

## THE URBAN SEGMENTATION PROBLEM OF SHENZHEN

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### INTRODUCTION

Shenzhen City is located in Guangdong Province in southern China, surrounded by Daya Bay and Huizhou City to the east, Pearl River Estuary to the west, Dongguan City to the north and Hong Kong to the south. The city is composed of six districts: Yantian, Luohu, Futian, Nanshan, Bao'an and Longgang. The first four districts form the Shenzhen Special Economic Zone (SZSEZ, figure 01).

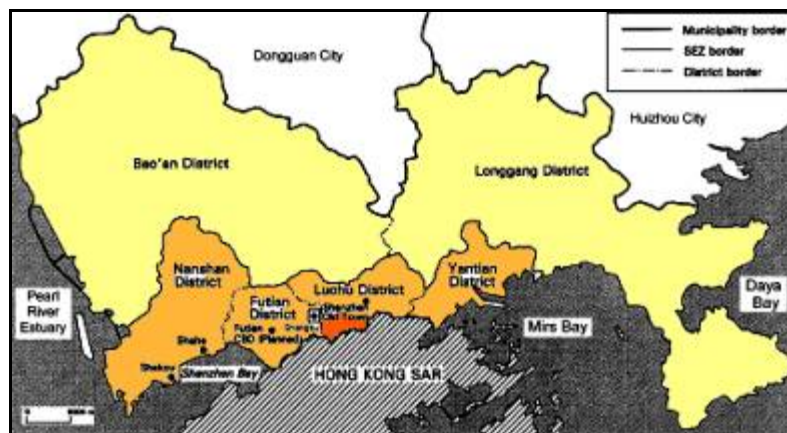


Figure 01: Shenzhen Special Economic Zone

The birth of Shenzhen resulted from a mission of the nation, “to build a fast growing export-oriented economy.” Soon after the Cultural Revolution, the new generation of state leaders decided to improve the economic status of the country by adopting the “Reform and Opening-up Policy”. However, given lack of both experience in foreign business and a suitable legal system to support the development of the private sector, the Central Government opted for some experiments in smaller areas. The idea of “Special Economic Zone” (SEZ) was proposed and approved in 1978. Enjoying close geographic connections with Hong Kong and the Pearl River Delta, Shenzhen became the first SEZ in 1980 and was authorized the power to try out flexible economic and social policies (figure 02).

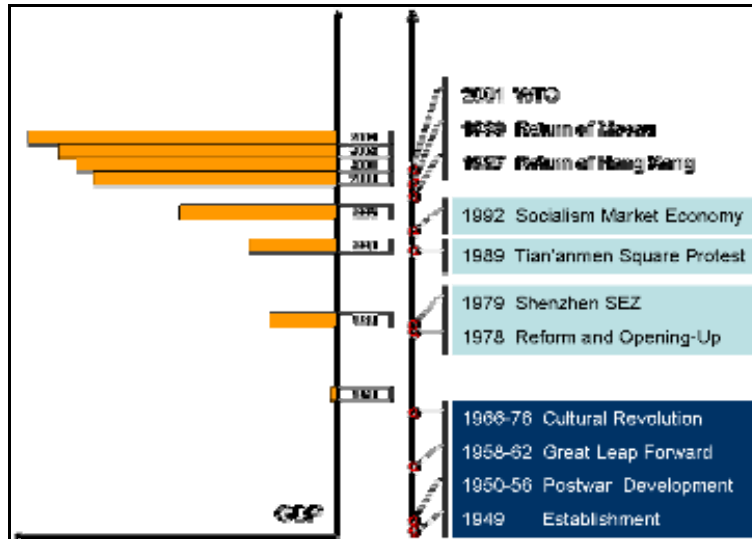


Figure 02: A brief history of China

In spite of the ideological controversies in the north, Shenzhen soon became a proving ground of China's economic and social reform, initiating special policies within its 395.81 km<sup>2</sup> SEZ boundary to attract foreign capital, stimulate export, capitalize the "right to use land" (figure 03), and to reform the human resources and social insurance system. Most of the policies were widely adopted in the whole country later, such as encouraging the establishment and operation of foreign investment enterprises and ventures involving processing and assembly with supplied materials and parts or compensation trade; shareholding reform and SOE reform; public auction of the "right to use land" and public bidding of municipal projects; and lifting the quota limitations and offering flexible salary packages to recruit able people.

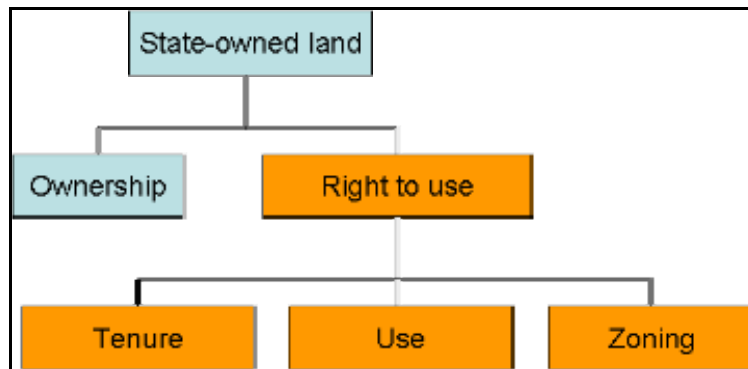


Figure 03: The separation of the ownership and the "right to use land"

Since 1978, Shenzhen has experienced rapid economic growth. Supported by favorable policies, the city attracted a great influx of foreign and domestic capital. Most of the foreign direct investments (FDI) were from its southern neighbor - Hong Kong. Foreign trade soon became the core industry of the city; and within a couple of years, the city became the foreign business hub of the country. Immigrants, armed with skills, energy and dreams, have swarmed to the desirable land from every part of the hinterland, filling the new-created well-paid job positions at all levels. The city, a small fishing and agricultural town before 1980 with almost no output from the industrial sector or service sector, now is ranked the 4<sup>th</sup> city of

the country in terms of GDP (¥492.69 billion or USD60.83 billion in 2005) and the 1<sup>st</sup> in GDP per capita (USD7483). Since 1993, Shenzhen has been the number one export city in China. The population of the city, only 314,000 in 1979, reached 12 million in 2005.

Meanwhile, Shenzhen achieved a speedy urban development. The planning area of the city expanded from the initial 10.65 km<sup>2</sup> in 1979 to 2020 km<sup>2</sup> in the current plan; while the planning population increased from 0.2 million to 5 million (Ng 2005). Thus the Master Plan has been revised twice according to the expansion of administrative area and the growing economic and social projections. The urban infrastructure has been improved at an amazing speed to host the economic and social explosion; the urban form was designed to be a modern one to “connect” with Hong Kong.

Greenfields vanished while roads, houses, and office towers appeared. However, owing to the nature of the SEZ and a unique process of development, the city has long been suffering from segmentation problems in terms of physical urban form. The external segmentation, which means the limitation on social interactions between the SEZ and the rest of the city and other neighboring areas, is an ineradicable by-product of the controlled accesses to and from surrounding areas required for a SEZ and a border city. The internal segmentation, which means that some areas inside the SEZ are disrupting the urban fabric and hedging the city-wide flows of labor, capital, and other resources, is the result of individual development plans or historical factors. The Shenzhen municipal government has realized the problem and has tried to tackle it with planning approaches.

This paper will focus on the physical segmentation of the urban form, examine the origins and the outcomes of the segmentation, and then discuss the tentative solutions of the municipality.

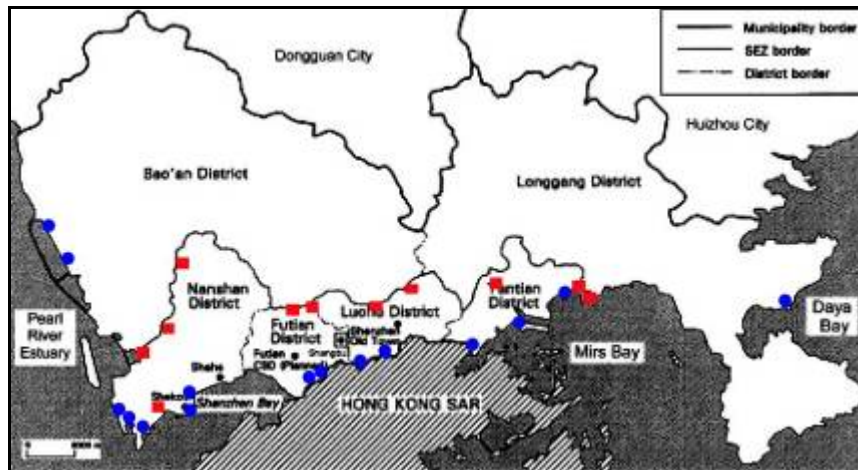
## **PART I: THE ORIGINS OF THE SEGMENTATION**

### ***The Second Border***

With a mission to develop outward-looking economy, Shenzhen is actually a “gated” city.

Adjacent to Hong Kong, Shenzhen is the only city of mainland China that has air, sea and land ports. There are 15 major ports in the city dealing with goods and people flowing in and out through the Customs. Huanggang Port is the nation's largest land port, while Yantian Container Terminal is the country's second largest container handling port (the 4<sup>th</sup> in the world). Bao'an International Airport, competing with airports in Hong Kong and Guangzhou, is the fourth largest air transportation hub in China.

However, the nature of a SEZ required a physical boundary to identify the area where the special economic and social policies were applicable. Hence, in addition to the fenced First Border (state border) with Hong Kong which seals the southern edge of the territory, the city has a 129.7km-long controlled Second Border separating the SEZ from the rest of the city. Nine major thoroughfares connecting the SEZ and the neighboring areas are cut through; flows of goods and people have to enter or leave the SEZ through the 11 checkpoints. Special entry permits are required for passengers and vehicles from outside the SEZ (figure 04).



**Figure 04: First border ports (dots) and second border checkpoints (squares) in Shenzhen**

The 2.8-meter tall fence of the Second Border comforted the nerves of the skeptics who were afraid of the spread of “bourgeois liberalization”. The patrolled border also greatly helped Shenzhen (and Hong Kong as well) prevent the sudden influx of people and manage the social security problem.

Nevertheless, the physical barrier results in heavy traffic at the checkpoints. In 2005, 159 million passengers passed through the First Border accesses between Hong Kong and Shenzhen, while 397 million entered the SEZ through the Second Border checkpoints (Shenzhen 2005). It was reported that the Shenzhen Municipality has to invest millions of dollars annually to maintain the operation of the Second Border<sup>i</sup>. It has also been an everlasting dilemma for the Shenzhen government to balance control while encouraging the flows through the Second Border.

The existence of the Second Border influenced the spatial distribution of investment. Before the mid-1990s, economic activities were focused within the border of SEZ to enjoy the favorable policies and better infrastructure. The benefit was soon offset by the rapidly increasing labor costs and real estate prices in the bounded area. After the mid-1990s, labor-intensive factories began to relocate outside the border to avoid the border bottleneck. The trend was acknowledged and pushed in 1996 by the 9<sup>th</sup> five-year socioeconomic plan of the city which extended the development activities beyond the border.

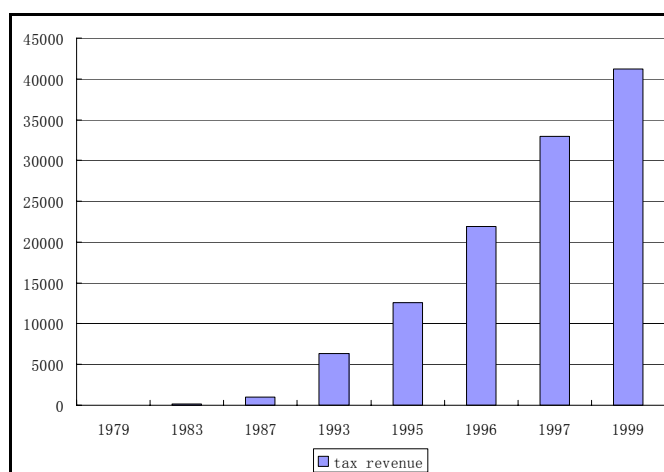
The two districts outside the SEZ, Bao'an and Longgang, have great growth potentials in terms of the area of buildable land, the accessibility of labor, and the affordability of living cost. However, infrastructure construction in the two districts has been hindered by the Second Border. For instance, the city-wide public transit network is choked by checkpoints and the cul-de-sacs ending at the border fence; the plan for a northward subway line is still in the air due to the absence of a pass-checking arrangement<sup>ii</sup>. Other infrastructure services, such as electricity and sewage, suffer in a similar way.

Socially, people living outside the border are psychologically regarded as inferior residents owing to the general image of poorer living standards and labor-intensive employment. The recent legalized lowest wage in the SEZ, for example, is RMB 810 / month, RMB110 higher than that outside the SEZ. The social insurance systems, including endowment plans and medical plans, are different between in-SEZers and out-of-SEZers.

### **The Shekou Model**

A parcel of land inside the SEZ has been unexpectedly isolated from the layout of the city as a by-product of bold decision-making during the earliest days of the SEZ.

Although Shenzhen was originally designated as a separate planning city, which means municipal revenues and expenditures are directly shared with central government, there was no appropriate funding from the Central government or the Provincial government to help achieve its mission. The economic base of the city was then too weak to support an ambitious development plan (the tax revenue of the whole city in 1979 was only ¥16 million, figure 05). It was obviously impossible for the municipality to kick off the economic explosion by governmental investment.



**Figure 05: Tax revenues of Shenzhen (1979-1999) (RMB million)**

**Data Source: Shenzhen Library, <http://www.szlib.gov.cn/hh20/chengjiu1/caishui/right.htm>**

The breakthrough happened in 1979, when the China Merchant Hong Kong, a HK registered maritime transportation company with a mainland background, was authorized the power of decision-making to plan and develop a 2.14 km<sup>2</sup> area in Shekou, a peninsula in the Bao'an District. The proposition was basically a plan to build a self-sufficient industrial zone for maritime transportation in the small parcel of land, but the area soon turned out to be an "incorporated realm". It needed not turn in any profit to the Central government like other state-invested overseas companies did, and enjoyed a nearly autonomous status when making development decisions. Many economic activities, like joint-venturing with hinterland companies, inviting investment from overseas enterprises, and dealing with human resources problems, were under a market-oriented system completely different from those in the rest of the country.

The area boomed before long, showing great success in attracting foreign investment and skilled workers. In 1981, the Shekou Model was acknowledged by the Central government and got nationwide promotion through the People's Daily. The success of Shekou stimulated the development in the rest of the SEZ, and cleared the doubts of the public on the Reform and Opening-up Policy. Later on, the China Merchant Shekou gradually expanded the territory to the whole Shekou peninsula and then to the adjacent Nantou area in the form of investment and co-operation. It became very active in industries other than ships and ports. Two subsidiaries of the company, the China Merchant Bank and the Ping'an Insurance Company, for example, were the first privately-owned financial institutions of the country.

Deng Xiaoping once said that the success of the Shekou model was the result of a “tiny” power transferring. The power transference, however, led to the economic and social separation of the area from the whole city. For instance, the electricity network and telecommunication network in Shekou were built separately by service providers in Hong Kong and were not included in the city network; the human resource system was also independent from the municipal management.

Since the late 1980s, there have been more and more conflicts between the individual plans for Shekou and improving the Master Plan of the city. Due to the limited economic strength, the area has failed to renew the road network, improve public transportation, and to relocate the factories that have caused pollution problems. In 1998, the municipality finally decided to take back the power of planning and management of Shekou to implement a renewal plan for the area.

The Shekou model proved to be a successful economic development strategy, yet a near-sighted action that could lead to urban segmentation. In 1985, the model was applied to another big parcel of land in the bordering area between Nanshan and Futian districts, where the China Travel Service Group, also a Hong Kong company with solid Chinese background, proposed to develop a tourism hub named the Overseas Chinese Town (OCT, figure 06). Unlike Shekou, the OCT was not authorized a full range of power in decision-making. The master plan of OCT had to be approved by the municipality, while the municipality has maintained the power to instruct necessary changes of the plan.

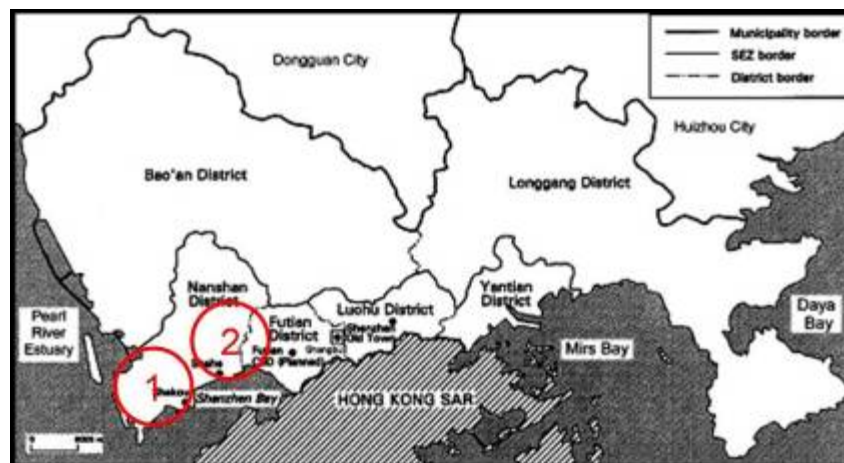


Figure 06: Locations of Shekou (1) and the OCT (2)

### ***The Shenzhen Speed***

The speed of infrastructure construction was an important concern for the municipality of Shenzhen in meeting the economic explosion. Some early projects with poor quality and near-sighted design under the rapid development process have left the urban texture with a great deal of scars and holes.

At the early stage of the SEZ development, 20,000 soldiers were sent to Shenzhen to help construct the city. Designers and builders at home and abroad were invited to help realize the high-speed development. However, there were not enough municipal regulations and instructions guiding the vision and principles of built-environment planning during that period. Serving as the foundation for approving minor individual projects, the 1981 five-year



plan simply outlined the socioeconomic development foreseen and the frameworks for the major projects of the city.

A famous slogan brought forward by Shekou, “time is money”, was the fundamental philosophy of the city’s infrastructure construction. In 1985, a report of “one storey per three day!” grabbed the headlines of the state media to celebrate the establishment of the World Trade Plaza, a 53-storey skyscraper erected within 14 months. The “Shenzhen Speed” was widely complimented.

As a combined consequence of urgent demand and limited experience, it was inevitable that some projects failed to be sustainable. For example, a 17-year old housing project located in the heart of downtown Shenzhen, appraised as the “model housing project” of the country 15 years ago, has suffered severe wall splitting and cracking problems. Now it is facing the fate of being completely demolished and rebuilt. Most of the projects of this kind are located in the busiest area of the city. Some are still in service, yet standing shabbily among the slick new buildings, with inadequate facilities and poor design; others are half-abandoned by their owners and are becoming vacant lots or slums. In both cases, the buildings have been identified as scars and holes in the urban tissue.

As for the municipality, the more serious headache is the factory zones in downtown. In the past 25 years, the expansion speed of the downtown area was completely beyond the imagination of earlier planners. As a consequence, the locations of some industrial areas were proved to be too close to the city center. An industrial zone in Futian District, for example, was modified to be a hi-tech park just 10 years after its initial use in the early 1980s. Now it has been changed again into a commercial zone of the city (figure 07).



**Figure 07: Huaqiang Industrial Zone in the early 1980s (left) and today as a commercial hub (right)**

There are 15 industrial zones within the boundary of the SEZ. Their relocation has been a major objective of the urban renewal scheme of the city since the mid-1990s. It is always a great challenge for the municipality to move the existing industrial zones to the outskirts of the city, as well as to remodel the aged factory buildings into new uses.

### **Villages in the City**

There are over 2000 original villages throughout the city. In the busy districts of Luohu and Futian, some villages still remain today. They are called “villages in the city”, or “urban villages”. During urban development, land and buildings in the original villages could be kept by the original residents. Therefore, they were not included in the development plan of the city.

However, since the early 1980s, the villages have been quietly rebuilt. Old-style single-family houses were torn down; low-rise apartment buildings were built individually in the privately-owned lots. Most of these newly erected buildings are purely functional in design (ugly in today’s words) aiming to utilize the space as much as possible for rent; some are even rebuilt without building permits.

Nowadays, the original villagers have become wealthy enough to move out from their properties. Most of the current residents in the villages are immigrants. The buildings serve as an affordable housing source for low-income people. They help ease the housing pressure of the city. But unfortunately, they generate security and sanitary problems as well as lacking planned public services (figure 08).



**Figure 08: Poorly planned and designed Villages in the City**

In Oct 2004, Dr. John Friedman in UCLA visited one of the villages in the SEZ. To the surprise of the municipal officers, the well-known planner suggested that it was the social networks and friendly environment existing in these villages that formed a meaningful sense of community and represented the true culture of Shenzhen<sup>iii</sup>. From the perspective of the municipality, however, the natural beauty of the villages has vanished during the uncontrolled self-help rebuild waves. The villages in the city have become the hotbed of illegal buildings in the otherwise well-planned urban form.

In 2004, two reports were presented to the Mayor of the city after an 8-month survey carried out by a special task force of related departments and officials. One report was about the problem of illegal buildings; the other about the reform of villages in the city. The reports indicated that over 90% of illegal buildings in the city were located in the villages, owing to the long-term anarchy in village rebuilding control.



On 31 Aug 2004, two people were killed by a fallen wall in a village. The accident echoed a city-wide concern on the segmentation problem of the villages in the city, and urged the municipality to take unprecedentedly fierce measures to clear potential dangers. After a 6-month dismantlement action of illegal buildings, the city continued with an urgent notice ordering the people living in the buildings in danger to move out immediately. Thousands of families were affected and were helped to claim some reimbursement from the developers<sup>iv</sup>. In Oct 2004, two more official documents were issued to push forward the clearance of illegal buildings and to promote the revitalization of the villages in the city.

## **PART II: TENTATIVE SOLUTIONS**

The segmentation problems in urban form, both external and internal, have drawn great attention of the municipality of Shenzhen. Special efforts are put into transport network improvement and urban renewal plans.

### ***Toward External Segmentation***

With the rapid economic growth throughout the Mainland in the 1990s, the “speciality” of SEZ has become less significant. A debate heated up in 2003 challenging the rationality of keeping this fenced boundary. Some people suggested an ultimate integration of Shenzhen and Hong Kong based on the on-going cross-border economic and social fusion. They expected that the two cities would benefit from the integration in terms of resource relocation, economic scale optimization, and industrial restructuring.<sup>v</sup> Some other people proposed the expansion of the SEZ to include Bao’an and Longgang districts, wishing to enable the sustainable development of the whole city. There was also a third opinion which insisted on the removal of the Second Border for the sake of fair competition with the rest area of the nation<sup>vi</sup>.

In August 2003, the Central Government declared that the Second Border of Shenzhen “cannot be removed” for the reason of “long-lasting stability and durable peace”<sup>vii</sup>. The decision cleared up the rumors of recent radical moves, but left enough space for the municipality to eliminate the constraint effect of the physical barrier.

A few months earlier, a reform on border control in Shenzhen and Zhuhai (another SEZ next to Macau) was approved by the State Council and the Central Military Commission. The reform aims to improve the management methods of the two borders by modernizing the controlling tools and simplifying the checking process to improve the ability of handling traffic. In fact, on 27 Jan 2003, Huanggang Port had already begun implementing 24-hour Customs services.

The border control reform is followed by a loosening on the Second Border entry permit. In addition, the application process for Shenzhen permanent residents to get multiple-entry permits to Hong Kong has been simplified.

While the negative impact of the Second Border on people and vehicle traffic flows is to be diluted, Shenzhen Municipality tries to integrate the city by improving the transport network and building up industrial relations among segmented urban parts. The Third Master Plan of

Shenzhen (1996-2010), although it does not define the external segmentation problem, emphasizes the aim “to coordinate with the Pearl River Delta” and “to connect with Hong Kong”. A planning map for the coordination of the city clusters in the Pearl River Delta is included in the master plan. In addition, a plan of clustered secondary town centers with distinguishing functions is expected to provide a platform for actions and plans to deal with the city’s urban form segmentation problems as a whole (figure 09).



Figure 09: City layout map of the Third Master Plan (1996-2010)

At present, the urban and town area of Shenzhen spreads out discretely in a shape of “W” according to the natural geographic conditions, with the SEZ in the center and three axes radiating to the north, the east and the west. To rationalize the spatial distribution of urban development, the municipality defines the city framework by grouping the urban areas into 9 functional groups and 6 independent towns under development control. A view corridor from the Yantian port at the east end to the Shekou port at the west connects the three axes in the southern part of the city.

The recently approved 11<sup>th</sup> five-year national economy and social development plan of Shenzhen (2006-2010) emphasizes the integrative development of the whole city. Infrastructure and transportation network construction in Bao’an and Longgang are highlighted in order to help the out-of-SEZ areas catch up the development pace of Luohu and Futian. The industrial layout of the city is composed of an east-west hi-tech & manufacturing industry belt in the north, an east-west financial industry corridor in the south, a port and logistics hub in the west, and an eco-sensitive coastal tourism zone in the east.

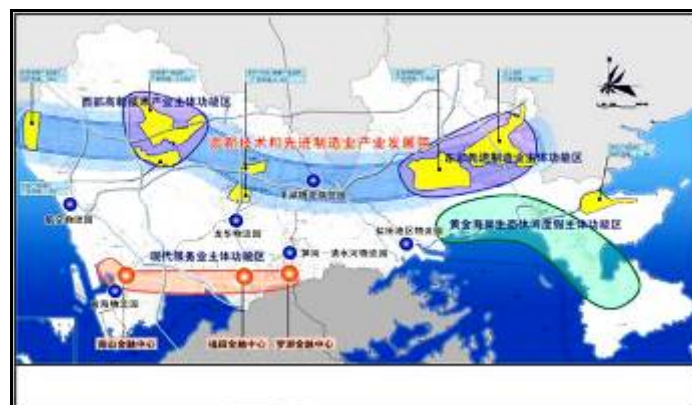


Figure 10: Industrial zones layout map of the 11<sup>th</sup> Five-Year Plan (2006-2010)

An outward transportation network will be enhanced by building and improving highways,

ports, railway and airport linking the city with neighboring areas. RMB111.3 billion will be invested in the 11<sup>th</sup> five-year period, hoping to increase the urban road density to 5-7 km / km<sup>2</sup>.



Figure 11: Arterial road map of the 11<sup>th</sup> Five-Year Plan

It is unclear if this grouping approach will lead to a new version of segregation. Experience shows that the guidelines of a plan in China will soon be translated into preferential policies favoring desired activities as well as silent discriminating barriers against undesired projects. If business activities are under spatial distribution guidelines of the city, it will be another disaster if the market changes, or if the industrial projections of the city turn out to be simply incorrect.

### ***Toward Internal Segmentation***

After taking back the planning and management power from Shekou, the segmentation problem caused by individual area plans has merged into city-wide integration approaches. The approaches include urban renewal movements such as those for the villages in the city, and expanding and upgrading the inner-city transportation network such as the subway system that connects the OCT with downtown.

In the coming five years, urban renewal and the renovation of “villages in the city” will remain a great challenge to the Shenzhen municipality. One of the objectives of the 11<sup>th</sup> five-Year Plan is to rebuild 9 km<sup>2</sup> of “villages in the city”, to clear up 33.7 km<sup>2</sup>, and to renovate 9 km<sup>2</sup> of old industrial parks. The total investment will reach RMB 142.6 billion, and this is only the first stage of urban renewal.

It should be pointed out that the expansion of the transportation network without a well-planned public transit system tends to aggravate auto-dependency and urban sprawl. As in other major Chinese cities, bicycling has been ignored by urban planners and city officials in Shenzhen. Although the 11<sup>th</sup> five-year plan mentions that “public transit + walk” is the preferable mode of movement, there are no specific ways and means to improve the walkability of the city.

## **CONCLUSION**

Literally speaking, Shenzhen is a city built overnight. Four dynamics, including geographic advantage, flexible policies, immigrant support, and foreign and domestic capital influx, helped the city to achieve its mission: a quick success in economic and urban

development.

The rapid development, however, has resulted in unexpected urban problems within two decades. The once successful Shekou model made a big piece of land separate from the planning system of the city, and finally suffered from the lack of urban regeneration. The express construction process caused design and quality problems – it is obviously not good news for a city 25-years old that it has to face a city rebuilding task. Together with the external segmentation problem born with the nature of a SEZ and a border city, the urban form of Shenzhen has been separated from the neighboring areas and fragmented by lost-control areas within.

Although the municipality has made aggressive plans and retrieval policies to tackle the segmentation problems, some of the approaches might trigger other urban problems, such as new spatial fragmentation of industrial groups, auto-dependency and urban sprawl.

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<sup>iv</sup> Ditto

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