

POLITECNICO DI MILANO

Laurea Magistrale in Pianificazione Urbana e Politiche Territoriali



The Evolution of Beijing's Historical Centre in Contemporary Period

Master of Science Thesis

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ABSTRACT

Historical centre is a board concept, but in this research the historical centre is from the vision of urban planning, and attention will be paid on the historical centre of Beijing. Beijing is a city with long time history; it even has more than 665 year's history as the capital of China, the urban historical centre of Beijing is famous and important, until nowadays the historical centre of Beijing is still existing and plays an important role in Beijing city even China. However the historical centre of Beijing has great changes in the contemporary period. So this research will mainly focus on the evolution of Beijing's historical centre in the Contemporary Period.

This research will start from the introduction of Beijing's historical centre, in order to show the original condition before the year 1949. Then the content will focus on the changing of Beijing's historical centre in the period between 1949 and now, from the political, social, physical, spatial and functional aspects. But during this process different kinds of problems occurred, so afterwards the occurred problems and the related strategies to solve the problems will be addressed. Finally, the concern will be traced back to the year 1950, at that moment in which urban planning was led by Soviet Union's urban planners, and their one compact centre policy had extensive influence to the fate of Beijing's historical centre. That period's urban plan could be the origins of the problems occurred later even nowadays; meanwhile this research will also propose another plan from Liangsicheng and Charles Chen for Beijing's historical centre in the year 1950, and their main idea is multi centre strategy in order to prevent the problems in historical centre.

The result of this research can be divided into three parts. First for most is the changing for Beijing's historical centre in contemporary period, especially the physical changes. Second result is the collection of the

problems and related strategies. Finally, the discussion of rationality between the Soviet urban planning and Liang-Chen plan.

KEY WORDS

Beijing, historical centre, urban planning, urban texture, urban change

INTESI

Quello di centro storico è un concetto ampio. In questa ricerca, il centro storico è osservato dal punto di vista urbanistico e l'attenzione si concentra monograficamente sul caso di Pechino. Pechino è una città con una storia molto lunga, capitale della Cina da più di 665 anni. Il centro storico di Pechino è importante e famoso, e continua a giocare un ruolo rilevante per la città. Tuttavia, il centro storico di Pechino ha conosciuto una fase di profondi cambiamenti nel periodo più recente. L'evoluzione contemporanea del centro storico di Pechino costituisce l'oggetto specifico di questo lavoro.

La parte iniziale introduce al centro storico di Pechino, illustrando la situazione antecedente al 1949. Quindi, la studio si focalizza sulla sua evoluzione nel periodo contemporaneo compreso tra il 1949 e oggi, sotto l'aspetto politico-sociale, ma soprattutto fisico-spaziale e funzionale. Durante questo arco temporale, vari tipi di problemi si sono manifestati, e a questi si relazionano le strategie elaborate per affrontarli, descritte e discusse nella seconda parte del lavoro.

Nella parte finale, si torna a considerare la prima fase di questo processo quando, nel 1950, la politica urbanistica per il centro storico di Pechino fu improntata ai criteri della pianificazione urbanistica sovietica, secondo una concezione radicalmente monocentrica. Questa politica ha influenzato moltissimo la successiva trasformazione del centro storico di Pechino. Molti dei problemi odierni sono la conseguenza delle scelte di quel momento. Per questa ragione, quell'opzione viene messa a confronto con il coevo e alternativo progetto di sviluppo della città e del suo centro storico, elaborato dagli architetti Liang Sicheng e Charles Chen, soluzione che avrebbe consentito di prevenire molti degli odierni problemi.

I risultati di questa ricerca sono, dunque, relativi a tre diversi aspetti: alla

disamina e comprensione del processo di trasformazione del centro storico di Pechino nel periodo contemporaneo, in particolare dal punto di vista fisico-spaziale; alla ricognizione dei problemi e delle soluzioni strategiche; alla discussione di due diverse opzioni alternative per ripensare il ruolo contemporaneo del centro storico di Pechino, nel piano di impronta sovietica e nella proposta di Liang-Chen.

PAROLE CHIAVE

Pechino, centro storico, urbanistica, forma urbana, mutamento urbano

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Then my thanks also go to my parents Mr. Duan Zhongxian and Mrs. Yang Guangrong, without their support my education in Milan will be impossible.

Last but not least, I dedicate this work to the great Chinese capital Beijing that devotes itself more than 665 years as the capital of China serves for the whole country; it is a city with an incredible history that also brings the contemporary city a historical center.

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Abbreviation

The order of each word is presented by the appearing order in the paper.

BCE: Before Christ

Ha: hectare

M: Meter

No.: Number

GDP: Gross domestic product

P: Problem

S: Strategy

KM: Kilometers

1. Preface

1.1. Introduction

China is famous for its great and long sustain history for both rural and urban development, while recent decade China is much more famous for its fast developing economy, and Chinese urbanization process is one of the result of the economy development, especially nowadays most attention goes to the process. But back to the center of the urban the historical center what is the condition? What is the condition of in the city which has great history? This could be interesting topic. Especially what China scarified in order to get the economy development? When the ancient historical center encounter the modern development methodology, what is been changed? What kinds of problems happen? What kinds of strategies does the government carry out to solve the problem? And what is the result of that? Obviously, these are complicated question, and it is hard to conclude all Chinese cities. So in this paper Beijing as a typical city with a great historical center will be focused.

There are many cities in China; even many of them have a historical center, but why choose Beijing? The answer is complex, but for short there are three main reasons, firstly Beijing has one of the biggest historical centers of the world-68.48 square kilometers, with complicated history and many empire or government set it as the capital of China. Second, in China due to the politic condition, capital always as represent the center of the country, all the policy capital will be the initiator to act. Finally, Beijing is the city with a complete reference to do research that urban planning

related.

Beijing as an historical city, but there are great changes during the contemporary period, especially after the People Republic China was created, from 1949 to now. So in this research the attention will mainly focus on the stories of in the historical center in contemporary period.

Finally, the topic is The Evolution of Beijing's Historical Centre in Contemporary Period.

1.2. Definition of Chinese historical center

As the main focus point, historical centre is a general concept, and it should be clear, especially in this research what is a Chinese historical centre.

International vision: the definition of "historical center" is varied, in this paragraph lists some ideas about what is a "historical centre", and this collection was is from different points of view, and in general it can be conclude as four points.

- It is tending to coincide with the pre-modern or pre-industrial city.
 - It recognized and clearly defined in the common sense, the historical center is a district of the historical city, according to the use by Kevin Lynch of the term.
 - It is a part of the historical city, and normally the historical center is the core of the historical city.
 - It is distinctly identifiable by form, it reversals a typical set of patterns.
- Chinese vision: what is the main feature of a Chinese historical centre for a contemporary city? There are three main features for the Chinese historical, and it is from a physical vision.
- Ancient city wall as Border: normally, Chinese historical centers all

have a city wall, the city wall as a heritage were build before modern ear, and China is infamous to build walls in general, the discovered early city defensive wall can be traced back to the capital of Shang Dynasty Ao city, from 1600 BC to 1050 BC. And in different period of Chinese history, to build a city wall use to be a fashion. Currently in China there are 2500 historical city, most of them all has or had the city wall. For example, Xi'an, Pingyao, Kaifeng and Beijing. Inside the city wall is the historical centre. But the case of Beijing is complex, because the city wall of Beijing was demolishing during the beginning of the contemporary period. Figure 1.2.1, figure 1.2.2, figure 1.2.3 and figure 1.2.4 shows this feature and listed examples.

- Traditional urban texture: traditional urban texture is mainly means the street, bystreet and house unit of the city. These three elements compose the typical physical part of a historical centre. Especially during the modern period there is a great change of these elements, so the traditional urban texture is also one main feature of Chinese historical centre. For example, the Drum and Bell Tower district in Beijing shows the typical urban texture of a Chinese city, it contains Street; Hutong as local bystreet; Siheyuan as local house unit. Figure 1.2.5 shows this feature and related example.
- Chinese style architecture: Old Chinese architectures are also a simple of the historical centre, because in the modern and contemporary period the architecture style has great changes. For example, like tower, pagoda, palace, garden, hall and residence unit all have traditional unique style, even in different period the design style is different. Figure 1.2.6 shows this feature and related examples, such as Qnian Hall of Temple of Heaven in Beijing; Yingxian wooden Pagoda in Shanxi; Zhuozheng Garden in Jiangsu; Hongcun residence houses in Anhui and Yuci Market tower in Shanxi.

- Axis and symmetric: Axis and symmetric is a very important feature for the Chinese historical centre. From capital city to local level city all have this strong character. The axis of a historical centre or historical city is from north to south or east to west, two side of the axis is symmetric. Even architecture also has this symmetric feature. Figure 1.2.7 shows this feature and two related examples, Taigu city and Datong city; figure 1.2.8 shows Beijing's historical centre's axis and the symmetric feature.

1.3. Zoom into Beijing's historical centre

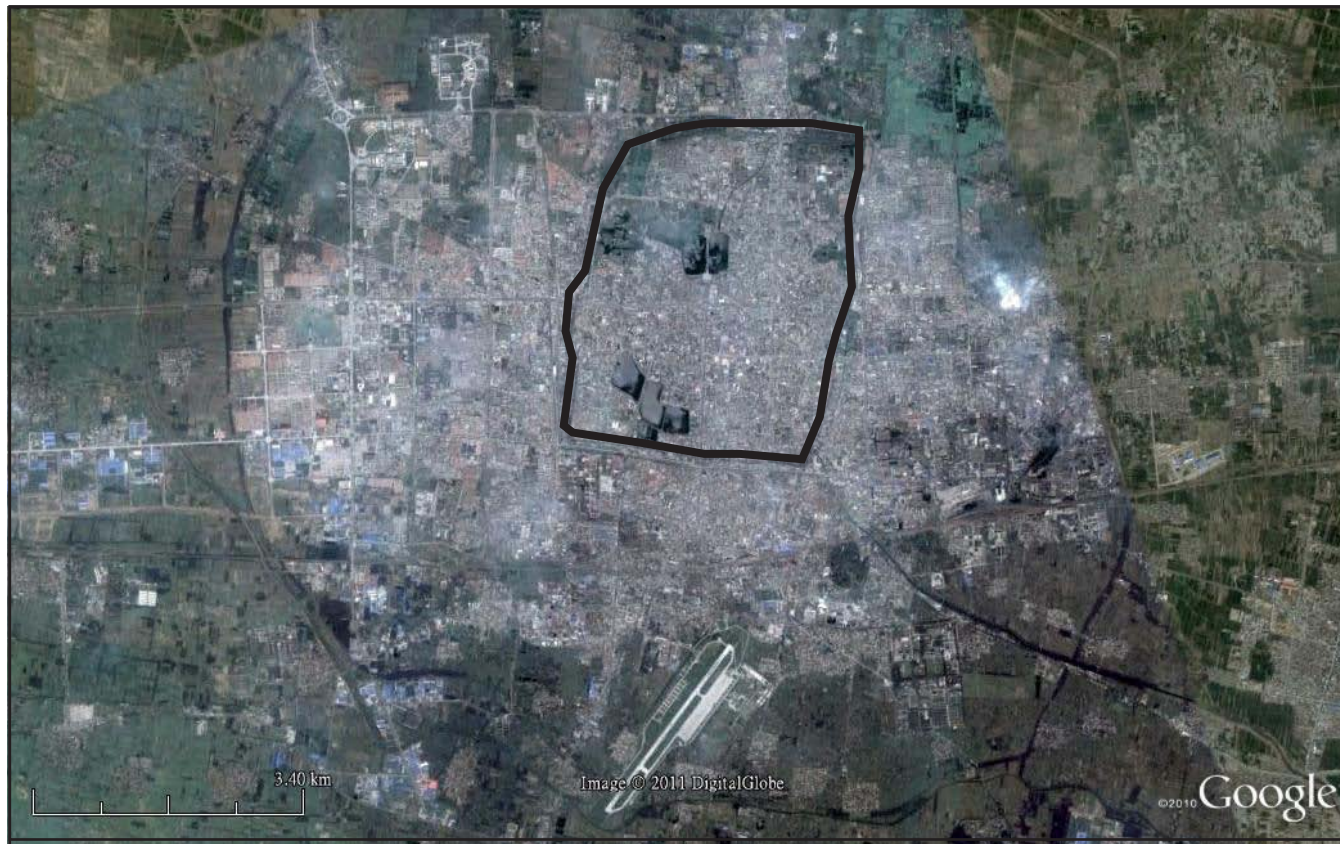
According to the illustration of the historical centre's definition internationally and together with the features of a Chinese historical centre; the image of Beijing's historical centre becomes clear.

From figure 1.3.1 to figure 1.3.2 shows an incremental zoom in image of Beijing and its historical centre. Figure 1.3.3 shows the geography position of Beijing's historical centre, and the relationship between the historical centre and the other part of the urban area.

1.4. Research aims

The topic of this research is the Evolution of Beijing's historical center in Contemporary Period. And there are several points will be focused.

- Original features of the historical center of Beijing.
- Contemporary changing of the historical center of Beijing.
- During the contemporary period's changing, what kinds of problems occurred?
- To solve the problems what kind of related strategies are

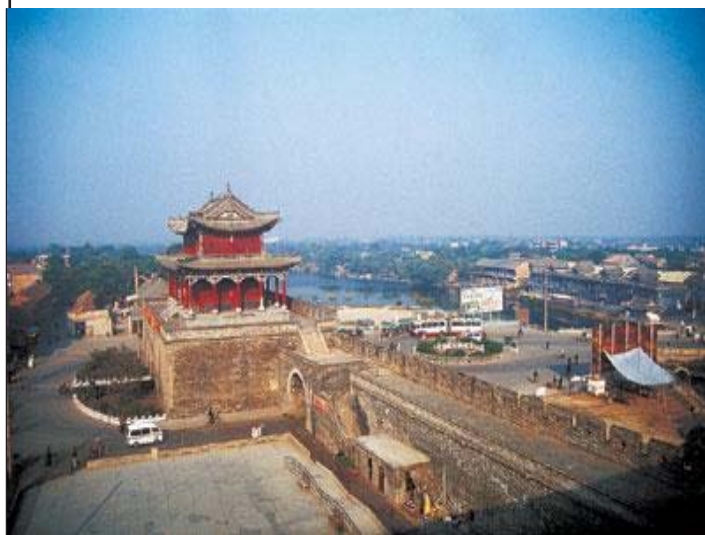


1.2.1. Ancient city wall as border: Kaifeng

Origins in 781 AD

14.4 Km length

height is 8 M, 5 M
width





1.2.2. Ancient city wall as border: Xi'an

Origins in 194 BC

13.75 Km length

height is 12 M, 15 M
to 18 M as width



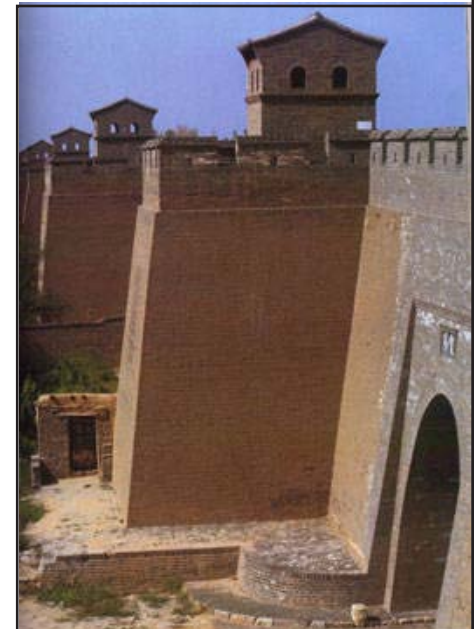


1.2.3. Ancient city wall as Border: Pingyao

Origins in 827 BC

World Cultural heritage

6.4 Km length height is 12 M, 3 M as width on top

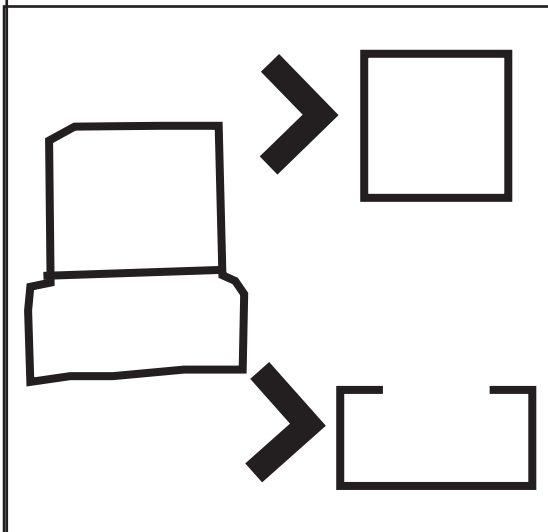




1.2.4. Ancient city wall as border: Beijing

Origins in 1271 AD; Inner city wall is 24 KM long; Outward city wall is 14 KM long; height is 12 M, 16-12 M as width on top.

Now most part was demolished, base on the wall are ring road





1.2.5. Traditional urban texture

This district has traditional urban texture it is located inside the Historical centre of Beijing

Street

Hutong as Bystreet

Siheyuan as House unit

Case: Drum and Bell Tower District

Street

Hutong

Siheyuan



Beijing Qinian Hall



Yingxian wooden Pagoda



1.2.6. Chinese style architecture

Traditional architectures are also elements of historical centre.

Tower, Pagoda, Palace, Garden, Hall and Residence unit all have traditional unique style

Zhuozheng Garden



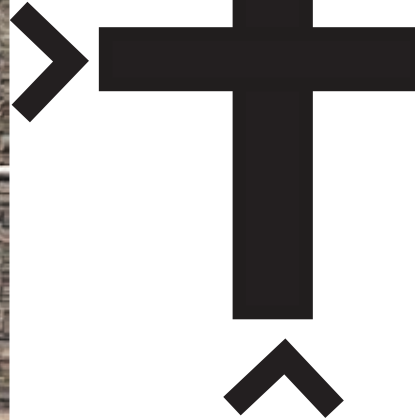
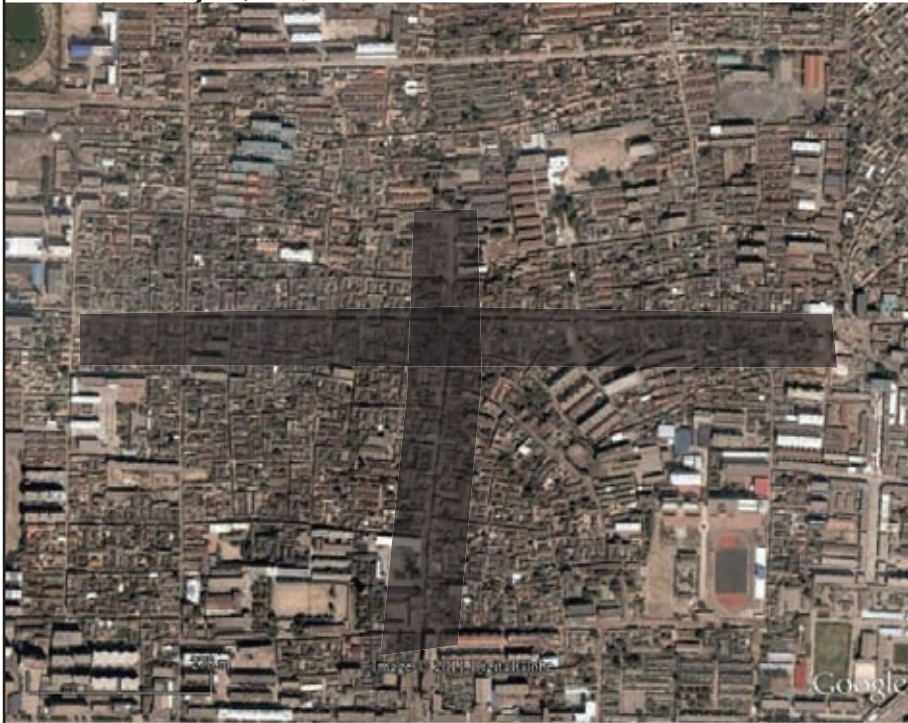
Hongcun Residence House



Yuci Market Tower



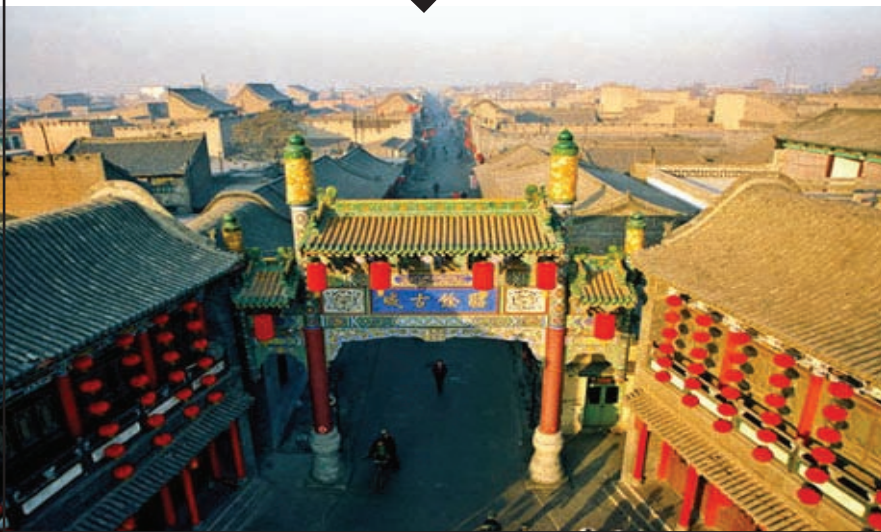
Taigu 太谷县

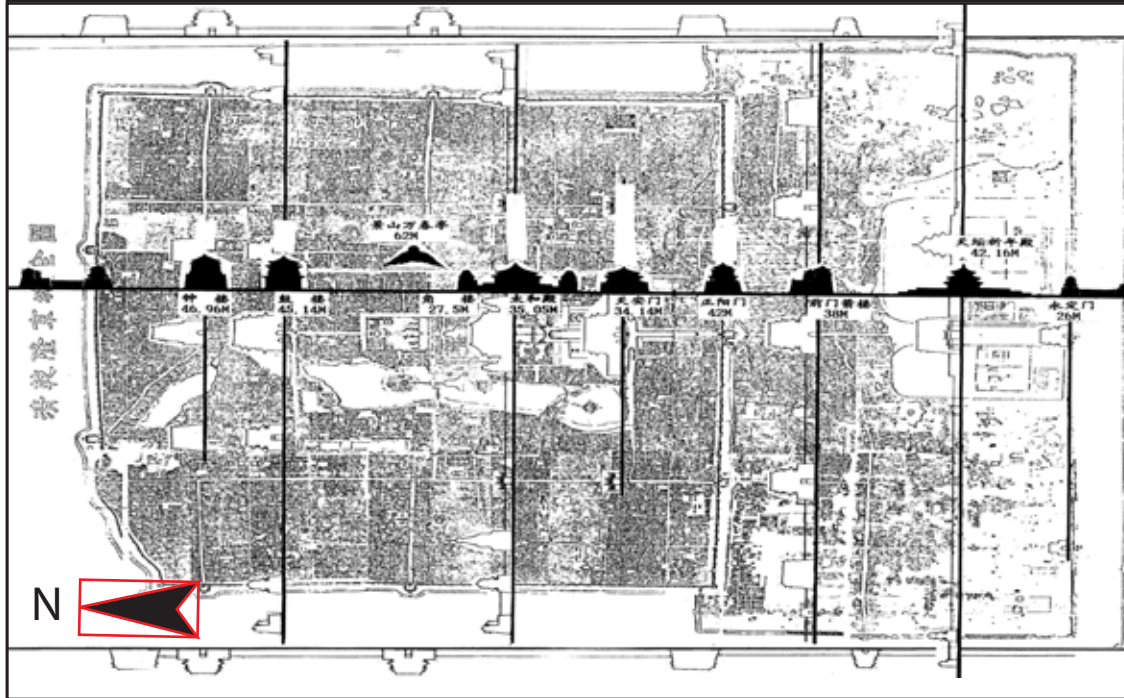


1.2.7. Axis and symmetric

Axis and symmetric is a very important feature for the Chinese historical centre. From capital city to local level city all have this character.

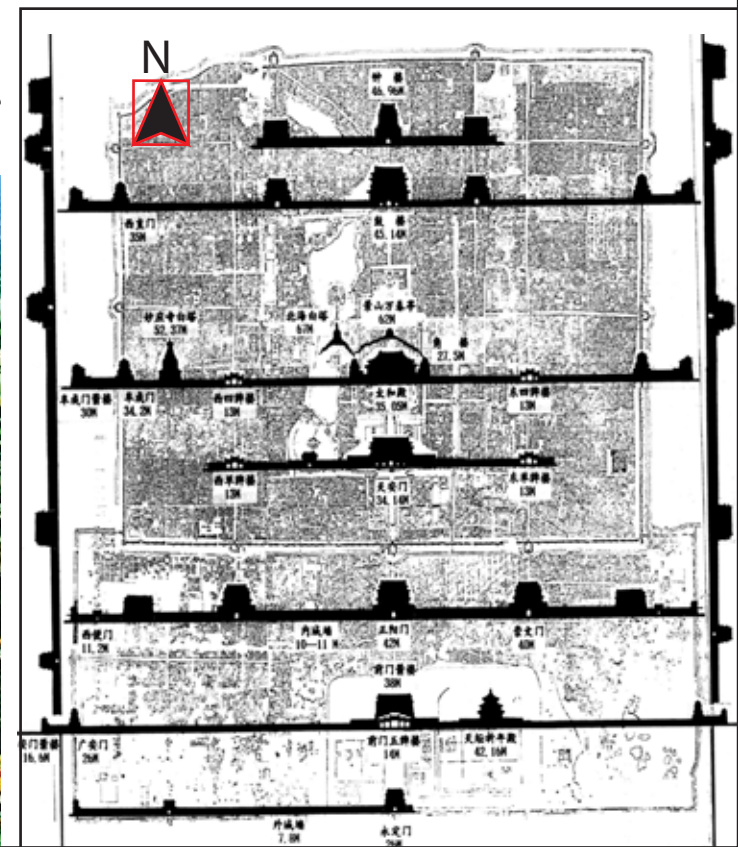
Datong 大同市

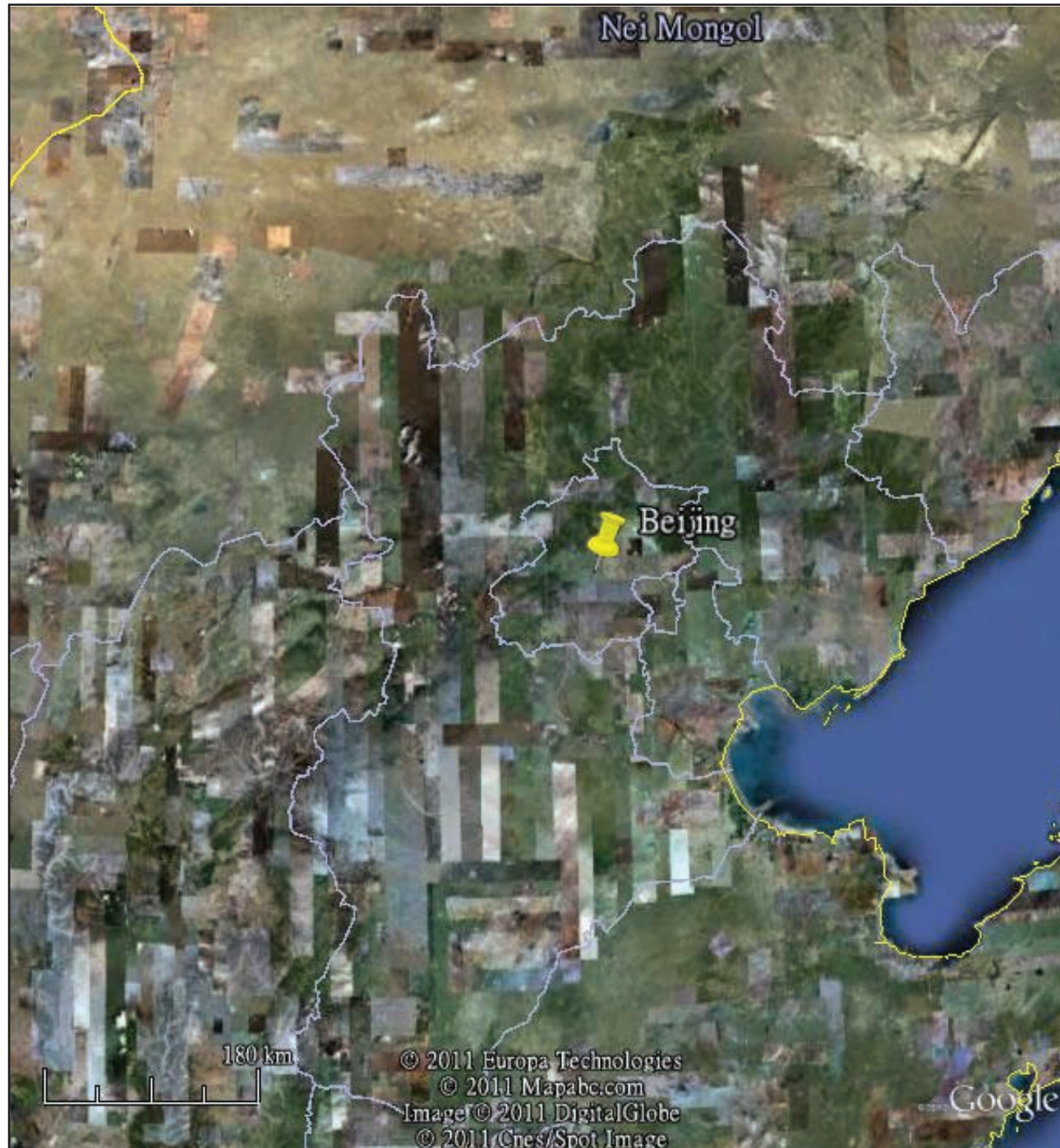




1.2.8. Axis and symmetric: Beijing

Axis and symmetric is a very important feature for the Beijing. Along this axis there are many monuments are symmetric. Also the urban plan.



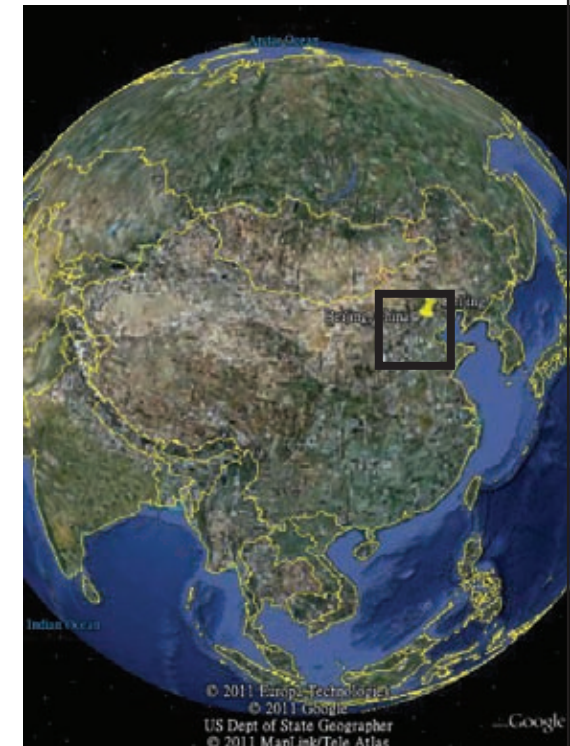


1.3.1. Zoom in image: Position of Beijing

East of China

Beijing as a Municipal
region

East Asia



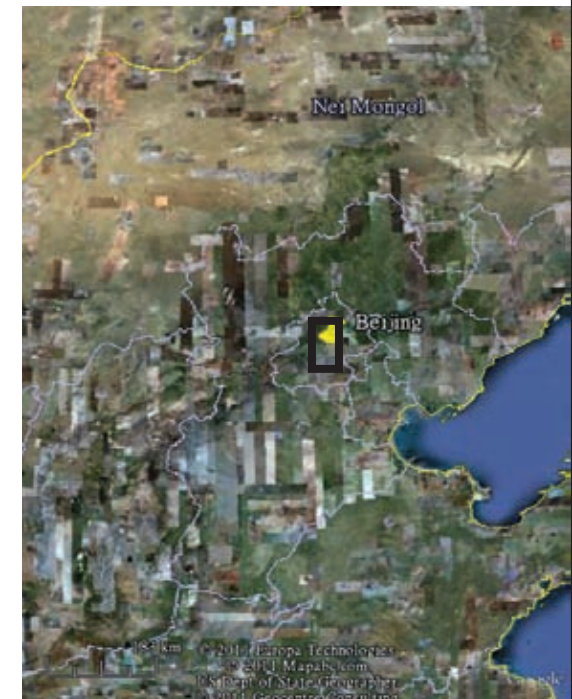


1.3.2. Zoom in image: Position of Beijing's historical centre

Historical centre in the geographic centre of Beijing's urban area.



Historical centre




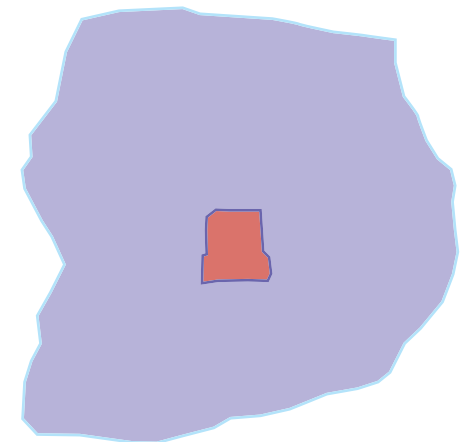


1.3.3. Geography position of Beijing's historical centre

Historical centre in
side in the physical
centre of the urban
area.

 historical centre

 urban area



implemented?

- A discussion in history: how to deal with the historical center of Beijing, two directions.

1.5. Research logic/content introduction

Generally, this research could be divided into four sections. First section is the Introduction of Beijing's historical center. Second section is the contemporary changing of the historical center. Third section is the conclusion of the problems and related strategy. Last section is to review the discussion in history: how to deal with Beijing's historical center. The flowing paragraphs will give a general introduction for each section.

First, introduction of Beijing's historical center: A general and basic introduction of Beijing's historical center will be illustrated in this chapter. Basically there are three kinds of urban materials and many landmarks to compose the historical center of Beijing, they are Street, Hutong (can be understand as bystreet, but with typical Beijing's identity) and Siheyuan (Beijing's quadrangle houses), and in this chapter the attention will be focus on the Original aspect, Physical aspect and Spatial using of these three kinds of urban materials. Through this chapter, the general background of the original historical center will be perceived. And the main structure is:

- The origins
- Physical aspect
- Spatial and functional using

Second, contemporary changing of the historical center: Since 1949, dramatic changing of the historical center of Beijing started. And in order to have a general view this chapter will illustrate the changes from four

visions: political, social, physical and spatial using. Most content will focused on the physical changing, but meanwhile political and social changes like engines drive the whole changes. And the main structure is:

- Political and social changing
- Physical changing
- Changing of spatial and functional using

Third, conclusion of problems and strategy: according to last section - contemporary changing of the historical center, problems will be concluded in this section, and to deal with different kinds of problems the local government also brought the related strategy. In this chapter each problem will be illustrated, and then the related strategy will be presented. Finally, a short conclusion for this chapter will be present in order to specify the origins of all these problems. And the main structure is:

- Problems
- Strategies
- Conclusion

Finally, to review the discussion in history: "how to deal with Beijing's historical center?" At the beginning of contemporary period, the new communism government is confused with the future urban planning of Beijing. As Beijing was set as the capital of People republic of China, and Beijing was totally a historical city. So how to achieve the future development is a problem. And at that time, there are two suggestions or proposals for urban planning. The first one comes from soviet urban planners, the main proposition of their proposal is to use the historical center as the new city center; the main construction should be focused inside the historical center. This proposal was proposed by the Soviet urban planner Abramoff and Baranukove who lead the urban plan of Moscow of that time. Another one from two Chinese planners: Liang Sicheng and Charles Chen, so called "Liang-Chen proposal". This proposal

suggest the authority have to prevent demolishing and construction inside the historical centre, and urban development should be done by create a new city centre; considering the practical requirement and future development multi center strategy for Beijing is reasonable at that time.

Why the research have to focus on the discussion of the historical moment that how to deal with the historical center? Because there is strong a relationship between nowadays Beijing's urban development and the urban planning of 60 years ago. And the main structure of this chapter is:

- The value of Beijing's historical center
- Soviet urban planning proposal
- Liang-Chen proposal
- Conclusion

2. Introduction of Beijing's historical center

A general and basic introduction of Beijing's historical center will be illustrated in this chapter. Basically there are three kinds of urban materials to compose the historical center, they are Street, Hutong and Siheyuan, and in this chapter the attention will be focus on the Original aspect, Physical aspect and Spatial using of these three kinds of urban materials.

2.1. The origins

Street, Hutong and Siheyuan are the urban materials to compose the historical center of Beijing. More easily to understand, Street is a normally like the international one, but Hutong and Siheyuan are different, Hutong is like bystreet with Chinese style, and Siheyuan is like typical Chinese residence with a courtyard in the center. In this subchapter the original aspect of each urban material will be illustrated.

2.1.1. Street

The current street system of Beijing could be traced back to the Yuan Dynasty of China between 1271 and 1368 **(1)**, as the capital of the country although it was fund by Mongolia nation, it is still designed according to the Chinese tradition; except the royal area, other neighborhoods or area are square block shape, in between street system divided all blocks, and in the center of the city there is a main axis from north to south to dived the city symmetrically, and even this main axis is a street. While and the main

proportion of the street system of nowadays is based on the capital urban planning of Ming Dynasty. And after Ming period, there are few changes of the street in Beijing until 1949 of contemporary period.

2.1.2. Hutong

the name of Hutong originally means "water well" and it was used since Yuan Dynasty and it is believed as Mongolian language origin **(2)**, why it named as "water well", because when Hutong was designed and constructed a water well for each Hutong was considered as priority **(3)**. Hutong is typical Chinese bystreet or alley, and the history could be traced back to Zhou Dynasty between 1046 BC and 256 BC. Hutong is the path to link and divide different neighborhoods, and along the history of developing, Hutong also represents community. The current remained Hutong are mainly the heritages of Ming Dynasty.

2.1.3. Siheyuan

Siheyuan in English means Chinese quadrangles, which origin from Zhou Dynasty of China; it is typical Chinese house unit, the simple type of Siheyuan which locate a yard in center and house with Chinese style surrounded. The concept of Siheyuan can be seems everywhere, the place of Royal, the ancient ministration of government and the residence units. And in Beijing most of Siheyuan are the heritages of Ming and Qing Dynasty.

2.2. Physical aspect

In this subchapter the main physical aspects of each urban material will be illustrated. Street, Hutong and Siheyuan are the urban materials composed neatly as a whole system, and works together. All these elements compose the traditional urban texture inside Beijing's historical center.

2.2.1. Street

Monument and open sight: In Beijing, almost all the streets are link to monumental architectures even the names of the streets are following the name of the monument. Such as the Qianmen Street it is the located on the south part of the main axis of Beijing, and Qianmen is the end of this street; in this case Qianmen is the south gate of the internal city of Beijing, and it is also a landmark of that region. Meanwhile, in order to show the importance of the monuments on the both side of street all architectures have small scale compare with the monuments, and the vision or sight is open, so when people walking on the street the attention is automatically lead to the monument.

Figure 2.2.1.1 shows the main physical features of street of Beijing. Figure 2.2.1.2 shows the main landmarks inside the historical center, which linked by street, the height of the landmarks were showed.

2.2.2. Hutong

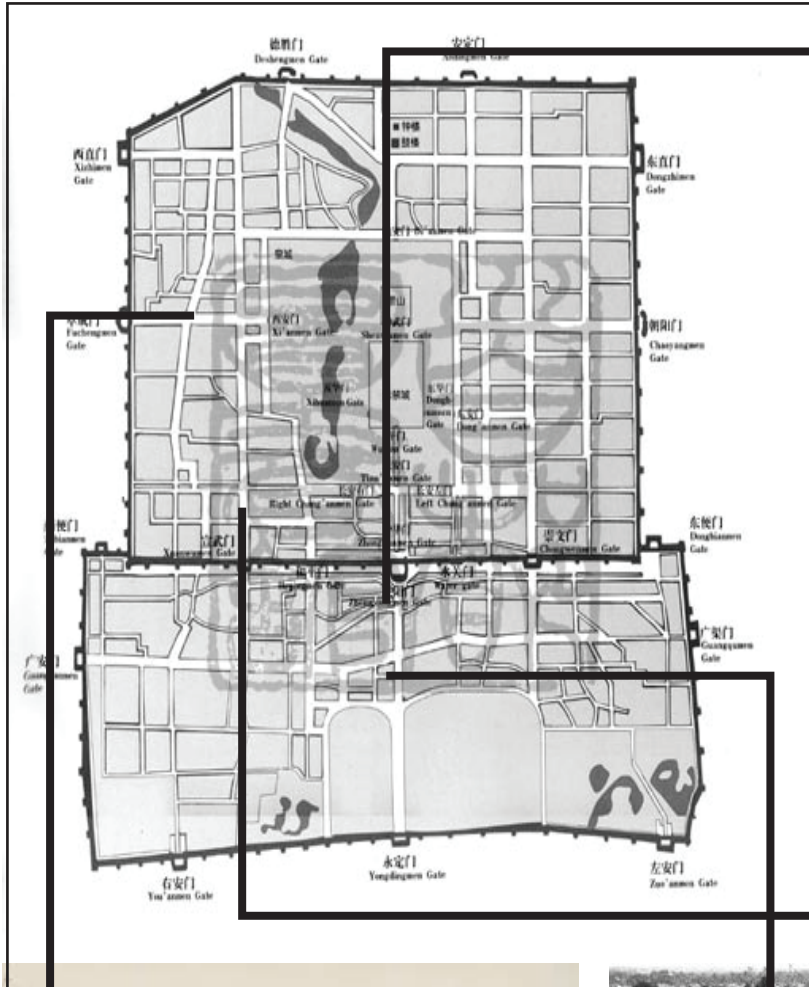
Unique scale and direction are the main physical features of Hutong.

- Scale: there are two points for the scale of the Hutong; firstly it

represents the relationship between the width of the Hutong and the height of the two side architectures. According to the original design, in Beijing most Hutong's width is within 7 M, and there are 66.7% of Hutong is within 5 M width in Denei District, there are 70% of Hutong is within 5 M width in Xisi District. The relationship between the width of the Hutong and the height of the two side architectures is fixed in a range. When the width of a Hutong is from 4 to 7 M, the height of facades of the buildings one two side is normally range from 3 to 4 M, and the height of the architectures around 5 M, and it is unusual to see the height of a residence could higher than 10 M. In addition, the coefficient of width of Hutong/height of two side's building is ranged from 1: 0.8 to 1: 1.1 **(4)**. For example, in Denei district Zhengjue Hutong's width is 6 to 7 M, and the height of two side's buildings is ranged from 5 to 6 M; Xinghua Hutong's width is 5 to 7 M, and the height of two side's buildings is arranged from 4 to 6 M **(5)**. Secondly the scale means the relationship between the width and the length of the Hutong. In general, all Hutongs in Bijing are long and narrow, in Dongsu district Toutiao Hutong as long as 193 M, width is only 5 M; Ertiao Hutong as long as 386 M, width is 9 M; Santiao Hutong as long as 722 M, and width is 8 M. Finally, all two kinds of scale with the architecture style composing the historical Hutong, and this kind of scale give the city a widely open vision, and from the aesthetic view it is also attractive.

- Direction: In Beijing, most of Hutong's direction is from east to west, and the function of this kind of Hutong is to link the most house unit, on the other hand there are also some Hutong's direction is from south to north, and this kind of Hutong normally links the horizontal Hutong which has east to west direction.

Figure 2.2.2 shows the main physical features of Hutong in Beijing.

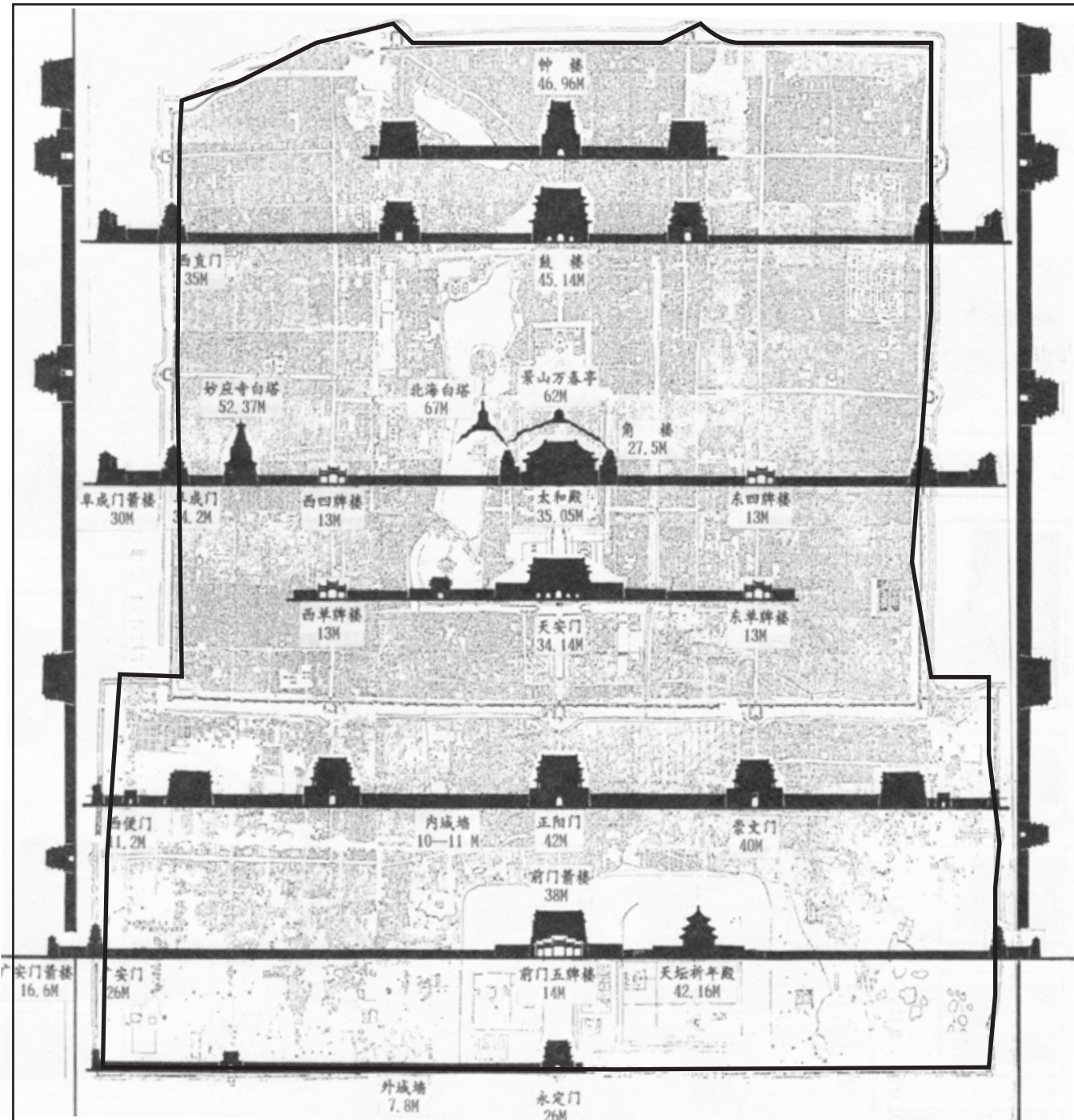


2.2.1.1. Physical aspect of street

Monument and open sight: Street links to Monument, the end or start of a street is a monument, the street name is named by monument. Two side of a street has small scale building in order to show the importance of monuments.

Example: Qianmen





2.2.1.2 Physical aspect of street

Monument and open sight: Street links to Monument, the end or start of a street is a monument, the street name is named by monument. Two side of a street has small scale building in order to show the importance of monuments.

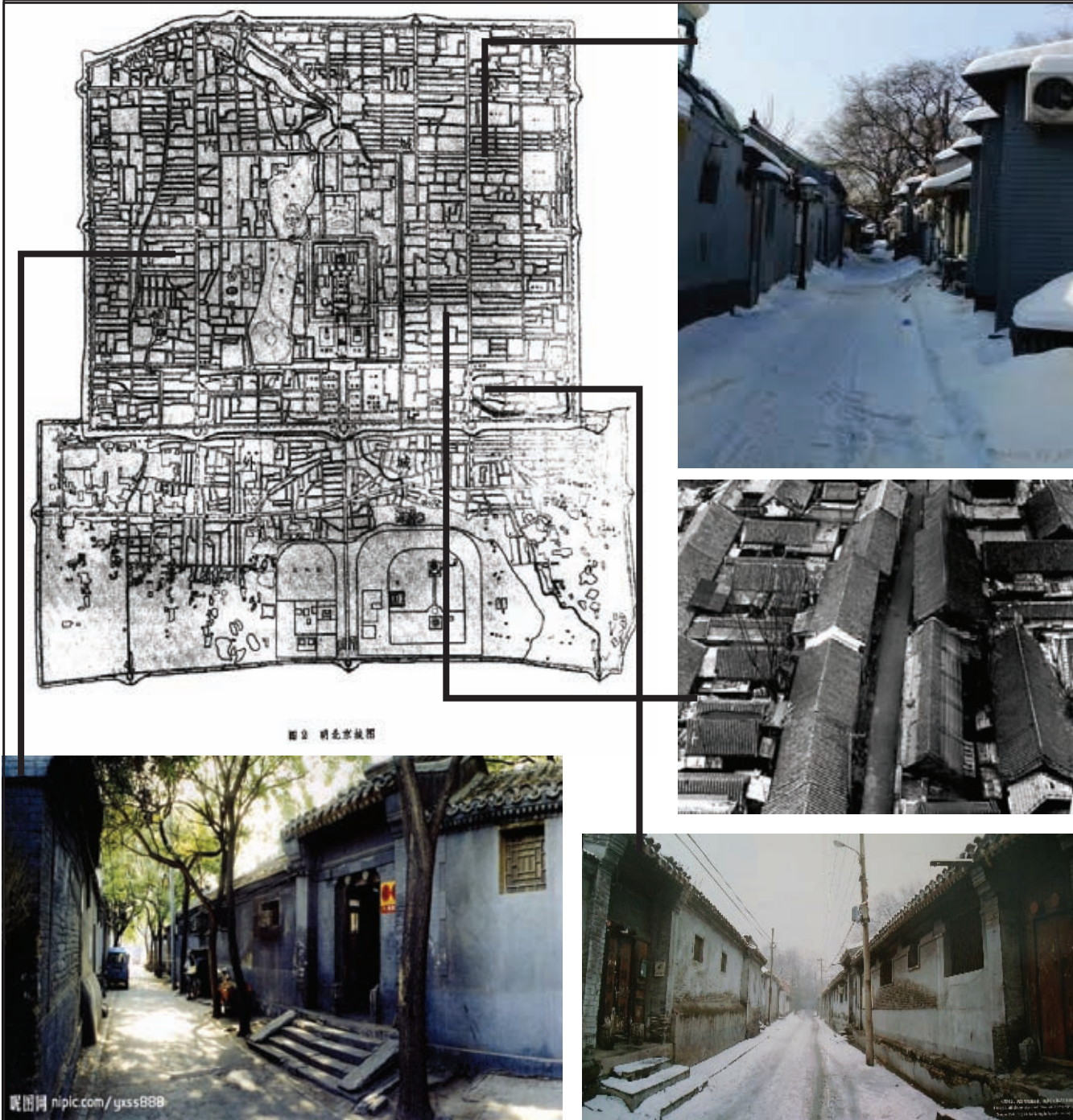
Legend



historical center



Landmark



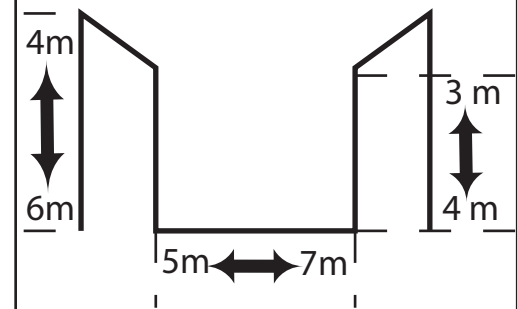
2.2.2. Physical aspect of Hutong

Scale and Direction

Scale: the relationship between the width of the Hutong and the height of the two side architectures; the relationship between the width and the length of the Hutong

Direction: In Beijing, most Hutong's direction are from east to west .

Example: Xinghua Hutong, 600m Long



2.2.3. Siheyuan

Traditional style: Siheyuan of Beijing is an important species of traditional residence. Physically a normal Siheyuan contains three yard sometimes one or several yards, two door and several rooms, and yards are always surrounded by rooms and located at the center of a Siheyuan. In addition, some traditional decoration is needed, and so much traditional thought can be found from the physical aspect. For example, most of Siheyuan is located from north to south, and the entrance door can be found always at the southeast direction, after a person entering the door firstly the person will meet the screen wall, and the screen wall will block the vision to see the landscape or scene in the yard and the swag door is located on the main axis of the Siheyuan, all this kind of elements are represent the Chinese philosophy even Fengshui (6). Forbidden City could be considered as a most famous example of Siheyuan, and in fact there are many Siheyuan compose this enormous architecture.

Figure 2.2.3 shows the main physical features of Siheyuan in Beijing.

2.3. Spatial and functional using

In this subchapter the main spatial using or could be understand as functional aspects of each urban material will be illustrated. In addition, the mobility of the historical center will be present as well.

2.3.1. Street

Service business and public interaction: street supply the service and

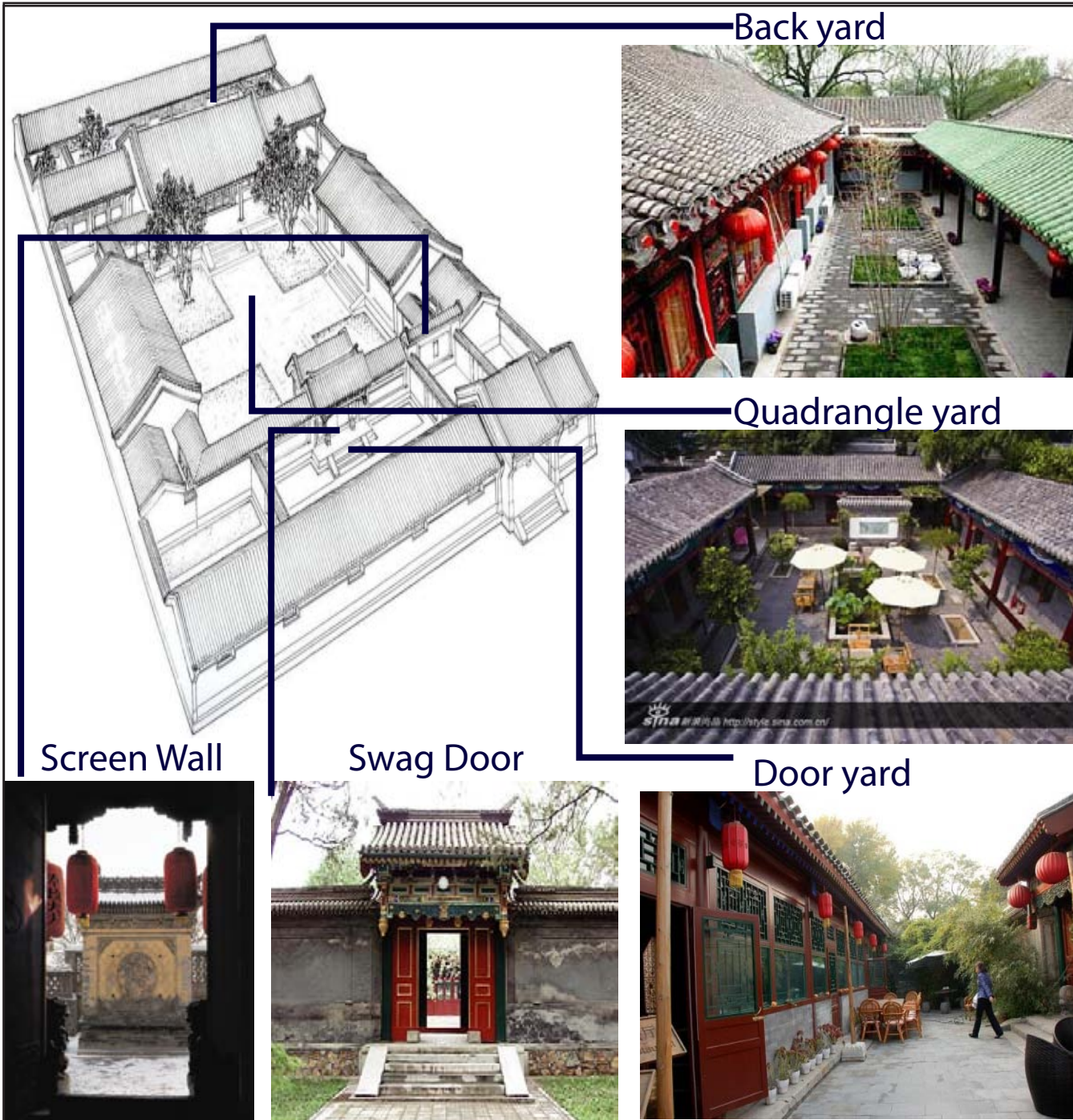
public interaction for the residence, business shops normally located on the two side of the street, due to none auto mobility of the tradition street, so the street was use as public space, people stay or move on the street. And most businesses or shops thanks for the features of traditional street, so prosperity and flourish of most businesses and services are achieved. Public interaction is also happened on the street, due to the attraction of the service and business. For example, Dongsì Street contains Fulong temples, rice market and livestock market, so the different kind of people for different aim went there for business of service, and in Beijing this street is quite famous for its prosperity.

Figure 2.3.1 shows the main features of spatial using on street in Beijing.

2.3.2. Hutong

Public space of community and mobile service: as bystreet Hutong is the space for community interaction. Physically Hutong is totally open to the public, but the real user of Hutong is mainly the local neighborhoods which live inside the residence nearby Hutong. According to the origin design there is few fixed business or service or shops inside Hutong, in order to keep Hutong as peaceful environment for the neighborhoods, but there are some traditional mobile service can be found inside Hutong, and in this condition are the customers are stay in living area, but businessmen come to Hutong for make business and service, and their mobility is sustainable. Take an example, in Black Sesame Hutong the interaction between neighborhoods is varied, chess game, morning exercise, even football and ping pong could be fund at different time of a day, sometimes the mobile businessman whom sell candy can be found.

Figure 2.3.2 shows the main features of spatial using in Hutong in Beijing.



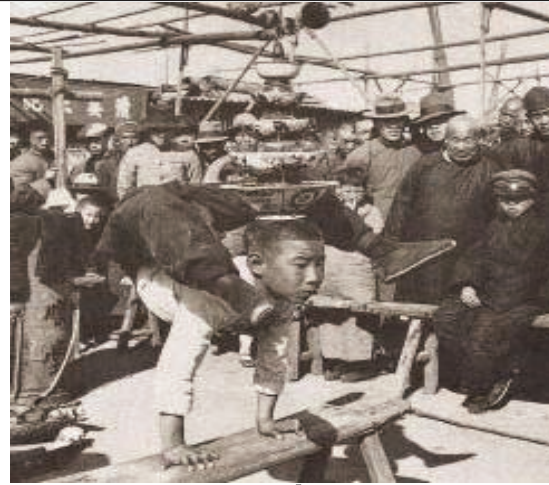
2.2.3. Physical aspect of Siheyuan

Traditional style

Typical residence unit with three yards (could be less or more) and yard is the physical center, rooms doors even this whole system represent Chinese philosophy

Example : Forbiddency





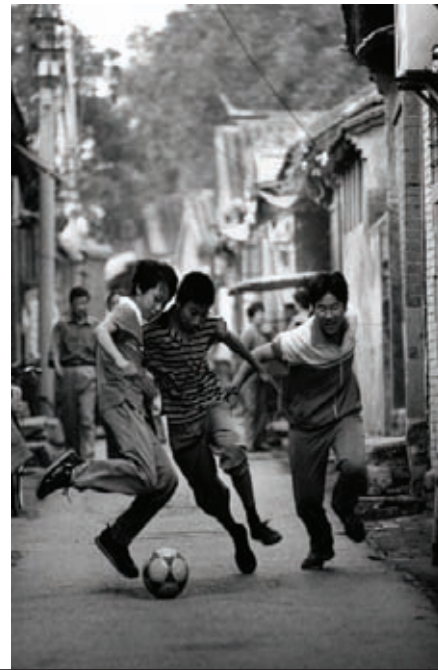
2.3.1. Spatial using of Street

Service Business and Public interaction

Shops located on the two side of the street, no auto mobility effect, most space of the street was used as public area, stay or go with great freedom.

Example: Dongsi Street





2.3.2. Spatial using of Hutong

Public space of community and mobile service

Physically open but main actors are from neighborhood, and interaction between local residence. Mobile businessmen go to fixed consumers.

Example: Black Sesame Hutong



2.3.3. Siheyuan

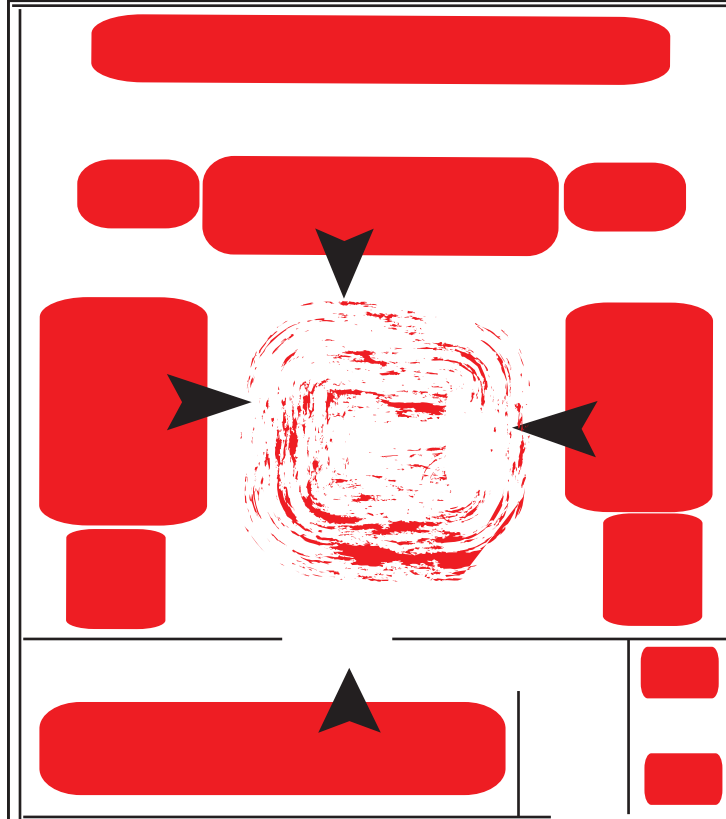
Yard as family interaction zone with green space: In one Siheyuan normally contains one big family with three or four generation, different rooms isolate different generation, but the yard connect all of them. A piece of yard in the center allows different generation could have interaction between each other, and the yard also used as green space. For example; Siheyuan of Kangyouwei is located at No.43 of Rice market Hutong, which used to be live the whole family of Kangyouwei, and it even function until now.

Figure 2.3.3 shows the main features of spatial using of Siheyuan in Beijing.

2.3.4. Mobility

None automobile mobility: the none automobile mobility influence the spatial using deeply, the traditional mobile set is slow, safe and small scale, everything origin from manpower or livestock power, so it allows people use street as public interaction zone and neighbors use the Hutong as community interaction zone. Such as bicycle, it is a manpowered tool and it can be use on the street and Hutong meanwhile it has very low effects for the people who walking on the street or Hutong.

Figure 2.3.4 shows the main features of traditional mobility in Beijing, even different variety of transportation tools can be found.



2.3.3. Spatial using of Siheyuan

Yard as family interaction zone with green space

Different generation of a family use the yard as interaction zone, the yard in the central also supply green space for individual family.

Example: Kangyouwei





2.3.4. Mobility

None auto mobile mobility

None auto mobile mobility is related with the use of space of the neighborhoods

manpower
livestock



3. Contemporary changing of the historical centre

Since 1949, dramatic changing of the historical center of Beijing started. And this chapter will illustrate the changes from four visions: political, social, physical and spatial using; and finally some cases will be given in order to explain the changes of Beijing's historical centre.

3.1. Political and social changing

Political and social changing could be considered as the power to drive the whole changes for the historical center. The changes of the political will be described by governance and the social changing will be illustrated from two aspects: population and economy.

3.1.1. Governance

Before 1949 most area of the historical center of Beijing was used as residence the traditional neighborhoods, since the changing of the capital from Nanjing/Nanking to Beijing/Peking, the function of the city center was also changed. New governance brought much political function to this city, simply Beijing service for the whole country but not only the people of Beijing. And the traditional neighborhoods were under pressure from this kind of change. At the very beginning central government decide to use the ancient historical center which full of traditional neighborhoods as the political center as well, so many destruction and construction projects were happening. For example the expansion of Tiananmen Square is a

typical governmental up to bottom project.

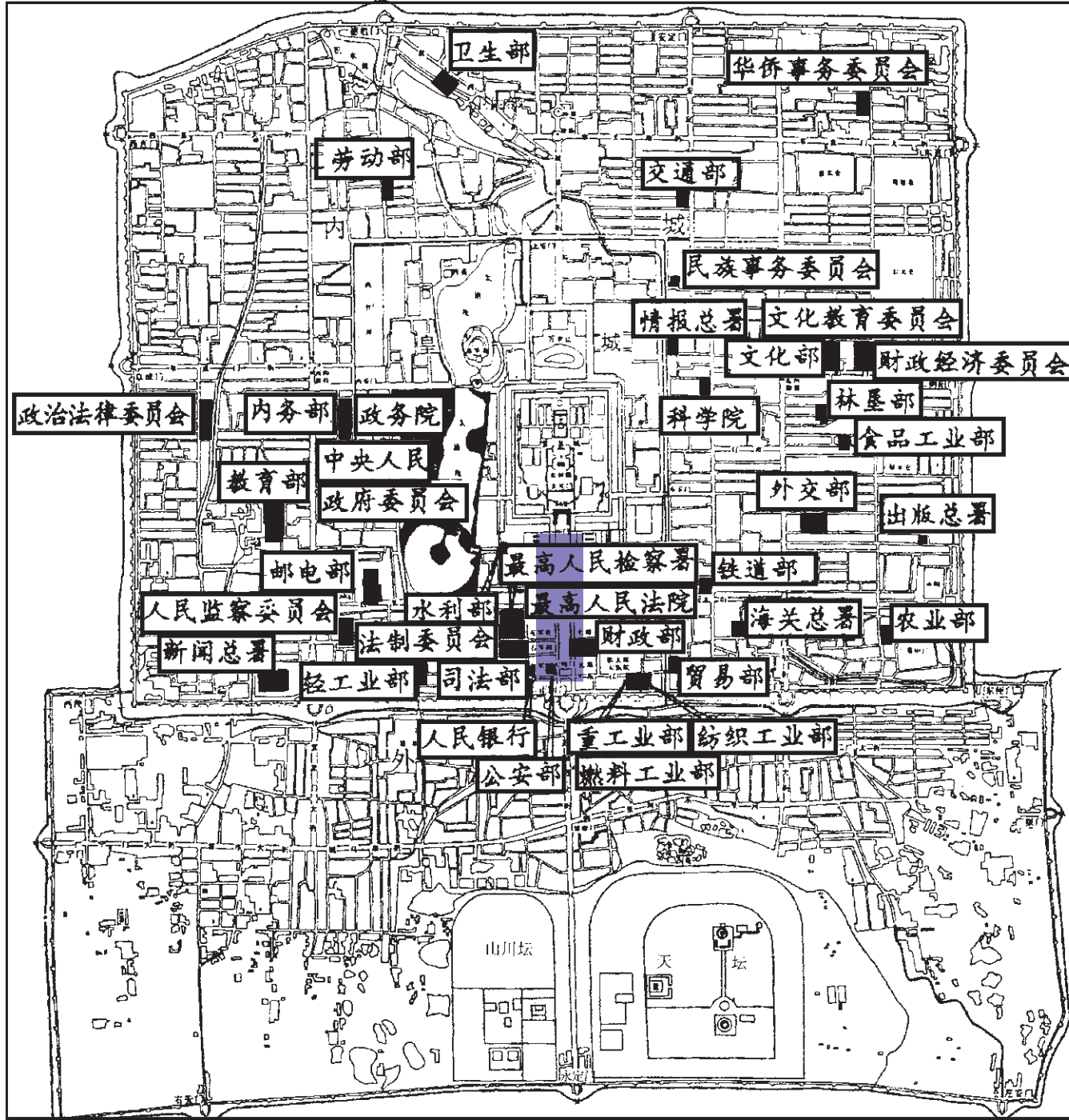
Figure 3.1.1 shows the some governance settlement in the Beijing, the example expansion of Tiananmen Square.

3.1.2. Economy

In the contemporary period the economy of Beijing could be divided into two periods, the first one is between 1949 and 1978, so called "planned economy"; the second period is between 1978 and now, so called "market economy".

For the first period, Beijing is known as planned economy, and the central government considering the city like Beijing should be developed as an industrial city, but before 1949 Beijing is a consumption oriented city. So in this period Beijing was influenced, and in the historical city center transformation was happened, the traditional neighborhood was influenced as well, many neighborhoods becomes into industrial worker based inhabitant.

For the second period, after 1979 the economy reform in China, Beijing's economy structure was changed, the service/third industry became dominate role. As a result financial business and many headquarters can be found in Beijing, also inside the historical center. Until 2010, there are 30 companies of Fortune Global 500 companies set their headquarters in Beijing and more than 300 Fortune Global 500 companies set a branch over there. So much vigor in economic activities in Beijing lead to the increase of GDP, in 2009 nominal GDP was 174 billion US dollars, 10.1% increase compare with 2008, and the GDP per capita was 10,070 US dollars. " (7). But at the same time, the gap between rich and poor is becoming deeper. And Gentrification was happening during this period.



3.1.1. Governance

After 1949 governance promote the changes in Beijing, partly influence is showed.

Chinese name of the governmental administration

铁道部

Physical site



Tiananmen Square



Example: Tiananmen Square



Many traditional worker based neighborhoods was transformed by the young and rich family.

Financial street district could be taken as an example, in 1992, the local government of Beijing planning this district into a financial center; it contains banks, stock exchange, insurance, shopping malls and hotels. Then the economics of this district changes dramatically, many Chinese national banks set up their headquarters there, more importantly there are four national regulatory commission of the central government: Central Bank of China, People's Bank of China, China Banking Regulatory Commission, China Securities Regulatory Commission and China Insurance Regulatory Commission. Until 2007, there are 72 financial company and organization, more than 17000 people work there for financial related. In 2009 the tax revenue of this district is around 200 billion euro; it occupied 28.4% total tax revenue of Beijing" (8). In comparison, before 1992 this district has a low economical performance, because the main function of this district is for residence.

Figure 3.1.2 shows in contemporary period the population changing in the Beijing.

3.1.3. Population

In the contemporary period the population history could be divided into two periods the first one is between 1949 and 1978, the second one is from 1978 to now.

For the first period, after the new People republic China created the central government encourage the people to have a high women fertility rate due to the cold war influence. At that period, the population growth in Beijing is contributed by two reason, first is the local women have a high

fertility rate; secondly is because the expansion of the municipality region of Beijing.

For the second period, the famous Chinese family planning (9) have started to implemented, and the local women fertility rate decline dramatically, but the population of Beijing is still growing obviously, from 8.7 million of 1978 to 19.72 million of 2009 (10). By analysis this is due to the big migration from other part of China even internationally. Especially, in this period the temporary population is increasing enormously from 0.22 million of 1978 to 7.63 million of 2009 (11). And now inside the historical centre of Beijing there are 1.4 million people as local permanent inhabitant in 2007, and the population density is 22400 people per square kilometer. This density is higher than the population density of Beijing's metropolitan area around 15752 people per square kilometer and the density of whole Beijing 2199 people per square kilometer (12).

In conclusion, the population growth in Beijing is dramatically this brought a lot pressure to the city center, especially to the historical centre.

Figure 3.1.3 shows in contemporary period the population changing in the Beijing.

3.2. Physical changing

In this subchapter, physical changing of traditional neighborhoods will be illustrated systematically and objectively. In order to have a systematic understand, the physical changing description will be focused from a general vision than zoom in detail description, by doing so firstly a general description will be presented; than four different level of changing: Serious invasion, Great invasion, Middle invasion and Light invasion will be illustrated; finally, in order to compare with the second chapter – main

1949-1978



3.1.2. Economy

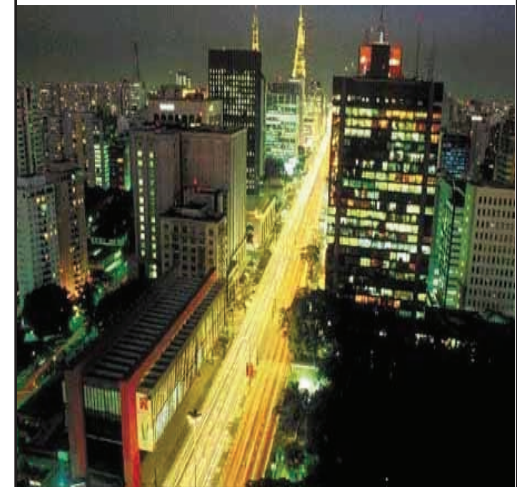
1949-1978: Industrial city

1978- now: Service/third industrial city

1978- now

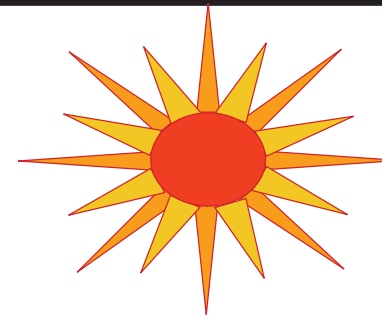


Case: Financial Street District



1949-1978

Reason for
Population
growth



Local women with high fertility rate
Municipality region of Beijing was expanded

year	Inhabitant (unit: million)	Temporary population without tourism (unit: million)
1949	2.03	-
1956	3.83	-
1978	8.70	0.22
2000	13.63	1.70
2005	15.38	3.57
2009	19.72	7.63

1949-1978

Reason for
Population
growth



Migration increasing
Increasing temporary population

3.1.3. Population

Conclusion:

Population growth brings pressure to the historical centre.

In historical centre: the population density is 22400 people per square kilometer.

The population density of Beijing's metropolitan area around 15752 people per square kilometer and the density of whole Beijing 2199 people per square kilometer

physical aspects of traditional neighborhoods, the final description is also from the view of urban material Street, Hutong and Siheyuan.

3.2.1. General description

In general there is dramatic changing in the historical center of Beijing, and most of changes are concentrated in the contemporary period. Figure 3.2.1.1, 3.2.1.2 and 3.2.1.3 show the condition of historical center of three periods Ming Dynasty, Qing Dynasty and Republic China periods and all three periods are before contemporary period, the physical condition and urban texture in these three periods are similar, few changes.

But when it came to contemporary period, dramatic changes is arrived, by watch Figure 3.2.1.4 the city center contains different urban texture, some are modern and some are traditional style. The new urban texture can be found easily in the boundary, it is gradually decline along the direction to the very city center, and Figure 3.2.1.5 shows this trend. On the other hand, the traditional texture or the traditional neighborhoods can be found mainly in the central part of the city center, and it gradually fade away along the direction out of the central area of the city center, Figure 3.2.1.6 make this trend visible. Finally, but watching Figure 3.2.1.7 a mixture of the two trend shows together in this graph.

3.2.2. Total substitution

Total substitution represents the traditional texture inside city center which was totally transformed by new urban texture. High volume buildings, different style of architecture, multi-driveway, big parking, certain scale squares and green area are typical new urban texture.

Citadels **(13)** and Planed Districts **(14)** patterns are the new style instead of traditional texture. And Figure 3.2.2 shows a case about Total substitution, it is Financial Street District, the new urban style of this case belongs to Citadels, before the current condition, this area was totally traditional historical neighborhoods for residential, but now it is mainly for financial function.

3.2.3. Surviving islands

Surviving islands level is similar as the Total substitution level, but during the transformation process, there are some or single building or urban textures have very important value in considering the architectural and cultural aspect so the preservation only to the single unit was done. However, in an area most of the historical and traditional texture is lost and transformed, so in many case the isolation of the historical elements can be seen. Figure 3.2.3 is an example of great invasion, which Li Lianying's **(15)** former residence is surrounded by a new urban texture.

3.2.4. Mixed situation

Mixed situation is a condition that both traditional texture and new urban texture exist together. Normally new urban texture invasion start from the architecture nearby the street, big volume building function like Citadels patterns instead of the traditional one, and gradually it buffers inside of a block. Sometimes nearby the street planned districts patterns instead traditional texture can be found as well. Figure 3.2.4 shows one case of Mixed situation, and it is a block located nearby Fayuan Temple, in the texture nearby street currently all are new urban texture, buildings with

Figure 3.2.1.1. Beijing's historical center

Ming period 1573-1644

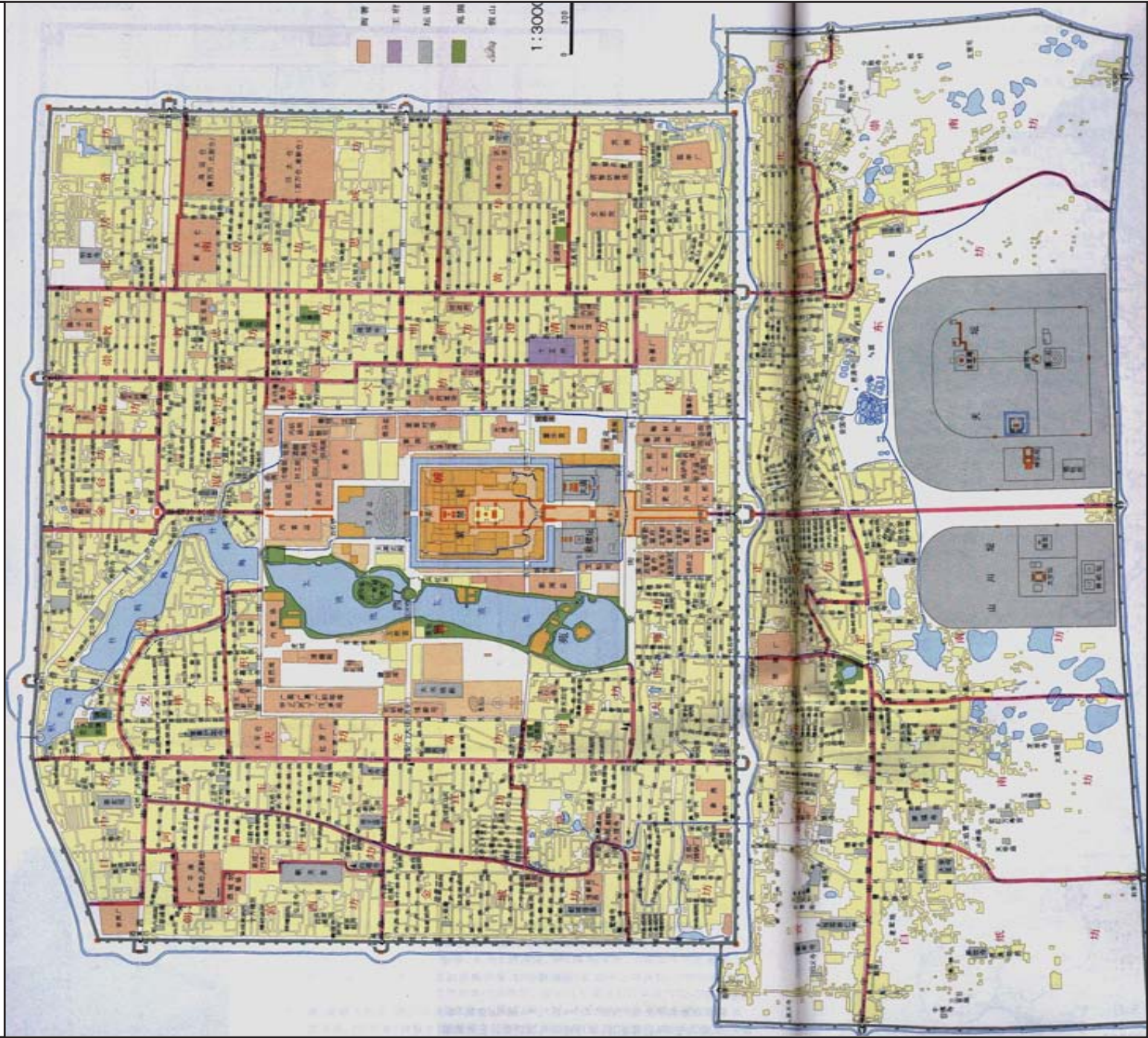


Figure 3.2. 1.2. Beijing's historical center

Qing period 1636-1911
Same as previous period

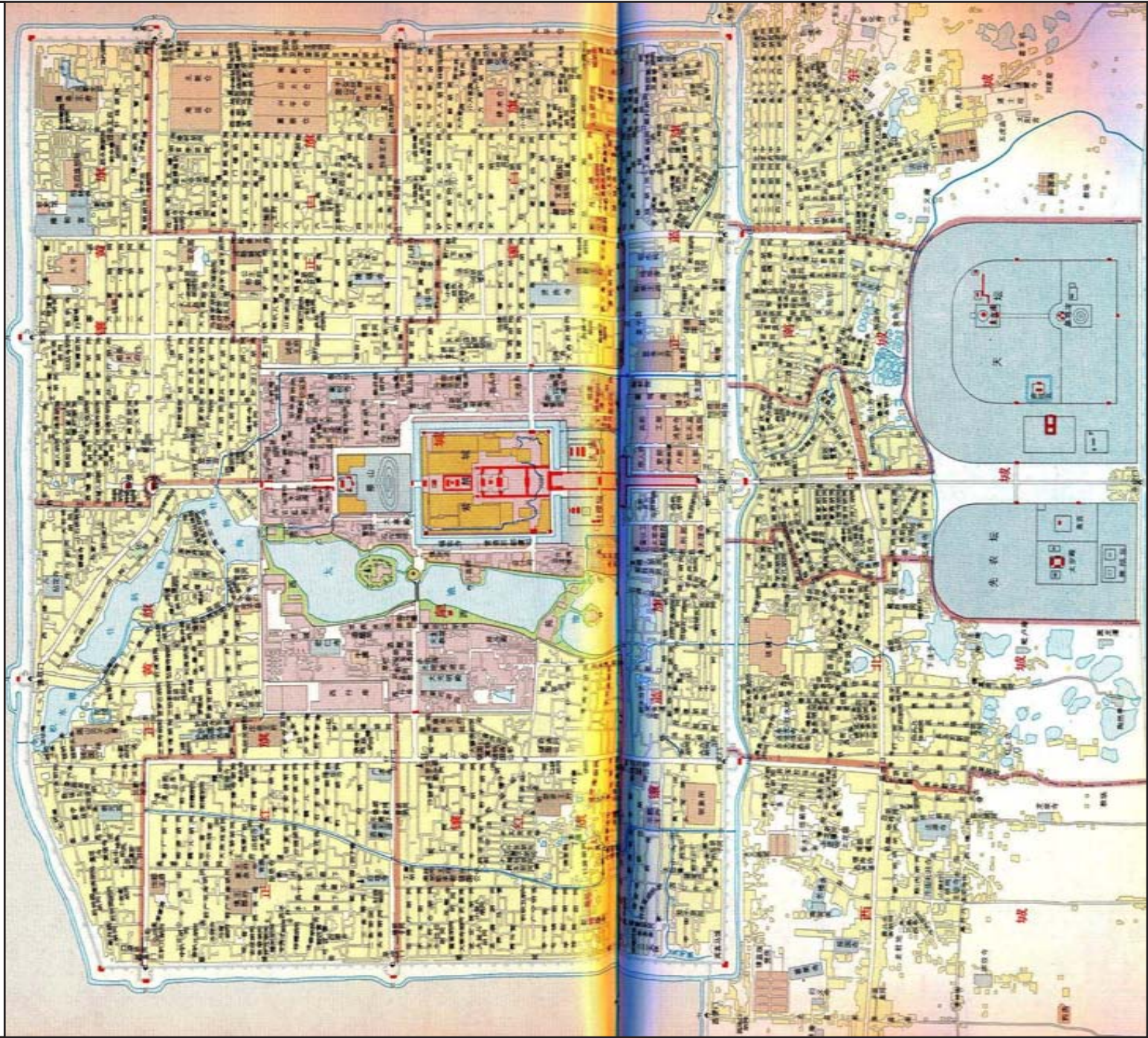


Figure 3.2.1.3. Beijing's historical center

Republic China 1912-1949
Same as previous period

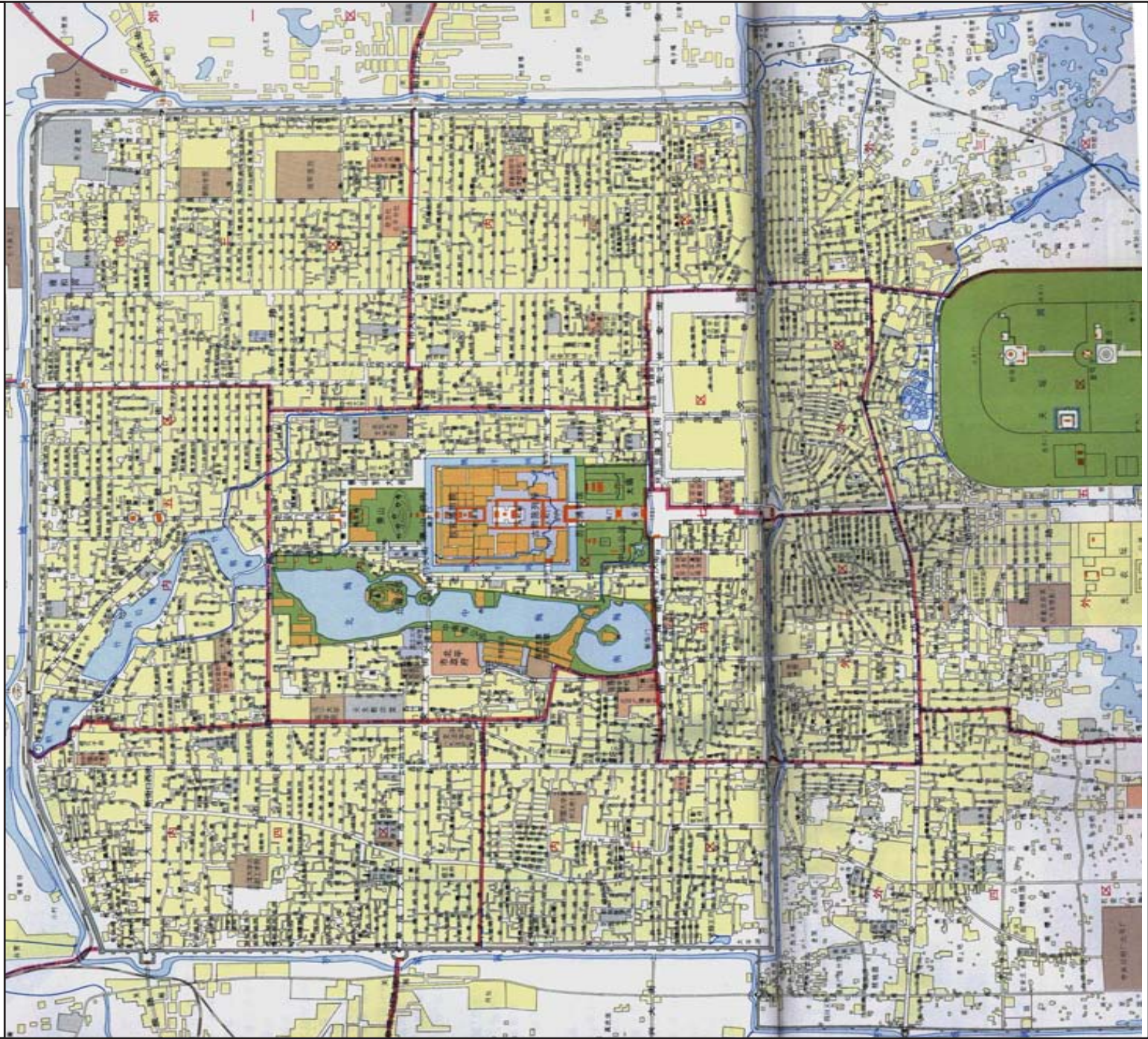
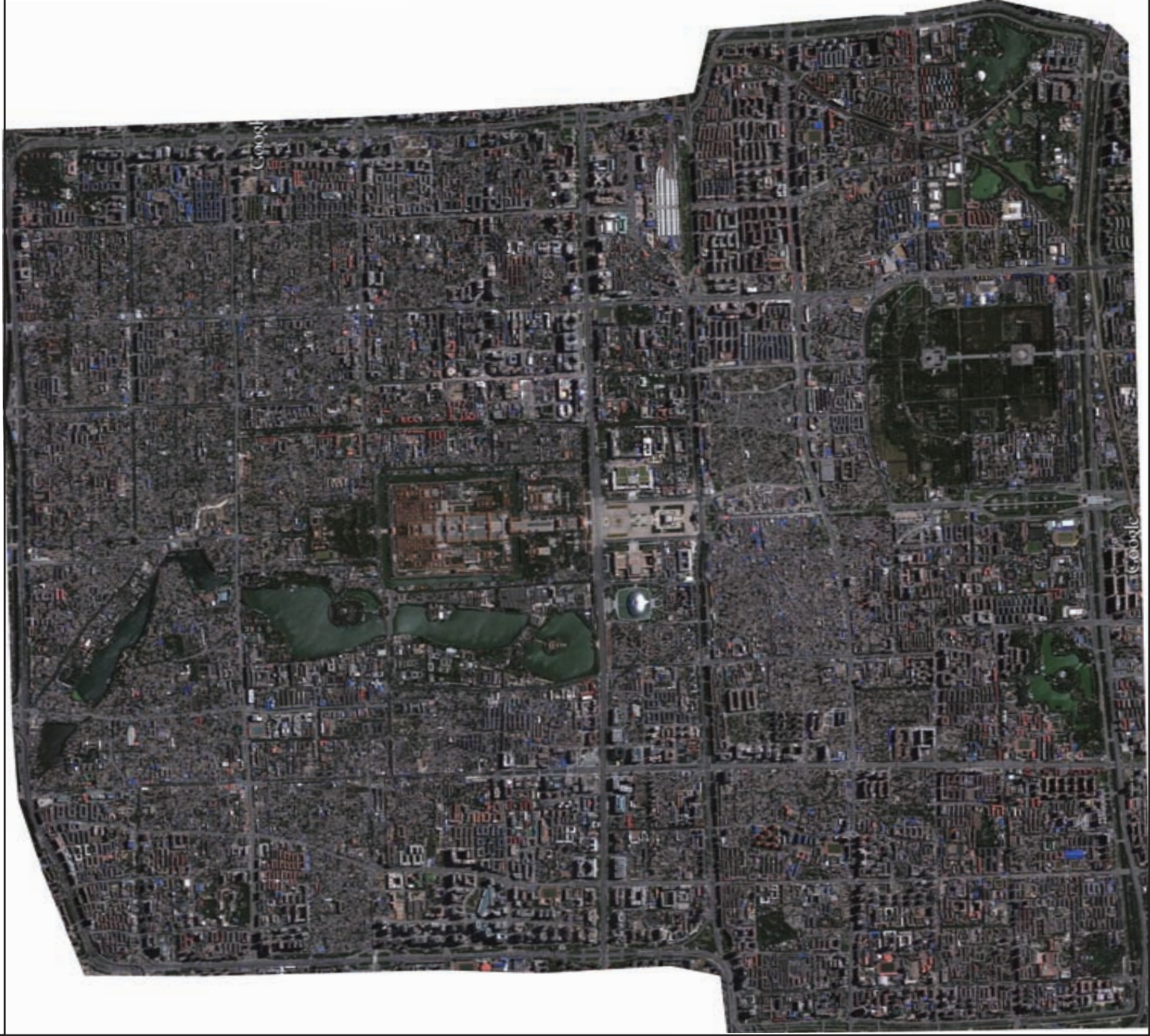


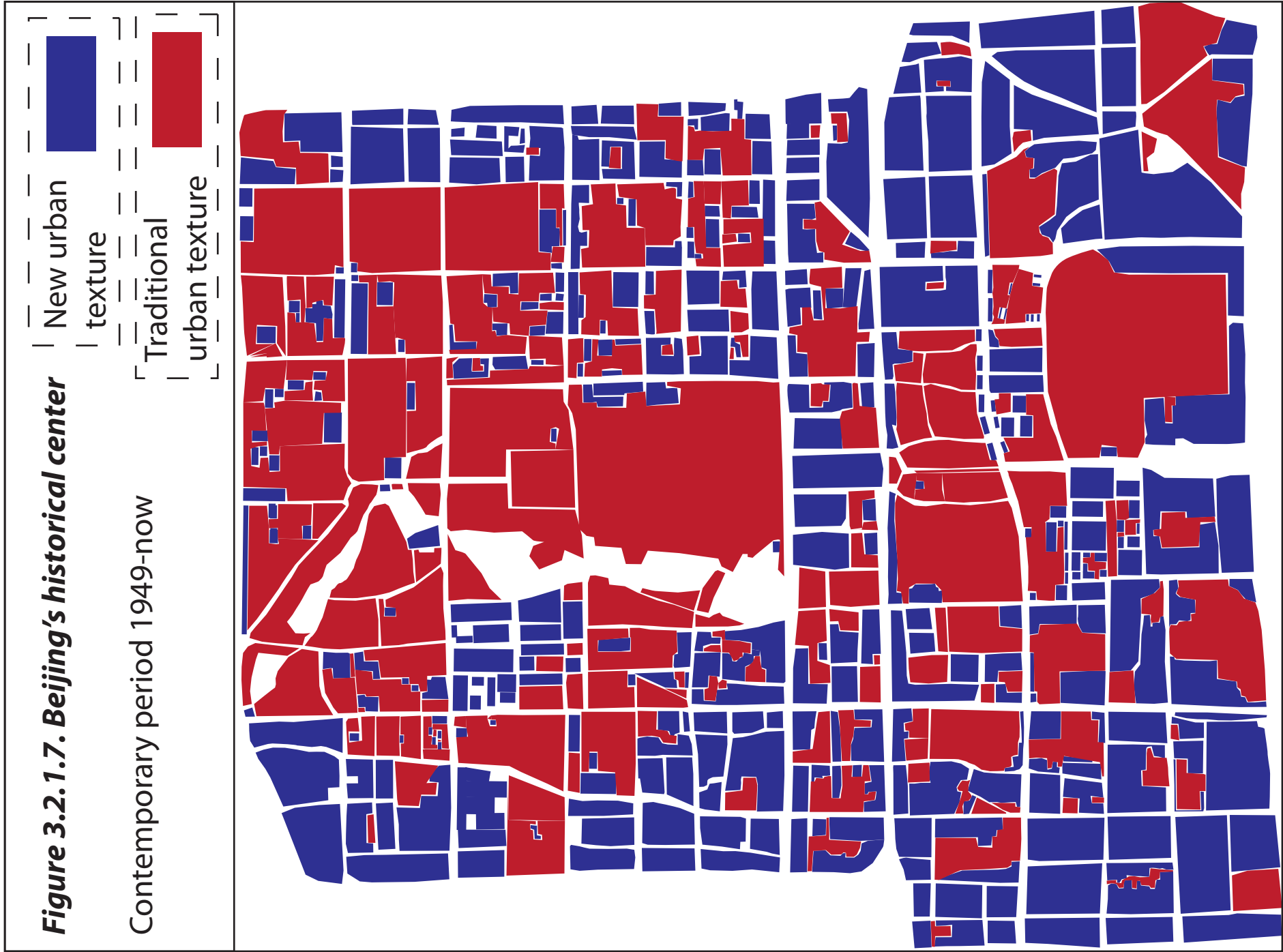
Figure 3.2.1.4. Beijing's historical center

Contemporary period 1949-now
Great changing compare with past











3.2.2. Total substitution



Traditional texture totally disappeared

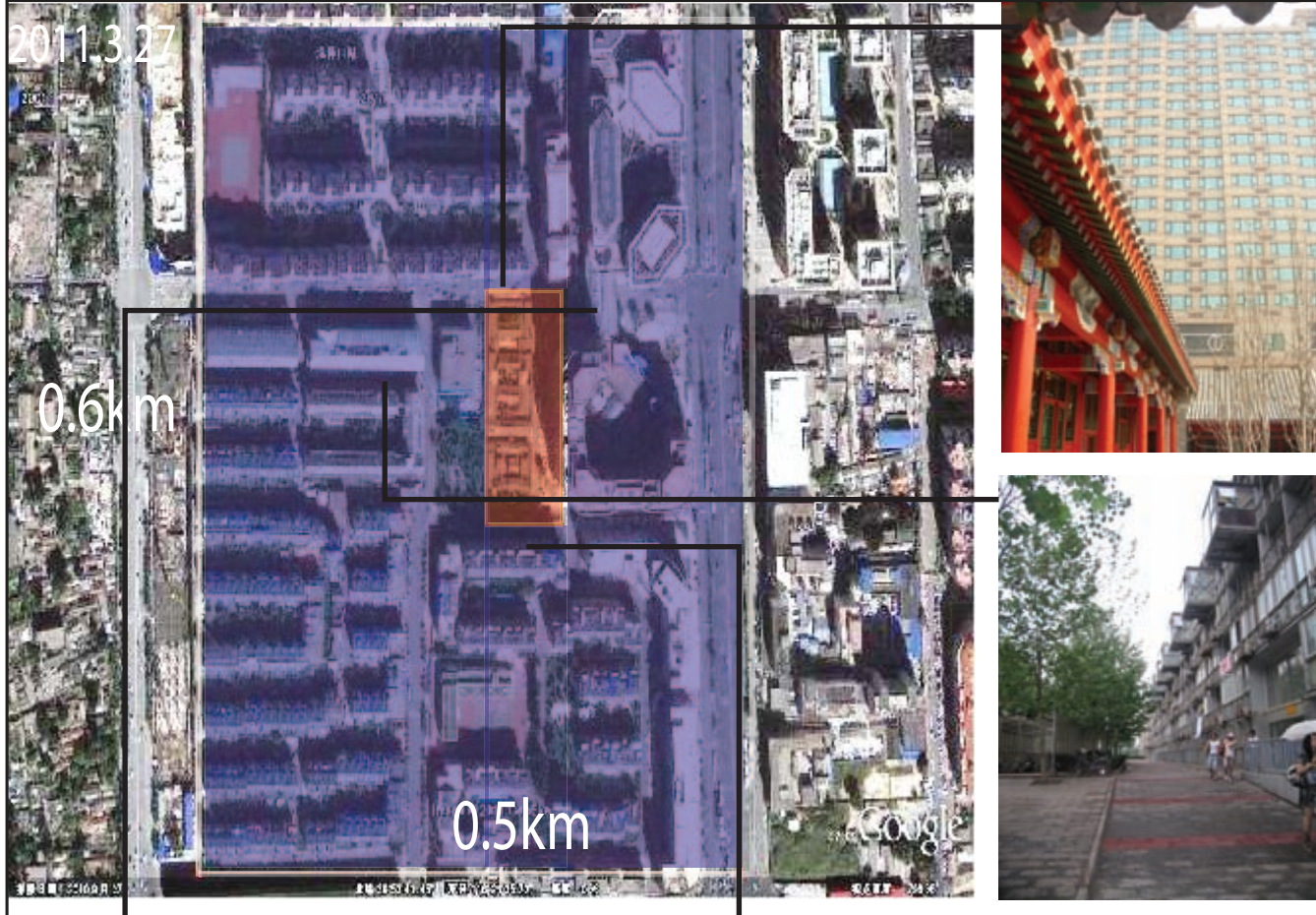
New urban texture instead of historical traditional texture.

Citadels and Planned districts patterns as new style



Example: Financial District





3.2.3. Surviving islands

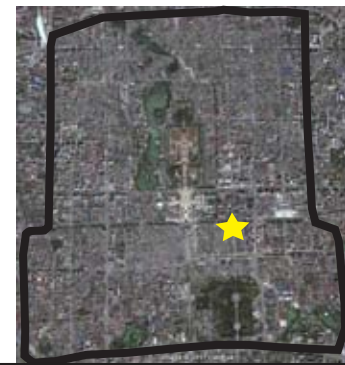


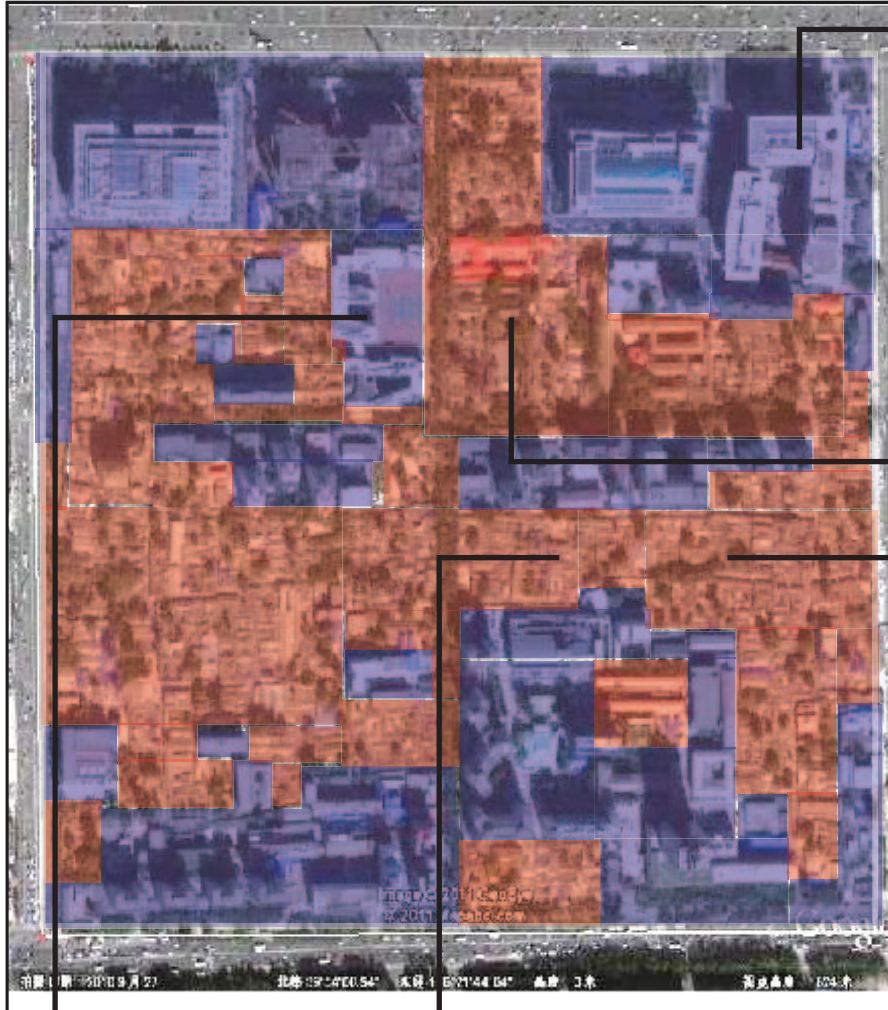
Similar as Serious invasion

Very important historical traditional building or texture are preserved and isolated



Example: Li Lianying Former residence





3.2.4. Mixed situation



Both traditional texture and new urban texture are existing together.

New urban texture invasion start from the border of a block, with a Citadel or Planned districts patterns.

Case: Fayuan Temple



special function, such as school, headquarter, and shopping mall. But in the center of small blocks traditional texture remain.

3.2.5. Insertion

Insertion means that in a certain area that most urban texture is still historical and traditional, even there is new urban texture emerging, but still the most urban texture is traditional and original. Citadels and small Planned districts are typical new urban texture or insertion material can be found. Figure 3.2.5 is an example show that in the border of the block new urban texture with a planned district arrived. And inside Hutong, there is another Citadel pattern building, which is a middle school.

3.2.6. Street

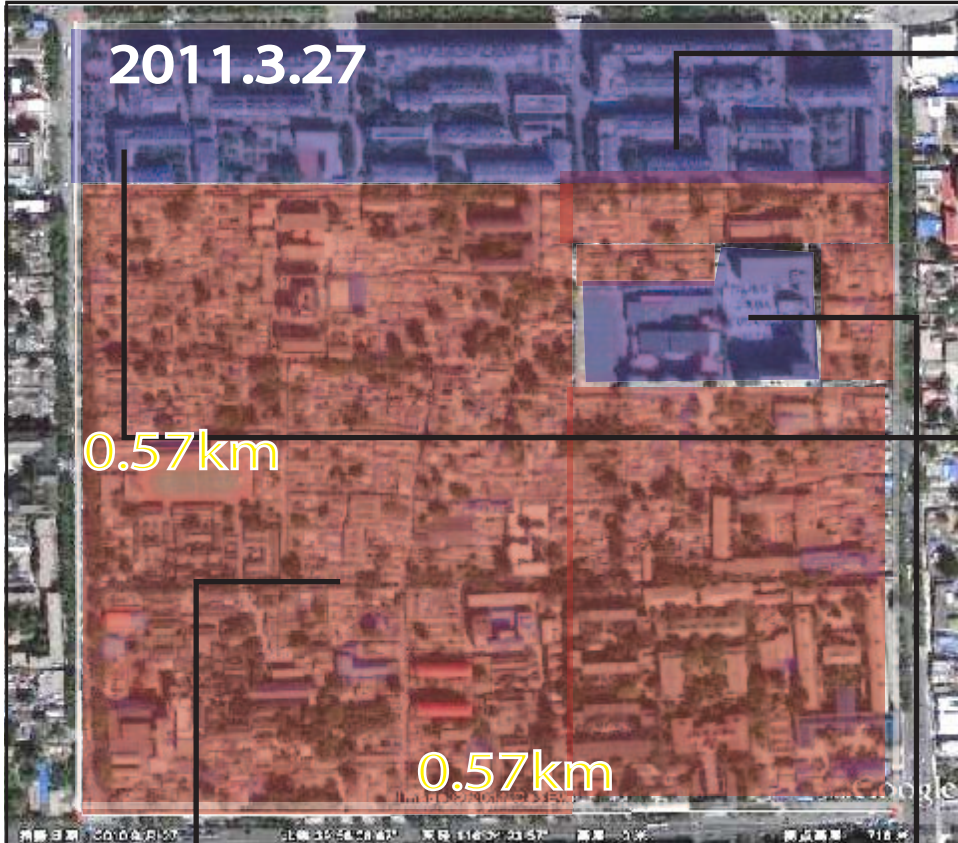
As the chapter 2 mentioned before the main physical feature of the traditional street in Beijing is about: Monument and open sight. But during the contemporary periods it changed dramatically. Firstly, many monuments on the streets or streets' link to were disappeared, instead by big road crossing or new modern skyscrapers. Secondly, the two sides of streets in general also changed, small scale buildings with an open sight cannot be seen, but big scale buildings with a high city skyline achieved. Figure 3.2.6 is shows the current street system of city center of Beijing and it give an example - Long Peace Street to explain the changes; and this street is the horizontal axis of the city center of Beijing.

3.2.7. Hutong

There mainly three physical changes for the Hutong. Firstly, there are many Hutong are disappeared from 3073 of the year 1949 to 1559 of the year 2003 **(16)**. In addition, the current exists Hutong can be seen in Figure 3.2.7. Secondly, temporary construction on Hutong can be found often, due to the limitation of space of the residential unit some space belongs to Hutong were occupied by temporary illegal building. Finally, the facade of Hutong also changed; many different style decorations were added; and for some Hutong improper reparations can be found. Figure 3.2.7 shows the three kind of problem, and gives an example – Jianchang Hutong.

3.2.8. Siheyuan

In general, temporary construction as plug-in inside Siheyuan is the main physical change, and it can be divided into three groups, and for each group Siheyuan has different changing style **(17)**. Firstly, the courtyard in the center is occupied by temporary construction, and different small family inside one Siheyuan divided the courtyard. Second group is that base on the original room inside the Siheyuan, temporary construction is connecting or next to original one and develop into the courtyard in the center. Third group is that the new temporary construction fill the residuals between room and it still try to remain the courtyard in the center, but the size of the courtyard is shrinking. Figure 3.2.8.1 shows the three models, and Figure 3.2.8.2 shows an example of the changing of a typical Siheyuan, it is located in Qianmen district.

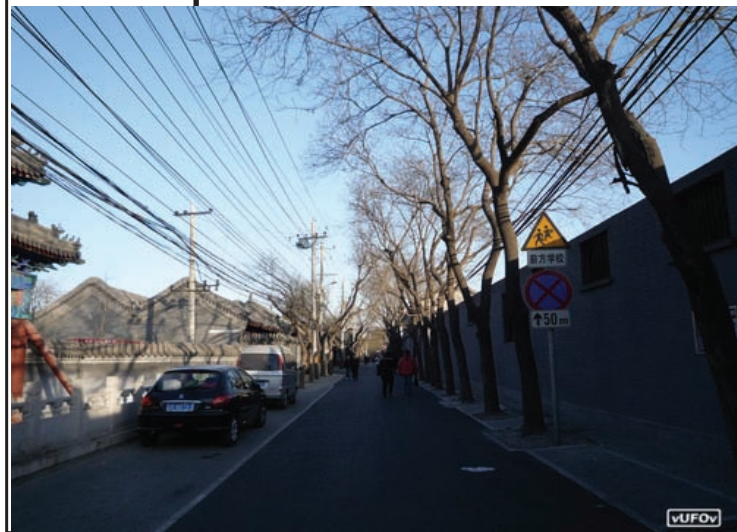


3.2.5. Insertion



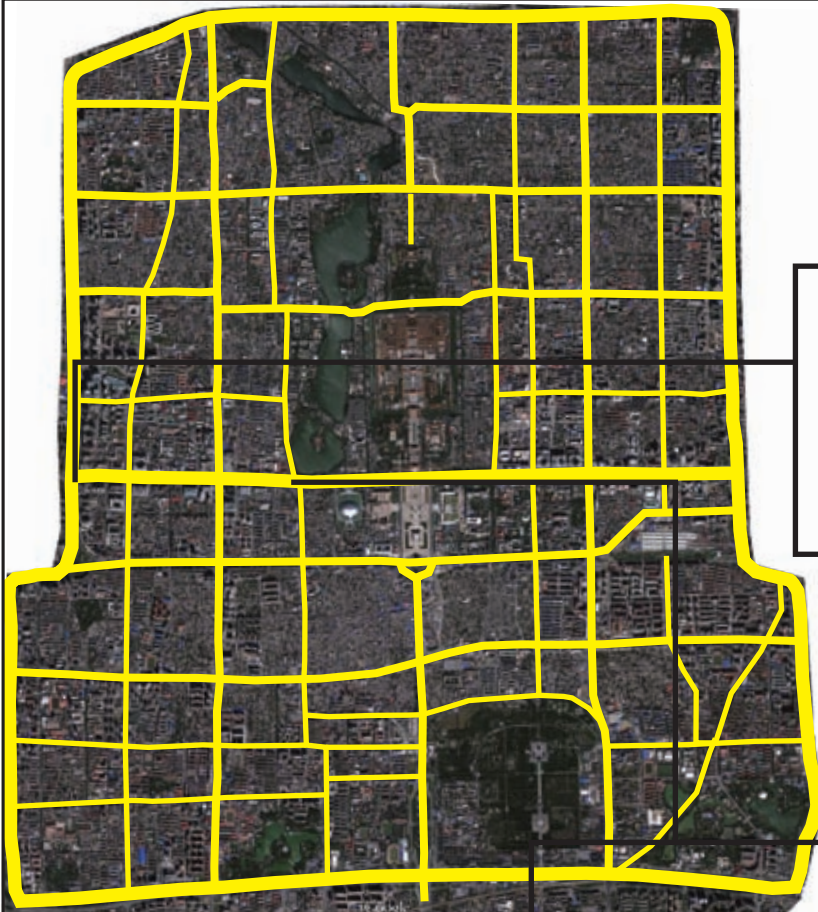
Most texture is still traditional and historical.

Planned districts and Citadels patterns as new invasion.



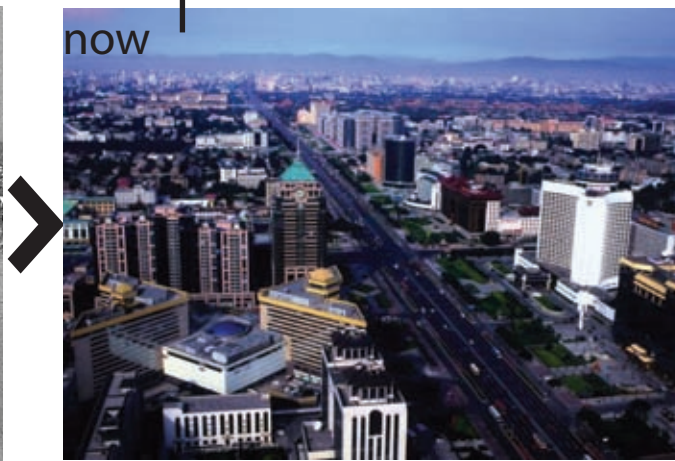
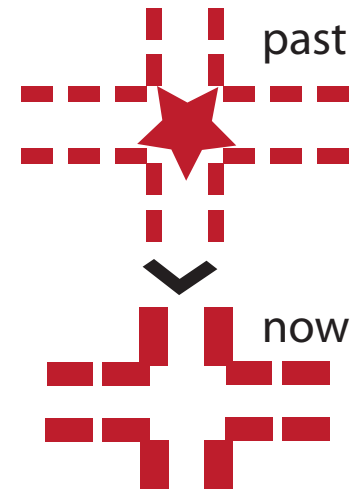
Example: Jiao Daokou Xiaoqu





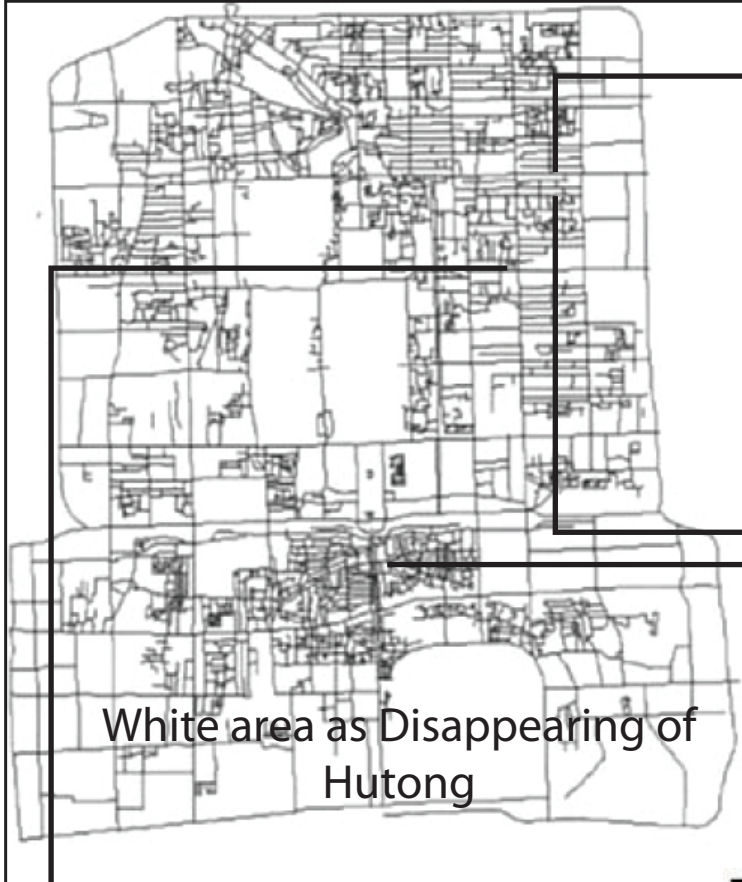
3.2.6. Physical Changing of Street

Disappearing of Monument and open sight on Street



Case: Long peace street





3.2.7. Physical Changing of Hutong

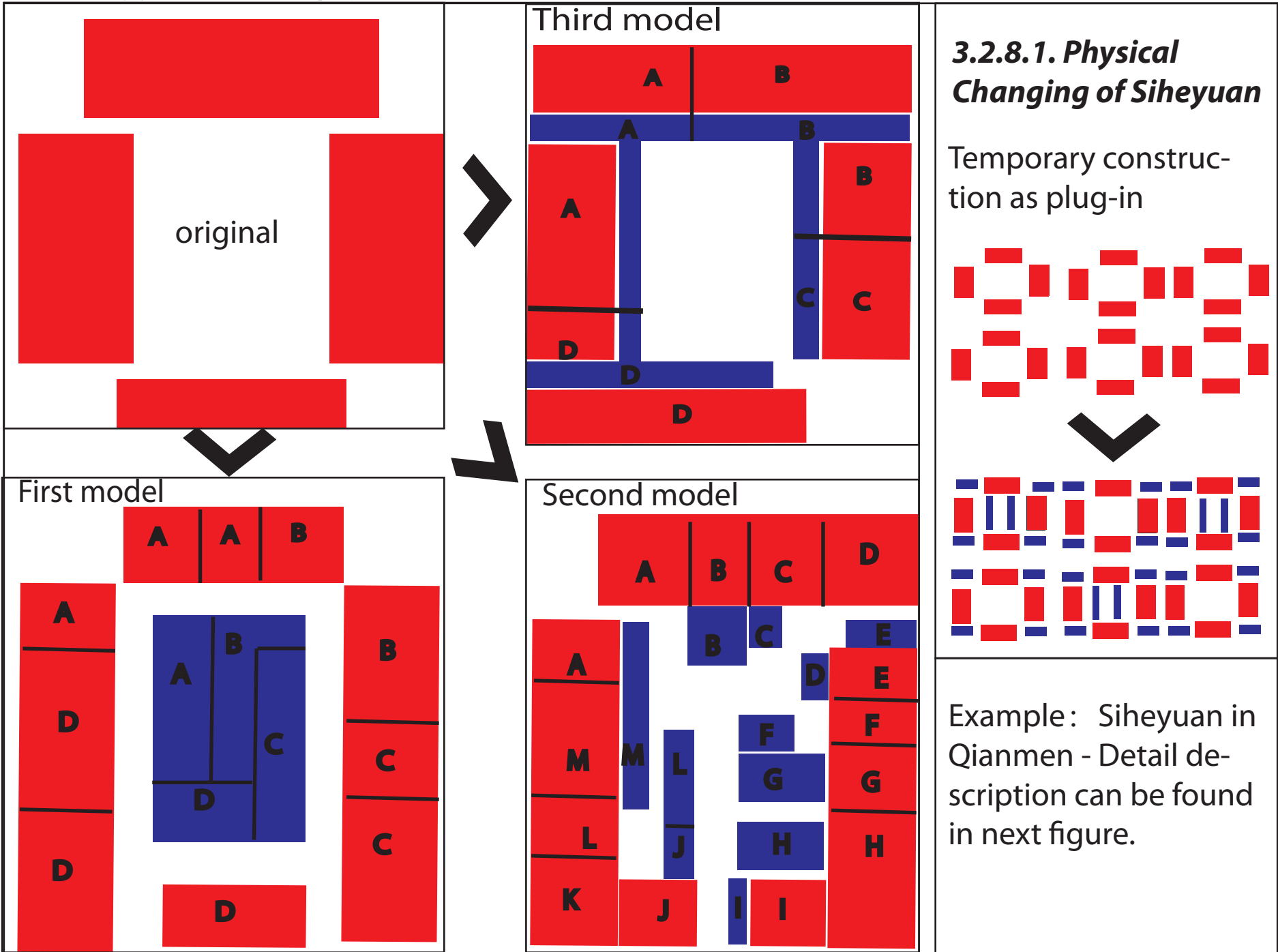
Disappearing of Hutong, the map on the

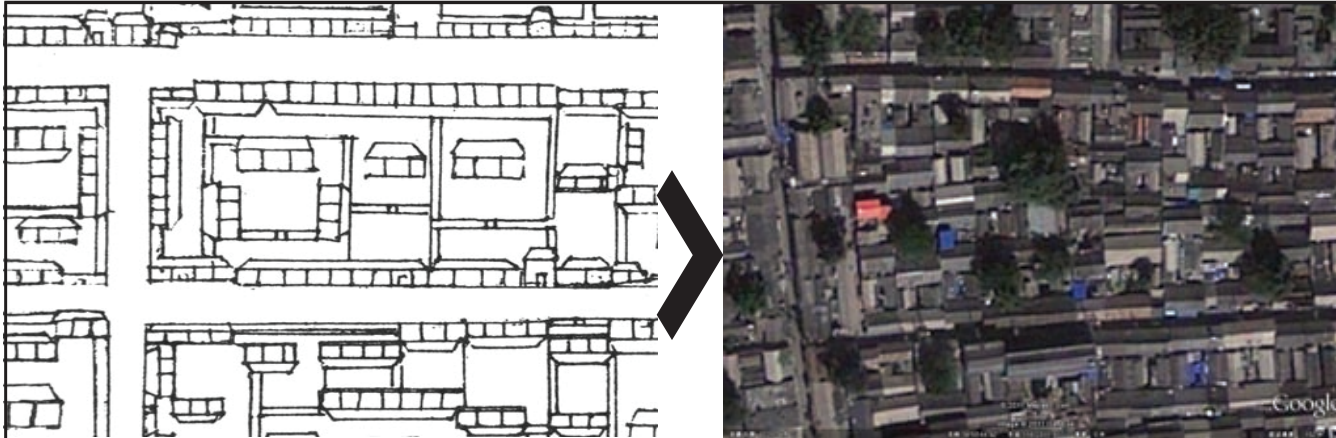
Temporary construction

Decoration and simple repair

Case: Jianchang Hutong





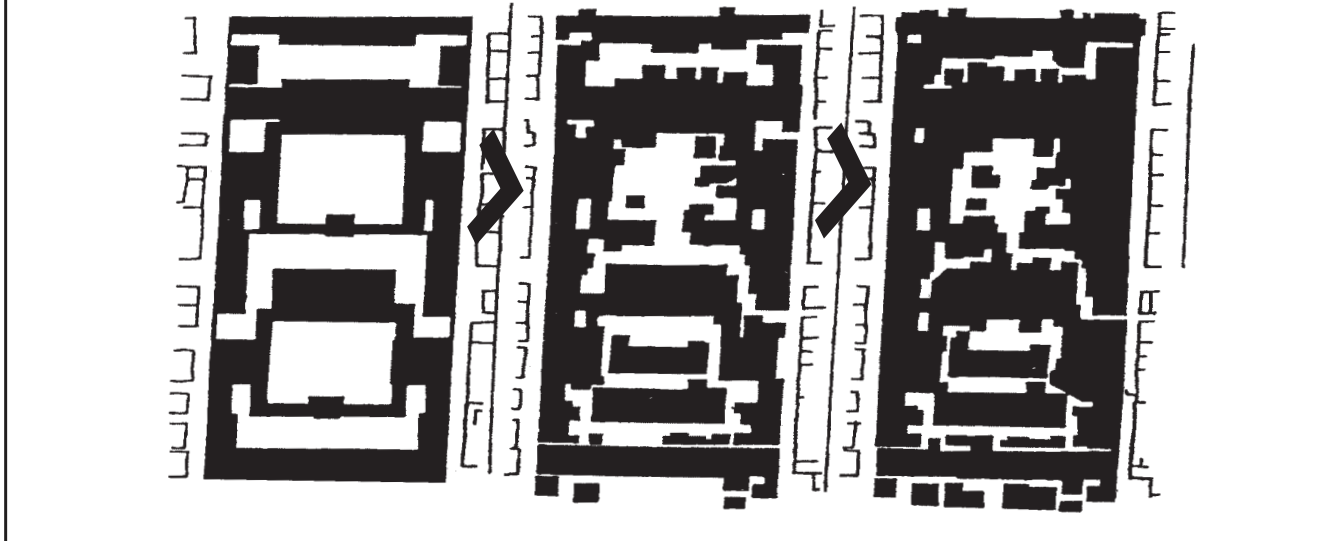


3.2.8.2. Physical Changing of Siheyuan

The room density is improved.

Courtyard in the center is shrinking.

Temporary construction as occupation.



Example: Siheyuan in Qianmen



3.3. Changing of spatial and functional using

In this subchapter the main changes of spatial using of each urban material will be illustrated.

3.3.1. Street

As the paragraph 2.3.1 in second chapter discussed, in the past the main function of street is for public interaction and service/business, so basically street is the main space for public space. But in the contemporary it was totally changed. Firstly, public space were moving to the street crossing, government decided to building some squares at the street crossing in order to compensate the lost of public space on the street. For example, the Xidan square is located at the west part of Long Peace Street; it is occupied 12279.79 square meters. Figure 3.3.1.1 shows the first point of view, and it marked all new squares in the city center of Beijing. For example, before 1949 Dongsu Street was famous for business especially rice market, but now it was disappeared and instead only very small scale shops located nearby the street, and the street is totally for auto mobile transportation.

Secondly, the public space on the street was totally transformed into the space for auto mobile system, so traditional street becomes into road even highway. Figure 3.3.1.2 shows this situation.

3.3.2. Hutong

Generally there are two main changes for the spatial using of Hutong.

Firstly, fixed shops as businesses or services were built instead of the traditional mobile service or businesses. And it makes Hutong attracts people in a wider range, Hutong as community space become into public space. Nanluoguxiang use to be a traditional neighborhood for living, but nowadays it is a very famous tourism place for shopping. Figure 3.3.2.1 shows some images of this situation.

Secondly, as the physical changing mentioned there are Citadel pattern implemented into traditional neighborhoods, normally it is inside Hutong, those big facility owns special function, and it serves for a wider range of people, not only for community but for public as well. So it transforms Hutong from community space into public space. In addition, Fangjia Hutong is a perfect example for this change, it use to be a living neighborhoods, but now a big primary school, Beijing Xiehe Hospital, and Green tree Hotel all locate inside this Hutong, these big Citadel attracts people in a wider range. Figure 3.3.2.2 shows this point by Fangjia Hutong example.

3.3.3. Siheyuan

There are two points for the spatial using and functions. Firstly, nowadays Siheyuan is not only for residence objective anymore, it has multifunction. Hotel, restaurant, recreation and offices **(18)**, it make Siheyuan have a bigger utility. For example, the Mei Banquet restaurant is located nearby Drum and Bell tower, the original function is for living, and it is belongs to the royalty, but at the beginning of contemporary period it fade away, and recent years developer use this traditional Siheyuan as restaurant. Figure 3.3.3.1 show the point one.

Secondly, the courtyard in the center of the Siheyuan is segregated. As the



3.3.1.1. Changing of Spatial using of Street

Street is no more public space

Squares serve as new public space at street crossing.

Example: Xidan Square





3.3.1.2. Changing of Spatial using of Street

Automobile system instead of public space on Street.

Street has feeling to pass but not stay.

Example: Dongsisi





3.3.2.1. Changing of Spatial using of Hutong

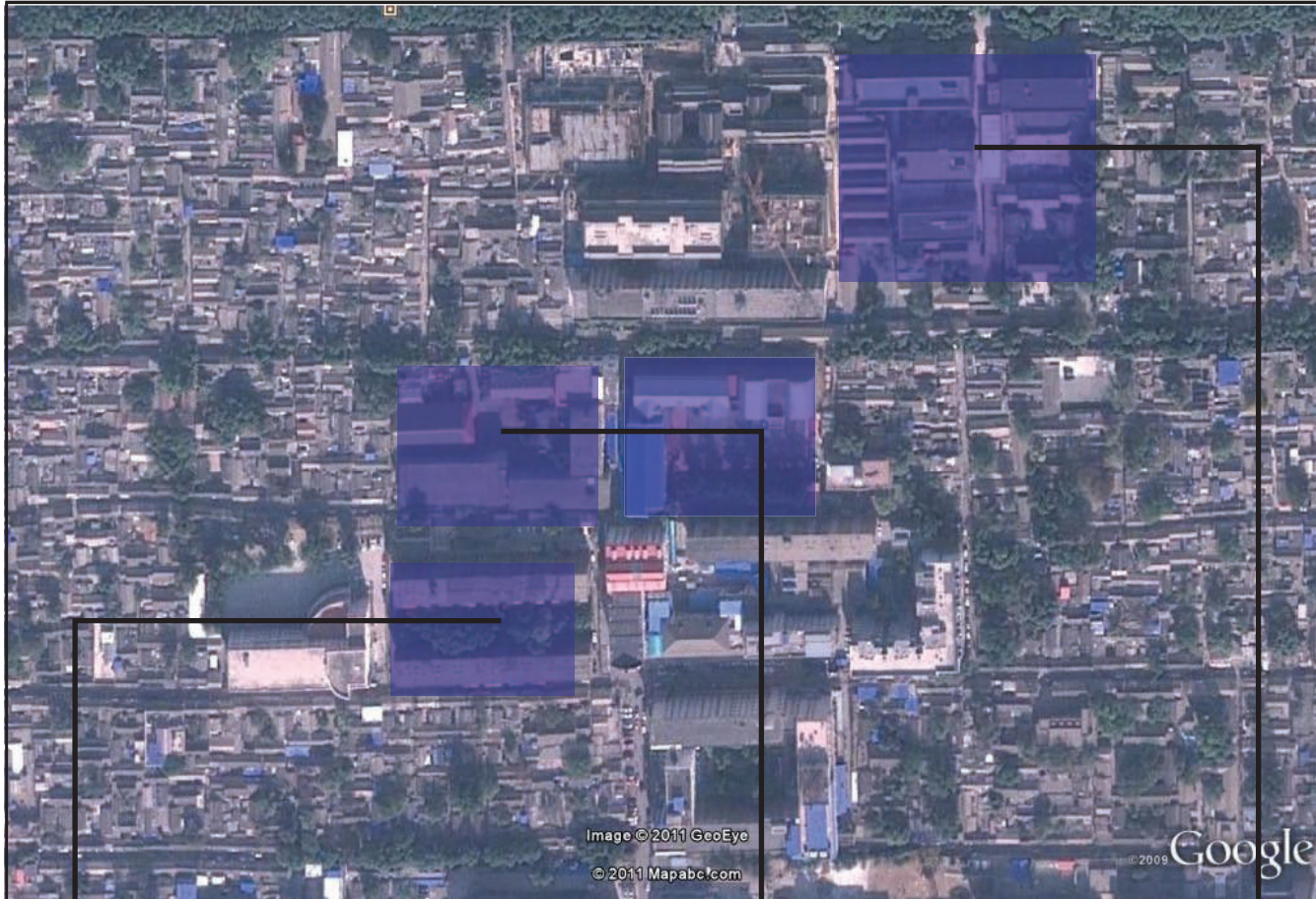
Fixed businesses or shops instead of mobile businesses or services.

It attracts more people make the community space become into public space.



Example: Nanluoguxiang





3.3.2.2. Changing of Spatial using of Hutong

Larger scale service like Citadels serve for the public not only for community.

It attracts more people make the community space become into public space.

Hospital



Hotel



School



Example: Fangjia Hutong



Hotel



Recreation



Restaurant



Office



3.3.3.1. Changing of spatial using of Siheyuan

Multi-function use

Not only for residence, but also Recreation, office and so on.

Example: Mei Banquet



physical changing of Siheyuan illustrated, the space use was influenced, in general there are three varieties to segregated or shrink the courtyards, each of them were showed by Figure 3.3.3.2. Courtyard is the space for family interaction and use, but now it is shrinking and disappeared, somehow family space become into community space or just disappeared. Take an example, the Kangyouwei (19) Siheyuan origin is for the whole family of Kangyouwei, but now several small family live inside and the courtyard is divided and segregated so the family interact space is disappearing.

3.4. In depth by cases

In order to show the contemporary changing of inside the historical center more in depth, some cases are given and the descriptions are more in detail.

3.4.1. Tiananmen Square

Beijing is an ancient and contemporary capital of China; meanwhile it is also the political and cultural centre of China. Tiananmen Square is the concentrative exposition of the political centre and the cultural centre. And the planning and the construction history of this site reflect the contemporary changing of the historical centre; especially it speaks the changing of the political and social, and the changing of the physical aspect.

In 1420 of Ming Dynasty Tiananmen Square was formed and the shape was like "T", it cut the Changan Street because this square is not for public, it was blocked by walls. The condition for Tiananmen Square was kept until

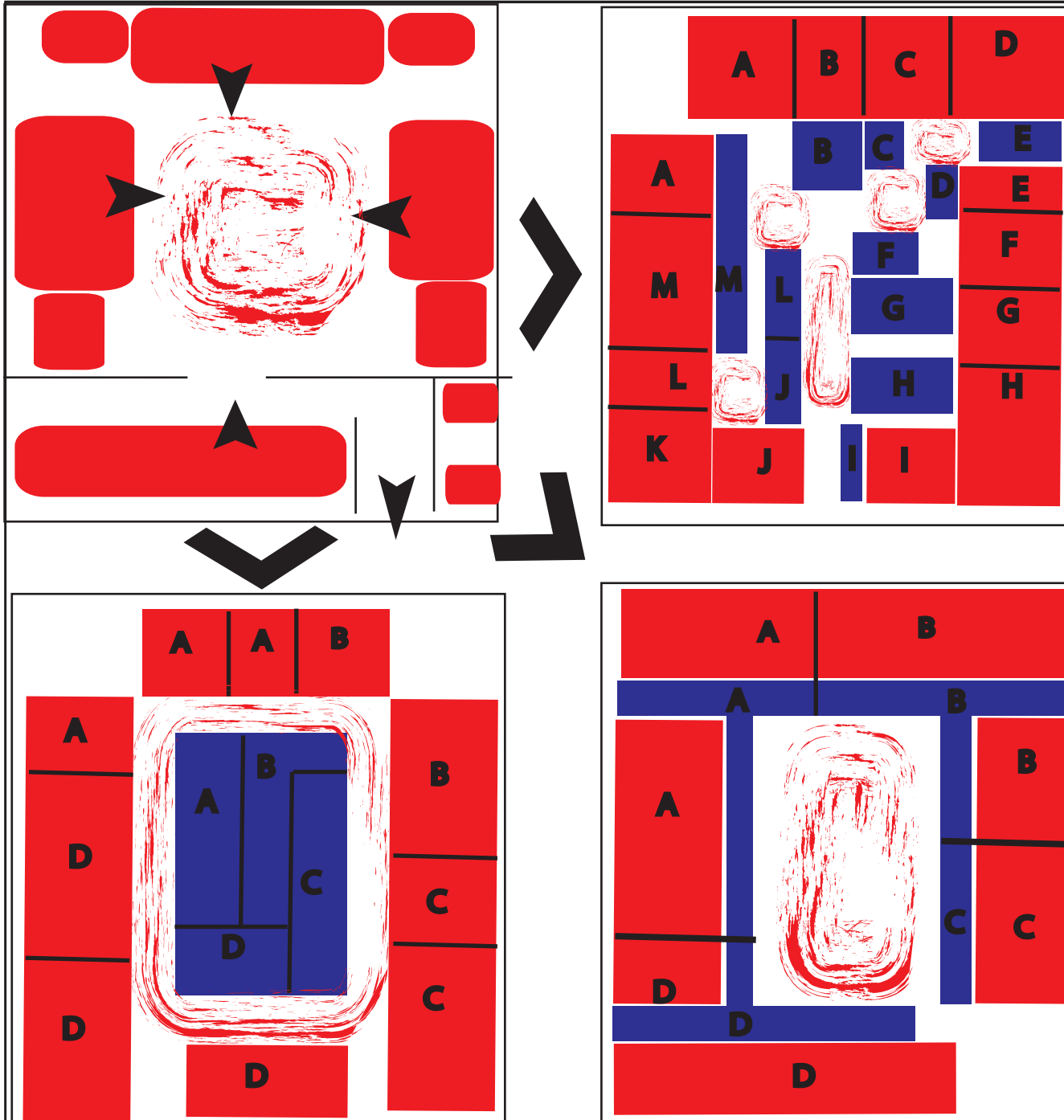
1900. Due to the invasion of the eight foreign countries the east area of the Tiananmen Square was transforming as a legation quarter, the original residential houses were demolished, and the some western style buildings were built. In 1911 the wall of Tiananmen Square was demolished and the Changan Street was connected. Figure 3.4.1.1 shows the history from 1420 to 1911.

When the time went to contemporary period, greater changing was happened on both Changan Street and Tiananmen Square, due to the will of the new communist government is to set both two site as the political and cultural center of the capital and the country. So the original physical features are lost and new monuments were built during this period.

For the Tiananmen Square, it attracts the most attention for the urban planner and central government. Between the 1950 and 1954, there are 15 plans for the New Tiananmen Square. And in 1955, the Soviet Union's planners arrived Beijing, and help for the new design. Until 1955, finally there are 10 plans were left, but there is still no final decision which plan should be implemented. In 1958, in order to celebrate the 10 years anniversary of the People's Republic China, the reorder of the Tiananmen Square was begun again. And this time there is more than 1000 urban planners and architectures attend the design and more than 100 designs as result. After the filtrating there are 7 plans left to be considering as choices. And after the discussion between the Beijing's municipal party committee and Zhouenlai the premier of China, finally the plan is a mixture of Zhangbo's plan and No.10 plan (20). Figure 3.4.1.2 shows the design of all 7 plans. Figure 3.4.1.3 shows the final plan and the current condition of Tiananmen Square.

But in general, the new features of Tiananmen Square are:

- New monuments on Tiananmen Square with a greater volume meanwhile the design is different as the traditional style. For example



3.3.3.2. Changing of spatial using of Siheyuan

Segregation or shrinking of courtyard in three way, due to the physical changing.



No or few space for family interaction, somehow family space become into community space.

Example: Kangyouwei Siheyuan





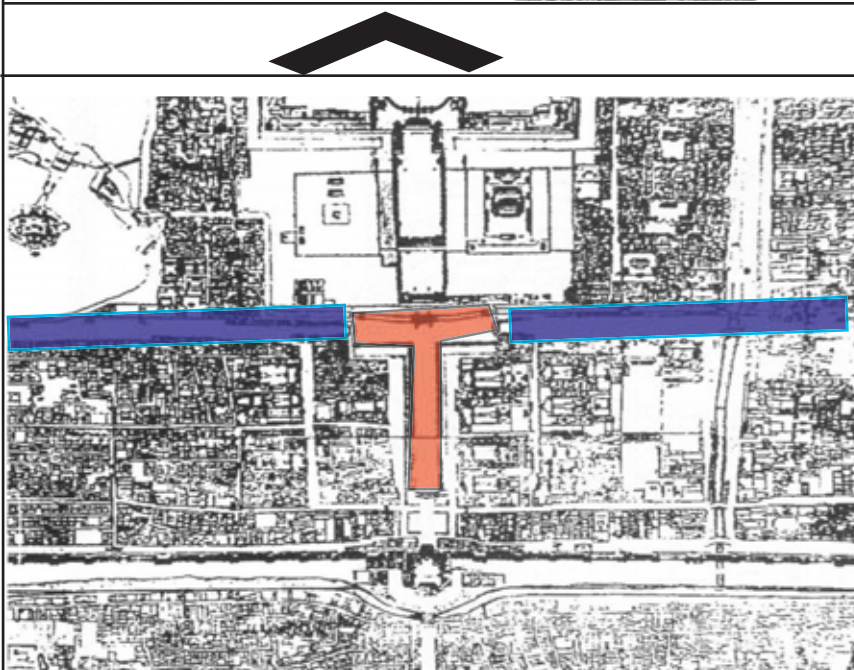
1900-1949

-  Changan Street connected
-  legation quarter

3.4.1.1. Tiananmen Square

“T” shape of the square

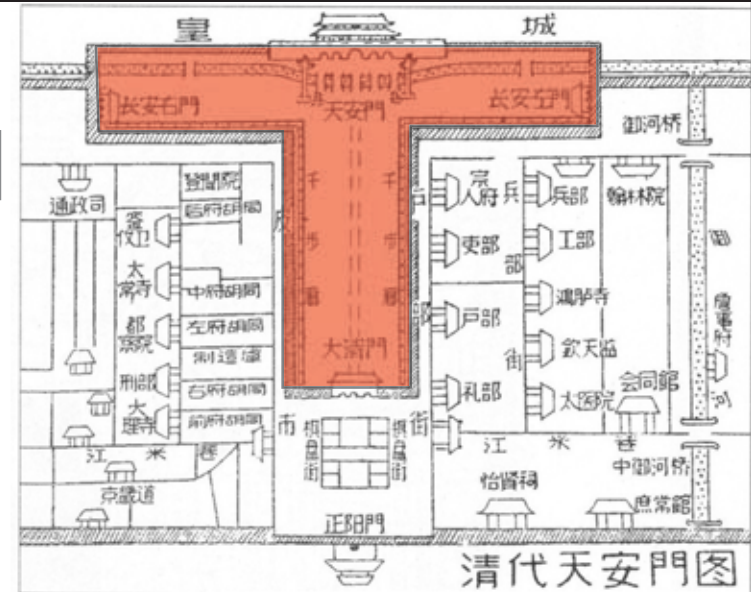
Two periods, there is no obvious changes for Tiananmen Square

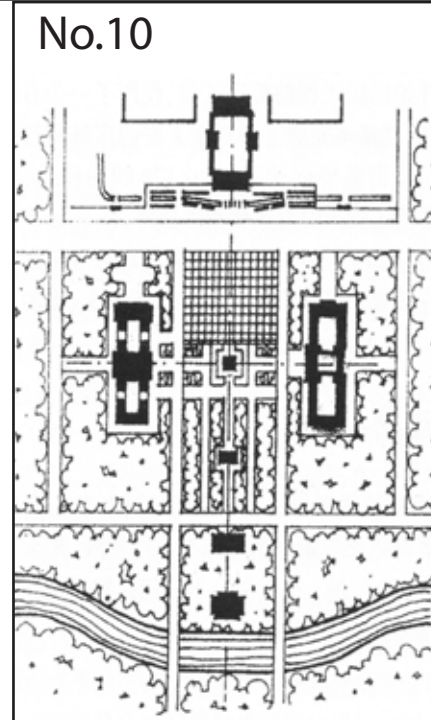
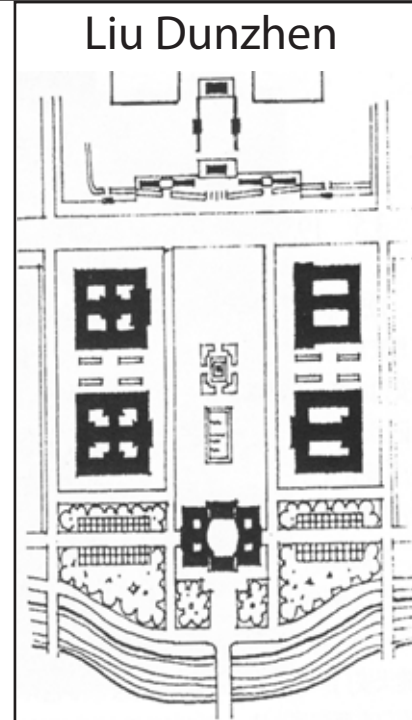
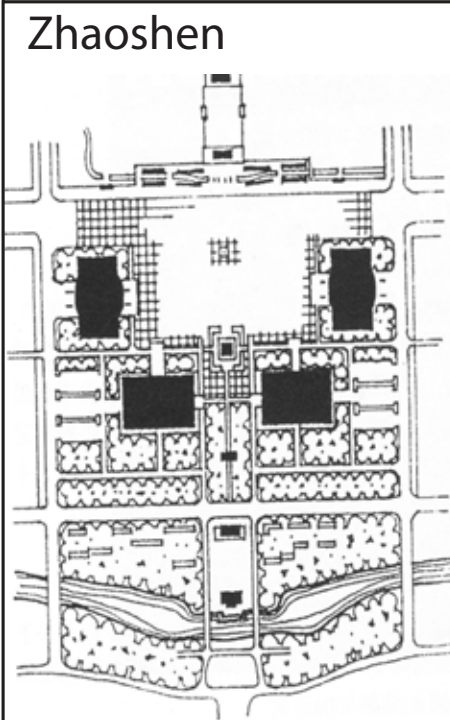


1420-1900



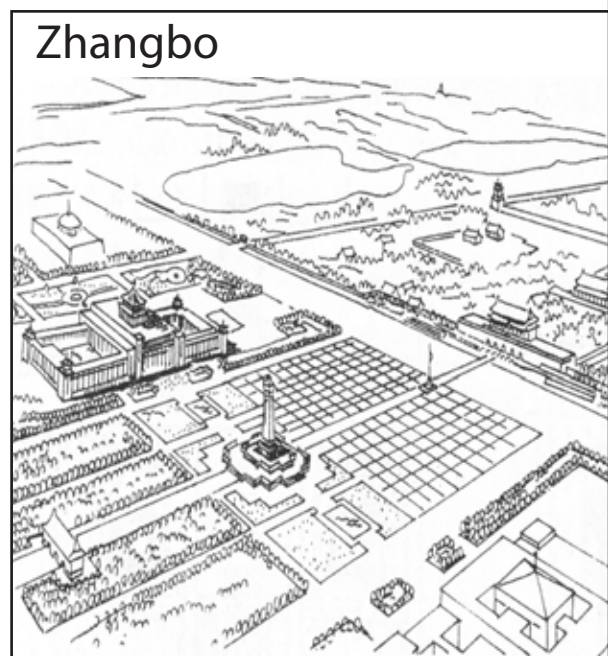
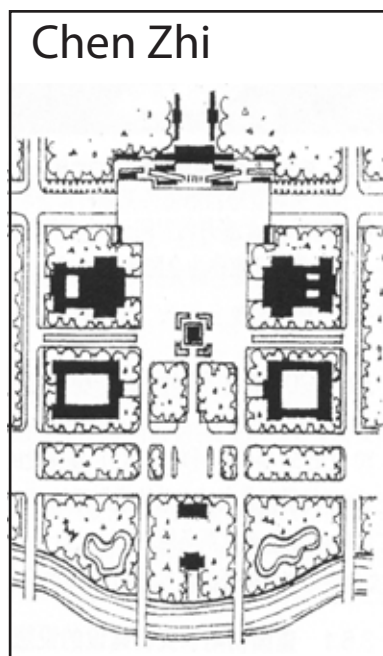
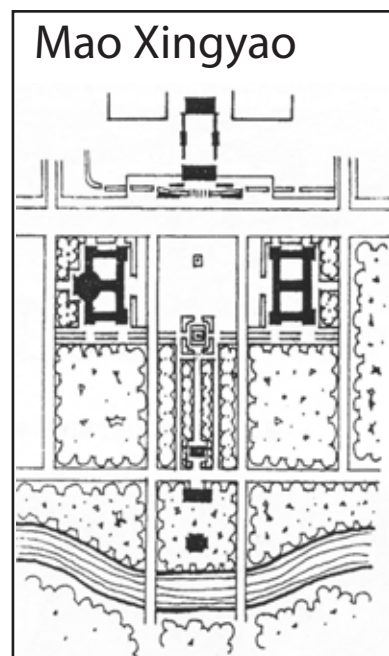
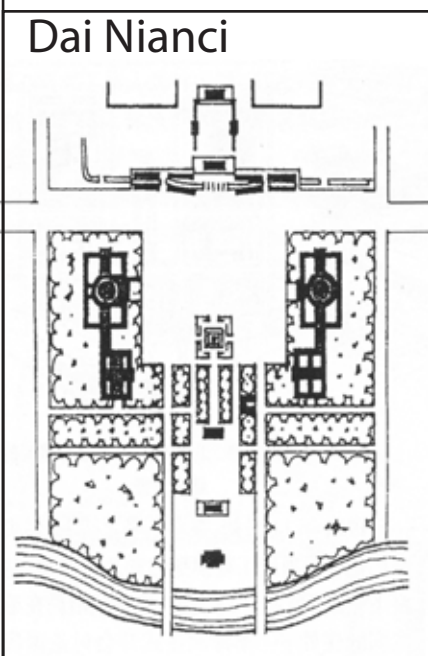
Tiananmen Square





3.4.1.2. Tiananmen Square

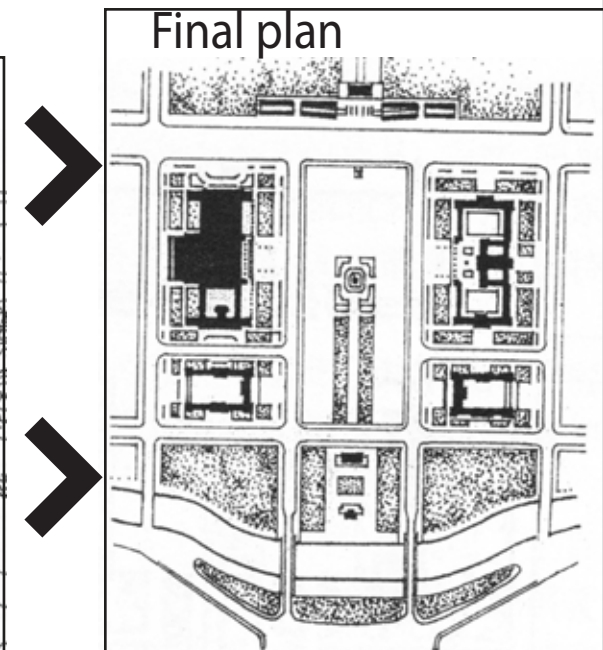
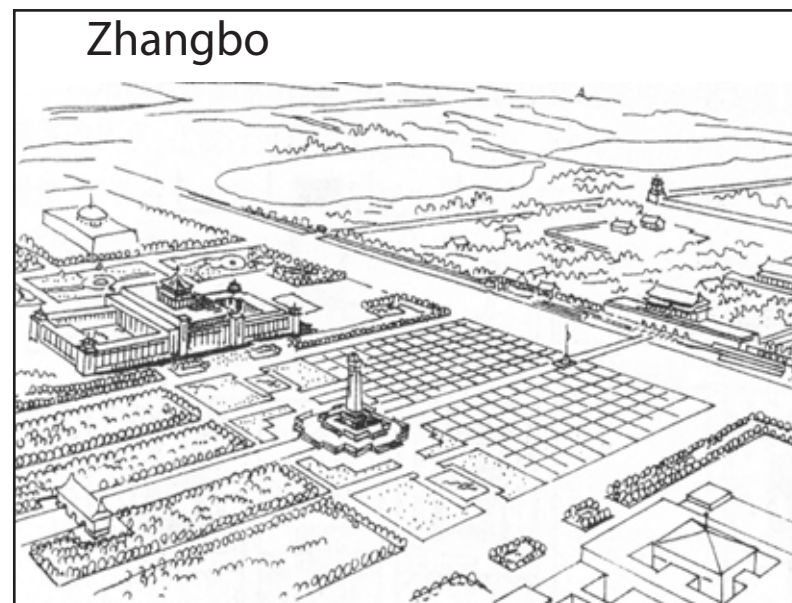
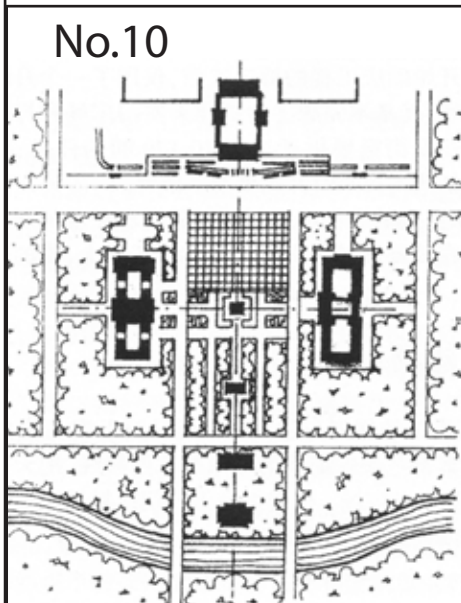
7 plans from 7 group of designers
Each plan in order to show the Tiananmen is the political and cultural centre of China





3.4.1.3. Tiananmen Square

Final plan is a mixture between No.10 plan and Zhangbo's plan.



the Great Hall of the People was designed by Zhangbo. The building covers 171800 square meters of the floor space, it is 356 M in Length and 206.5 M in width, and 46.5 M high more the Tiananmen 34.7 M, and Tiananmen is the biggest ancient building in the original Tiananmen Square, the length is 57.14 M, the width is 20.97 M, 4800 square meters.

- In order to build the new Tiananmen Square, 10129 residential houses with traditional neighborhood model like Siheyuan and Hutong was demolished.
- The new Tiananmen Square is the bigger than the original one, the new one is 500 M wide and 860 M length, 43 ha as surface; it is the biggest square of the world.
- Ancient monuments were demolished, for example the Gate of China, it was a historical ceremonial gateway in Beijing with more than 600 years history, it is the centre of the Tiananmen Square, but by following the advice of Soviet Union this gate was demolished in 1954.
- New Tiananmen Square's function is the political centre and the cultural centre. The Great Hall of the People and the Mausoleum of Mao Zedong has strong political function; the Museum of Chinese Revolution, the National Museum of Chinese history and the Monument to the People's Heroes all has strong cultural function and meaning. Figure 3.4.1.4 shows all images of each new Monument on Tiananmen Square.

3.4.2. Changan Street

Changan Street is also the concentrative exposition of the political centre

and the cultural centre. The changing and the transformation of this street contain rich information that can represent the changing of the historical centre.

The origin of Changan Street can be traced back to 1267 of Yuan Dynasty, at that monument it is the border of the south city wall; and in 1420 due to the changing of the political power, the south city wall moved to further south and the Changan street was really formed into a street. This street is in horizontal direction, to the east it reaches Dongdan, to the west it reaches Xidan; and the length of this street is 3.7 kilometers. In 1420 of Ming Dynasty Tiananmen Square was formed and the shape was like "T", it cut the Changan Street by walls. In 1911 the wall of Tiananmen Square was demolished and the Changan Street was connected first time of the history.

When the time entered the contemporary period, the new plan and design for Changan Street was synchronized as the plan and design of Tiananmen Square. And the new communist government was following the advice from the Soviet Union's urban planner, trend to transform the Changan Street into the horizontal axis of the city, in order to create the new monument of their governing period and compare with the ancient vertical axis, the intersection point is the Tiananmen Square. Soviet planner suggest to build 4 to 5 floor buildings as administration office serve for the city, meanwhile keep the original width and length of the Changan Street 3 KM length, and 50 M width, 30 M as street, 13 to 20 M as the vegetation zone. Figure 3.4.2.1 shows the idea from the Soviet Union's urban planner. And more importantly the idea from the Soviet planners' was failed, most Chinese planner only agree that the Changan Street should be the horizontal axis, but for the detail design they think the length and the width of this street is not enough, and put high volume buildings along the street will lead to congestion. Still the development of the Changan Street

Great Hall of the People



Museum of Chinese Revolution



Monument to the People's Heroes



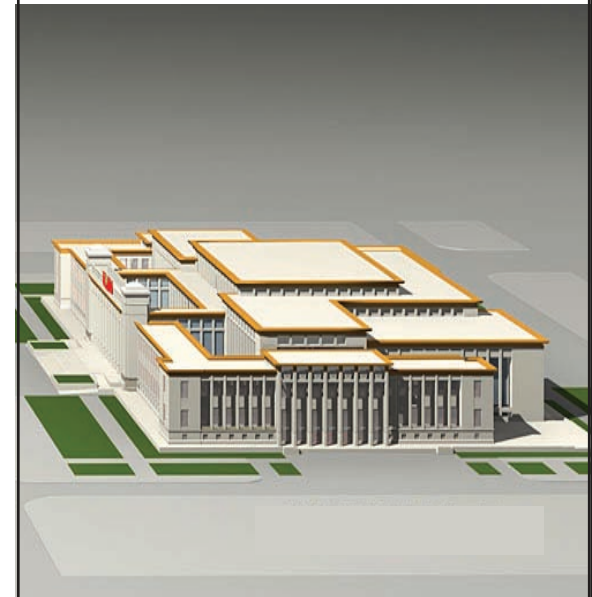
Mausoleum of Mao Zedong

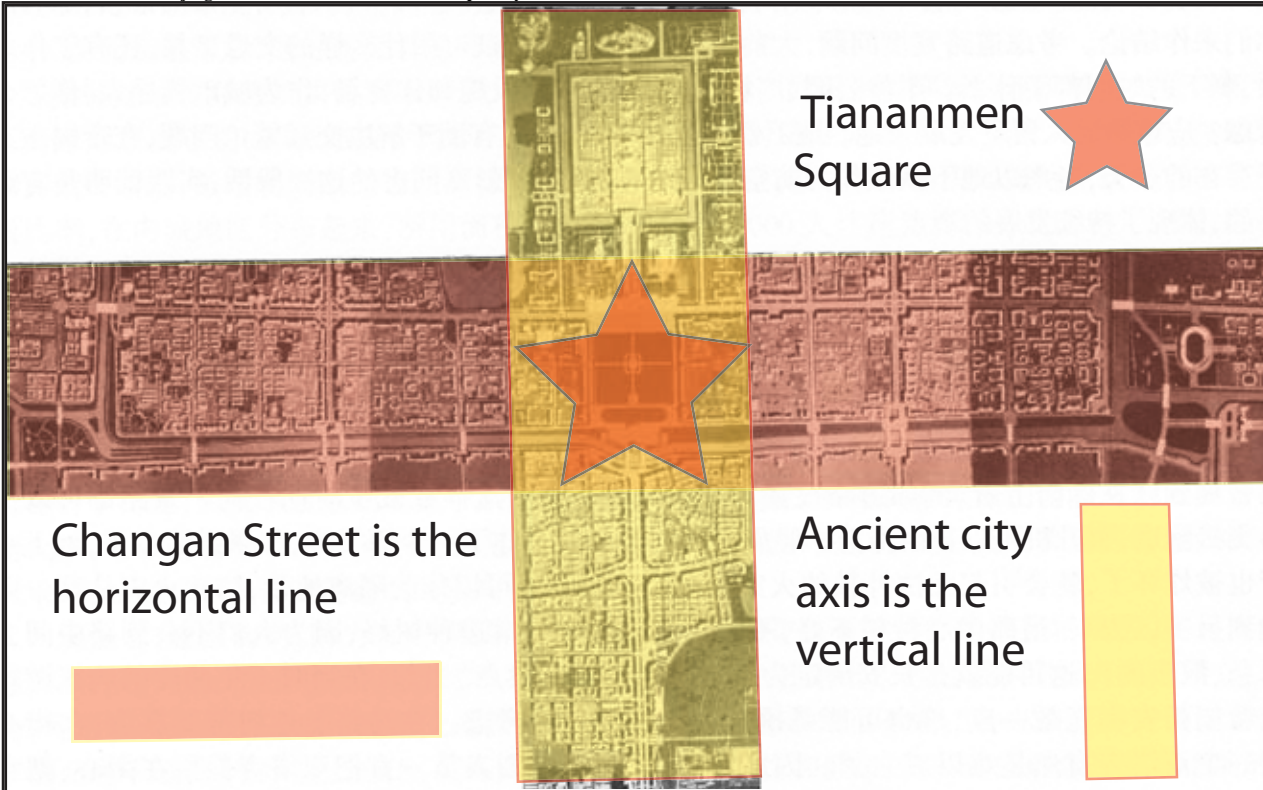


3.4.1.4. New Monuments on Tiananmen Square

Political and Cultural centre
Five New monuments.

National Museum of Chinese history

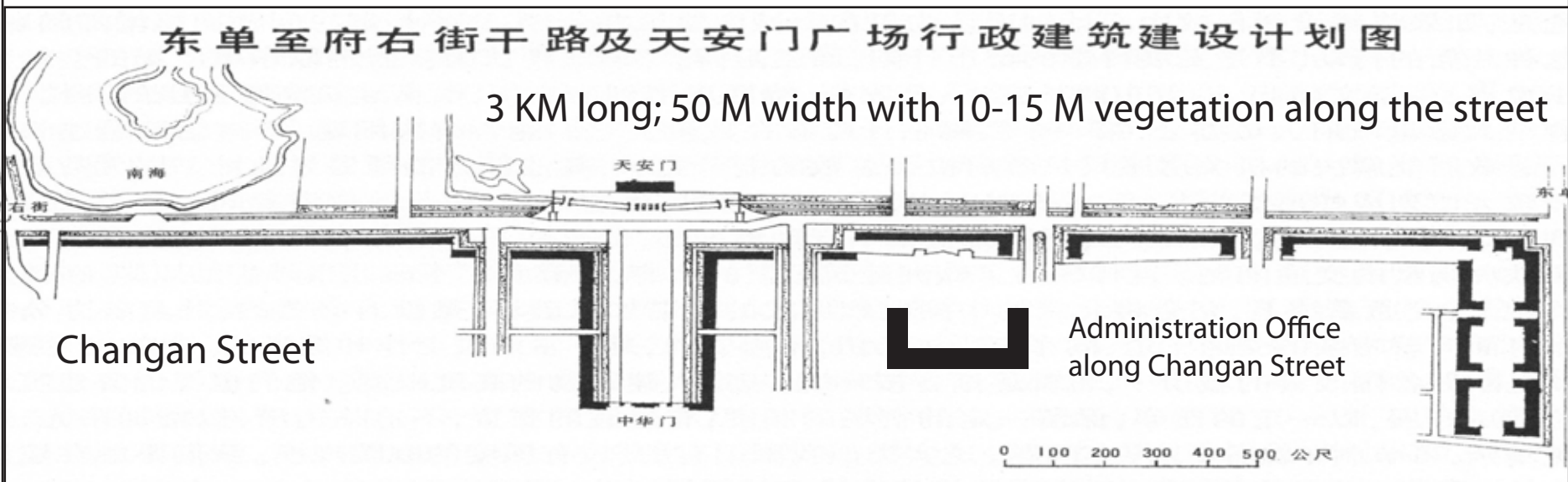




3.4.2.1. Soviet Union's idea on Changan Street

Changan Street as horizontal axis in order to show the new axis of the country.

Keep the original size of the street, 5 to 6 floor buildings as offices along the street



is slow and different as Tiananmen Square, there are many kinds of opinion for the plan and construction of this street even just between Chinese planners, so between 1950 and 1965, the discussion of the plan cost most of the time, and after 1965 the Cultural Revolutionary stopped the construction of the Changan Street. Until 1985 the real plan was made. And this plan was the evolution of the 7 draft plans which proposed by 7 different academes or universities. The final plan is a mixture of all 7 plans **(21)**.

In general, the new features of this plan are:

- The length of the street is 6.77 KM, and the width of the street is 120 M. Compare with the original size, the width of the new one is greater, in order to fit with the bigger mobility, and prevent the congestion; the length is longer as well, to the east from Dongdan to Jianguomen lengthens; to the west from Xidan to Fuxinngmen lengthens.
- For the height of the buildings nearby the street, Between Dongdan and Xidan the height should be controlled within 30 M. The section from Dongdan to Fuxingmen, and from Xidan to Jianguomen's height could be built as 45 M as maximum.
- Pay attention to the green space, use some free land for vegetation. Such as the Opposite area of the Beijing Hotel.
- To build squares on the four main intersection or crossing between the Changan Street and other four vertical street. From west to east, they are Fuxingmen, Xidan, Dongdan, and Jianguomen.
- The main elements on the Changan Street should be political and cultural, but also add some commerce function.
- Metro line No.1 under the Changan Street.

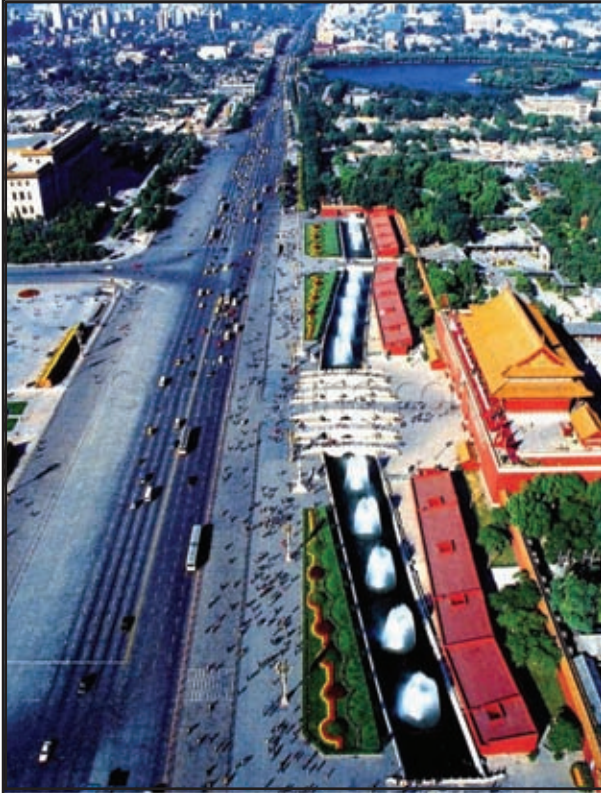
Finally, in conclusion along the Changan Street, there are 14 office buildings around 940000 square meters; there are 6 museums around 300000 square meters; cultural function buildings like music hall, cinema

are 6 around 290000 square meters; there are 5 hotels around 460000 square meters; there are 10 commercial buildings around 690000 square meters; other 5 buildings around 320000 square meters. Along the Changan Street there are also some 22 buildings are kept and the total surface is 740000 square meters. In order to achieve the objective construction aim, the total demolishing is 1150000 square meters. Table.. shows the detail information of all construction projects along the Changan Street. Figure 3.4.2.2 shows the final plan the images of nowadays Changan Street.

3.4.3. Cases related with total substitution

For the **Total substitution**: Xiao Houcang District, Fahua Temple District and Donghuashi District will be given as example to show more detail information about the total substitution. Figure 3.4.3.1 shows the location of four neighborhoods.

Xiaohoucang: Xiaohoucang is located in the northwest part of the historical centre, in the beginning of the contemporary period due to the raise of the population density and the bad maintenance this historical neighborhood is in danger so renew policy was arrived. But the new designed dwelling the form of Siheyuan was abandoned. It was designed and built in the form of single unit building with 4 or 5 floors. The new district and buildings are only for the original inhabitants each family has 56 square meters for their apartment and equipped with independent kitchen and toilet. Around 300 families all has new style apartment. And the construction area is 1.5 ha. But the initial investment is huge and there is a lack of the money, so finally this project was totally debt to the government **(22)**. Figure 3.4.3.2 shows more detail design of this project.

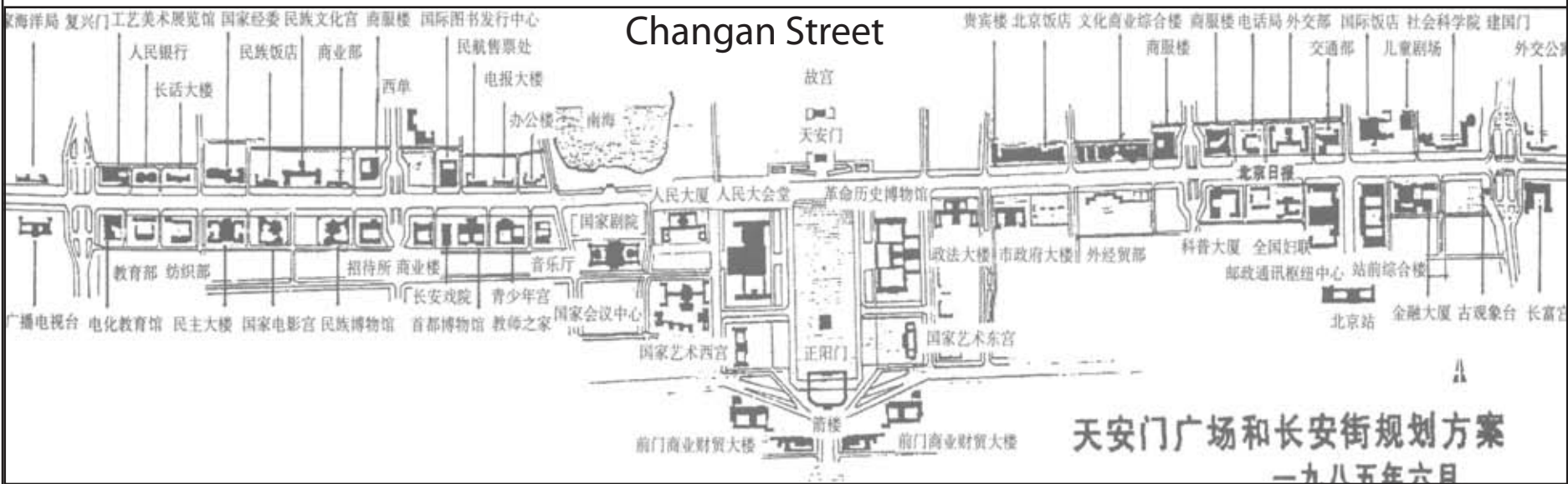


3.4.2.2. Final plan of Changan Street

Changan Street is the horizontal axis of the city.

Length is 6.77 KM, 120 M as width

Many new Landmarks along this street



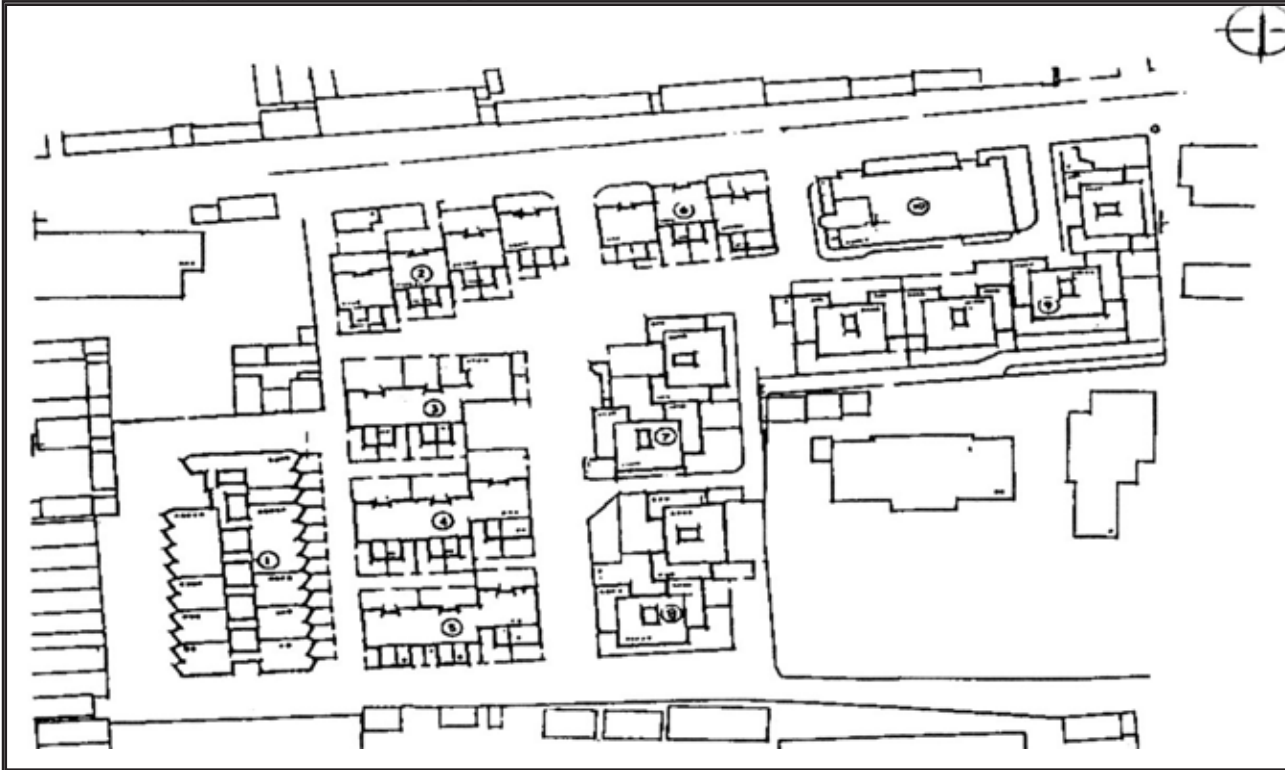


3.4.3.1. Cases related with total substitution

The names of the three residential neighborhoods are:
Xiaohoucang,
Fahua Temple District,
Donghuashi District.

Legend

-  border of historical centre
-  neighborhoods position
-  zoom in view



3.4.3.2. Xiaohoucang neighborhoods

It was designed and built in the form of single unit building with 4 or 5 floors.

Around 300 families all has new style apartment.



Fahua Temple District: Fahua Temple district is located on the south of the Fahua Temple Street in the historical centre of Beijing. It occupied 20 ha, planned land is 10.57 ha, building area is 214600 square meters, and the residential building area is 145900 square meters, public building area is 56000 square meters, equipped infrastructure is 11500 square meters. the original house of this district is famous for leak of water, out of maintenance, high population density, and it was designed by Dai Niangci **(23)**. Figure 3.4.3.3 shows more detail design of this project. This project is beneficial, because the greater building area can contains all local inhabitants, although by selling the extra apartment, and this amount money goes to the private developer and the taxes was go to the pocket of government.

Donghuashi: Donghuashi is located in the east of the historical center, the south of Nanbianmen. The planed land is 5.22 ha, total building area is 115400 square meters, and residential area is 66700 square meters, public building area is 34100 square meters, and equipped infrastructure is 14600 square meters, and this project is quite similar as the previous one **(24)**. Figure 3.4.3.4 shows more detail design of this project.

In general, the features of these three residential neighborhoods are:

- New urban texture instead of the traditional urban texture inside the historical centre. Meanwhile, different levels of invasion were happened.
- Gentrification process was happened, due to renew of the original residence, many original inhabitants cannot afford the fees to renew, and buy selling the apartment new people move in with a better income.
- Some new design cannot fit the historical environment.
- By transform the original neighborhood, the form of Hutong is changed, the community changed from liner into area. Many

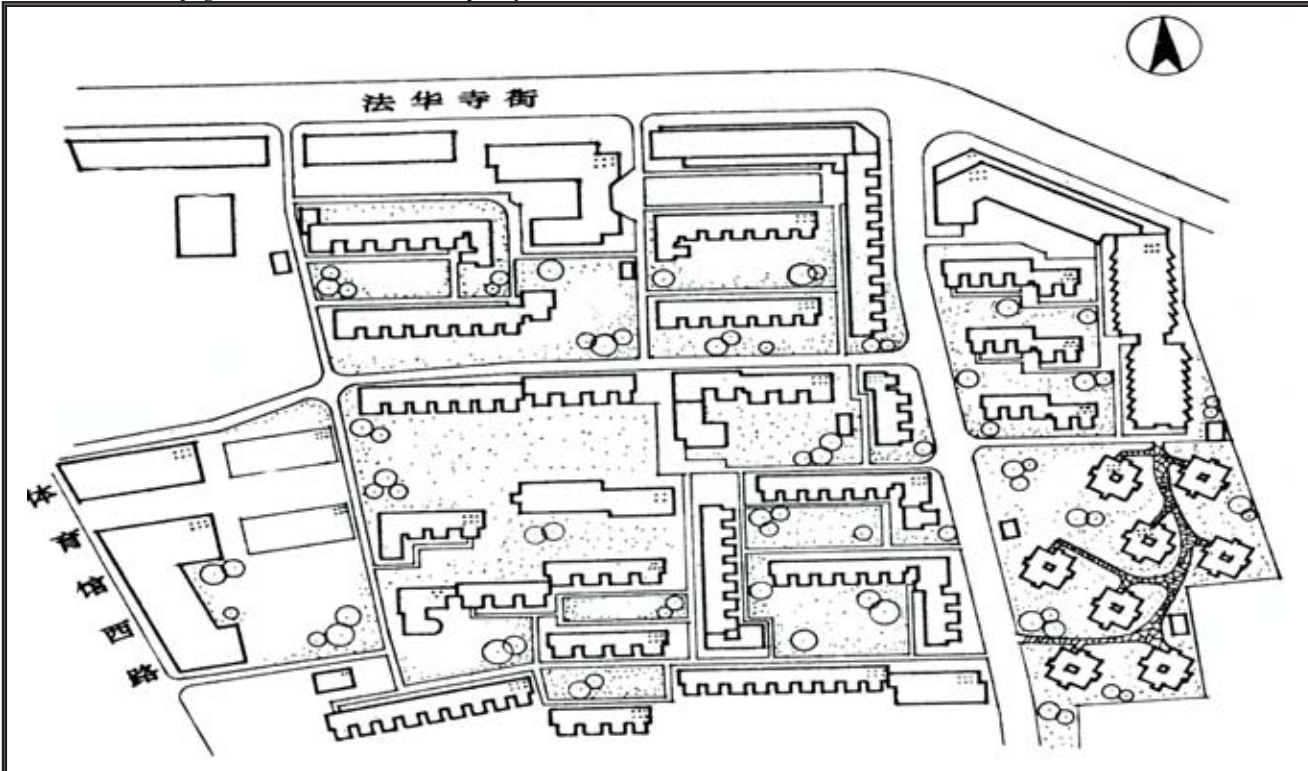
Siheyuan were demolished.

- Renew the old neighborhoods which in a bad condition, Private developers' interests and government interests are the main driver of this changing.

3.4.4. Cases related with Surviving islands

For the **Surviving islands**: Juer Hutong district and Li Lianying former residence will be illustrated to show more detail information about the condition of Surviving islands. Figure 3.4.4.1 shows the location of four neighborhoods.

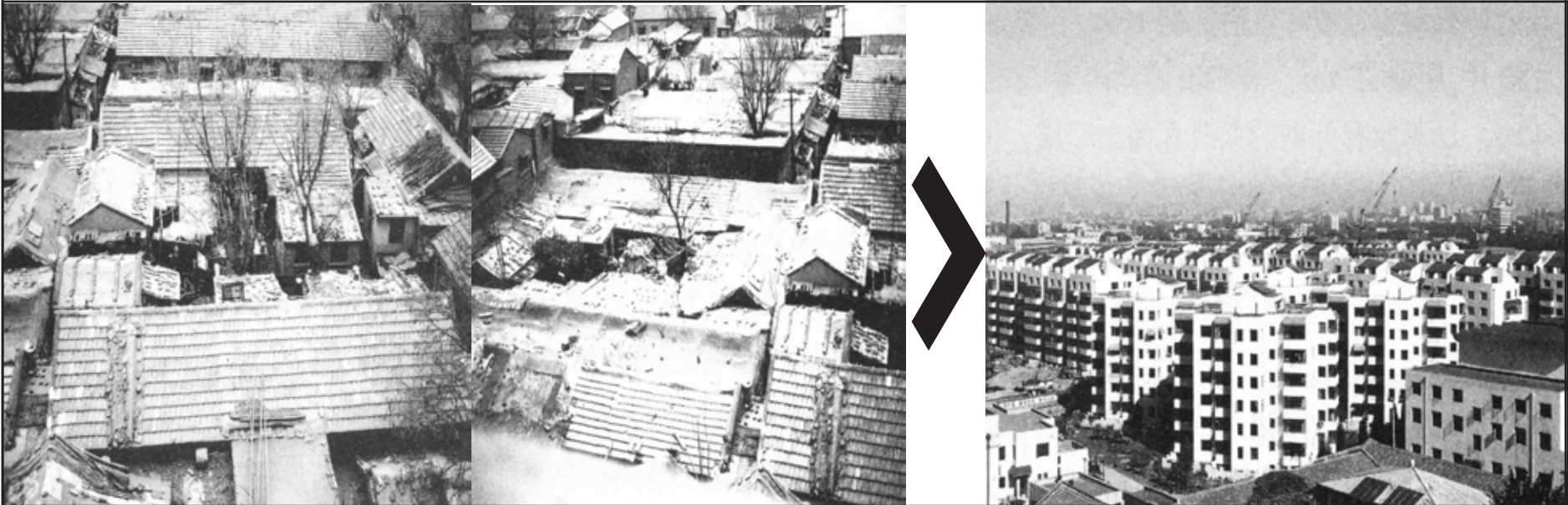
Juer Hutong: Juer Hutong use to be a typical residential neighborhood which located in the north of the historical center, next to the north border. Due to in the beginning of the contemporary period, the population of this neighborhood increased dramatically, and the bad maintenance, so this neighborhood's houses were in danger. And renew becomes a feasible strategies, because the repair the ancient residential houses even cost much more. Wu Liangyong is the main designer and planner of this district. And the main thought of this project is to renew the original residential area incrementally and harmoniously. Transform the flat Siheyuan into 2 or 3 floors new Siheyuan, in order to improve the dwelling area from 5 square meters per person to 12.4 square meters per person, each single family owns independent kitchen and lavatory. This project was carried out in 1988, at that monument each square meter construction fee is around 100 euro, each private family paid 35 euro, and their employers' company paid 25 euro, finally the local government compensate the rest. The project was divided into 4 sections, the first section was build 46 apartments, 44 apartments is for the original residence, and 2 apartments were sold to

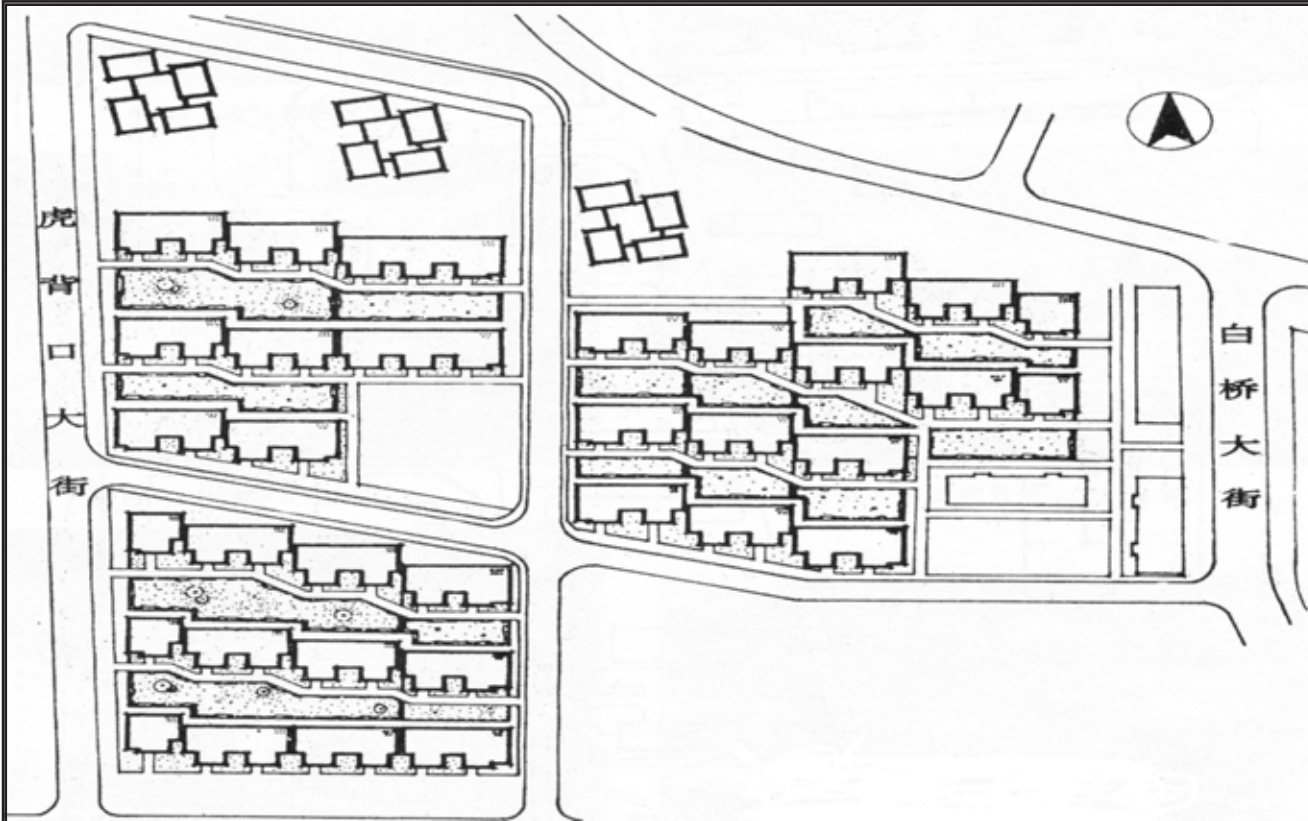


3.4.3.3. Fahua Temple District neighborhoods

Demolishing old houses that with bad condition.

New apartment simple design with bigger volume.

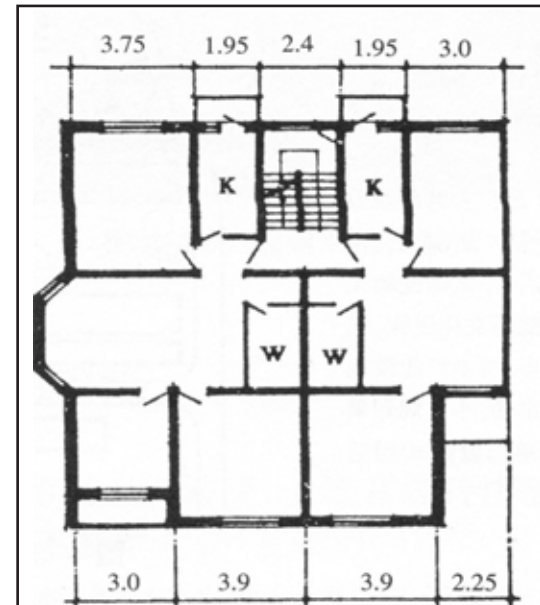




3.4.3.4. Donghuashi neighborhoods

Demolishing old houses that with bad condition.

New apartment simple design with bigger volume.





3.4.4.1. Cases related with Surviving islands

The names of the two residential neighborhoods are:

Juer Hutong District,
Li Lianying former residence District.

Legend



border of historical centre



neighborhoods position



zoom in view

compensate the construction fee; but this project only stopped in first section, because there is a shortage for the finance, the local residence could not pay the fee and most of them move out of the historical centre by exchanged their property. In this district there are still two traditional Siheyuan were well preserved, because compare with the other demolished houses their condition are better, from a general view both two traditional houses are seemed in isolation situation, but due to the new dwellings around also in a form of Siheyuan so there is a dialogue between the old and new, and traditional environment are still remain (25). Figure 3.4.4.2 shows more detail design of this project.

Li Lianying former residence District: this district is located near by the centre part of the historical centre; the surface of this district is around 453600 square meters, this area was a traditional neighborhoods with traditional urban texture, meanwhile name of the district is a person's name, because Li Lianying is a famous imperial eunuch of the last Chinese Empiric dynasty, his former residence is located in this district and it is a landmark of this area. The physical changing of this district can be traced back to the early of 1990's, the traditional neighborhoods near by the Chongwenmen Street was demolished, and this piece of land was used to build service related building, such as Chongwenmen Shopping mall and Tongrentang Pharmacy. Then in the period of recent 10 year the other part of the area was transforming totally, the private developer from Hongkong called "New World group" made new style dwellings in this district, most buildings are rank from 6 to 12 floors, and the each square meter for the apartment costs 4500 euro. In this area only the Li Lianying former houses was preserved, due to its value, but it is isolated as an island inside this new district. Figure 3.4.4.3 shows the change of this district.

3.4.5. Cases related with Mixed situation

For the **Mixed situation**: there is the case Fayuan Temple District.

Fayuan Temple District: Fayuan Temple district is located along the west Changan Street; the surface of this area is around 295800 square meters. This area was a traditional neighborhood with traditional urban texture; meanwhile the name of the district is from a famous landmark the Fayuan Temple. But science the end of 80's of last century by following the plan of Changan Street the changes started, during the recent 20 year on the north part of this district which along the west Changan Street, many high volume architectures were built, such as the headquarter of China Everbright Bank, the office building Kaichen; and inside the district Beijing No.2 Experimental Primary School was build. Many great volumes which have special function or service related were inserted in this district, and some of the traditional texture was transformed. But there are still some traditional texture still remains, such as the neighborhoods nearby The Fayuan Temple, Wenchang Hutong, Canzheng Hutong, Dong Tiejiang Hutong, Wenhua Hutong. Finally there is a mixed situation, new urban texture and traditional texture has a equal percentage of this district, but the skyline was changed dramatically, especially the architecture style has dramatic contrast. Figure 3.4.5 shows the changes of this district.

3.4.6. Cases related with Insertion

For the **Insertion**: there is the case Jiao Daokou District.

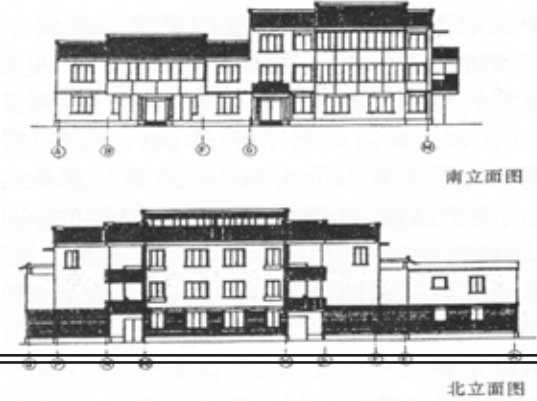
Jiao Daokou District: Jiao Daokou District is a typical traditional neighborhood in Beijing; it contains more than 25 Hutongs, and many valuable Siheyuan, such as The Princess Hejing's Mansion, Memorial



3.4.4.2. Juer Hutong neighborhoods

Preserved Siheyuan was surrounded by New form of Siheyuan.

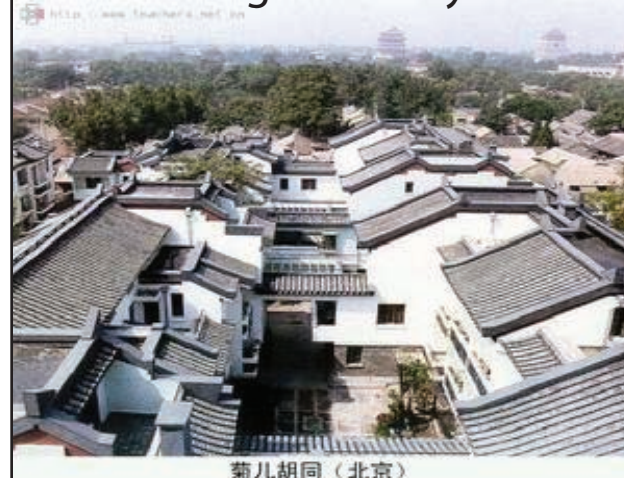
Facade of new design



Preserved Siheyuan



New designed Siheyuan



Within six years this neighborhoods was changed dramatically, only the red zone - Li Lianying's former residence was preserved, but finally it is isolated as an island in the new urban texture.



3.4.4.3. Li Lianying former residence District

May of 2001



May of 2002



May of 2007



May of 2001



**3.4.5. Cases related
Mixed situation**

Fayuan Temple District

Kaichen office building



Fayuan Temple



May of 2011

May of 2011



Temple of Wen Tianxiang, Duan Qirui Governmental Offices, Songzhu Temple and so on. Until now the physical changing of this district is light, in the period of 90's of last century, Beijing No.5 Middle School was built in the centre of this district, it transformed 18900 square meters traditional neighborhoods; this is a big service project which function like Citadel inserted into the traditional urban texture. Between 2001 and 2011 on the north of this district inserted a new residential project, modern texture as a planned district instead of traditional urban texture, this new residential project transformed 11.81 ha, total building area is 277000 square meters, and there are 13 residential buildings, and for each square meter of the apartment cost 5000 euro. Figure 3.4.6 shows the insert situation of the Jiao Daokou District.

Songzhu Temple



Beijing No.5 Middle School



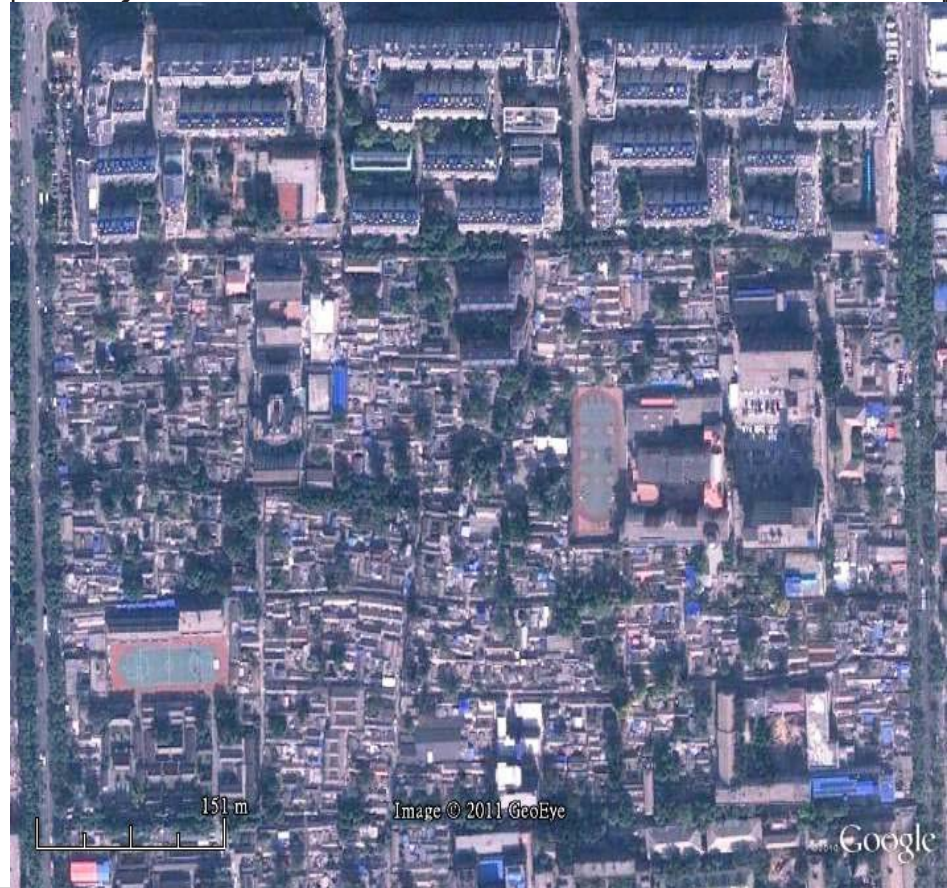
3.4.6. Cases related with Insertion

Most traditional texture remains, in the north part there are new residential.

May of 2001



May of 2011



4. Conclusion of problems and strategy

According to the third chapter - contemporary changing of the historical center, problems will be concluded in this chapter, and to deal with different kinds of problem the local government also brought the related strategy. In this chapter each problem will be illustrated, and then the related strategy will be presented. Finally, a short conclusion for this chapter will be present in order to specify the origins of all these problems.

4.1. Problems

First of the most, Table 4.1 shows the relationship between the chapter 3 and the problems. Because all the problems are listed here is abstracted from the changing of the traditional neighborhoods, from the changing of political, social, physical, spatial and functional aspects. After words, each problem will be illustrated more detail, in order to be clear.

4.1.1. Multi functions in one historical center brings pressure

As the chapter 3.1 illustrated, there are many function like central government function, residence function, economy function even the historical and cultural function as it is already had. At the beginning most of the development is concentrated in the historical city center, and later the development is like a radiation wave start from the city center and the

urban area of Beijing is simply developing by loops. This condition creates problems. Firstly, this condition creates very serious transportation problems and the city center also with very high density. Secondly, the multi function inside the historical center, also leads serious problem of the conservation of historical buildings and neighborhoods. Figure 4.1.1 shows the text above graphically.

4.1.2. – Gentrification inside traditional neighborhoods

brings new urban texture

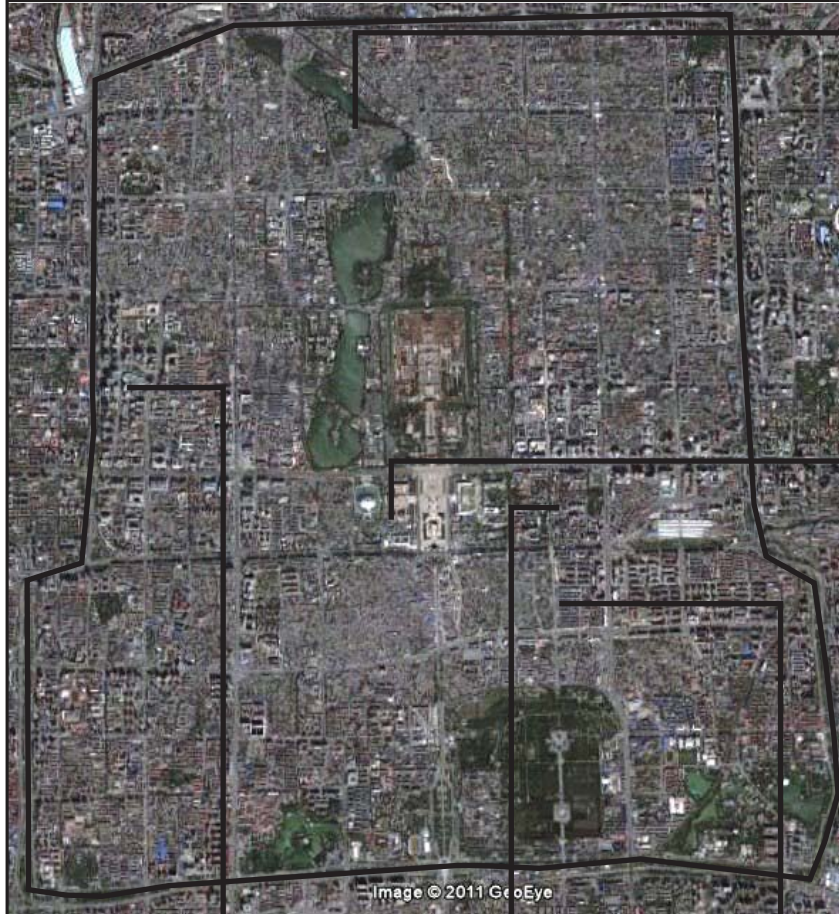
As the population and economy changed during the contemporary period, gentrification also happens inside the historical center. As chapter 3.1 discussed, after 1978 the population growth is contributed by the immigration from all part of China, many of them is according to join a university in Beijing or doing business in Beijing, and on the other hand the most inhabitants live in the city center of Beijing are normally working class. Especially when government and real estate developer decided to transform many traditional neighborhoods, the gentrification process was accelerated. Because when government wants to increase revenue, selling the land property is an easy ways, especially in China all the land property belongs to the central government; all citizens can only rent the land for 70 years. When real estate developer obtains a certain period of land property, firstly they compensate certain amount of money to the previous residences, then build apartment or office then sell the 70 years using right is profitable, so the developer tend to build high volume building and new urban texture.

During this process, many old Beijing citizens have to move to some other

Table 4.1. The relationship between problems and chapter 3

<u>Contemporary changing of traditional neighborhoods</u>	<u>Political and social changing</u>	<u>Physical changing</u>	<u>Changing of spatial and functional using</u>
Problems			
<i>Multi functions in one historical center brings pressure</i>			
<i>Gentrification inside traditional neighborhoods brings new urban texture</i>			
<i>Demolishing of historical architectures</i>			
<i>Inappropriate use of the historical residence</i>			
<i>Lack of harmony between the new architectures and historical buildings</i>			
<i>Traffic congestion</i>			
<i>Losing memory for local inhabitants</i>			

Blue color represents the three kinds of changing in chapter 3, and yellow represents the problems, the blanks which marked by yellow means the problems occurs in such changing.



Entertainment function



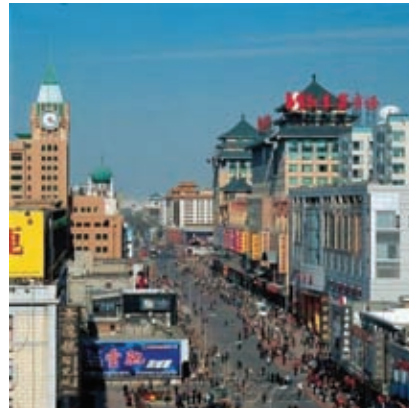
Political function



Economical function



Service function



Residential function

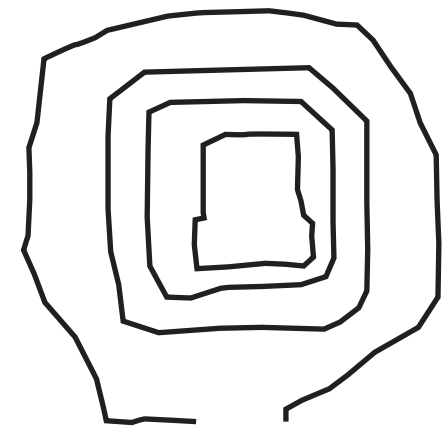


4.1.1. Multi functions in one historical center

Historical takes too many functions serve for the city and the country.

This condition brings complex problems and affect the future urban development, see below.

Radiation by loops



district, even they are not moving out, still many new rich middle class are move in. Gentrification may not a problem, but this process in Beijing contributes to the transformation of the traditional urban texture into new urban texture. Some of the new middle or rich class they prefer to live inside the historical center, and these two classes promote the real estate market of Beijing, new residential project can be seen everywhere, and original citizens are moving out.

Take Financial Street District as an example, when the new urban texture arrived, 64 Hutongs were disappeared; and now to buy an apartment each square meter cost more than 11000 euro; even the population density is around 28000 person per square kilometer. Figure 4.1.2 show this condition graphically.

4.1.3. Demolishing of historical architectures

Demolishing of historical architectures were partly contributed from the last problem - Gentrification inside traditional neighborhoods brings new urban texture, and it also influenced by political reason, like cultural revolutionary. During the contemporary many historical architectures, historical urban texture, valuable monuments were demolished. Such as, the city wall of historical center was demolished in order to build the second loop as highway;

For example, the Temple of Agriculture was built in the 15th century; it was used by Ming and Qing emperors to perform sacrifice for agriculture, but when the emperors' dynasty finished, the destroy started. Especially, in 1949, a elementary school were build inside, then two main halls was use as library of the elementary school and office of Institute of Materia Medica Chinese Academy of Medical Sciences. During the contemporary

period the surface of these group architectures were shrinking dramatically. Until 1998 the inconsequence using were stopped, because the two main temple was in danger of collapse, and the World Monuments Fund and American Express supplied funds to restoration of the structure. But still the surface of these group architectures were shrinking, many small scale architectures were demolished. Figure 4.1.3 show this condition graphically.

4.1.4. Inappropriate use of the historical buildings

Many historical buildings in Beijing also encounter fatal problem that is the inappropriate use, it often leads the original architectures to be destroyed or out of maintain. And it happens on both historical monuments and valuable residences.

For the historical monuments, usually the local government could assign the using right of the historical buildings, when there is lack of places for the governance, local governments assign some public organizations to occupy historical buildings and use it as administration offices or different functions. For example, Jinshan is an artificial hill in the north of the Forbidden City; it is located on the central axis of Beijing and there are many important buildings are located on this hill, and both the hill and buildings are served as the imperial garden in the ancient time, also considering the Fengshui of the Beijing this mountain and related buildings play very important role as monument, but during the contemporary period, it was changed as a public park, and all the buildings on the hill are used as the administration offices of Beijing Children's Palace. Beijing Children's Palace is an organization to organize and train the talent children, whom has potential or talent in music, dancing, painting, Chinese opera,



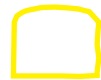

4.1.2. Gentrification inside traditional neighborhoods brings new urban texture

Young middle class instead of old working class, government and real estate developer promote new urban texture with high volume buildings.

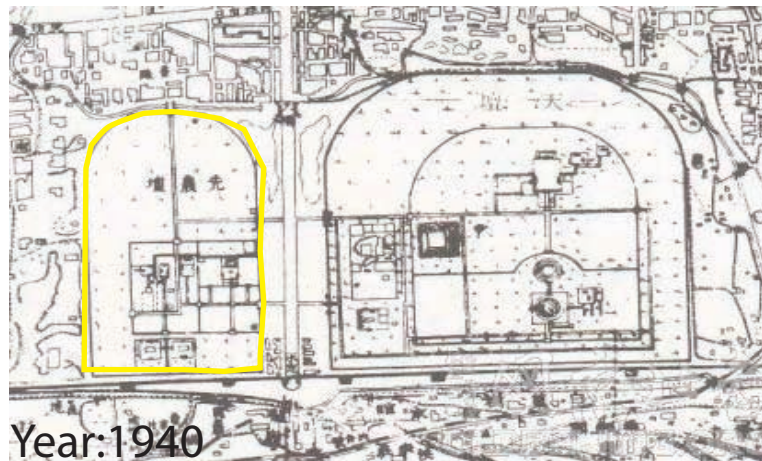
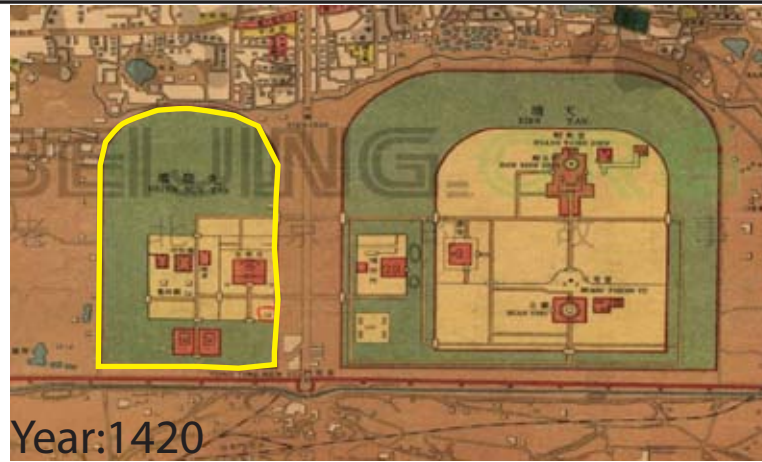


Example: Financial District

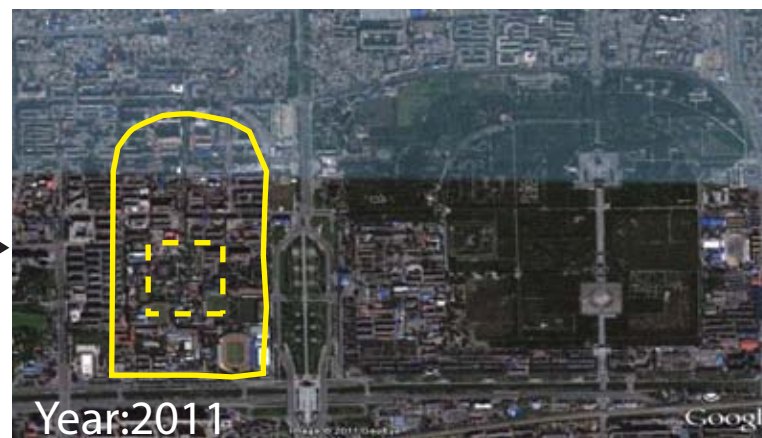


-  original site
-  current site

Before 1949, the frame of Temple of Agriculture is clear, and there is no demolishing.



After 1949, the frame of Temple of Agriculture is shrinking, and there is demolishing, and a school and an institute occupied the main buildings.



4.1.3. Destroy of historical architectures

Inappropriate use of the historical architectures

Demolishing of historical architectures

Example: Temple of Agriculture



singing and sports, and this organization using the historical buildings on Jingshan service as training room and offices.

For the historical valuable residences, like Siheyuan they normally belongs to private, and the private could decided the fate of the buildings, inappropriate use is existing as well, as the chapter 3 discussed, many temporary constructions were built inside Siheyuan in order to deal with the shortage of the residences. This problem makes the courtyards shrinking and disappeared, also make the original rooms in danger. For example, the Mansion of Knight Zheng is historical valuable Siheyuan, but when the feudal period of China finished, the family of Zheng also declined, and the property right of this old house also changed many times, and now it is owned by the National Ministry of Education, and the house is used as the administrative offices, the garden part of the house is occupied by the Jianglong Middle School. Even this house is on the list of Key Cultural Relic under the Beijing's Municipality level, but these buildings were somehow destroyed and out of proper maintain.

Figure 4.1.4 explains this kind of problem graphically.

4.1.5. Lack of harmony between the new architectures and historical buildings

New urban architectures or just single building also creates some aesthetic problems, especially when it in an environment with is the historical center. The design of the new architectures normally has a bigger volume in considerate with its height and size; especially the appearance style is quite different with the traditional Chinese style, many times new buildings destroy the coherent environment. During the contemporary the average

height of the new architectures was increasing dramatically, especially much new architecture was built nearby the street even next to the historical monuments, and sometimes the vision to see the monuments were blocked by the new architectures, or the attention was take away by new style buildings, aesthetically the atmosphere or the environment was changed, the original harmony was influenced.

For example, the White tower temple also called as Miaoying Pagoda and Shrine is an important monuments as a religion site, it is a Chinese Buddhist temple, it is located on the north side of Fuchengmennei Street in Xicheng District of the historical center, the temple was built in Liao and Yuan dynasties which means this temple even has a longer history than the Beijing city. Although in 1961 this temple was recognized as the National Treasure, but still in the cultural revolutionary period between 1966 and 1976, the gate of this temple was demolished and instead to build a new supermarket, and the new building looks destroyed the original coherent environment, when people walking on Fuchengmennei Street the view to see the pagoda was blocked by this new super market.

Figure 4.1.5 illustrates this problem and case.

4.1.6. Traffic congestion

Traffic congestion in Beijing was due to three reasons, firstly the function of street is no more as public space for interaction, but for the automobile system, or it could explain in another way that is the changing of life style of people for traffic tools and different function for street, and many street in Beijing is closed, the people have to pass by the street by underground tunnel or above street bridges, in order to make the traffic more fluently. Secondly the population increasing combine with the increasing of auto

Jingshan and it's buildings



Mansion of Knight Zheng



4.1.4. Inappropriate use of the historical buildings

Inappropriate use for both: historical monuments and historical valuable residences.

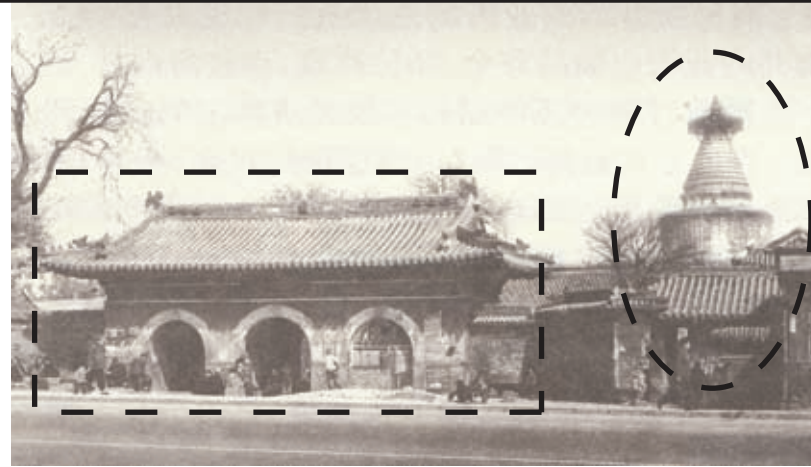
Occupied and used by governmental organization or private

Two examples



Square marks the site gate, circle is the tower

Original design, harmony between the gate and the white



Original gate was destroyed, instead a supermarket was built.



New supermarket blocks the vision to see the tower.



4.1.5. Lack of harmony between the new architectures and historical monuments

New buildings destroyed the coherent environment.

Example: White tower temple



consumption, nowadays Chinese market for auto consumption is considering as the biggest of the world, and especially in Beijing that each private auto also used often, more than 15 thousand km, so this also makes traffic becomes a very serious problem. Finally, the multi functions inside the historical center attract heavy traffic, the historical center are affording too much functions, so the traffic simply moves to the city center. Figure 4.1.6 explains these three points graphically.

Some data are provided, In Beijing the vehicle population has increase dramatically, in August of 2003 the number is 2 million; in May of 2007 the number is 3 million; in January of 2010 the number is 4 million; in April of 2011 the number is 4.892 million and even though more than 80% of vehicle is concentrated inside the urban area which is within 6th loop; the average traveling distance of each auto is around 15 thousand km, this is more than 1.5 times as London, more 2 times than Tokyo (26).

4.1.7. Losing memory for original local inhabitants

This problem mainly happens in the traditional neighborhoods part.

First, when new urban texture implemented instead of the traditional, gentrification also arrived, some original inhabitants moved out of the traditional community which formulated by Hutong or Siheyuan, and they moved into new community where people lives inside apartment, the relationship between new inhabitants inside the new apartment is weak, and most people are strangers, the community idea is lost.

Secondly, there are also some original inhabitants stay in the traditional neighborhoods, but when new neighborhoods move in, it is takes long time to blend in, because the original inhabitants family live in traditional neighborhoods already several or many generations, they deeply rooted

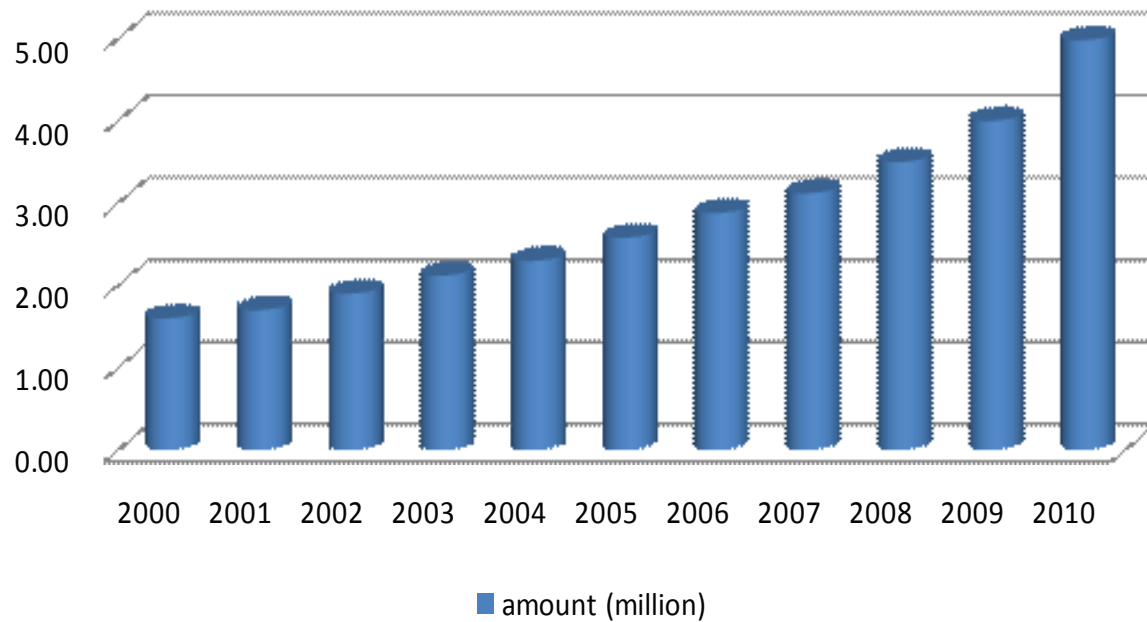
inside the traditional neighborhoods, when new people arrived they will be seems as strangers; at the same time the spatial using of street, Hutong and Siheyuan were changed, when the streets were no longer as public space, meanwhile Hutong becomes the space for public, the space for local community was shrinking, and even the space for the family courtyard in Siheyuan was also decreased dramatically, without these spaces, Hutong becomes more public, the sense of community becomes weak; the Siheyuan becomes narrower, the life quality declined. And in general, the memory for the original local inhabitants was lost.

Finally, especially some traditional activity was lost, and many of them are very important to the local inhabitants. For example, Yaohe is a traditional vocal advertisement for traditional Beijing's mobile businessman, but nowadays it is rear to see this kind of activity in the traditional neighborhoods. Another example is raising the birds, for traditional Beijinger, to raise birds especially the pigeon inside Siheyuan is one of important pet habitat, in the morning the people who lived inside a same Hutong same community will go out with their birds to compare and talk, in this way to entertain themselves, but now this kind of traditional activity almost disappeared. These activities contains and compos the rich and valuable traditional Beijing's culture for inhabitants' daily life. Figure 4.1.7 explains these three points graphically.

4.2. Strategies

According to different kinds of problems, related strategies or policies also created by the local government. And Table 4.2 shows the relationship between problems and its related strategies. Then each strategy will be presented independently.

Auto amount increasing by year

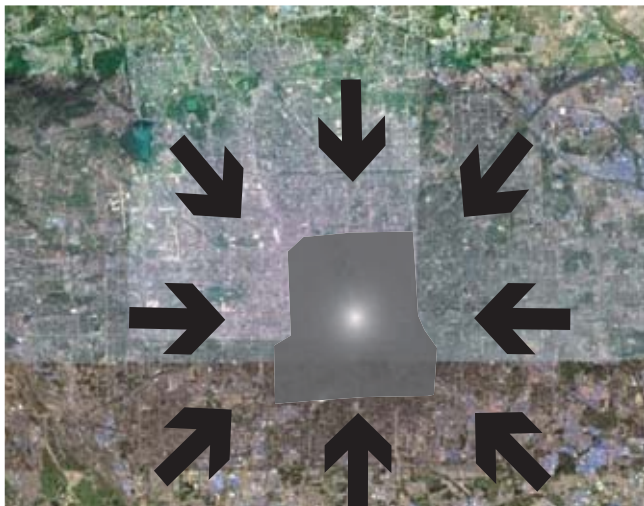


4.1.6. Traffic congestion

First, changing of habit for transportation;

Second, increasing of auto consumption;

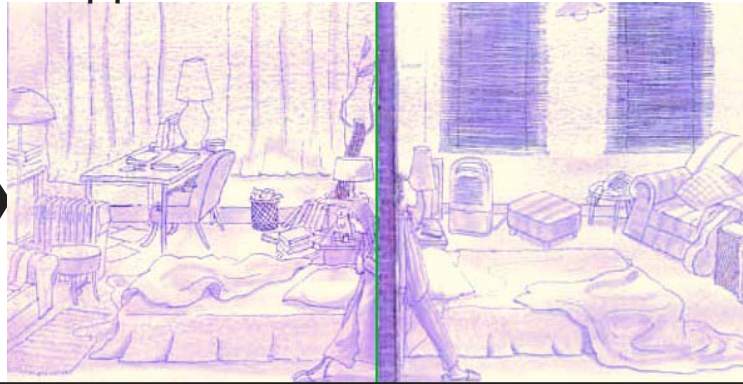
Third, city center attracts people.



1st Harmony community



Appartment: so close but so far



4.1.7. Losing memory for original local inhabitants

1, Origins move out of traditional neighborhoods no sense of belonging;

2, Traditional neighborhood lost community unity;

3, Some traditional culture lost

2nd Peace community



Crowd and all kinds of people



3rd

Yaohe



Rasing birds



Table 4.2. The relationship between strategies and problems

Strategies	<u>Locate different function into different small centers</u>	<u>Limiting the real estate developer in order to mitigate the gentrification process in historical center</u>	<u>Conservation and redemption strategies to valuable historical monuments</u>	<u>Regulate new architectures to fit with the sense of historical center</u>	<u>Developing the public transportation system</u>
Problems					
<i>Multi functions in one historical center brings pressure</i>					
<i>Gentrification inside traditional neighborhoods brings new urban texture</i>					
<i>Demolishing of historical architectures</i>					
<i>Inappropriate use of the historical residence</i>					
<i>Lack of harmony between the new architectures and historical buildings</i>					
<i>Traffic congestion</i>					
<i>Losing memory for local inhabitants</i>					

Blue color represents all five main strategies, and yellow represents the problems, the blanks which marked by blue means the problems was encountered by related strategies.

4.2.1. Locate different function into different small centers

In the 90's the local government sensed the stress of pressure from multi function inside the historical center, so the strategy to mitigate this condition was released. The main idea is to create some comparatively small centers with different function around the historical one, in order to share the pressure of the historical city center. For example, the CBD of Beijing is located not inside the historical center but on the east urban area, it take function of the Financial Street District which located inside the historical center. Figure 4.2.1 shows the most new small centers in Beijing in order to help the historical center.

4.2.2. Limiting the real estate developer and supply public housing

As the last paragraph discussed, gentrification may not be a problem, but in Beijing the new urban texture brought by gentrification threatening the existence of the historical urban texture, meanwhile the land price and apartment fee also increased dramatically, so when central government realized this problem some policy were implemented.

There are several points have to be mentioned. First for most, strengthen the public housing construction, and most of the public housing is not inside the historical center, they will be surround the historical center, and nearby the borderline of the metropolitan area. Second is to limit or stop selling the real estate developing right to private developers, more detail, the loans from bank to the private developers will be restricted, the land as real estate to sell will be controlled and declined, on the other hand most

residential land will supports the public housing. Thirdly, the consumption of apartment will be also restricted, for example identity not belongs to Beijing are not allowed to consume apartment, and the local family can only consume two apartments as maximum. Figure 4.2.2 shows construction plan for the public housing.

4.2.3. Conservation and redemption strategies to valuable historical monuments

In order to react with the problem - Lack of harmony between the new architectures and historical monuments, conservation and redemption strategies were realized in the 90's of last century. For the historical monuments which have less influenced or changed, conservation is the main method, for the old buildings which were partly destroyed redemption should be implemented, and nearby the historical monuments the height and design style should be proved or examined.

Still take the White tower temple as an example, in the cultural revolutionary period the gate of this temple was demolished, and instead a supermarket was build, but in the 90's periods the supermarket was destroyed, and a new gate with traditional style was built again. Figure 4.2.3 illustrates this strategy and related case – White Tower Temple.

4.2.4. Regulate new architectures to fit with the sense of historical center

In order to bring the harmony between the new architectures and the



4.2.1. Locate different function into different small centers

New small centers could shares the preusure of the his-torical center.

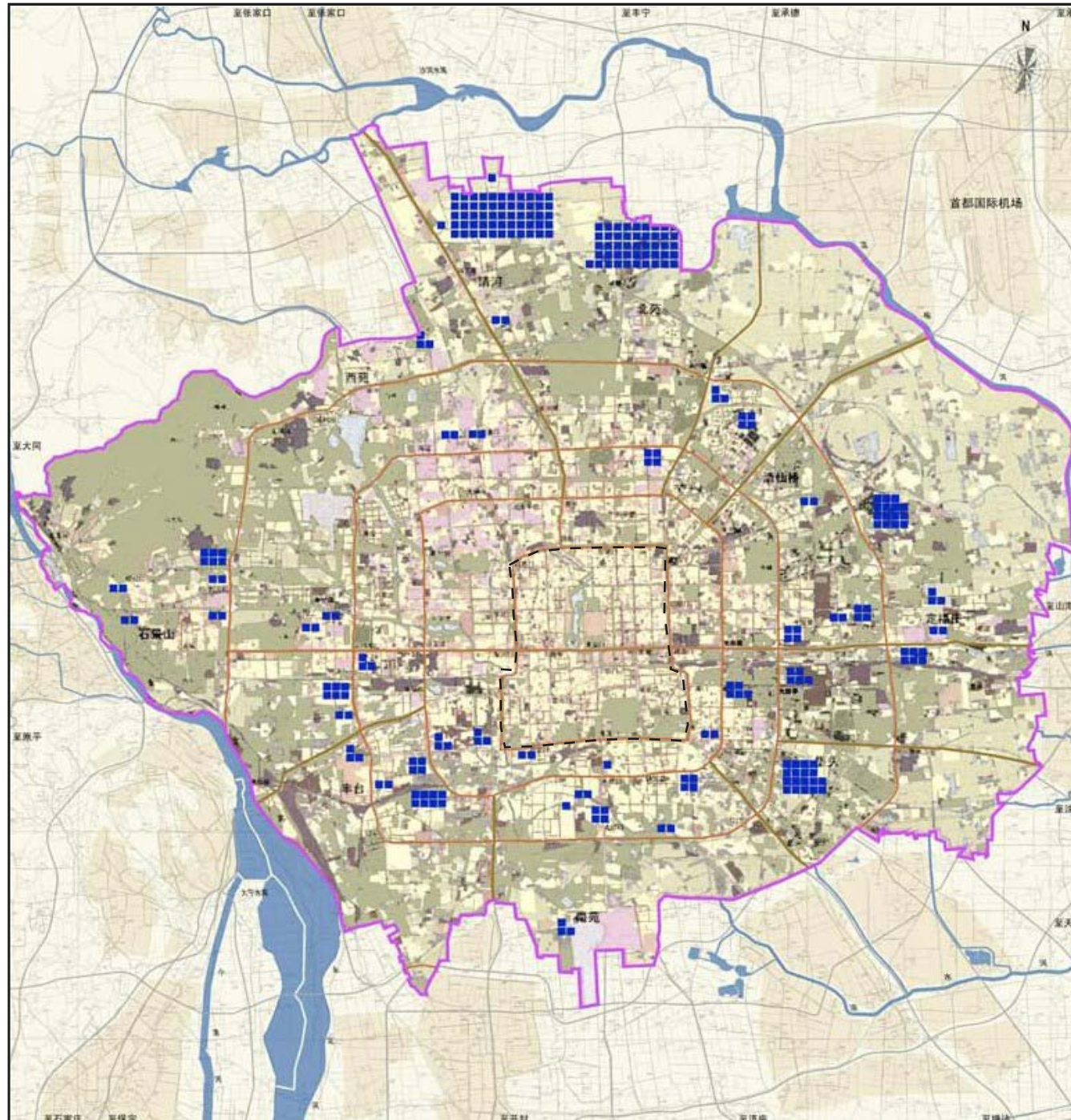
And new samll centers is around the main historical one.



Historical center



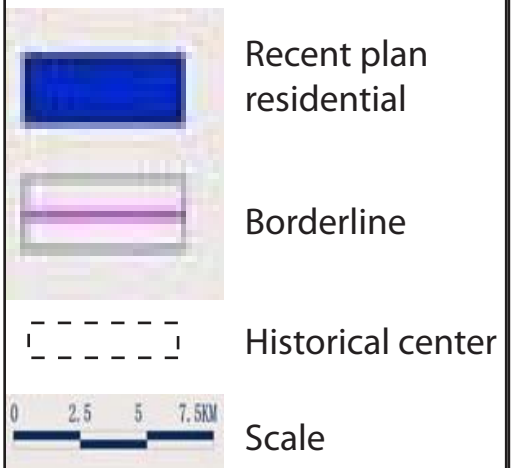
New small center



4.2.2. Limiting the real estate developer and supply public housing

- 1, Public houses out of historical center
- 2, To limit the real estate to private developers
- 3, Restrict the consumption

Legend

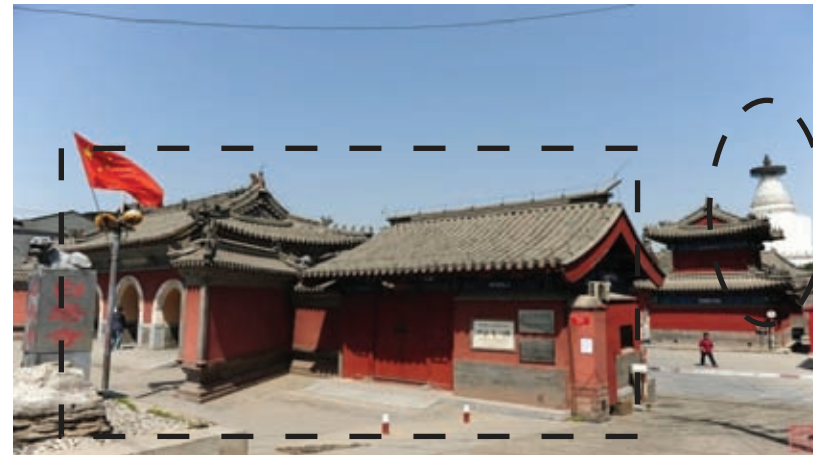


Square marks the site gate, cycle is the tower

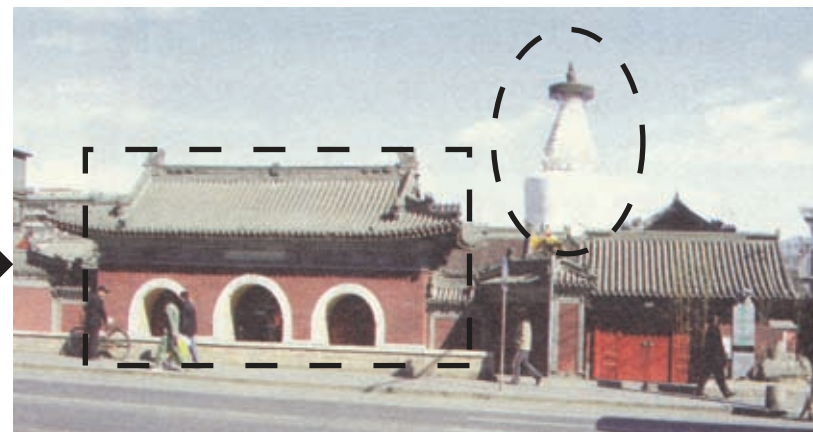
Supermarket blocks the vision to see the tower.



Supermarket from cultural revolutionary period was demolished, and new gate was built.



New gate as original design brings coherent environment back.

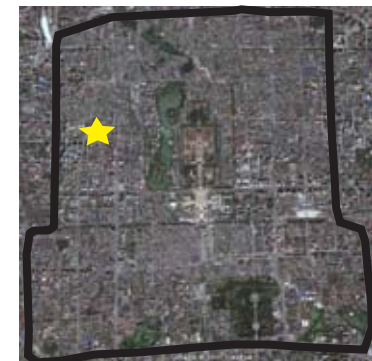


4.2.3. Conservation and redemption strategies to historical monuments

Conservation for less influenced monuments.

Redemption for destroyed historical monuments.

Example: White tower temple



historical center, regulation was arrived on the new architectures. There are two policies: limit the skyline of historical center and encourage the design of new Chinese style architectures.

Firstly, the skyline in side historical center is gradually increased from the very city center the Forbidden City to the border of the historical center, and the height is arranged from 9 meters to 60 meters. Figure 4.2.4.1 illustrates this strategy.

Secondly, to design new design Chinese style architectures, most designers were main focus on the roof and facades of the buildings. Figure 4.2.4.2 illustrates this strategy and case.

4.2.5. Developing the public transportation system and limit private auto

To improve the traffic system in Beijing three policies were actualized.

Firstly, keep the a low price for the public transportation system, 23 euro cents for a single trip of metro system, which the passenger buy one ticket can use the whole metro system one time freely. For the bus system is much more complete but in general 5 euro cents one single trip, 3 euro cents for a student ticket. And it also has the one card system, which mean one card charged can use for bus, metro and taxi. In 2010 the local government pays 1.42 billion euro as subsidies for the cheap public transportation **(27)**.

Secondly, set metro system as priority to develop, currently in the whole city there are 14 lines and almost 400 KM distance, and 4 lines crossing the historical center. And it have a long period planning, before 2020 19 metro lines can be expected, and the distance will reach 1000 KM distance **(28)**.

Finally, at the end of year 2010, government release new forcing policy to limit private auto-give very limit amount license tag to only Beijing's citizens.

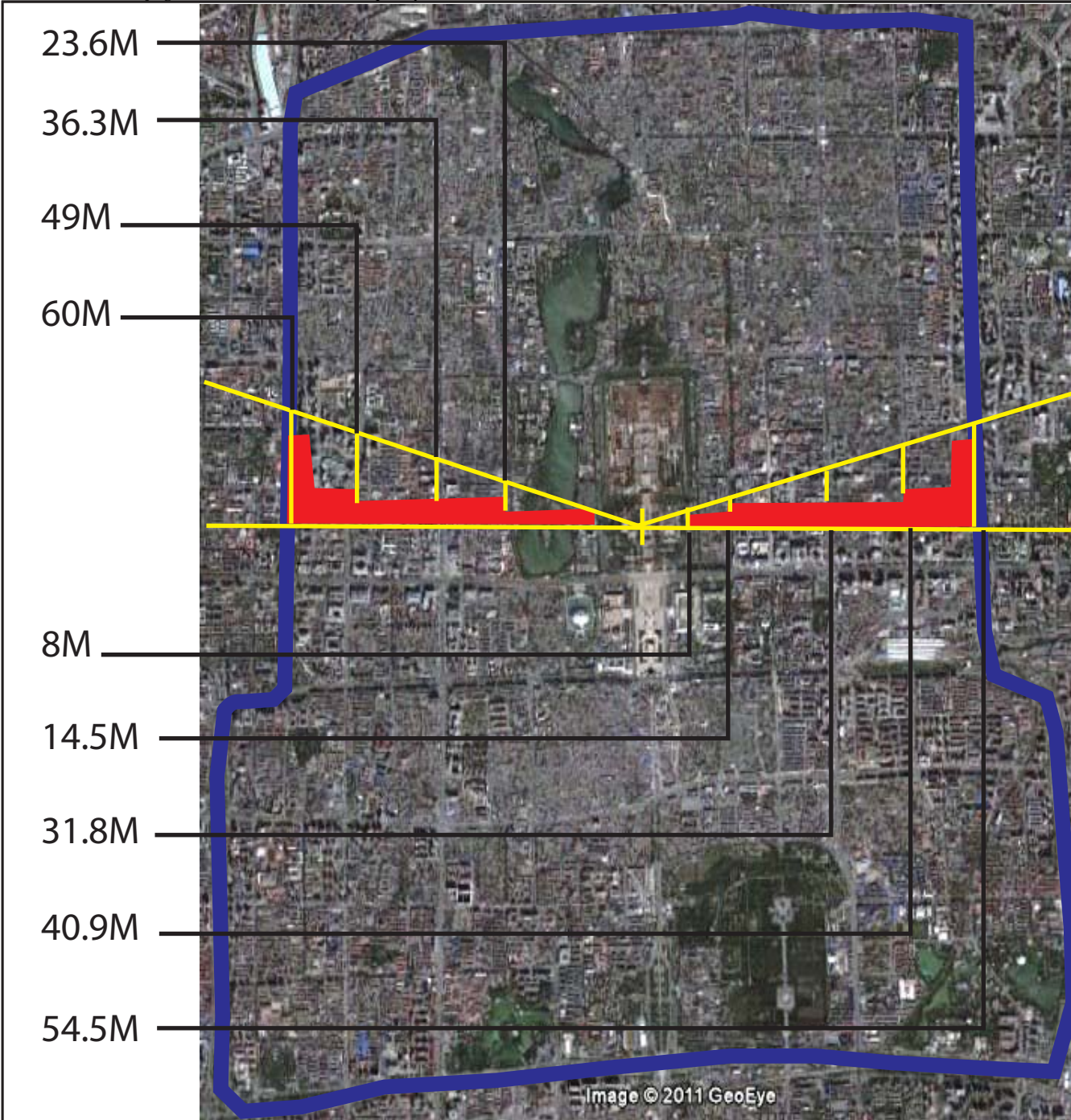
Finally, restrict the private auto consumption by command and control.

Figure 4.2.5 illustrates this strategy and case.

4.3. Conclusion

The problems happen in Beijing, especially in the historical center of Beijing are complex and they can be found in social, political, physical, spatial and functional. It is hard to imagine in a historical center so many problems happen, the conflict between contemporary development and historical remain is the main problem. Why the contemporary new development should be inside a very important historical center?

To solve the problems in the historical center, the local government set up related policies almost each problem occurs than related strategy or policy will be arrived, but the most important problem the cure to all the complex problems can never be solved, that is the contemporary development inside a very important historical center. Currently, the urbanization area which is the area within the 6th loop is 735 square kilometers, and the historical center that is the current city center is only as much as 70 square kilometers. It is a big wondering that why should the contemporary urban development should inside a historical center.



4.2.4.1. Regulate new architectures to fit with the sense of historical center

For the harmony between new buildings and historical center.

By controlling the height of the new buildings inside historical center.

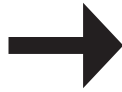
Legend

- boader of center

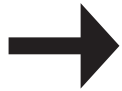
- Height control

Square marks the Chinese elements in new building

The National Art Museum of China



Capital Hotel



The Sun Dong An Plaza



4.2.4.2. Regulate new architectures to fit with the sense of historical center

For the harmony between new buildings and historical center.

New design focus on Roof and facade.

Three examples





4.2.5. Developing the public transportation system and limit private auto

1, Keep the a low price for the public transportation

2, Set metro system as priority to develop

3, Restrict the private auto consumption by command and control

Different operator



Current Metro lines



2015 Metro lines



One card system



5. A discussion in history: how to deal with the historical center of Beijing

At the beginning of contemporary period, the new communism government is confused with the future urban planning of Beijing. As Beijing was set as the capital of People republic of China, and Beijing is totally a historical city. So how to achieve the future development is a problem. And at that time, there are two suggestions or proposals for urban planning. The first one comes from soviet urban planning, and another one from two Chinese planners, and in this paper it called as Liang-Chen proposal.

5.1. The value of Beijing's historical center

Why historical center is important? Why should nowadays people have to protect it? In this subchapter, the value of Beijing's historical center will be present, in relate with different vision. And for different vision, related example will be given in order to prove the value and importance of Beijing's historical center, especially the meaning for contemporary city.

5.1.1. The intangible value

- Historical value; there is a Chinese proverb: "Using a mirror, we can tidy up ourselves; learning from people, we can weigh the successes and failures; studying from history, we can see the rule of rising and

falling." (29) So does historical center, it always remember people the past and history, give people memory of different period, and guide people the future development. Meanwhile, it also gives the local people strong identity and sense of belonging, because the historical center is often unique, and even strangers can recognize this special identity. For example, the Bell tower and Drum tower inside the historical center of Beijing are situated at the northern end of the central axis, Bell tower's height is 33M and Drum tower's height is 47M, before the Modern era, these two tower are dominate the skyline of Beijing; bells and drums were important musical instruments in ancient China, and these two towers are the official timepiece of ancient Chinese government until 1924, before 1924 traditional Chinese technology "water clock" or "clepsydra" (30) to account time was used inside this Drum tower, but after 1924 western clock instead of the function of these two tower. Nowadays both of two towers still stand as landmarks supply memory to inspire Chinese and local inhabitant of Beijing for the development of Chinese technology and development of the nation. Another example is the Beijing Ancient Observatory, which located on nearby Jianguomen in the eastern part of the historical center, it is a pretelescopic observatory. It is one of the oldest observatories in the world it built in 1442. The observatory itself is a 15M tall brick platform, and it located many important bronze astronomical instruments such as Equatorial Armilla, Sextant, Azimuth Theodolite, Altazimuth, Ecliptic Armilla and so on, many of them are Chinese creation of the past, it represent the past glory of Chinese scientific. Nowadays it still stands over there as a landmark; it can inspire and encourage the Chinese people.

- Cultural value; historical center creates a suitable environment for

traditional culture, and cultural related activity also relies on this environment. Culture is a very vague concept, so to explain this point, one example will be present. Yaohe is a traditional vocal advertisement for traditional Beijing's mobile businessman, normally this kind of activity can be found in the traditional neighborhoods like Hutong, this type of vocal advertisement is an audio enjoyment, different goods with different slang word or slogan, and many time this kind of vocal advertisement become folks songs, so popular and even becomes a kinds of art. Imagine in a traditional neighborhood, most time of a day is quite quiet, but when this traditional folk song arrived, it brings the local inhabitants freshness and excitation. But when this kind of activity encounters the multi floors apartment, it will lose the sense; people living in higher floors cannot hear this audio.

- Perceptive value; historical center in Beijing generally has a low skyline compare with the skyline out of the center, the scale between the street and architectures around is also different as the other part of the city, as the physical features of Hutong illustrated, the scale and the environment of the historical center creates a suitable feeling for the inhabitants living or whom just passing by. Compare with the historical center area, the perceptive feeling of other areas is much more modern, the life pace is faster.

Figure 5.1.1 illustrates the intangible value by photos.

5.1.2. The tangible value

- Functional value; the special features of the historical center can supply a unique function for the contemporary city. Such as cultural

and art related function, some historical architectures can be transform as museums for exhibitions.

Take an example, Temple of Heaven also called as Altar of Heaven is a complex of Taoist **(31)** buildings situated in the southeastern part of central Beijing's historical center, it is occupied 2.73 square kilometers, it is not only composed by architectures but also with gardens and free spaces, so it is like a district inside the historical center, the function of Temple of Heaven is different compare with current, in the ancient time the emperor of China was regarded as the Son of Heaven, and Temple of Heaven to be seen as the place to show the respect to his authority, every year sacrifices and prays were held over there, and it was closed area for emperor. Nowadays, this district was open to public, not only for tourism and museums but also for the inhabitants of Beijing, everyday many inhabitants use the green and open space to do traditional sports, even entertainments like karaoke; meanwhile the architectures inside this district was transformed as museum for the tourism; many times the interaction between the local and none local people can be discovered in this district. In conclusion, this area was used for both local and none local inhabitants very often so this special district inside the historical center also improves the life quality of the contemporary city. Figure 5.1.2 illustrates the tangible value by photos of the example Temple of Heaven.

5.2. Soviet urban planning proposal

The main proposition of this proposal is to use the historical center as the new city center; the main construction should be focused inside the

Cultural value: Yaohe



5.1.1. The intangible value

Historical value;
Cultural value;
Perceptive value



Historical value: Beijing Ancient Observatory



Original function: sacrifices and prays



5.1.2. The tangible value

Functional value



Current function: Public space and Tourism



Location



historical center. This proposal was proposed by the Soviet urban planner Abramoff and Baranukove who lead the urban plan of Moscow of that time; this plan was considered and used as the guideline of the urban development at the beginning of the contemporary period, between 1953 and 1960. After that period, Beijing and whole China entered the time cultural revolutionary and the urban planning and urban construction was stopped. But it has huge influence to nowadays urban development.

5.2.1. Principles of this proposal

There are three points as the principles of this proposal:

- Economy feasibility: based on the economy condition of new Chinese government and the country in general, by renew the historical center should be more feasible, the original facilities and infrastructure could be used in order to save resource and cost.
- Aesthetic vision: the ancient buildings inside the historical center are beautiful, when the new center is created, the historical buildings can be nice decoration and it supplies a nice environment for the new center inside.
- Political center: Political center should be in the city center, at the moment the historical center is the city center; political center should have a closer distance with the other different functions.

5.2.2. Soviet plan in general

There are mainly three points:

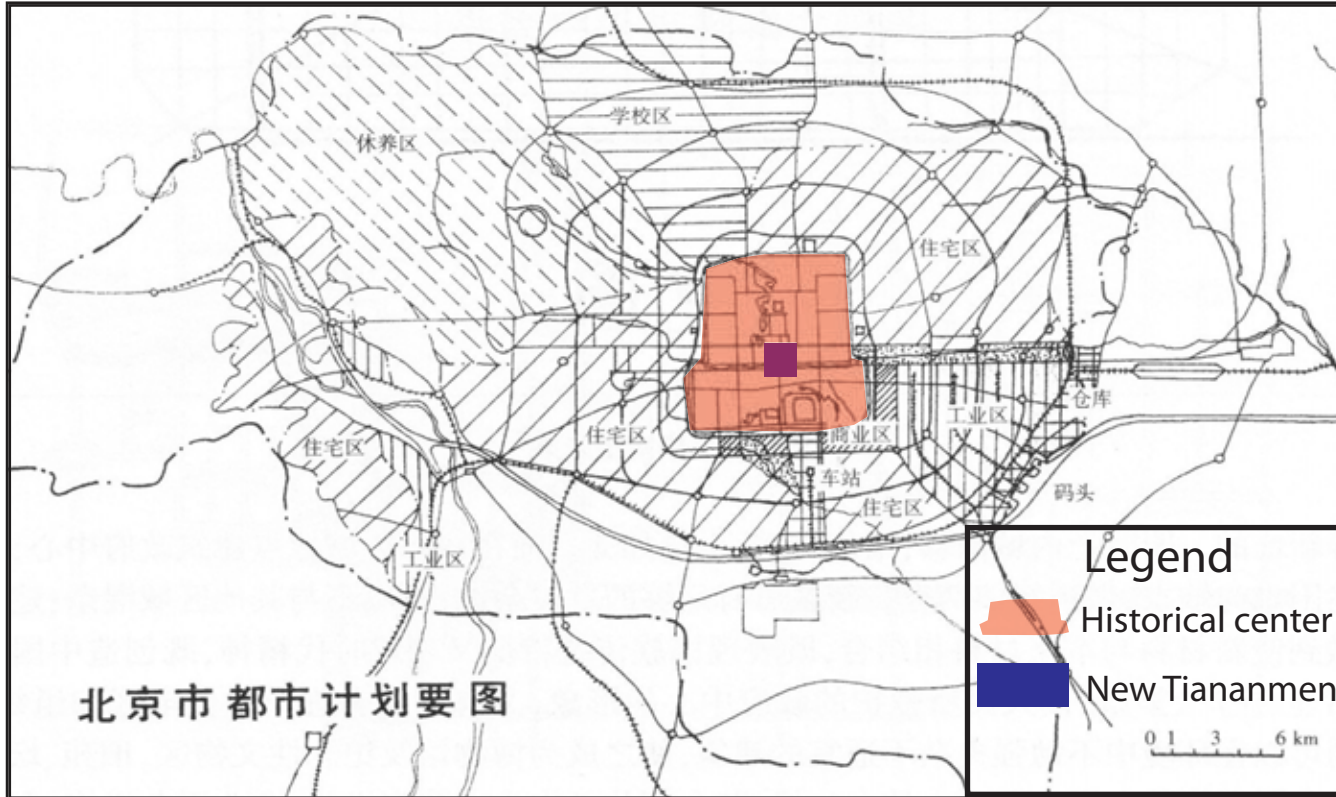
- Political center nearby Forbidden City where in the middle of the historical center.

- Nearby the new city center, different function should added and close with the new center.
- The core project for the new center inside historical center-Tiananmen Square; which means the original Tiananmen Square should be renewed and enlarged, some historical buildings should be demolished and nearby new monuments should be built, such as the Great Hall of the People, National Museum of China, Mausoleum, Monument to the People's Heroes and so on.

In addition Figure 5.2.2 shows the general plan.

5.2.3. Nowadays influence

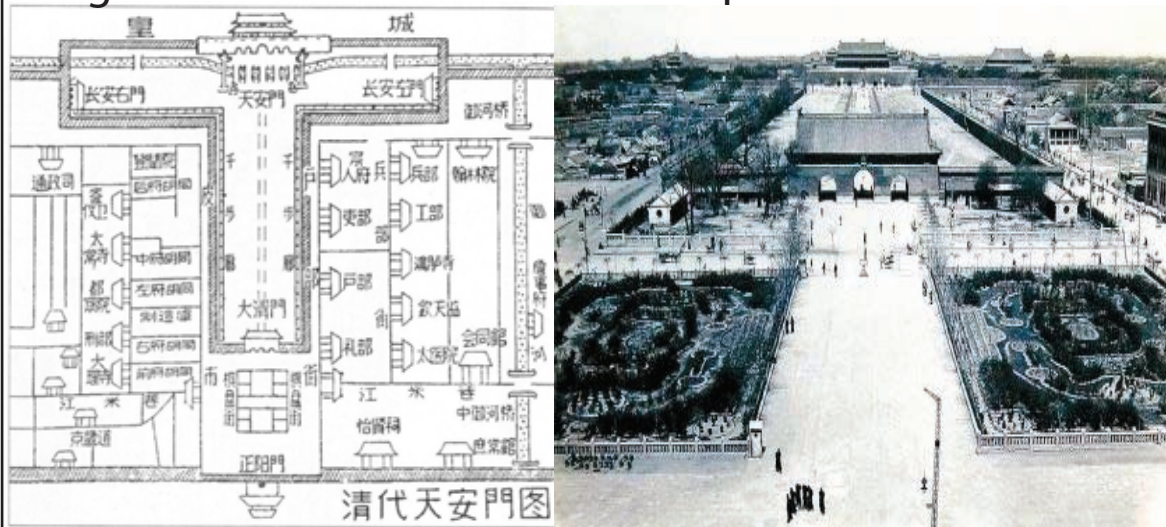
Even nowadays the historical center affords the most important functions, which means the Soviet proposal still has influence till nowadays urban development. Especially when the central government located inside the historical center, different functions are following the political power, most functions all prefer to develop nearby the political function. So the historical center is the biggest and most important center for this city, and the city was expanding like solar model which the historical center in the middle all new development is radioactive. Figure 5.2.3.1, Figure 5.2.3.2, Figure 5.2.3.3, Figure 5.2.3.4, Figure 5.2.3.5, Figure 5.2.3.6, and Figure 5.2.3.7 shows different facilities inside the metropolitan region of Beijing, and according to each graph that the historical center of Beijing concentrates most facilities for all kinds, and the pressure of the historical center is high.



5.2.2. Soviet plan in general

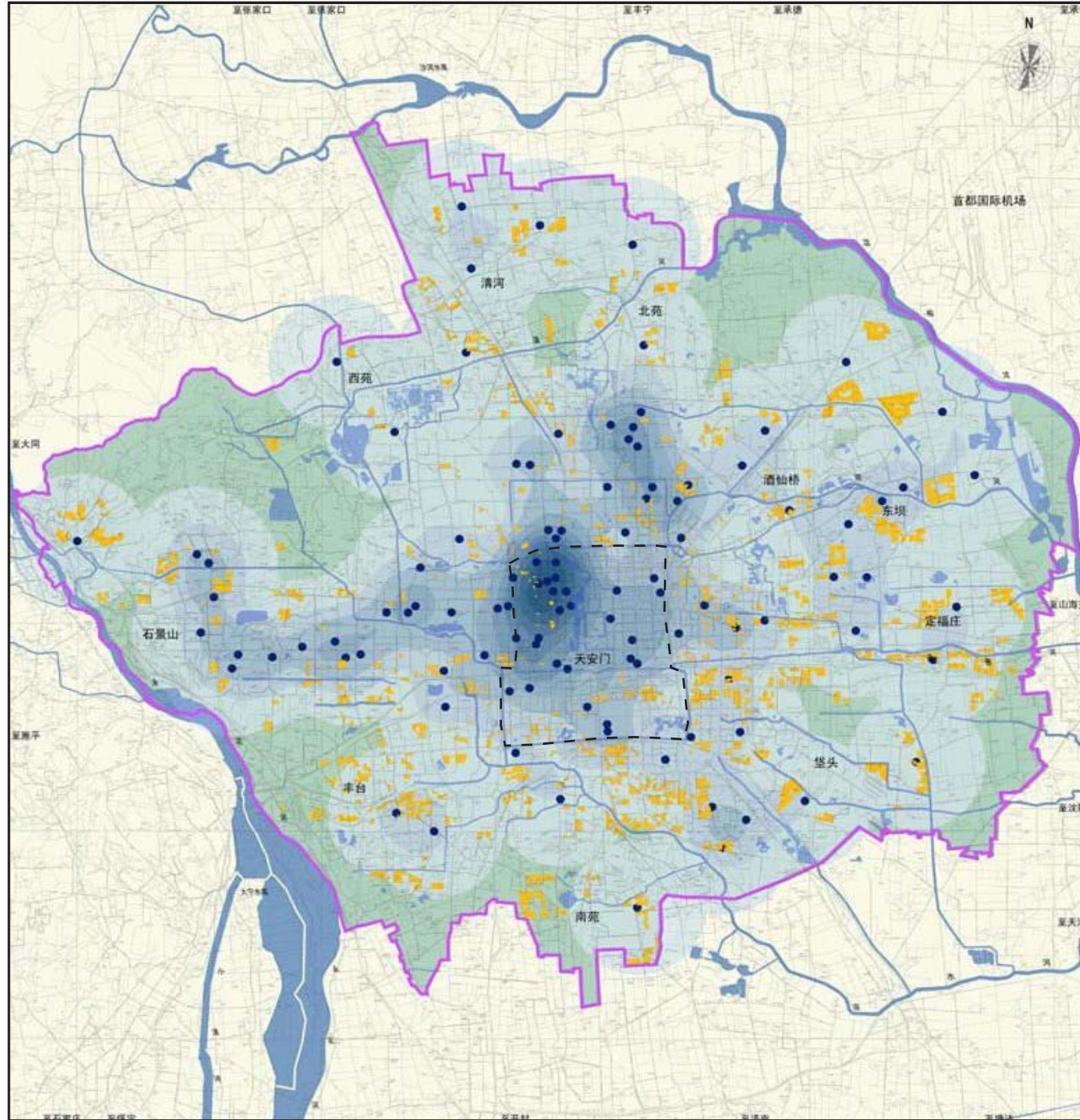
Political center in the middle of the historical center;
 Different function close to the political center;
 Renew Tiananmen Square as core project for new center.

Original condition of Tiananmen Square



Planned condition : Tiananmen


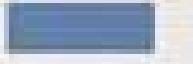
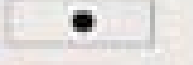

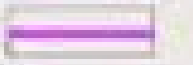
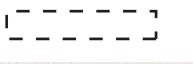
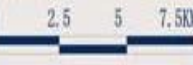


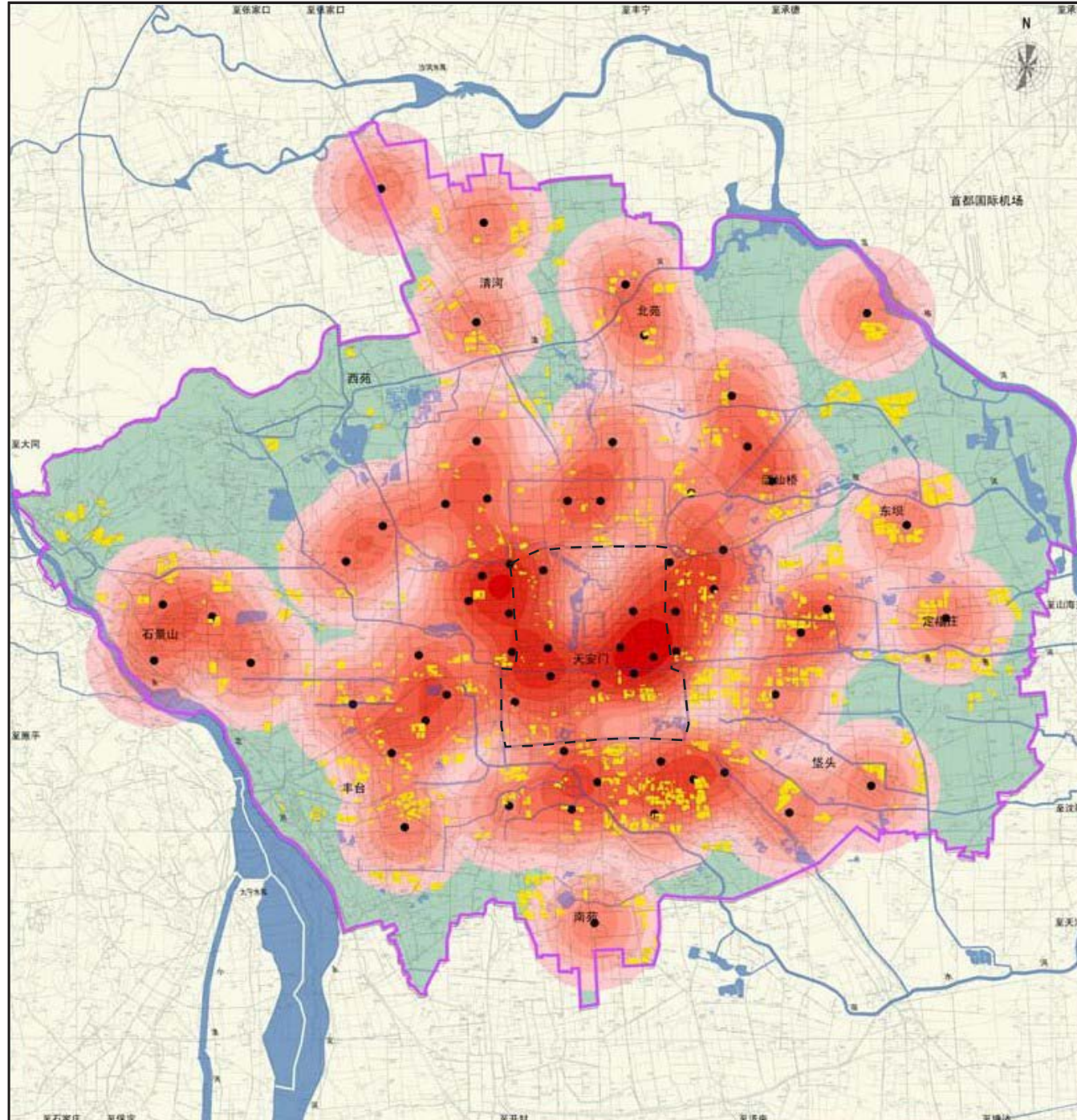


5.2.3.1. Iatrical facility distribution

Northwest area inside the historical center concentrate most dense iatrical facility.

Legend


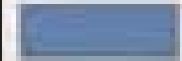


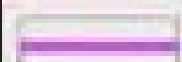
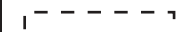

-  Recent plan residential
-  River and lake
-  Hospital
-  3000M radiation
-  Borderline
-  Historical center
-  Scale

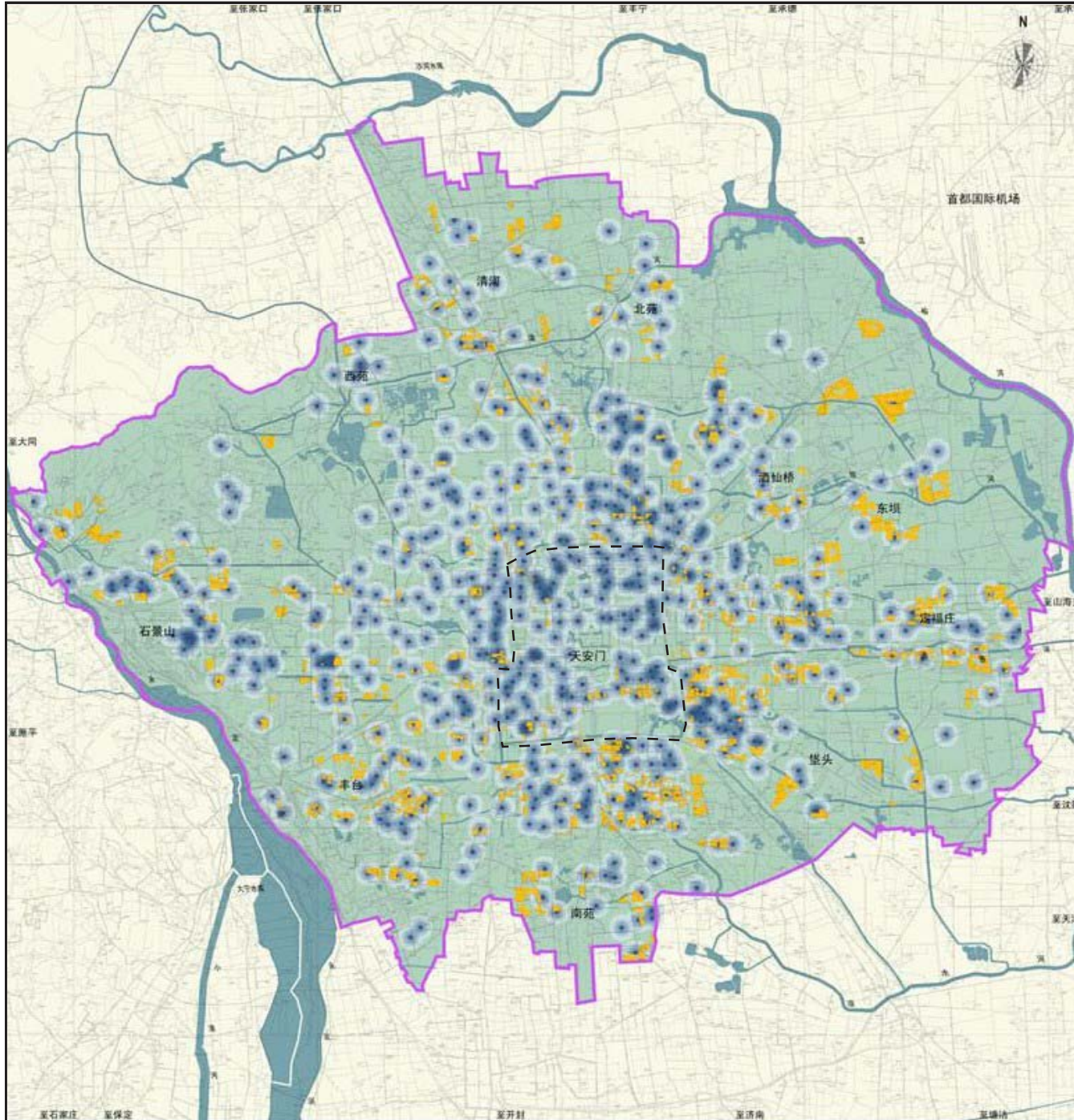


5.2.3.2. Commercial facility distribution

Generally, the historical center concentrate most dense commercial facility.

Legend

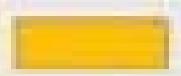
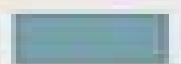



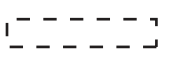

-  Recent plan residential
-  River and lake
-  Commerce
-  3000M radiation
-  Borderline
-  Historical center
-  Scale

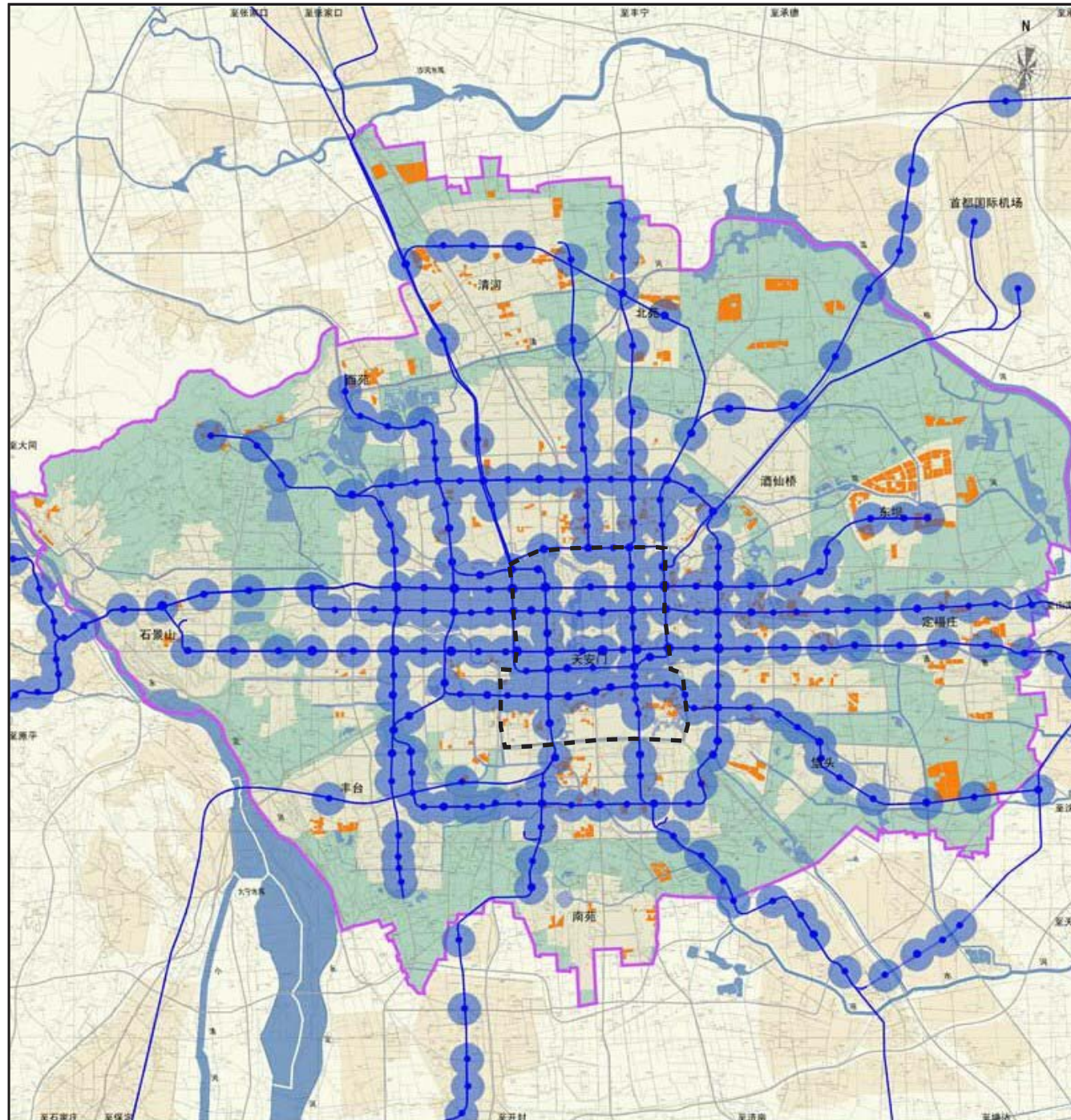


5.2.3.4. Education facility distribution - elementary school

Generally, the historical center concentrate most elementary schools in the north and middle part.

Legend




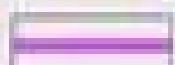


-  Recent plan residential
-  River and lake
-  Elementary school
-  500M radiation
-  Borderline
-  Historical center
-  Scale

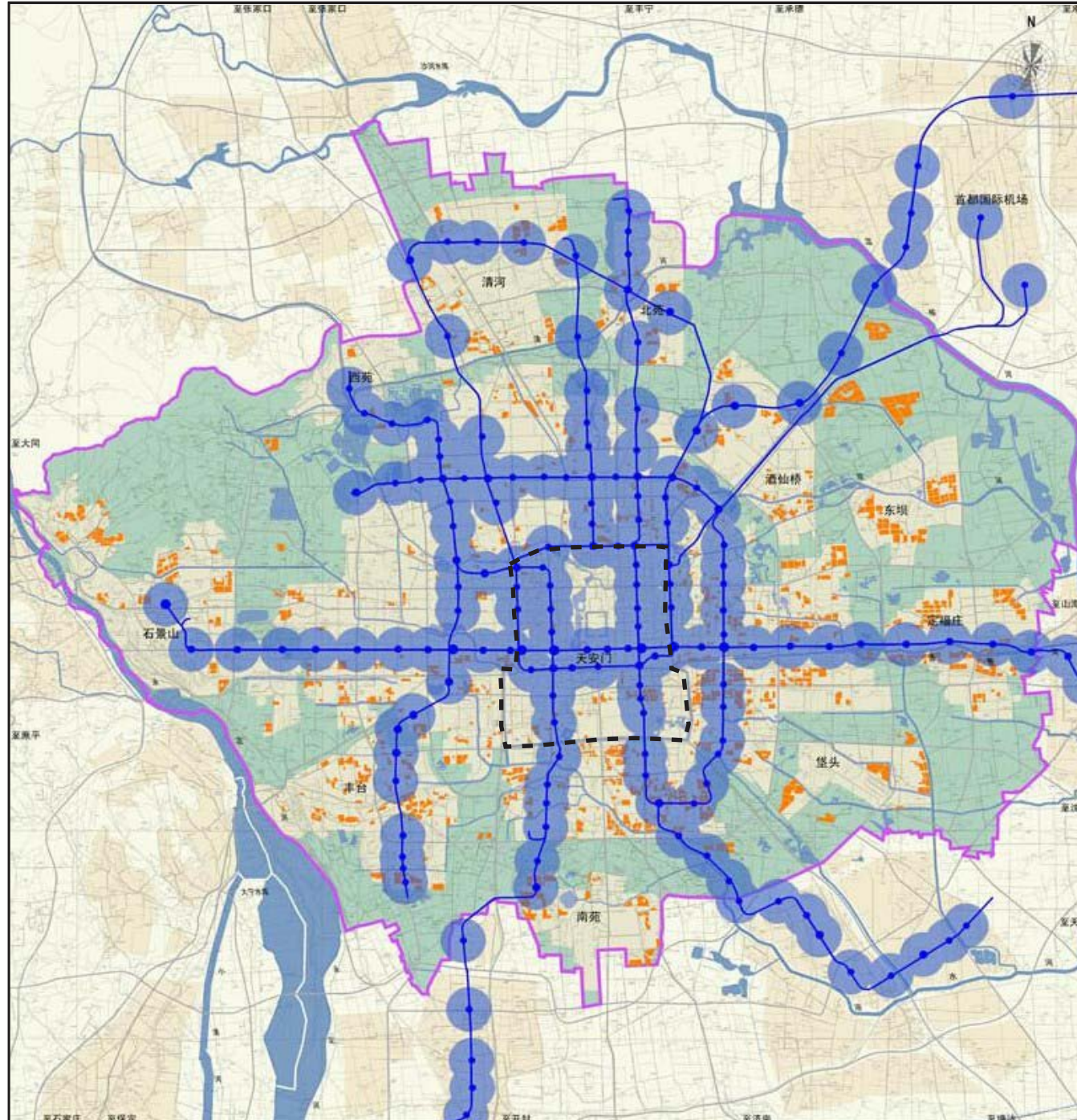


5.2.3.5. Transportation facility distribution - future metro stations plan

All the metro lines cross the historical center, and it with a very high accessibility.

Legend



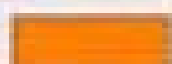



-  Metro station
-  Station cover zone
-  Recent plan residential
-  Borderline
-  Historical center
-  Scale

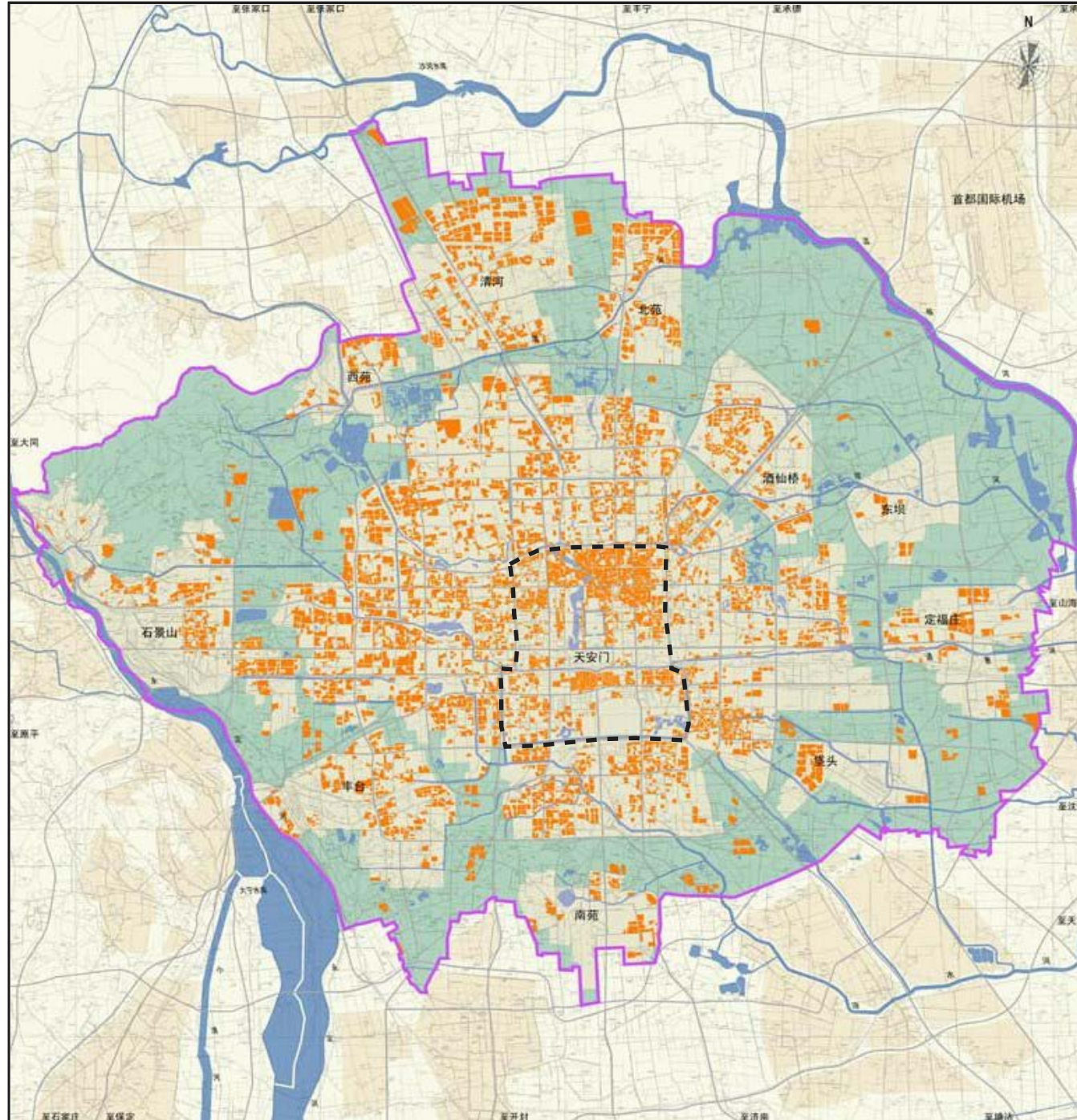


5.2.3.6. Transportation facility distribution - current metro stations

Generally, all the metro lines cross the historical center.

Legend

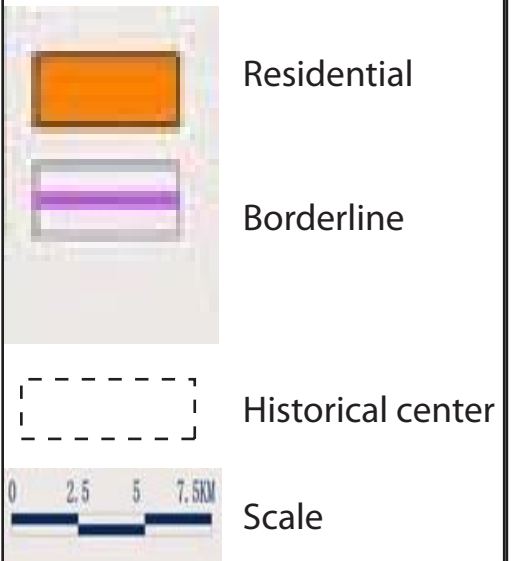
-  Metro station
-  Station cover zone
-  Recent plan residential
-  Borderline
-  Historical center
-  Scale



5.2.3.7. Residential facility distribution

North and central part of the historical center concentrat high dense of the residential.

Legend



5.3. Liang-Chen proposal

The main proposition of this proposal is to create a new center out of the historical center. Liang Sicheng (32) and Charles Chen (33) are two Chinese planners, but their urban planning background is a mixture of Chinese, European and American. At the beginning of contemporary their proposal was failed by the central government.

5.3.1. Principles of this proposal

There are nine points as the principles of this proposal:

- Conservation: conservation strategy should be implemented to the historical center, especially preserve the whole historical center, due to the value of the historical center. In addition, in that period the historical center itself is the historical city.
- Dimension of new central government administration office: ensure there is enough space for the new government administration office, because the new People Republic authority will certainly has a larger organizational body.
- Space for future development: Should put the future development as priority, not only considering the current development.
- Economy feasibility: do not scarify too much for the new construction, especially the new construction and project should prevent demolishing and moving of the local inhabitants. Reduce the transaction cost and unnecessary cost.
- Basic infrastructure and facility: do not increase the project difficulty, especially, the new projects like the electricity supply, water supply and sanitation network inside the historical center will meet many

difficulty, it is better to run projects out of the historical center, in order to prevent dilemma.

- Relationship with the residential district: district like administration office, service district, commerce district and industrial district should closer with the residential district, in order to prevent long time consuming on the way.
- Balanced development: the future development of Beijing should prevent the concentration development in one area like the historical center; planner should promote a balanced development for the whole metropolitan area.
- Urban environment: new political center with many new administration buildings should not insert into the historical texture in order to not interrupt the traditional environment.
- Design style: pay attention to the design style, especially the architecture style should not sightless that just copy ancient Chinese style or European style. Design should show the traditional Chinese spirits and respect the cultural and traditional consuetude.

5.3.2. Liang-Chen plan in general

According to the nine points as principle, a general design was carried out. First for most, the new center could be built on the west of the historical center, between Gongzhufen (34) and Temple of the Moon (35). More detail, in this plan the new center is out of historical center, but do not mean these two centers are separated, the new center will sustain the heritage of the historical one, it also planned by blocks and the connection between new and historical center is strong, there are parallel and straight connection in between. Because at that moment that area is in suburban,

the land is free. The distance between this area and historical center is close but not inside the historical center. In addition Figure 5.3.2 shows the general plan from Liang and Chen. And there are 9 reasons to support this plan.

- This plan takes care of the grand Beijing region, more construction after the Second World War and Five Years Civil War of China (36).
- This plan also makes the new center itself more efficient. In this new center work area, residential area and entertainment area will have a closer distance. And the work can be divided into two groups, administrative and service related.
- West suburban has enough space for the big construction of the new administration offices.
- This plan also decreases the population density inside the historical center, or at least not increases the population density inside the historical center.
- This plan takes care of new center development and the preservation of the historical center.
- This plan specifies different function for different district, the original historical center is mainly for the Museums, arts, residence and service related function, it is already very clear and stable; the new center will take care of different functions, also compensate the historical center.
- The new center can create new city axis for the grand Beijing region and Beijing will have two main city axes.
- Finally, this plan also suits with the 9 points as principle of the proposal.

5.3.3. Feasibility comparison between Soviet proposal and Liang-Chen proposal

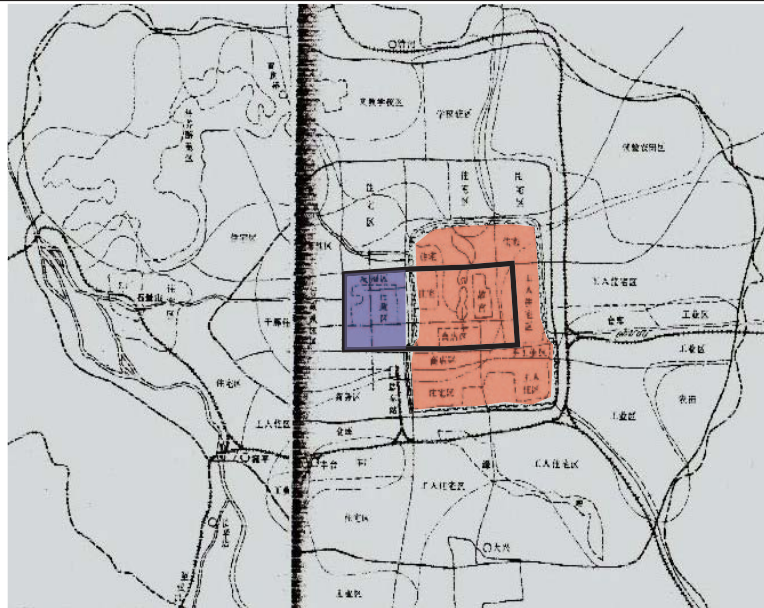
Liang-Chen proposal also prepares a simple feasibility research, it is a comparison between the Soviet proposal and Liang-Chen proposal.

- Cost for the Soviet proposal:
 1. The cost to purchase the real estate of inhabitants inside the historical center
 2. The inhabitants' moving cost, move out from their original houses.
 3. New houses construction costs for the inhabitants that need to be moved out.
 4. Cost of the basic infrastructures and facilities like road, water supply network, and sanitation network for the inhabitants moved out from the historical center.
 5. Demolishing the original houses inside the historical center also cost.
 6. New construction of administration offices and political center also cost.
 7. New vegetation inside the historical center cost.
- Cost for the Liang-Chen proposal:
 1. Cost of the basic infrastructures and facilities like road, water supply network, and sanitation network.
 2. New construction of administration offices and political center also cost.
 3. Cost of new dwellings for the government staff.
 4. Cost of new vegetation outside the historical center.



Liang Sicheng
4.20.1901-
1.9.1972

Charles Chen
6.13.1916-
3.12.2001

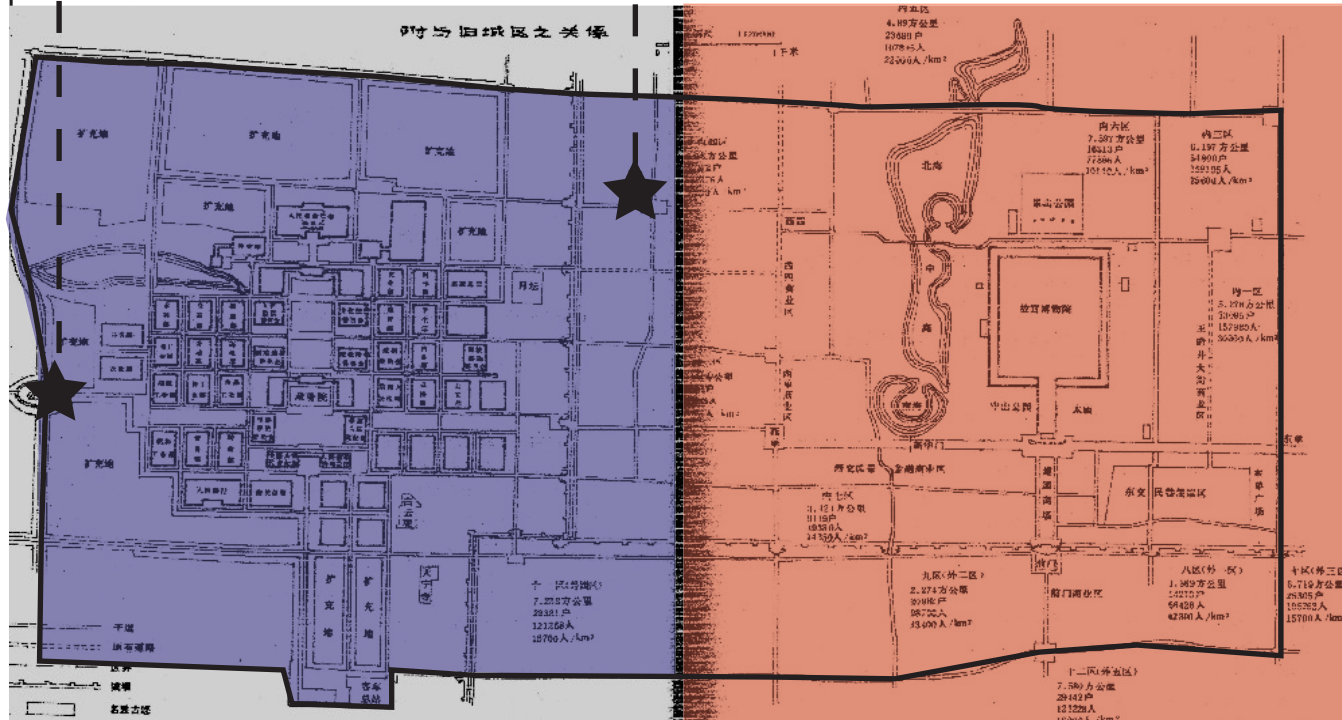


5.3.2. Plan in general

Liang-Chen Proposal:
Strong connection between new center and historical one, that is the parallel and straight connection.
New center sustain the heritage of historical one, it also planned by blocks.
Also there are 9 reasons to support this plan.

Gongzhufen

Temple of the Moon



Legend

- Historical center
- Border of the two centers
- Historical landmarks as border of the new center
- New center

In general, Liang-Chen proposal seems more feasible in related with the cost. Add political center and many other functions inside historical center will meet more difficulties and the Demolishing cost, renew the basic infrastructures and facilities, compensate the residence inside the historical center all cost, and even higher than the second proposal.

5.4. Conclusion

By comparison, Liang-Chen proposal show a higher rationality for the urban planning of Beijing. Compare with the urban plan from Soviet urban plan, Liang-Chen plan can prevent many problems inside the historical centre of Beijing, because Liang-Chen plan tried to have new centre out of the historical centre, their plan was trying to jump out of the historical centre, and achieve new development out of the historical centre, meanwhile keep the original physical and functional elements of the historical centre.

Nowadays the condition of Beijing is impossible to go back to the historical moment, that can decide which proposal is more reasonable and suit with the condition of the beginning of contemporary period even for the future development.

Too many parts of the historical center of Beijing are already destroyed or in danger, the sense of historical becomes weak, it is already impossible to protect the historical center as a whole. But the experience from the Beijing could be learned, and use it as a lesson for all urban planning of the world. The knowledge and experience of the original historical center, the process of the changing of Beijing's historical center, the problems and strategies of Beijing should be cleared and learned.

Finally, the two proposals from two different attitude and methods to deal

with the historical center could be used as a reference or case study for the urban planning of other city's historical center.

Notes

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- 百度百科 Baidu Baike. (February.2011) 胡同 Hutong. <http://baike.baidu.com/view/9930.htm#sub9930>
- 百度百科 Baidu Baike. (April.2011) 北京地铁 Metro of Beijing. <http://baike.baidu.com/view/21157.htm>
- Bonsai. (June.2011) Wikipedia. <http://en.wikipedia.org/wiki/Bonsai>
Introduction of Bonsai: also known as Penzai or Penjing literally "tray scenery". It is an ancient Chinese art growing trees and plants, kept small by skilled pruning and formed to create and aesthetic shape and the complex illusion of age. Japan's Bonsai tradition is derived from Penjing. Classical Chinese gardens ofthen contain arrangements of miniature trees and rockeries know as Bonsai.
- 常红 Chang Hong. (April.2011) 北京汽车的保有量 The vehicle population in Beijing. <http://cppcc.people.com.cn/GB/11832680.html>
- 陈占祥 Charles Chen. (April.2011) Wikipedia. <http://zh.wikipedia.org/wiki/%E9%99%88%E5%8D%A0%E7%A5%A5>
Introduction of Charles Chen: Charles Chen, is a urban planner and architecture, his education background was built up in Britain, he was

studying in University of Liverpool and University College London with a doctor degree between 1938 and 1946. And when he studied in University Colledge London, Sir Patrick Abercrombie was his tutor, during that period; he was working with his tutor make urban planning for three southern British cities. And he became a member of Royal institute of British Architects. In 1946 he back to China and continue his career.

- Dr. Ronald V. Wiedenhoeft. (2007) Hutong: Stone Arch. http://contentdm.lib.byu.edu/cdm4/item_viewer.php?CISOROOT=/Saskia&CISOPTR=21051&CISOBX=1&REC=18
- 董光器 Dong Guangqi. 《古都北京五十年演变录》 The evolution of the ancient capital Beijing in recent fifty years. 东南大学出版社 Southeast University of China Press. 西安 Xi'an City. (October, 2006).
Abstract: in this book, there is the review and reconsideration of the recent fifty years' urban planning and urban construction of the Historical city Beijing. This book also describes the process of the ideological formation of Beijing's urban planning; it even contains the influence from political, economical and cultural towards the urban planning and urban construction. Some case analysis also given, there are the planning and construction of the Long Peace Street and Tiananmen Square; meanwhile there are also cases analyses about the renovation project inside the historical city of Beijing; the analyses is from macroscopic level to microscopical level, from the technical aspect to political aspect. In general this book concludes the experience and lessons from the urban planning of Beijing. In addition, it also contains the discussion about the preservation of the historical area and its utility in nowadays contemporary city. Finally, this book's readers are mainly for the urban planners, professional planners who work on historical district protection, urban designers, and policy

makers etc.

37. 梁思成 Liang Sicheng. 陈占祥 Charles Chen. 《梁陈方案与北京》 Liang-Chen Proposal. 辽宁教育出版社 Liaoning Educational Press. 辽宁 Liaoning City. (June. 2005)

Abstract: this proposal proposes ideas and suggestions to the location of new central government's political center, where is the reasonable position for the new political center. Suggestions: decide the position of the new center for the central government as soon as possible, and considering the practical requirement and the future development, the new center should be built between the historical center/city and the west suburban, and according to nowadays economical condition construct the new center incrementally.

- Patrizia Gabellini. (March.2010) Patterns, urbanscapes, and cities of cities. Citadels

Introduction of Citadels: Citadels was used as the name to define complex settlements devoted to some specialized functions, which are often the result of an "urban project".

- Patrizia Gabellini. (March.2010) Patterns, urbanscapes, and cities of cities. Planed District

Introduction of Planed Districts: Although planned districts are generally public housing quarters, industrial and financial districts were built in the last decades as well. It is necessary to distinguish these districts, as in the case of historical center. For example: when considering the studies on public housing quarters, we learn that it is possible to recognize a certain number of main patterns and landscapes according to the period of their design and realization.

38. 任晋锋 Ren Jinfeng. 吕斌 Lv Bin. (October.2010) 基于类型学方法的北京四合院的保护和再生 Preservation and regeneration of Beijing Siheyuan based on typology method.

http://d.wanfangdata.com.cn/Periodical_csgh201010017.aspx

Abstract: Beijing Siheyuan is one of the symbols of traditional Beijing. However, serious illegal structures, dense population and many families living in a crowded courtyard damage the traditional Siheyuan and city features. This paper analyzed the importance of traditional cultures of original residents and the requirements of actual life in preservation and regeneration of Siheyuan, and presents a new mode of multifamily Siheyuan. In addition, based on the typology method, this paper analyzes the evolution of Siheyuan, investigates the layout of multifamily courtyards, and proposes the idea for its preservation and regeneration. Finally, taking some specific Hutong-Siheyuan areas as examples, it makes the simulation to validate its feasibility.

39. 宋濂 Song Lian. 王濂 Wang Lian. 《元史》 The history of Yuan Dynasty. 《始祖本纪》 Chapter of grandfather biography. 中华书局 Zhonghua Book Company. (August. 1976).

Abstract: The history of Yuan is one of the official Chinese historical works known as the Twenty-Four histories of China. It consists of 210 chapters and covers the history of Genghisid Yuan Dynasty from the time of Genghis Khan (1162 – 1227) to the fleeing of the last Yuan emperor Huizong (Toghun Temur, 1333 – 1370) from Dadu in 1368.

40. 孙磊 Sun Lei. (May. 2011) 北京城市规划之殇：1950年梁陈方案的夭折 The sadness of urban planning of Beijing: the reject of Liang and Chen's proposal in 1950. <http://history.news.qq.com/a/20110506/000480.htm>

41. 汤旻 Tang yang. (January.2011) 北京去年补贴公交地铁 135 亿 13.5 billion Yuan as subsidies to the Beijing public transport system. http://epaper.bjnews.com.cn/html/2011-01/02/content_187765.htm

42. 王玉慧 Wang Yuhui. (August.2007) 中心控制规划向市民公示 Public summons of Beijing's centre control planning.

<http://beijing.qianlong.com/3825/2007/08/16/118@4005428.htm>

43. 魏闽红 Wei Minhong. 胡桦 Huhua. (July.2005) 对北京四合院多功能利用的研究 The research of Beijing Siheyuan's multifunction use. http://d.wanfangdata.com.cn/Periodical_jzxb200507009.aspx

Abstract: Traditional habitation will be gradually converted to dynamic multi-functional district. This research topic on quadrangle in Beijing urban conservation district will be valuable reference on future reconstruction for urban conservation districts in Beijing old city.

- Wikipedia. (June.2011) Chinese family planning. http://en.wikipedia.org/wiki/One-child_policy
Introduction of Chinese family planning: also called as: "The one-child policy" refers to the one-child limitation applying to a minority of families in the population control policy of the People's Republic of China, The Chinese government refers to it under the official translation of family planning policy. It officially restricts married, urban couples to having only one child, although it allows exceptions for several cases, including rural couples, ethnic groups, and parents without any siblings themselves. A spokesperson of the Committee on the One-Child Policy has said that approximately 35.9% of China's population is currently subject to the one-child restriction. The special administrative Regions of Hong Kong and Macau are completely exempt from the policy. Also exempt from this law are foreigners living in China.
- Wikipedia. (June.2011) Clepsydra. http://en.wikipedia.org/wiki/Water_clock
Definition of Clepsydra: Clepsydra means water clock, it was very important in the study of astronomy and astrology. The oldest reference dates the use of the water clock in China to the 6th century BC. From about 200 BC onwards, the outflow clepsydra was replaced

almost everywhere in China by the inflow type with an indicator-rod borne on a float.

44. Wikipedia. (February.2011) Temple of the Moon. http://en.wikipedia.org/wiki/Temple_of_the_Moon_%28China%29
Introduction of Temple of the Moon: the Temple of the Moon is an altar located in FUchengmen, Xicheng District, in western Beijing, China. The altar was built in 1530 during the Ming Dynasty for use in ritual sacrifice to the Moon by the Emperor of China. The Altar the surrounding grounds are within a public park.
45. Wikipedia. (June.2011) Taoist. <http://en.wikipedia.org/wiki/Taoism>
Introduction of Taoist: Taoism refers to a philosophical and religious tradition that has influenced the people of East Asia for more than two Millennia. The word Tao is often translated as "Path", but with a myriad of nuances in folk religion and Chinese philosophy. Chinese alchemy, astrology, cuisine, Zen Buddhism, several Chinese martial arts, traditional Chinese medicine, Fengshui, and Qigong have been intertwined with Taoism throughout history.
46. Wikipaida. (Feb.2011) 李莲英 Li Lianying. http://en.wikipedia.org/wiki/Li_Lianying
Introduction of Li Lianying: Li Lianying was an imperial eunuch during the Qing Dynasty who rose to power during the rule of Empress Dowager Cixi, who was the de factor ruler of China for thirty-nine years from 186901908. He served as the head Eunuch until getting deposed in 1908. Li Lianying was known to be dominant in court affairs, controlling everything from the actions of other eunuchs, to which officials could be granted an audience by the Empress Dowager.
47. Wikipedia. (March.2011) 梁思成 Liang Sicheng. http://en.wikipedia.org/wiki/Liang_Sicheng

Introduction of Liang Sicheng: Liang Sicheng was the son of Liang Qichao, a well-known Chinese thinker in the late Qing Dynasty. Liang Sicheng returned to China from the United States after studying at the University of the Pennsylvania. Liang is the author of China's first modern history on Chinese architecture and founder of the Architecture Department of Northeast University in 1928 and Tsinghua University in 1946. He was the Chinese representative in the Design Board which designed the United Nations headquarters in New York. To cite Princeton University, which awarded him an honorary doctoral degree in 1947, he was "a creative architect who has also been a teacher of architectural history, a pioneer in historical research and exploration in Chinese architecture and planning, and a leader in the restoration and preservation of the priceless monuments of his country."

- Wikipedia. (June.2011) Five Years Civil War of China. http://en.wikipedia.org/wiki/Chinese_Civil_War
Introduction of Five Years Civil War of China: The Chinese civil war was a civil war fought between the Kuomintang (Chinese Nationalist Party), the governing party of the Republic of China, and the Communist Party of China, for the control of China which eventually led to China's division into Chinas, Republic of China as Taiwan and People's Republic of China. After the Second World War, China won the war against Japan, and then the civil war officially began, between 1945 and 1949.
- Wikipedia. (June.2011) Fengshui. http://en.wikipedia.org/wiki/Feng_shui
Introduction of Fengshui: Fengshui literally translates as "wind-water" in English. It is an ancient Chinese system of aesthetics believed to use the law of both Heaven and Earth to help one improve life by receiving positive Qi. Fengshui has widely used in orient buildings often

spiritually significant structures such as tombs, dwellings and cities. The history of Fengshui can be traced back to 4000 BC.

- Wikipedia. (March.2011) Gongzhufen. <http://en.wikipedia.org/wiki/Gongzhufen>
Introduction of Gongzhufen: Gongzhufen is a major traffic and public transportation hub in the Haidian District of western Beijing, China. The name literally means "Tomb of the Princess". It lies at the intersection of the 3rd Ring Road and Fuxing Road. Prior to the mid-1990s, there was a traffic circle at the intersection. Today, traffic is handled by a three-level cloverleaf interchange.
 - Wikipedia. (June.2011) Kangyouwei. http://en.wikipedia.org/wiki/Kang_Youwei
Introduction of Kangyouwei: Kangyouwei was a Chinese scholar, noted calligrapher and prominent political thinker and reformer of the late Qing Dynasty. He led movements to establish a constitutional monarchy and was an ardent Chinese nationalist. His ideas inspired a reformation movement that was supported by the Guangxu Emperor but loathed by Empress Dowager Cixi.
48. 赵波平 Zhao Boping. 徐素敏 Xu Sumin. 殷广涛 Yin Guangtao. (Aug.2005) 历史文化街区的胡同宽度研究 Study on the width of the alleys and lanes in the historical and cultural blocks. http://d.wanfangdata.com.cn/Periodical_csjt200503011.aspx
Abstract: there is no doubt that the protection of culture and history is the ageless theme of urban plan. However, when cars and modern civilizations entered the historical blocks, our culture and history became the immediate victims. A practical problem is the width that the grade of the road requires to suit with the needs of modern traffic. Combing the planning study of alleys and lanes systems of typical zones in the old city of Beijing, this article analyzes the characteristics

and relationship between alleys and lanes and architectural space, transport mode, municipal pipelines. It formulates a series of basic ideas how to choose width of alleys and lanes, and provides references for planning and design of alleys and lanes and street in the historical and cultural blocks.