). Shenzhen lies in the southern part of Guangdong Province, flanked by the Dapeng Bay in the east, Hong Kong in the south, and the Pearl River Estuary in the west. Shenzhen has an area of 1,992 km², with a moderately hilly terrain, especially in the south-eastern part.

Despite the historical significance of some specific locations in Shenzhen, the place was just a sleepy border town before China’s open door policy. Before the open door policy, Shenzhen was only a county-level city with a population of 20,000 and an area of 3 km² (Ng 2002:42). Today, after being the country’s first Special Economic Zone for more than 30 years, the city has an official population of 8.9 million (Shenzhen Statistics Bureau 2010:28), and the city now covers a total area of over 1,992 km² (Fig. 2.2).

Rich historical development in Guangzhou has earned her many renowned aliases: the Flower City, the Goat City, the Rice-Ear City, the Silk Road on Water, and the Southern Gate of China. With the launching of China’s open door policy in the late 1970s, Guangzhou and Shenzhen have both become the vanguard cities for economic reforms, impressing the world with rapid growth and development (Table 2.1). Given the contrast of Guangzhou as a city with an ancient origin and centuries of colourful urban development (Xu 1985; Xu and Yeh 2003; Wu et al. 2007:208) and Shenzhen as a young “Instant City” with less than 40 years of urban history (Ng 2003, 2011), it is rather surprising to find the comparability of these two cities in their economic development.



Fig. 2.1 The geography of Guangzhou and its districts (Modified from Xu and Yeh 2003:362)

Figures in Table 2.1 show that while Guangzhou is bigger and has a larger population, per capita GDP is higher in Shenzhen: RMB 87,458 versus 94,296. Nevertheless, the composition of registered versus non-registered population shows the nature of Shenzhen as an extremely fluid society, as in 2010 76 % of her population were not registered residents. And this situation is also reflected in difference of educational levels and the provision of social amenities in the two cities.

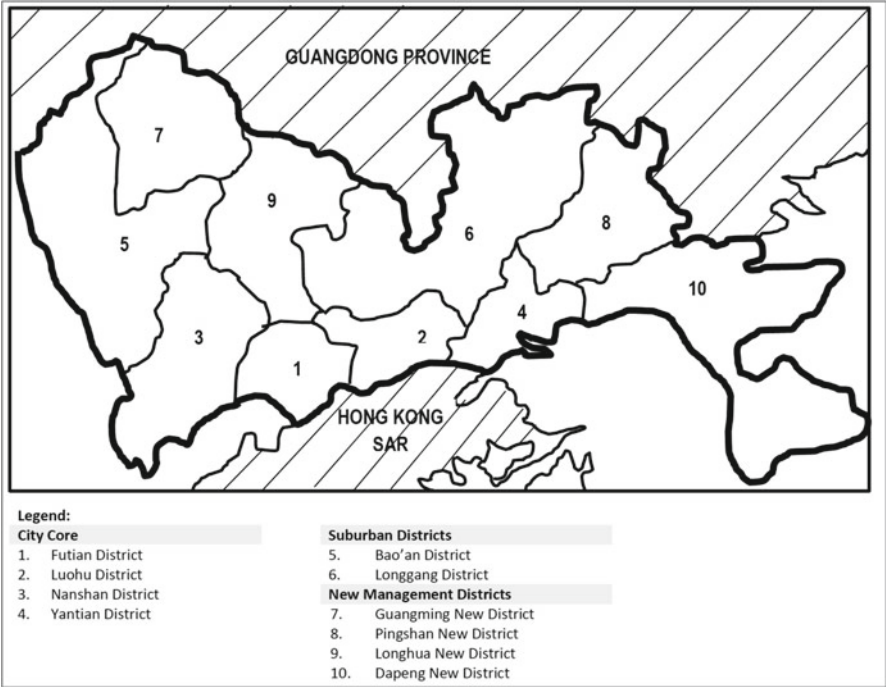


Fig. 2.2 Districts in Shenzhen (Modified from Ng 2003:430 and the “administrative divisions” in Shenzhen, <http://en.wikipedia.org/wiki/Shenzhen>, accessed June 2012)

Table 2.1 Comparative statistics of Guangzhou and Shenzhen (2010)

	Guangzhou	Shenzhen
Area (km ²)	7,434.40	1,991.64
Population (million)	12.71	10,372.51
• Registered population	8.06	7.86
• Non-registered population	4.65	
Employment (million)	7.89	7.05
• Staff and workers	2.39	2.51
Gross Domestic Product (billion RMB)	1,074.83	958.15
• Primary industry	18.86	0.65
• Secondary industry	400.23	452.33
• Tertiary industry	655.75	505.17
Per capita GDP (RMB)	87,458	94,296
Gross output value of agriculture (billion RMB)	0.32	1.50
Gross industrial output value (billion RMB)	443.90	1,887.97
Total investment in fixed assets (billion RMB)	326.36	194.47
• Residential buildings	57.3	45.85
Total retail sales of consumer goods (billion RMB)	447.64	300.07

(continued)

Table 2.1 (continued)

	Guangzhou	Shenzhen
Transport		
• Total freight traffic (1,000 tons)	573,690	261,750
• Total passenger traffic (10,000 person-times)	625,950	1,560,480
• Volume of freight handled at ports (1,000 tons)	425,260	220,980
Foreign trade and economic cooperation		
• Total imports through customs (USD billion)	55.4	142.6
• Total exports through customs (USD billion)	48.4	204.2
• Foreign direct investment (USD billion)	39.8	43.0
Government finance		
• Budgetary revenue (billion RMB)	87.27	110.68
• Budgetary expenditure (billion RMB)	97.73	126.61
People's livelihood		
• Per capita annual disposable income of urban households (RMB)	30,658	32,381
• Per capita annual net income of rural households (RMB)	12,676	n.a.
Education		
• Number of students enrollment of regular institutions of higher education (1,000 persons)	843.9	67.3
• Number of students enrollment of regular secondary schools (1,000 persons)	572.3	334.8
• Number of students enrollment of primary schools (1,000 persons)	824.8	618.5
Health care		
• Hospital beds (1,000)	53.2	21.1

Source: Guangzhou Statistics Bureau, 2011a, b:5, 10–15; Shenzhen Statistics Bureau, 2011:3–9, 289.

This chapter argues that after China adopted an open door policy, both cities successfully metamorphosed into a “socialist market economy” by the end of the twentieth century. However, as China’s economic reforms deepen in the course of globalisation, both Guangzhou and Shenzhen face increasing internal and external pressure to reinvent themselves in order to remain competitive domestically and internationally. This chapter attempts to compare and contrast the development trajectories and planning responses in these two cities in order to shed more light on the dramatic story of the rise of China in the past few decades.

2.2 Metamorphosis in the Late Twentieth Century: Establishing a “Socialist Market Economy” with Chinese Characteristics

2.2.1 *Guangzhou: Regaining Its Past Glory?*

The fate of Guangzhou as the most developed city in the PRD changed when the Communist Party chose to adopt a closed door policy after the foundation of the People’s Republic of China in 1949. Socialist industrialisation at that time did not

work in favour of Guangzhou. The target of becoming “a production city” was constrained by the absence of mineral and energy resources, an undersized transportation system, a technologically undertrained labour force, and a dearth of funding from the central government due to its peripheral location being vulnerable to possible foreign invasion (Hu and Lin 2011:6). On the eve of the adoption of reform policies in 1978, the industrial output constituted only 56 % of Guangzhou’s GDP (Guangzhou Statistics Bureau 1998:23) when compared to 76 % in Shanghai (Shanghai Statistics Bureau 1998:24) and 65 % for Tianjin (Tianjin Statistics Bureau 1998:98).

As economic planning was privileged in the pre-reform era and the function of urban planning was limited to help site selection for individual industrial projects, the city of Guangzhou as a whole expanded in an unplanned manner, with new developments primarily in the eastern part of the city. This can be understood as Panyu and Huadu (then counties), Foshan City, and Baiyun Mountain (an important source of water supply), surrounding, respectively, its south, west, and northern sides, function as significant barriers to the city’s urban expansion (Xu 2001).

Since 1978, urban growth accelerated in Guangzhou as it was one of the earliest Chinese cities to benefit from the economic reforms (Xu and Yeh 2003:361). In 1984, Guangzhou was designated as one of the 14 coastal open cities and was granted special treatment in foreign economic policy, such as tax exemption for exports and tariff exemption for foreign businesses (Cheung 1999). This provided an opportunity for the city to reclaim its former status as a commercial centre and an entrepôt port (Wu et al. 2007:208–209).

Against this background, a more comprehensive development objective came to the forefront to replace the one of “building a production city”. The new objective argued for “developing the city into an economic centre in south China that is distinguished by its prosperity, civilization, stability and good environment” (The Editorial Board of Guangzhou History 1995:45). The impact of this strategy was profound.

Guangzhou port achieved a growth of seven times of throughput from 1978 to 1995, the highest among China’s major seaports (Howell 1993). There was an evident GDP increase with an annual growth rate jumping from a yearly average of 8 % during the time from 1953 to 1978 to 12 % from 1981 to 1990 (Guangzhou Statistics Bureau 1991). By the mid-1990s, Guangzhou became a frontrunner among China’s key cities. In 1996, Guangzhou made the third largest GDP in China, only lagging behind that of Shanghai and Beijing. Guangzhou also ranked closely behind Shanghai in terms of foreign investment, which made it the second largest recipient among China’s cities in 1994 and 1995.

For infrastructure development, the city built a number of major ring roads, highways, and railways encircling and branching out from its jurisdiction to enhance accessibility to neighbouring cities and distant provinces (GUPB and GUPFR 2002:158), thereby asserting its role as a transportation hub (Xu and Yeh 2003).

The economic boom of the early reform period resulted in extensive new urban development. By the end of 1985, there were more than 3.2 million inhabitants in the city, and most of them were living in the old dilapidated city centre. An inner-city problem then emerged and was made worse as a number of foreign and domestic

investors came to build hotels, shopping centres, factories, and entertainment facilities and to set up offices in the city.

To accommodate the rapid economic growth and rising population and to mitigate the disorganised inner-city growth, the Guangzhou Government began to adopt a policy that controlled further growth of the old city proper and encouraged the development of new areas. Guangzhou formulated 13 master plans from 1949 to 1979. “Creation of a socialist production city” was the core element of all these plans. This led to an urban landscape shaped by scattered industrial land compounds.

It was in the 14th master plan prepared in 1984 that a three-nuclei urban structure was formed (old city proper, Tianhe and Huangpu), with green belts preserved between different parts and a convenient traffic network linking them together. In the mid-1980s, the 6th National Games were held in Guangzhou. The city seized this opportunity to establish a new district on its eastern edge—Tianhe District—to locate sports and new Central Business District (CBD) facilities and to relieve land-use pressure in the old city proper. Two more districts, Fangcun and Baiyun, were also set up, aiming at controlling the environment within the existing inner city.

The Guangzhou Economic and Technological Development District (GETDD) was created near the eastern estuary and the outer port in Huangpu in hopes of attracting foreign investment. The new city blueprint signalled a fundamental shift of the city’s spatial policy. Prior to economic reform in 1978, spatial development relied primarily on individual industrial projects that provided jobs as well as infrastructure and social provisions. After the reform, the city government took initiatives to invest in land development by demarcating development zones, providing infrastructure and serviced land under a unified planning method.

An even more fundamental transformation of urban development has started since the land reform in the late 1980s. The introduction of a land market triggered a massive process of redevelopment of the city centre as well as the expansion of new areas. Land has emerged as a marketable commodity that various stakeholders try to gain access to. Land leasing is now a critical revenue source for the capital-hungry city government that is keen on leasing out more land to generate capital for infrastructure construction.

In the inner city, new commercial and residential buildings have been built to replace the aged industrial sites and dilapidated neighbourhoods. This was often accompanied by the relocation of industries to the periphery and residents to new housing estates at the edge of the city. To take this further, Guangzhou Government modified its development strategy during the 1990s. It targeted the city to modernise and overtake the “four Asian dragons” (Hong Kong, Singapore, South Korea, and Taiwan), for 15 years from 1995, to become an international metropolitan city and the financial, trade, and tourist centre in the Asia-Pacific region (GZYEC 1995).

This ambitious strategy was articulated into a set of economic, social, and environmental indicators. To realise these visions, the city allocated more land to investors, property developers, infrastructure construction, and social provisions. Under these development forces, Guangzhou expanded dramatically through urban

redevelopment and physical expansion. The built-up area reached 298 km² (prior to the annexation of Panyu and Huadu) in 2000, far exceeding the limit set in the 14th master plan (250 km²) (The Editorial Board of Guangzhou History 1998:45).

2.2.2 Shenzhen: Unleashing Its Youthful Might

Shenzhen was a small border town within the old Bao'an County before the setting up of the People's Republic of China in 1949, and the rural county-level city, like the rest of the country, underwent a collectivisation process. Throughout the Cultural Revolution (1966–1976), Bao'an County was the largest source of illegal immigrants to Hong Kong. Yet, with the launching of economic reforms in China, Shenzhen together with Zhuhai, Shantou, and Xiamen were designated as Special Economic Zones (SEZ). The city of Shenzhen then consisted of a Special Economic Zone as well as two districts, Longgang and Bao'an. Since then, Shenzhen's growth has been breathtaking.

Between 1980 and 2001, the population had grown by 14 times its initial size, employment opportunities by 22 times, the gross domestic product by 724 times, per capita GDP by 72 times, fixed capital investment by 488 times, the gross output value of the industry by 3,014 times, and imports and exports by 3,918 times (Shenzhen Statistics Bureau 2002:44–47). The planned area expanded from only 10.65 km² within the Special Economic Zone to include the whole city (2,050 km²). Within these two decades, the population had grown from 0.3 million to 4.7 million, with 3.3 million as temporary population.

The Shenzhen SEZ was built through razing pre-existing villages (O'Donnell 2001), saving only land plots for houses which have become today's "villages-in-the-city", and these land lots are owned and managed by rural committees turned into "shareholding companies" (Ng 2003). Unlike Guangzhou, the Shenzhen SEZ had no historical legacy to turn to when China adopted the open door policy.

Given the "wait and see" attitude of most overseas investors in the early years of China's economic reforms, industrial investment in the first phase of Shenzhen SEZ came mostly from domestic sources such as ministry-led or provincial enterprises through preferential policies. Land was then allocated to these units, meaning, however, that the SEZ was indirectly subject to the fiscal control of the central government. Hence, the municipal government soon realised the importance of restructuring the hard and soft infrastructure of the zone in order to attract foreign investment (Ng 2003:433). A number of administrative reforms were carried out throughout the 1980s and 1990s to separate the economic functions from the administrative setup. As a result, foreign investments rose and export increased. In 1994, the positive trade balance was US\$1.64 billion (Shenzhen Statistics Bureau 2002:203).

To finance the restructuring of the infrastructure, Shenzhen SEZ learned from Hong Kong and introduced the country's first land auction in 1987. While this provided much needed resources for the local government to develop the SEZ, the move challenged the emerging outward processing industries as land costs escalated

(Ng 2003:434). Hence, in less than two decades, the SEZ faced restructuring pressure, moving from outward processing industries to real estate, tourism, commerce, trade, and finance, fuelling the escalating land and property prices (*ibid.*: 434).

Given the shortage of land within the SEZ, the two neighbouring rapidly industrialising counties were incorporated as districts in 1993. And the vision then was to develop Shenzhen into a city with the “environment of Singapore and efficiency of Hong Kong” (Shenzhen Municipal Government 2000:1–2) and to move towards high-tech industrial development. It was reported that after a visit to Singapore in 1983, the Shenzhen Municipal Government decided to set back the redline for 30 m for greening purposes¹ (Shenzhen Museum 1999:54). It succeeded in promoting high-tech industries, as by 2001, production value was RMB 132 billion, ten times the figure in 1990 (Shenzhen Statistics Bureau 2002:74; CAUPD 2000).

In 2001, there were altogether 1,749 industrial enterprises found in Shenzhen SEZ: 15.5 % were funded by domestic capital, 70.8 % by Hong Kong capital, and 13.7 % by foreign capital (Shenzhen Statistics Bureau 2002:76). Following China’s ascension to the World Trade Organization, Shenzhen has been losing its unique advantage in attracting investment. As a result, the city has been very resourceful in building connections and raising foreign investments such as those which have been instrumental in building the Yantian Port, Guangshen Highway (Guangzhou-Shenzhen connection), Daya Bay Nuclear Plant, and the Shenzhen Telecom (Shenzhen Museum 1999:421).

Before the turn of the twenty-first century, Shenzhen had produced three master plans. The first master plan was formulated based on the 1982 Shenzhen Socio-economic Outline Development Plan that detailed Shenzhen’s planning directions, scale of population growth and developments in different sectors. The second master plan was formulated and revised in 1986 and 1989, respectively, a period that coincided with the SEZ’s determination to build a genuine export-oriented economy. And the 7th Five Year Plan (1986–1990) provided the necessary strategic guidance for the city’s socio-economic development. The third master plan was first conceived in 1993, and the basic strategic directions were provided by the 10-year socio-economic plan for Shenzhen.

Hence, towards the end of the twentieth century, the linear city was divided into integrated compact urban clusters with green belts in between (Ng 2003). Although the planning intention was to have the eastern part of the city as a reserved site for commerce, residence, fishery, agriculture, and tourism, the Daya Bay Nuclear Plant and the Yantian Port were constructed in the 1980s.

Development in the central cluster could be differentiated into three portions. The eastern portion included Luohu District, planned for commercial, residential, and industrial uses. The central one consisted of Shangbu, a deindustrialised area, the “illegal” conversion of which had led to successful “bottom-up” regeneration (Ng and Tang 2002). These two portions exhibited the dynamism of an emerging

¹Redlining is a practice by financial institutions in the United States to demarcate areas of a city that are deemed ineligible for loans or mortgages (HUD and MURCEP 1987:236).

socialist market economy. The third western portion included Futian District, a site designated in the second master plan as the future heart of Shenzhen as a world city. The western portion housed the Overseas Chinese Town with theme parks and luxurious real estate developments. It would also be home to high-tech industries, science parks, and universities.

The emergence of a socialist market economy in Shenzhen came with new challenges (SZUPB and CAUPD 2005). At the regional level and against the context of a network of rapidly growing cities in the PRD, the SEZ had to revisit its positioning strategy. Within the city, the once young, dynamic, adventurous, and multicultural city that pursued a growth-at-all-cost economic development strategy faced a number of bottlenecks, including a large migrant society with low education levels but a pressing demand for housing and employment and a degrading natural, air, and water environment. The city needed to identify a development trajectory that would allow economic prosperity but at the same time promote social and environmental sustainability.

2.3 Challenges of the Twenty-First Century: A Second Metamorphosis Through Planning?

At the dawn of the twenty-first century, China's open door policy and her experiment of transforming the centrally planned economy into that of a socialist market had fundamentally transformed the cityscapes of 2,100-year-old Guangzhou and the less than three-decade-old Shenzhen. As China's economic reforms and globalisation intensify, the development trajectories of Guangzhou and Shenzhen converge.

At the regional level, both cities face competition, not only with each other but also with other rising cities in the PRD and beyond. Within the city, land shortage is a big constraint for the rapidly developing cities. Not only have both cities faced an absolute shortage of land for development, the carrying capacity of the ecosystems and environmental resources are severely compromised, too.

While the influx of the "floating population" helped fuel economic growth in the first stage of development, both cities now aim at upgrading their economic structures, adding further pressure on housing, environmental, and social developments. The following sections examine these problems which are faced by the two cities, followed by a discussion of their planning responses.

2.3.1 Intercity Competition

The rapid growth of other cities in the PRD and the return of the sovereignty of Hong Kong and Macao have presented new challenges to Guangzhou and Shenzhen, as their growth has been founded on the central government's preferential policies. As the capital of Guangdong Province, Guangzhou used to be the central city. Yet, since

the opening up of China's economy and culminating in the mid-1990s, a new geography of centres and margins has emerged. Guangzhou's economic performance, an annual GDP growth of 12 %, has paled when compared to other emerging cities such as Foshan, Dongguan, Shunde, and Shenzhen, where the growth rates were over 20 % during the early reform era (Cheung 1999).

Although Guangzhou's total GDP (around US\$159 billion in 2010) still ranks first in the PRD, its relative share declined dramatically from 48 % in 1980 to 28 % in 2010 (Guangdong Statistics Bureau 2011:69). Similarly, while Guangzhou contributed to 63 % of the provincial industrial output in 1980, its share plummeted to only 16 % in 2010 (Guangdong Statistics Bureau 2011:312). Guangzhou's GDP per capita was about US\$13,381 in 2010, lower than the figure in Shenzhen (US\$14,777) (National Statistics Bureau 2011:121).

The performance of Guangzhou is inferior to Shenzhen in terms of foreign trade and actually utilised foreign investment. In 2010, Guangzhou's export value totalled US\$48 billion, only about a quarter of the value of Shenzhen's export (US\$204 billion). For the same year, Guangzhou's utilised foreign capital was US\$3.8 billion, but Shenzhen's figure US\$4.3 billion (National Statistics Bureau 2011:184).

The competition between Guangzhou and Shenzhen can be seen in various economic sectors as well. While Guangzhou has established four pillar industries (i.e. automobile, petrochemical, electronics, and biomedicine), Shenzhen is home to some of China's most successful quality brand high-tech companies (Shenzhen Municipal Government 2012). While the tertiary sector in Guangzhou contributed to 61 % of its GDP in 2010, Shenzhen has also become a major financial centre in China, ranking fifth among Asian financial centres according to the 2010 Global Financial Centres Index, despite recent decline in the same ranking (Z/Yen Group Limited 2010).

The city also hosts one of the largest and busiest container ports in China after only Shanghai and Hong Kong. In 2008, Shenzhen was formally designated by the State Council as one of the National Comprehensive Reform Pilot Areas (NCRPA) to undertake experimental reforms in urban development.² And both cities face keen competition from Hong Kong where the service sector contributes to over 80 % of its economy. Hong Kong provides indispensable global insights and business solutions, as well as financial, logistics, information, and producer services to the PRD, overshadowing the role of Guangzhou as the provincial capital.

Guangzhou also faces competition from newly designated development zones initiated by the central government, including Hengqin New Area in Zhuhai (2009) and the Qianhai region in Shenzhen (2010). Besides internal competition, the PRD faces competition from other central government-designated development

²Up to December 2011, there are ten NCRPA approved by the State Council. They are Shanghai Pudong, Tianjin Binhai, Chongqing, Chengdu, Wuhai Urban Cluster, Changsha-Zhuzhou-Xiangtan, Shenzhen, Shenyang, Shangxi, and Xiamen. In 2011, the State Council claimed that no more NCRPA will be approved in the future. For more detail, please refer to <http://baike.baidu.com/view/1302344.htm>

zones such as Pudong in Shanghai (1992), the Binhai region in Tianjin (2005), and Shanghai in the Yangzi River Delta that has regained its historical position as a business centre and is a strong competitor as a domestic and global capital in her efforts to regain world city status (Wu 2000a, b).

Unlike these designated areas, Guangzhou lost its “Separate Line-Item Status (SLIS)”³ in the central plan in 1993, which the city used to bargain with the central state to obtain preferential economic policies. Shenzhen is still an SLIS city along with four other Chinese cities. While this allows Shenzhen to enjoy provincial-level economic power and pay “zero” tax to Guangdong, such status has also intensified competition between Guangzhou and Shenzhen, the two most prominent cities in the PRD. To a certain extent, Shenzhen is not being favoured by Guangdong in the same way as Guangzhou because Shenzhen is not perceived as “its own son” by the Province. Yet, China’s accession to the World Trade Organization meant the decline of preferential policies for both Guangzhou and Shenzhen, a corollary for a need for them to reinvent themselves to maintain their competitiveness.

2.3.2 *Guangzhou: Overcoming Land Shortage*

Both cities faced the problem of land shortage as early as the 1990s. To overcome this problem, Guangzhou first intensified land uses in the inner city which led to escalating property prices, congestion, a degrading environment, etc. Heavy reliance on central districts for public utilities and amenities leads to a higher density development. Most economic and social activities were concentrated in only 21 % of the old districts (Yuan et al. 2007). The hunger for land further exacerbates the density issue in the inner city, leading to environmental problems such as water and air quality and solid waste disposal.

Traffic congestion along narrow streets in the old urban areas (“street canyon”) has led to increased emissions, and it was reported that annual mean concentrations of CO₂ in Guangzhou over the last decade were higher than those in Hong Kong or in Shanghai (Zhou et al. 2007). The rampant construction of elevated roads and flyovers not only bring about noise pollution, they also take up precious spaces for green belts and pedestrians. Currently, there is only 4.7 m² of green area per person in the old districts (CAUPD et al. 2010).

In the course of rapid urban growth, urban heritage in Guangzhou has fallen prey to various property-led projects. As an ancient city with over 2,000 years of history, Guangzhou is blessed with a rich legacy of buildings, public spaces, and urban

³Separate Line-Item Status (SLIS) was created in the 1980s to allow some large Chinese cities to enjoy provincial-level economic power (not provincial-level administrative authority). SLIS cities share tax division directly with the central government and do not have to pay tax to provincial governments. Currently, there are five SLIS cities in China, namely, Shenzhen, Dalian, Qingdao, Ningbo, and Xiamen. They are all sub-provincial-level cities. For more details on SLIS cities, please refer to <http://baike.baidu.com/view/112105.html>

form. These valuable characteristics, which give meaning to people's lives, are threatened by the uncritical embrace of commercialism. New buildings are poorly related to the proportions and spatial patterns of the old streets and heritage sites. Wide roads and elevated highways are developed to serve people's mobility needs, undermining the traditional urban fabric (Yuan et al. 2007).

The result has been the growth of non-site-specific developments which are devoid of place-making characteristics. Guangzhou Government has made some efforts to preserve heritage such as the redevelopment of Shamian Island, a historical neighbourhood which was once home to foreign merchants (for details, see Yuan and Li 2003). Shamian is listed as a "national heritage site" under stringent local preservation (Du Cros 2008:10–12). Nonetheless, the government once adopted an erroneous strategy—genuine historical buildings/structures were demolished to make way for an imitation of antique ones. Although progress has been made in more recent years, committed government support is miniscule when compared to the scale of the problem (Yuan et al. 2007).

To make room for urban growth, Guangzhou has refocused on developing land in urbanised villages—informal urban settlements which are located within central districts but out of planning control (for details see Chung 2010; He et al. 2009). A campaign has been launched to revitalise these aging places in the urban centre. Unlike past practice, public participation is now strongly encouraged. It is required that any renovation project cannot proceed unless at least 80 % of affected indigenous villagers endorse the plan.

One outstanding example is the reconstruction of Liede Village, a 900-year-old village which forms part of the prestigious Pearl River New Town. The site is close to the Asian Games 2010 venue, and the government felt the urgency to redevelop it in 2007. These factors gave the village committee a lot of leverage in the negotiation. The government finally permitted higher plot ratios to the satisfaction of the villagers and waived off land-leasing premiums to developers (He et al. 2009). The result is the development of an extremely high-density community—37 high rises (locally nicknamed as "walled buildings"), all facing north–south, conforming to the villagers' requirements but breaching planning intentions (Fig. 2.3). Though the Liede model manifests a marked departure from regular government practice, it depicts the increasingly complex relationships between the government and the community in the course of urban development in Guangzhou.

Besides intensifying the development in the city centre to overcome the land shortage problem, in 2000 Guangzhou tried to annex Huadu and Panyu, leading to another round of planning activities (to be discussed in the next section).

2.3.3 *Shenzhen: Limits to Growth*

While a lot of the problems in Guangzhou are direct results of land shortage, Shenzhen faces a different set of bottlenecks to further growth. These include constraints of the carrying capacity of the environment in sustaining further growth



Fig. 2.3 The newly built-up environment of Liede Village during reconstruction (photo from Sonia Schoon)

and the escalating internal and cross-boundary traffic flow, the pressure to upgrade the economic structure and boost urban creativity amidst rising costs of production, and a high mobility of a not particularly qualified transitory population.

The built-up area in Shenzhen is as high as 46 % of the total land area (Wang 2011:68). The built-up area has increased from 64,625 ha in 1996 to 84,115 ha in 2004, growing at an annual rate of 3.3 % (Li et al. 2010:1430). In fact, according to another source, the built-up area increased by 30 km² annually (Xu 2011:18). And this was done through converting the natural environment.

According to Li et al. (2010:1430), the area of woodland in Shenzhen decreased from 65,647 ha in 1996 to 59,476 ha in 2004, at an average decreasing rate of 1 % per year. While the area for orchards has increased to about 14 % of the total area, cropland dropped from 9,010 ha in 1996 to 7,621 ha in 2004, a decrease of about 30 %, representing an annual rate of loss of 4.8 % per year. The area of wetland that yields high ecological services has been halved from 6,428 ha in 1996 to 3,342 in 2004. From 1996 to 2004, the depletion rate of “non-built-up” land was 24.7 % per year, that is, a total of 14,519 ha had been consumed by urban development.

Using value coefficients and areas of various land-use categories, Li et al. (2010:1431) found that there had been a net decline in ecosystem service value of about RMB 231 million from 1996 to 2004 mainly because of the decrease of woodland and wetland. This represented a decrease of 8.3 % of the total ecological value, averaging an annual drop of 1.1 % (ibid., 2010:1434).

It is found that woodland, wetland, water body, and orchard uses made up over 90 % of the total ecological service value of the city, but these sites such as

water bodies, wetland (mangroves mainly located on the south-western coast), and woodland are under considerable development pressure. Ecological sustainability is a real challenge to Shenzhen. For instance, according to Wang (2011:68), per capita water consumption in Shenzhen is only one fifth of the national average.

Shenzhen's environment has also been affected by transport growth. Car ownership rate has been said to increase at an average annual rate of over 20 % (Zhang et al. 2011:1). At the end of 2010, the number of cars in Shenzhen was 1.7 million, and together with cross-boundary vehicles, traffic congestion has been serious, worsening air quality, creating urban heat island effects, and degrading the ecological environment.

While secondary export-oriented and outward processing industries continue to be key contributors to the GDP, growing competition from the rest of the country and escalating costs have prompted the city to restructure and upgrade its economy. Yet, 75 % of the de facto population are "migrants" with mediocre education and high mobility (Wang 2011:68), contributing to social polarisation and problems of urban management. For instance, it is estimated that seven million of Shenzhen's total population of 14 million reside in urban villages (Tong 2009 cited in Zacharias and Tang 2010:230).

It was reported that urban villages occupied some 9,204 ha of land, amounting to 307,000 dwellings, and 44 % of these were constructed after 1999 (Wang et al. 2009:963). While these "villages-in-the-city" provided necessary buffers for the rural-urban migrants to adjust to urban life (Wang et al. 2009), the city government has seen these settlements as eyesores that should be redeveloped. How to handle the intertwined social and physical environmental issues becomes an increasingly pressing concern in Shenzhen.

2.4 Planning Responses

2.4.1 *Guangzhou: Economic Restructuring, Territorial Annexation, and Master Plan in the Making*

In a sense, Guangzhou's development since 2000 has been led by mega industrial and infrastructure projects. Four pillar industries were identified as follows: automobile, petrochemical, electronics, and biomedicine. The city succeeded in building heavy industry, for example, attracting three giant Japanese car manufacturers to locate their production chains in Guangzhou. In 2010, the auto industry of Guangzhou registered an output value of US\$54 billion, accounting for about 20 % of the city's aggregate industrial output value (Guangzhou Statistics Bureau 2011b:298). In the same year, the proportion of light vs. heavy industry was 32 to 68. Heavy industry contributed to over 70 % of the total industrial output (Guangzhou Statistics Bureau 2011a, b:288).

At the same time, the government started many infrastructure projects including the US\$2.4 billion new airport, the US\$1.6 billion Nansha Deep Water Port, and the

US\$3.2 billion Guangzhou mass transit project (Xu and Yeh 2003:368). To justify these massive investments, Guangzhou succeeded in bidding and hosting the 2010 Asian Games, allowing the city to invest a total of over 18 billion US dollars, with 11 billion used to expand the metro lines (Guangzhou Statistics Bureau 2011a, b:118).

However, this model has caused a number of problems. First, Guangzhou is still weak in industrial innovation. Sixty per cent of its industries are foreign enterprises who own their core technology, such as Nissan, BP, and IBM (Yuan et al. 2007). Domestic firms only represent 40 %, and many of them are still making original equipment manufacturer (OEM) products. In 2008, the Sinopec-Kuwait joint venture petrochemical plant and the Nansha Baosteel, two flagship projects, were transferred to Zhanjing (another city in Guangdong) from the Nansha District due to environmental concerns of local residents. Guangzhou thus faces a big challenge to continue the path for heavy industrialisation.

Second, producer services lag behind industrial growth (for details see Yuan et al. 2007). Third, mega projects divert public investment away from basic services that disadvantaged groups are particularly dependent upon (Xu and Yeh 2005). This is exemplified by an insufficient supply of affordable and low rental housing. Last but not least, such large-scale capital investment was constrained by limited urban space. Where to find land to locate so many projects is a key problem which the municipal government has to resolve.

To overcome the shortage of land, Huadu and Panyu were annexed into Guangzhou's territory in 2000. Following this annexation, a concept plan was prepared to guide further urban expansion. Different from a master plan, the concept plan is not a statutory one which is confined by planning standards and subject to central approval. Rather, it is flexible and strategic in nature, aiming to guide urban development instead of providing development control.

The Year 2000 Concept Plan proposes a multicentre structure and envisages a spatial pattern which features "expansion in the south, optimisation in the north, advancement in the east, and linkage in the west" (Fig. 2.4) (Xu and Yeh 2003:371). The south is abundant in land resources after Panyu was annexed and thus could be developed into a significant growth pole led by the knowledge- and information-intensive projects such as Convention Centre, Bio-Island, University Town, and Guangzhou New Town. A deep water port is planned to be built at Nansha, south of Panyu. Land use in the north should be optimised to preserve the Baiyun Mountain and drinking water source. In the east, land development will continue. Focus will be given to move the city's CBD away from the inner city. In the west, the emphasis is to develop cooperative links with Foshan Municipality.

The proposed multicentre structure has guided Guangzhou's spatial expansion since 2000. Many housing projects have been built in the south such as those in Haizhu and Panyu. A number of new development zones and science parks are planned in the east and south to accommodate development needs. These include, but are not limited to, University Town, Nansha Development Zone, Nansha Deep Water Port, Huadu Automobile City, Science City, Tianhe Software Science Park, Pearl River New Town, and Pazhou Exhibition Center. Many "zones" and "parks" are created to host headquarters of MNCs. During the 11th Five Year Period (2006–2010),



Fig. 2.4 Guangzhou 2000 Concept Plan (Xu and Yeh 2003:371)

Guangzhou planned to invest over 31.8 billion US dollars to build urban infrastructure (Yuan et al. 2007). Nansha in the south received 23 key infrastructure projects, amounting to a total investment of 9.5 billion.

To further materialise the spatial strategy of “expansion in the south, and advance in the east”, Guangzhou took a big step to adjust the administrative boundaries. In 2005, four development zones were consolidated to form a new urban district in the east. This granted former “purely economic zones” the power of a district-level government. For instance, the State Council endorsed the Nansha Economic and Technological Development Zone (formerly established in 1993), which was upgraded in 2006 to a new urban district in the south.

To achieve the “linkage in the west”, Guangzhou allies with Foshan to develop a “Guangzhou-Foshan Metropolis” in order to integrate city planning, infrastructure, industrial development, and urban services (see Chap. 4). An intercity subway system has been built to reinforce the “linkage” between these two cities. To optimise growth in the north, the new Baiyun International Airport was built in Huadu to replace the old airport which was closer to the city’s water source.

However, urban expansion since 2000 has also caused some expected problems. Spatial expansion does not reduce density of old urban districts; rather it further intensifies the land use of the inner city for three major reasons.

First, Guangzhou has two sets of planning standards. One is applied to old urban districts, which allows higher land-use densities, building densities, and floor area ratios. The other set is adopted in new areas, which stipulates a lower development density. When new areas are saturated, developers turn again to old districts for land. This trend further disrupts the inner-city structure.

Second, there is a spatial mismatch between jobs and residences. Jobs are primarily found in two central districts, namely, Yuexiu and Tianhe, while residences are located in Yuexiu, Haizhu, and Panyu (Yuan et al. 2007).

Third, as most of the public investment goes to industries and infrastructure and very little is reserved for public utilities and amenities in new development areas, residents have to go back to the inner city for public services. While the central districts have over 30 % of land for public utilities, Panyu in the south has a meagre 6.8 %, even though it is a major destination of population decentralisation (Yuan et al. 2007).

One consequence is the continuously growing density in the inner city, departing from the planning intention of the 2000 Concept Plan. For instance, the average population density of four central districts (Yuexiu, Liwan, Haizhu, and Tianhe) was 15,000 people per square kilometre, the highest record in Guangzhou’s inner city (CAUPD et al. 2010).

In order to overcome various urban development problems and map out future growth trends, Guangzhou has started to revise its master plan. Though the new master plan is still in the making, the draft outline plan has been released for consultation. Several broad-brush policy directions were defined when making the outline plan (CAUPD et al. 2010).

First, it is stated that Guangzhou’s strategic direction will be on developing a highly competitive national central city with comprehensive functions. Second, Guangzhou would become an environmentally friendly and energy-saving city, achieving transformation towards sustainability. Third, the policy focus will be on building a “liveable eco-city” to stress ecological conservation and to respect history and tradition. Finally, to translate these policies into reality, city planning will be a major policy tool to regulate spatial development. Five major “strategic transformations” are proposed (CAUPD et al. 2010:5–7).

The first is the “transformation” from city to region to enhance Guangzhou’s role as a regional centre (cf. Chap. 3). Different strategies at various geographical scales are set up. Nationally, Guangzhou should be built as a national central city, representing China to participate in international division of labour and global competition. This requires the city to serve as a national and regional centre for

economic organisation and resource distribution, a state nucleus for technological and cultural innovation, a countrywide transportation gateway and information hub and one of the most modernised and globalised Chinese cities. At the regional level, Guangzhou will enhance cooperation with members in the Pan-PRD including Hong Kong and Macao, becoming a core city in the world-class megacity region of the PRD. At the local level, cooperation with Foshan is emphasised as an effective vehicle for urban development assistance.

The second “transformation” is from manufacturing to innovation. A massive scheme is being laid out to develop modern service industries, supported by advanced manufacturing industries (e.g. the automobile industry, petrochemicals, ship building, and CNC machine tools), and high-tech industries (e.g. ICT and biotech).

The third “transformation” represents an ideological shift from “building economic strength” to “developing a charming city”. This is intended to revitalise the historical and cultural traditions of Guangzhou in order to reinforce its role as a cultural centre. Twenty-two historical sites are demarcated for protection. And it is required that surrounding buildings be built in harmony with historical site layout, especially in terms of height, volume, scale, materials, and colour.

Fourth, an important move to improve the quality of living is the shift from the simple policy of “housing supply” to the idea of “liveability”. This will be achieved by delivering better public utilities and service facilities and by building liveable communities.

Finally, there should be a shift from “dualism” to the “integration” of rural–urban development through spatial strategies.

It is estimated that the municipal area of Guangzhou can accommodate a population of 12 million in 2015 and 13 million in 2020, of whom 9.3 million will be hukou residents. Given the capacity of water and land resources, it is expected that the urbanisation level will reach 87 % in 2015 and 90 % in 2020. Policies will be formulated to rationalise the spatial distribution of the population and to encourage people to move to areas outside the highly congested inner city. To live on limited land, the average per capita land use for construction is reduced to 120 m², 5 m² lower than the 2007 standard.

Three planning solutions are proposed to build a highly efficient intermodal, integrated, and harmonious transportation system to serve Guangzhou as a hub and to provide a highly accessible service that ordinary residents can equally enjoy (CAUPD et al. 2010:77–96). The first is to form a “one-hour intercity commuting circle” in the PRD, supported by express highways and intercity railroads. The second is to develop a comprehensive express highway system, radiating from Guangzhou to link other locations in the Province. This helps materialise a “three-hour living circle” between the PRD and other areas in Guangdong. The third solution is to reinforce air transport cooperation among Guangzhou, Hong Kong, Shenzhen, and Macao. The four airports should work together to seek central support for enlarging the air space and increasing flight routes to East Asian countries. This will benefit the formation of a “four-hour air transport business circle”. The focus of urban transport is to improve the road network and to develop public transit comprising railroads, a rapid bus system, regular bus services, taxis, and water transport. Nonmotorised transport is strongly encouraged to satisfy basic mobility needs.

The vision will be supported by well-planned walking paths and biking routes. The key is to provide a green urban transport system for all commuters, especially those that have been marginalised.

Two new planning solutions have been introduced to facilitate the emerging trends in spatial development. One is to strengthen Guangzhou-Foshan integration in economic development and spatial formation. Priority is given to the coordinated developments of various land uses, public utilities, road building, and ecological conservation. For example, the cross-boundary region between the two primary city centres of Guangzhou and Foshan will be covered by seamless facilities such as roads, water supply, and gas supply. Various industrial zones are planned to accommodate the growth of pillar economic sectors and to support the relocation of industrial capital from core areas.

To facilitate the integration process, both cities agree to establish the Mayor Joint Conference, which will hold top-level regular meetings to discuss issues such as economic development objectives, key projects, and inter-jurisdictional industrial clusters in the immediate future. During the 4th conference in 2011, both cities agreed to advance the development of 53 specific infrastructure and social welfare projects (cf. Chap. 4).

The second critical solution is to set up a hierarchical order of spatial control by dividing the entire city territory into four policy zones which are under four different levels of spatial regulation. The four zones include “development-prohibited zones”, “development-restricted zones”, “extant built-up areas”, and “development-oriented zones” (Table 2.2). Each zone becomes subject to a set of specifically designed planning control policies.

The spatial pattern envisaged in the 2000 Concept Plan, which is featured by “expansion in the south, optimisation in the north, advancement in the east, and linkage in the west”, continues to serve as a basic spatial strategy. Taking this further, seven geographical subregions were established to perform different functions (CAUPD et al. 2010:26–27). For example, the North Subregion, due to its proximity to Baiyun International Airport, will be promoted as a near-airport advanced manufacturing base, a global logistics service sector, and a modern liveable eco-community. The Central Subregion is expected to perform the core functions of the national central city, the Culture and Education Centre in South China, the transportation hub for national railways and highways, and the provincial administrative centre. The Nansha Subregion is envisaged as a centre for Pearl River Bay Area’s production organisation, a seafront base for advanced manufacturing, and a logistics and distribution centre for South China. Detailed planning guidelines are provided to direct the development of each subregion.

Within the planned spatial system, there are four sizes of communities. At the top tier is the primary city centre, which is a key site for economic growth, service function, and population concentration. At the second order is the subcentre, which is the hub for the subregion, providing supplementary functions that are not offered in the primary city centre. This is followed by satellite towns built to accommodate some regional industries, residences, and services. Lastly, small towns are key locations for promoting rural–urban interaction. To reserve pieces of land for

Table 2.2 Four policy zones for spatial control of city territory

Regulation level	Policy zone	Spatial policies
Level 1: development-prohibited zones	Lake and river systems, wetlands, natural reserves and resorts, forest parks, protection zones of basic farmland and reservoirs, mountains with slopes at over 25°, highly susceptible districts of geological disaster, and ecological corridors	The scope is defined by relevant laws and regulations To strictly prohibit any construction irrelevant to prohibited issues Construction projects that are approved by relevant state sectors or which obtained state-own land-use rights through administrative allocation should be in accordance with the requirement of state laws and regulations
Level 2: development-restricted zones	Farmlands, gardens, Level II water-source reserves, flood storage and retention zones, mountains with slopes at 15–25°, medium- and high-sensitivity zones of soil erosion, medium-susceptible districts of geological hazards, airfield clearance zones, etc.	The scope is defined by law or urban–rural planning To prohibit any construction in principle Construction permits require review and approval from relevant state sectors, and the scale and intensity should be strictly controlled
Extant built-up areas	Extant built-up areas that obtained planning permits and state-own land-use permits	Construction in the areas should accord with urban–rural planning
Development-oriented zones	Areas excluding development-prohibited zones and development-restricted zones	To strictly control the total amount of construction land in accordance with the land-use plan

Summarised from CAUPD et al. (2010:23–25)

economic growth, 15 strategic locations are selected to house high-end producer services, manufacturing, and high-tech industries. The overall purpose is to revitalise the economic function of Guangzhou in a context of limited land supply and increasing pressure on environmental conservation.

2.4.2 Shenzhen: Overcoming Bottlenecks Through Shenzhen 2030 (SZ2030) and a New Master Plan

Similar to Guangzhou, Shenzhen’s soul-searching efforts to overcome development bottlenecks come in two phases: the formulation of the city’s non-statutory urban development strategy SZ2030 and then the formulation of the master plan. The SZ2030 was published in 2005 where the new master plan (2010–2020) was

promulgated in 2010. As depicted in the subtitle of SZ2030, since the early 2000s Shenzhen has aspired to be “a pioneer in building a sustainable global city”. And the overall strategy outlined in SZ2030 has served as the guiding directions when the master plan was reviewed. SZ2030 consists of a few interrelated core goals and thinking: “strategic restructuring of the city”, “development of the west Binhai area”, “building the Hong Kong-Shenzhen twin city”, and “diversified development”, and seven major strategies were proposed to achieve these goals (Table 2.3) (Ng 2008).

Table 2.3 Recommended Strategies in SZ2030

Regional development strategy

Multi-level regional cooperation

- Utilizing personal networks and links in SZ as a migrant society
- Multilateral cooperation with cities in the PRD
- HK-SZ twin-city development

Strategic thinking on SZ-HK twin-city

- Free trade zone co-developed by HK and SZ (spatial sense, investment mode through negotiation or common market)
- International high-tech manufacturing park in Binhai District in Bao'an or electronic, information and communication industries (build on the Hsinzhu experience)
- Production services centre: finance, insurance, banking, law...

Economic development strategy

Rigorous or progressive economic restructuring?

- Incremental: from land, labour, energy and water resources intensive to human resources, capital, technology and management oriented economic development: created by SZ, not made in SZ

Economic development strategy

- Nurture core industries and sustainable competitiveness. Working with Hong Kong to develop high-tech industries such as ecological, environmental protection and marine industries
- Stable upgrading of economic structure;
- Diversified the economic structure;
- Ecological modernization (minimising resources consumption, minimising pollution, input and maximising output...);
- Developing industrial clusters;
- Develop logistics-related industries

Spatial development strategy

Strategic positioning

- Westward migration of the economic centre of gravity in the PRD: HK to Lantau Island; Guangzhou: Nansha; Dongguan: Songshan and implications for development on the western part of SZ

Spatial expansion

- Reclamation: strategic growth area along the Western Binhai District
 - Impacts on future growth of the airport
 - Enhancing existing spaces
 - Reengineering urban villages: “unified planning, design for local character”
 - Reengineering old industrial areas
 - Developing underground space
 - Efficient and economise the use of land
-

(continued)

Table 2.3 (continued)***Choices of spatial structure***

- Pluralistic and diversified spatial development
 - Core growth area in western Binhai and diversified development strategies for different districts with different land, technology, labour and environmental condition
- Regional: North–south connection: North to Guangzhou and Dongguan and South to HK—strengthen the axis;
- East–west development: East with Huizhou and west with the west bank of PRD and south-west provinces.
- Strengthening the core and extending the wings: strengthening Futian and Luohu Central Districts and pursue “coordinated” and “diversified” city spatial structures

Spatial division of labour

- Western Binhai District (Baoan Binhai and Nanshan excluding Huaqiao Cheng): Serving HK and developing SZ—best site for service facilities—the future Manhattan for pan-PRD
- City core districts:
 - Futian—executive, cultural and commercial, trading, financial and services centre
 - Luohu—commercial and trading centre, financial centre
 - Huaqiao Cheng—creative industries
- Central districts (Gongming, Guangming, Shiyan, Longhua and Guanlan): Large scale public infrastructure development to strengthen transport functions and living conditions for high-tech and logistics development; for high-tech and ecological production cluster; for advanced production centre, logistics hub and the city’s ecological heart.
- Eastern districts (Yantian and Longgong except Mirs Bay): Important strategic coastal zone; innovative production centre; training and higher education base; strategic port and logistics base; Huizhou: petrochemical industries and complementary productive and production services industries.
- Eastern coastal districts (Mirs Bay areas): International tourism and leisure sites

Ecological development strategy

- ***Strict control of land uses within the ecological control line:*** Safeguarding the “ecological baseline”
- ***Protect the ecological zones from urban sprawling*** to ensure harmonious development between man and nature
- ***Strengthening open and green spaces within the city*** to protect green zones, enhance environmental protection, and to increase investment on sewage treatment facilities, to improve ecological conditions continuously
- ***Nurturing and rebuilding the ecological conditions:*** Ecotourism, green agriculture, promoting research work and developing the ecological, economic and social benefits of the natural ecology.
- ***Improve the energy structure to improve air quality;*** raise sewage treatment rate, improve drainage

Social development strategy: “harmonious Shenzhen”, “Shenzhen loves everyone and everyone loves Shenzhen”

- ***Building the city on science and technology:*** Enhancing basic education; lowering costs of education; education with SZ characters: high-level, elitist and cutting edge education surrounding production, learning and research
- ***Building the city on culture:*** Strengthen the cultural enterprise; reform the cultural system to strengthen infrastructure for cultural development and heritage protection, boost creative cultural work and developing the cultural characteristics of “two cities in one metropolitan region” and “cartoon base”.

(continued)

Table 2.3 (continued)

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- **Meeting housing demand:** Meeting diversified housing needs through the provision of different types of housing.
 - **Improving crime situation:** Through improving learning and employment opportunities, minimise social polarisation; to improve social environment through combating crime and implementing social security and welfare systems.
 - **Social security system:** Perfecting the coverage and depth of the social security system; through government allocation and other social fundraising channels, set up various trust funds for social development
 - **Public safety:** Strengthen public safety including the city's disaster prevention system

Strategic infrastructure development strategy

- **Transport development strategy:** Air, railway, roads, intelligent transport system, green transport
- Disaster prevention and mitigation
- Information networking strategy

Smart growth strategy

- **Developing industries with lower water consumption**
 - **Lowering energy consumption**
 - **Minimizing land consumption**
 - **Economizing on construction materials**
-

Source: SZUPD & ACUPD, 2005: 13–34 cited in Ng, 2008: 70–71.

Shenzhen 2030, together with China's existing urban planning-related laws and regulations at the national and local levels, as well as the regional level urban system plans and the National Development and Reform Commissions' Outline of the Pearl River Delta Area Reform and Development Plan (2008–2020), all contributed to the review of the master plan which started in 2006. The process saw the municipal government engaging organisations outside the city and the country to undertake 20 interrelated research topics related to strategic issues listed in the SZ2030 strategies. Examples include collaboration between Shenzhen and Hong Kong, Shenzhen and the PRD, sustainability indicators, mode of governance issues in a transitional economy, and other typical urban issues. The city engaged different stakeholders in a three-stage consultation process to gather their views. This included filling in questionnaires on the web, sending messages to a designated platform, giving comments through telephone lines, joining a public hearing session, or writing to the Planning Bureau (*ibid.*, 2008). In 2008, the plan was submitted to the State Council for approval which did not come until 2010.

The master plan is organised in a logical manner: clearly stated objectives are outlined, followed by urban development strategies and then a spatial development framework. While Shenzhen positions herself as China's Special Economic Zone, a national economic hub and a global city (article 11), she pays equally serious

attention to issues surrounding sustainable development. The overall development objectives of the city include (Article 13):

- To continue with the advantage as a reforming and creative city and to be a pioneering city in operationalising the concept of scientific development to build a harmonious society
- To become an international model city with Chinese characteristics in building a prosperous economy, a harmonious society, an energy-efficient, environmentally friendly, culturally vibrant, and ecologically liveable city
- Rooted in the Pearl River Delta to build a world-class city-region through collaborating with Hong Kong and relying on southern China

The urban development strategies developed to achieve these objectives include regional cooperation in different areas. These include issues related to ecology and the environment; economic restructuring and the development of a “cycle” economy and “green industries”; building a safe city with stable demographics, integrated public services, enhanced living conditions, public transportation networks, and social security; and environmental policies that protect green spaces, rationalise use of marine resources, and economise on the use of various natural and ecological resources.

For the spatial development framework, the city is divided into eight types of land uses and built-up areas which are capped at 890 km² (45.6 % of the total land area) (Article 40). To conserve the limited land resources, land is divided into four types:

- “No-go” areas, including water conservation zones, scenic spots, nature reserves, agricultural reserves, major rivers, reservoirs, ecological corridors, and wetland that amount to 860 km² (44 % of total land area) (Article 42).
- “Restricted development” areas within the “ecological control line” that can only be developed after the due completion of strict application procedures. This category covers around 114 km² (5.84 % of total land area) (Article 43).
- “Developed” areas outside the “ecological control line” that constitute 634 km² or 32.5 % of the total land area. These are the target areas for urban renewal and intensification (Article 44).
- “Suitable development” areas refer to undeveloped land outside the “ecological control line”, and these amount to 345 km² or 17.7 % of the land area (Article 45). According to Article 70, these areas are further subdivided into five density zones.

Figure 2.5 shows the spatial development framework in the master plan: “The City centre as the core and the west, middle and east urban development axes and the north and south development belts as the framework to form a structure that exhibits the characteristics of ‘three axes, two belts and multiple centres’ (Article 48). To accommodate urban expansion, the Plan resorts to urban renewal, especially the redevelopment of ‘villages-in-the-city’, and the use of underground spaces. And to conserve the limited land uses, ‘five lines’ are demarcated for developmental control: the ‘green’ line to protect the natural environment; the ‘blue’ line to preserve water resources; the ‘purple’ line for heritage conservation; the ‘yellow’

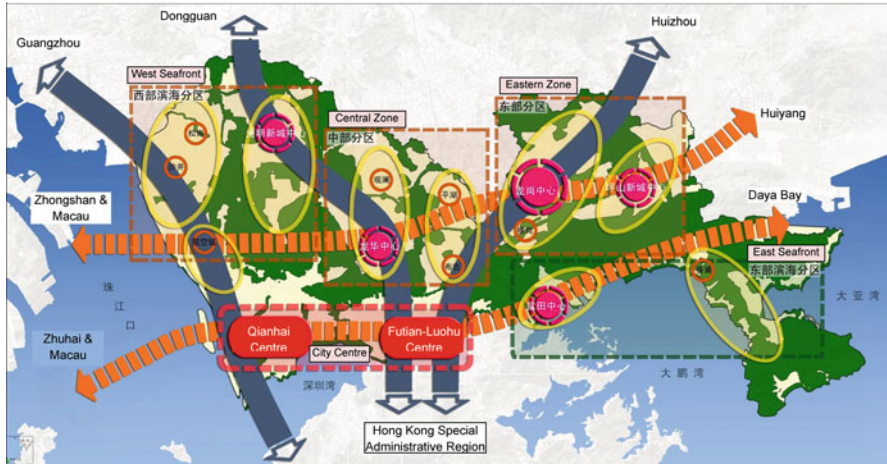


Fig. 2.5 Shenzhen Master Plan (2010–2020) (Shenzhen Municipal Government 2010:641)

line to guide and monitor infrastructure development; and the ‘orange’ line to restrict the location of hazardous industries” (Ng 2011: 641; Shenzhen Municipal Government 2011:4).

In 2011, the Shenzhen Municipal Government published an action plan to accelerate the internationalisation of Shenzhen. A total of 19 action areas are planned which involve cross-bureau collaboration, a breakthrough, as usually these plans do not typically list the leading and participating implementation units. According to the action plan (Shenzhen Municipal Government 2011:4), by 2050, the codevelopment of Hong Kong, Shenzhen, and the PRD should be an internationalised mega-urban region on a par with New York, London, and Tokyo.

This will be realised in two phases: phase one from 2011 to 2020 when Shenzhen models on Hong Kong, Singapore, and Seoul and focuses on financial, high-technology, global logistics, and creative industries; and phase two from 2021 to 2050 when Shenzhen will model on New York and London and work together with Hong Kong under the “One Country, Two Systems” policy to develop the region into an international business centre; a leading region of fashion, creativity, and world culture; and a site for the headquarters of transnational corporations. The action plan is guided by six basic principles (ibid.:5–7):

- Accelerate economic development, especially in areas of green and low-carbon economy and ecological protection, as well as regional cooperation
- Quality-first development that focuses not just on economic growth but also good lives, great culture, appealing cityscapes, and enhanced ecology for the people
- A creative reform principle to spur a dynamic, efficient, and open development process to make Shenzhen a trendsetting city.
- The maintenance of Chinese characteristics including cultural traits and ethnic spirit

- A principle of cultural diversity and social inclusiveness to realise harmonious development, social justice, equitable distribution, and sense of belonging
- A progressive principle for a young but persistent city

Table 2.4 lists the 19 action areas and the units involved. While one may question the wisdom of the division of labour, the involvement of multiple units in one action area indicates the city's awakening to the importance of "join-up" government in promoting sustainable development.

Table 2.4 Action areas to promote internationalization of Shenzhen municipality

Action areas		Policy areas
Enhancing integrated economic power		
Economic competitiveness at local and international level	Leading:	City development and reform
	Participating:	Science, manufacturing and trading, tourism, and finance
Open economy	Leading:	Science, manufacturing and trading
	Participating:	City development and reform, human resources, tourism, foreign affairs, finance
World class tourist destination	Leading:	Tourism, planning and territorial development
	Participating:	Science, manufacturing and trading, Hong Kong Macau Office
Enhancing regional cooperation		
Deepening links with Hong Kong and Macau	Leading:	City development and reform, Hong Kong Macau Office
	Participating:	Science, manufacturing and trading, planning and territorial development, transport, human environment, human resources, tourism, finance, border checkpoints, Qianhai management, science cooperation
City development	Leading:	City development and reform, science, manufacturing and trading
	Participating:	Planning and territorial development, transport, foreign affairs, Taiwan affairs, finance
Enhance the quality of urban and ecological development		
Improve the level of urban planning and management	Leading:	Planning and territorial development
	Participating:	City development and reform, science, manufacturing and trading, transport, human environment, water services, city management, legal framework, Baoan Government, Longgang Government, etc.
Ecological development	Leading:	Human environment
	Participating:	Planning and territorial development, transport, public health, family planning, public security, tourism, housing development, water, city management, foreign affairs

(continued)

Table 2.4 (continued)

Action areas		Policy areas
Enhance creativity and modernity		
Accelerate institutional innovation	Leading: Participating:	Political study Development and reform, human resources, monitoring, legal
Government ruled by law	Leading: Participating:	Legal framework Human resources, science, manufacturing, trade
Innovation in social management	Leading: Participating:	Politics and laws Public security, home affairs, foreign office
Strengthen public service systems	Leading: Participating:	Home affairs Sanitation and family planning, transport, education, tourism, culture, sports, human resources
Strengthening the city through human resources	Leading: Participating:	Human resources City development and reform, science, manufacturing, trade, education, foreign office, coordination of science
Enhancing the international language environment	Leading: Participating:	Foreign office Marketing office, planning and territorial development, transport, education, public security, monitoring, home affairs, human resources, tourism, urban management, information offices etc.
Strengthening public civilization	Leading: Participating:	Promotion office Human environment, transport, education, public security, monitoring, home affairs, human resources, tourism, culture, sports, urban management, information offices, etc.
Strengthening external exchange and cooperation		
Expanding international exchange	Leading: Participating:	Foreign office Science, manufacturing, trade, etc.
Strengthening international cultural and sport exchange and cooperation	Leading: Participating:	Tourism, culture, sports
Strengthening international education and technology exchange and cooperation	Leading: Participating:	Education Science, universities and technical institutions in Shenzhen
International conference centre	Leading: Participating:	Science, manufacturing, trading Tourism, culture and sports, human resources, foreign office, trade promotion
City image building	Leading: Participating:	Promotion office Tourism, culture and sports, information office

Source: Shenzhen Municipal Government, 2011. *Action plans for facilitating the internationalization of urban development in Shenzhen*. Shenzhen Municipal Government, pp.7–24.

2.5 Conclusion

This chapter has examined the development trajectories, urban problems, and planning responses in Guangzhou and Shenzhen. Due to China's open door policy, it is found that both cities have experienced relative economic success in recent years to metamorphose themselves in order to cope with various urban growth hurdles, despite striking contrasts in their historic roots, growth performances, and social conditions.

Massive land development and large-scale heavy industrialisation have left Guangzhou with some of the worst urban problems in China. Yet the city has transformed its image and experienced an economic turnaround in recent years as a sub-provincial capital city. Land shortage, environmental problems, and social stresses do not seem to have constrained its economic improvement despite relocation of two flagship industrial projects to other cities.

Shenzhen has experienced ever-higher economic growth rate but encounters the constraints of limited environmental carrying capacity, an escalating production costs, and a meagre supply of talents. Despite these obvious constraints, Shenzhen continues its good economic performance as a privileged sub-provincial city that enjoys "Separate Line-Item Status" treatment by the central government.

As China accelerates its growth momentum and emerges as a powerful economic player on the world stage, promoting competitiveness has become the buzzword in many Chinese cities. According to the 2011 Report on the Competitiveness of Chinese Cities published by the China Academy of Social Sciences, both Guangzhou and Shenzhen rounded out the top ten (Xinhua News 2012). While Shenzhen ranked fifth, Guangzhou ranked sixth among 294 Chinese cities including Hong Kong and Taipei. To keep their ranking status, both cities have to take up the challenge of a second metamorphosis in the face of ever-increasing internal and external competition.

This chapter has explored the main planning responses that help promote Guangzhou and Shenzhen to a higher level of development. It has been identified that both cities face common pressure on infrastructure, environment, and land use. They share similar aspirations to become leading central cities and global mega-cities that pay attention to sustainability issues. Different planning strategies have been applied in achieving defined goals and objectives. For example, Guangzhou overcomes its land shortage by annexing nearby county-level cities, intensifying inner-city land use, and fine-tuning administrative division, while Shenzhen accomplishes the same task by converting rural land to urban construction land and through reclamation. Guangzhou is able to attract overseas capital but fails to develop own innovative industries. Shenzhen is home to some of China's most successful quality brand high-tech companies such as Tencent, Huawei, and BYD. Both cities incorporate "green ideas" in planning policies and implement "zoning" such as formulating spatial strategies for better development control, and Shenzhen takes one step further to make action plans to translate policies into reality.

In a sense, Guangzhou and Shenzhen are just two examples of many ambitious Chinese cities that aspire to national and global prominence. Arguably, Chinese cities still place economic issues at their hearts, but some have planned to be role models in all aspects of sustainable development.

The evidence drawn from Guangzhou and Shenzhen suggests that the role of the Chinese state, especially municipal governments, has been indispensable in overcoming development hurdles: restructuring economies, preventing ecological breakdown, and combating social inequalities in the face of intensive intercity competition. Urban planning, at least in the two cities canvassed, has been a critical tool for the government not only to promote economic development but also to counteract environmental and urban crises, as well as to redistribute wealth to promote a more harmonious society.

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