Hong Kong - Shenzhen Metropolitan Park Development:

a sustainable and mutual benefit development plan for the cross-border area between HK and SZ

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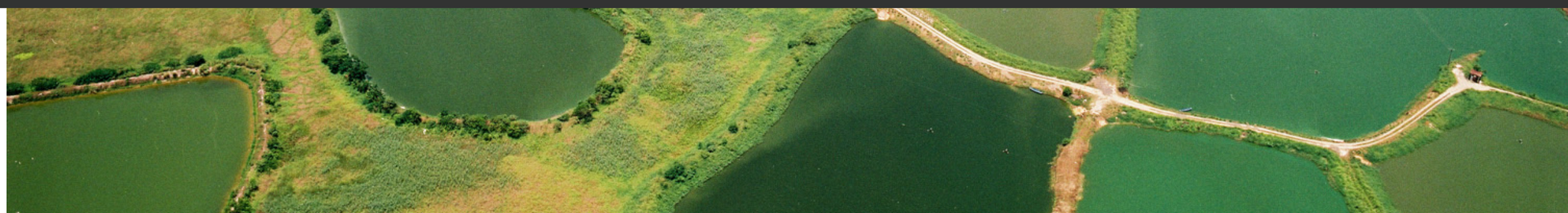


Final Thesis Report

Delft University of Technology
Faculty of Architecture
Department of Urbanism
Chair of Spatial planning & strategy
Complex Cities Studio

Huiyi Lin
1530933
+31681897098
tiffanylin83@gmail.com
Date: 23-06-2010

Mentor Team:
Main Mentor
Spatial Planning & Strategy
Diego Sepulveda Carmona, D.A.
D.Sepulveda@bk.tudelft.nl

Second Mentor
Landscape Architecture
Eric Luiten, Prof. ir. E.
E.A.J.Luiten@tudelft.nl

Third Mentor
Landscape Architecture
Steffen Nijhuis, S.
S.Nijhuis@tudelft.nl

Cover:
Image of Luomazhou Loop in the cross-border area between Hong Kong and Shenzhen (Hong Kong Planning Department 2009)

Preface

Study abroad was one of my dreams when I studied bachelor of architecture in Shenzhen, especially when I had a chance to participate in the summer school of TU Delft in 2006. It is really hard to imagine how I could come to Netherlands and switched my major from architecture to urbanism. After five years study in architecture and one year work experience, I was wondering what and how could an architect could contribute his or her profession to society and make a better environment to people. The answer was not clear to me and that became one of the most important reasons I would like to seek abroad with a broader view and to discover more and more possibilities. These two years just like an adventure to me in discovering the world and friends, but also in finding more and more possibilities and responsibilities for what I can do through the urbanism study. The life in the Netherlands is so vivid which made me feel so grateful and joyful. If I didn't come to the Netherlands, I wouldn't have the chance to meet so many friends from different countries, I wouldn't have the chance been to Buenos Aires and South America, and of course also other counties in Europe, and I wouldn't have the chance to meet so many great mentors who helped me to discover the wonders of urbanism which I haven't thought about how urban planning and design can be so close to the daily life of people and how to develop a city and society towards a better tomorrow.

Hong Kong – Shenzhen Metropolitan Park Development is not only a graduation project, but also a seeking journey in terms of my interests in the vanishing culture landscape in Hong Kong and Shenzhen where under the rapid urbanization. It is also an exploiting process to me for a new perspective which inspired and cooperated from different urban planning approaches. Through the knowledge generated from the western academic disciplines and the wisdoms behind Pearl River Delta landscape context also gives me the light to rethink the role and potential of landscape in urban planning process to generate from the new possibilities for a better development vision. I want to share this discovery to you. Wish you will be enjoying in reading this booklet also inspiring you in appreciating the beauty and culture of landscape simply next to our cities.

I am so grateful that so many wonderful people who gave me and accompanied me walking through the whole two years. My dear parents and husband fully support my study abroad. My mentors, Diego is always so helpful, his comments, feedback and huge knowledge have helped me to overcome many difficulties to manage the project from initial concepts to final work. Luiten lighted me up a new world in cultural landscape planning and design and helped me clarified the confusions I had during the process which let me stuck and couldn't go further. Nijhuis shared the landscape architecture design and helped my project become integrity. I am so grateful the mentor team I have, without their guidance this project will never be done.

Meanwhile, I want to give thanks to my friends who helped me passing through many frustrations and shared so many joys together during the life in Delft. Moreover, one of the best places to me in the Netherlands, our faculty, Bouwkunde, gave me so many great memories during these two years master study.

Huiyi Lin

Contents

1. Introduction

PART 1

Summary

Summary

This final thesis report is a specific plan and research project of the cross-border area between Hong Kong and Shenzhen metropolis. The aim is looking for a sustainable and mutual benefit development strategy of cross-border area between the metropolitan area which is under highly urbanization and conurbation process.

The main approach is using the analysis of governmental vision, regional and local contexts and theories study to generate an alternative plan which is aiming to offer a mutual benefit and sustainable vision and strategy for the long term development. The strategy is defined by the integration of the area from a regional to a local perspective, top down approaches as well as the bottom up ones and the challenges of combining both.

In the planning context of China today, landscape is not well performing as an active role and design element within the whole planning process and there is lacking of regional vision to city integration and cooperation. For instance, the constitutive elements of landscape such as ecological lands, risky area, and topography features were just urbanized and transformed into urban land by municipals extension plans without careful considering the potential and values of them. In order to find out a better framework and vision for the cross-border area between Hong Kong and Shenzhen, I tried to reinforce the landscape status as an active role of metropolis which plays as a platform to integrate the multiple design approach from regional, city to local scale.

Hong Kong is under economic restructuring which is from service -oriented economy to knowledge-based service economy. While Shenzhen also need knowledge to upgrade their high-tech industries and service economy. Shenzhen and Hong Kong have strong economic and social ties after the launch of the China Open Door policy in 1978.

I name this project as Hong Kong – Shenzhen Metropolitan Park Development. It is a strategy for cross-border area of Hong Kong and Shenzhen Metropolis and it is aiming to fulfill the two cities knowledge-based light industry, recreation and housing demands. And improve the cities ecological system and active preserve the precious society value behind the culture and nature landscape. It has great potential for city development when urban planners can reconsider the role of landscape and give it a balance weight to the urban development , the wilder sustainable perspective might be opened toward a better harmonious tomorrow and this what I project want to performance.

Key Words:
Cross-border Area, Hong Kong, Shenzhen, Metropolitan Park Development Strategy, Sustainable, Landscape, Urbanization

Fig. 1.1 Inevitable Urbanization, Shenzhen, China (Hong Kong Planning Department 2009)

Fig. 1.2 Inevitable Urbanization, Hong Kong, China

Fig. 1.3 The Landscape Value is Gradually Vanishing Today in Shenzhen and Hong Kong (Hong Kong Planning Department 2009)

1.1 Motivation

The Vanishing Culture and Nature Landscape under the Inevitable Urbanization

The beauty and the value of culture and nature landscape is gradually vanishing around the cities where are under highly inevitable urbanization today in China.

Hong Kong is a former British colony in China, today a Special Administrative Zone (SAR) located on the southern border of Shenzhen. In the frame of Deng Xiaoping's doctrine:" one country, two systems", Hong Kong has preserved its own economic and political systems, while the mainland China remains a socialist country, albeit with an increasingly free-market economy. Hong Kong's separate status is expected to persist next to China's socialist system for at least 50 years. Hong Kong is regarded as a world city and is one of the Asia's financial centers. After the World War II, the urbanization rate is extremely high during the 1960s and 1990s accompanied by the global trends. The rapid population growth, industrialization and the migration were the main phenomenon in this period. The rapid urbanization not only transformed the geographical landscape, but also serious influenced the ecosystem when people hadn't been aware of its importance. With the shrinking agricultural economy and the booming industrialization, the value of landscape disappeared unconsciously among the people during the rapid economic growth period.

Shenzhen is situated in the Pearl River Delta of the Guangdong province in southern China, immediately to the north of Hong Kong. Shenzhen is under dramatically urbanization from the launch of the China Open Door policy in 1978. Owing to China's economic liberalization and its proximity to Hong Kong, the area became China's first and arguably one of the most successful Special Economic Zones. The shrinking agricultural economy, the booming industrialization and the young generation from mainland to the special economic zone, the value of culture and nature landscape also disappeared unconsciously during the rapid economic growth and urbanization in the past 30 years.

Behind this landscape value, it was not only influenced by the households, but also can be found the reflections behind the urban planning process by municipal government.Under this inevitable urbanization, can we see the importance of culture and nature landscape and do something for change?

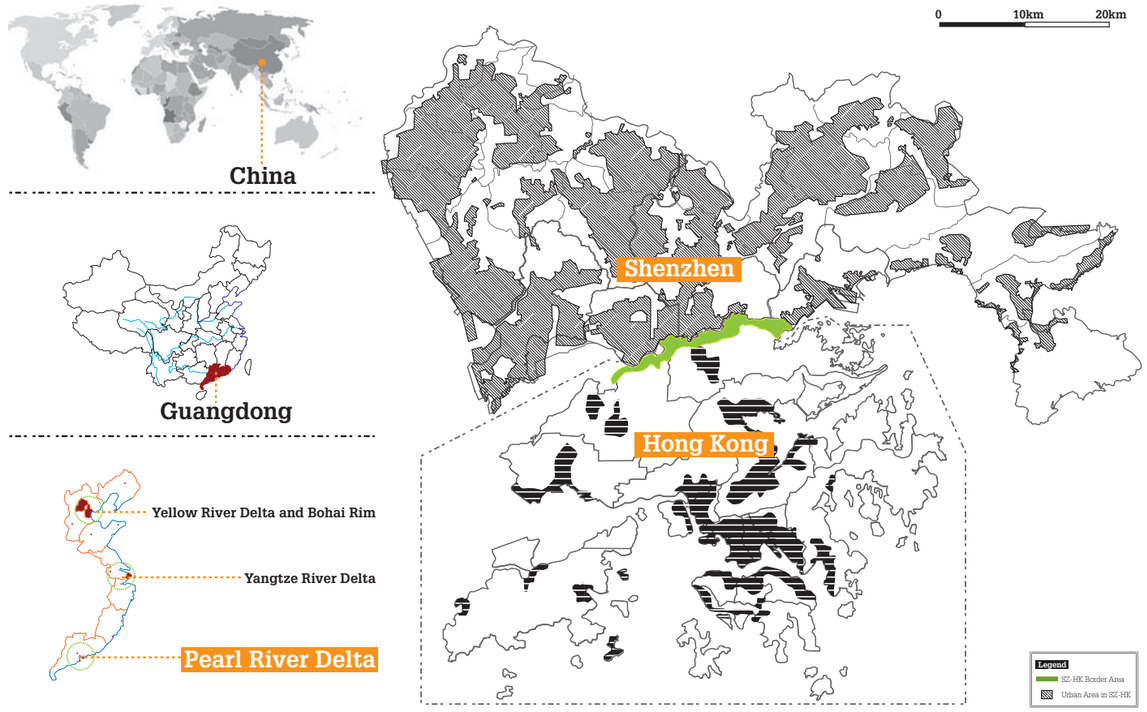


Fig. 1.4 The Location of Shenzhen and Hong Kong

How Important the Nature and Culture Landscape are

As an urbanism master student, I am eager to find out how urban planners and designers can contribute their professions to this context and how can I use my master study to comprehend it and find out the potential and possible solution for this rapid urbanization and conurbation process? How the concept of sustainable development can be realized through urban planning and landscape design and the integration between top-down and bottom-up approaches.

When the beauty of culture and nature landscape is no longer next to the city, when the traditional life style is gradually forgotten by the young generation, do the planners have the ability to evoke and bring back the awareness of beauty and cultural value of landscape to the city dwellers? How does ecological development can be interpreted by the design approach? There are still dozens of questions I want to know. For this project, it is a starting point for me to seek the answerer of one of them.

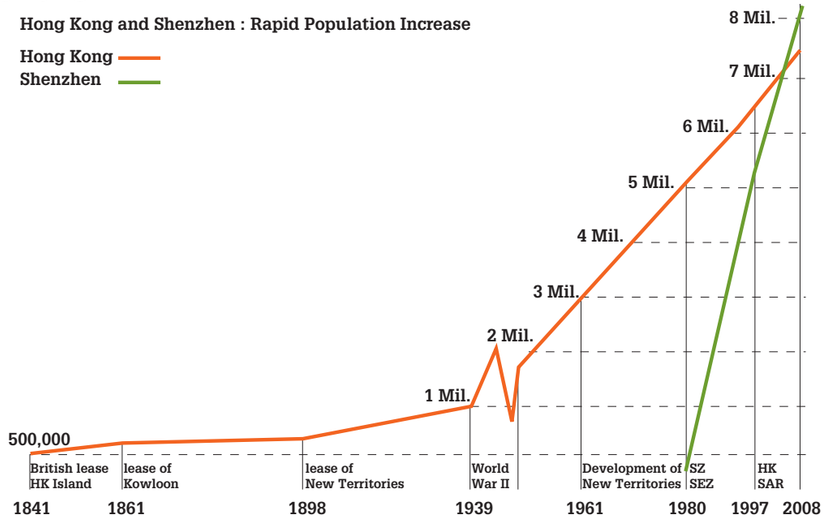


Fig. 1.5 The rapid population growth of Shenzhen and Hong Kong
(Hong Kong Census and Statistics Department 2009, Shenzhen Municipal Statistics Bureau 2009)

Fig. 1.6 Agricultural Landscape (Hong Kong Planning Department 2008)

Fig. 1.7 Traditional Village Landscape (Hong Kong Planning Department 2008)

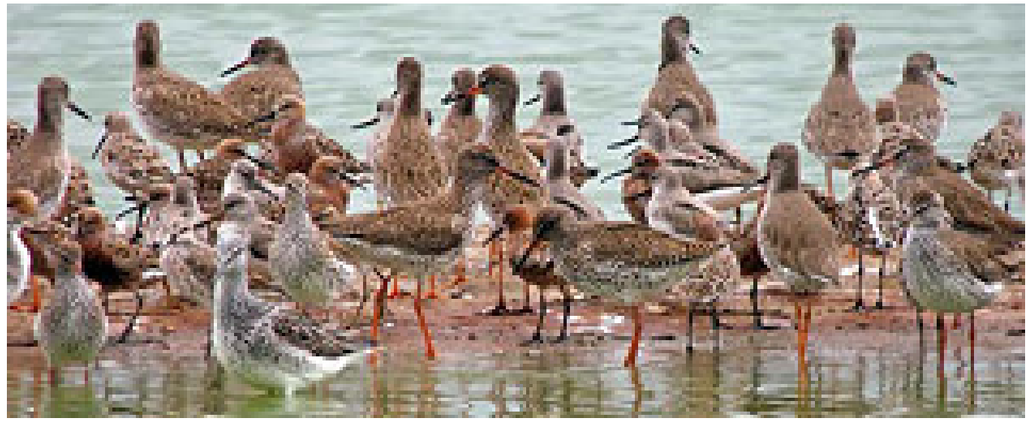


Fig. 1.8 Mai Po Mangrove Landscape (WWF Hong Kong 2009)

1.2 Problem Statement

Inevitable Urbanization and Conurbation Process

The inevitable urbanization and conurbation process of Shenzhen and Hong Kong are still going on. To meet the challenges of globalization and regional economic integration, the closer economic cooperation with increased global competitiveness is gradually becoming a consensus among the government, enterprises and society of the Shenzhen and Hong Kong. Based on the premise "One Country, Two Systems" and the cross-boundary cooperation, these two cities have promoted a regional cooperation and development through providing conditions for the flow of key resources (people, goods, capital, information and services, etc), strengthening the synergy between the two cities.

Due to the limitation land in Hong Kong, the Hong Kong government has begun to develop the cross-border area which was kept undeveloped in the past 50 years due to the illegal immigration and activities. In January 2008, the Hong Kong Government announced that about 24 km^2 of land will be released from the cross-border area in phases. Only areas around border control points will be kept in the cross-border area. Because of the freezing development and the lack of human activities in the area, the cross-border area became a natural habitat for animals and plants. Some environmentalists have pointed out that the reduction of cross-border area would affect the ecological environment.

Now that the urbanization is inevitable, how can we define and transform the released cross-border area in a sustainable way by respecting the environment, social, culture and economic development?

Fig. 1.9 Shenzhen in 1988 (NASA 2000)

Fig. 1.10 Shenzhen in 1996 (NASA 2000)

Vanishing Landscape and Cultural Assets Identity

The urbanization of Hong Kong from 1960s till now has brought serious environmental and cultural problems. Hong Kong has small land but densely populated. In order to keep the fast economic growth and competitiveness in the region, they reclaimed land to develop, which give serious damages to the water environment. Meanwhile, because of the images of the city, lots of traditional villages in the valuable land have to be demolished in order to give way to the new city development projects. This is not only demolish the buildings but also the culture——one kind of life style. Furthermore, a lot of nature land has to transform to constructed purposes due to the market demands.

The urbanization of Shenzhen is inevitable as well. Shenzhen develops dramatically from a fish village to a modern financial and ICT centre in China in the past 30 years due to the national policy and rapid economic growth. With the rapid urbanization and population growth, a lot of environmental and cultural problem has come. A lot of lands were fast transformed into industrial, commercial and residential purposes due to the market demands. However, the nature landscape and some traditional culture have vanished day by day. For instance, there is little nature recreation value but more constructed ones. The traditional life style has disappeared gradually and more and more gated communities appear. People are lacking of nature landscape value and traditional life style value —— more neighborhood communications and interactions.

How do we see the cultural and nature landscape value in the rapid urbanization process?

Missing Link in two Governances and New Urban Model

Although Hong Kong and Shenzhen have geographical proximity, due to the different economic and political systems, there are still some gaps in two governances. Although each city has its own vision in cooperation with another, there is no metropolitan vision plan to integrate two cities development. In 2047, after Hong Kong is back to China 50 years, the border will not exist, how to see these two cities? What is the new urban model of these two cities? Does two become one?

Based on these **three** main problems, it is important to think about a sustainable approach for the cities development in future by respecting the environment, social, culture and economic development.

Fig. 1.11 what is new urban moder of Shenzhen and Hong Kong after the border vanishes ?
(image: Bolchover and Hasdell 2009)

2. Project Overview

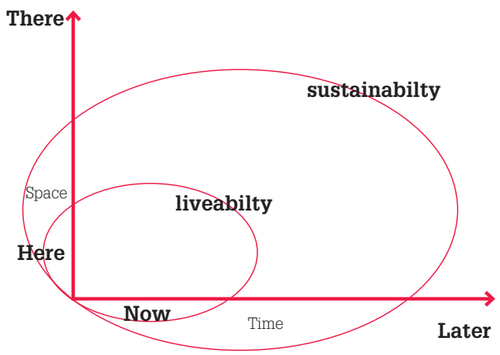
PART 2

2.1 Aim

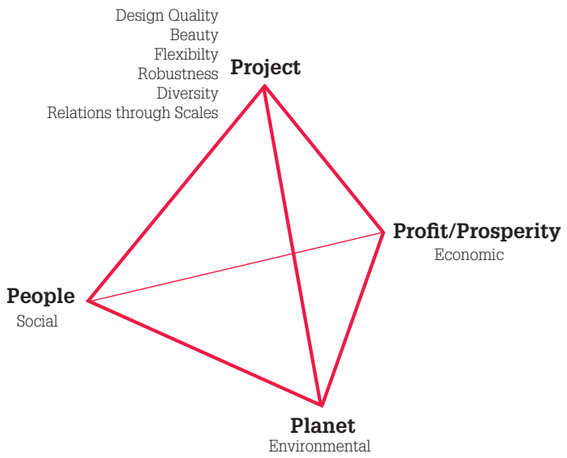
2.1 Aim

Mutual Benefit and Sustainable Approach

The aim of this project is to define a mutual benefit and sustainable development plan and design for the cross-border area between Hong Kong and Shenzhen Metropolis, which is to provide a highly efficient functional linkage and a high quality living, working and recreation environment for the people of the two cities without damage the culture and nature landscape value. Creating a green open space belt between two cities facilitates cross-border activities and meets the recreation and housing demands and nature landscape ecological system of the two cities. The project is showing an approach in looking for sustainable development in rapid rapid urbanization and conurbation process. In terms of sustainable, it covers four aspects: economic, environmental, social development and cultural diversity.



sustainable development diagram (Duijvestein 2008)



from Triple P to Quadruple P (Duijvestein 2008)

Fig. 2.1 from Triple P to Quadruple P (Duijvestein 2008)

For Shenzhen:

- making full use of Hong Kong mature economic market system to accelerate knowledge-based industry upgrading
- facilitating a well environment for the recreation and housing demands
- providing a high living and working standard for the dwellers

For Hong Kong:

- extend its knowledge-based service corridor to Pearl River Delta and China domestic market
- trigger the north part of Hong Kong New Territory development
- facilitating a well environment for the recreation and housing demands
- providing a high living and working standard for the dwellers

For the cross-border:

- active preservation of the existing culture and nature landscape value to support the two cities development
- providing a sustainable land use without damage the nature landscape and culture value
- sustainable development at each phases to enhance its identity

Metropolitan perspective:

In terms of the aim in strategy and design aspects, I am proposing a new metropolitan perspective which is an integration plan in different hierarchy with the landscape as the crucial element. Transiting scales is important because of the plans and designs are strong related from the top-down but also bottom up. Active preserving and retransforming the existing landscape is the most economic, efficiency, and also historical concerns way of development. These two focuses are also reflecting the ideas of mine in tackling with the main problems within China planning context.

2.2 Research Question

Main Research Question:
In the process of globalization due to the inevitable urbanization and the vanishing landscape value, how to develop the cross-border area between Hong Kong and Shenzhen in a mutual benefit and sustainable way?

Sub-research Questions:
1. What is the functional network of these two cities?
(And Define: What kinds of collective and complementary functions are they have and how do they structure and work together? Which corridors need to be strengthened and enhanced?)

2. What are the functional demands and potentials of these two cities and the cross-border area?
(And Define: Which functions are emergent and priority to develop in cross-border area in the short-term phases?)

3. What are the potential roles of nature and culture landscape of the cross-border area where are under highly urbanization pressure?

4. What kind of spatial design tools are able to integrate the cross-border physical and functional linkages with the crucial nature and culture landscape element?

5. How to transform the cross-border area in a sustainable way by respecting the economic, environment, social and culture development?

2.3 Societal and Scientific Relevance

Societal Relevance:
Hong Kong and Shenzhen are facing several urban problems due to the rapid urbanization. When the nature and culture landscape are losing their values in the metropolitan area, the dwellers who live in rural area are first group suffered. Lacking of management strategies and considerations by governments, rural and nature areas become the sacrificial lands for city development.

Reconsider the role of nature and culture landscape is not only aiming to create a new approach in the cross-border area between Hong Kong and Shenzhen, but also trying to put more efforts about alleviating the problems and needs from people live in a rural area who have less power in changing the development directions. A harmonious environment and society can be reached when the urban planning practice is no longer excluding the weakness groups and looking for equilibrium development strategies.

Scientific Relevance:
Hong Kong is under economic restructuring, which is from service-oriented economy to knowledge-based service economy. Shenzhen restructures to a high-end manufacturing and service economy which also need knowledge to support their ICT industry. My theory paper for the graduation project aims at studying the functional and spatial conditions for the knowledge-based urban development, especially see how important the nature and culture landscape values are in this kind of urban development. The nature and culture landscape value in the knowledge-based urban development is served as the crucial framework in the vision. The approaches and interventions will be well connected from metropolitan scale to local scale.

3. Methodology

PART 3

3. Methodology

3.1 Research Approach; Methods and Techniques

The methodology of this project is divided into four parts, Comprehension, Vision and Strategy, Interventions and Evaluation. For more detail descriptions please refer to the contents below and the figure at page 22 and 23.

Comprehension:
In order to answer my research questions through the final design products, the methodology I used was starting from the top-down comprehension to documented Hong Kong and Shenzhen metropolis in three directions. Firstly, understand the inevitable urbanization and conurbation process (historic transition, economic restructuring, cross-border production structure, demographic structure); secondly, comprehend the vanishing landscape and cultural assets identity (green and water network, recreation value, flooding risky area); thirdly, understand missing Link in two governances and new urban model of Shenzhen and Hong Kong (Two municipal visions, new urban model).

Vision and Strategy:
Based on the findings of regional survey and theory study, I raise a new vision for cross-border area between Hong Kong and Shenzhen. The study about the functional and spatial conditions of knowledge-based urban development, especially how important the nature and culture landscape in this kind of urban development, Shenzhen 2030 vision plan and Hong Kong 2030 vision plan, I raise a new vision at regional level. To translate the vision and strategy into local interventions, landscape becomes the most important element in offering a basic framework to give them growth on it. Reframing the landscape, give new definitions to different zones of cross-border area and input multiple programs to sustain the development are made in the vision and strategy. The vision is aiming to improve the mutual benefit and sustainable development, to reacheconomy feasibility and enhance the social development especially in preserving the culture diversity. The vision and strategy of the cross-border area, the master plan of the most urban pressure area in one zone of cross-border are the final products at this stage.

Intervention:
For the intervention at local scale, I used the same logic to elaborate the design. The local intervention is an example in how to realize the whole strategy by more details and practical ways. The intervention chose one section of the master plan to show how the plan will be realized and what might be flexibility and potential for different development.

Evaluation:
To conclude the project, evaluate the design by being tested toward the existing governmental vison con and pro. Also recheck the research questions I asked in the very beginning, and then make the conclusion of the whole projects.

Reflection on the Complex Cities studio's approach:

This Complex Cities studio approach the problems of urban and regional development and redevelopment, and the problems of making socially and environmentally sustainable urban places, through an comprehension of the special position cities occupy in the contemporary world.

- Conceptualize and visualize the processes, potentials and problems of cities
- Develop urban planning and design approaches appropriate to contemporary social, economic and technological conditions
- 'Think strategically' and formulate specific strategies for different cases

Understand the space through process mapping, system dynamics, network analyses, spatial modelling tools, spatial planning tools and spatial phenomenology. Knowledge gained at theoretical and methodological levels will be applied on a specific site as an urban intervention.

Methodology

P1

1.Research Objectives
2.Problem Statements

Comprehension

Regional Context (PRD,HK -SZ)

Historical Transition & Future Direction | Cross-border Transition | Two Municipal Visions

Two Cities,Cross-border Context Recognition

Problem Statements: Inevitable Urbanization/ Conurbation Process | Vanishing Landscape and Culture Identity | Missing link in 2 Governances/ New Urban Model

Aims, Research Question & Sub-RQs

P2

1.Document Problem Statement
2.Main Aims
3.Research Question and Sub-RQs
4.Vision

HK-SZ Metropolitan Region Analysis

Inevitable Urbanization/ Conurbation Process
1.Historic Transition
2.Economic Restructuring
3.Cross-border Industry Structure (Infrastructure Network/Function Centralities)
4.Demographic Structure (Density/Flows)

Vanishing Landscape and Culture Identity
1.Water and Green Network
2.Recreation Value
3.Flooding Risky Area
4.Local Inhabitants' needs and constraints

Missing Link in two Governances/ New Urban Model
1.Two Municipal Visions
2.New Urban Model

Global and Regional Metropolis Structure
Social-Economic Structure Transition
SZ - Internal Radiating Power
HK- External Radiating Power

Redefine the Cross-border Role
Cross-border Conditions (potentials and restrictions: Pressure from Urbanization and Nature)
Integration with SZ and HK

Cross-border Vision

Vision

Two Municipal Vision Plans | Cross-border Vision Plan | Mapping Analysis | Theory and Case Studies

Social
Economic
Environmental
Culture Diversity

Alternative

Extraction of the Advantages of Municipal Plans, Mapping Analysis, Theory and Case Studies
Define the cross-border vision

P3

Strategy
(Region/City/Local)

Strategy

Cross-border Strategy : a Mutual Benefit Zone --- HK-SZ Metropolitan Park Development

4 parks with specific identities: Mangrove park | Urban Park | Cemetery Park | Country Park

Circulation / Program / Habitat

P4

1.Local Intervention
2.Finalizing the Design Project

Intervention

Representative Area : Urban Park

Master Plan / Phasing

Circulation: Vehicle /Bicycle/ Pedestrian Routing

Program: HK-SZ Functional Corridors:
1. Knowledge/Education
2. Recreation
3. Housing

Habitat: Green Open Space Network

Prototypes of Possible Intervention — Redefine Luomazhou Loop Area in the Urban Park

Key Project & Design — Circulation / Program / Habitat

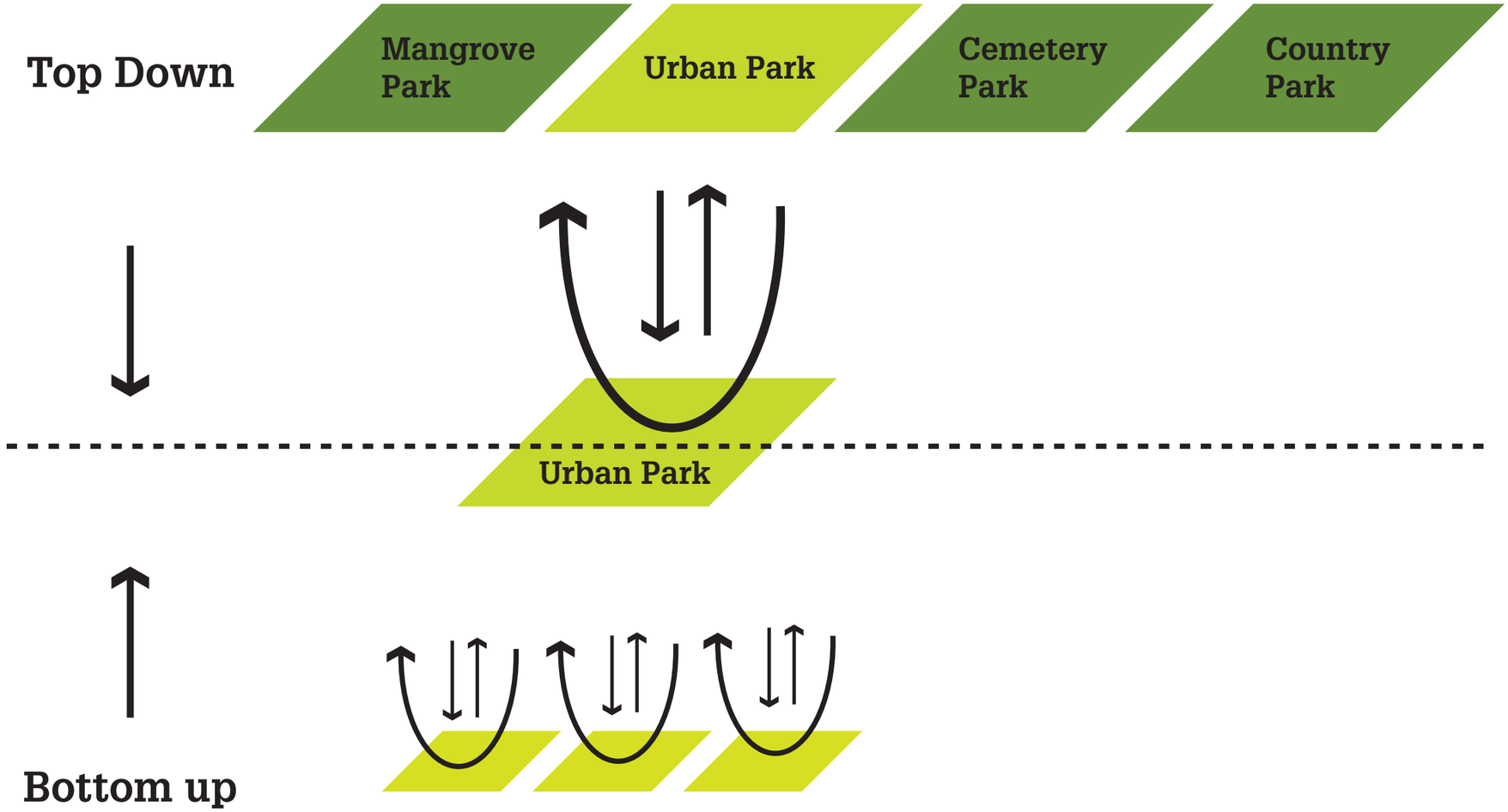
P5

Evaluation
Revision

Evaluation

Final Products VS **Government Plan**

Top Down



Bottom up

Regional Park as a spatial **strategy**

Urban Park

Master Plan
(two-dimension, sustainable, landscape as a main element)

Design
(three-dimension, spatial quality)

3.2 Literature Review

3.2 Literature Review

Hong Kong is under economic restructuring, which is from service-oriented economy to knowledge-based service economy. Shenzhen restructures to a high-end manufacturing and service economy which also need knowledge to support their ICT industry.

My review paper for the graduation project aims at studying the functional and spatial conditions for the knowledge-based urban development, especially see how important the nature landscape and culture value are in this kind of urban development.

The following is the selective part of my review paper which is most helpful for my future design. For the whole paper please check the MSC3 paper proceedings.

Knowledge-based Urban Development:
Urban Conditions for a Knowledge-based City

Abstract – The last few decades witnessed the rise of a new revolution, which is based on the rapid development of information technology and knowledge-based industries. This leads to a shift from service-oriented economy to knowledge-based service economy. Knowledge has become the engine of global and local development. This paper reviews the definitions of knowledge city and knowledge-based urban development. It also discusses the required urban conditions for a successful knowledge city and portrays its distinguishing characteristics. Functional and spatial conditions will be extracted to illustrate. The paper also provides some insights and recommendations for urban planners and designers in defining and evaluating the knowledge-based urban development and my graduation project.

Key words – Knowledge City; Knowledge-based Urban Development; Functional Conditions; Spatial Conditions

4 Spatial and Functional Conditions for Knowledge-based Urban Development
4.1 Spatial Conditions
4.1.1 Scale (city size and hierarchy)

Winden and others (2004, 2007) mention that the sheer size of the city is an attraction factor for both knowledge intensive activities. The larger the city is, the easier to find specialized staff and suppliers and make connection. Besides, scale relates to attract and retain knowledge workers. This is because there are more various jobs and opportunities in the metropolitan area. Furthermore, the larger urban size has more abilities to support facilities and amenities which are attract for knowledge workers and firms. For instance, international air port and high speed rail can serve them from one node to another node in a shorter time. Generally, well developed larger cities have good public transportation networks. Abundant culture life in larger city also can attract knowledge workers. Meanwhile, the smaller scale cities which located close to these larger metropolitan areas can also benefit from these scale advantage.

Baum and others (2007) argue that the knowledge production requires a certain scale and infrastructure intensity. The optimal environment for knowledge production is the city embedded in functional urban region with global network. This is because much specialize knowledge must be networked from source around the world.

4.1.2 Urban Structure

With the industrial development of the 19th Century, there is a great impact on the urban structure. The mass labour in factories is organised by the new spatial order in the city. Their working places and living places are separated. Nowadays, the mass transportation development connects the dispersed land-uses. The separation of work, retail and residential activity has had lots of negative consequences, such as extended home-work and return commutes, unsustainable transport options and the isolation of child-carers in uni-dimensional suburban environments (Baum and others, 2007).

Baum and others (2007) propose that knowledge work needs mass organisation. Actually, knowledge work is produced in global networks the massing of labour in the 21st Century. This is not seen before in human history. However, the organisation of knowledge work occurs in virtual space – in electronic media – the need for the space to work is decreased. This context offers a real possibility to the re-integration of work place and domestic space.

Many knowledge based economic activities are low impact in nature, including some 'advanced manufacturing' activities such as creative goods manufacturing (like industrial design & manufacture for example). These sorts of 'industrial' activities are suitable for locating in light industrial areas or in 'integrated employment areas' close to residences and other complementary land uses. Other knowledge based economic activities like various types of business services (engineering, legal, economic, planning, advertising, design, IT, etc.) are suitable for locating in home-based business settings (subject to certain requirements or restrictions on employee numbers, car parking, etc.).

Figure 6 Locations of Knowledge-based economic activities

Source: Baum and others (2007,p.20)

On the other hand, the clustering phenomena happen in most well development cities nowadays. In the cluster competition theory of Porter (1998), it is considered that the link between regional clusters and industry production is the crucial factor for economic success. The geographic proximity can further amplify the productivity and innovation interests of the cluster. This helps to lower transaction costs and create the demands of housing. The local development can also meet the specific requirements of the cluster. The firms of the cluster can feel the peer pressure of competition. Porter's augmentation about economic and urbanization is not just focus on clusters or agglomeration of economic activities in bigger scale, but also focus on the diversity and flexibility in the clusters themselves. This involves some small and flexible ones which can easy to adapt the rapid changing external market factors.

Larsen (1999), mentioned by Yigitcanlar (2008), proposes that knowledge-based urban development and clustering of knowledge institutions provide opportunities for interaction, building of relationships and fertilisation of cross fertilizing of ideas. Maldonado (2009) proposed that science parks and university campuses are considered as key-strategies for economic development. These strategies are spatially oriented. The proximity of firms and institutions generates innovation and economic growth.

4.1.3 Accessibility

Winden and others (2004, 2007) propose that the knowledge economy is a networked economy. A good global, regional and local accessibility is the crucial for success knowledge cities. A good and fast access to international airport and high speed rail station, a good regional linkage to urban knowledge clusters, and an efficient local infrastructure network to face to face contact guarantee the intensive knowledge activities. Admittedly, good ICT infrastructures also support vast and swift global communication. For those smaller cities, Lack good connections with regional and global context are a barrier for their economic development. A good accessibility guarantees the city ability to acquire, create, disseminate and use codified and tacit knowledge, which promote the economic and social development.

4.1.4 City Image

Evan and others (2006) propose that built form, public and natural spaces can express and stimulate a city's creativity. A city can strengthen its creative spaces by preserving heritage buildings, promoting and financing art for public and natural spaces, as well as using well-designed built form to display its characteristic.

Creative urban spaces are not only involving large, high-profile design programs, but also include everyday and liveable built form. This means that design must be evaluated at an early stage in the development process, in order to promote interaction, liveable scale, heritage protection, aesthetic excitement, and a positive city image (Evan and others 2006).

Brownfields are under used in urban areas dating from first phase of industrialization. Many cities such as Chicago London and Toronto are regenerated the urban brownfields to lively spaces which involving in culture, business and education, because they are already in the city context and has the inherent connection with the urban area. The alternative of revitalizing the old urban area into an innovation one implicates the special quality of past-present-future link, which is also can intensify creativity (Dvir and Pasher, 2004). In a word, urban image is very important to stimulate knowledge and creativity for the people.

4.2 Functional conditions

4.2.1Knowledge Base Activities

Winden and others (2004, 2007) argue that the main foundation for a knowledge city is its knowledge base. This involves tacit knowledge, codified knowledge, education level of the population and knowledge infrastructure. The knowledge infrastructure refers to the educational institutions and private R&D activities in the urban region. To a larger extent, the quality, quantity and diversity of the knowledge infrastructure determine the city starting position in the knowledge economy. Moreover, a solid knowledge base has become a more significant factor for urban economic growth and change.

Winden and others (2007) add new challenges for urban governance. One is to improve the alignment between knowledge infrastructure and the regional business sectors. The other is to counter the fragmentation within the knowledge base. These fragmentations include the missing links and overlaps between the knowledge infrastructures.

The education level of the population and the stork of knowledge are also curial elements in the knowledge base. It is believed that cities with a high share of worker with tertiary education show a better performance on economic activities. Florida (2002) proposed that the creative class plays a crucial role in the city economic. Creative class is a group of people who write software, songs and stories, creative designs and discover new ways to combine elements. Meanwhile these components can attract human capital and develop knowledge-intensive business. This results in a higher productivity.

4.2.2 Urban Amenities and Quality of Space

In order to be a successful knowledge city, cities has to attract and retain the talented people who create the new knowledge and ideas. Winden and others (2004, 2007) argue that urban amenities and quality of life are the key determinants to attract and retain knowledge workers. These involve an attractively built environment, high quality houses, attractive city parks, attractive natural surroundings, and a rich variety of cultural institutions. Furthermore, an agglomeration of good services and facilities is required, such as high quality hospital and (international) schools. Besides, in order to guarantee a good quality of life, traffic system such as highways and airports should not make too much noise and pollution.

"Talented people do not simply select a place to work based on the highest salary, they are typically concerned with a whole series of place-based characteristics" (Florida, 2000, p.6). In general, talented people tent to settle in a city where they can enjoy their life and work, and also have people they can communicate and interact. This also results in a positive effect as Florida mentioning "talent tends to attract talent" (Florida, 2000, p.15).

Yigitcanlar and other (2008) propose that recently urban and regional planning and development policies are interested in attract international investment and encourage economic growth in knowledge cities. These policies emphasize on creating a high level of social amenity. It is considered that creativity and culture are the providers of dynamic socio-cultural activities and infrastructure. This is because places with culture richness and substance can provide outdoor activities and amenities to attract talented people. That is to say, knowledge workers are attracted and gathered to places of cultural vibrancy and variety (Florida, 2002). These talented workers are a crucial component to be a successful knowledge city. Gathering, attracting and retaining these people will establish and cultivate a knowledge base and will encourage new businesses (Ergazakis et al. 2006; Yigitcanlar et al. 2007). As early as 1990s, Knight (1995, p.226) mentions about cultural requirements of a successful knowledge-based urban development by stating "the development of the knowledge base requires the strengthening of all aspects of a city's culture base".

However, there are kinds of people in the talented group. They have different occupation and ages. Different knowledge workers have different demands in urban amenities. Clark, mentions by Baum an others (2007), divide the amenities into two categories which are natural and constructed. Young people tend to enjoy the constructed one, while older people tend to have a balance between them (figure 7).

Types of Amenities	Specific Features
Natural Amenities	climate, (lack of) humidity, moderate temperature, water access (i.e. waterfronts), topographic variation,
Constructed Amenities	sidewalk cafes, tattoo studios, yoga, coffee houses, bookstores, movie theatres, liberal arts, universities, opera, dance studios, juice bars, bike lanes and trails, gourmet restaurants, research libraries.

Figure 7 Types of Amenities Preferred by Knowledge Workers
Source: Based on Clark 2003. Quoted by Baum et al. (2007, p.23)

Type of Knowledge Workers	Attractions (Hard and Soft Location Factors)
Scientists, Engineers and Creative Professionals	▪ Quality of university milieu ▪ Leisure facilities ▪ Hedonistic environments ▪ Accessibility ▪ Life style environments, ▪ Access to cultural facilities
Artistic/Creative People, Media/Journalists	▪ Affordable space ▪ Creative milieu ▪ Entertainment ▪ Creative spaces ▪ Urban diversity
Students (Latent Knowledge Workers)	▪ Cost of living ▪ Prestigious universities ▪ Life style environments ▪ Cheap accommodation

Figure 8 Hard and Soft Location Factors by Different Types of Knowledge Workers in Cities
Source: Derived from Kunzmann 2005; Van den Berg et al. 2004. Quoted by Baum et al. (2007, p.20)

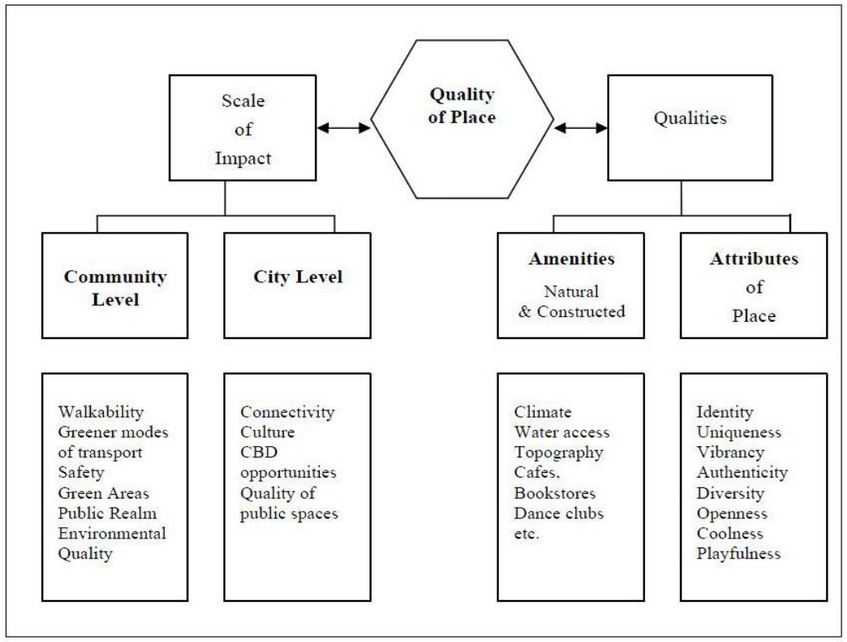


Figure 9 Dimensions of Urban Quality
Source: Derived from Llewelyn Davies Yeang, 2006; Clark 2003; Florida 2002. Quoted by Baum et al. (2007, p.24)

Public Space
In knowledge city, exchanging knowledge is very important. Exchanging knowledge especially tacit knowledge mostly happens in public space. People through face to face contacts exchange their ideas and experiences.

Richard Florida (2002) mentions a quality public space not only to attract knowledge workers but to keep them productive. A good public space is attractive and liveable.

Florida suggests a set of desirable amenities include parks, bike trails, cultural amenities (such as museums and art galleries), a rich variety of cafés and restaurants, a vibrancy of street life, café culture, arts, music and people engaging in outdoor activities. These spaces should offer a good environment for people to communicate.

4.2.3 Urban Diversity and Equity

Urban diversity promotes creativity (Jacob, 1961). Winden and others (2004, 2007) argue that the diversity of inhabitants and types of economic activities facilitates the interactions which can trigger new ideas. Florida (2002) proposes that diversity is an indicator to see how extent the openness the system is. The places that attract diverse groups of people by different ethnicity, nationality, gender and sexual orientation are easy to attract talented people.

However, urban diversity on the one hand is source of economic activities. On the other hand it is a source of problems due to the segregation between different groups. Therefore, in order to promote sustainable urban economic growth, it is important to reduce poverty and inequality. This is because urban inequity will result in urban unsafety. Urban safety is regarded as a fundamental precondition for urban economic growth. A secure place is an important location for firms and citizens.

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3.3 Time Working Plan

3.3 Time Working Plan

The phasing of this research project was defined by two axes, one is the time-line, based on presentation moments (P1, P2, P3, P4 and P5) and the other is based on the actions which should be developed during the research process. These actions are defined as follows:theoretical framework, research and analysis (empirical framework, city atlas), design(concept, scenarios, perspective, and key project - testing Intervention), conclusions and evaluation.

Besides, there are some important in-between products already defined and positioned in the time-line process. These products are: preliminary thesis plan; outline of Review paper; final thesis plan; review paper [Conference]; preliminary thesis 1; preliminary thesis 2; and final thesis.

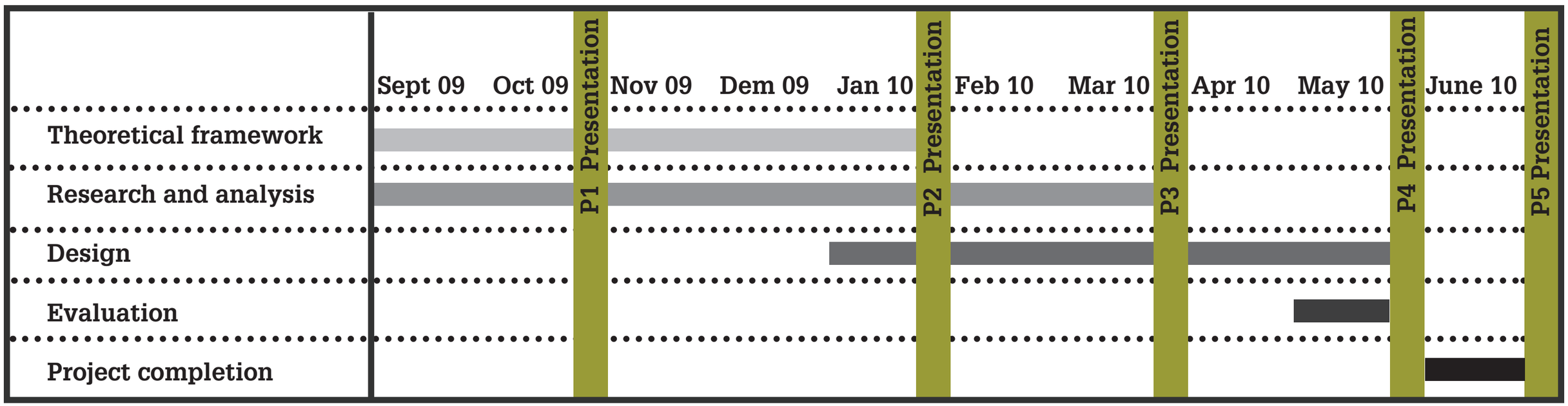


Fig. 3.1 Time working plan

4. Research and Analysis

PART 4

4. Research and Analysis

There are a lot of study and research mappings I have done for the problems statements. In this section, it shows the most important contexts information for this project which is the main design tasks I am facing. These were organized as follows:

4.1 Inevitable Urbanization and Conurbation Process

4.1.1 Historic Transition

1a. Hong Kong- Shenzhen in Global context

Hong Kong is regarded as an important hub for advanced service in the global network. Due to the geographic proximity with Hong Kong, Shenzhen plays more significant role in the corporation with Hong Kong in the coming future.

According to GaWC (Globalization and World Cities Research Network) 2008, Hong Kong is hierarchized as alpha+ city, which means Hong Kong is largely filling in advanced service needs for the Pacific Asia. The connectivity measures are used to classify cities into levels of world city network integration. These levels are interpreted as follows: alpha++ cities: in all analyses, London and New York stand out as clearly more integrated than all other cities and constitute their own high level of integration; alpha+ cities: Other highly integrated cities that complement London and New York, largely filling in advanced service needs for the Pacific Asia; alpha & alpha- cities: Very important world cities that link major economic regions and states into the world economy.

According to Richard Florida's who is your city, Hong Kong and Shenzhen are seen as a mega region —— Hong-Zhen in the Asia and would play a significant economic power in the near future.

Mega-Regions of Asia

Cities, and now **mega-regions**, are the central engines of economic growth and development (Jacobs, 1961, 1969, 1984).

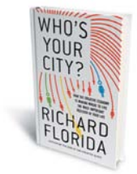


Fig. 4.1 Hong-Zhen mega region (Richard Florida 2008)

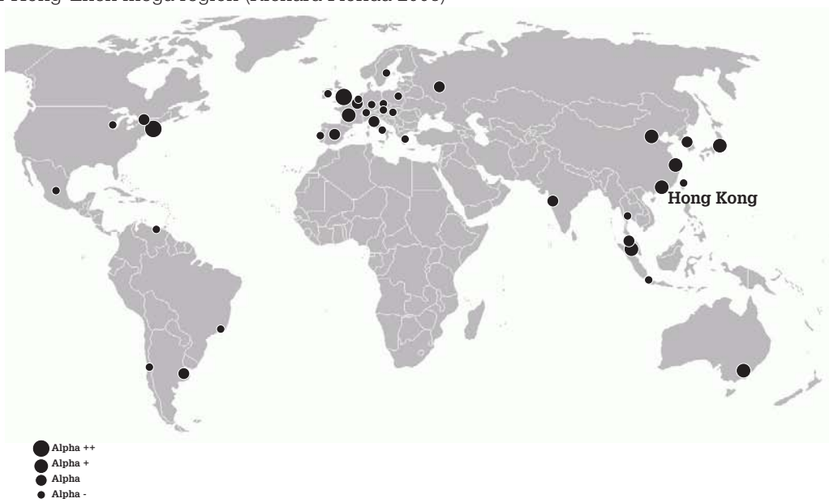


Fig. 4.2 Hong Kong is largely filling in advanced service needs for the global and Pacific Asia 1 (GaWC 2008)

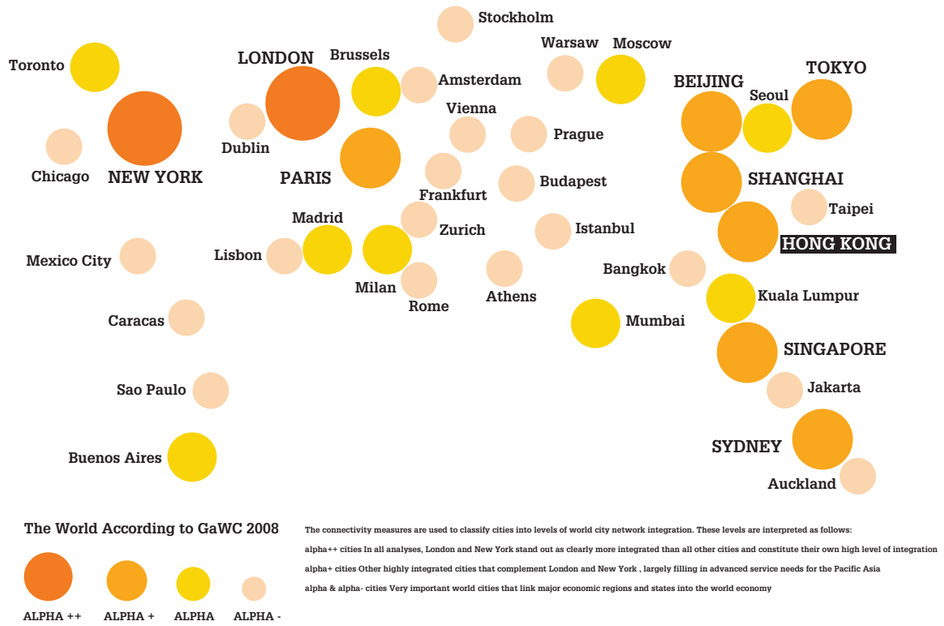


Fig. 4.3 Hong Kong is largely filling in advanced service needs for the global and Pacific Asia 2 (GaWC 2008)

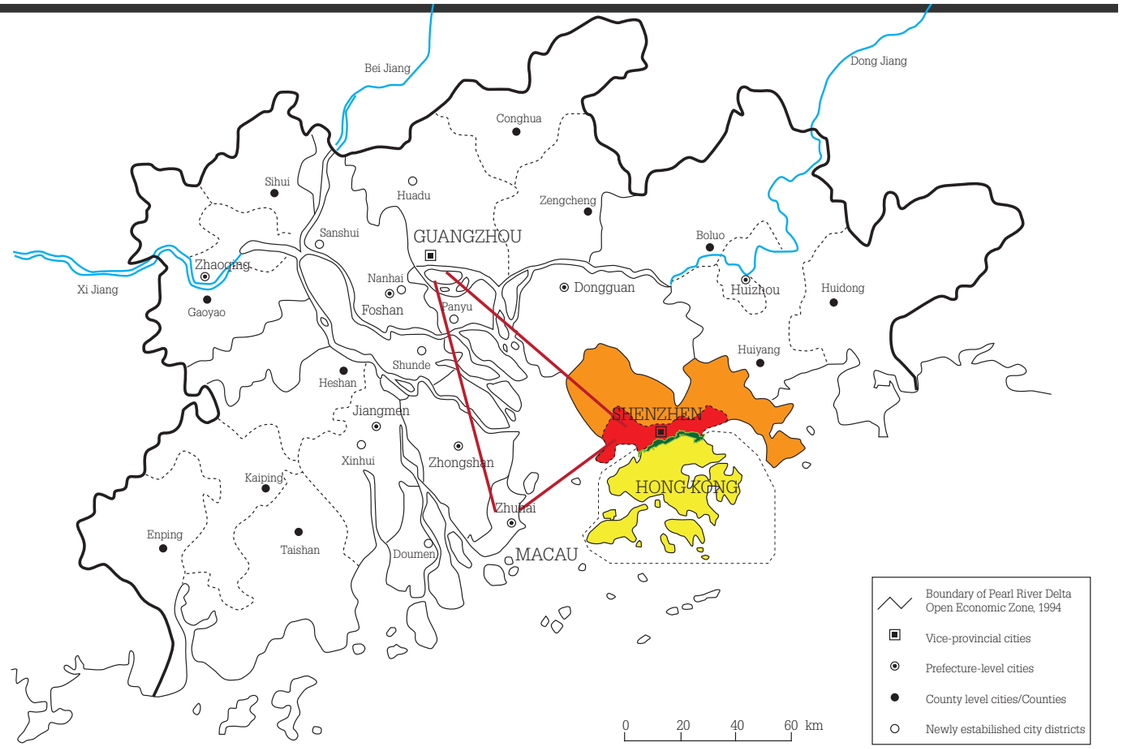


Fig. 4.4 Precincts of Pearl River Delta

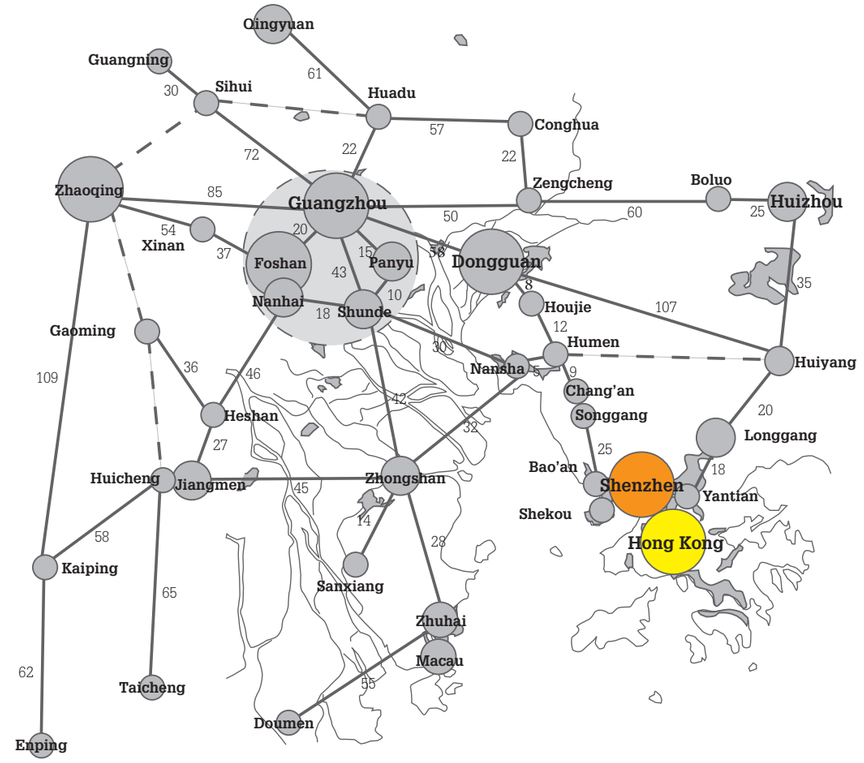


Fig. 4.5 Pearl River Delta Network

4.1 Inevitable Urbanization and Conurbation Process

4.1.1 Historic Transition

1b. Pearl River Delta Urbanism

The Pearl River delta (PRD) has been one of most dynamic economic engines in China since the China Reform Program (Open Door Policy) launched in 1978. Since then, PRD has become world's workshop and nowadays is a major manufacturing base for a grand range of products. The prefectures in the PRD have benefited from the proximity to Hong Kong.

"In 1979, the Central Government of the People's Republic of China announced that Guangdong Province would be allowed to follow less restrictive economic policies and would be permitted to set up three Special Economic Zones (SEZs), including two in the PRD, Shenzhen and Zhuhai. Preferential policies in the SEZs included a number of features designed to attract foreign investment. They also included duty free treatment of imports of raw materials and intermediate goods destined for exported products, as well as exemption from export taxes.

Guangdong's early experience with reform allowed a market-oriented culture to develop earlier than in other places in the Chinese Mainland. Starting in 1979, Guangdong Province and the SEZs were given greater political and economic autonomy than other jurisdictions in the Chinese Mainland. Areas of greater autonomy included finance and fiscal matters, foreign trade and investment, commerce and distribution, allocation of materials and resources, labor, and prices. In 1988, Guangdong was granted expanded powers to set its own economic direction, and was designated a 'comprehensive economic reform area'. This gave rise to the creation of the Shenzhen Stock Exchange, as well as development of a land lease system and some privatization of housing. Shenzhen became a leader in terms of foreign exchange markets, operation of foreign banks, land reforms, and stock market development.

The economic development of the Pearl River Delta Economic Zone took off after the reform program was instituted. Since the onset of China's reform program, the Pearl River Delta Economic Zone has been the fastest growing portion of the fastest growing province in the fastest growing large economy in the world. In the process, a region that was once largely agricultural has emerged as a manufacturing platform of global importance. It is a world leader in the production of electronic goods, electrical products, electrical and electronic components, watches and clocks, toys, garments and textiles, plastic products, and a range of other goods.

For the first ten years of China's economic reform process, the internationalization of the Chinese economy was largely a Pearl River Delta phenomenon, with the export-oriented production of foreign-invested entities based in Shenzhen, Dongguan, and Guangzhou leading the way. In recent years, the development environment for indigenous private-owned enterprises has improved dramatically in the Pearl River Delta Economic Zone and local firms are now playing an ever-growing role in the region's economy. In this regard, Shenzhen, Dongguan, Foshan, and other parts of the Pearl River Delta Economic Zone have been at the forefront of private sector development in China." (quote by Wikipedia Web Services, 2009)

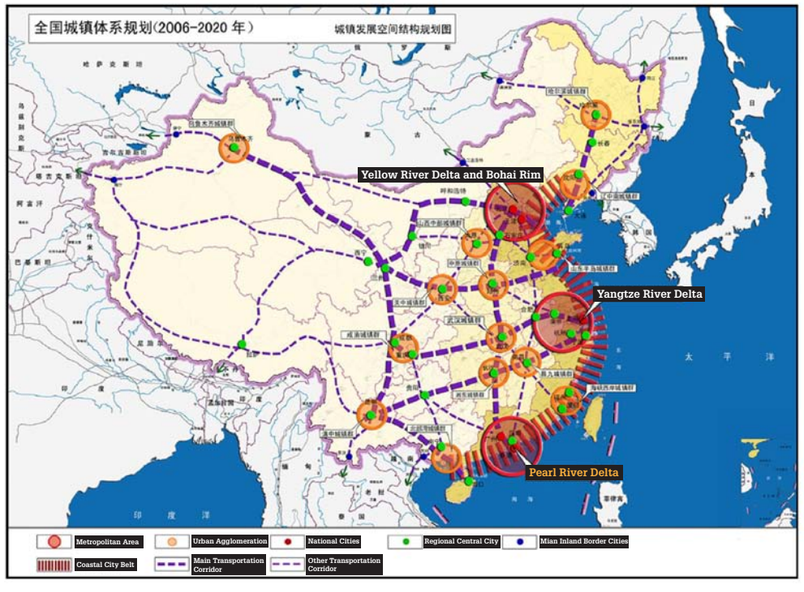


Fig. 4.6 Pearl River Delta in China
(Shenzhen Urban Planning and Land Resources Committee 2007)

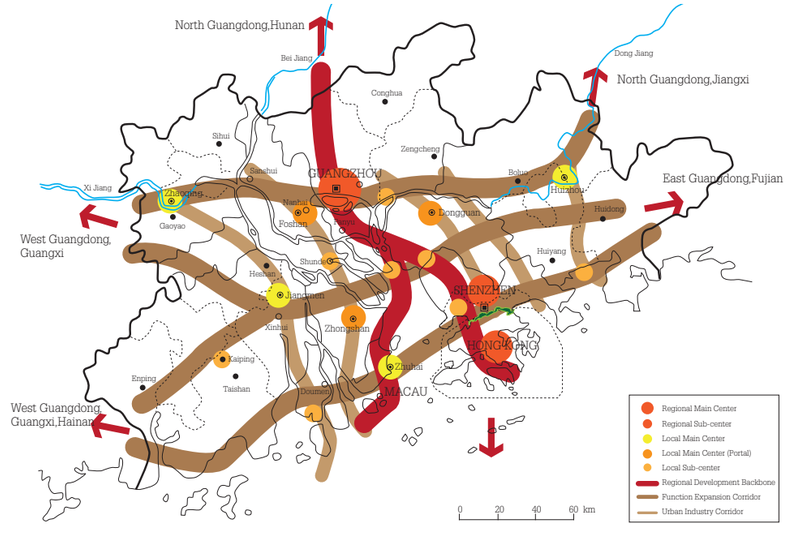


Fig. 4.7 Space Structure Pearl River Delta
(map based on Shenzhen Urban Planning and Land Resources Committee 2007)

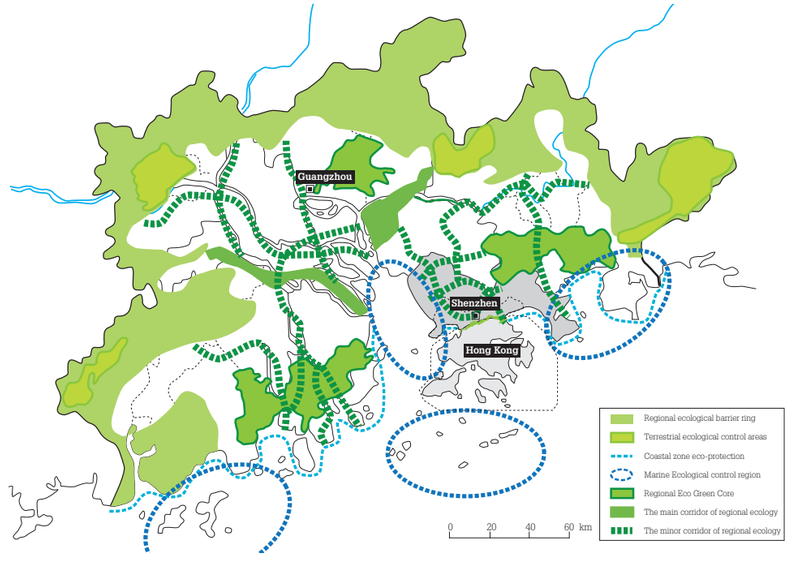


Fig. 4.8 Ecological Structure of the Pearl River Delta
(map based on Shenzhen Urban Planning and Land Resources Committee 2007)

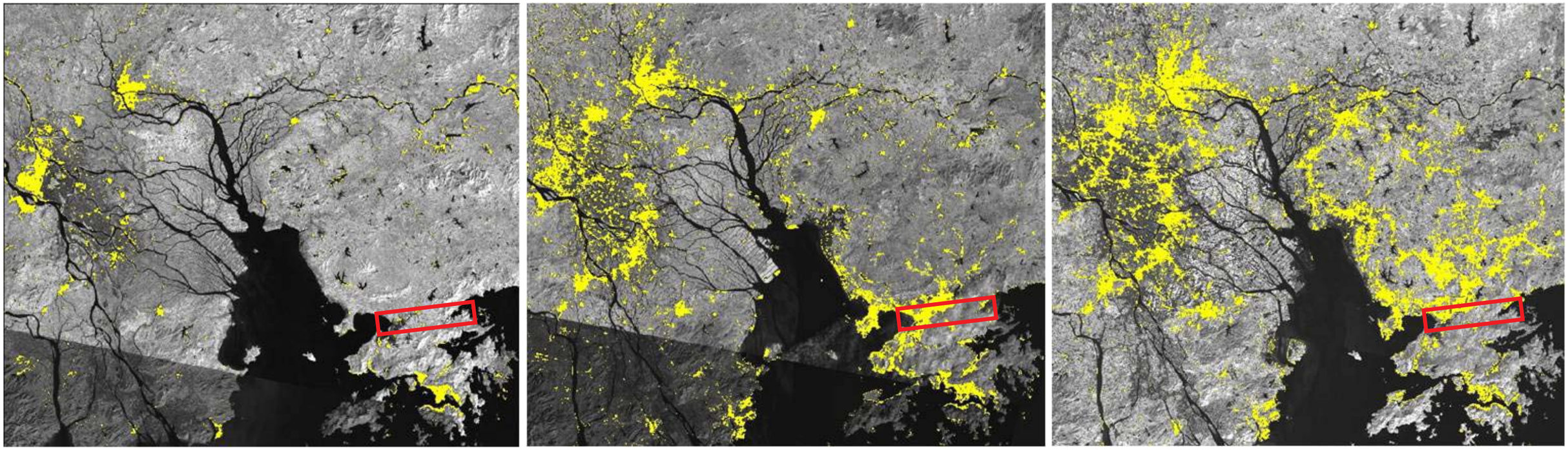
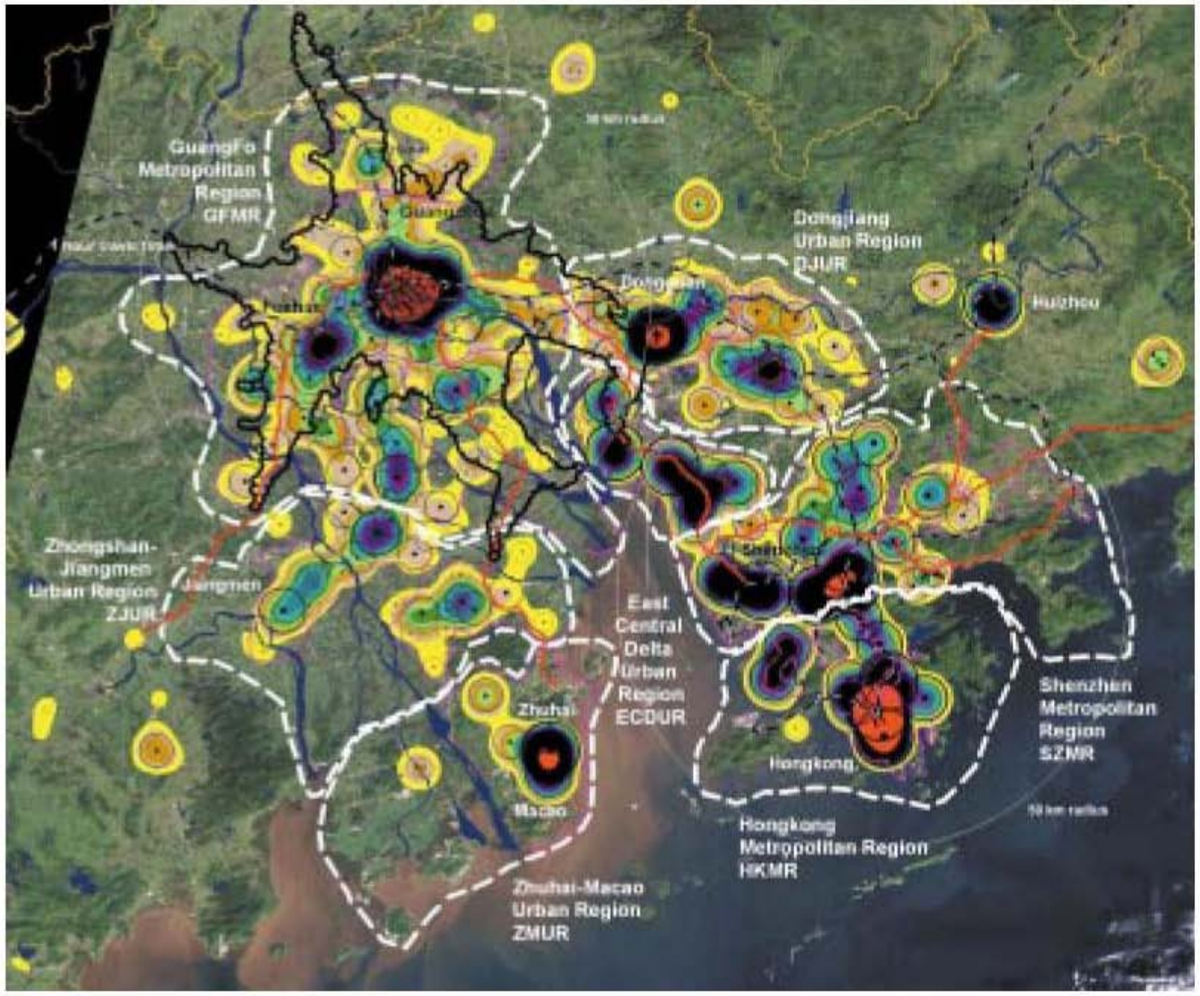


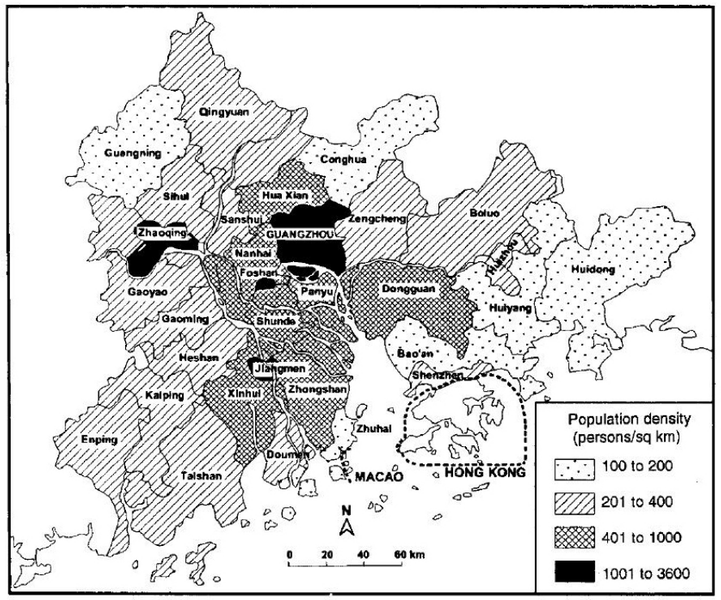
Fig. 4.9 Pearl River Delta urbanization (Wang 2008)



SOURCE: Chreod Ltd.

PRD 2000s

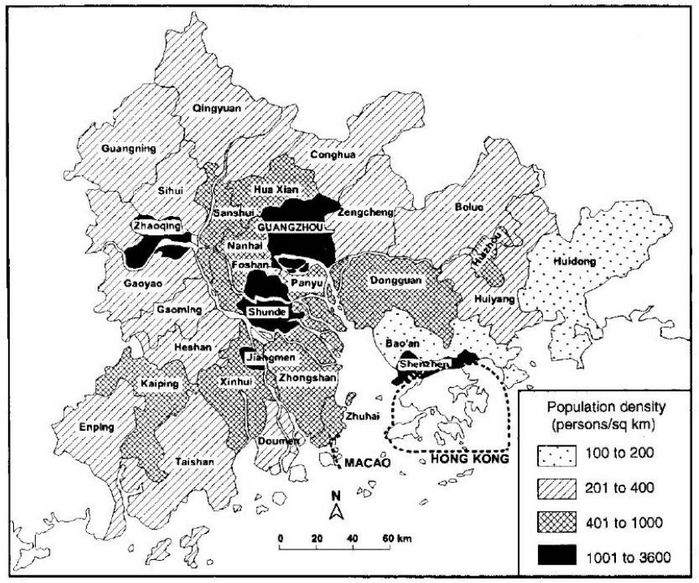
Fig. 4.10 The Pearl Delta Megalopolis, Population Densities, 2020 (Leman 2003)



Population density in the Pearl River Delta, 1980. *Source:* GPSB (1991b, pp. 14–407).

PRD 1980s

Fig. 4.11 Population Density in PRD, 1980s (Lin 2000)



Population density in the Pearl River Delta, 1990. *Source:* GPSB (1991b, pp. 14–407).

PRD 1990s

Fig. 4.12 Population Density in PRD, 1990s (Lin 2000)

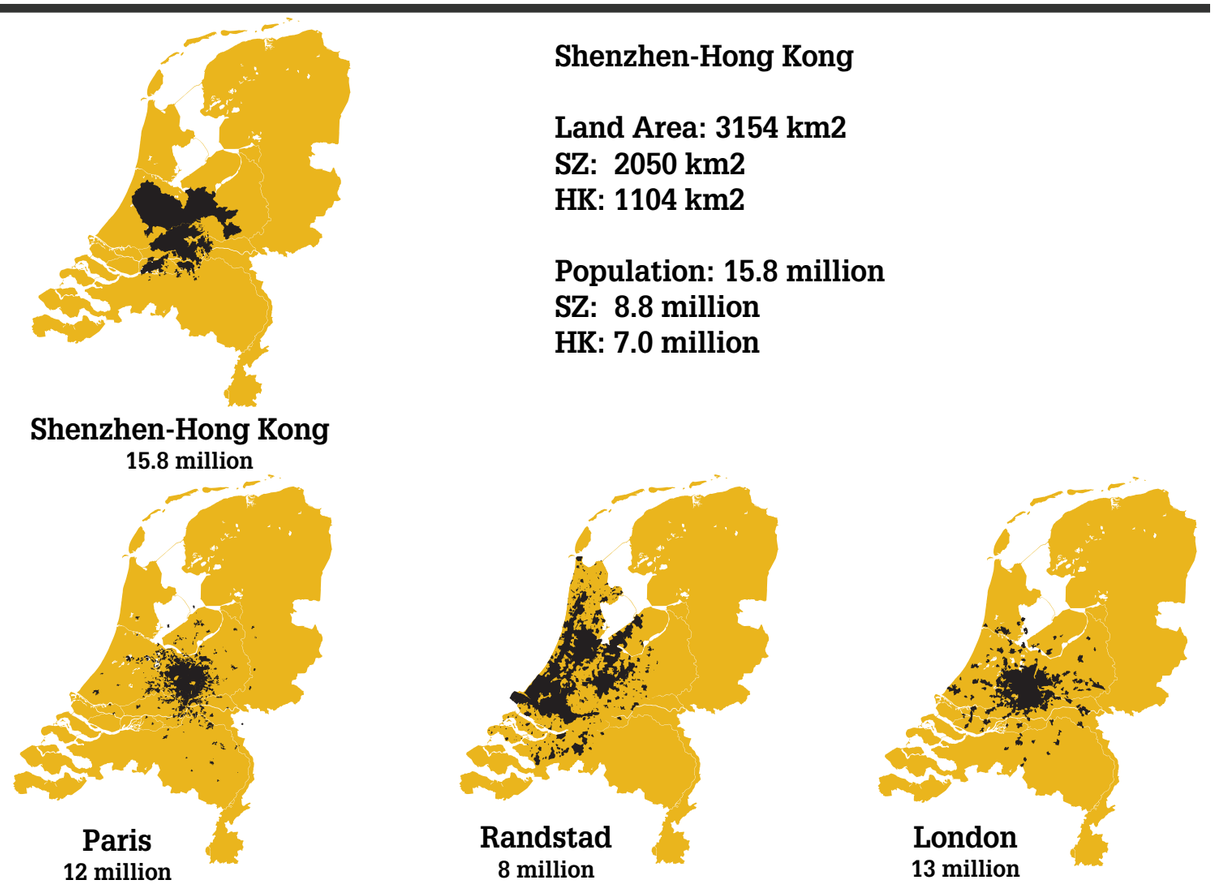
4.1.1 Historic Transition

1c. Shenzhen and Hong Kong Urbanization

Shenzhen is situated in the Pearl River Delta of the Guangdong province in southern China, immediately to the north of Hong Kong. Shenzhen is under dramatically urbanization from the launch of the China Open Door policy in 1978, which is from a fish village to a national financial and ICT hub. Owing to China's economic liberalization and its proximity to Hong Kong, the area became China's first and arguably one of the most successful Special Economic Zones. The shrinking agricultural economy, the booming industrialization and the young generation from mainland to the special economic zone, the value of landscape also disappeared unconsciously during the rapid economic growth period in the past 30 years.

Hong Kong is a former British colony in China, today a Special Administrative Zone (SAR) located on the southern border of Shenzhen. In the frame of Deng Xiaoping's doctrine:" one country, two systems", Hong Kong has preserved its own economic and political systems, while the mainland China remains a socialist country, albeit with an increasingly free-market economy. Hong Kong's separate status is expected to persist next to China's socialist system for at least 50 years. Hong Kong is regarded as a world city and is one of the Asia's financial centers. After the World War II, the urbanization rate is extremely high during the 1960s and 1990s accompanied by the global trends. The rapid population growth, industrialization and the migration were the main phenomenon in this period. The rapid urbanization not only transformed the geographical landscape, but also serious influenced the ecosystem when people hadn't been aware of its importance. With the shrinking agricultural economy and the booming industrialization, the value of landscape disappeared unconsciously among the people during the rapid economic growth period.

For more details please see the maps and figures.



Shenzhen-Hong Kong

Land Area: 3154 km2
SZ: 2050 km2
HK: 1104 km2

Population: 15.8 million
SZ: 8.8 million
HK: 7.0 million

Fig. 4.13 The size and population of Shenzhen - Hong Kong metropolis compare with Paris, Randstad and London (background map: Zandbelt &vanderBerg 2008)

Fig. 4.14 Images of Shenzhen and Hong Kong in 1980s and 2000s (Hong Kong Planning Department 2009, Zhangjibo 2009)

	Hong Kong	Shenzhen
Political system	Special Administrative Region under capitalism	Special Economic Zones under socialism
Economic system	Highly-developed market economy system	Government-led market economy system
Economic structure	A highly-developed modern service sector, with a high degree of division of labor; and a competitive edge in the financial, transportation and high and new technology industries	A competitive edge in the manufacturing and ICT industries at the national level, floating labor force dominate in manufacturing industry
Cultural	Integration of eastern and western culture	Immigration culture (tolerance)
Environmental /Geographic	Small but densely populated, terrain is hilly to mountainous with steep slopes	Mostly flat ground in downtown area, and it is now expanding peripherally and the hills in surrounding areas
Metropolitan area	1,104 km^2 land (1,054 km^2) water(50 km^2)	2,050 km^2 urban (395.81 km^2) rural areas (1654.19 km^2)
Population	7,008,900 (2008)	8,768,300 (2008)
Density	6054.5 inh / km^2	4,202.7 inh/ km^2
GDP	US $293.311 billion(2008)	US $114.33 billion(2008)
Per capita GDP	US $44,413	US $13,153

Fig. 4.15 the differences between Shenzhen & Hong Kong (Hong Kong Census and Statistics Department 2009, Shenzhen Municipal Statistics Bureau 2009)

Shenzhen 深圳（29YRs）

As Xinan County, basically poor rural areas
Lay along the Kowloon-Canton Railway, built in 1911
Renamed as Bao'an County in 1914

1842

Establishment of
the People's Republic of China:
"closed-door","self-reliant,"
centrally planned economy

1949

Collectivization process
in the rural sector

1945-1950s

Cultural Revolution
on the mainland

1960s-1970s

1970s

rapid economic development
and restructuring,
facing intensive development pressure

1978

Open-door Policy
in China

1979

Establishment of the
Shenzhen
within the Bao'an County

1980

Establishment of the
Shenzhen Special
Economic Zone

1992

Bao'an County was divided
into Bao'an and
Longgang Districts

1994

Incorporation of Bao'an
and Longgang Districts
into the Shenzhen
Special Economic Zone

1997

Hong Kong 香港（167YRs）

Hong Kong a small fishing village,
became a British colony

1842

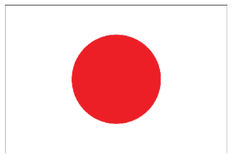
Kowloon peninsula was ceded to Britain

1860

New Territory "leased" to British
government for 99 years

1898

Hong Kong under
Japanese occupation



1941-1945

HK "transferred" industrialization
following the establishment of
the People's Republic of China
on the mainland

1949

Export-led
industrialization

1960s-1970s

Economic restructuring
and tertiarization
of the economy

1970s

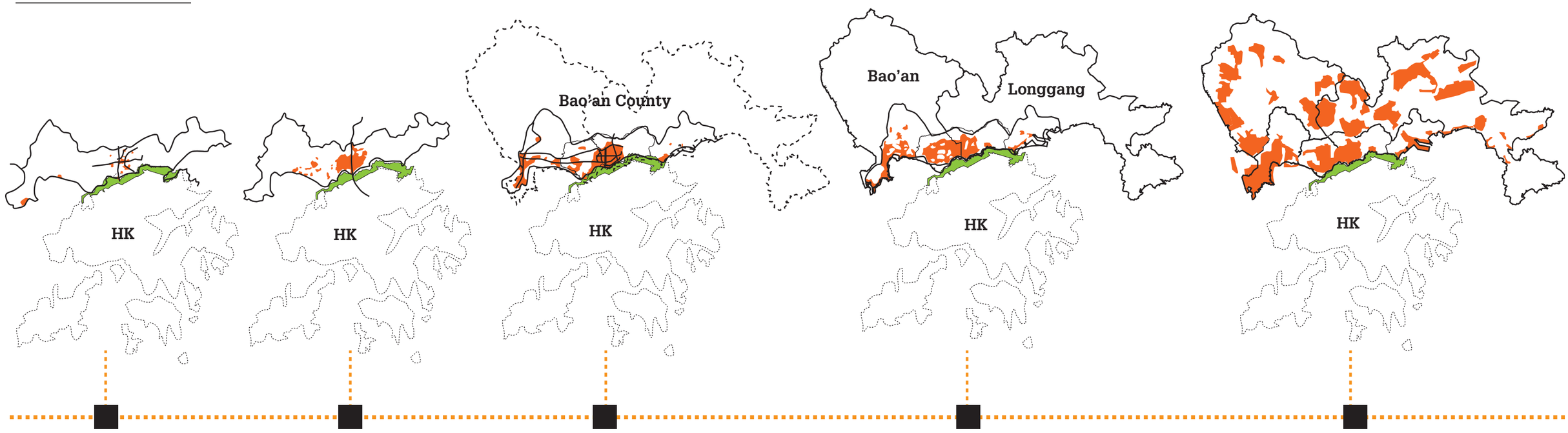
Deindustrialization and
rapid economic integration
with China mainland;
intensified economic restructuring
(from a manufacturing economy
to a service economy) in the coming
two decades

1978

Reversion of Hong Kong
to Chinese rule and
establishment of the
Hong Kong Special
Administrative Region
(HKSAR) under the unique
framework
" One Country,
Two Systems"(OCTS).

1997

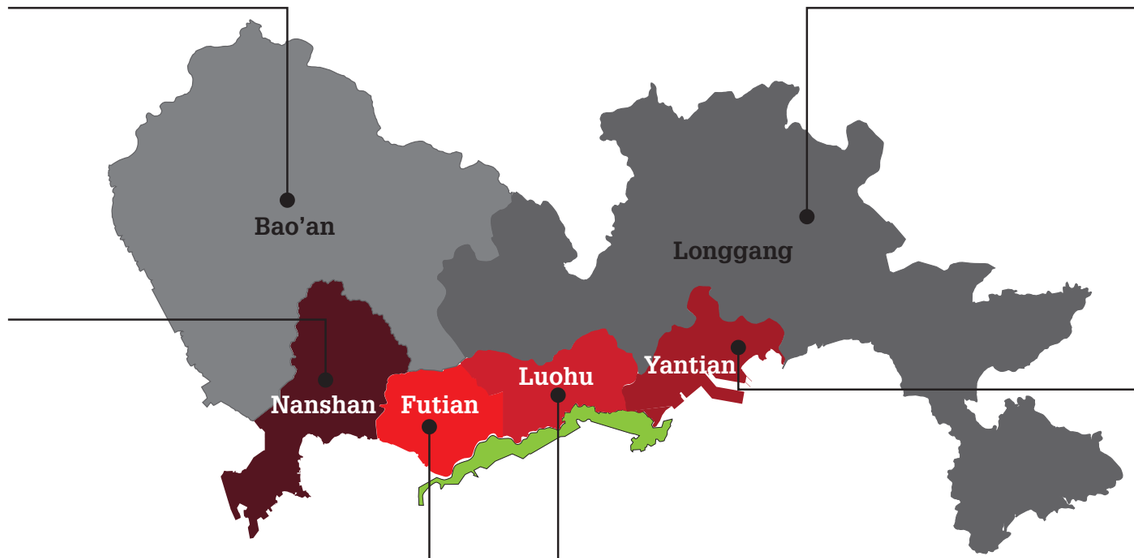
Fig. 4.16 the history of Shenzhen & Hong Kong



Bao'an District
Functions:
regional service production center, important high-tech industries and advanced manufacturing base

Nanshan District
Functions:
the city's cultural and commercial center.

Futian District
Functions:
the city's administrative, cultural, center.



Longgang District
Functions:
Integrated Services Center, important advanced manufacturing and hi-tech industrial base

Yantian District
Functions:
the natural ecological protection and international coastal tourist resorts, an important harbor logistics base and creative cultural industry park

Luohu District
Functions:
the city's financial and commercial center.

Fig. 4.17 The urbanization of Shenzhen and the functions of different districts

Shenzhen GDP and Population Growth

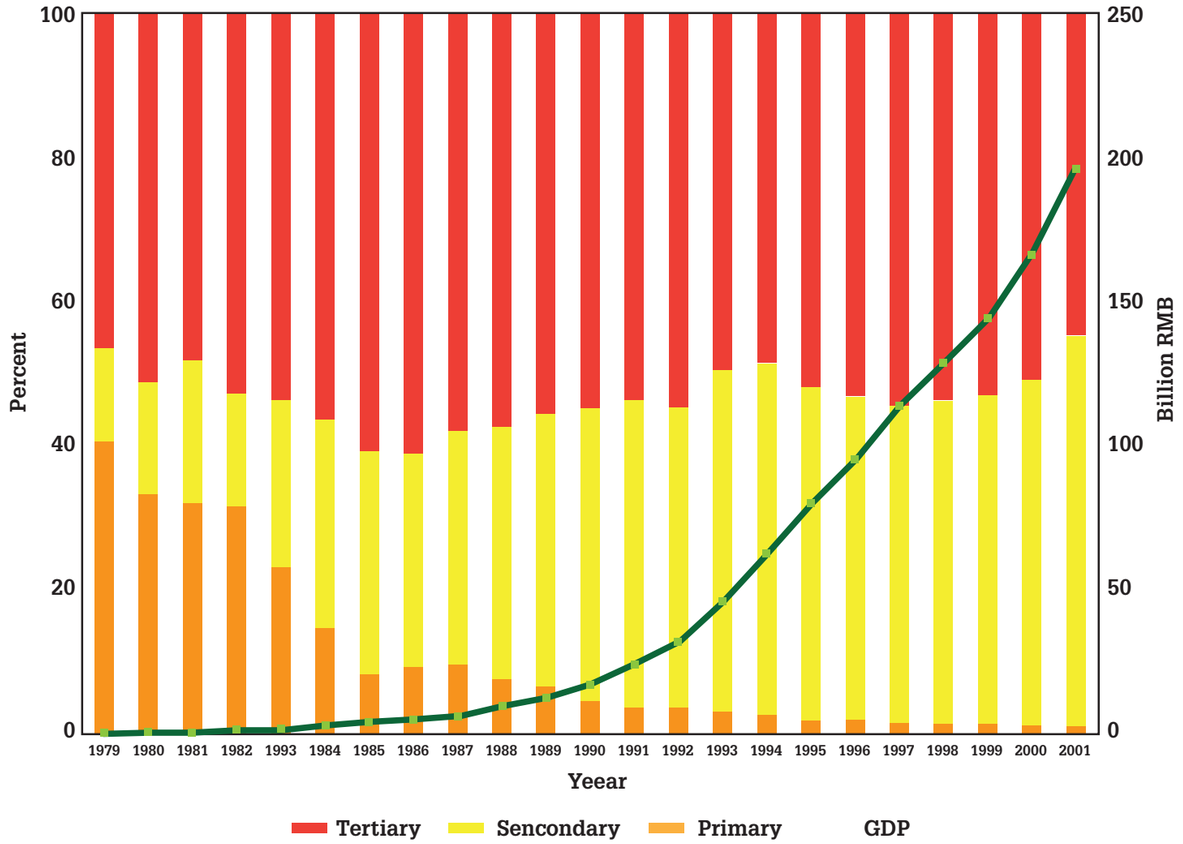


Fig. 4.18 The urbanization of Shenzhen and the functions of different districts (Shenzhen Municipal Statistics Bureau 2009)

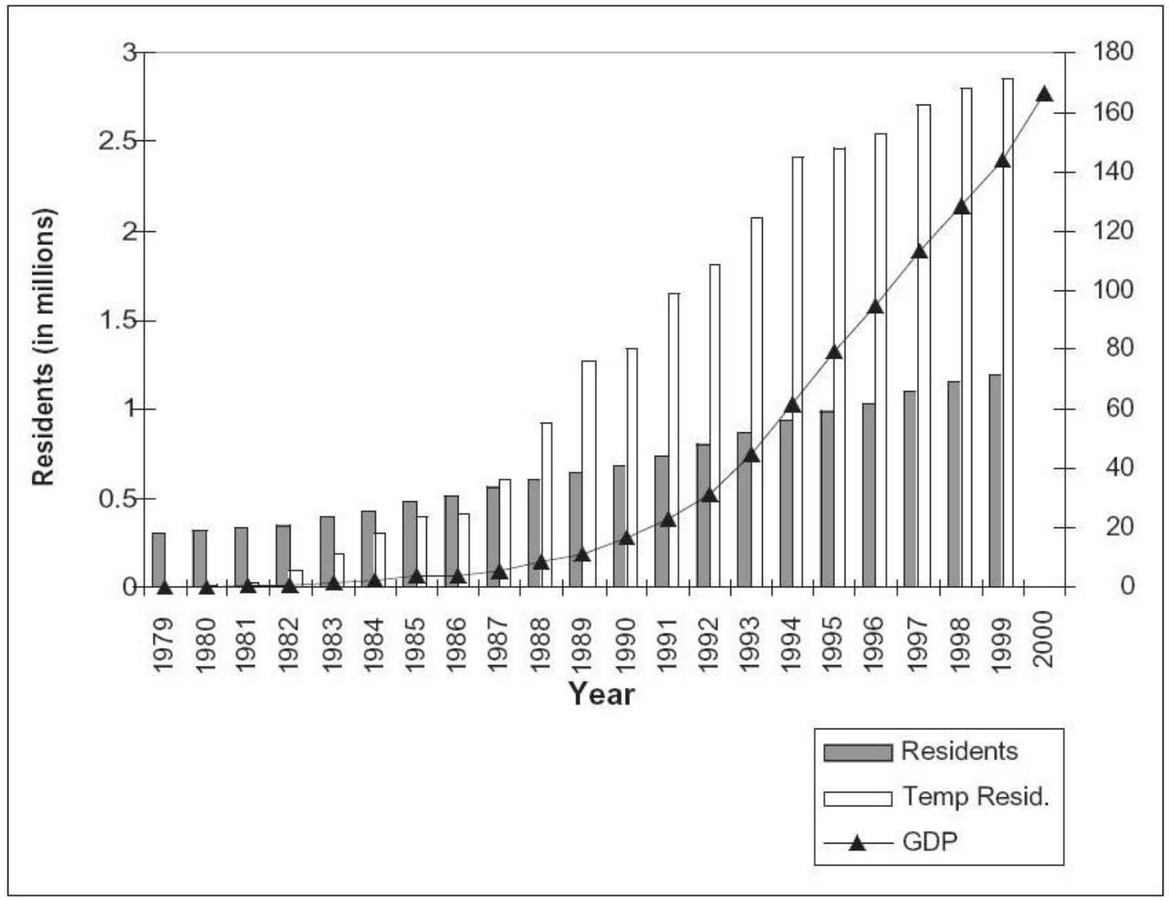


Fig. 4.19 Population growth and gross domestic product in Shenzhen (1979 - 2000) (Shenzhen Municipal Statistics Bureau 2009)

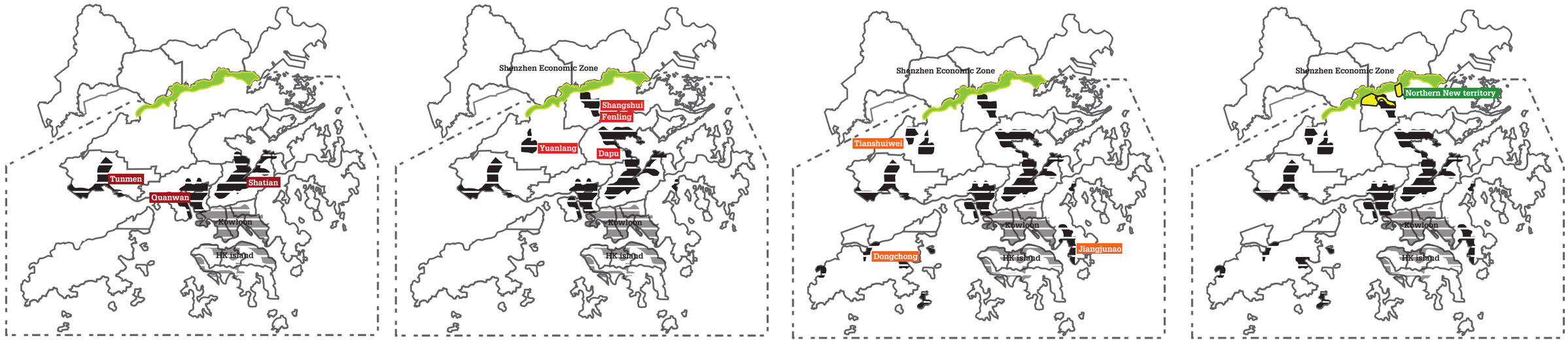
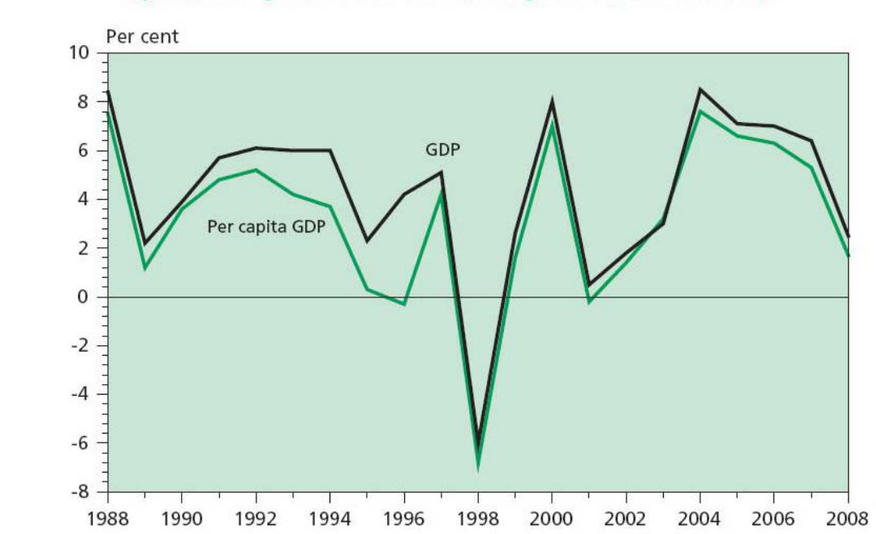


Fig. 4.20 The urbanization and new town development of Hong Kong



Over the past two decades, the Hong Kong economy grew by an average of 4.1 per cent in real terms, outpacing the 3.4 per cent growth for the world economy. The local economy remained vibrant in 2008, with real GDP growing by 2.5 per cent.

Fig. 4.21 The Gross Domestic Product of Hong Kong from 1988 to 2008 (Hong Kong Census and Statistics Department 2009)

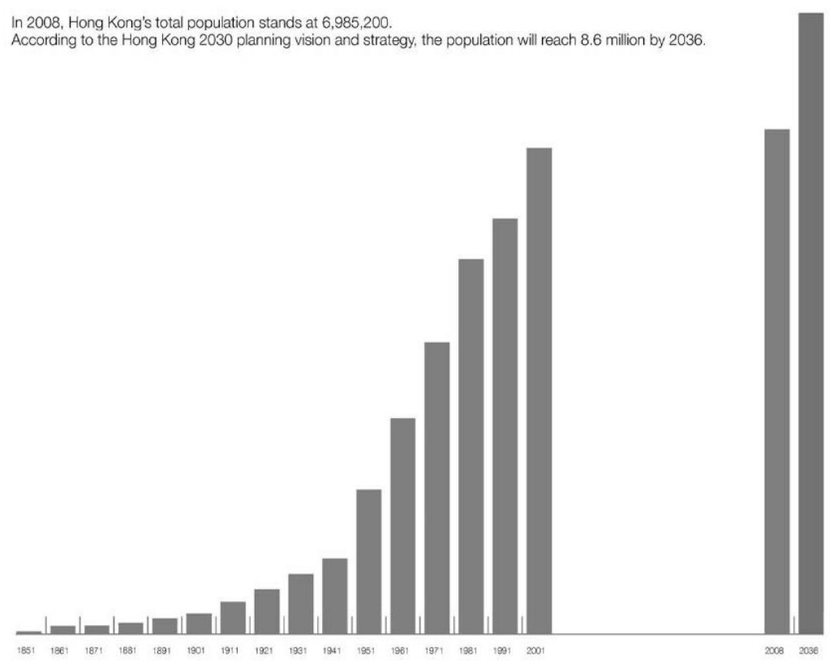
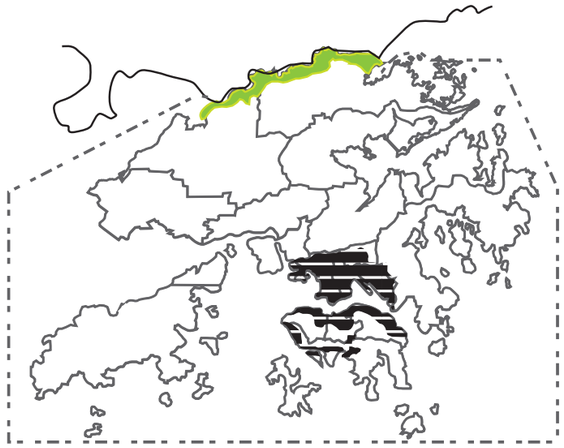
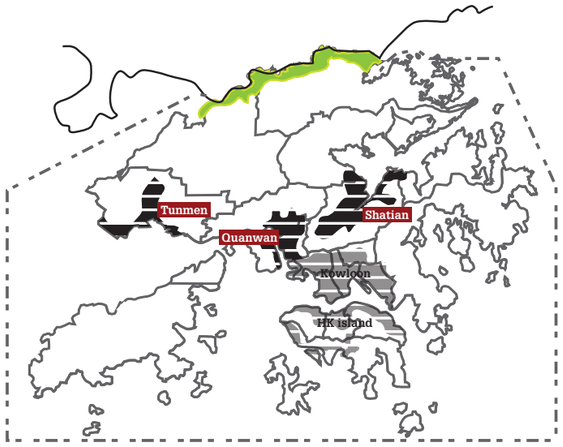


Fig. 4.22 Estimated Population Growth of Hong Kong until 2030 (Wang 2008)

Hong Kong & Shenzhen Urban Expansion



< 1970s
Hong Kong:
HK island
Kowloon



1970s
Hong Kong:
Shatian
Quanwan
Tunmen

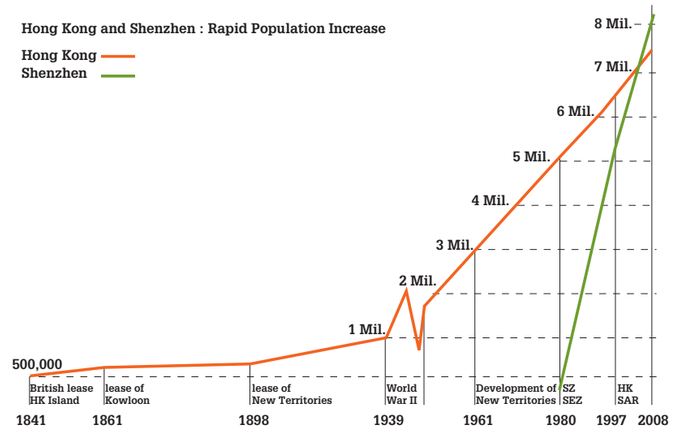
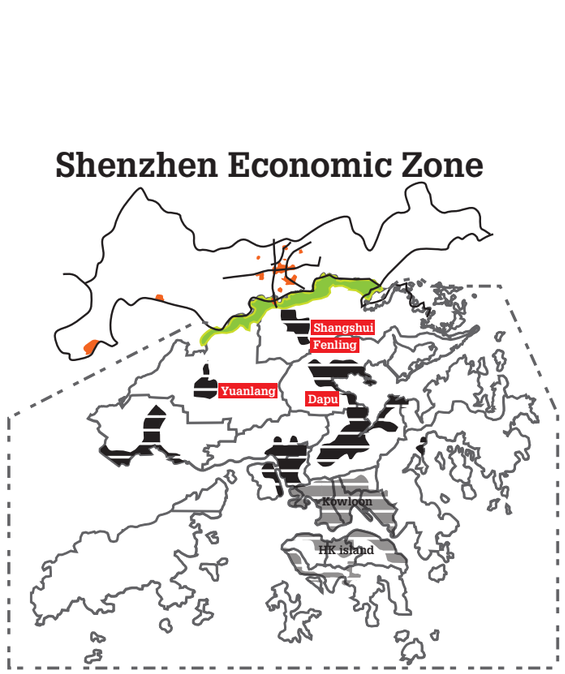


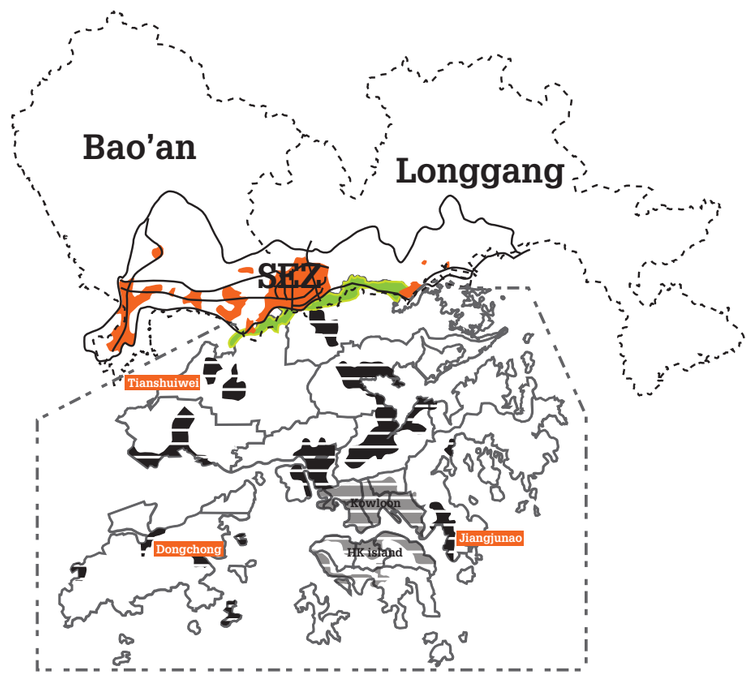
Fig. 4.23 The Population Growth of Shenzhen and Hong Kong (Hong Kong Census and Statistics Department 2009, Shenzhen Municipal Statistics Bureau 2009)



1980s

Hong Kong:
Dapu
Yuanlang
Shuangshui
Fenling

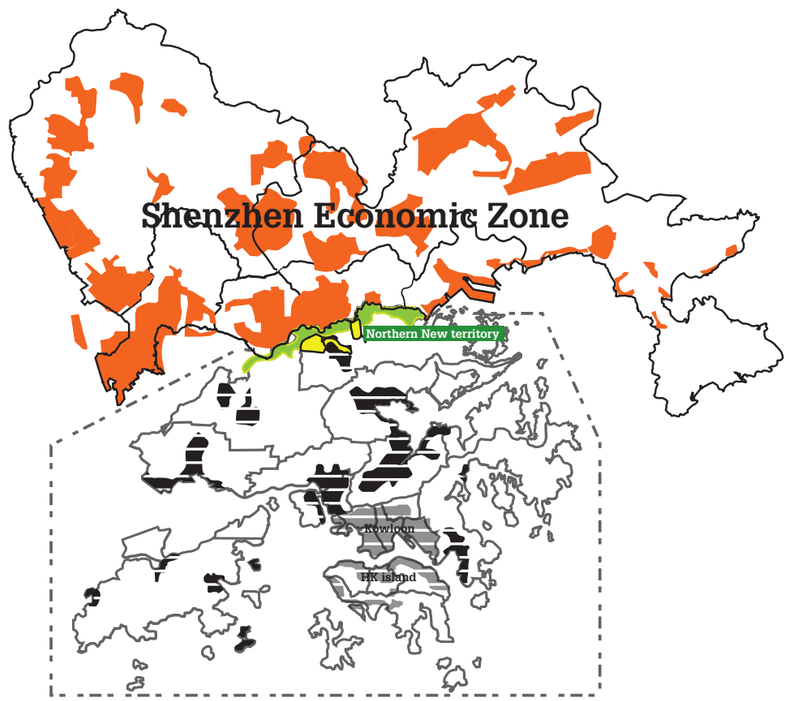
Shenzhen:
Luohu
Shekou



1990s

Hong Kong:
Tianshuiwei
Jiangjunao
Dongchong

Shenzhen:
Luohu
Futian
Nanshan
Bao'an
Longgang



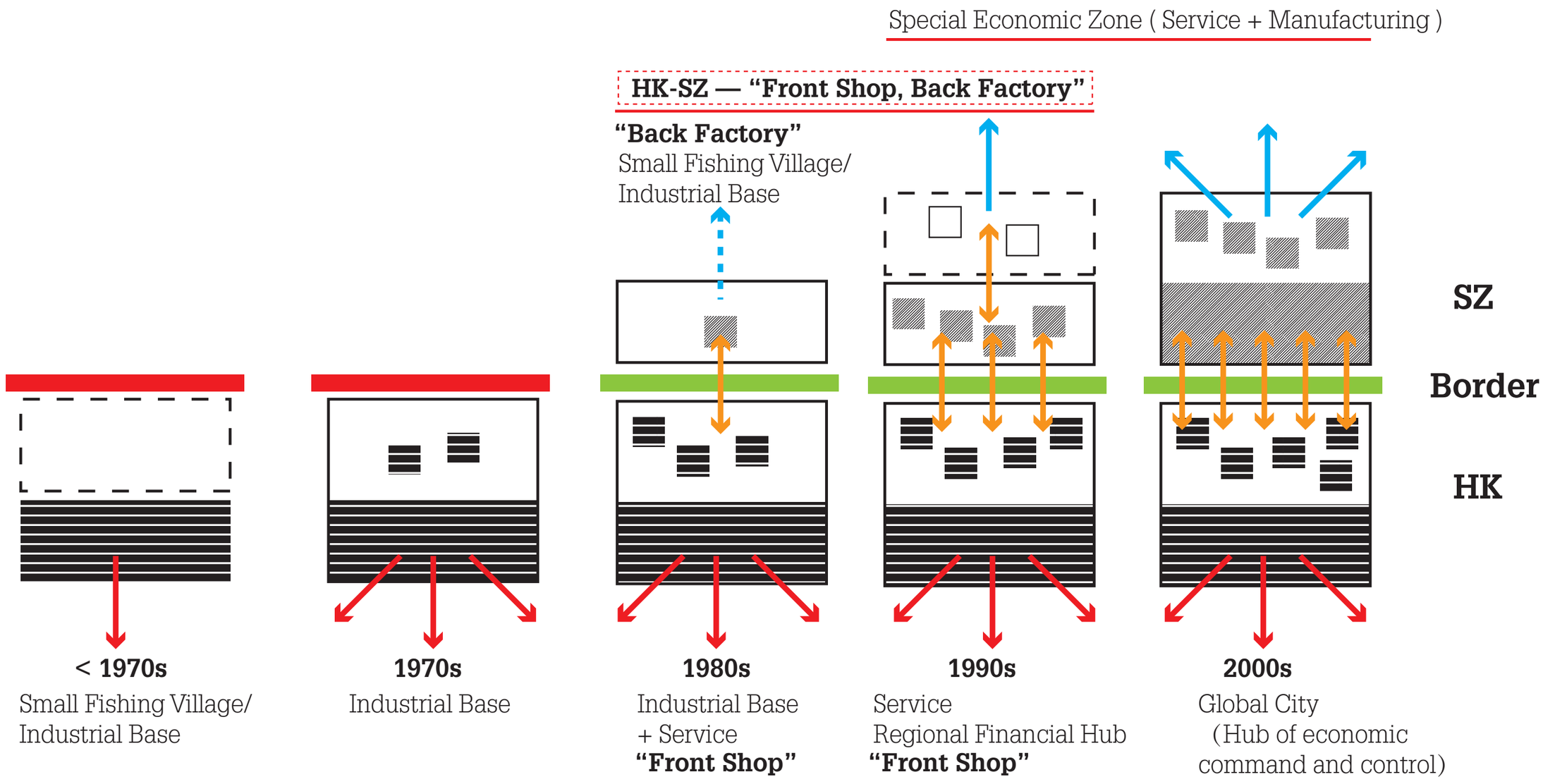
2000s

Hong Kong:
Northern New Territory:
(Gudong North
Shuangshui North
Daguling/Pingche

Shenzhen:
Luohu
Futian
Nanshan
Bao'an
Longgang

Fig. 4.24 The urbanization of Shenzhen and Hong Kong

Hong Kong & Shenzhen Relationship



Hong Kong

From a Small Fishing Village to an Industrial Center and
A Regional Financial Hub

Shenzhen

From a Sleepy Border Town to an Expanding Special Economic Zone

Fig. 4.25 The Function Diagram of Shenzhen and Hong Kong

4.1 Inevitable Urbanization and Conurbation Process
4.1.2 Economic Restructuring
2a. Hong Kong Economic Restructuring
2b. Shenzhen Economic Restructuring

2a. Hong Kong Economic Restructuring —— From Service-oriented Economy to Knowledge-based Service Economy

Hong Kong is a former British colony in China, today a Special Administrative Zone (SAR) located on the southern border of Shenzhen. In the frame of Deng Xiaoping's doctrine:" one country, two systems", Hong Kong has preserved its own economic and political systems, while the mainland China remains a socialist country, albeit with an increasingly free-market economy. Hong Kong's separate status is expected to persist next to China's socialist system for at least 50 years. Hong Kong is therefore able to maintain in its role as one of the Asia's financial centers.

Hong Kong is undoubtedly a typical world city. Academics have identified two classes of world cities. The first class has a particularly strong service sector, being major nodes of the global economy. New York, London and Tokyo are clear examples. The second class belongs to regional nodes. Hong Kong is a typical one. Hong Kong is a regional node of Asia-pacific. Among the 500 major global multinationals, 8 have their headquarters in Hong Kong. Besides, statistics show that regional headquarters located in Hong Kong has risen to 1,167 in 2005. This demonstrates the growing significance of headquarters in the Hong Kong economy.

Hong Kong is currently undergoing its third round of economic restructuring. This appears to continue the restructuring towards a service-oriented economy commenced in the 80s. Yet, major changes have already taken place.

1> The service sector has already dominated the economy.
2> Restructuring in the service sector also took place evidenced by rising knowledge-based elements and reduced contribution from property-related activities.
3> Restructuring in trade has also begun, with offshore trade gradually becoming the dominant pattern.
4> Concerning high-tech, Hong Kong is weak in development, but good in application.

In general, Hong Kong has the largest service sector among world cities. Although currently Hong Kong is not yet a knowledge-based economy, development in knowledge-based services has still been remarkable.(Bauhinia Foundation Research Centre,2007)

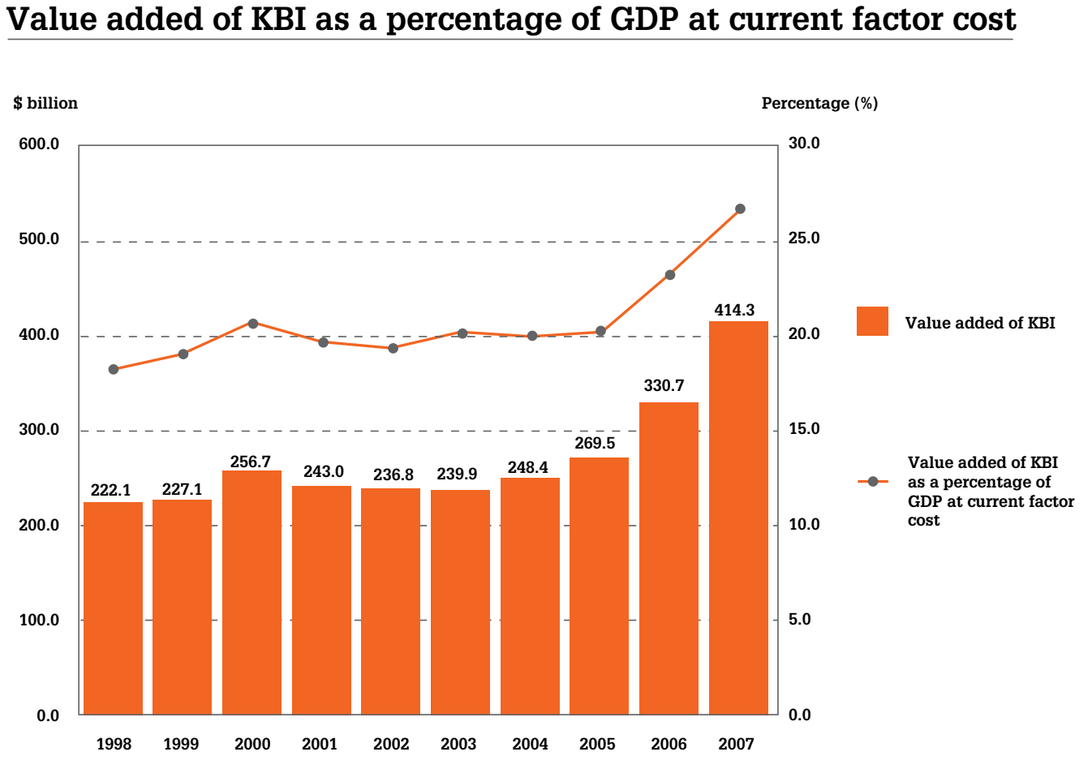


Fig. 4.26 The value added of knowledge-based industry as a percentage of Hong Kong GDP (Hong Kong Census and Statistics Department 2009)

4.1 Inevitable Urbanization and Conurbation Process

4.1.2 Economic Restructuring

2a. Hong Kong Economic Restructuring

2b. Shenzhen Economic Restructuring

2b. Shenzhen Economic Restructuring —— From Low-tech, Labor-intensive Manufacturing and Service Economy to High-end Manufacturing and Service-oriented Economy

Shenzhen is situated immediately to the north of Hong Kong. Owing to China's economic liberalization and its proximity to Hong Kong, the area became China's first—and arguably one of the most successful—Special Economic Zones (SEZ).

Shenzhen is a leading city in China for ICT industries and new business ventures. The ICT and other electronics sector dominate the local manufacturing economy. Other leading sectors include electric equipment / machinery and printing / recorded media. Shenzhen accounts for almost 20 percent of the Chinese Mainland's software output and 25 percent of its integrated circuit design business. Numerous foreign firms and leading firms from all over the Chinese Mainland have set up in Shenzhen to take advantage of the infrastructure, labor, and links to Hong Kong.

Shenzhen is also home to a number of international trade fairs and exhibitions covering a wide range of industries from nuclear power to food. Shenzhen's China High-tech Fair, the largest of its kind in China, attracts participants from around the globe. Shenzhen is home to one of two stock exchanges in the Chinese mainland and has been a leader in the opening of China's finance and insurance sectors.

The industrialization of Shenzhen is attributed to a large inflow of foreign direct investments (FDI) for low-tech, labor-intensive manufactures and service. It is also at a comparative advantage for being adjacent in proximity and culture with Hong Kong. As China further opens up to globalization, Shenzhen is recommended to reform its industrial structure from low-tech, labor-intensive manufacturing and service economy to high-end manufacturing and service-oriented economy according to the strengthening competition in world trade.

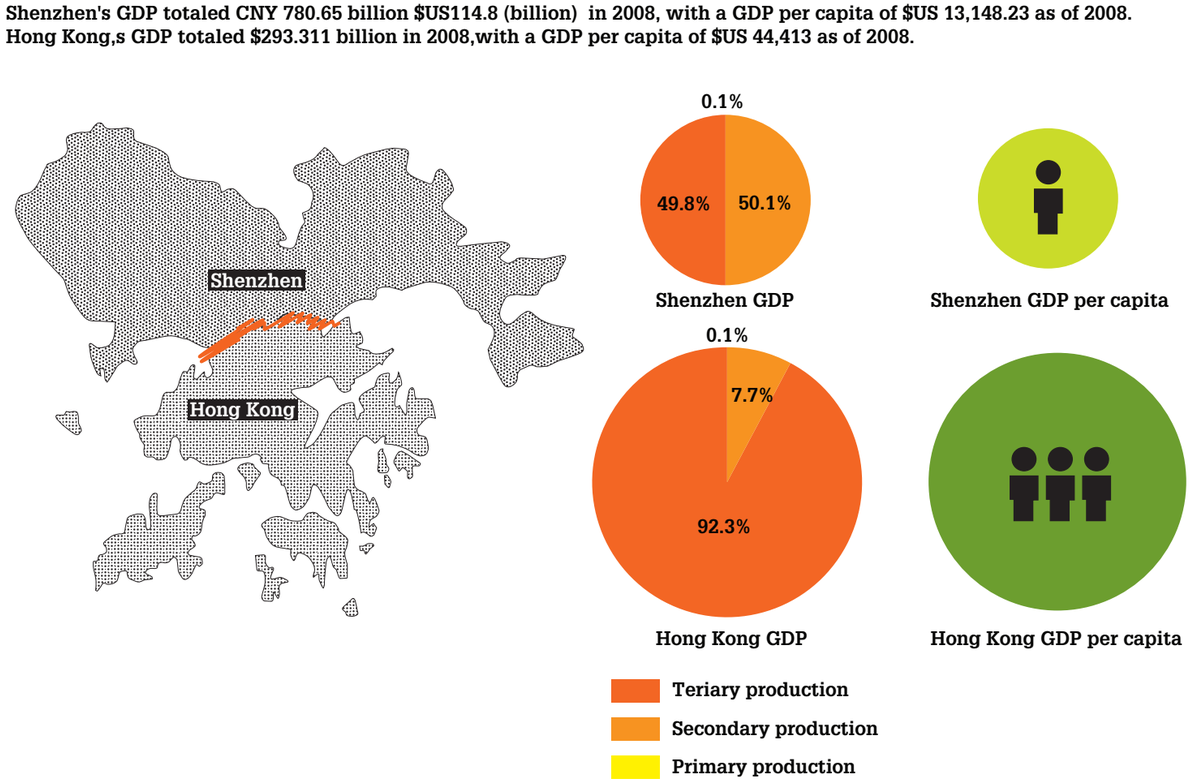


Fig. 4.27 The comparison of Shenzhen and Hong Kong GDP and per capita (Hong Kong Census and Statistics Department 2009, Shenzhen Municipal Statistics Bureau 2009)

Hong Kong - Population Aged 15 and Over by Educational Attainment (Highest Level Attended), 2006

	2006	
Educational Attainment	**Number**	**% of total**
No schooling / Pre-primary	423 310	7.1
Primary	1 084 112	18.3
Lower Secondary	1 124 583	19.0
Upper Secondary	1 579 774	26.7
Sixth Form	351 419	5.9
Post-secondary : Diploma / Certificate	212 714	3.6
Post-secondary : Sub-degree course	234 175	4.0
Post-secondary : Degree course	914 584	15.4
Total	**5 924 671**	**100.0**

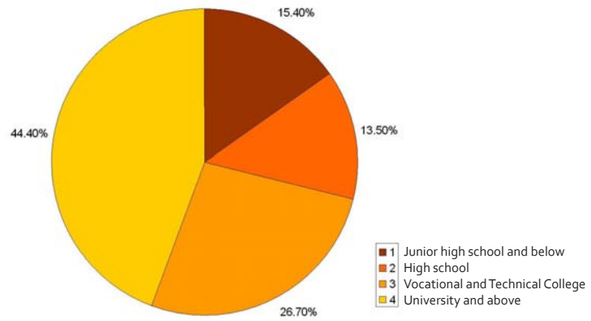
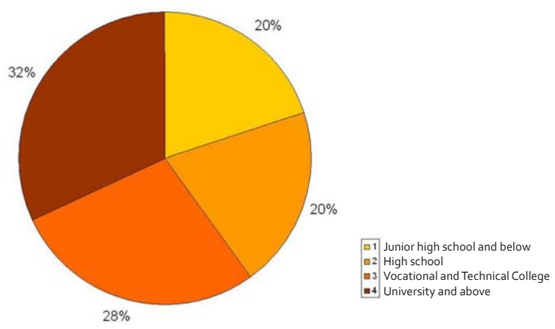


Fig. 4.28 The education level of Hong Kong people aged 15 and over (Hong Kong Census and Statistics Department 2009)

Education conditions
of the registral labor force of Shenzhen



Education conditions
of the temporary labor force of Shenzhen

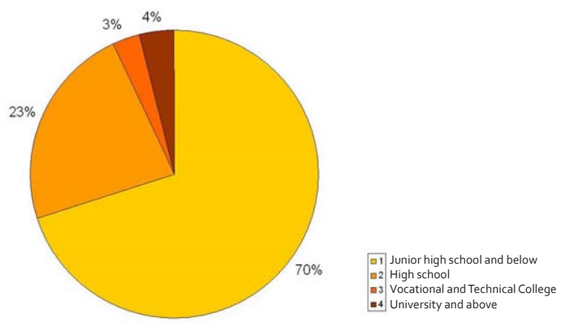
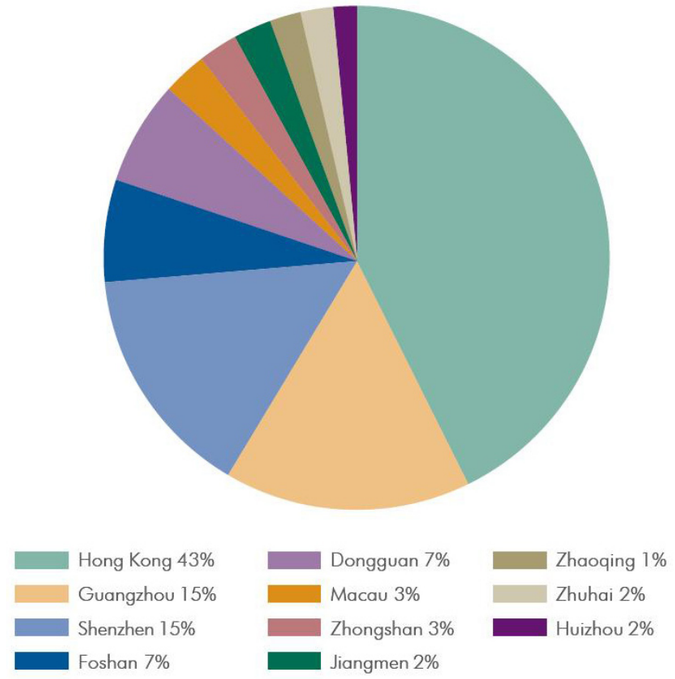


Fig. 4.29 The education level of Shenzhen registral and temporary labor force (Shenzhen Municipal Statistics Bureau 2009)

Breakdown of GDP by city in Greater PRD (2005)



Source: Guangdong, Hong Kong and Macau statistics departments, CBRE Research

Fig. 4.30 The breakdown of GDP by city in Greater PRD (2005) (CB Richard Ellis 2006)

Visible Trade between Hong Kong and the Mainland

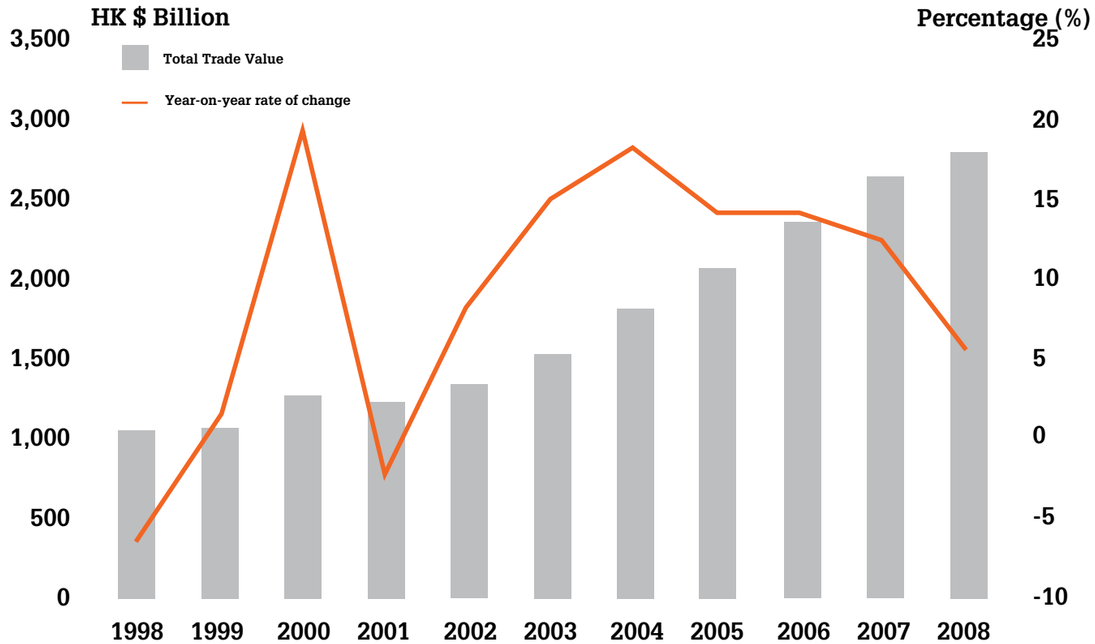


Fig. 4.31 The visible trade between Hong Kong and the Mainland
(Hong Kong Census and Statistics Department 2009)

4.1 Inevitable Urbanization and Conurbation Process

4.1.3 Cross-border Production Structure (Infrastructure and Function Centralities Network)

Shenzhen and Hong Kong has a strong economic relationship and play as an engine for the national economic growth. Because of the complementary functions they have, nowadays, they are function as a well metropolis in the global and regional competition.

Hong Kong is a global city with mature service economy. It is a regional headquarter and financial hub with international producer services, important airports, international meeting and conventions, tourism and multi-culture character. Shenzhen is a national special economic zone with service and manufacturing economy. It is a regional finance, trade and shipping centre, national high-tech industry base, modern culture industry base and national transportation and border crossing.

Hong Kong has an external radiating power to the global market and Shenzhen has an internal radiating power to the domestic market.

Flow of Goods

Trade with Hong Kong in 2006 consisted of US$333 billion of imports of which US$298 billion were re-exported. Of these figures 94 percent were associated with China. Considering that 34.5 percent of the value of Hong Kong trade is air freight (only 1.3 percent by weight), a large proportion of this is associated with China as well.

In 2006, there were around 20,500 daily vehicular crossings of the boundary in each direction.Of these 65 percent were cargo vehicles, 27 percent cars and the remainder buses and coaches. The Huanggang crossing point was most heavily used at 76 percent of the total, followed by the Futian crossing at 18 percent and Shatoujiao at 6 percent. Of the cargo vehicles, 12,000 per day were container carrying and, using a rate of 1.44 teus/vehicle, this results in 17,000 teus/day across the boundary, while Hong Kong port handled 23,000 teus/day during 2006, excluding transshipment trade. (Bauhinia Foundation Research Centre 2007)

Flow of Service

Apart from the business and family trips, many visitors come from Hong Kong to Shenzhen for the shopping, where goods and services are assumed cheaper than those in Hong Kong. The other reasons for Hong Kong tourists to visit Shenzhen are the restaurants from many provinces, usually at a cost of one quarter that of Hong Kong, and the genuine massage and beauty parlors at about one tenth the cost of Hong Kong. (Bauhinia Foundation Research Centre 2007)

For more details please see the maps and figures.

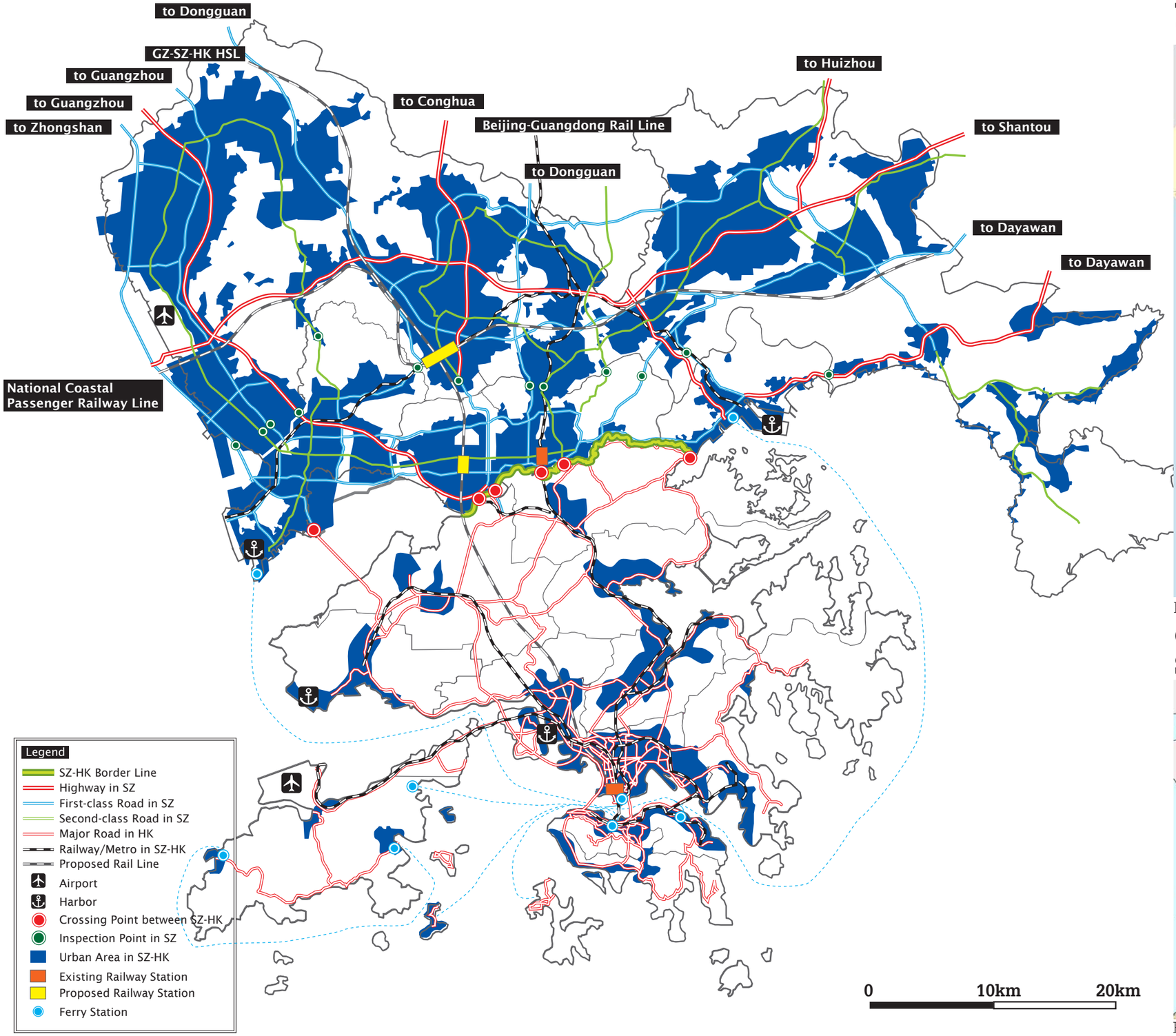


Fig. 4.32 the infrastructure network of Shenzhen and Hong Kong

SZ-HK Physical Network in 2030:
"SZ-HK 1 hour Metropolitan Life Circle"

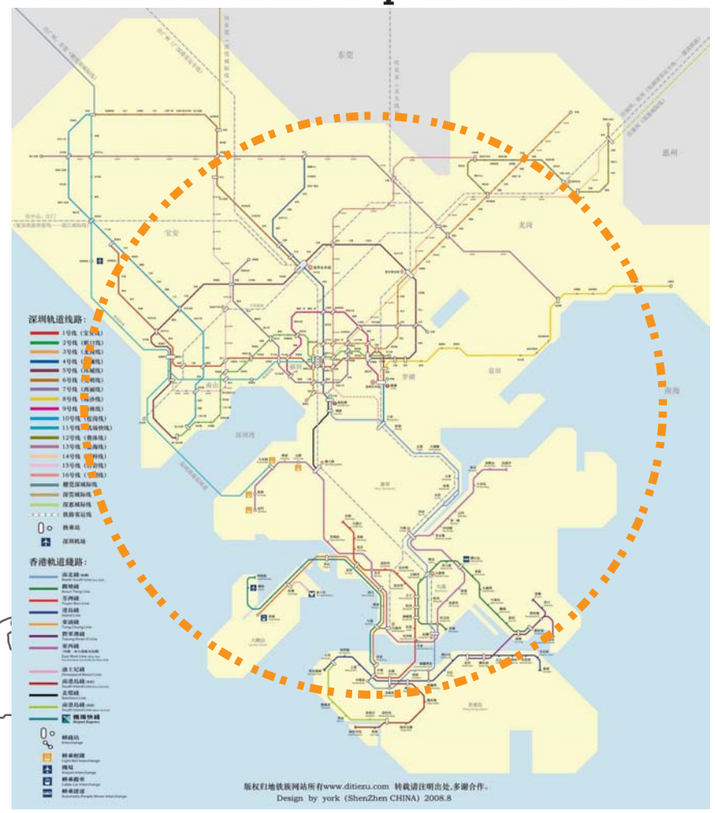


Fig. 4.33 Shenzhen Hong Kong metro network in 2030 (Ditiezu 2008)

GZ-SZ-HK High-speed Rail (under construction)
SZ CBD -HK CBD only 14 mins

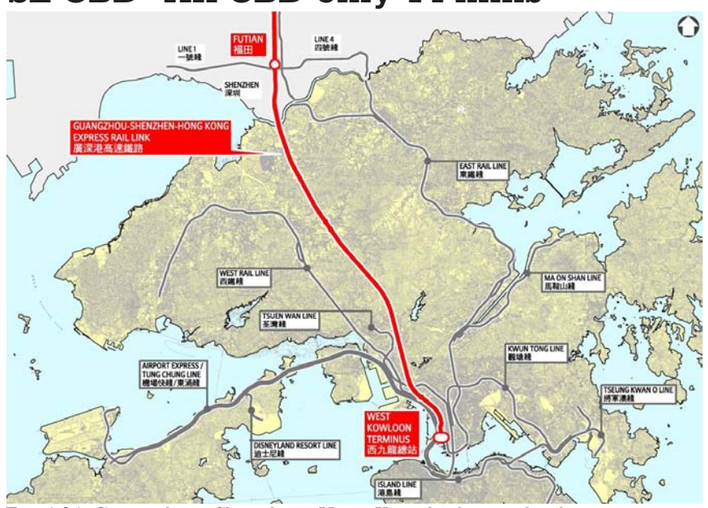


Fig. 4.34 Guangzhou- Shenzhen- Hong Kong high speed rail (MTR Cooperation Limited 2009)

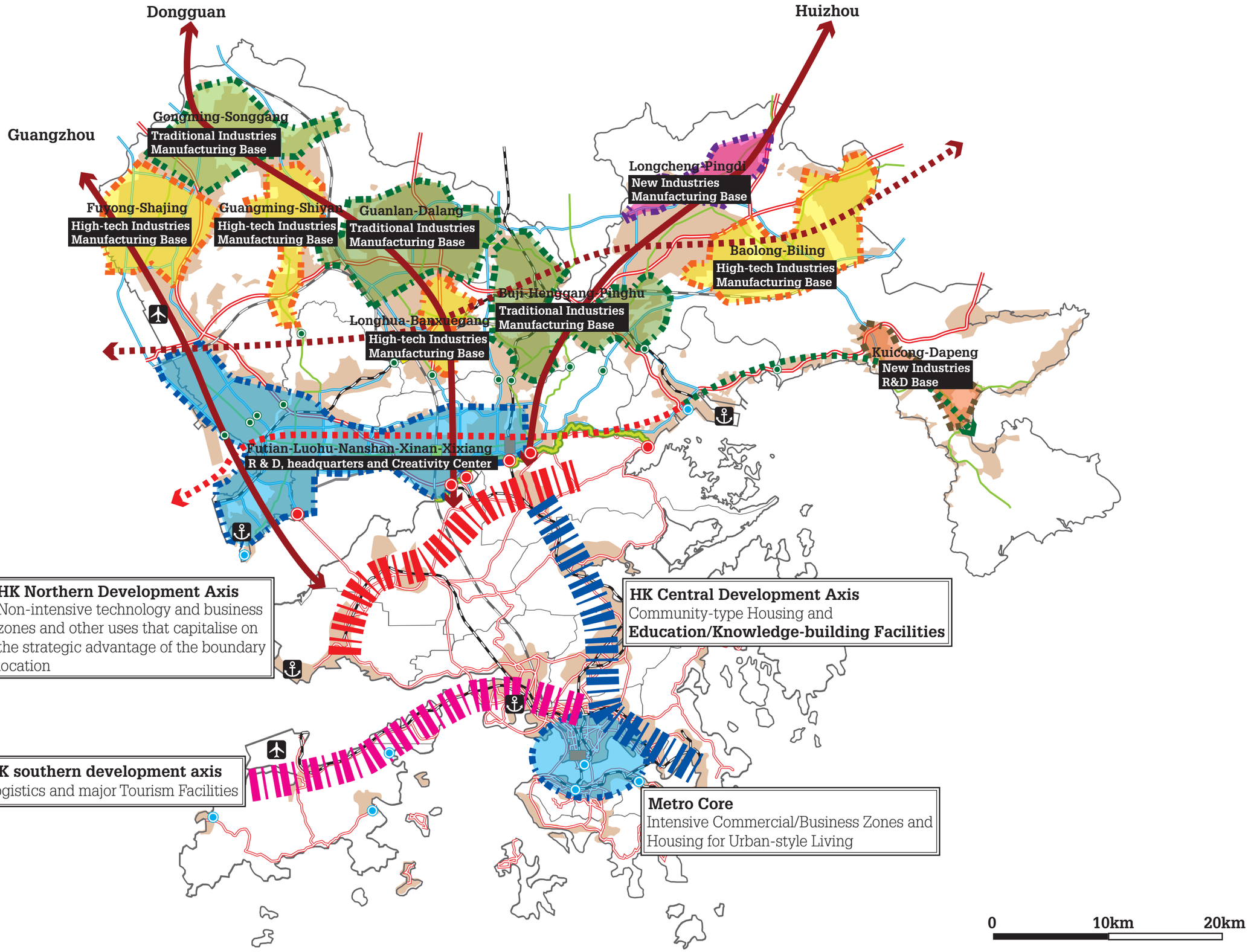


Fig. 4.35 the function network of Shenzhen and Hong Kong 1

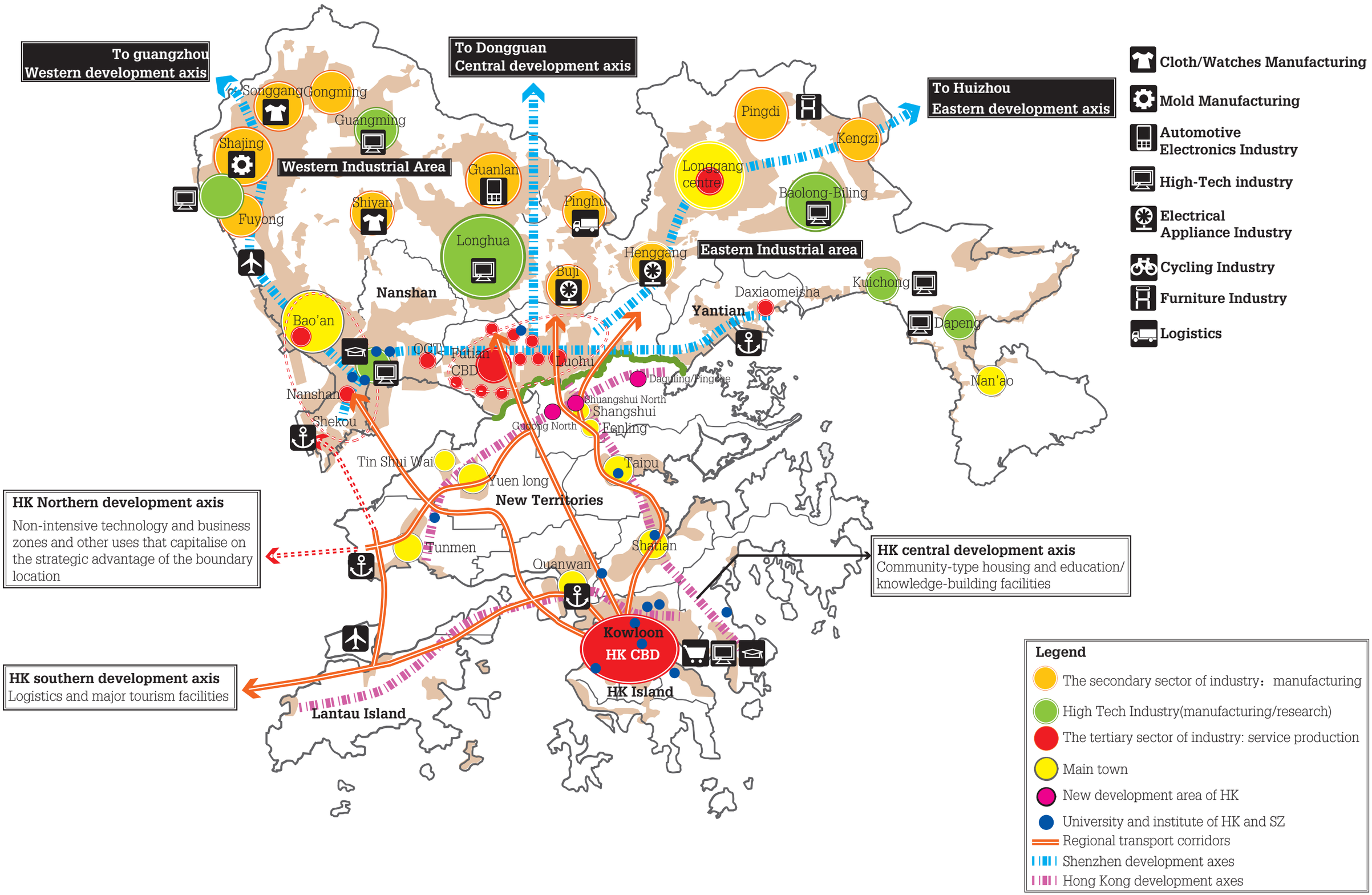


Fig. 4.36 the function network of Shenzhen and Hong Kong 2

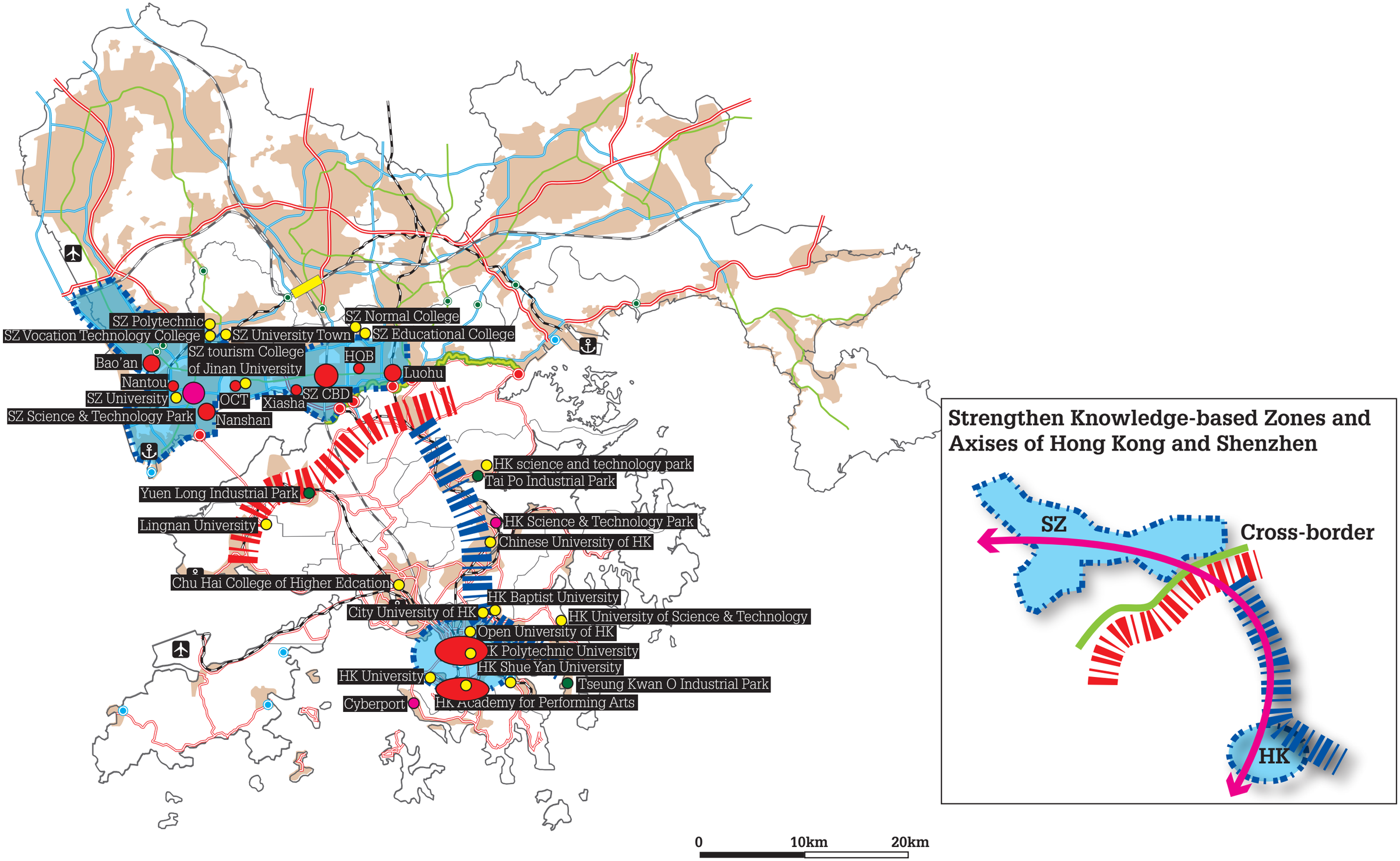


Fig. 4.37 Strengthen the Knowledge corridor of Hong Kong and Shenzhen

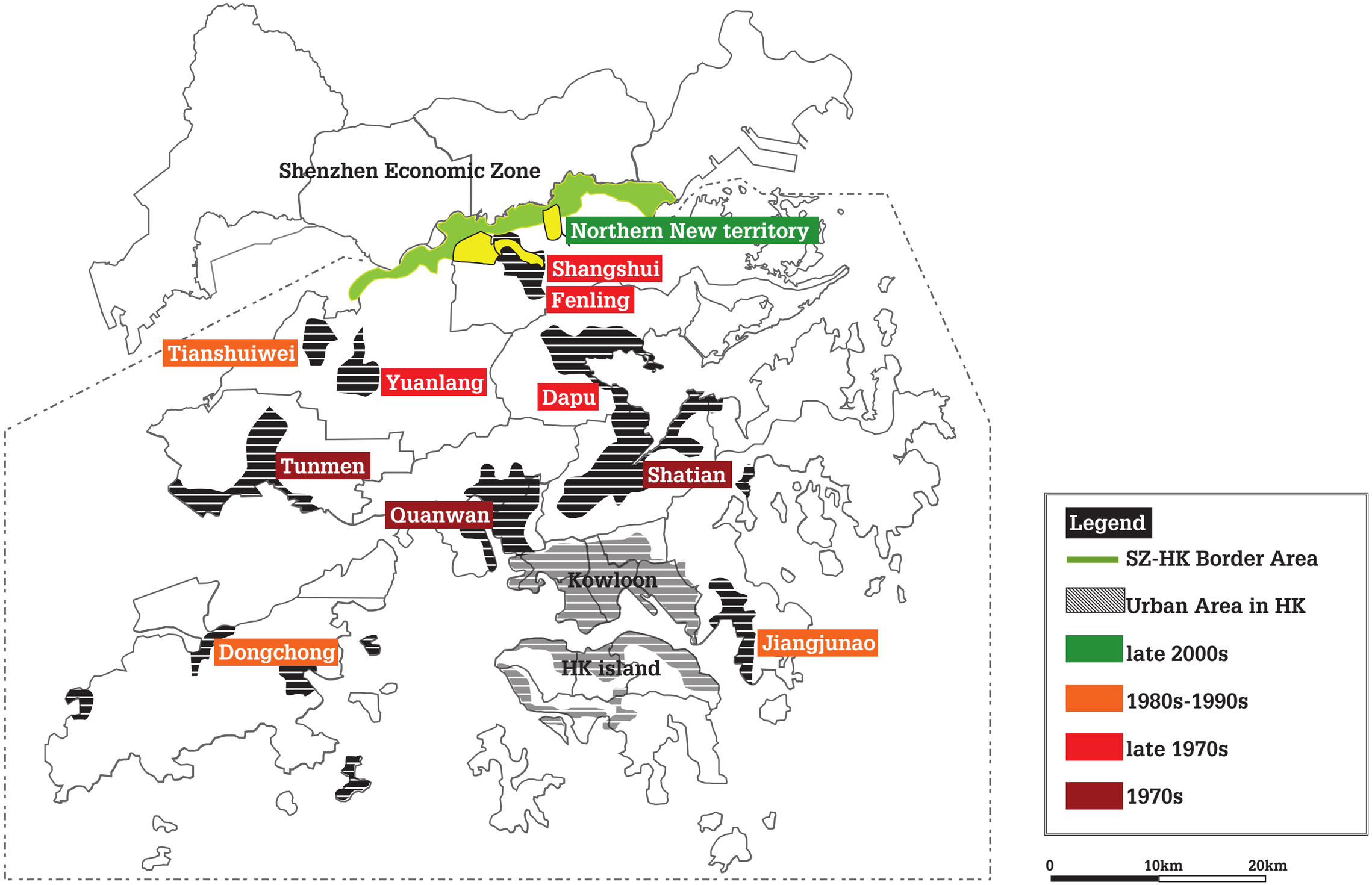
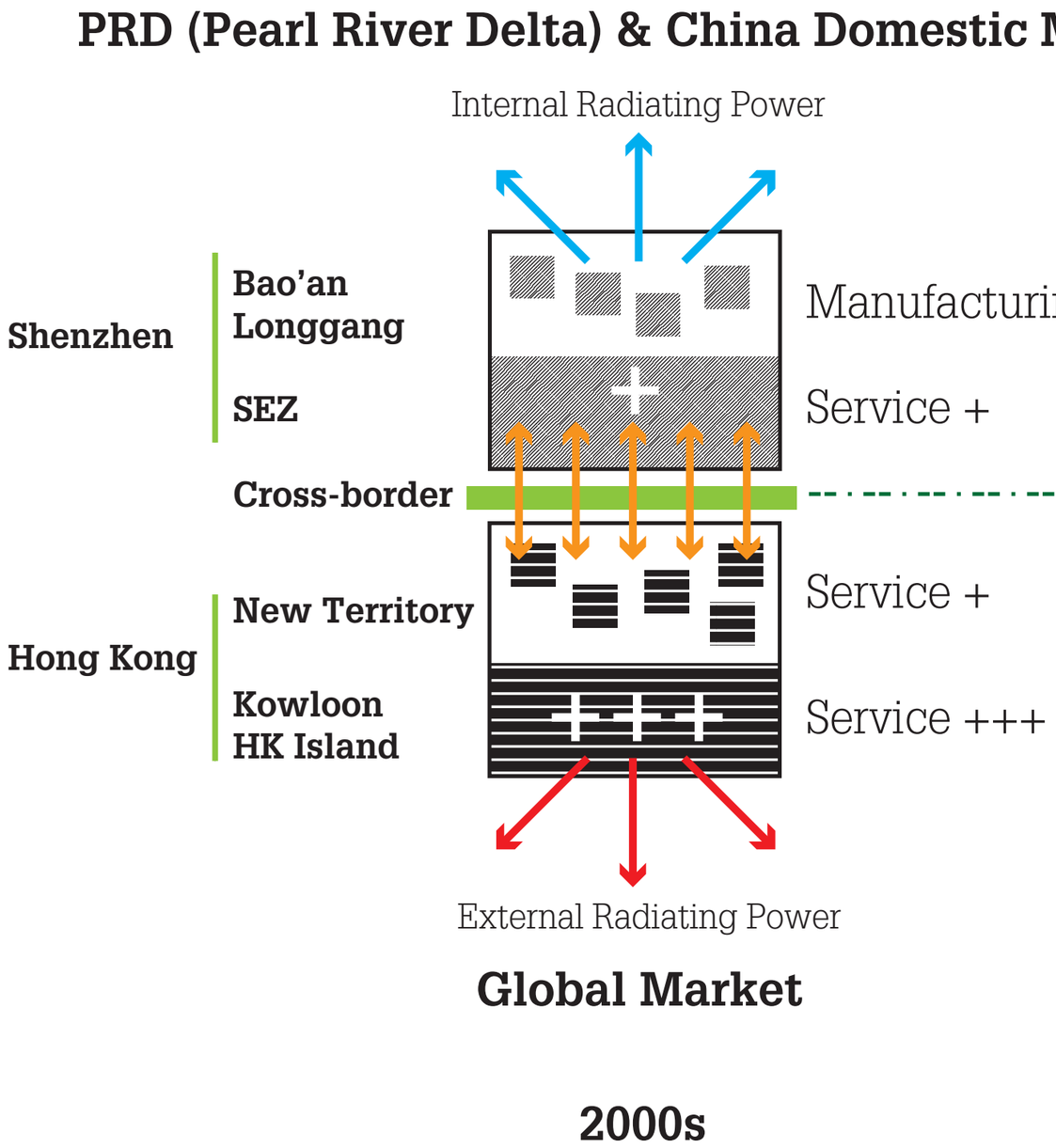


Fig. 4.38 New development area of Hong Kong near the cross-border

Function Diagram of Hong Kong & Shenzhen



Shenzhen as a National Special Economic Zone

From Low-tech, Labor-intensive
Manufacturing and Service
Economy to High-end Manufacturing
and Service-oriented Economy

Redefine the Cross-border position

Cross-border condition:
(potentials and restrictions:
Pressure from Urbanization and Nature)
Integration with SZ and HK

Hong Kong as a Global City

from service-oriented economy to
knowledge-based service economy

Fig. 4.39 the function diagram of Shenzhen and Hong Kong

4.1 Inevitable Urbanization and Conurbation Process

4.1.4 Demographic Structure (Density/Flow of people)

Flow of People

As of December 2007, there are six land crossing points on the boundary between Shenzhen and Hong Kong. From east to west these are Shatoujiao, Wenjindu, Luohu, Huanggang, Futian and Shenzhen Bay.

in 2006 the average daily passenger flow through the four connections open at that time was over 200,000 in each direction of which 63 percent used the Luohu rail connection and 33 percent the Huanggang road connection.As a point of comparison, Hong Kong's Chek Lap Kok Airport, the 5th busiest international airport in the World, handled 59,000 passengers per day in each direction.

Hong Kong conducts regular surveys of cross-boundary passenger movements. In 2003 the boundary crossings for Hong Kong Residents living in Hong Kong made 78 percent of the trips, up by 33 percent from 1999, whereas Hong Kong and Chinese residents of China made up 20 percent in 2006, an increase of 140 percent above the 1999 figure. Since that time movement has been made much easier for China residents, and so that group have probably increased further yet. Other nationalities made up 2 percent of boundary crossings.

Of these trips 67 percent were associated with Shenzhen and 42 percent were for business or work purposes. Of the non-business trips about one third were to visit friends and relatives and the remainder for leisure.(Hong Kong Planning Department 2008)

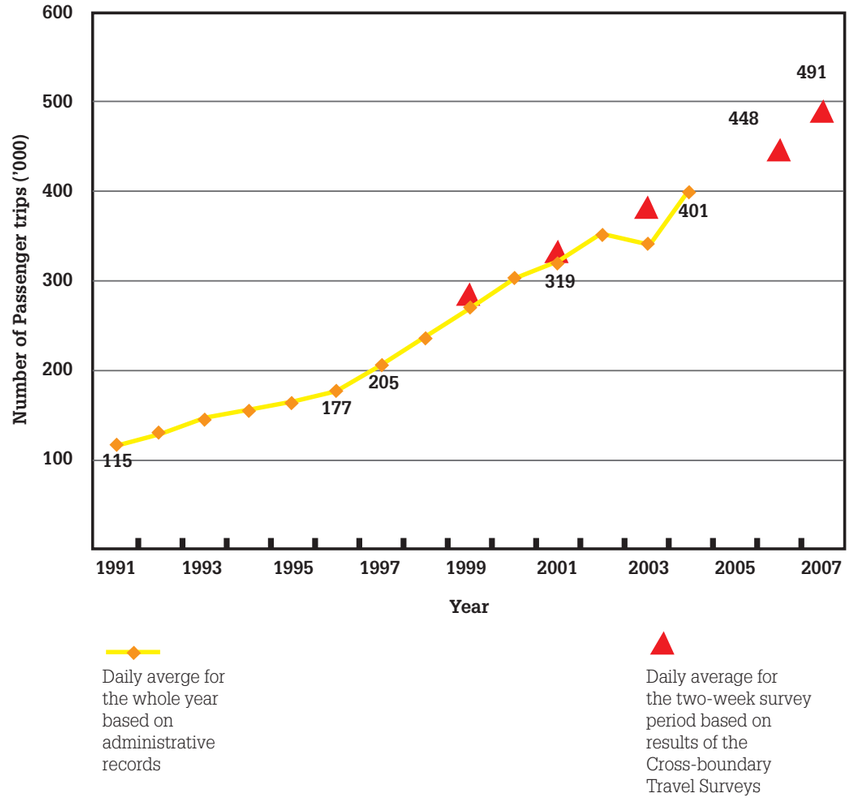
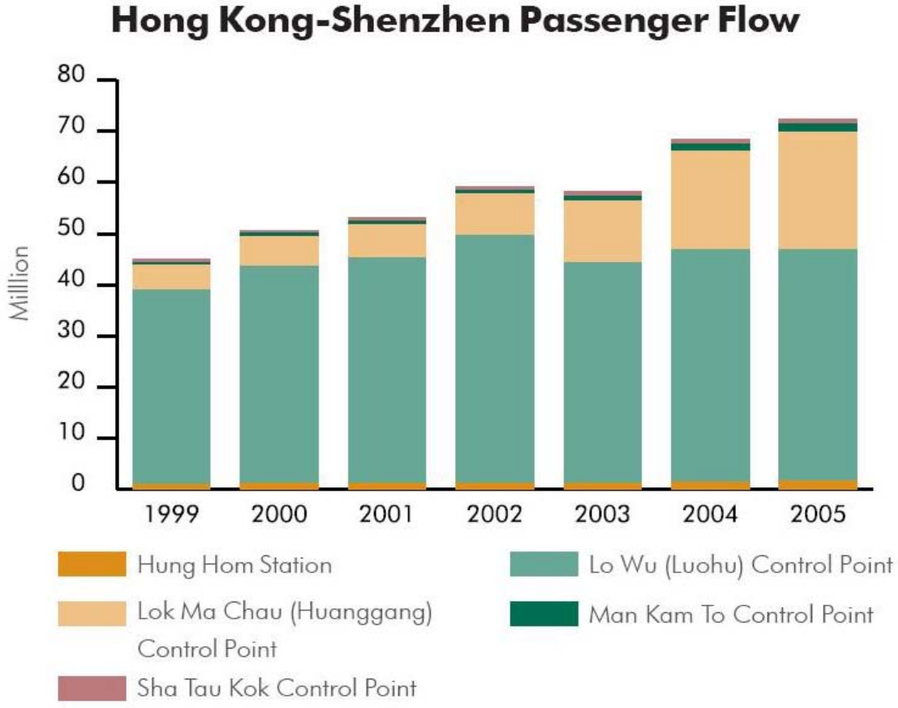


Fig. 4.40 the number of passenger trips in the border crossing points between Shenzhen and Hong Kong

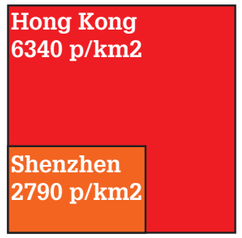


Source: Hong Kong Statistics Department

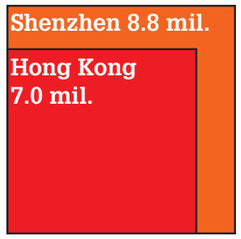
Fig. 4.41 Hong Kong - Shenzhen Passenger flow in different border crossing points (CB Richard Ellis 2006)

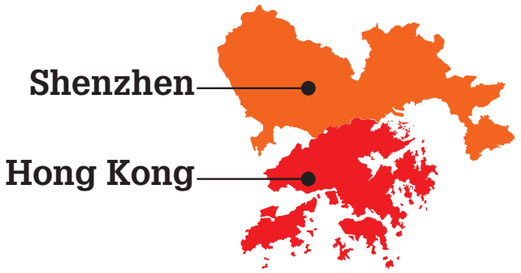
Demography of Shenzhen & Hong Kong

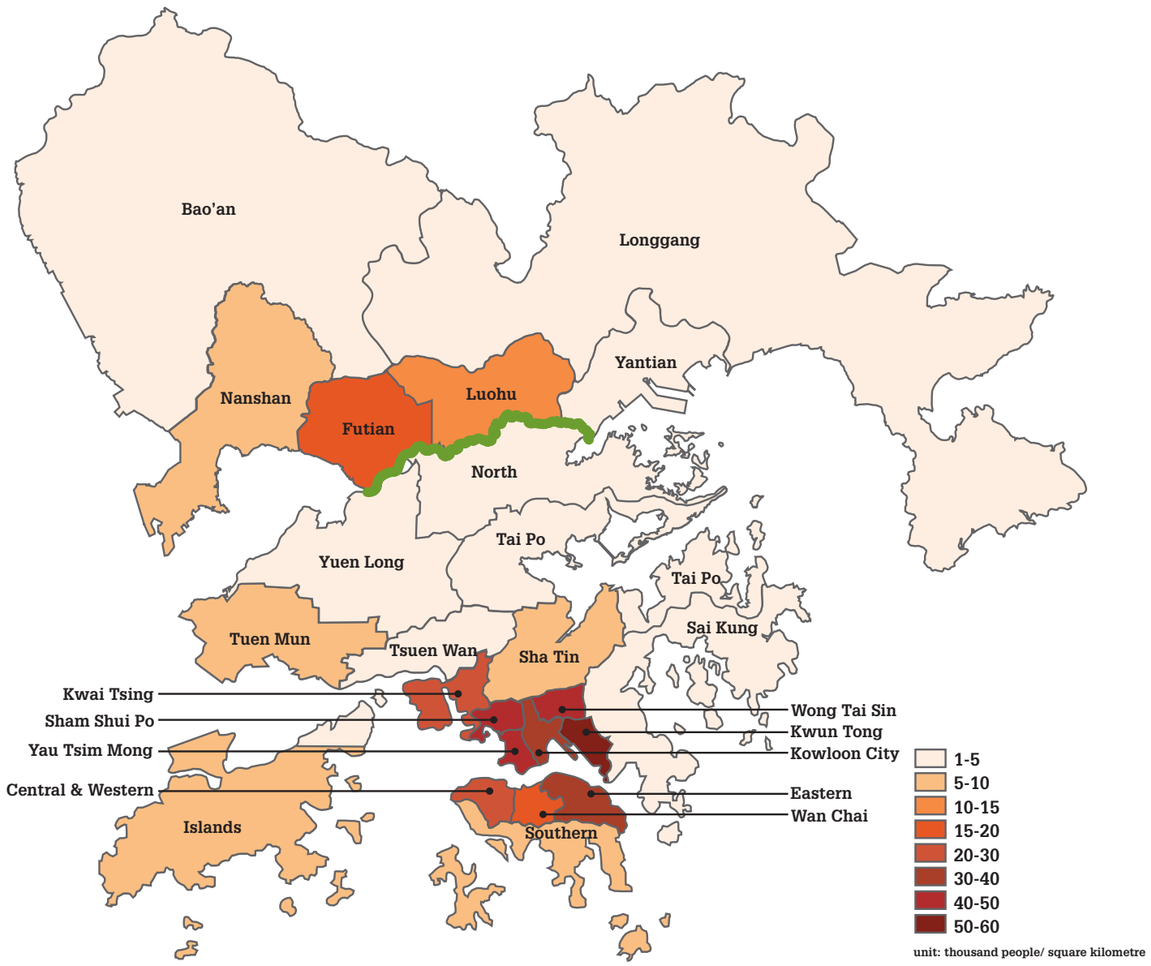
City Densities



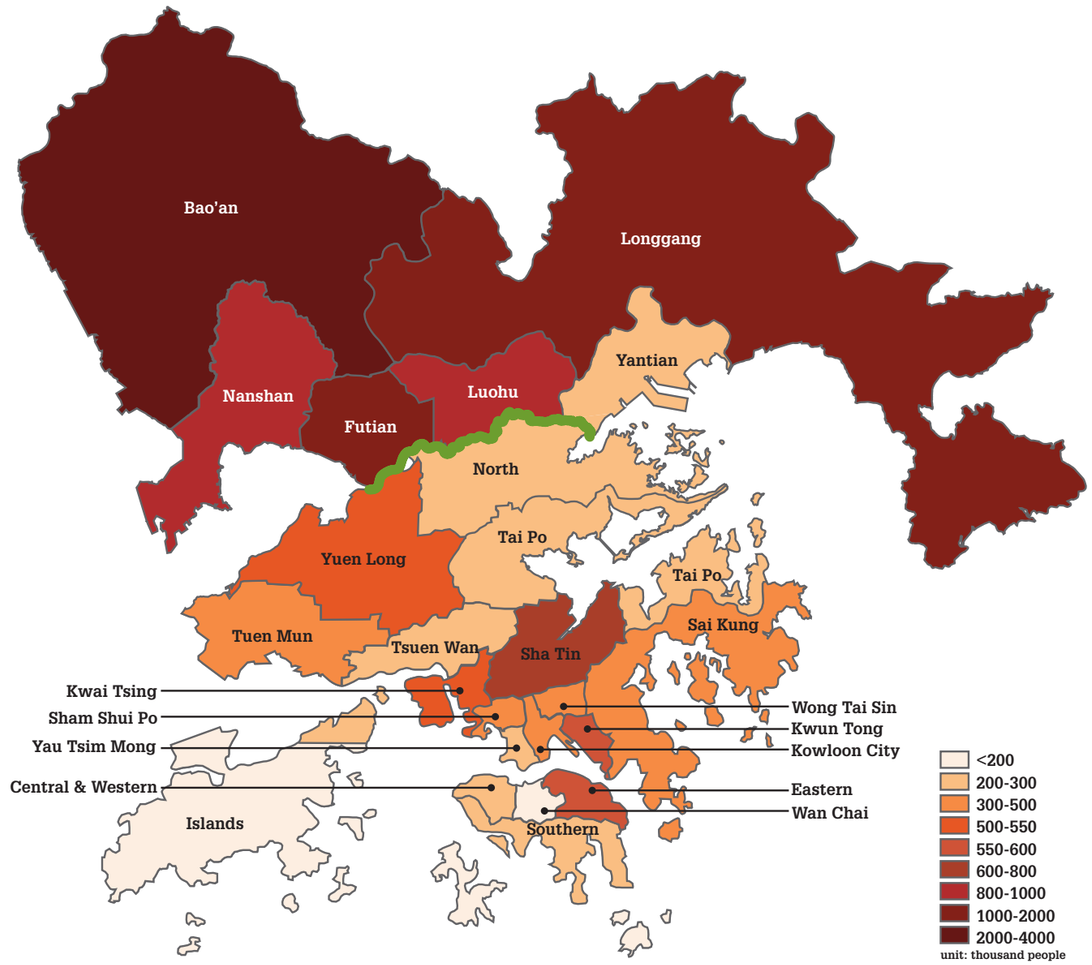
City Populations







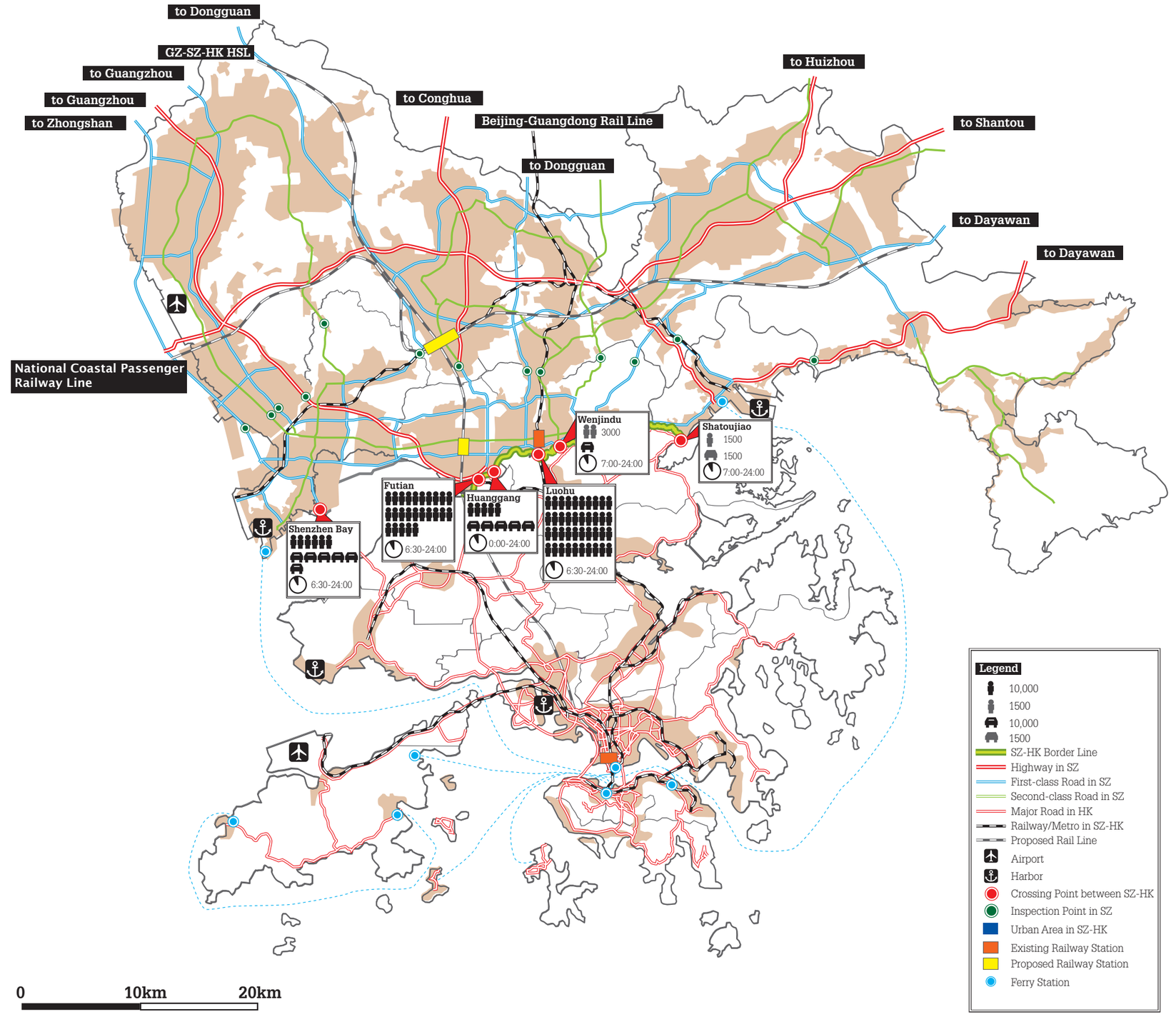
Population Density of Shenzhen & Hong Kong(2008)

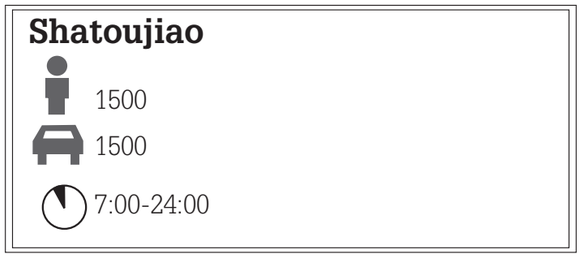


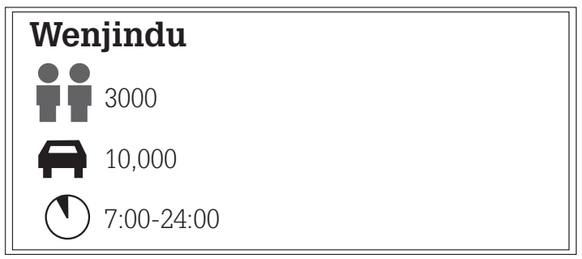
Population Number of Shenzhen & Hong Kong(2008)

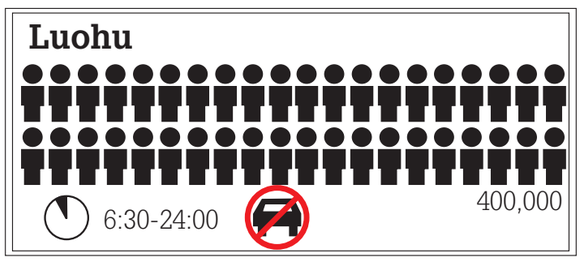
Fig. 4.42 Demography of Shenzhen and Hong Kong (Hong Kong Census and Statistics Department 2009, Shenzhen Municipal Statistics Bureau 2009)

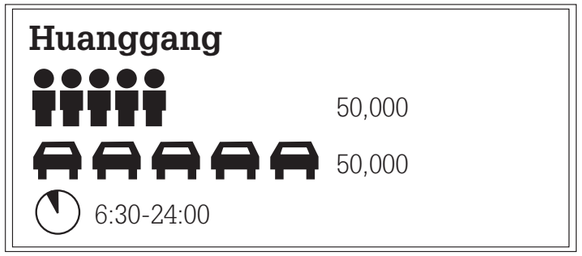
Border-crossing Points of Shenzhen & Hong Kong

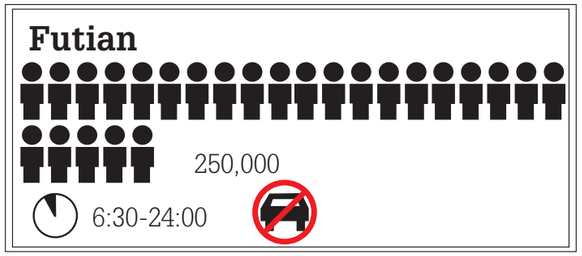












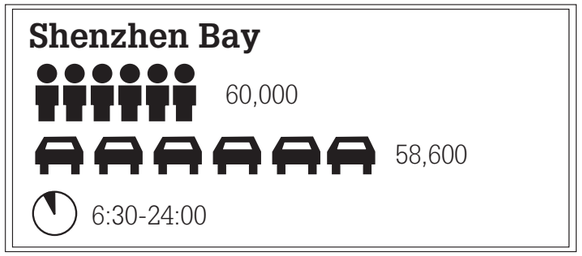


Fig. 4.43 Border-crossing points and daily average passenger number between Shenzhen and Hong Kong (Numbers from Shenzhen Port Office 2009)

4.2 Vanishing Landscape and Cultural Assets Identity

4.2.1 Green and Water Network
4.2.2 Recreation Value

The beauty and the value of landscape is gradually vanishing around the cities where are under highly inevitable urbanization today in Shenzhen and Hong Kong.

After the World War II, the urbanization rate of Hong Kong is extremely high during the 1960s and 1990s accompanied by the global trends. The rapid population growth, industrialization and the migration were the main phenomenon in this period. The rapid urbanization not only transformed the geographical landscape, but also serious influenced the ecosystem when people hadn't been aware of its importance. With the shrinking agricultural economy and the booming industrialization, the value of landscape disappeared unconsciously among the people during the rapid economic growth period.

Shenzhen is under dramatically urbanization from the launch of the China Open Door policy in 1978. The shrinking agricultural economy, the booming industrialization and the young generation from mainland to the special economic zone, the value of landscape also disappeared unconsciously during the rapid economic growth period in the past 30 years.

Behind this landscape value, it was not only influenced by the households, but also can be found the reflections behind the urban planning process by municipal government.

For more details please see the maps and figures.

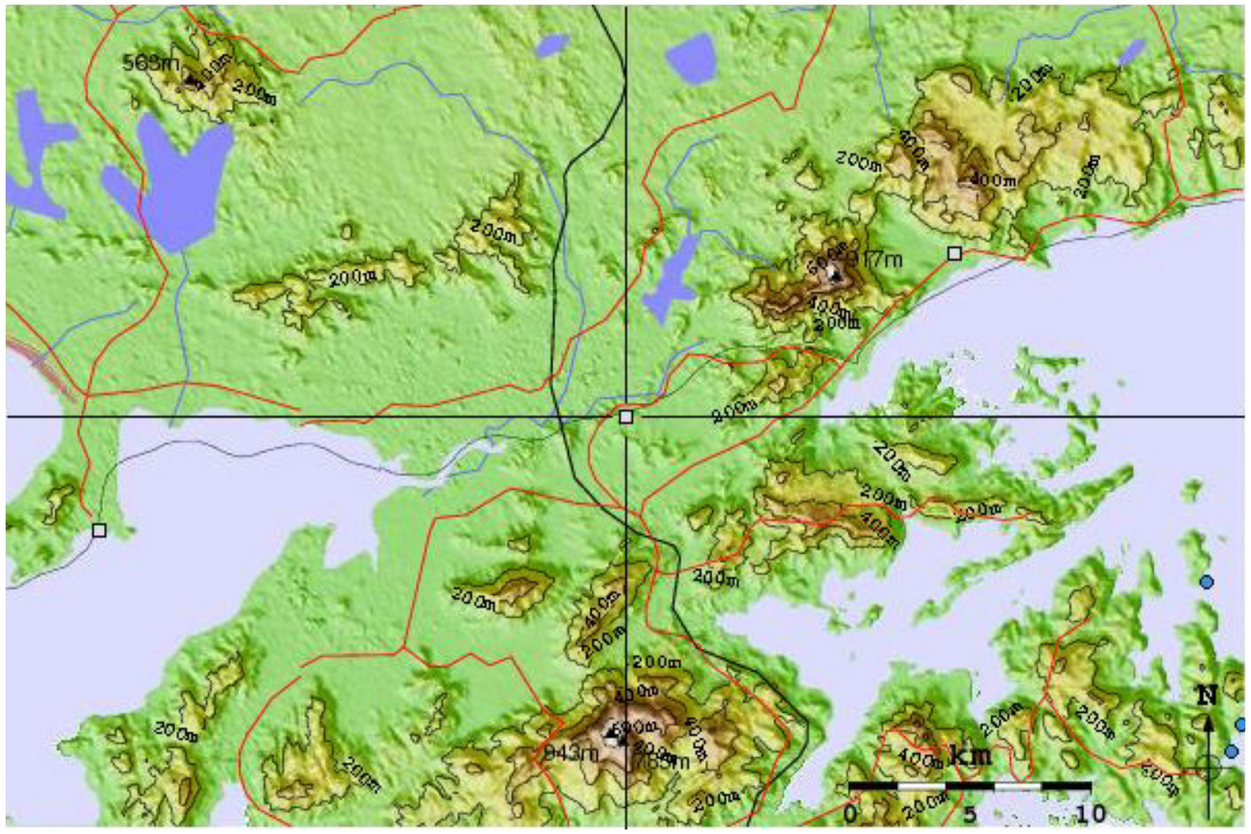


Fig. 4.43 Topographic map of Shenzhen and Hong Kong(weather-forecast.com Ltd 2010)

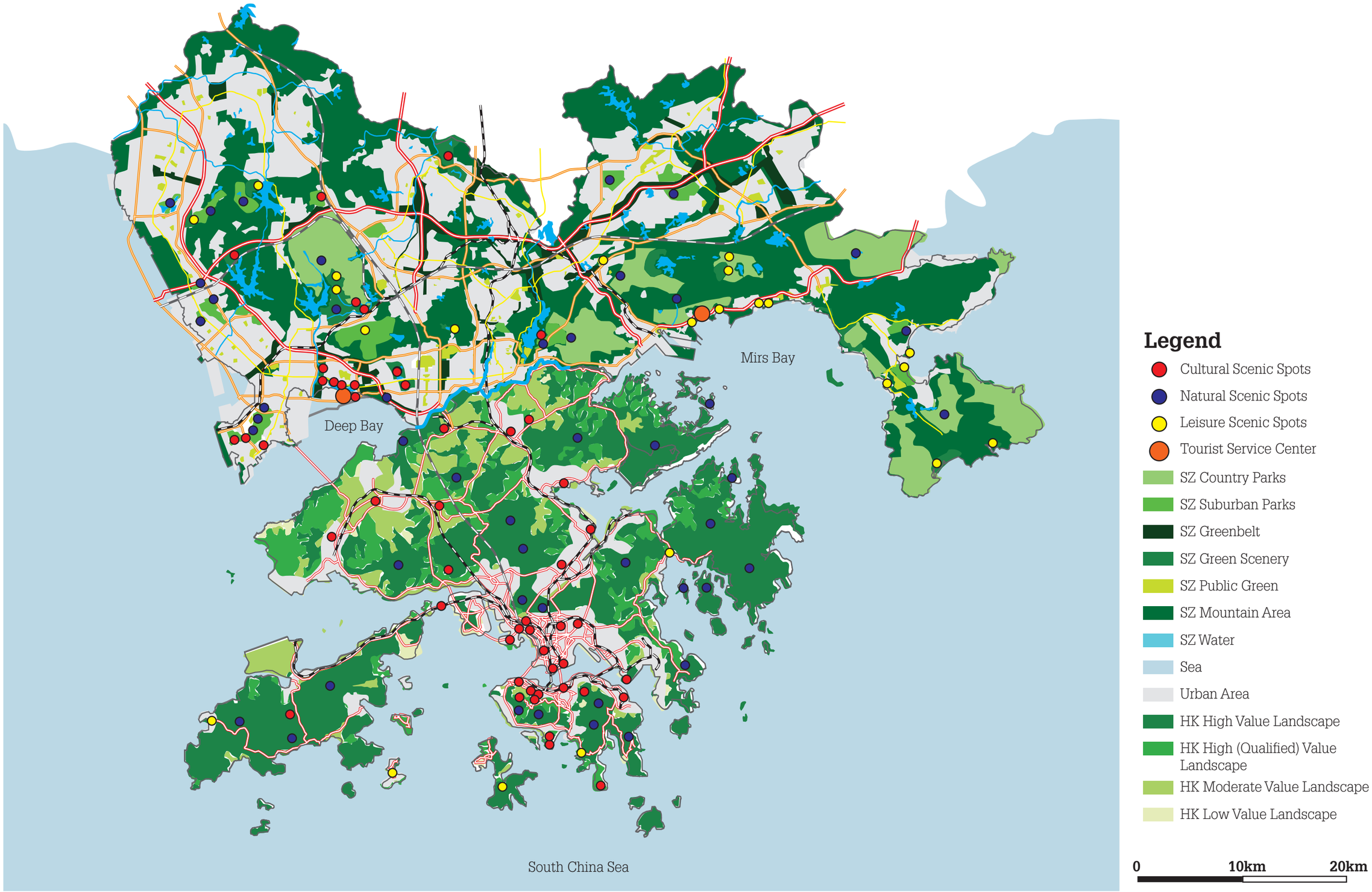
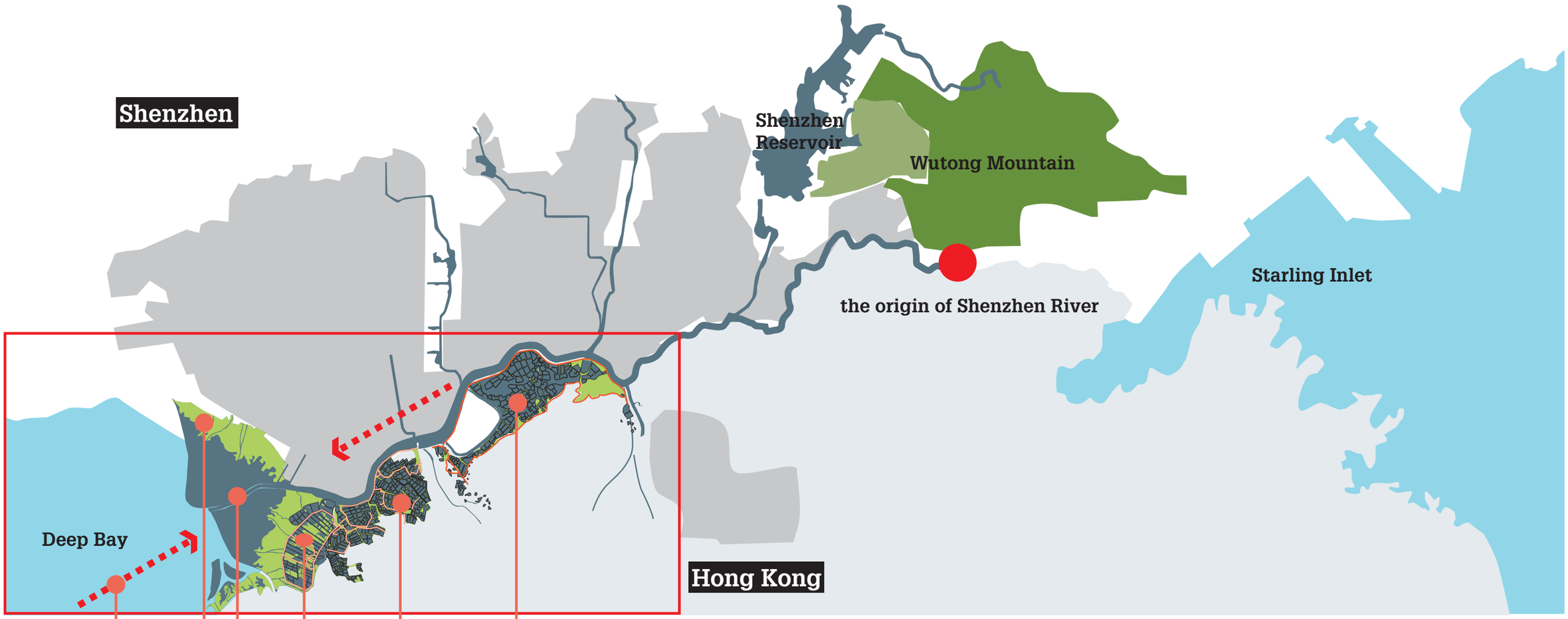


Fig. 4.44 Green, Water and Recreation network of Shenzhen and Hong Kong

Shenzhen River



The landscape type of this area are ponds, which cultivate mangroves, reeds and other natural ecosystems. They provides habitats for the birds (migratory and resident birds).

Artificial ecosystem includes farmland with dykes and paddy fields .

0 1km 5km

Fig. 4.45 Shenzhen River

4.2.3 Flooding Risky Area

The Shenzhen River separates Hong Kong and Shenzhen. Shenzhen and Hong Kong is on the common track of tropical cyclones and can experience very heavy rainstorms at times. The annual average rainfall is about 2200 millimeters, one of the highest among the cities in the Pacific Rim. During these rainstorms, flooding in the rural low-lying areas and natural flood-plains in the northern part of the territory and in parts of the older urban areas will not be uncommon. To quote an example, the heavy rain brought about by Typhoon Dot in 1993 flooded over 1,000 hectares of land.

Extensive flooding in Shenzhen River and Ma Tso Lung areas, Sheung Shui, during Typhoon Dot in 1993

Fig. 4.46 Flooding of Shenzhen River in 1993 (Hong Kong Drainage Services Department 2009)

Over the years, intensive development associated with urban development has taken place in the flood-plains. This has turned large areas of natural ground into hard paved areas and rainwater, which formerly was retained, now quickly becomes surface flows. The extension of built-up areas in close proximity to the major watercourses has also reduced their flood carrying capacity and has further aggravated the flooding problem.(Hong Kong Drainage Services Department 2009)

The completed Shenzhen River Regulation Project Stages I & II

Fig. 4.47 Shenzhen River Regulation project in 2002 (Hong Kong Drainage Services Department 2009)

4.3 Missing Link in two Governances and New Urban Model

4.3.1 Two Municipal Visions
4.3.2 New Urban Model

Future integration plans

In Section of the policy address on 10 October 2007, Hong Kong Chief Executive stated: Jointly developing a world-class metropolis with Shenzhen: "In my Election Platform, I have put forward the vision of developing the Hong Kong-Shenzhen metropolis and undertaken to strengthen our cooperation. My proposals met with positive responses from the Shenzhen authorities. We share a common goal and have had some preliminary exchange of views. Currently, we are discussing airport collaboration and the development of the Hetao area."

On 21 November 2007, the Shenzhen Government officially endorsed this policy and included it in the Shenzhen planning blueprint for the period up to 2020. It was announced that Shenzhen mayor would visit Hong Kong in December 2007 to sign a metropolis agreement with the SAR government.

The plans were originally detailed by the Hong Kong non-governmental think tank, Bauhinia Research Foundation in August 2007, and covered such matters as financial services, hi-tech and high-end research and development, transport, environmental matters and ecology. It was claimed that Shenzhen-Hong Kong could be the third largest metropolis in the world in GDP terms by 2020, only behind New York City and Tokyo. The plan was also endorsed by the China Development Institute, a Shenzhen-based non-government think tank. (Hong Kong Planning Department 2007, Shenzhen Urban Planning and Land Resources Committee 2005,2007)

Pearl River Delta Spatial Structure Development Plan(2007-2020)

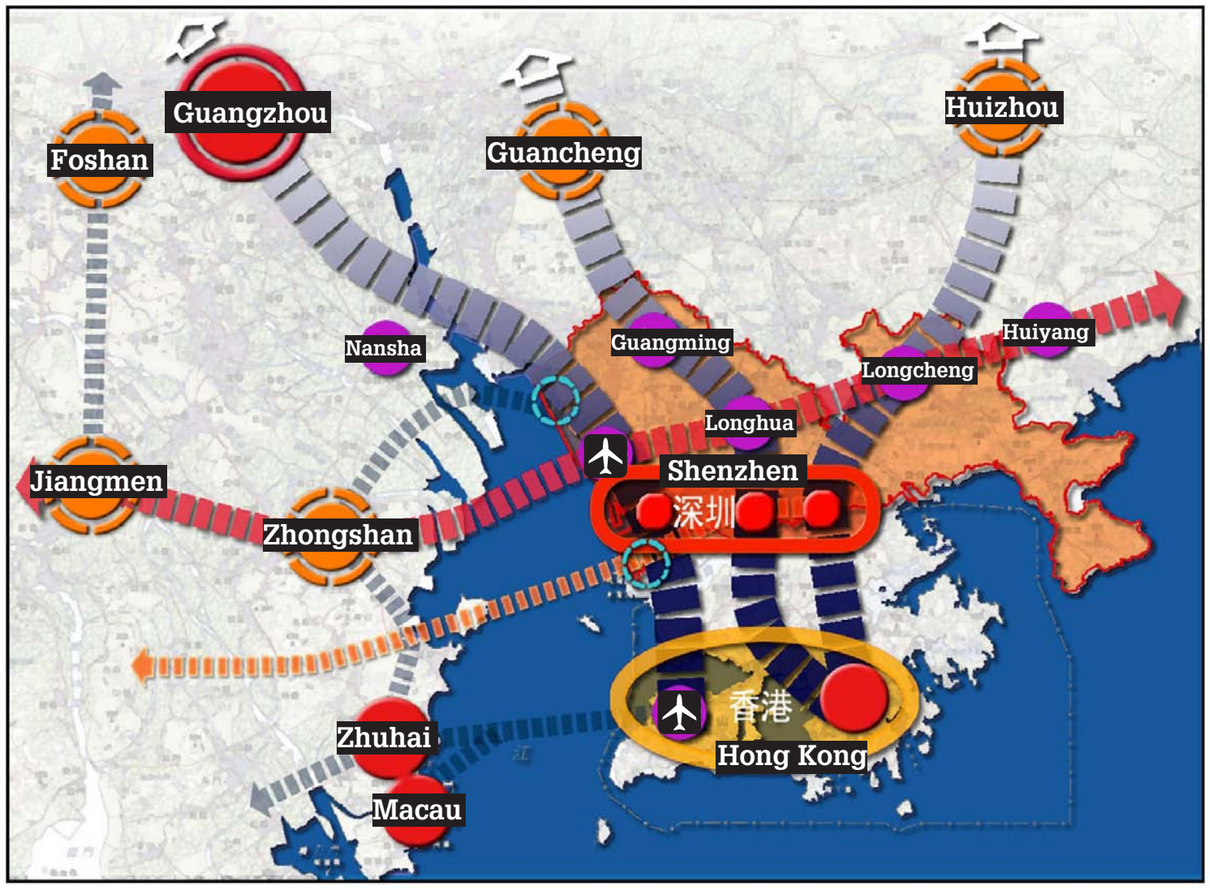


Fig. 4.48 Pearl River Delta spatial structure development plan (2007-2020) (Shenzhen Urban Planning and Land Resources Committee 2007)

Hong Kong 2030

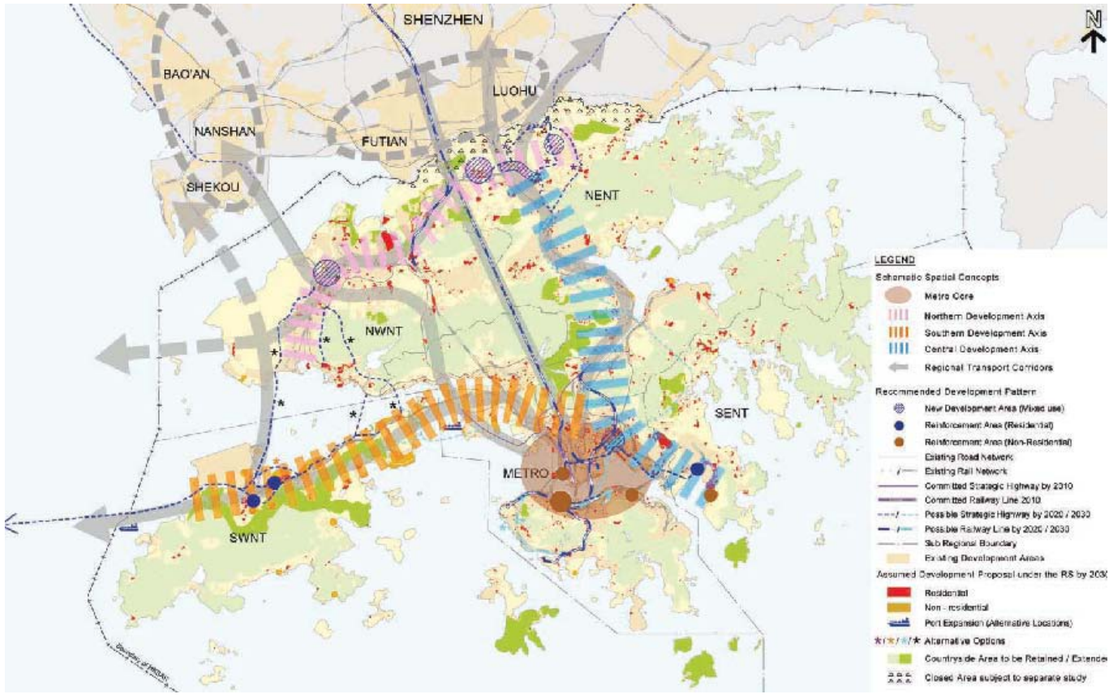


Fig. 4.49 Cooperation with Shenzhen in Hong Kong 2030 (Hong Kong Planning Department 2007)

Shenzhen 2030

Fig. 4.51 Cooperation with Hong Kong in Shenzhen 2030 (Shenzhen Urban Planning and Land Resources Committee 2005)

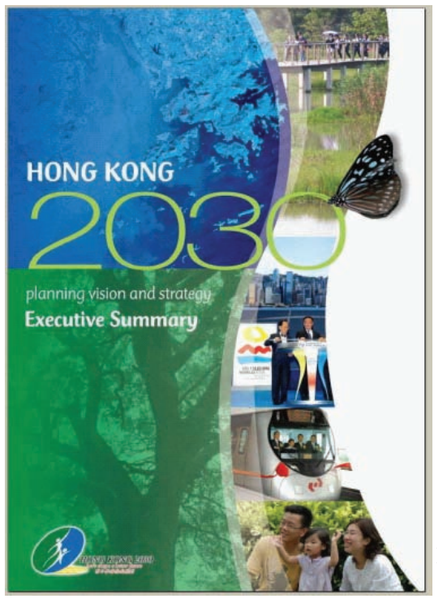


Fig. 4.50 Cover of Hong Kong 2030 (Hong Kong Planning Department 2007)

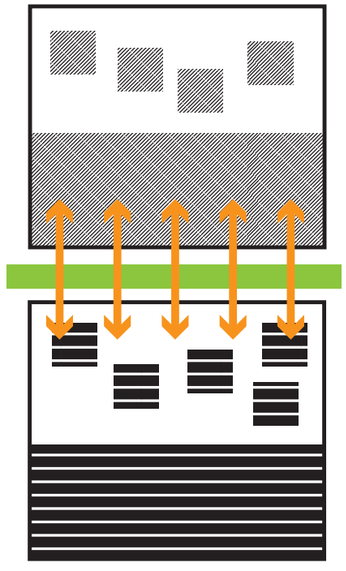
Hong Kong 2030

strengthening links with the Mainland to cope with the rapid growth of crossboundary interaction

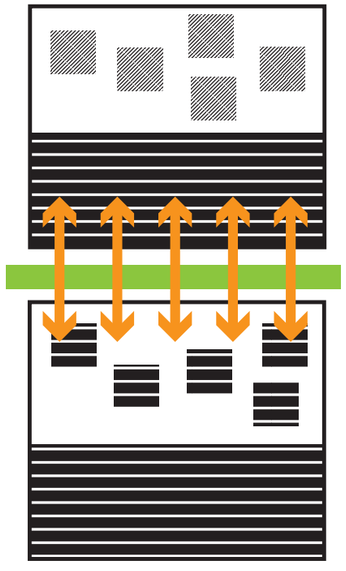
Fig. 4.52 Cover of Shenzhen 2030 (Shenzhen Urban Planning and Land Resources Committee 2005)

Shenzhen 2030

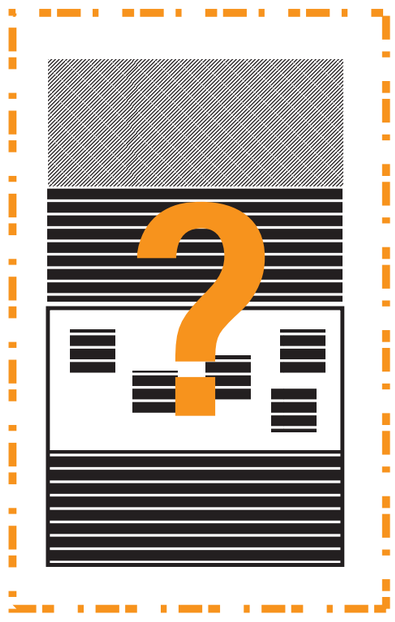
linking North and South: through the construction of large-scale infrastructure facilities and ports, further linking with the southern Hong Kong, Northern Guangzhou, Dongguan and other cities to enhance city's Status



2000s



2030



2047

After 2047 .... ??? How to see Shenzhen and Hong Kong?

Two Cities = SZ + HK

OR

One City = SZHK

OR

SZ + “ Cross-border” + HK

Fig. 4.53 Scenario of new urban model of Shenzhen and Hong Kong until 2047

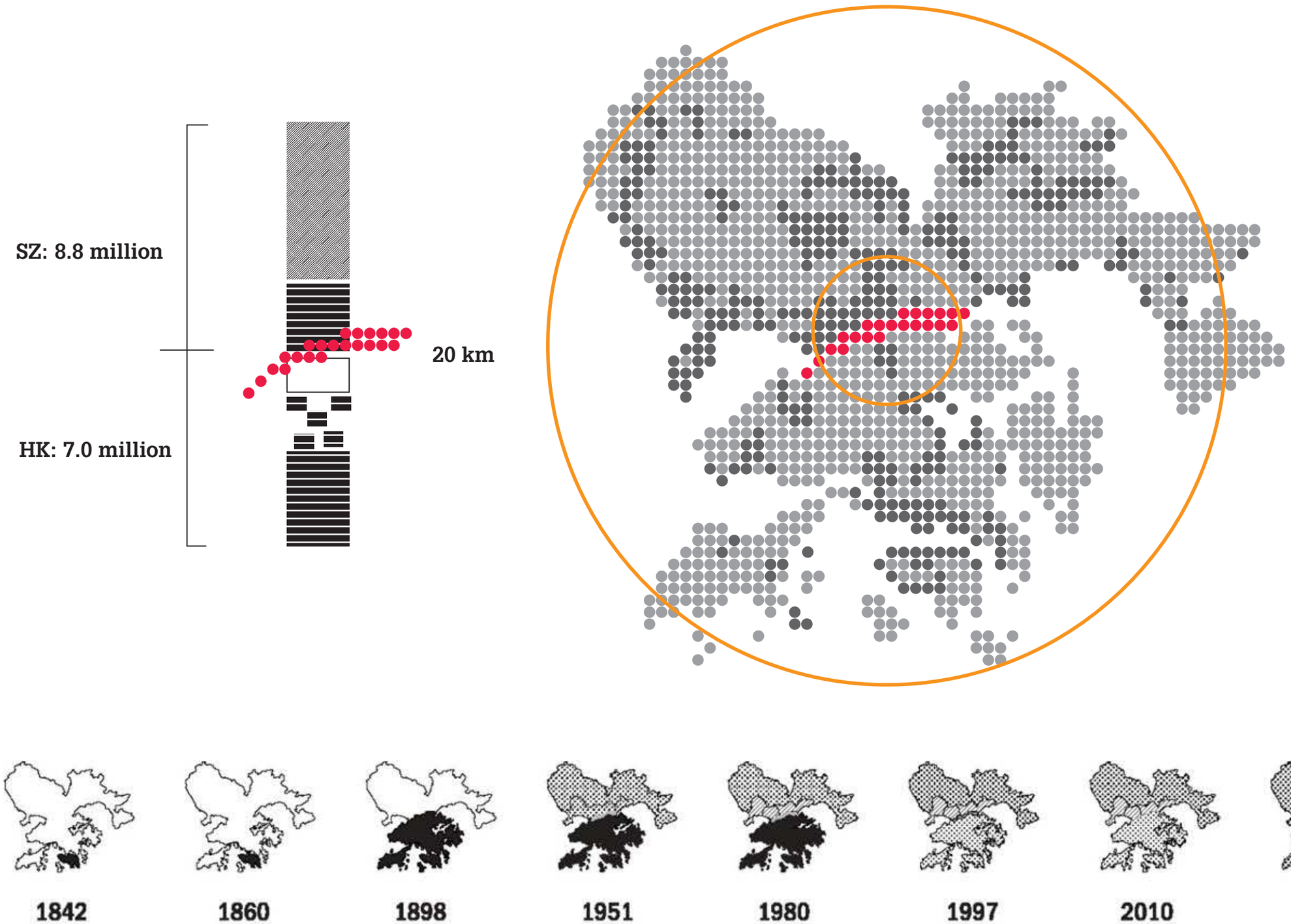


Fig. 4.54 Scenario of new urban model of Shenzhen and Hong Kong until 2047 (Bolchover and Hasdell 2009)

5. Vision and Strategy

PART 5

5. Vision and Strategy

5.1 Cross-border Past and Present

5.1.1 Cross-border Past

The cross-border area (Hong Kong: Frontier Closed Area) is a 28 km² (2800 Hectare) area in Hong Kong along the border with Shenzhen, mainland China. It includes north-east of Yuanlang district and northern New Territory. It was established in June 1951 by the HK-British government, and expanded to its current limit in 1962. Although Hong Kong was handover to China in 1997, the size of cross-border area is without any changes.

It was set up to prevent the incoming illegal immigrants from mainland China, and to restrict illegal activities. It freezes development within the area during the last 50 years. Due to the lack of human activities in the area, the cross-border area became a natural habitat for animals and plants. Ordinary people who are not residents within the area cannot enter the area, except with a permit or when they are going to cross the border.

5.1.2 Cross-border Present

Reduction of Cross-border Area

On September 7, 2006 the HK Government has announced its proposal to reduce the size of the area to 8 km². Only areas around border control points will be kept in the cross-border area. In January 2008, HK government revised the cross-border area again to 4 km² (400 Hectare). That means 24 km² area from the original cross-border area is released. This new cross-border area will come into effect in 2010. Initially, most residents generally welcomed the proposal. However, some environmentalists have pointed out that the proposal would affect ecological environment.

Due to the reduction of the cross-border area, The Planning Department has started a planning study on the areas which are removed from the original cross-border area. Actually, 70% of the lands of released cross-border area belong to government and 30% of them belong to private sectors. Among them, there is 800-900 Hectare are flat land which can be developed.

Environmental Problem

Due to the freezing development and the lack of human activities in the area, the cross-border area became a natural habitat for animals and plants. Some environmentalists have pointed out that the reduction of cross-border area would affect ecology environment.

Border-crossing Points

There are five crossing points along the cross-border area. From east to west, they are Shatoujiao, Wenjindu, Luohu, Huanggang, Futian. Wenjindu and Shatoujiao are mainly designed for authorized vehicles, including container lorries, coaches and private cars. Luohu is connected by railway which is mostly used by travelers. As to Huanggang and Futian, they are very close but function differently. Huanggang mainly serves for cargos while Futian only served for travelers. Huanggang and Futian crossing points are just adjacent to Hetao area.

Border will not exist after 2047

By 2047, 50 years after the 1997 handover of Hong Kong to China, the border will no longer exist. This also will mean the dissolution of the economic and political zones of the “One Country Two Systems” policy. The Special Administration Region of Hong Kong and the Special Economic Zone of Shenzhen will be re-integrated. Currently, as part of the re-integration process, the potential impacts on the urban

development on both sides of the border need to be considered with respect to cultural, social and economic fluidity in the creation of a Hong Kong-Shenzhen Metropolis.(Bolchover and Hasdell, 2009)

Current situation:

The area to be released from the cross-border area includes Luomazhou loop, Haohewei and Mipu in the west, Daguling and Luohu in the centre and Lianmakeng and Robin's Nest in the east.
Robin's Nest is located in the eastern portion of the cross-border area bordering the Shatoujiao and it's mainly comprised of hilly terrain. Since access to the area has been restricted for years its natural environment has been preserved with densely vegetated woodlands. To its North is the Wutongshan National Forest in Shenzhen and to its south is the Baixianling Country Park on the Hong Kong side. Together they form a natural linkage in the eastern portion of cross-border area.

To the northwest of Robin's Nest is Lianmakeng. Lianmakeng village is one of the few villages with traditional village setting. Moving further west from Lianmakeng, there are older village clusters of Xiangyuanwei and Songyuanxia. Within these villages, there are a number of features with cultural heritage value, such as water towers, ancestral halls and Fengshui Woods. Most importantly, these walled village clusters have been well preserved.

The central portion of the cross boder area is Daguling and Luohu Area. Located on flat terrain, there are still many villagers living in the village clusters in Daguling. Apart from the cultural heritage features found in the villages, there are other historic buildings within the cross-border area. Moreover, many fish ponds are retained within the villages, though most of them have been abandoned. There two important Border Crossing Points (BCP) in the central portion of the cross-border area. They are the Wenjindu and Luohu BCP. Wenjindu BCP is mainly used by good vehicles while Luohu is served by rail and it is the busiest BCP in Hong Kong.

In the western portion, there are Luomazhou and Luomazhou Spur Line. The Luomazhou Spur Line was open in the mid-2007. Luomazhou BCP is the only one in Hong Kong that operates 24 hours a day. It provides convenient access between Hong Kong and Shenzhen. As for the Luomazhou Loop, the Hong Kong SAR Government and the Shenzhen municipal Government are actively examining the feasibility of developing the Loop. Based on the principle of joints study development, land uses mutually beneficial to both cities to both cities will be explored.
The west portion of the cross-border area is Mipu, with half of the area being wetland, fishponds and mangroves. It is also one of the Hong Kong's major habitats for egrets.

To the west of Mipu is the internationally recognized important wetland area the Ramsar Site. It is also designed as a Site of Special Scientific Interest. The extensive wetland attracts up to 90,000 migratory birds each year forming an important part of the eco-system that requires our uttermost attention in its conservation.
This vast area to be released from the cross-border area comprises about 2,400 hectares of land which features as scenic views and rich natural and culture heritage recourses. In planning for the area let us explore together to map out the future directions to guide the conservation and development in a sustainable manner.

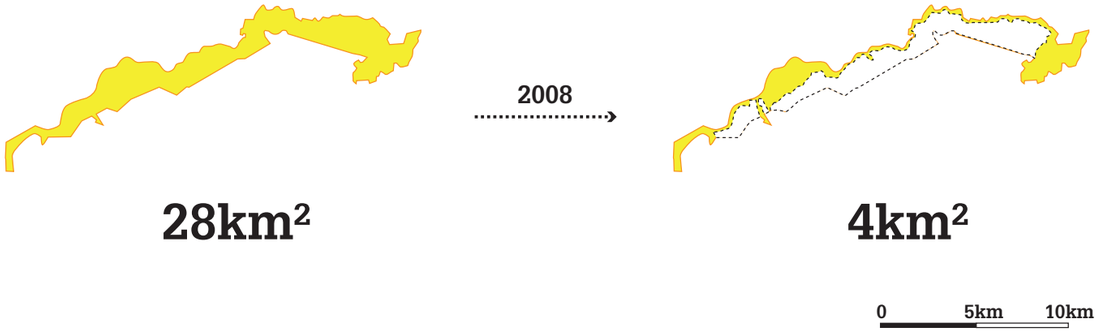


Fig. 5.1 Reduction of cross-border area due to the inevitable urbanization

Fig. 5.2 Cross-border area between Hong Kong and Shenzhen 2 (Hong Kong Planning Department 2008)

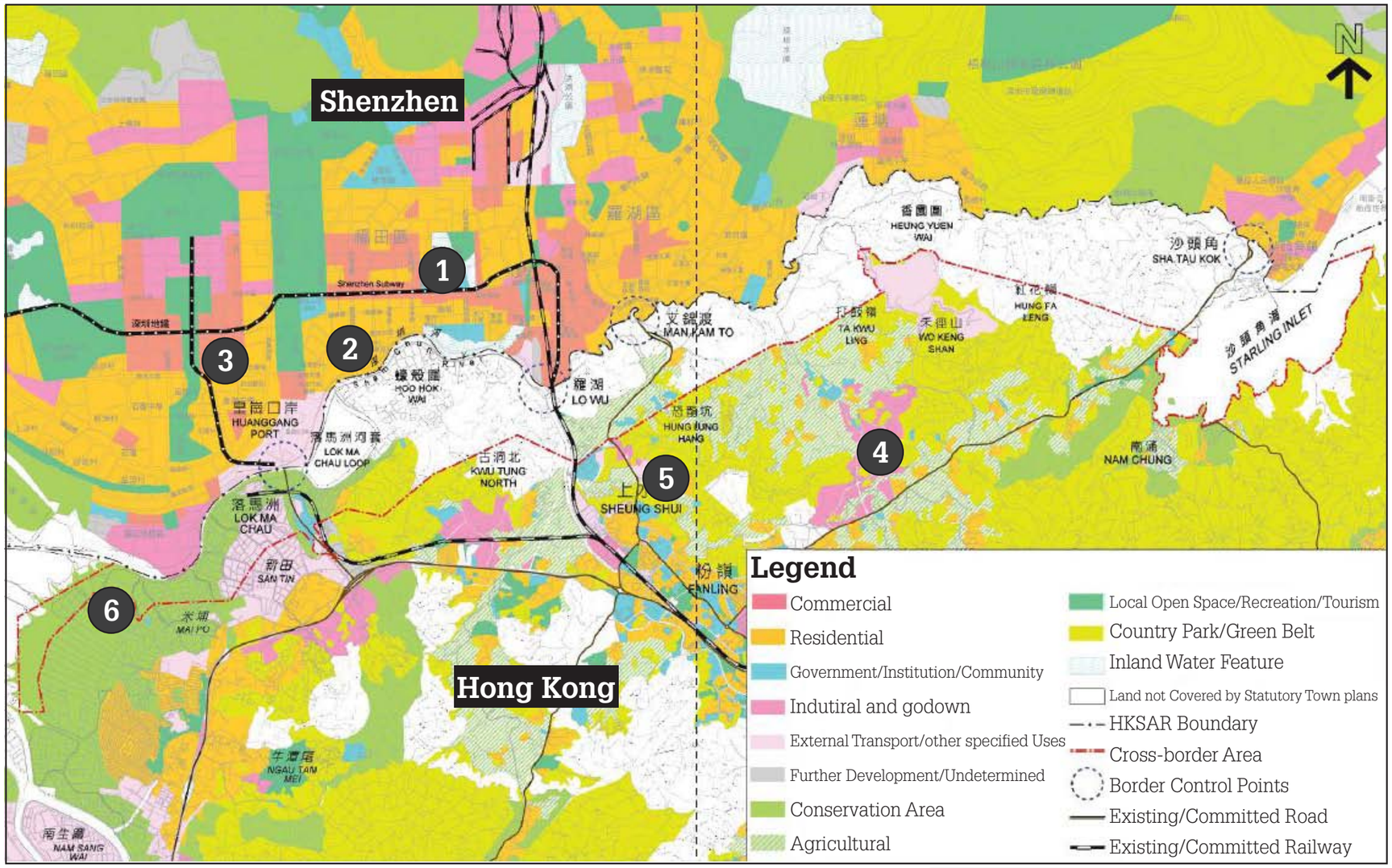
Fig. 5.3 Cross-border area between Hong Kong and Shenzhen 3 (ETH studio Basel 2005)

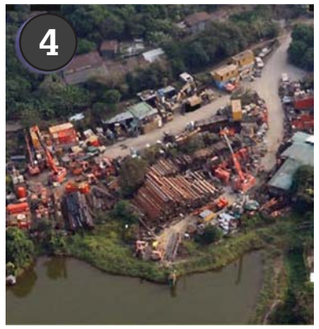
Aerial Image of Shenzhen, Cross-border and Hong Kong

Fig. 5.4 Aerial Image of Shenzhen, cross-border and Hong Kong (image: Michael 2009)

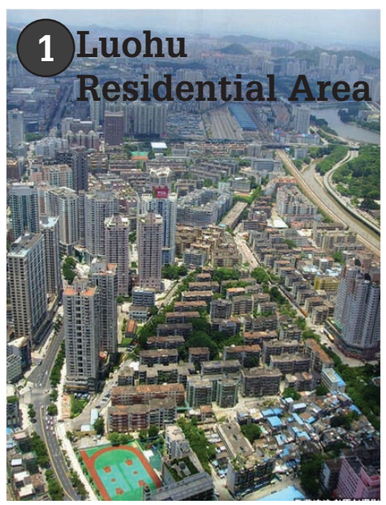
Hong Kong & Shenzhen Image around Cross-border Area

Fig. 5.5 Hong Kong and Shenzhen images around cross-border area (images: Hong Kong Planning Department 2009, Zhangjibo 2009)





Open Storage



Shenzhen

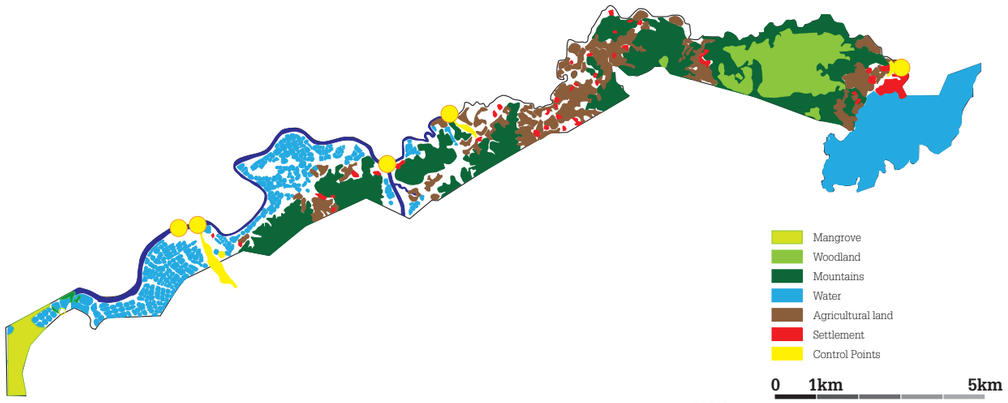
While cross-border falls entirely with the territory of Hong Kong, Shenzhen is located to its north. The Central Business District (CBD) in Futian is close to the cross-border area and other residential and commercial uses are developed right at the boundary of Hong Kong and Shenzhen.

Hong Kong

The areas adjacent to the study area are predominantly rural in nature. The nearest New Town, Shangshui/Fengling, is about 6km away. Open storage and indutrial uses are scattered in the Pingche and Daguling areas.

Fig. 5.6 Cross-border area and its surroundings (all images and map: Hong Kong Planning Department 2008)

Landuse of Cross-border Area



Land use:

57% Hilly Terrain/Natural Landscape Area
20% Agriculture and Flat Land
10% Wetland
7% Village Settlements
4% Cemeteries
2% Border Control Points

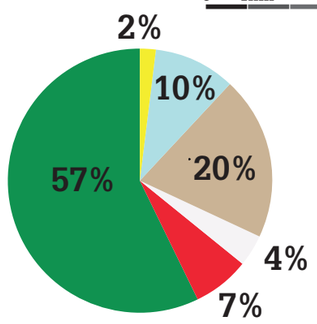
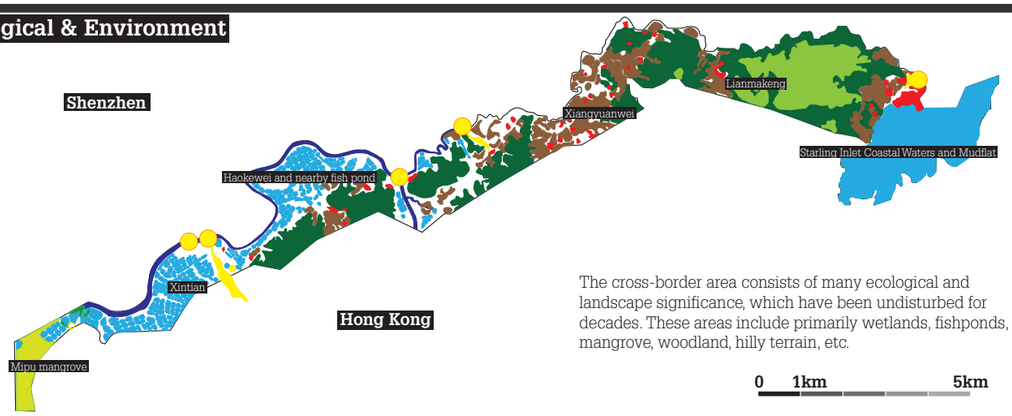


Fig. 5.7 Land use of cross-border area (Hong Kong Planning Department 2008, map: ETH studio Basel 2005)

Ecological & Environment



The cross-border area consists of many ecological and landscape significance, which have been undisturbed for decades. These areas include primarily wetlands, fishponds, mangrove, woodland, hilly terrain, etc.

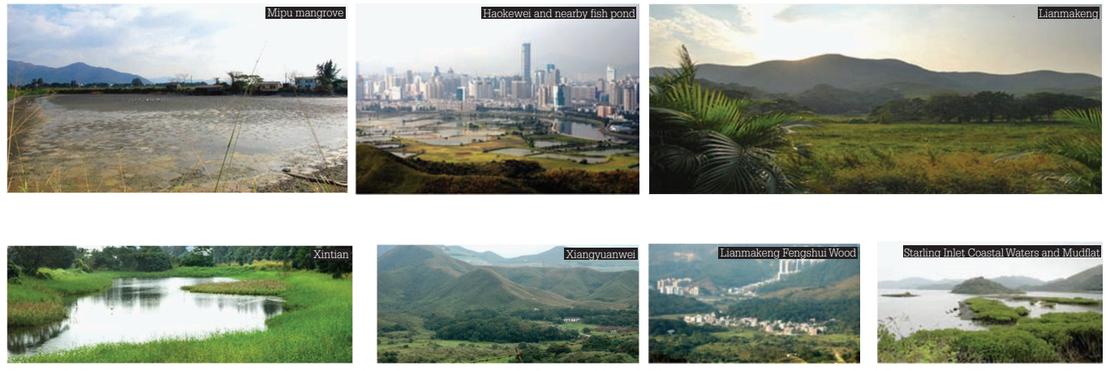
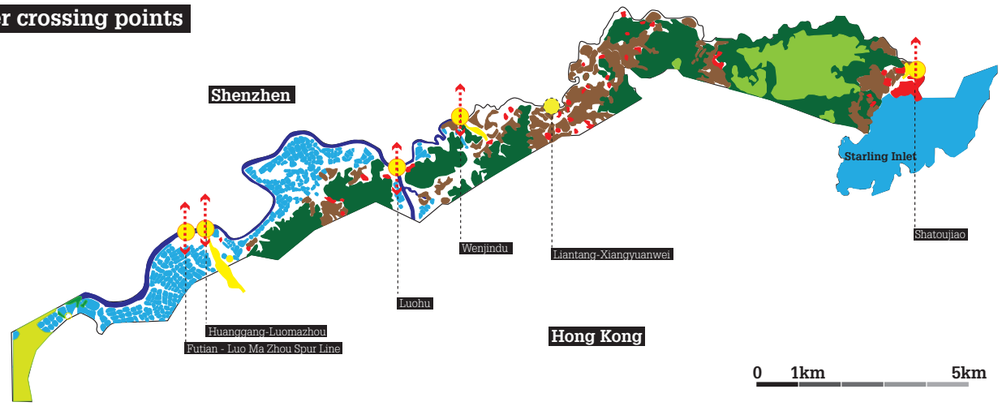


Fig. 5.9 Ecological and environment of cross-border area(Hong Kong Planning Department 2008, map: ETH studio Basel 2005)

Border crossing points



Border Control Points (BCPs)

There are 5 existing BCPs (Shatoujiao, Wenjindu,Luohu, Huanggang ,Futian-Luomazhou) in the cross-border area, with the sixth being proposed at Liantang/ Xiangyuanwei. There are the main land crossings (roads and rail) for the movement of people and goods between Hong Kong and the Mainland.

Fig. 5.8 Border control points of cross-border area (Hong Kong Planning Department 2008, map: ETH studio Basel 2005)

Villages

Villages

More than 20 villages are scattered within the cross-border area. At present about 10,000 persons are living in these villages. Some of these villages contain cultural heritage resources.

Burial Grounds Cemeteries

Sandy Ridge Cemeteries in Sha Ling are the major land use near Luohu Boundary Control point. Permitted burial grounds for indigenous villages are scattered throughout the cross-border area.

Fig. 5.10 Villages in cross-border area (Hong Kong Planning Department 2008, map: ETH studio Basel 2005)

Cross-border Area Opportunities/Potentials

Natural Environment



Culture



Agriculture




Ecocology




Border-crossing Points



Fig. 5.11 Opportunities and potentials of cross-border area (all images: Hong Kong Planning Department 2008)

5.2 Cross-border Vision

Cross-border area, a land area closest to the Mainland, is undoubtedly an important resource for Hong Kong. It is a large vacant area with enormous potential for development. Its value is manifested through the important role of its development in the regional cooperation. Along with regional development, the progress of the economic integration of Hong Kong and Shenzhen will significantly speed up. As such, cross-border area is an important guarantee for enhancing and maintaining Hong Kong and Shenzhen's strength, competitiveness and influence in regional cooperation.

From the above interpretation of the existing conditions, the cross-border area requires a very different approach to develop. My position is to propose a sustainable and mutual benefit green open area between Hong Kong and Shenzhen metropolitan area. It is dynamic, systematic and integrated and permeable to the urban area. The main challenge in this regional scale is focus on the Hong Kong – Shenzhen ecological corridor and different border identities.

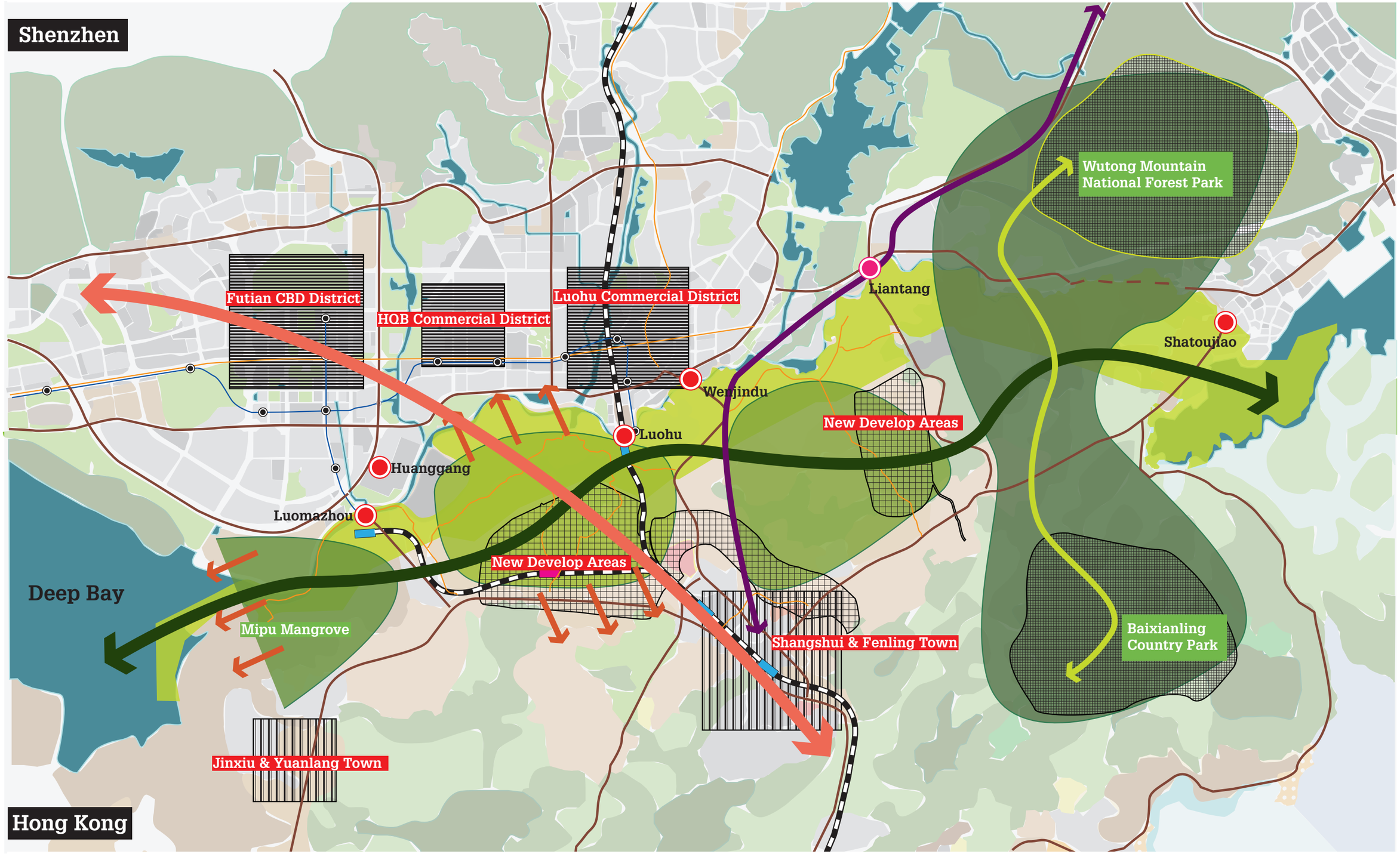
Environmental Corridor:

The proposition is to see the cross-border area as an urban ecology. Neither the front garden of Shenzhen nor back yard of Hong Kong, It is a central green open area between the metropolitan area. Cross-border area will be continued its ecological development and permeable to the metropolitan area.

Functional Corridor:

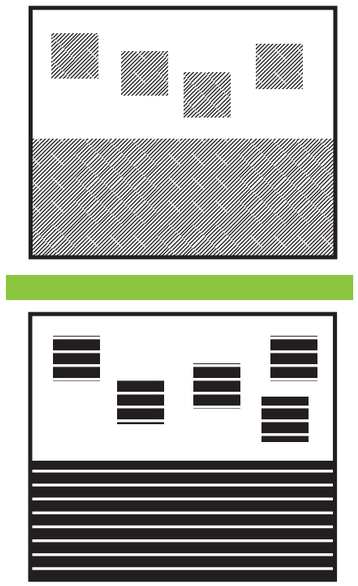
In the coming years, there will undoubtedly be a relatively greater improvement in the flow of key resources such as people, goods, capital, information and services between Hong Kong and Shenzhen. People from Shenzhen and even people from other parts of the Mainland will be able to move more freely into and out of Hong Kong. The cross-border area will provide an important substitute for living or working in Hong Kong or Shenzhen, and will also become an important area that connects Hong Kong with even larger regions of the Mainland.

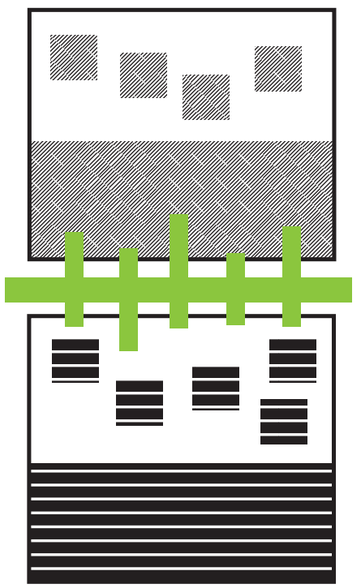
Cross-border in the city context



0 0.5km 1.5km 3km 5km

Cross border Vision





Shenzhen
+
“ Cross-border”
as Central Green Public Space
+
Hong Kong

Static & Restriction
(No Development)

Dynamic & Integration
(Active Preservation)

Cross-border:

Central Green & Public Space

Neither Front Garden of Shenzhen
Nor Back Yard of Hong Kong
But central green and public space
it is permeable to the Urban Area

5.3 Cross-border Strategy:

Hong Kong – Shenzhen Metropolitan Park Development as a spatial strategy

Summary

How to realize the vision? Hong Kong – Shenzhen Metropolitan Park Development will be proposed as a spatial strategy. The Hong Kong –Shenzhen Metropolitan Park is a whole comprising four specific parks- Mangrove Park, urban park, Cemetery Park and Country Park. It would use the three coordinated system- circulation, program, habitat to organize the vast landscape in three hierarchies-region, city, local.

Aims

- **Circulation:**

In the regional scale, it is proposed a one week leisure tour through the scenic drive to improve the connectivity of the four parks.

- **Program:**

The aim of program is maintaining the different border spatial and identity cultural identity, leaving space for different life style to create an attractive working and living space.

- **Habitat:**

Active preserve as Hong Kong –Shenzhen Urban ecological system and keep the quality of the nature and urban landscape.

Hong Kong –Shenzhen Metropolitan Park as a whole comprising four specific parks

Because of the diverse of the site and the need of public space in Hong Kong and Shenzhen, the cross-border area can be transformed from a forbidden, encapsuled buffer zone in to an open pleasure ground. The new inter-space will link Hong Kong and Shenzhen like the neck links the head and body. Water will be linking element between the parks, which is also an important elements in the traditional Chinese gardens. Second important linking element is the scenic drive.

Why Four Parks?

A. Diversity of landscape, topography and program

The cross border area consists of a diversity of landscape, variety of topography and different usages. Therefore the new parks will base on these circumstances. Through analysis the cross-border area, it is potentials are new interpreted. The new parks will be developed by intensifying and strengthen the existing diversity and opening to the public. Hong Kong and Shenzhen are very dense metropolitan areas. They need more public space and recreation area with different attractions and facilities.

B. Various Attractions and sceneries

The site consists of a variety of difference landscapes including: mangrove, mud lands, fish ponds, reed field, different types of woods, high mountain. Rare types of flora and fauna (more than 400 species of birds) populate this unique environment.

C. Different Use
The different topics of the site are depending on the location of the cross-border area. The programs range from dealing with water on the bay up to hiking area on the hilly terrain. For example, fish farming in the west and the agricultural usages on the flat land areas in the middle –east. Also a cemetery is located in the cross-border area and shows its variety.

D. Variety of topographic
The topographic of the cross-border area varies from flat land (0m) in the west to the hilly in the terrain in the east (440m).

Hong Kong –Shenzhen Metropolitan Park as a whole comprising four specific parks

1. Mangrove Park
Mipo nature reserve is a restricted area with disuse fish and shrimp ponds. The area is one of international interest because of its rich of flora and fauna. It became under the Ramser Conservation 1971 a nature reserve. The limited access (about 4000 persons / year) helps to conserve this value of nature. The deep bay is a major stopover point of Asia's migration route of birds.

Proposal:
Enlarge the area to the mangrove of Shenzhen. Public programs like fish restaurants, recreation areas and sightseeing events.

2. Urban Park (see more in next charter)

3. Cemetery Park
Near the Luohu Rail way station is a local Chinese cemetery called Shaling Cemetery. Next to this cemetery live moneys on the hills. There is also a historical site with one of the oldest way to Hong Kong. Therefore this site has touristic potential and it's also a meeting point for local people for funerals.

Proposal:
The new park has two specific sites: the cemetery and monkey hills. Then people can go there for meditation or have a walk with monkeys. The terrain is not very steep. There are also little trails for recreation.

4. Country Park
This area is hilly arable and rich of traditional Chinese village. There is also some Fengshui Wood found which exists only in south China. These specific and very small woods are in the neighborhood of the small village and are planned with Fengshui traditions. In the eastern part of cross-border area is a hilly terrain up to 400m. Nowadays Robin's Nest is a popular hiking trail with scenic views over the whole site from bay to bay.

Proposal:
The park is for remaining Chinese traditions with new program like meditation centre and enlarging the country park to the whole site. In the country park it is also propose hiking routes and sport trails. This park can become a clam location of the metropolitan area.

Metropolitan Park as a Strategy : 4 Parks with Specific Identities

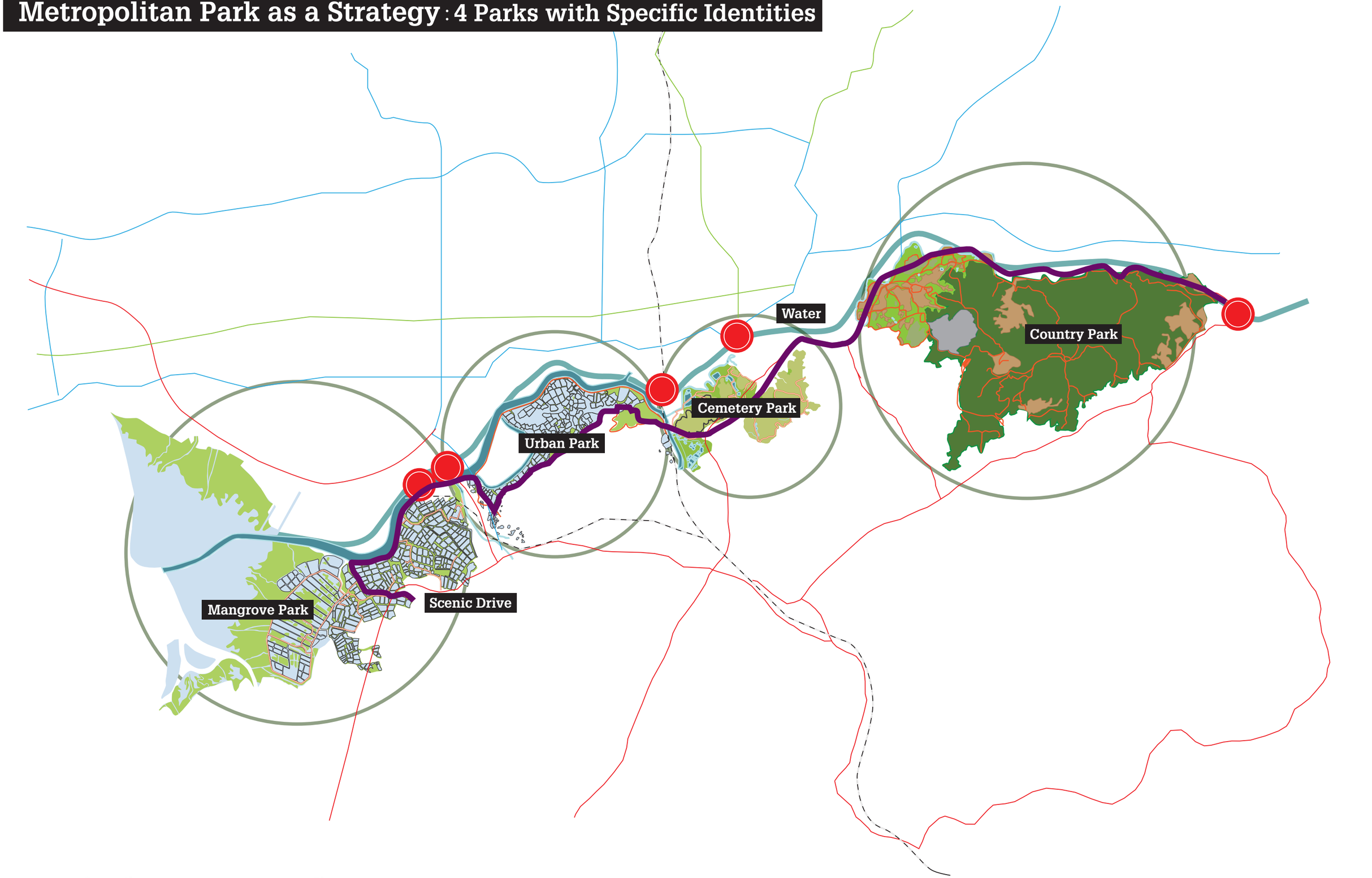
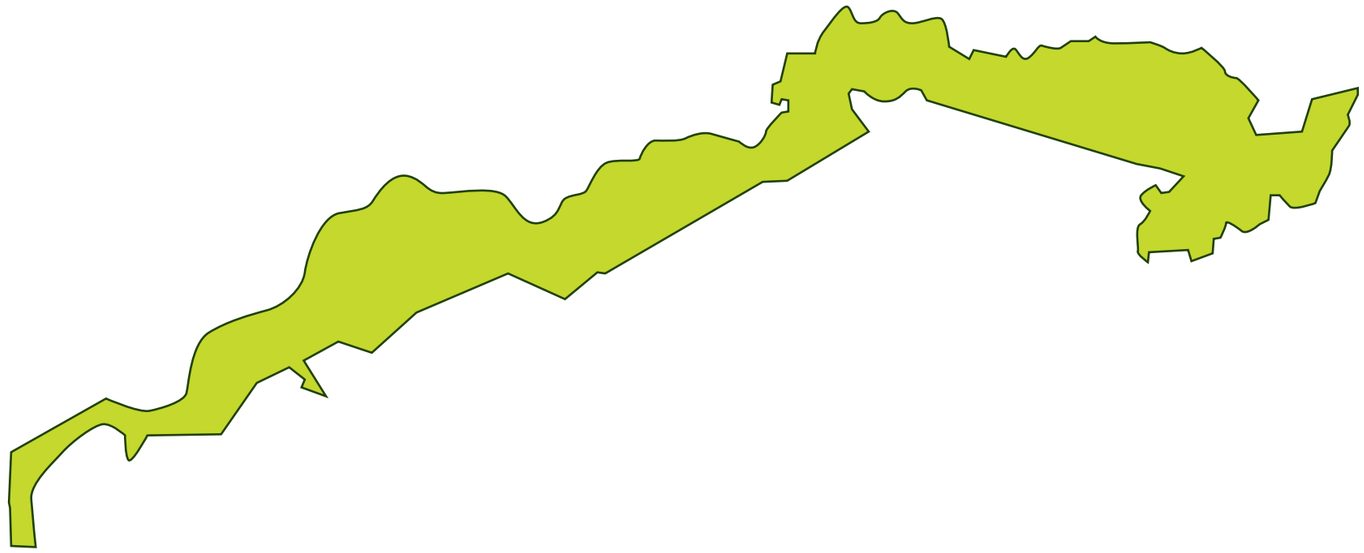
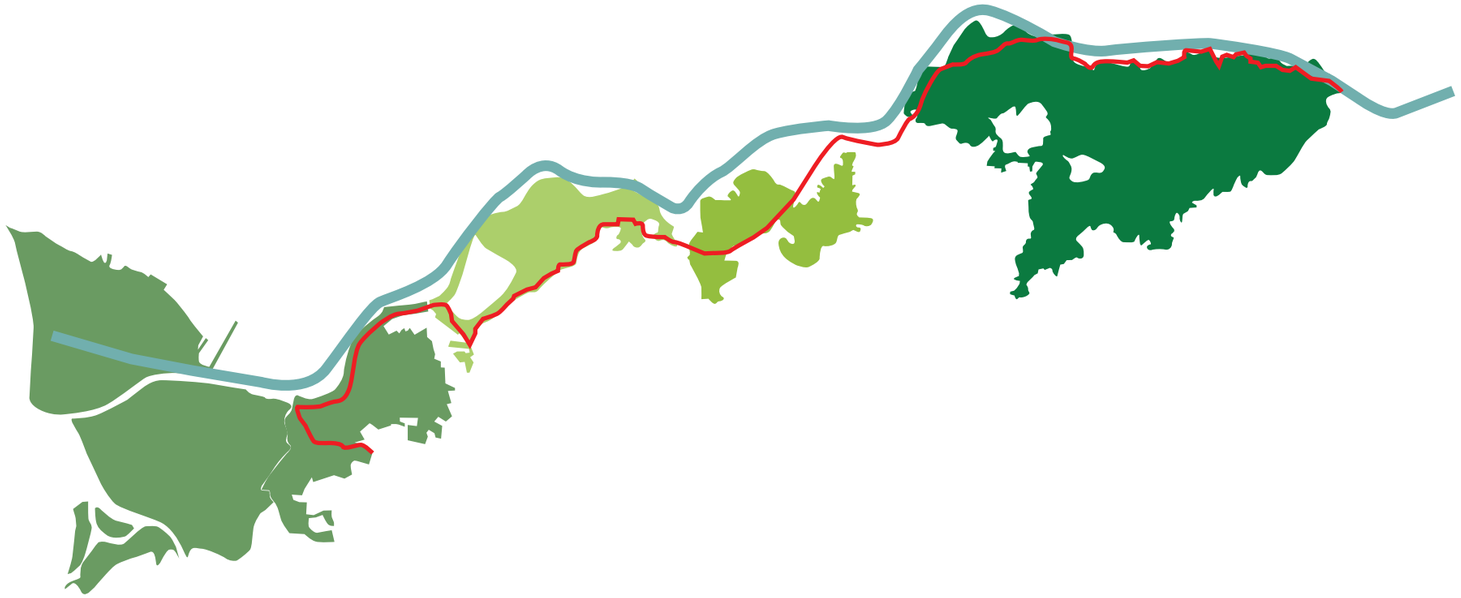


Fig. 5.12 Metropolitan Park as a strategy (map basic on: ETH studio Basel 2005)



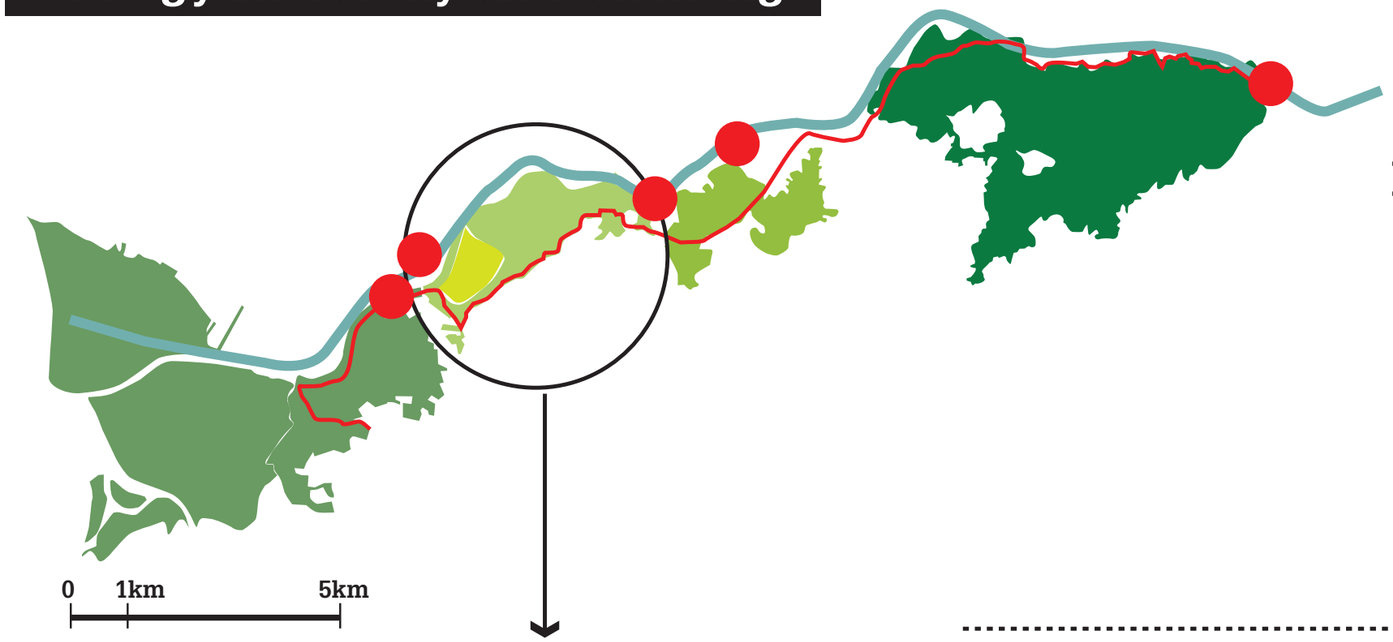
2010 current shape of the cross-border space



2047 the border disappears and the new park define themselves the new metropolitan park between two cities

Fig. 5.13 Cross-border metamorphosis 2010 and 2047 (map basic on: ETH studio Basel 2005)

Strategy Hierarchy and Challenge



[Region]

Hong Kong - Shenzhen Metropoliatn Park

HK - SZ Ecological Corridor
Different Border Identity

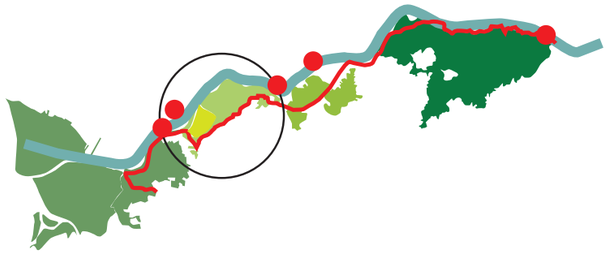
Urban Park [City]

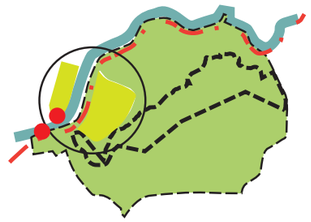
HK-SZ Functional Corridor,
More Urban Pressures,
Urban and Nature Landscape

Luomazhou Loop [Local]

How to Activate the Park
(City and Park Entrance,Potential Program Area,
Border Crossing Point, the Flooding Risky
Landscape Visual Quality)

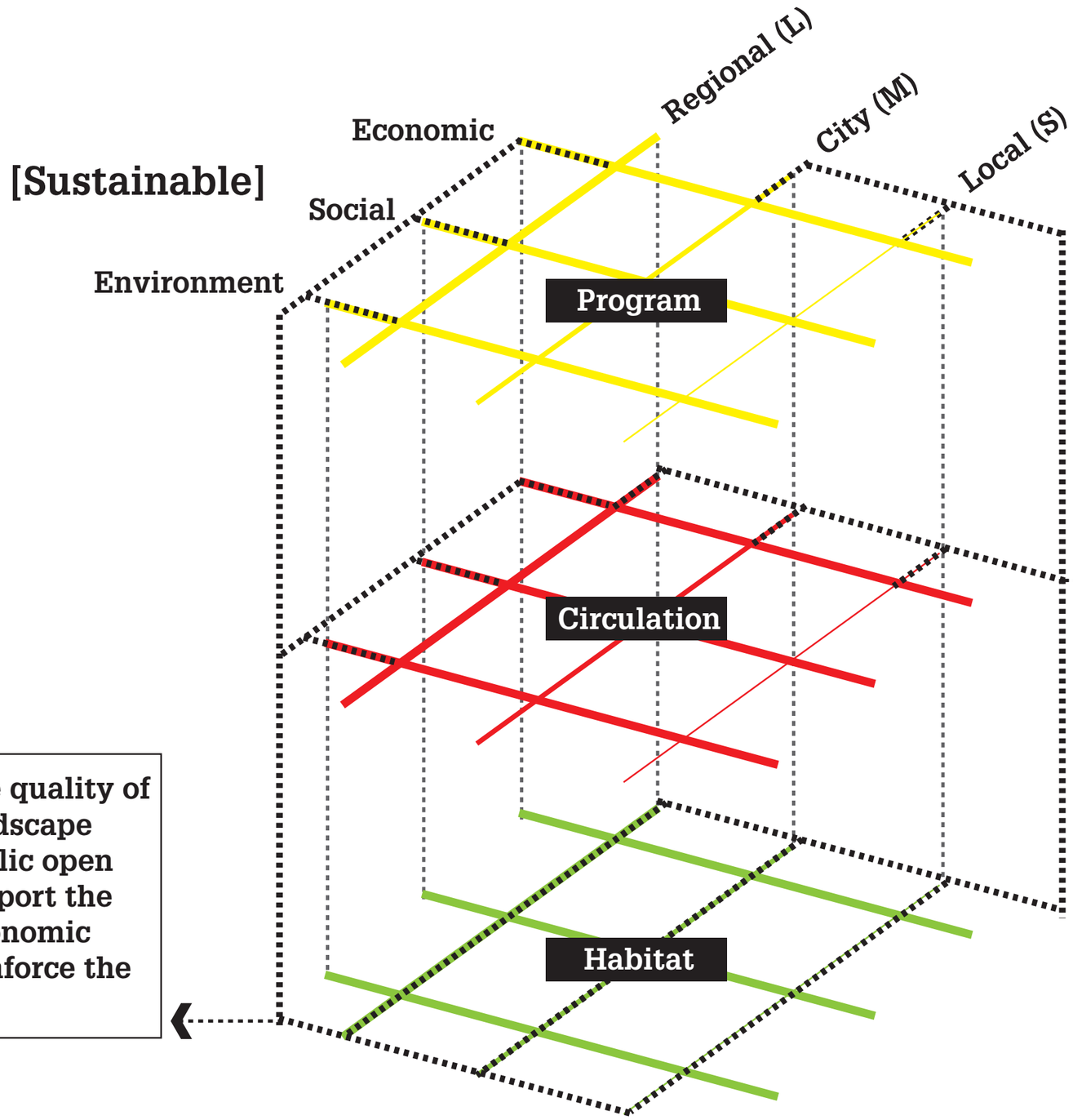
Cross-border Development Strategy





Hierarchy / Layer	Region(L)	City(M)	Local(S)
3 Coordinated System Organize the Vast Landscape	**HK-SZ Metropolitan Park** 01|Mangrove Park 02|Urban Park 03|Cemetery Park 04|Country Park	**02 | Urban Park**	**Strategic Project: Luomazhou Loop in the Urban Park**
Circulation	Scenic Drive (1 week leisure tour)	Vehicle /Bicycle/Pedestrian Routing (2hr/ 6hr/ 1 day)	1.Park Routing Connects to the Local Vehicle /Bicycle/ Pedestrian Streets 2. Park Entrances
Program	1.Different Border Spatial and Cultural Identity 2.Space for Different Lifestyles 3.Attractive Working and Living Locations	HK-SZ Functional Corridors: 1. Knowledge/Education 2. Recreation 3. Housing	1. HK- SZ Education & Research Centre 2. Park Supporting Facilities
Habitat	1.HK-SZ Urban Ecological System 2.Quality of the Nature and Urban Landscape	1.Urban Park Green Open Space Network 2.Visual Quality of the Nature and Urban Landscape	1.Urban Park Green Open Space Connects to Local Public & Green Space 2. Fishponds Network 3. Waterfront

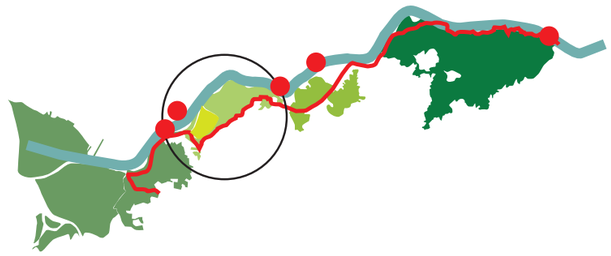
Strategy Diagram

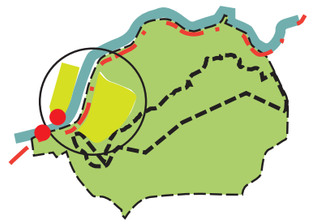


Provide the infrastructure network to support the ecological environment and existing and new programs from regional level to local level

Provide the attractive quality of nature and urban landscape environment and public open space network to support the knowledge-based economic development and reinforce the social cohesion

Cross-border Development Strategy - Region(L)





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Programs for the 4 parks

Infrastructure


Train


Scenic Drive


Parking


Ferry


Shuttle Bus

Recreation


Biking


Fishing


Hiking


Viewpoint


Meditation


Family Special


Pedestrian

Nature Events


Migratory birds


Rare birds


Fishing ponds


Rare insects


Monkeys


Shrimp ponds


Woods

Social & Culture Events


Cemetery


Local Village

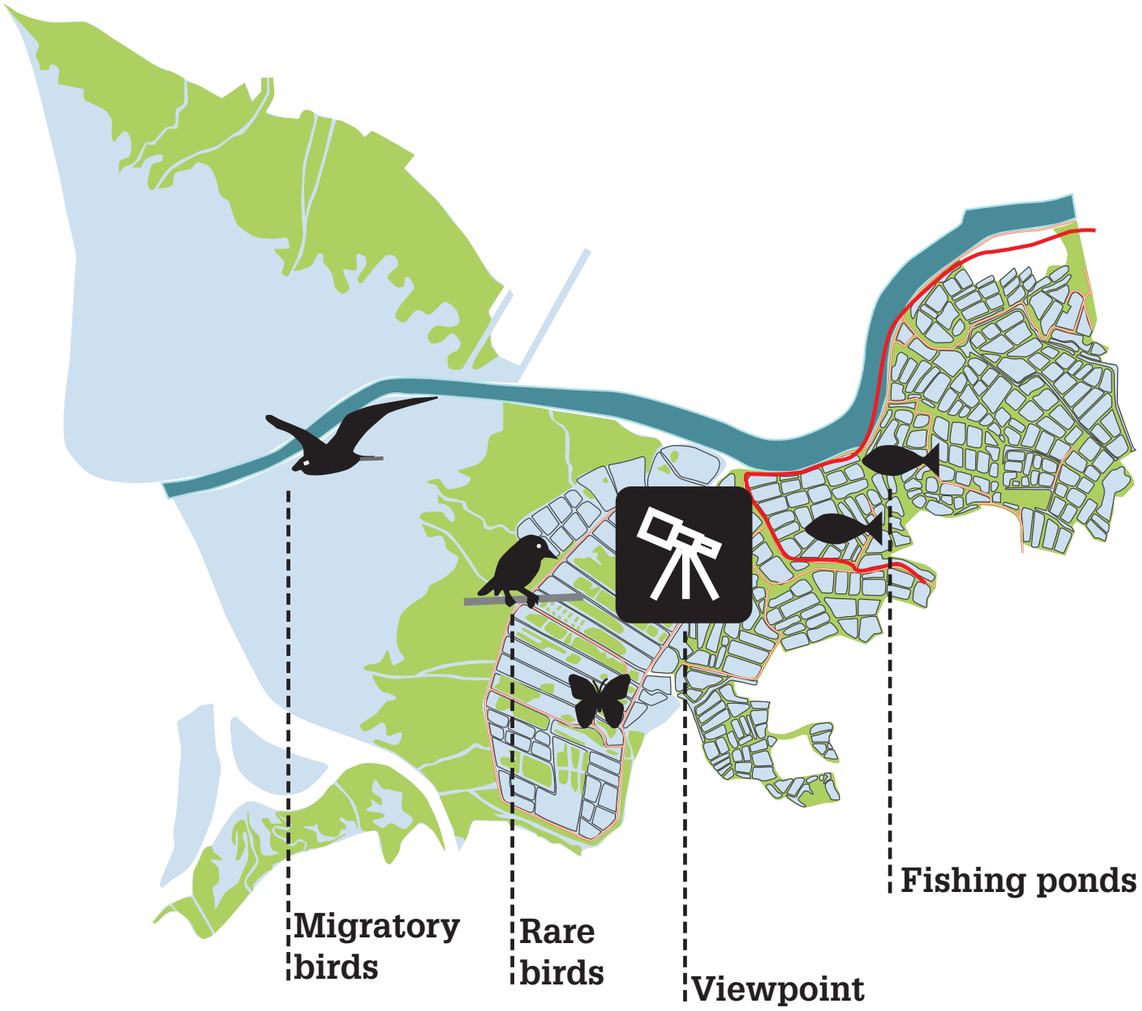

Social & Culture Program


Knowledge Program


Housing Program


Traditional Buildings

4 Parks | 01 Mangrove Park 20.8 km²



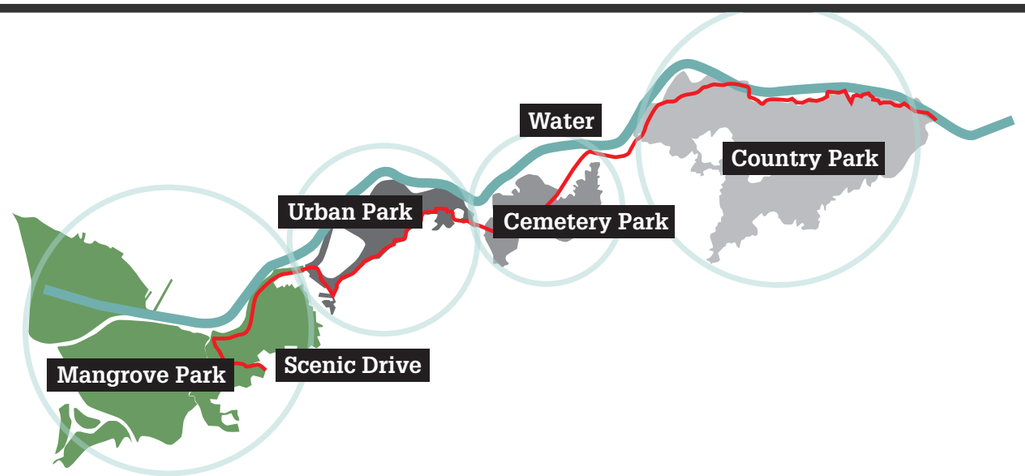


Fig. 5.14 Mipu Mangrove (WWF Hong Kong, 2009)

4 Parks | 03 Cemetery Park 3.9 km²

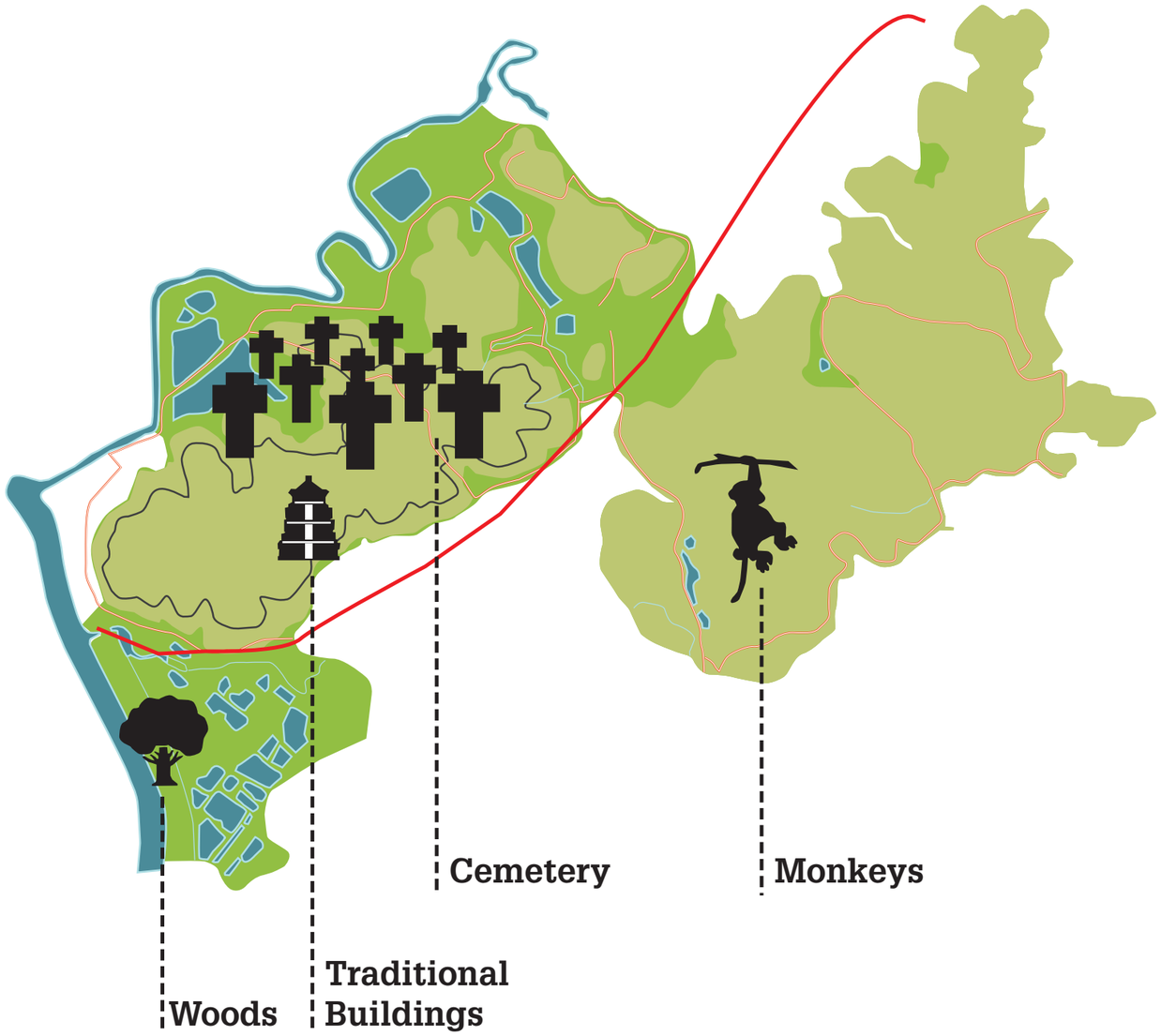
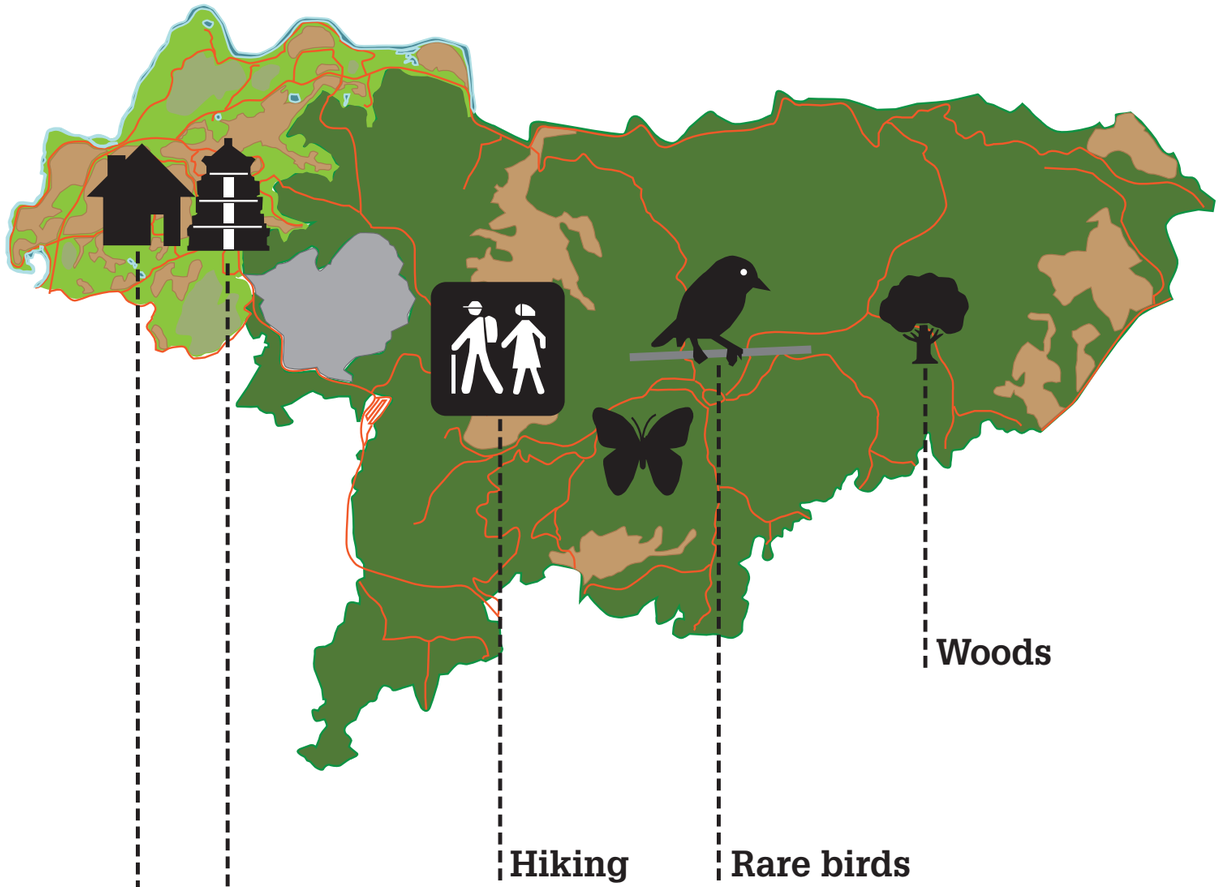


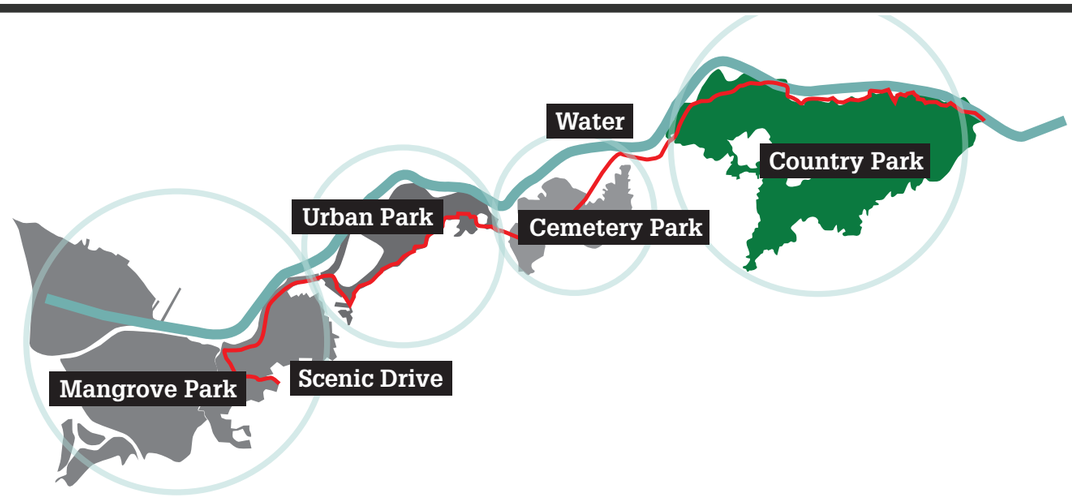
Fig. 5.15 Cemetery in the cross-border area (Hong Kong Planning Department 2008, map: ETH studio Basel 2005)

Meditation Hiking Pedestrian Scenic Drive Shuttle Bus

4 Parks | 04 Country Park

17.3 km²





Viewpoint

Scenic Drive

Shuttle Bus

Family Special

Meditation

Fig. 5.16 Mountain and traditional villages in the cross-border area (Hong Kong Planning Department 2008, map: ETH studio Basel 2005)

6. Design

PART 6

6. Design

6.1 Urban Park Mater Plan

The site is most potential to development as an Urban Park. It is surrounded by Shenzhen metropolitan area and Hong Kong main towns, three main border-crossing point s (Futian,luomazhou and Luohu) and two main railways which connect Hong Kong and Shenzhen metropolitan area. Therefore, this area would be more detail planned, and see how the metropolitan park development functions in the regional, city and local level. The master plan would be described in three layers (circulation, program, and habitat),three hierarchies (regional, city a and local), and their inter-linkages.

6.1.1 Circulation Plan

The circulation plan optimizes connectivity, accessibility and movement. It responds to four primary goals:

- Optimize connectivity within and beyond the site, facilitating both local and regional access to major destinations in the park and alleviating cross-border traffic congestion. Allow all areas of the park to be accessible to all people; [Regional and City Scale]
- Integrate vehicular park drives into the landscape, using curvilinear geometry to follow the contours and create slow (35 km/h) scenic driving experiences connecting the other 3 specific parks; [Regional Scale]
- Enhance the park experience with an extensive intermodal circulation network, including multi-use paths and trails; specially designated paths for bicycles, mountain bikes and hiking; boating access; local bus connections; and a docking facility for passenger ferries; [City Scale and Local Scale]
- Use the drives and pathways to help orient visitors in the park through varied materials, signage and signature design, and provide pedestrian-friendly crossings; [Local Scale]

There are three types of paths suggested for the park:

Scenic Drive is the key connections to ensure vehicular linkages to three other specific parks area and ensure one week leisure time.

Multi-use paths accommodate a mix of non-motorized usage (walking, running, and cycling). These 13-metre-wide pathways create loops, allowing visitors to complete a measured circuit (ideal for walkers and runners). With signage, seating, picnic areas and lighting, these loops could be the primary activity paths in the park. These paths also accommodate service, maintenance and emergency vehicles. Specially designated paths and trails allow for separation of cyclists, mountain bikers, pedestrians and hikers.

Waterfront access is accommodated by some docks and launches around the Shenzhen River. A larger boat facility is proposed around the border-crossing point for boating west to the east.

6.1.2 Program Plan

The cultivation of Urban Park will help enhance the identity of the area as a place to live, visit and enjoy.

There is extraordinary potential at Urban Park for a wide range of active uses to be set within the diverse landscapes: a rich reserve for nature, cultural and social life, environmental education and outdoor arts, active recreation and sports, and alternative energy resources and experimentation. The Master Plan aims to promote the development of a lively mix of programs by creating extraordinary settings for a wide range of activities. Over time, the park program will become increasingly diverse and focused as the community to suit particular interests and needs. The program plan has five main goals:

- Identify opportunities for educational programs that will help meet two cities functional demand, generate revenue and sustain the park. [Regional Scale]
- Create a distinctive programmatic identity for the park that is contemporary, productive, active and green, incorporating nature, art, leisure, recreation, education and park commerce;[City Scale]
- Create neighborhood-scaled recreational facilities for local communities;[Local Scale]
- Design a durable landscape framework that is flexible enough to accommodate change;
- Organize and stage park programming around existing natural resources and site features;

The Urban Park can accommodate a range of active programs. At the same time, areas of the site can be preserved as quiet natural areas that are beautiful and scenic and improve regional environmental health. Active program and educational uses are concentrated in two high-intensity areas: the Luomazhou Loop and New Train Station Housing Area. Additional sports and recreation facilities are dispersed in the Park. All of these settings are nested in open landscapes laced with paths and trails.

The plan concentrates active programs in the lowland areas that do not have significant existing vegetation. The lowlands form a connective tissue between the mountains, the wetlands and waterfront. Relatively flat, the lowlands are suited to architecture, playing fields and other large surface programs. The Luomazhou Loop is the most flexible in terms of future active and educational development.

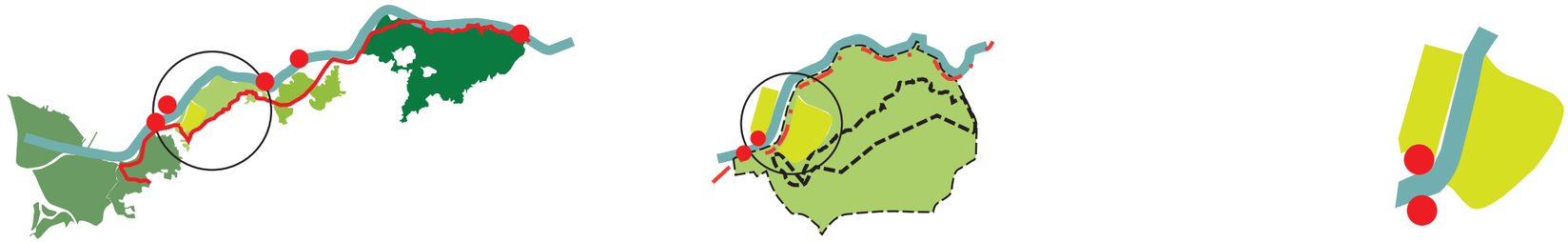
6.1.3 Habitat Plan

The site is currently a vast and varied landscape. It is a complex of artificial landscape and natural systems. The landscape and habitat plan has four main goals:

- Cultivate a diverse, resilient landscape that is a natural asset to the region in terms of ecological connectivity, water and air quality improvement, biodiversity and sustainability;
- Create meaningful habitat for the region and the estuary by building mangrove and wetland corridors linked to existing natural resources, taking into account not only plant life but also bird, fish, insect and microbial communities;
- Organize the park internally around existing natural resources and local opportunities for enhanced habitat creation;
- Design and stage ecological improvements so that the parkland can be understood and enjoyed in each phase of its development —— landscape in process, designed to promote diversification over time;

In keeping with the ecological goals of the Master Plan, three primary factors drive the organization of the habitat layer: 1) location of existing natural resources and opportunities for habitat creation, 2) connectivity with adjacent natural resources, and 3) desired spatial envelope and landscape setting for the park.

Cross-border Development Strategy - City(M)



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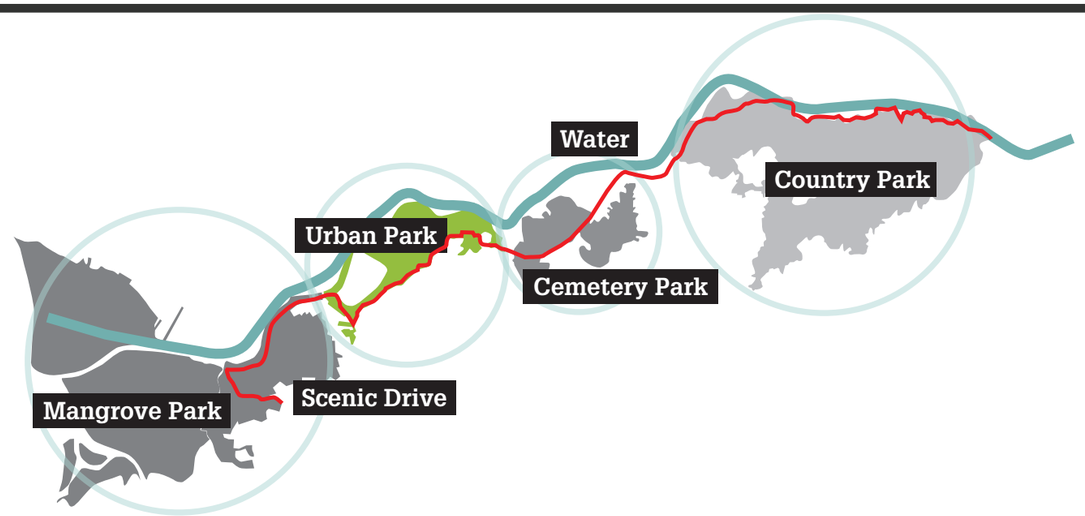
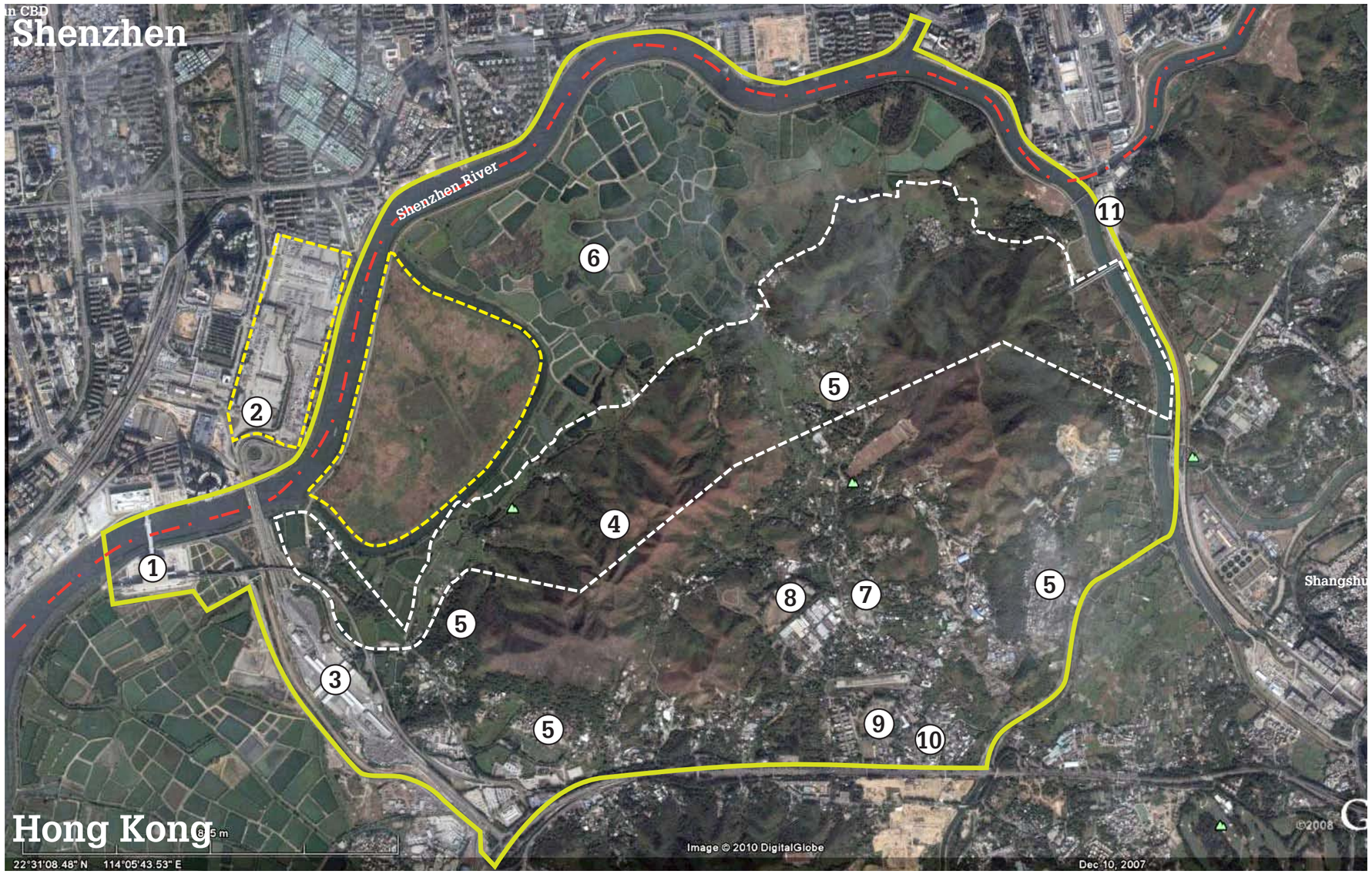
Existing Situation of Urban Park





1 Luomazhou Border Crossing Point (BCP)
2 Huanggang BCP
3 Luomazhou BCP
4 Mountains
5 Local Villages
6 Fishponds
7 warehouses
8 Shanghui Community Sports
9 Gudong Grass Pitch
10 Gudong Playground
11 Luohua BCP

Proposed Urban Park Site Boundary
Existing Boundary Fencing
Luomazhou Loop
Border Line

HK -SZ Urban Park Existing Situation

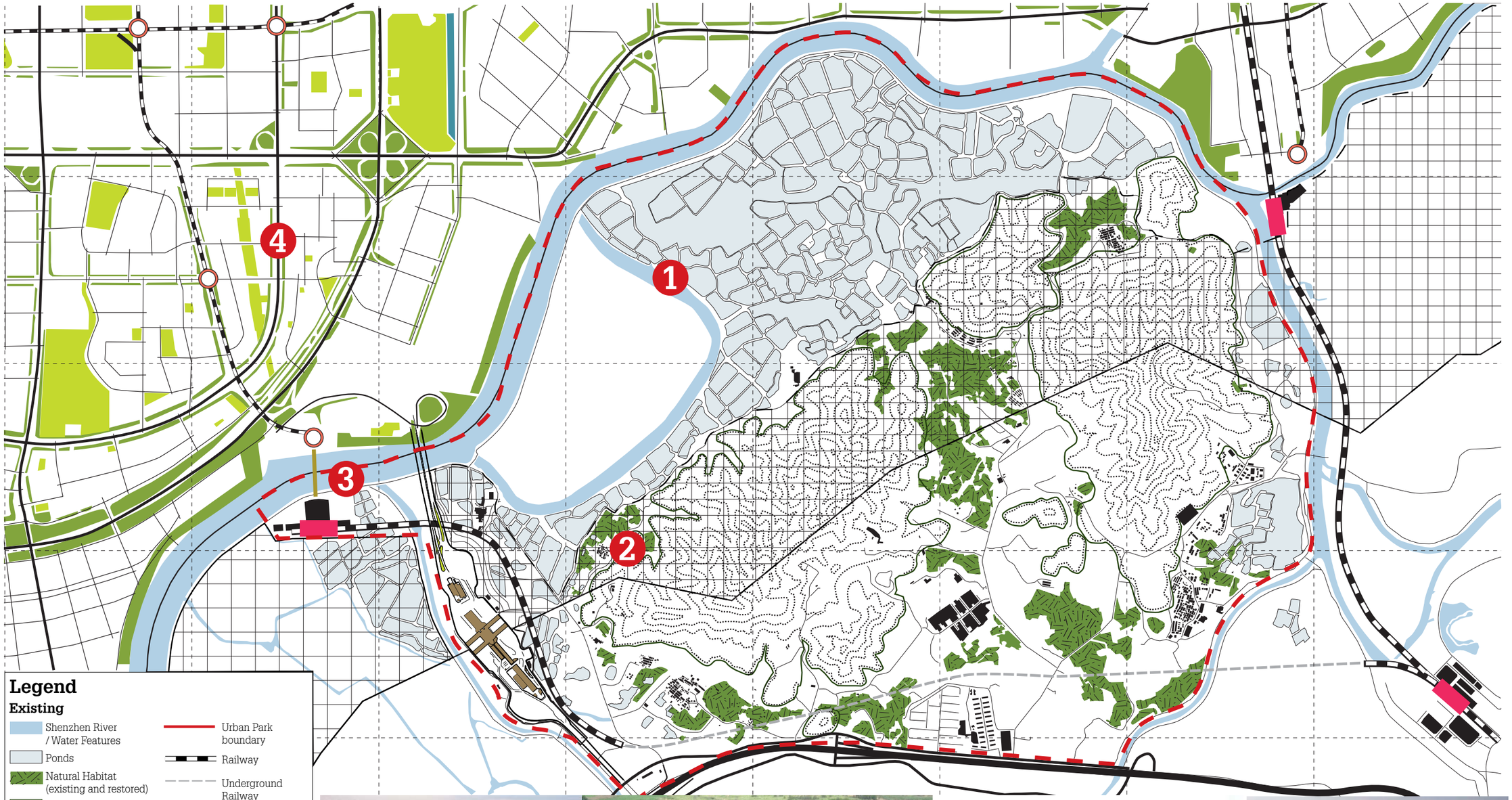
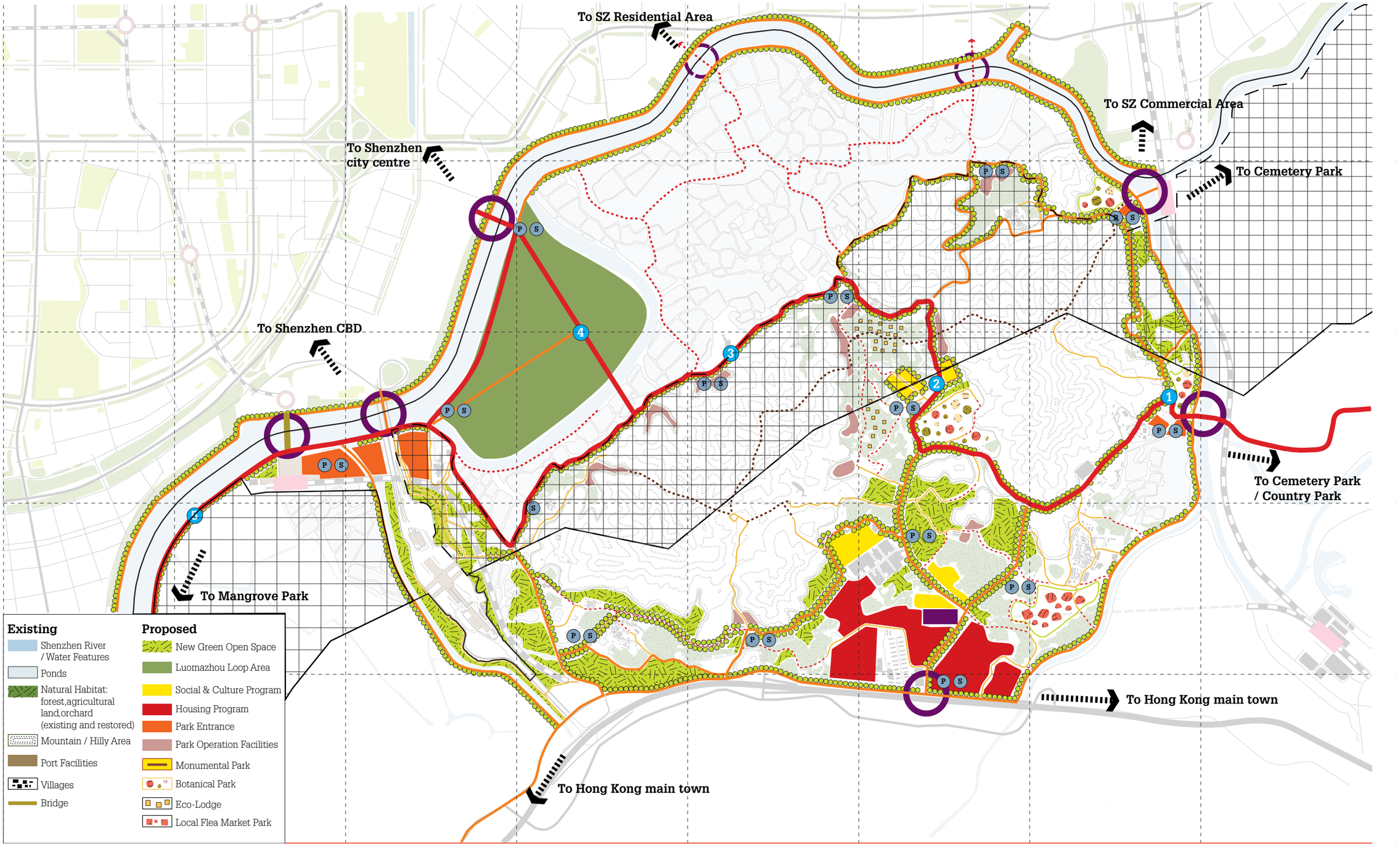
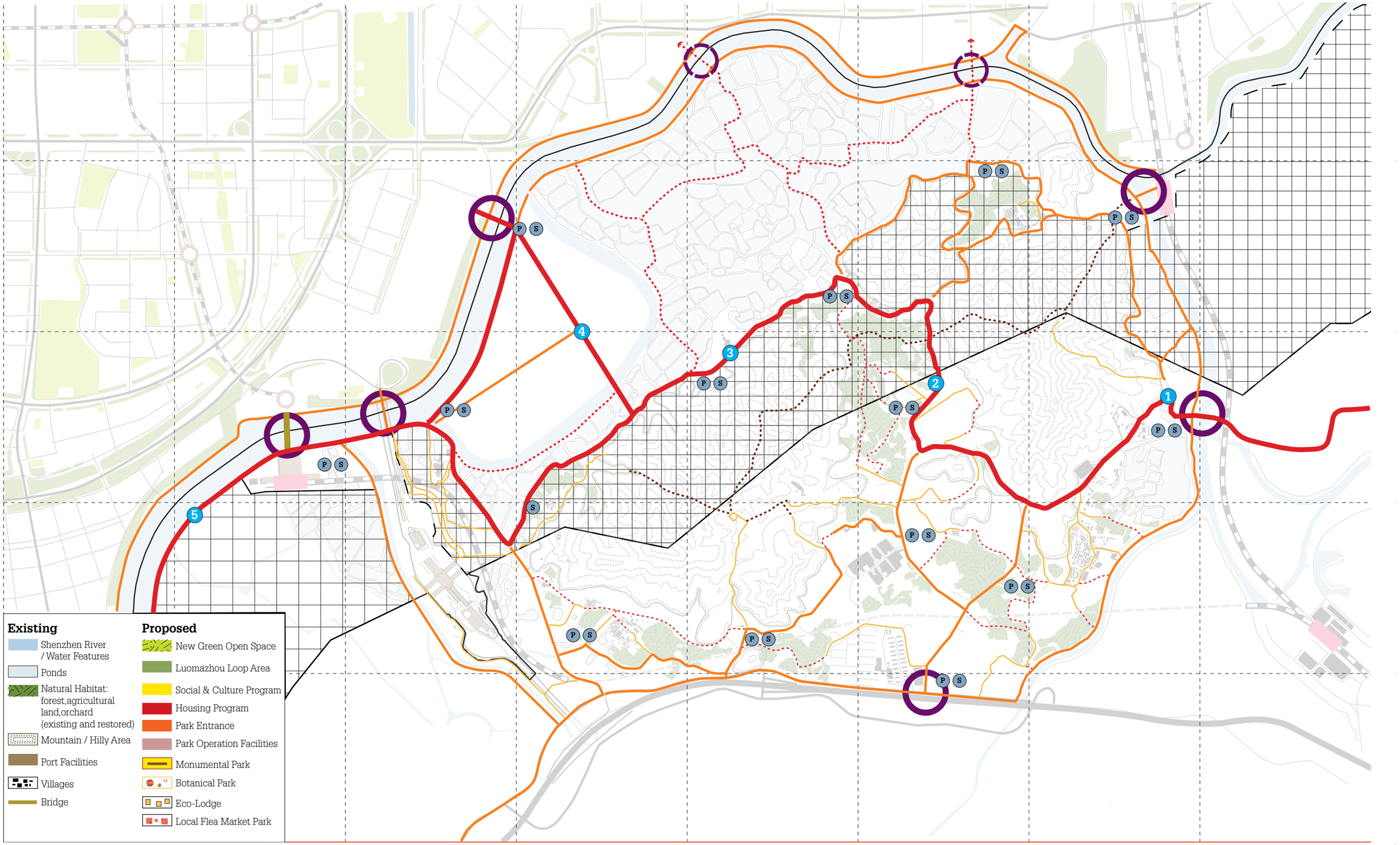


Fig. 6.1 Opportunities and potentials of Urban Park (all images: Hong Kong Planning Department 2008)

HK-SZ Metropolitan Park Development - Urban Park Master Plan

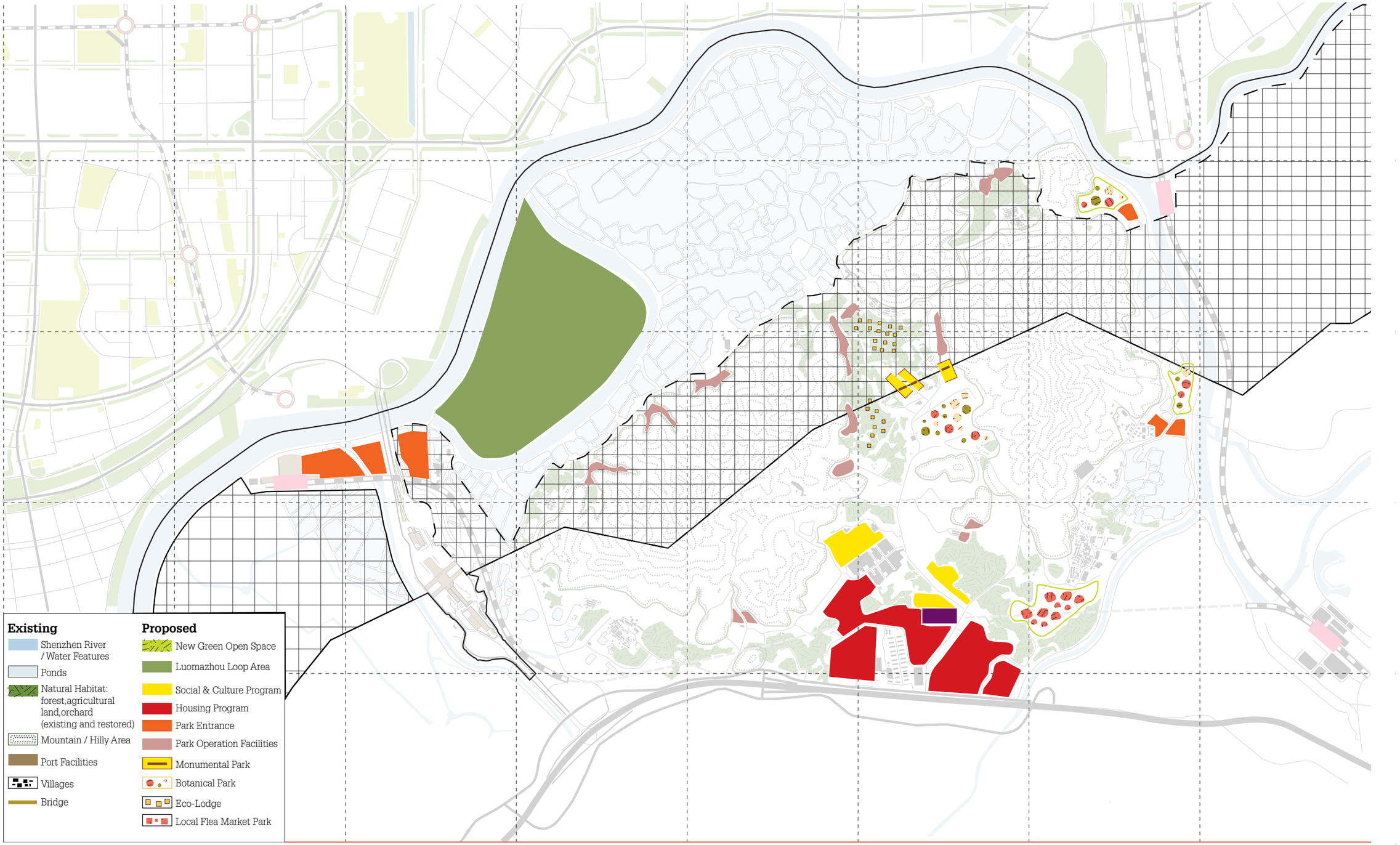


CIRCULATION



HK-SZ Metropolitan Park Development - Urban Park Master Plan

PROGRAM

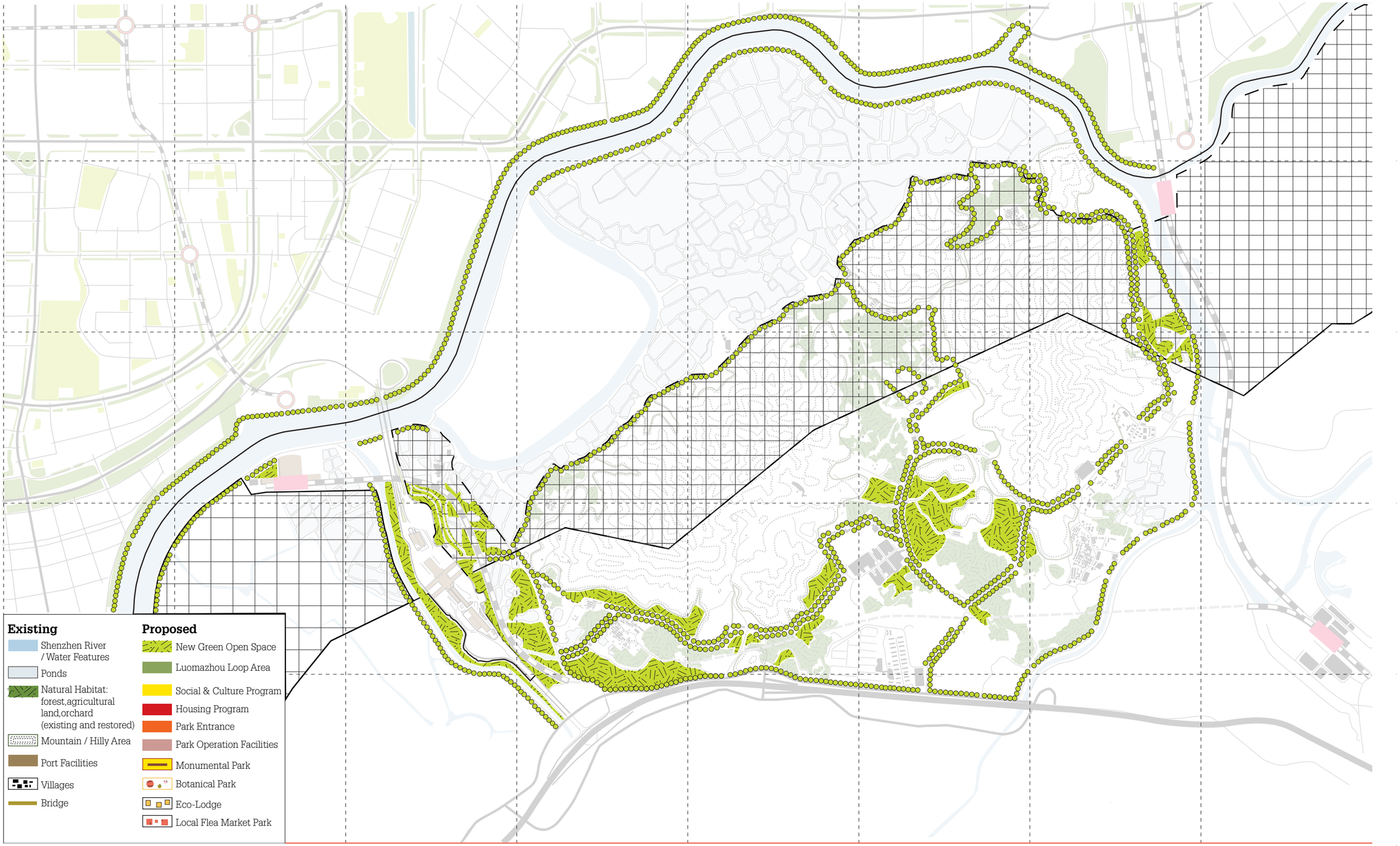


Scale:

0 0.5km 1km

North

- Primary Entry - Vehicle/ Pedestrian / Bicycle
- Sencondary Entry - Pedestrian / Bicycle
- P S Parking Areas / Shuttle Stop
- Scenic Drive
- Shuttle / Service Road / Paved Footpaths, Bicycle Routes
- Street Tree Plantings
- New Route (Pedestrian,Bicycle)
- Footpaths/ Paved Bicycle Routes
- Hiking Routes
- Routes / Greenways Connections
- Railway
- Underground Railway Metro Line
- Train Station
- Proposed Train Station
- Border Zone
- Release Border Zone


Existing
Shenzhen River / Water Features
Ponds
Natural Habitat: forest,agricultural land,orchard (existing and restored)
Mountain / Hilly Area
Port Facilities
Villages
Bridge
Proposed
New Green Open Space
Luomazhou Loop Area
Social & Culture Program
Housing Program
Park Entrance
Park Operation Facilities
Monumental Park
Botanical Park
Eco-Lodge
Local Flea Market Park
Scale:
0
0.5km
1km
North
Primary Entry - Vehicle/ Pedestrian / Bicycle
Sencondary Entry - Pedestrian / Bicycle
P S
Parking Areas / Shuttle Stop
Scenic Drive
Shuttle / Service Road / Paved Footpaths, Bicycle Routes
Street Tree Plantings
New Route (Pedestrian,Bicycle)
Footpaths/ Paved Bicycle Routes
Hiking Routes
Routes / Greenways Connections
Railway
Underground Railway Metro Line
Train Station
Proposed Train Station
Border Zone
Release Border Zone

Elements — Circulation

	Circulation	Prototypes Images	Hierarchy	Function
	City Entrance		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	City Function Node, Landmark,Public Transportation Stop Public Owns Private Investment
	Entrance: Park to River		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Pedestrian Route is Connected, Recreational Facilities around it Public Owns Private Investment
	Entrance: City to Park		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Landscape Design to Create a Specific Image, Recreational Facilities around it Public Owns Private Investment
P S	Transfering Node(City to Park)		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Public Transportation Node, Offering Bikes Rental Function Public Owns Private Investment
	Highway (8 Lanes)		■ Metropolitan Park ■ Urban Park	Improving the Image, Soften the Barrier Image, Lighting Design, Landscape Design Public Owns
	Primary Road (4 Lanes)		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Improving the Road Image by Street Trees, Plants and Light Design, Improving the Connectivity and Safety for Pedestrian and Cyclists Public Owns
	Railway		■ Metropolitan Park ■ Urban Park	Improving the Connectivity and Safety for Pedestrian and Cyclists Public Owns

Elements — Circulation

	Circulation	Prototypes Images	Hierarchy	Function
	Scenic Drive		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Vehicle Priority, Street and Lightening Design, Follow the Landscape Patterns Public Owns
	Bicycle Route		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Cyclists and Pedestrian Priority, Street Design, Follow the Landscape Patterns Public Owns
	Paved Footpaths		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Pedestrian Priority, Street and Lightening Design, Follow the Landscape Patterns Public Owns
	Hiking Route		■ Metropolitan Park ■ Urban Park	Pedestrian Priority, Lightening Design, Follow the Landscape Patterns Public Owns
	Train Station		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Improving the Connectivity and Safety for Pedestrian and Cyclists to cross the Railway Public Owns
	Border-Crossing Point		■ Metropolitan Park ■ Urban Park ■ Luomazhou Loop	Improving the Orientation for Pedestrian and Cyclists to the Park Public Owns
	Proposed Train Station		■ Metropolitan Park ■ Urban Park	Improving the Connectivity and Safety for Pedestrian and Cyclists to cross the Railway Public Owns

(images: Hong Kong Planning Department 2008, Flickr 2010)

Elements — Program

	Program	Prototypes Images	Hierarchy	Function
	Riverfront		Metropolitan Park Urban Park Luomazhou Loop	Natural Development Priority, Improve the Accessibility to River Front from Urban Tissues, Park Facilities Supporting Public Owns Invested by Large Enterprises
	Green Open Space		Metropolitan Park Urban Park Luomazhou Loop	Natural Development Priority, Park Facilities Supporting Public Owns
	Wetland Park		Metropolitan Park Urban Park Luomazhou Loop	Natural Development Priority, Wetland Structure, Water Storage & Purification, Park Facilities Supporting Public Owns, Private Investment
	Botanical Park		Metropolitan Park Urban Park	Strengthen the Landscape Continuity Public Owns
	High Quality Housing		Metropolitan Park Urban Park	New Housing Development, Middle-rise Modern Apartments and Houses, Landscape Design linking to the Urban Park Private Investment
	Monumental Park		Metropolitan Park Urban Park	Strengthen the Cultural and Historical Continuity Public Owns
	Eco-Lodge		Metropolitan Park Urban Park	Improve the Recreation and Weekend Tour Facilities Private Investment

Elements — Program

	Program	Prototypes Images	Hierarchy	Function
	Educational Program		Metropolitan Park Urban Park Luomazhou Loop	Hong Kong -Shenzhen Education and Research Centre Public Owns Private Investment
	Park Facility		Metropolitan Park Urban Park Luomazhou Loop	Support the Park Administration and Maintenance Public Owns
	Cutural Program		Metropolitan Park Urban Park Luomazhou Loop	Improve the Park Events functions Public Owns
	Historical Building		Metropolitan Park Urban Park	Improve the Preservation and Maintenance, Improve the Accessibility with the Main Roads Public Owns
	Social Agriculture Housing		Metropolitan Park Urban Park	Land around Fishponds for Social Agriculture Housing Development, 30% for 2-4 Stories Traditional Apartment or Semi-detached House 70% for Cycle Agriculture Use Public Owns Private Investment
	Existing Traditional village		Metropolitan Park Urban Park	Urban Regeneration, Restructure the Landscape Framework into Urban Park and City Structure Private Owns
	Local Market		Metropolitan Park Urban Park	Improve the Local and Region culture integration Public Owns Private Investment

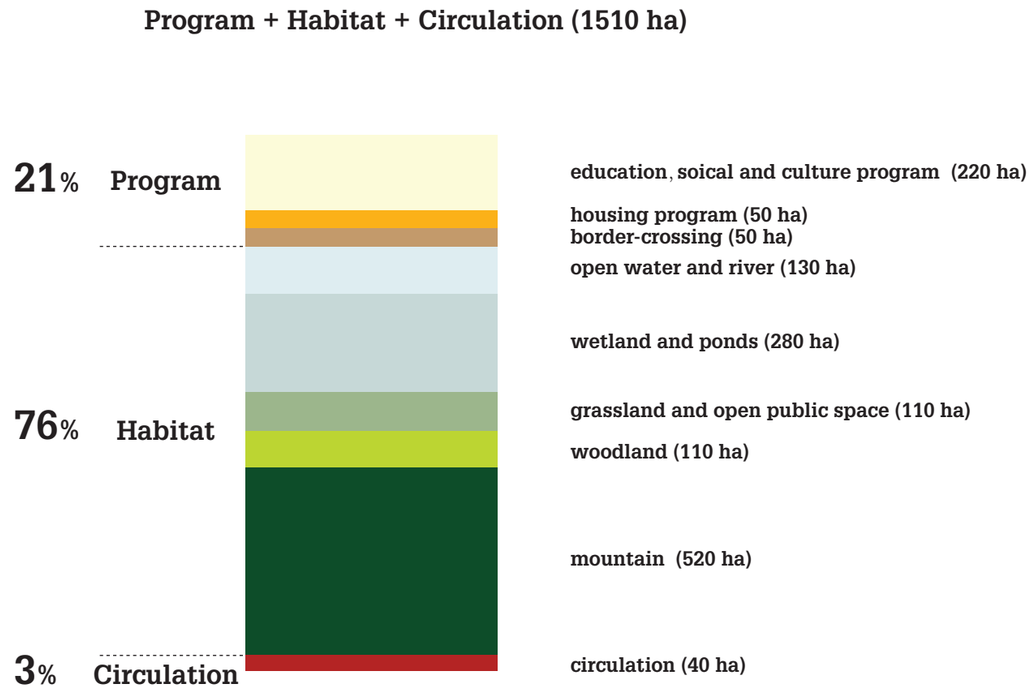
(images: Hong Kong Planning Department 2008, Flickr 2010)

Elements — Habitat

	Habitat	Prototypes Images	Hierarchy	Function
	Mangrove		Metropolitan Park Urban Park	Preservation Area, Pedestrian and Cyclists Access Only, No Development Allowance Public Owns
	Wetland		Metropolitan Park Urban Park Luomazhou Loop	Wetland Structure, Water Storage & Purification, Pedestrian and Cyclists Access Only, No Development Allowance Public Owns
	Fishpond		Metropolitan Park Urban Park	30% Land around Fishponds for Social Agriculture Housing Development, 30% for Cycle Agriculture Use, 40% for Water Storage & Purification Public Owns Private Investment
	Mountain		Metropolitan Park Urban Park	Natural Development Priority, Pedestrian and Cyclists, Access Only Public Owns
	Woodland		Metropolitan Park Urban Park	Natural Development Priority, Pedestrian and Cyclists, Access Only Public Owns
	River		Metropolitan Park Urban Park Luomazhou Loop	Natural Development Priority, Pedestrian and Cyclists, Access Only Public Owns
	Agricultural Land		Metropolitan Park Urban Park	Paddy Fields Landscape Agriculture Use only, Two Stories Maximum, Detached farm house only Private Owns

(images: Hong Kong Planning Department 2008, Flickr 2010)

Distribution of Program Areas and Landscape Types



6.2 Strategic Project in Urban Park

Luomahzou Loop
To show how the Metropolitan Park strategy functions on the city and local scale, Luomazhou loop – a site of 87 hectares was selected to test the strategy. The island was generated because of the river drainage of Shenzhen River (flooding danger). There also many disused fishponds and wetlands.

Luomahzou Loop is situated on the Huanggang and Futian border crossing points(BCP), two of the main BCP serving as link between Hong Kong and Shenzhen.(Huanggang BCP is currently China's largest integrated BCP for passenger and logistic. And Futian BCP is only served for passenger and it connects to Shenzhen metro line and Hong Kong east rail line.) Luomazhou Loop is closed to Futian CBD district which is centre for administration, business & finance and culture of Shenzhen. It also closes to new development areas of north part of Hong Kong New Territory.

The strategy of Luomazhou Loop development is basic on the urban park context and also the t functional corridor of Hong Kong and Shenzhen.

Strategic Location:
1 the meeting point of Urban and Nature
2 the entrance of Urban Park in city scale and Metropolitan Park in Regional scale
3 the potential functional area

6.2.1 Design Concept

1. Continue the traditional Pearl River delta fishpond pattern (water + building +green)
2. Follow the land historical axes
3. Use three "faces" based on the site situation: urban face, water face and local village face.

6.2.2 Design Guideline:

Circulation: [User Experience]
1.Improved accessibility
2.Enhanced user experience from the city to the waterfront and park (from denseness to openness)
3. Animated Edge and Entrance

Program: [Border Identity]
1.Bring good and world-class educational resources from HK
2.Improve SZ higher education facilities and quality
3.Improve public education development

Habitat: [Landscape Visual Quality]
1.Keep the contrast between urban and nature
2.Keep the history and cultural landscape continuity
3.Active landscape preservation

6.2.3 Activator Actions

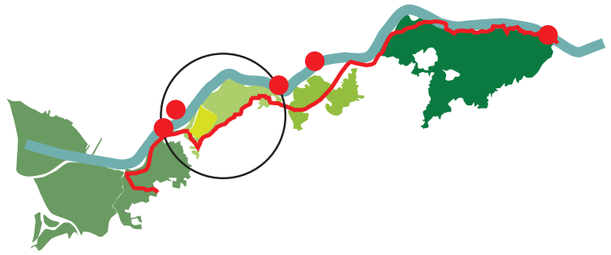
Circulation: [User Experience]
1. Park routing design connects to the local vehicle / bicycle/ pedestrian streets
2. One day main culture landscape routing
3. Park entrances strengthening design and new bridge conncets to SZ waterfront park

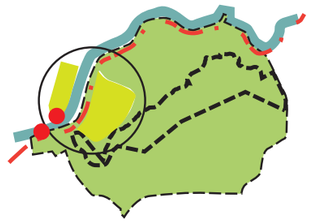
Program: [Border Identity]
1. HK- SZ Education & Research Centre/
HK- SZ International Training, Examination Centre
HK- SZ Library/ HK -SZ Cross-border Museum/Wetland Museum
another social & cultural programs
2. Park supporting facilities desgin

Habitat: [Landscape Visual Quality]
1.Urban Park green open space design connects to SZ local public & green space
2. Fishponds network active preservation
3. Waterfront design

6.2.4 Main Cultural Scenic Route
A Main Cultural Scenic Route would be proposed to see how these design elements function together.

Cross-border Development Strategy - Local(S)





Hierarchy / Layer	Region(L)	City(M)	Local(S)
3 Coordinated System Organize the Vast Landscape	**HK-SZ Metropolitan Park** 01|Mangrove Park 02|Urban Park 03|Cemetery Park 04|Country Park	**02 | Urban Park**	**Strategic Project: Luomazhou Loop in the Urban Park**
Circulation	Scenic Drive (1 week leisure tour)	Vehicle /Bicycle/Pedestrian Routing (2hr/ 6hr/ 1 day)	1.Park Routing Connects to the Local Vehicle /Bicycle/ Pedestrian Streets 2. Park Entrances
Program	1.Different Border Spatial and Cultural Identity 2.Space for Different Lifestyles 3.Attractive Working and Living Locations	HK-SZ Functional Corridors: 1. Knowledge/Education 2. Recreation 3. Housing	1. HK- SZ Education & Research Centre 2. Park Supporting Facilities
Habitat	1.HK-SZ Urban Ecological System 2.Quality of the Nature and Urban Landscape	1.Urban Park Green Open Space Network 2.Visual Quality of the Nature and Urban Landscape	1.Urban Park Green Open Space Connects to Local Public & Green Space 2. Fishponds Network 3. Waterfront

Design Guideline ■ Local(S)

	Guideline	Activator Actions
User Experience ■ **Circulation**	1.Improved accessibility 2.Enhanced user experience from the city to the waterfront and park (from denseness to openness) 3. Animated Edge and Entrance	1. Park routing design connects to the local vehicle / bicycle/ pedestrian streets 2. One day main culture landscape routing 3. Park entrances strengthening design and new bridge conncets to SZ waterfront park
Border Identity ■ **Program**	1.Bring good and world-class educational resources from HK 2.Improve SZ higher education facilities and quality 3.Improve public education development	1. HK- SZ Education & Research Centre/ HK- SZ International Training, Examination Centre HK- SZ Library/ HK -SZ Cross-border Museum/Wetland Museum another social & cultural programs 2. Park supporting facilities desgin
Landscape Visual Quality ■ **Habitat**	1.Keep the contrast between urban and nature 2.Keep the history and cultural landscape continuity 3.Active landscape preservation	1.Urban Park green open space design connects to SZ local public & green space 2. Fishponds network active preservation 3. Waterfront design

Existing Situation of Luomazhou Loop Area

Fig. 6.2 Luomazhou Loop area is close to Shenzhen Funtian CBD
(Hong Kong Planning Department 2009)

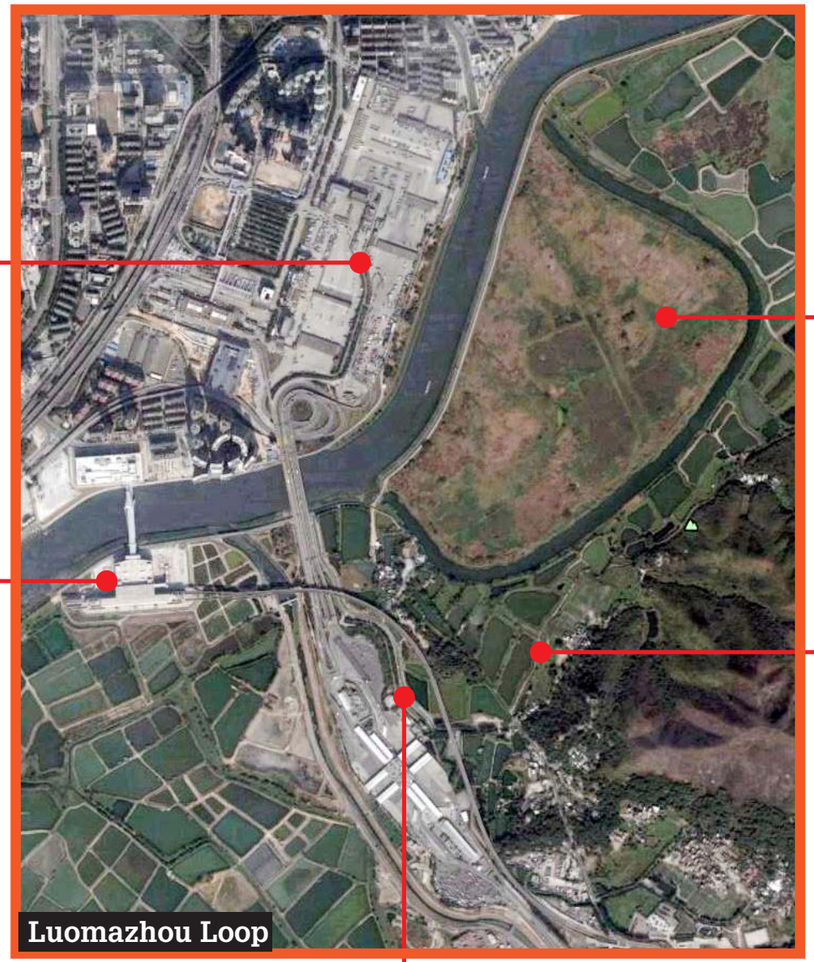


Fig. 6.4 Aerial Image of Luomazhou Loop area in the cross border area
(Hong Kong Planning Department 2009)

Fig. 6.6 Fish ponds of Luomazhou Loop area
(Hong Kong Planning Department 2009)

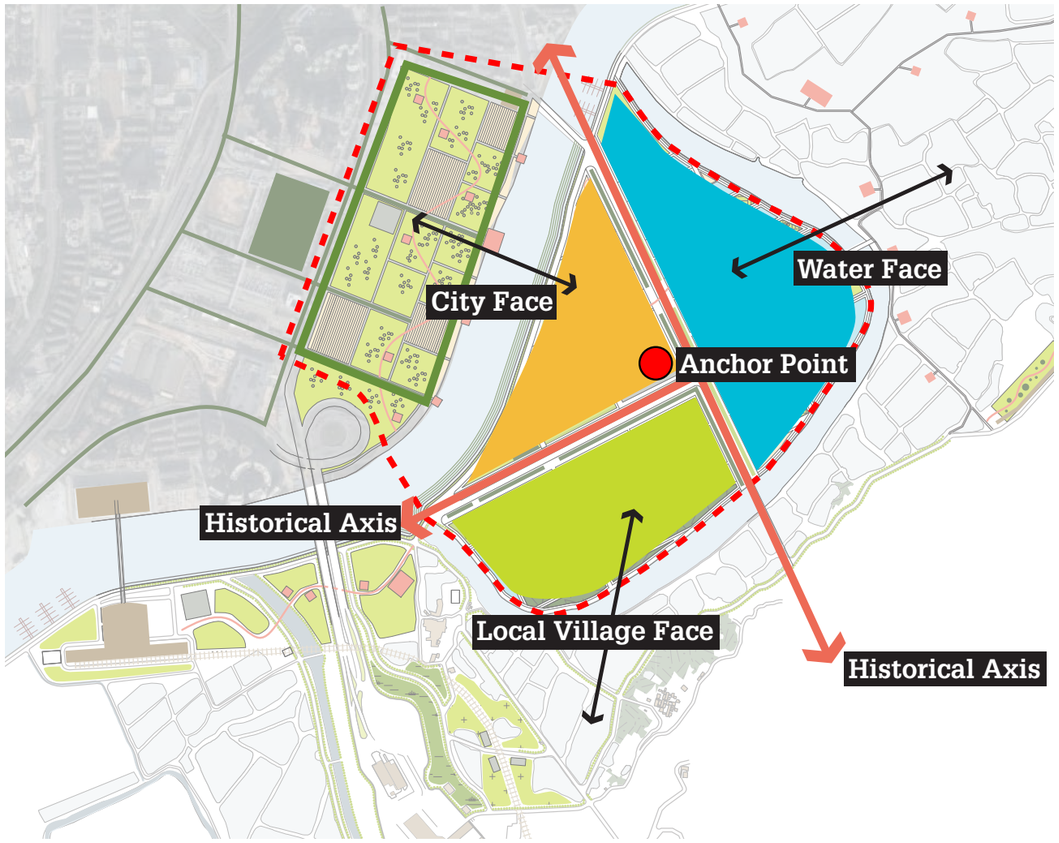
Fig. 6.3 Futian border-cross point of Luomazhou Loop area
(Hong Kong Planning Department 2009)

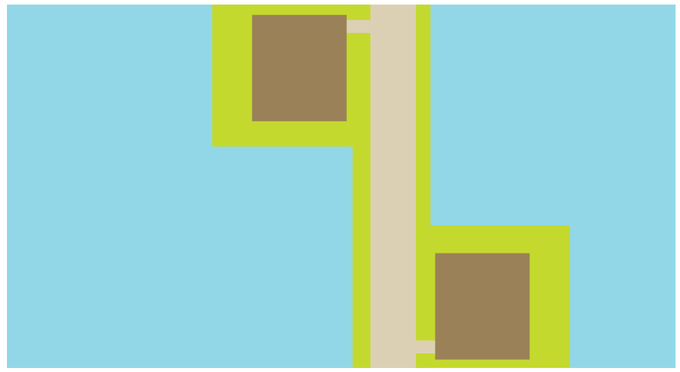
Fig. 6.5 Huanggang border crossing point in the Luomazhou Loop area
(Hong Kong Planning Department 2009)

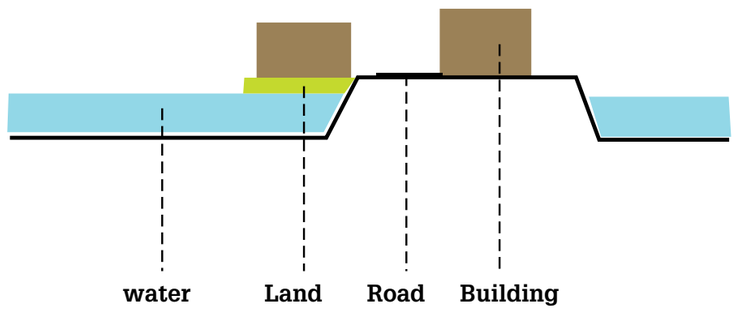
Fig. 6.7 tranditional village in the Luomazhou Loop area
(Hong Kong Planning Department 2009)

Fig.6.8 Shenzhen River Before and After Training (Savantas Policy Institute, 2008)

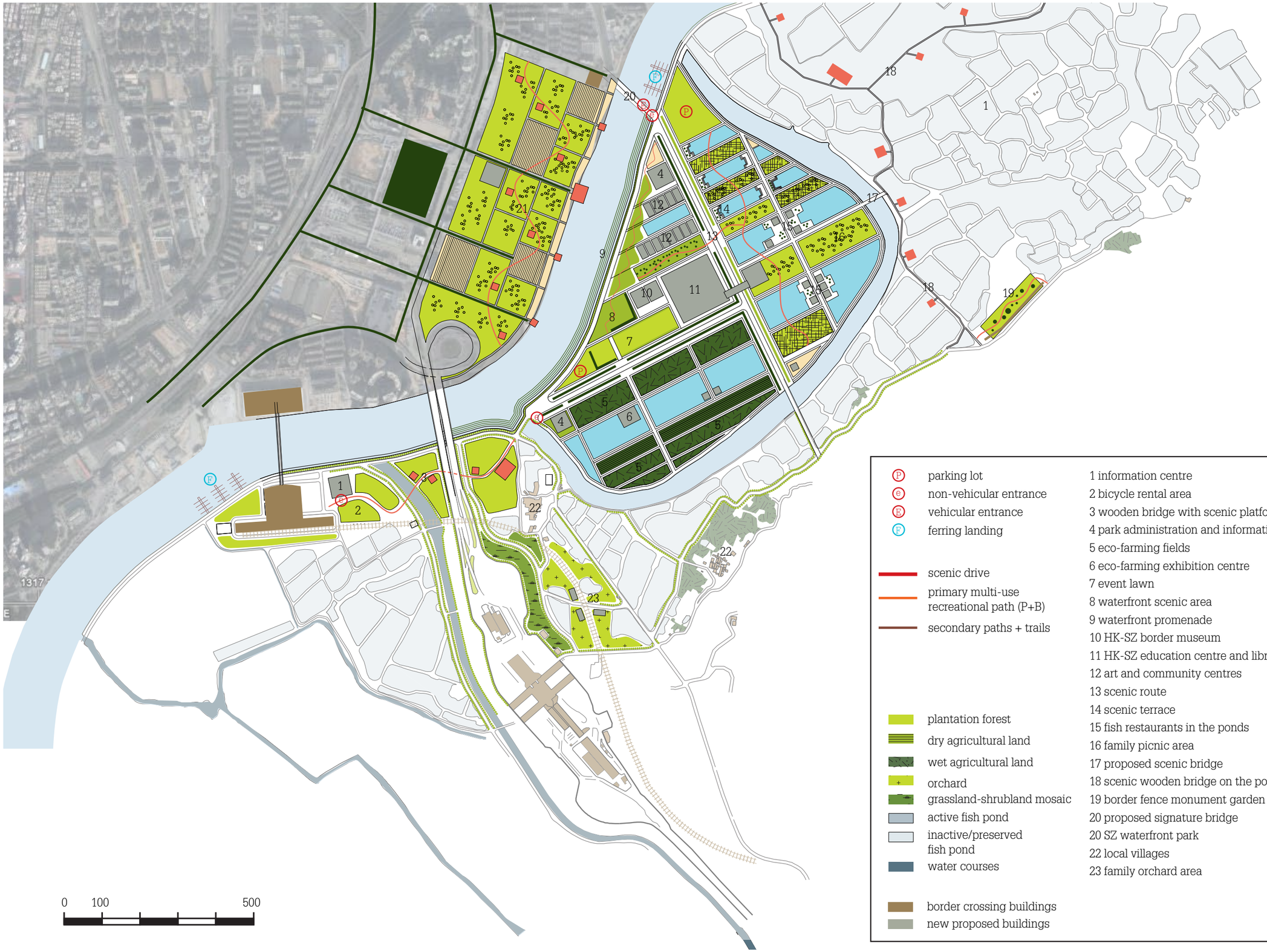
Design Concept : Historical Axis, Function , Fish Pond Landscape Pattern







Local Project : Luomazhou Loop Area

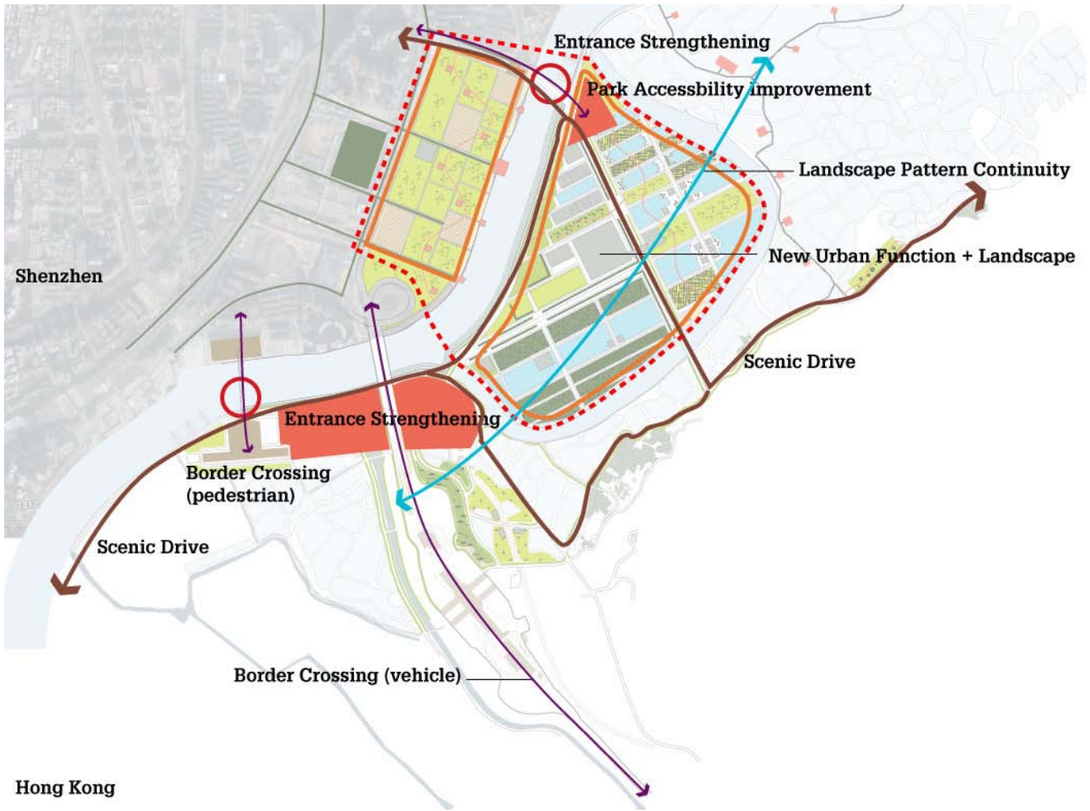


- parking lot
- non-vehicular entrance
- vehicular entrance
- ferring landing
- scenic drive
- primary multi-use recreational path (P+B)
- secondary paths + trails
- plantation forest
- dry agricultural land
- wet agricultural land
- orchard
- grassland-shrubland mosaic
- active fish pond
- inactive/preserved fish pond
- water courses
- border crossing buildings
- new proposed buildings

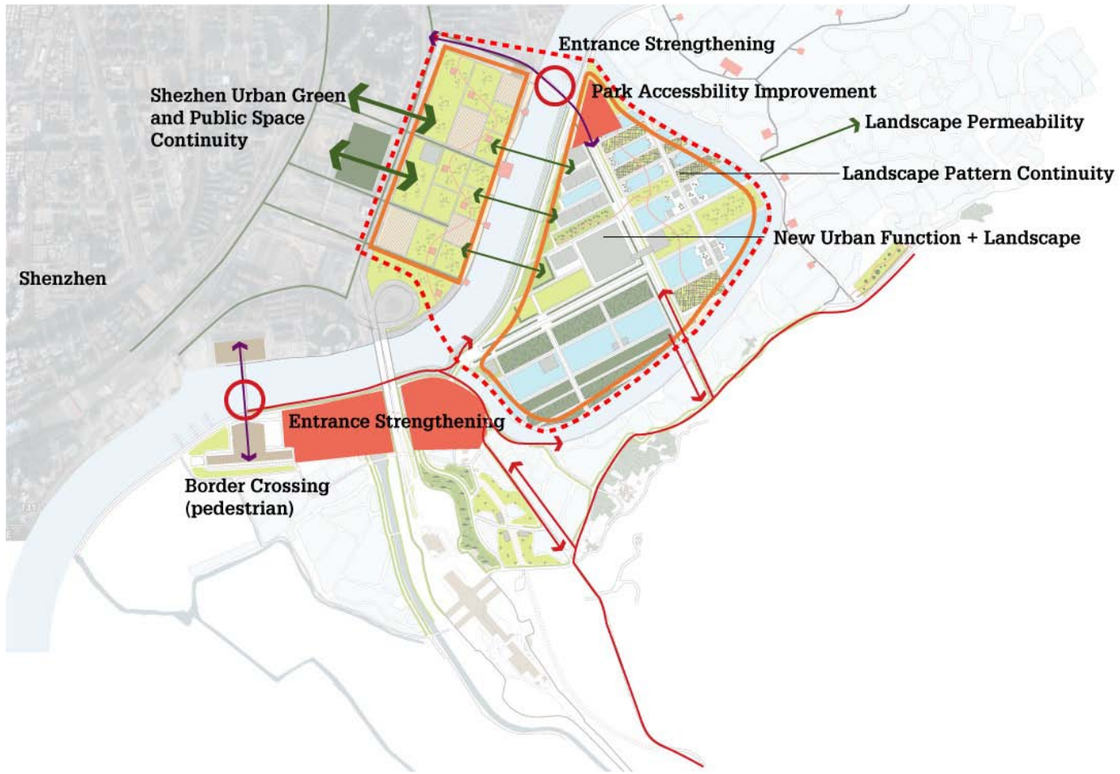
1 information centre
2 bicycle rental area
3 wooden bridge with scenic platform
4 park administration and information centre
5 eco-farming fields
6 eco-farming exhibition centre
7 event lawn
8 waterfront scenic area
9 waterfront promenade
10 HK-SZ border museum
11 HK-SZ education centre and library
12 art and community centres
13 scenic route
14 scenic terrace
15 fish restaurants in the ponds
16 family picnic area
17 proposed scenic bridge
18 scenic wooden bridge on the ponds
19 border fence monument garden
20 proposed signature bridge
20 SZ waterfront park
22 local villages
23 family orchard area

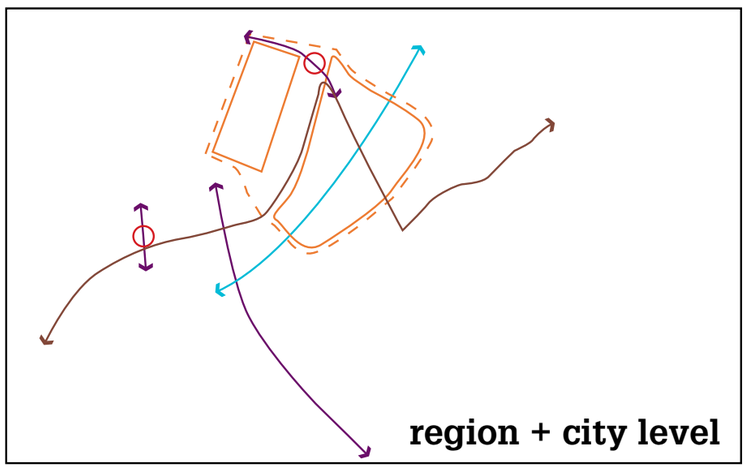
Project : Luomazhou Loop Area - Region & Local

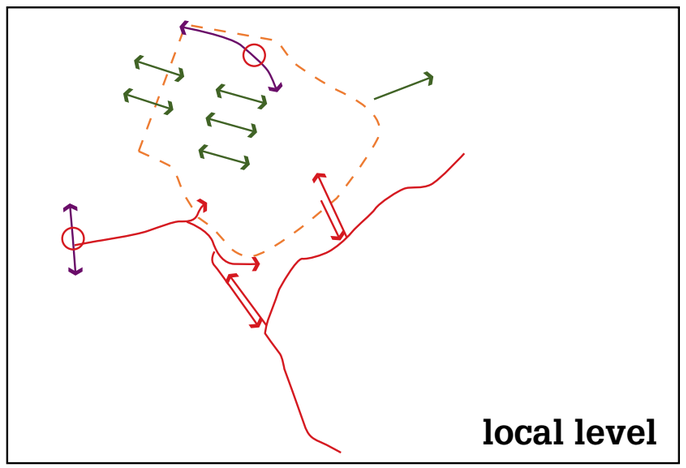
region + city level



local level

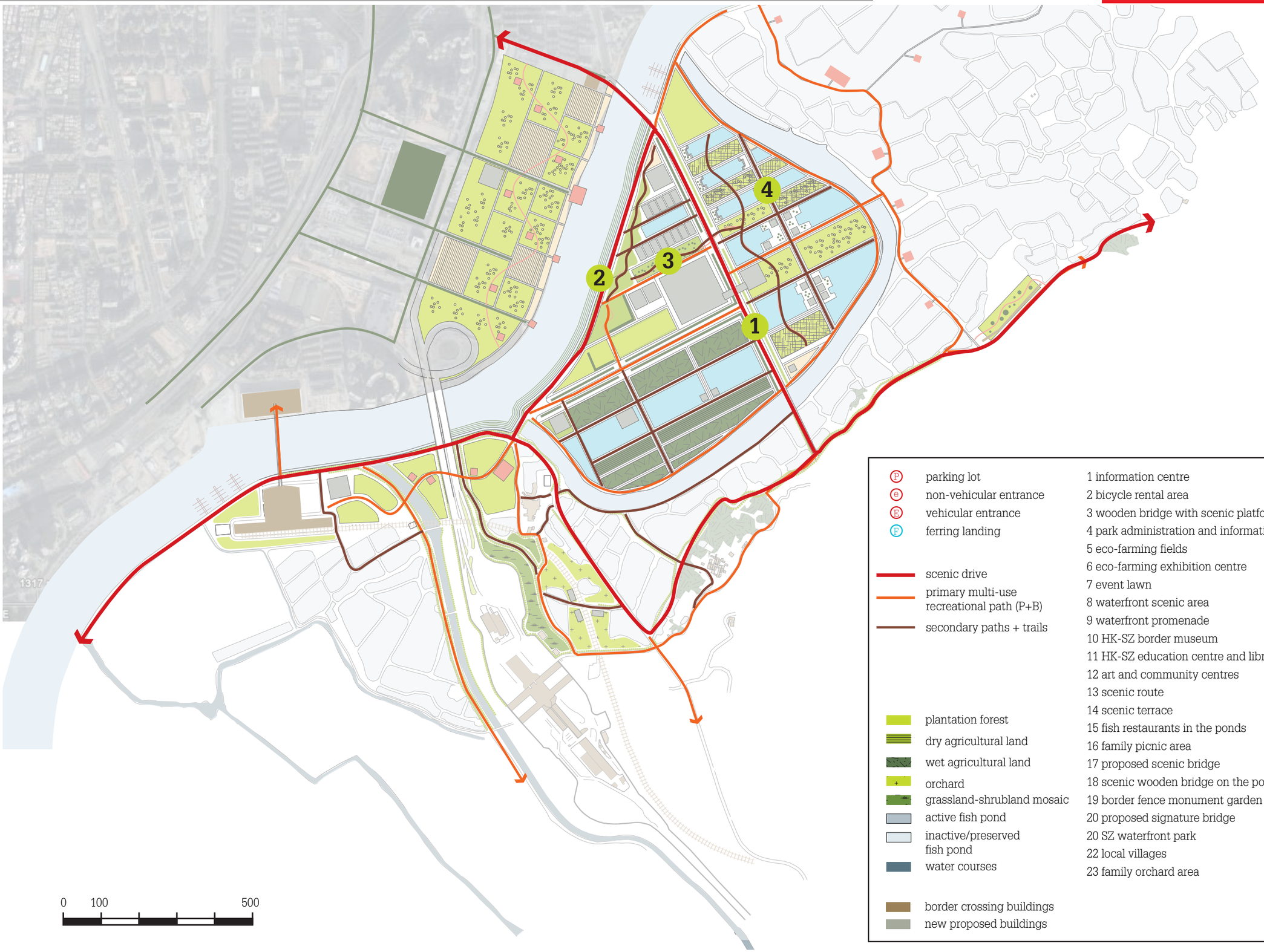






Local Project : Luomazhou Loop Area | multi-use recreational path

CIRCULATION



- parking lot
- non-vehicular entrance
- vehicular entrance
- ferring landing

- scenic drive
- primary multi-use recreational path (P+B)
- secondary paths + trails

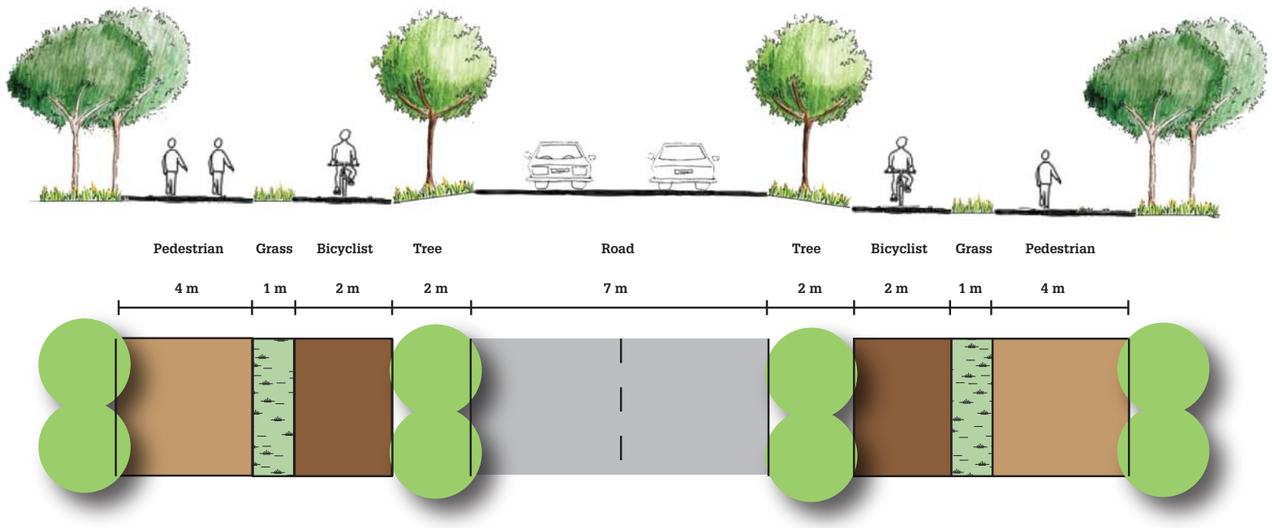
- plantation forest
- dry agricultural land
- wet agricultural land
- orchard
- grassland-shrubland mosaic
- active fish pond
- inactive/preserved fish pond
- water courses

- border crossing buildings
- new proposed buildings

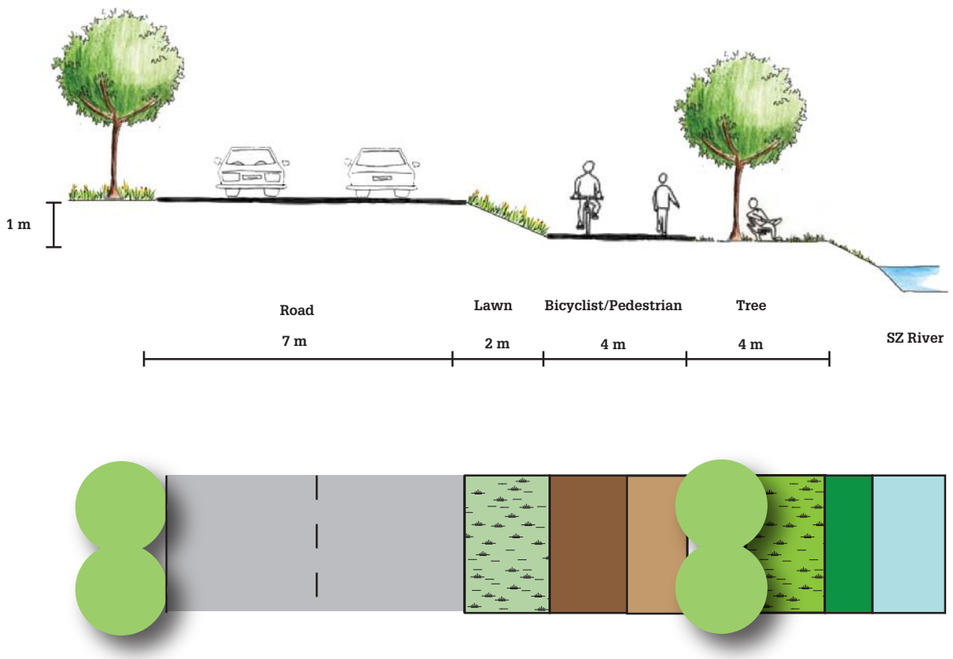
1 information centre
2 bicycle rental area
3 wooden bridge with scenic platform
4 park administration and information centre
5 eco-farming fields
6 eco-farming exhibition centre
7 event lawn
8 waterfront scenic area
9 waterfront promenade
10 HK-SZ border museum
11 HK-SZ education centre and library
12 art and community centres
13 scenic route
14 scenic terrace
15 fish restaurants in the ponds
16 family picnic area
17 proposed scenic bridge
18 scenic wooden bridge on the ponds
19 border fence monument garden
20 proposed signature bridge
20 SZ waterfront park
22 local villages
23 family orchard area

Road Typology

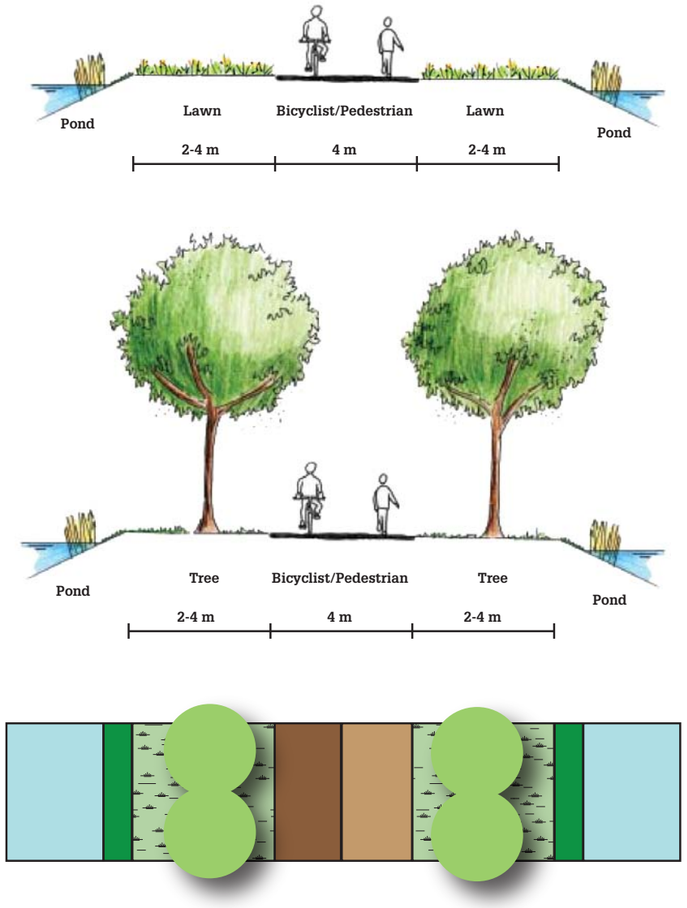
1 scenic drive in the Luomazhou Loop area



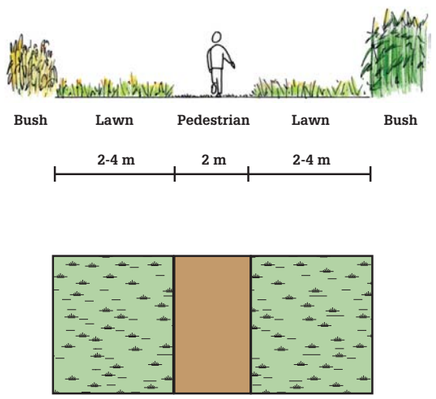
2 scenic drive along the Shenzhen River



3 bicycle and pedestrian paths in the ponds area

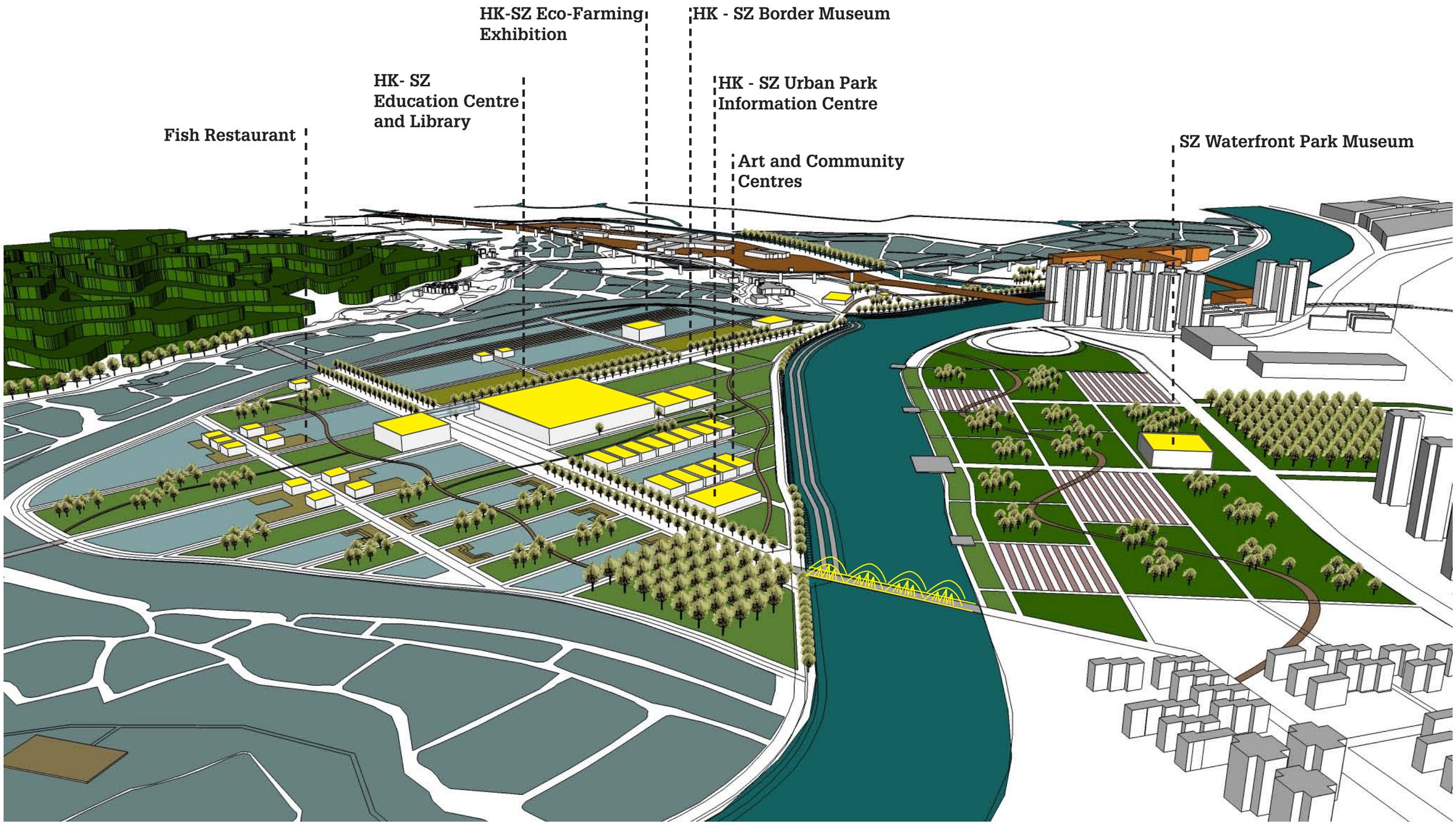


4 pedestrian path in the event lawn area

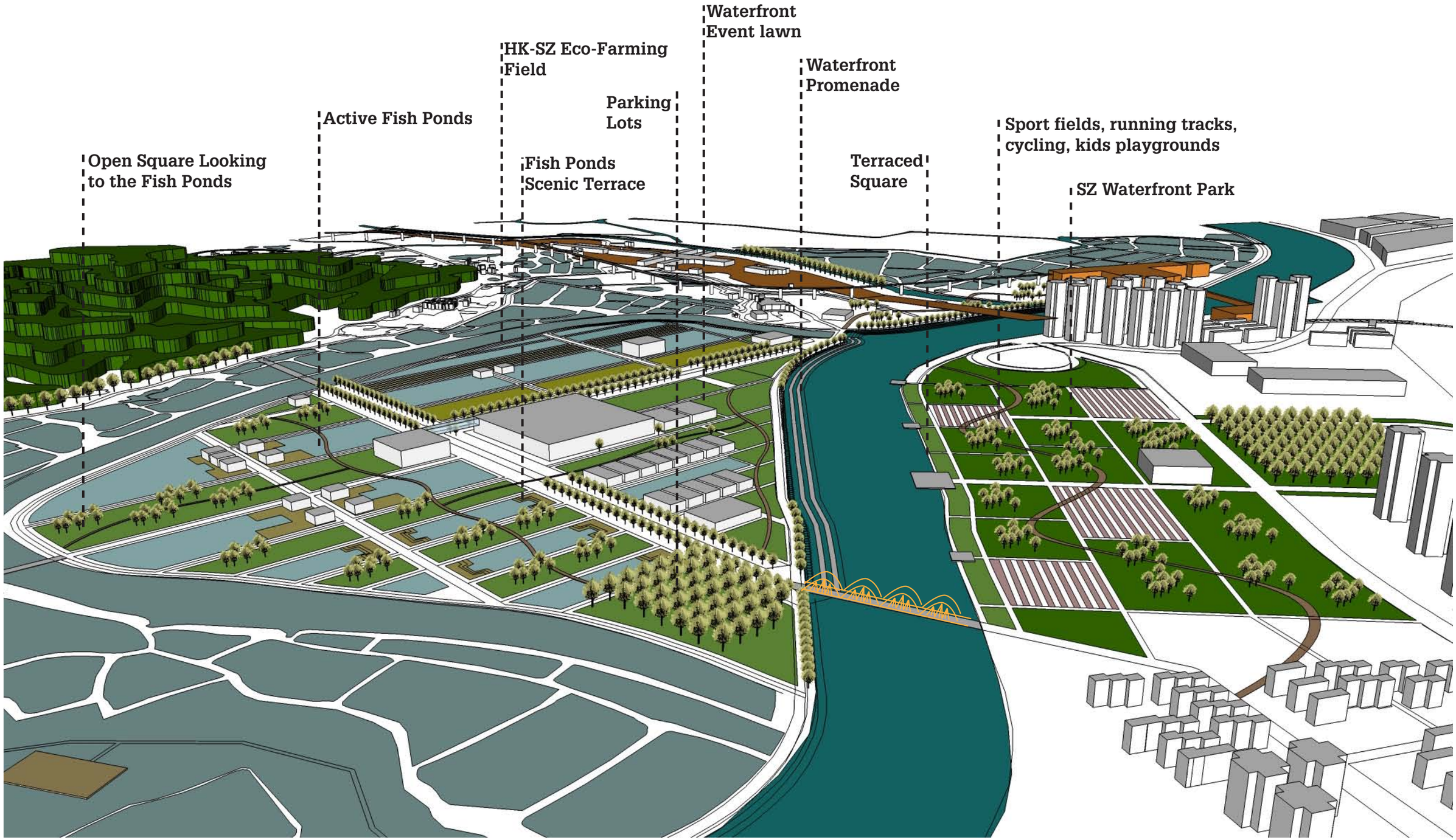


Luomazhou Loop: Functional Program

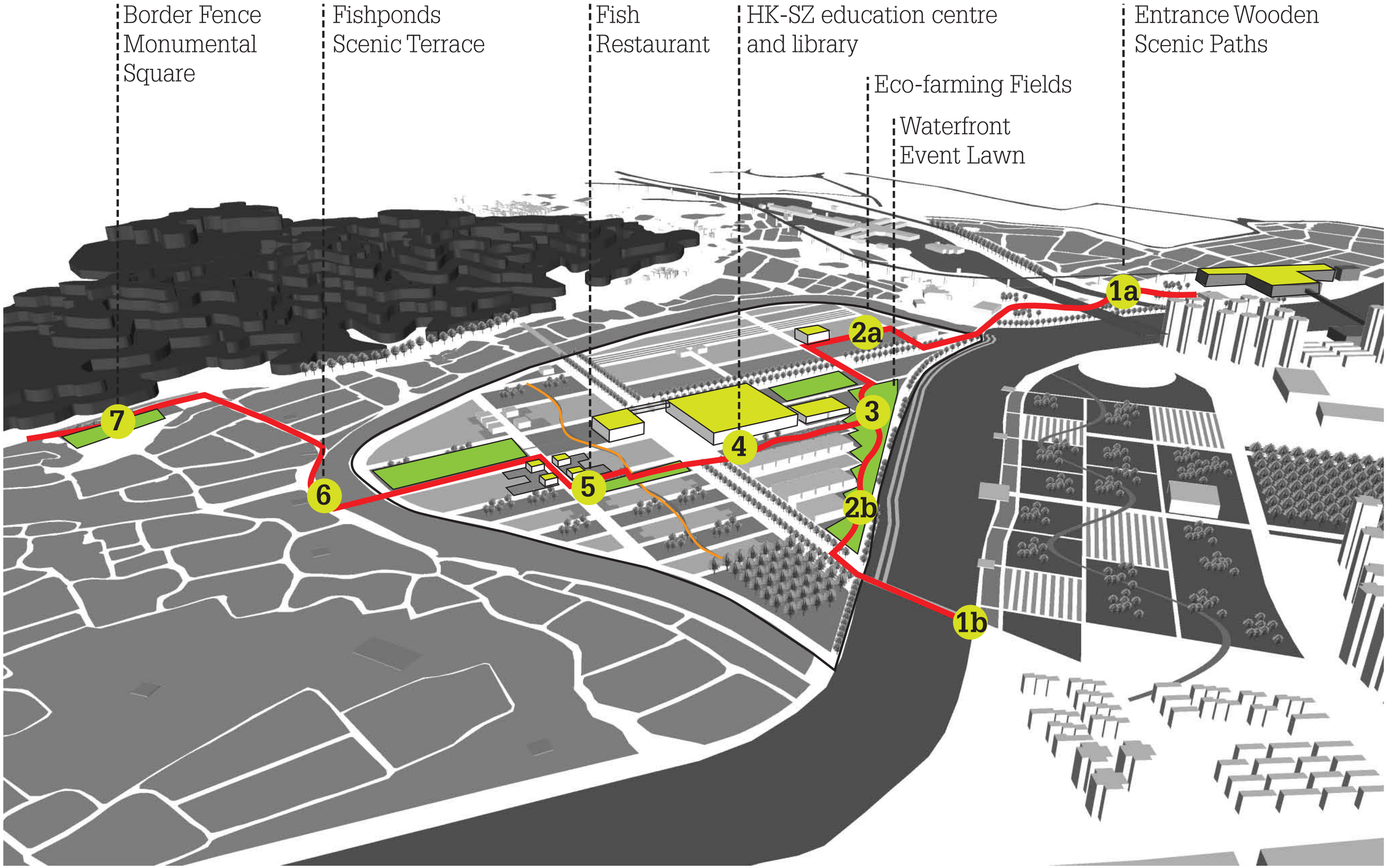
PROGRAM



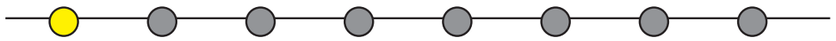
Luomazhou Loop: Urban Park Public & Green Space



Luomazhou Loop: Main Cultural Scenic Route



Culture Routing 1 | Wooden Scenic Bridge in the Entrance



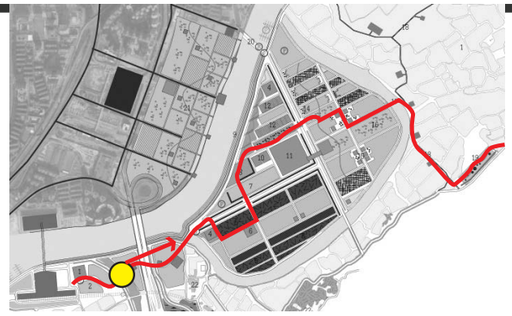
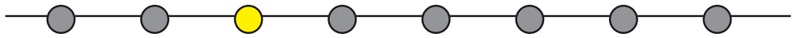


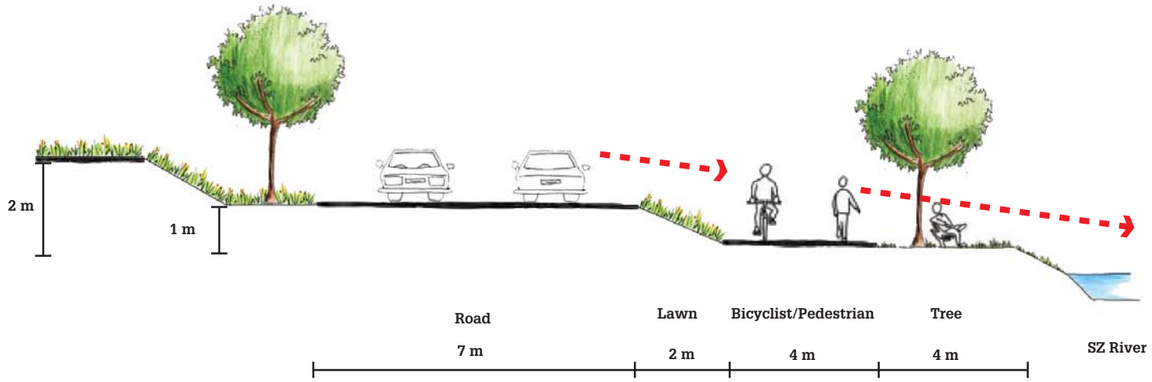
Fig. 6.9 Hong Kong Wetland Park (flickr 2010)

Culture Routing 2 | Event Lawn in front of the HK-SZ Education Centre

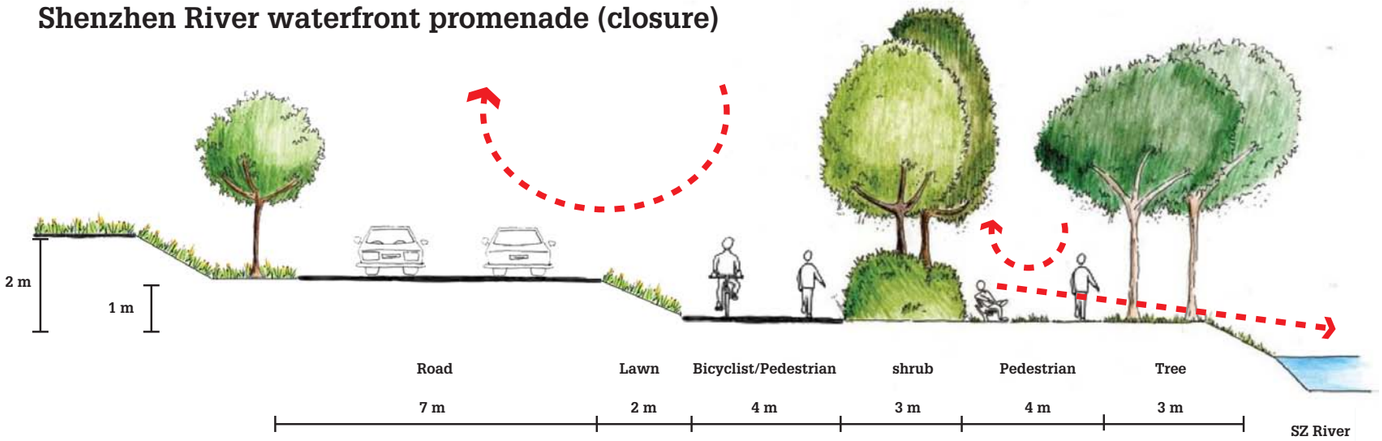
Culture Routing 3 | Waterfront Event Lawn



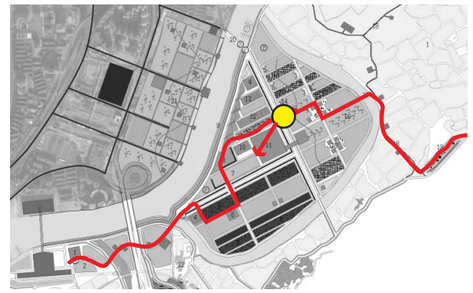
Shenzhen River waterfront promenade (openness)



Shenzhen River waterfront promenade (closure)



Culture Routing 4 | HK-SZ Education Centre and Library

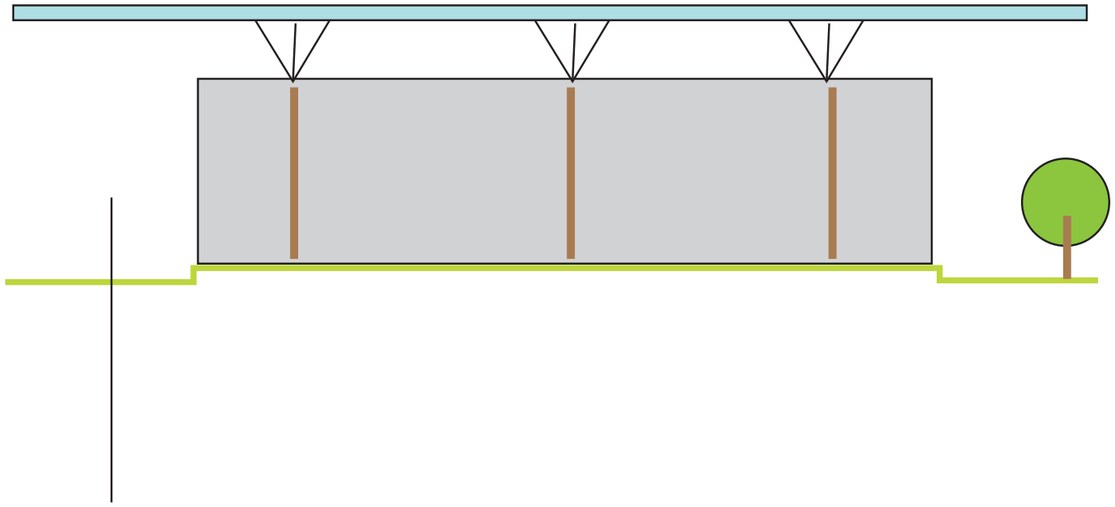


California Academy of Sciences
By Renzo Piano Workshop

(images: flickr 2010)

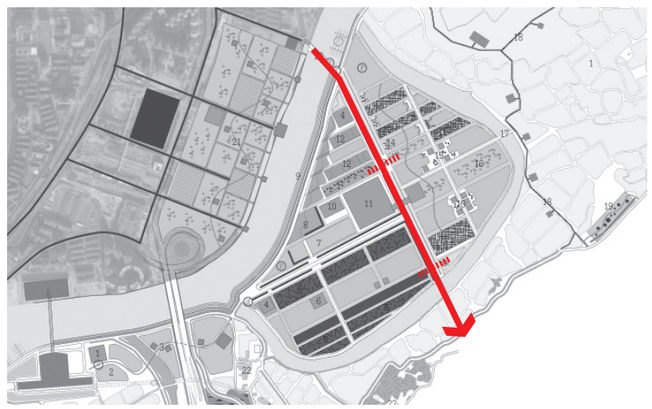
Culture and Convention Centre Lucerne (KKL Luzern)
By Jean Nouvel

(images: flickr 2010)

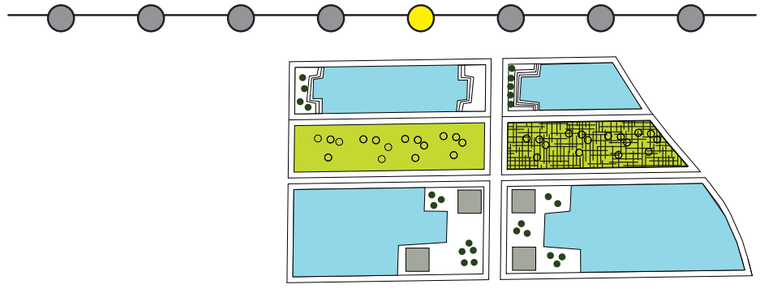


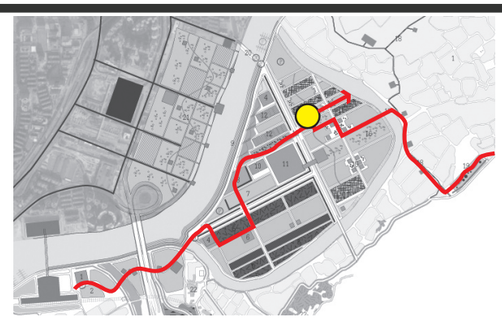
Semi-Public Space

Scenic Drive

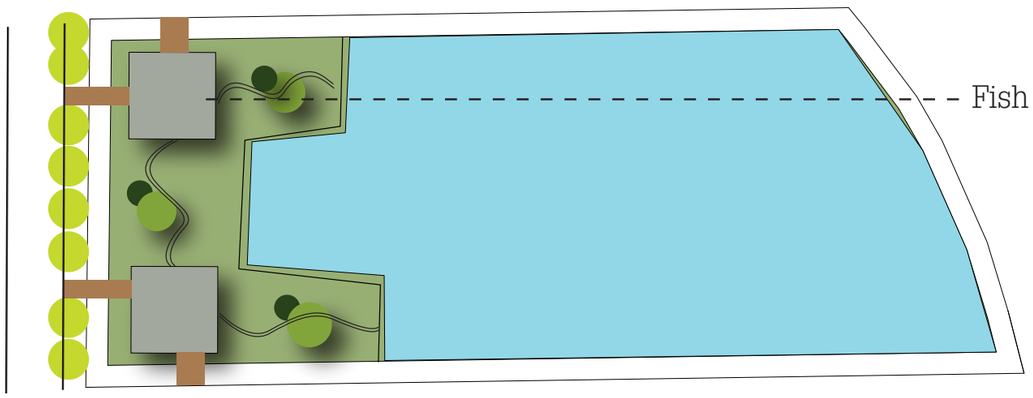


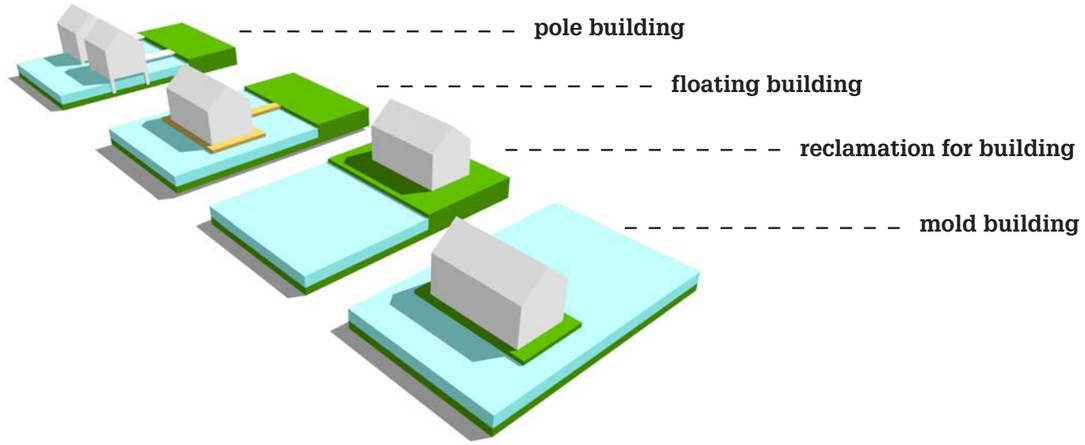
Culture Routing 5 | Fishponds Area





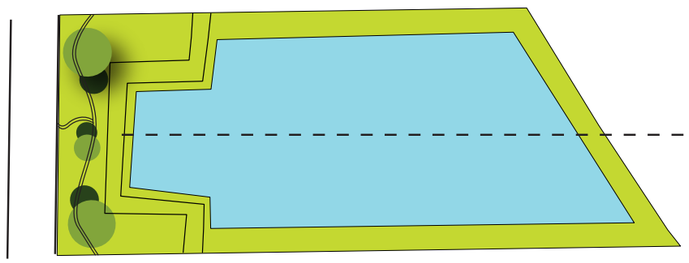
Fish Restaurant



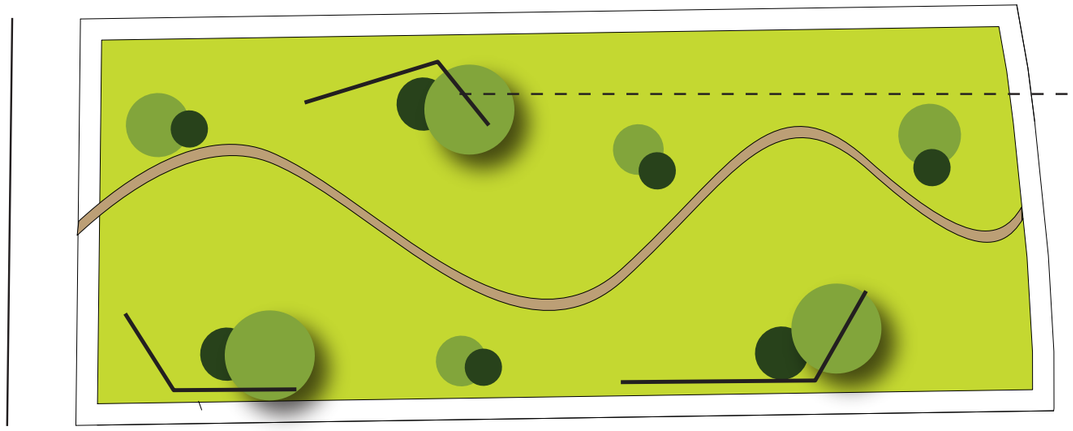


Pearl River Delta typical waterside buildings

Scenic and Fishing Terrace

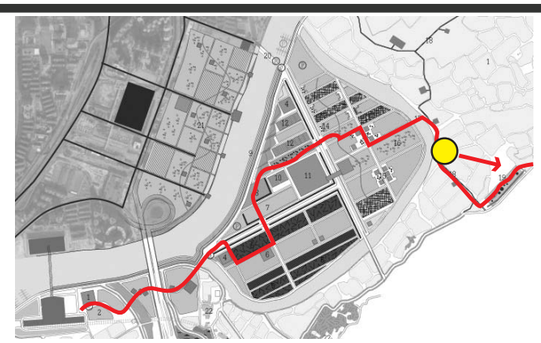


Culture Routing 6 | Picnicking Areas



Low Brick Wall

Culture Routing 7 | Docks for Fishing and Wetland Overlooks



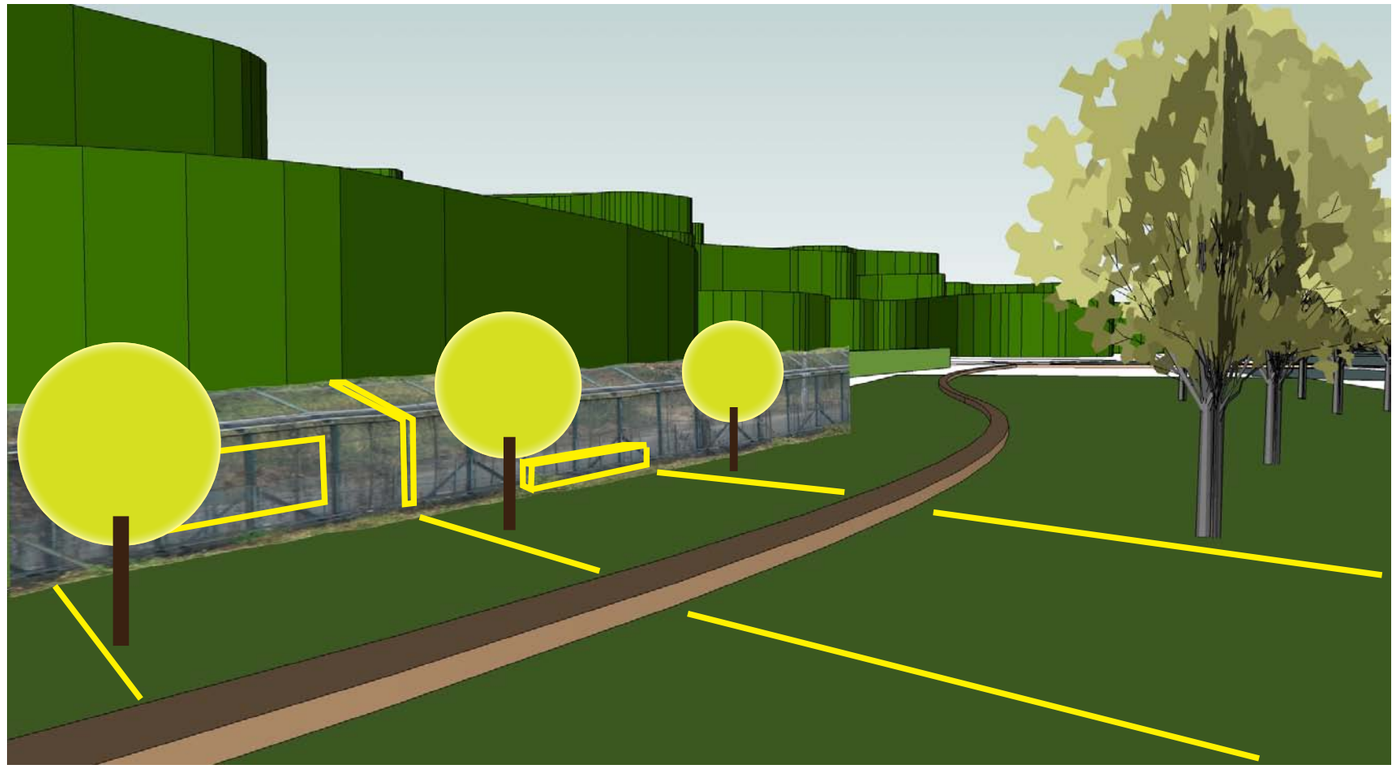
Culture Routing 8 | Border Fence Monumental Square

Existing border fence

(images: flickr 2010)

(images: flickr 2010)

Berlin Wall



6.3 Urban Park Implementation

6.3.1Phasing
Phase 1: (2010-2030)
the beauty of accessibility, first part program, environment

Circulation:
- Entrances in the border crossing points and HK side
- The main connection from the city to the park
- The main connection from the SZ city to the Luomazhou Loop
- Repair the existing main roads in the park
- Build the missing links between the function nodes
- New train station stop in the HK side

Program:
- The first part of housing development around the new train station in HK side
- Luomazhou loop mix-use development
- Culture and Social program in the Urban Park
- Urban park supporting facilities
- Remove the unwanted warehouses in the site

Habitat:
- Activate the Fishponds along the Shenzhen River
- Restructure the Luomahzou Loop water network
- Shenzhen water front park development
- Agricultural landscape renewal
- New public green space in the park
- Plantation along the scenic drives and main pedestrian and bike routes
- Existing habitat preservation

Phase 2 (2030-2047)
the beauty of second part program, environment

Circulation:
- Entrances along the Shenzhen River
(preparing for the HK-SZ border removing)
- New scenic routing in the fishponds area

Program:
- The second part of housing development around the new train station in HK side
- Eco-lodges program in the park
- Monumental Square in the park (preparing for the HK-SZ border removing)
- Local market around the existing villages
- Botanical visiting area in the park

Habitat:
- New public green space in the park
- Existing habitat preservation

6.3.2 Governance:
Due to Hong Kong and Shenzhen are under the different politic system now, in order to realize the project, a new broad at metropolitan scale should be created. It should be under the even larger scale – Pearl River delta system. And the Hong Kong and Shenzhen municipalities should have more cooperation and considerations in region integration plan. The consideration of cross-border area is not passive preservation. It should be consider the active preservation, cultural value, ecological development and risky area. Meanwhile, without the support from the national and government, only some parts of the local intervention might be realized by cities municipalities.

6.3.3 Stakeholders: Please see the table in page 129

Phasing

Phase 1 (2010-2030)

the beauty of accessibility, first part program, environment

Phase 2 (2030-2047)

the beauty of second part program, environment

HK - SZ Urban Park

the beauty of our urban park

2010

- Entrances in the border crossing points and HK side
- The main connection from the city to the park
- The main connection from the SZ city to the Luomazhou Loop
- Repair the existing main roads in the park
- Build the missing links between the function nodes
- New train station stop in the HK side

- The first part of housing development around the new train station in HK side
- Luomazhou loop mix-use development
- Culture and Social program in the Urban Park
- Urban park supporting facilities
- Remove the unwanted warehouses in the site

- Activate the Fishponds along the Shenzhen River
- Restructure the Luomahzou Loop water network
- Shenzhen water front park development
- Agricultural landscape renewal
- New public green space in the park
- Plantation along the scenic drives and main pedestrian and bike routes
- Existing habitat preservation

2030

- Entrances along the Shenzhen River (preparing for the HK-SZ border removing)
- New scenic routing in the fishponds area

- The second part of housing development around the new train station in HK side
- Eco-lodges program in the park
- Monumental Square in the park (preparing for the HK-SZ border removing)
- Local market around the existing villages
- Botanical visiting area in the park

- New public green space in the park
- Existing habitat preservation

2047

Circulation

Program

Habitat

Stakeholders

		Circulation				Program				Habitat				
		Park Entrances	New Train Station	Scenic Drive	Pedestrian and Cyclist Routes	Luomazhou Loop Development	New Housing Development	Culture and Social Program	Park Supporting Facilities	New Water Structure in LMZ Loop	Fishponds and Wetland	Shenzhen River	New Public Green	Eco-farming
Public	National and Guangdong Province Government	●								●	●	●		
	Shenzhen Municipal Government	●		○	●	●		●	●	●	●	●	●	●
	Hong Kong SAR Government	●	●	●	●	●	●	●	●	●	●	●	●	●
Research	Research Institutes					●				●	●	●	●	●
	Universities					●				○	○	●	●	○
	Environmentalists					●				●	●	●	●	●
Private	Developers	●	●			●	●			○			●	
	Larger Enterprises					●	○	●	○	○				●
	Small & Medium Enterprises					○		○	●					○
	Architects	●	●		○	●	○	●	○	○			●	
Community	HK, SZ Cities Dwellers	●	●	●	●	●	●	●	●	●			●	
	Local People Live in the Cross Border Area		●		●	●		●	○	●			●	●
	Knowledge workers	●	●	●	●	●	●	●	●	●			●	
Nature	Urban-Eco System			○	○	●				●	●	●	●	●

● very interested ○ interested

Governance

Missing link in two cities Governance

Regional Level /
Pearl River Delta Regional Plan

City Level /
Shenzhen City Plan

Local Level /
Urban Plan

City Level /
Hong Kong City Plan

Local Level /
Urban Plan

Cross-border Area

Static & Restriction

Passive
Preservation

Filling the missing in two cities Governance

Regional Level /
Pearl River Delta Regional Plan

City Level /
Shenzhen City Plan

Local Level /
Urban Plan

Two Cities
Integration
Plan

City Level /
Hong Kong City Plan

Local Level /
Urban Plan

Cross-border Area

Dynamic & Integration

Active
Preservation

Cultural
Value

Ecological
Development

Risky Area

7. Conclusion

PART 7

7. Conclusion

7.1 Evaluation

Compared with the Hong Kong Government Vision (HKGV) :< A belt of conservation, culture heritage and sustainable uses between Hong Kong and Shenzhen> with <Hong Kong – Shenzhen Metropolitan Park Development > (HSMP), there are some conclusions can be summarized.

For the Hong Kong Government Vision, although it considers the conservation, culture heritage and sustainable uses, it is still short-term, static and fragmental without a systematic approach. And it is more based on Hong Kong city development and not fully consider about Shenzhen real situation.

Hong Kong- Shenzhen Metropolitan Park is a new spatial approach in China planning context that the cities work together to generate a regional vision and perspective. It will be more dynamic , systematic and integrated in implementation, because the more kinds of stakeholders are involved the more powerful plan might be able to be generated.

Below, I evaluate HKGV with HSMP based on the four definitions of sustainability, economic development, environmental development, social development and cultural diversity.

1. Economic development

In terms of economic development, both of these two plans fulfill the demands of housing development. However, the HKGV is not considering about two cities the knowledge-based industry demands. Knowledge-based industry is not only the high-tech industry but also the public education for the people. HSMP is more contributing the effort for both cities knowledge facilities demands. When the cities are on the way to the knowledge-based service economy, the talents and public education are play an important role in cities economy.

2. Environmental development

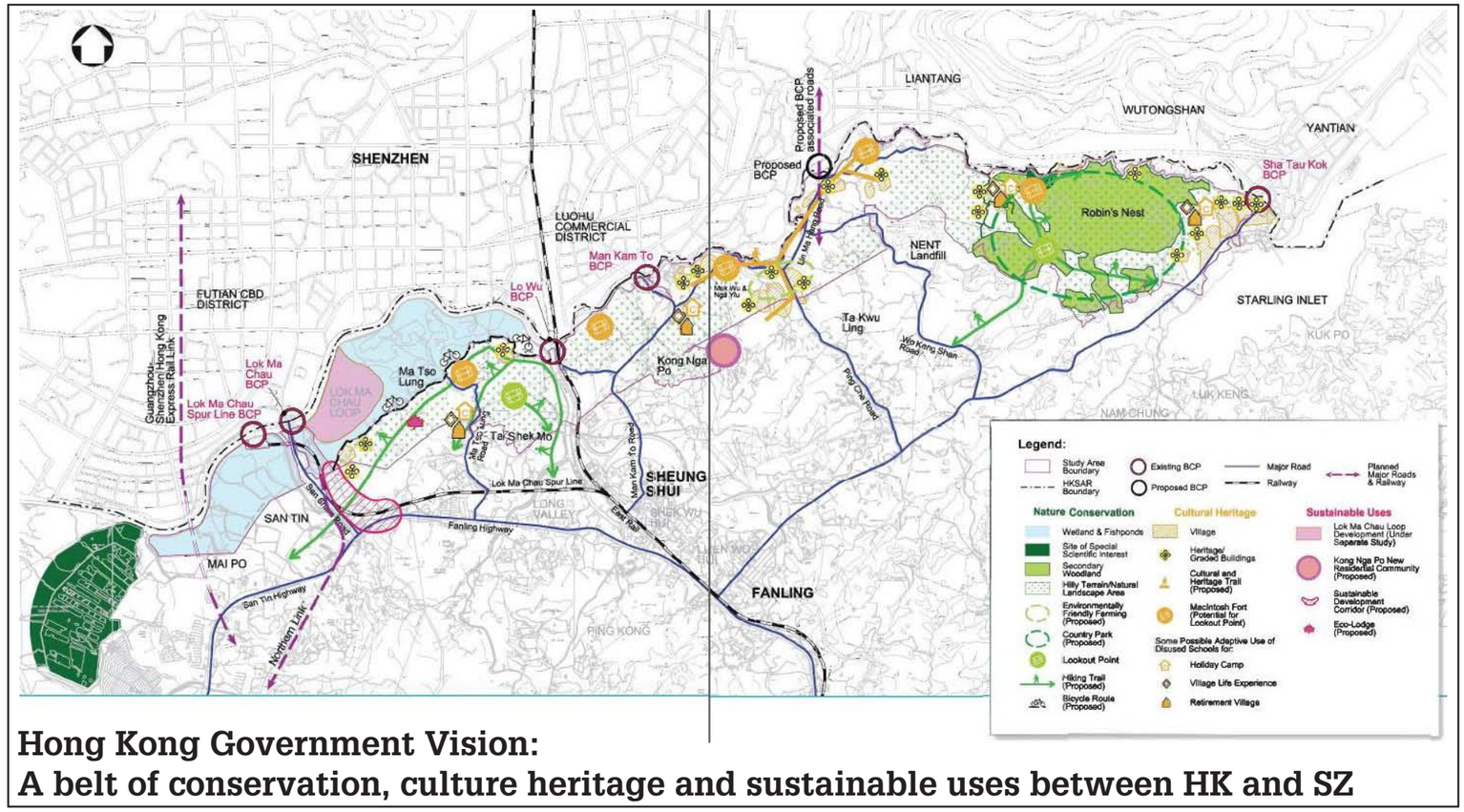
In terms of environmental development, HSMP plays a crucial and indispensable active role in the Hong Kong –Shenzhen Metropolis. HSMP remains certain open space and landscape for nature and culture values and focus on active preserver and improve the city ecological system. The wetland development is also a more harmonious way in tackling with the flooding problem which can also create a self-sustain water system for the agriculture economy at the rural area between the cities area. The beauty of the nature and culture landscape will be more sustainable.

3. Social development

In terms of social development, HKGV doesn't mention too much about it. For the HSMP, it relocated the welfare from the cities to the semi-nature area where is closely attached the city. This is the best location for social program development where is just society and the nature, but not segregated the people from the society. The active preservation and development of the in-between cities area is also showing the value behind the metropolis, that the people can experience by visit and travelling from cities to the river and meet with people live in there.

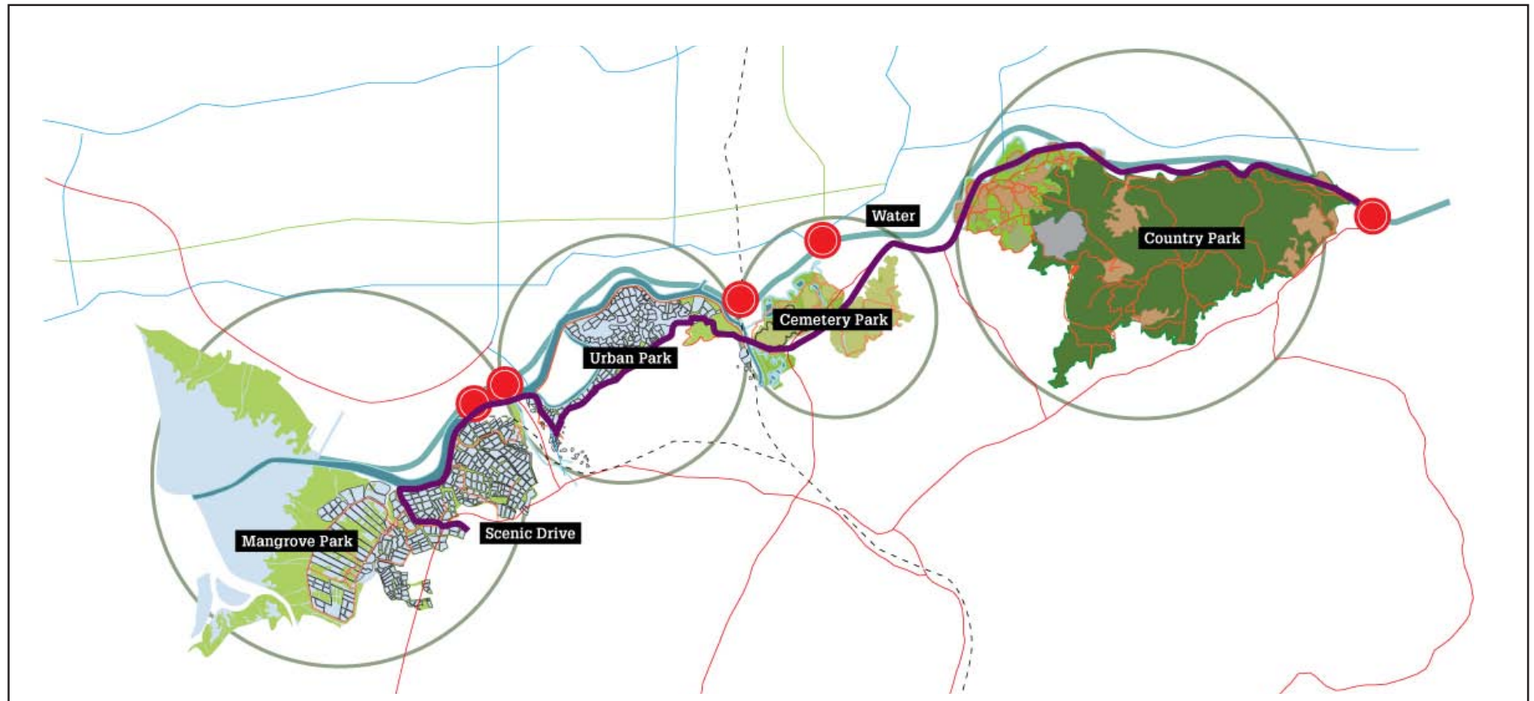
4. Cultural diversity

In terms of cultural diversity, both plans are thinking about the culture heritage. But the HKGV is more passive preservation; HSMP is more active and dynamic, not only culture heritage but also diversity. Such as the culture routing, people not only enjoy the "points "but also experience the "lines" connect to them. For HSMP, improving the culture diversity is one of the basic objectives to reach. The culture diversity will keep bring the vitality to Hong Kong –Shenzhen metropolis in functioning.



Hong Kong Government Vision:
A belt of conservation, culture heritage and sustainable uses between HK and SZ

Fig. 7.1 Hong Kong Government Vision of cross border area
(Hong Kong Planning Department 2009)



Hong Kong – Shenzhen metropolitan Park Development:
Metropolitan Park as spatial strategy

7.2 Conclusion

For the problem statement I mention before, there are two missing links in China planning context, Landscape and regional perspective. In the rapid urbanization context, landscape is less being considered by the government. Moreover, the missing link of regional perspective result in the developments are lacking of integrated vision between different stakeholders and planning sectors. Nature and culture landscape value is only suffering behind this context. It would be too late until the day when people are awakened when the vernacular lifestyle and the beauty of landscape are no longer exists around our neighborhood and cities.

These two missing links are definitely crucial to China future urban development. It tried to start the research and design based on these two missing links. The evaluation of the plans has shown Hong Kong- -Shenzhen metropolitan park development plan can bring the higher quality and influence to Hong Kong –Shenzhen metropolis towards sustainable development.

Without carefully considering these two missing links and without placed these two factors at right position in the governance, the degrading of the society can be expected. It might not de degrade the economy competitiveness in the short term, but also the quality of environment and society will definitely become worse and worse.

The cross-border area can be seen as the testing area and great opportunity for the urban development in Hong Kong and Shenzhen. If they can build up the regional governance and includes the nature and culture landscape development as an indispensible actor to drive the plans implementations from metropolis scale to city and neighborhood scale, the more beautiful and harmonious tomorrow will never be just a dream.

Fig. 7.2 Luomazhou Loop area before and after

8. Literature & Reference

PART 8

8. Literature & Reference

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