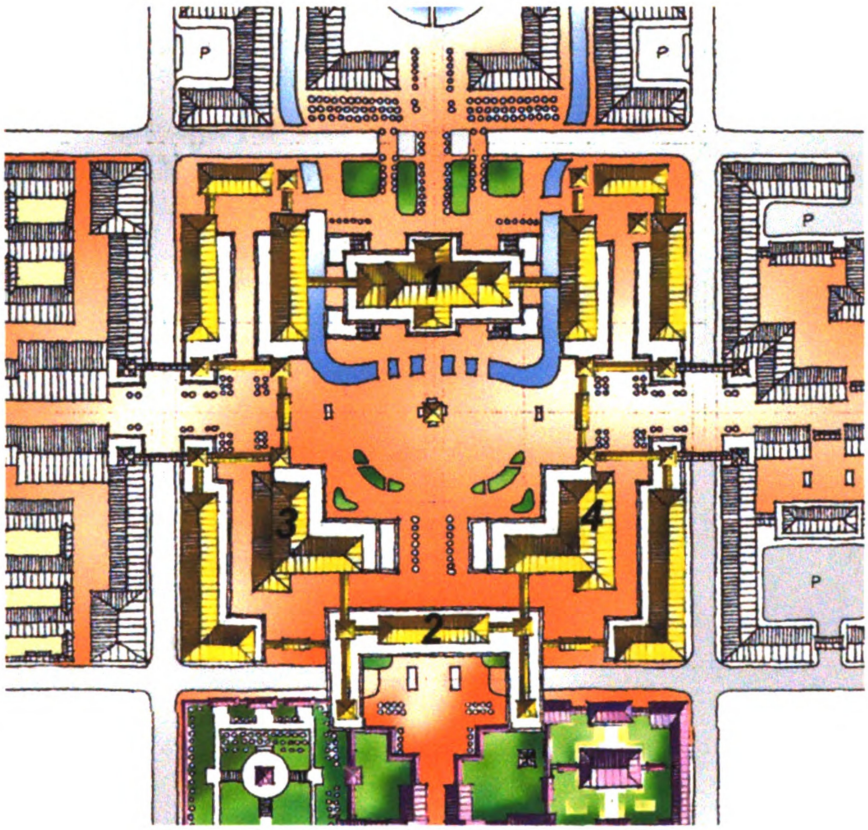
MICHIGAN STATE UNIVERSITY
Urban and Regional Planning
Specialization in Urban Design

PLAN B RESEARCH PAPER

Design for Culture and Prosperity: DESIGN GUIDELINE FOR A NEO-TRADITIONAL CHINATOWN



Prepared by

Zhaoyan Zheng

East Lansing, Michigan

May 2001

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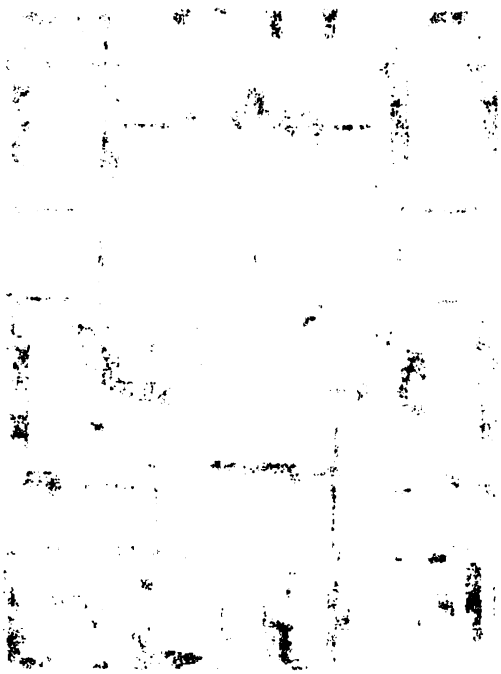

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I. Introduction

This report is a brief discussion on designing a desired urban environment for Chinese American communities in the United States. A neo-traditional urban design is proposed for a conceptual Chinatown to visualize how proper design approaches can help to stimulate local economy and enhance cultural pride of these ethnic communities.

Chinatowns are the main and concentrated settling place for earlier Chinese immigrants, their culture, and their businesses. To most Americans, the name of Chinatown "evokes images of an exotic world where people different from the rest of us lead secretive, mysterious lives."[1] For many years Chinatowns were portrayed as ethnic enclaves congested with poverty and illegality, or simply as shelters for recent immigrants. However, the fact is, as stated in Zhou's and Lin's books, that Chinatowns are socioeconomic units that have been vigorous and successful in economic development and cultural inheritance. A Chinatown is a Chinese American community with geographic boundaries, a typical urban area with high unity of ethnic components and cultural backgrounds. A research on urban planning and urban design strategies for improving the physical environment and the quality of life in Chinatowns will help construct socioeconomic profiles and propose possible solutions for future development in these ethnic communities. The data and guidelines will be helpful for local government and community-based organizations in the decision-making process of the locality development.

The purpose of this report is to discuss the relationship between current urban environment and lifestyle in American Chinatowns, and to develop a conceptual urban design model as an optimized option for this Chinese community. Since this report will be based on the researches on general conditions and life patterns of all the Chinese communities in the United States, the findings can be applied to any of the Chinatowns to help identify admirable images of Chinese heritages, breaking cultural isolation and ethnic barriers, improving human environment, enhancing business opportunities, and including Chinese American culture into a part of the mainstream American culture.

This report starts with Chapter II, a background research on the history and demographic information of Chinatowns in the United States. Early Chinese immigrants came to the new continent as laborers, living a miserable and unstable life and being excluded by the American society. Change of immigration laws after World War II improved the living condition of Chinese immigrants and brought the balance of genders and occupations to the population. Chinatowns were gradually converted into ethnic economic entities from simple ethnic enclaves.

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[1] Zhou, *Chinatown* (Philadelphia: Temple University Press, 1992), viiii.

Chapter III conducts an analysis on the current urban environment of Chinatowns and provides possible solutions for revitalization and enhancement. An evaluation of the strengths and the weaknesses of current conditions leads to the finding that an urban society of Chinese cultural heritage will fulfill the psychological, aesthetical and socioeconomic needs of this ethnic community. Therefore, a neo-traditional urban design strategy is proposed to promote the Chinese tradition and the local economy in Chinatowns. This Chapter presents a set of design guidelines to help construct a Chinatown that applies classic Chinese architectural styles and spatial patterns and complements contemporary North American urban lifestyles.

Chapter IV introduces the classic Chinese architectural styles and spatial patterns, and the culture and tradition carried by them. It helps generate a better understanding of classic Chinese architecture and urban spaces, through photographs and drawings of historic architectures and cities.

Chapter V presents an urban design alternative that visualizes the concept of a neo-traditional Chinatown. Following the canonical capital city in *Zhou Li* and the spatial structure of the Old City of Beijing, this design alternative constructs a conceptual Chinatown that not only is physically in Chinese style, but also aims to culturally and economically revitalize the Chinese community. The design creates an urban environment that provides diverse lifestyles and dynamic economic bases. The neo-traditional Chinatown is built for the Chinese American population, as well as the general American public – it is an American downtown, a regional ethnic economic center, and a tourist attraction.

Chapter VI, the conclusion, summarizes the urban design strategies for Chinatowns and further addresses the importance of realizing Chinatowns' American urban context. A set of neo-traditional urban design strategies can help construct an integrated, vital and sustainable economic entity, and also its cultural and economic linkages to the mainstream American society.

II. Chinese Americans and Chinatowns: History and Culture

A review of the Chinese immigration history will help to understand the origination of Chinese ethnic communities and the lifestyles there. The components of Chinese immigrants in the nineteenth century were very different from those in the late twentieth century. Due to the lack of language ability, working skills and capital resources, and the exclusive American society at that time, early Chinese laborer immigrants lived in a very harsh environment. Chinatowns appeared as the settlement places and shelters for the ethnic population, and then, because of the later changes of the US immigration laws and international relationships, gradually became ethnic enclaves with certain cultural independence and economic capabilities. As time goes by, Chinatown dwellers developed a lifestyle different from that of their Chinese origins. The local economy is based on this unique lifestyle and special needs of the ethnic community. At the same time, though there are many social problems in these ethnic communities, Chinatowns are still considered as important carriers of Chinese traditions and the American Chinese immigration history. The urban design strategies for Chinatowns should be developed according to all of these special features.

2.1 Early Immigration

Chinese immigrants started the first settlement on the America continent in 1848, when gold was discovered in the Sacramento Valley in California and railroad construction needed labor. Chinese population thereafter increased from 35 in 1850 to about 35,000 in 1860, and then continued increasing greatly due to series of treaties between the Qing Dynasty and the US government. However, no Chinese immigrants were allowed to become US citizens at that time.

The continuous increase in Chinese population stimulated anti-Chinese movements because the competition with other (mainly white) workers in job opportunities. The US Congress then passed several Chinese Exclusion Acts resulting in the population drop in following decades, from about 127 thousand in 1890 to about 62 thousand in 1920. After the pass of Immigration Restriction Law in 1924, which accepted several categories of Chinese immigrants, there was a slight increase of Chinese population in 1930s[2].

Due to the alliance between China and America in World War II, various anti-Chinese immigration acts were repealed immediately after the War. This resulted in an increase of Chinese population in United States from about 78 thousand in 1949 to about 118 thousand in 1950. The population sharply decreased to about 18 thousand again during the next decade because China was taken over by the Chinese Communist Party in 1949. The western capitalist countries were considered the enemy of the New China;

[2] Kiang, *Chicago Chinatown* (Lincolnwood: The Institute of China Studies, 1992), 2.

therefore emigration to the US was highly restricted, if not completely forbidden. At the same time, many overseas Chinese went back to the New China seeking new opportunities.

In the 1960s, American immigration policy became more accepting. Chinese population increased to 228,565 in 1970, 812,000 in 1980 and 1,645,472 in 1990. The increase of the 1980s amounted to 833,472, which is greater than the Chinese population accumulated during the previous 130 years.[3]

Chinatowns became visible in many major cities during the 1880s, when US congress passed a series of Chinese exclusion laws. The Chinese immigrant community became more consolidated and isolated from the outside society for self-support and self-protection. "Gradually, Chinatowners were sealed off from the outside world and were forced to conduct marginal economic activities to sustain their daily survival needs. ...Unlike European immigration, early Chinese immigration to the United States was subject to exploitation, harsh taxation, racial discrimination, and social injustice."[4]

2.2 Immigration Since 1960s

In 1965, the US government revised the discriminatory immigration law. The national-origin quotas that favored white immigrants from northwest Europe were abolished. Ever since then, the racial composition of new immigrants to the US was significantly changed. In 1990, nearly 44 percent of the annual arrivals were from Asia. Compared with the percentage of 0.3 for Asian Americans out of the total population, in 1990 the number grew up to 3.0.[5]

Unlike early immigrants, who were predominantly poor and uneducated sojourners, recent immigrants are "demographically and socioeconomically heterogeneous" and oriented toward permanent settlement. As shown in the 1980 US census, Chinese immigrants from Mainland China, Hong Kong and Taiwan had a higher percentage of high school graduates than the general US population (76 versus 67), and almost three times as many college graduates (44 versus 16). Immigrants from Mainland China, a disadvantaged developing area compared with Hong Kong and Taiwan, also had a higher education attainment level than the national average.[6]

These new immigrants bring diversity into Chinatowns. Chinese immigrants from Hong Kong and Taiwan, with strong human capital, usually had achieved middle-class status and well-established lives before immigration. They are also more involved in the economic activities in Chinatowns than earlier immigrants were. Not laborers any more, many of them are major investors in various businesses there. However, because of racial and language barriers, options for new Chinese immigrants are still limited. For this reason, immigrants from Hong Kong and Taiwan tend to depend on Chinatowns and base

[3] Kiang, *Chicago Chinatown* (Lincolnwood: The Institute of China Studies, 1992), 2.
[4] Zhou, *Chinatown* (Philadelphia: Temple University Press, 1992), 32.
[5] Ibid, 42.
[6] Ibid, 48.

their business and employment opportunities on the ethnic network and the community. New immigrants from Hong Kong since the late 1980s were more driven by the concern about political uncertainty after the scheduled return of Hong Kong to China in 1997. They settled in major Chinatowns everywhere in North America, with all their family wealth and savings, starting new enterprises to secure their properties in the new country.

The majority of earlier Mainland Chinese immigrants were Cantonese speakers from rural Canton area coming because of family or kinship connections. For many years, Cantonese was the only language in America's Chinatowns. Later, Chinese from Taiwan, Hong Kong became additional sources of first generation Chinese immigrants. In recent years, geographic origins of new immigrants have become more diverse. Though the Cantonese culture still dominates Chinatowns, the population of Mandarin speakers is growing rapidly. According to the place of emigration, recent Chinese immigrants can be roughly categorized into three groups: those from Mainland China, those from Hong Kong, and those from Taiwan.

The population from Mainland was mainly admitted under the relative-preference categories of US immigration policy. Because of the huge development gap between rural and urban China, rural immigrants under these categories are usually poor, with little education, and do not understand English. Their initial stages in US are facing enormous difficulties even in the ethnic labor market. Most of the time they are completely ineligible for competition in larger labor markets. On the other hand, urban immigrants have much better education and job skills. Though most of them still lack English-language ability, a good portion of them is ready for the job market or for further education.

Number of Mainland Chinese immigrants who came as the "skilled and professionals," and the "skilled labors," was still small because of the strict migration controls of both China and US. However, in recent years more and more students and visiting intellectuals have decided to stay in the US instead of turning back home after the completion of their education and/or research program. They are predominantly Mandarin-speaking professionals in technological and scientific fields. Most of them had degree of graduate and above, usually obtained in the US, and about one third of them held managerial and professional positions before immigration. Compared with those from Hong Kong and Taiwan, immigrants from Mainland China came from a material shortage and financially started their American Dream from almost nothing but their intelligence and hard work. Mainland Chinese and Chinese from other areas have been getting along well with each other, but Mainland Chinese immigrants are still identifying themselves as different cultural group from others.

Compared with those from Mainland, immigrants from Hong Kong have more advantages in surviving and succeeding in the US. They are from the urban area that is one of the most industrialized and fastest growing regions in Asia. Their lifestyles, education system and economic system are westernized and capitalist, and heavily influenced by the British. More over, English is one of the official languages in Hong Kong. Therefore fewer adjustments are needed for them to merge into American society.

Since immigrants from Hong Kong are much better off, they can settle with ease and enter the American job and investment market immediately after immigration.

Similarly, immigrants from Taiwan are also affluent, well educated and skilled. Many of them have received an education or training in the United States. As former Mainlanders coming from places other than Canton, they preserve a cultural tradition different from Cantonese, speaking Mandarin or the Fujian Dialect. Because of these differences, they have tended to stay away from the Cantonese-dominated old Chinatowns and establish their own enclaves. Researches show that nearly 68% of the recent Taiwanese immigrants were from executive, managerial, and professional positions. [7]

Meanwhile, according to the 1980 and 1990 census, the average levels of educational attainment and median household income for persons of Chinese descent were higher than the national average.

According to the demographic profile above, though the racial component of population in Chinatowns is of high homogeneity, there are still significant cultural and economic differences among groups of Chinese people from different origins. City planning and urban design strategies for Chinatowns should consider the discrepancy and build a community that unites all Chinese people, despite origins and classes.

2.3 Life in American Chinatowns: From Bachelor Society to Immigrant Enclave

Before 1943, Chinese immigrants were not eligible for US citizenship and therefore could not bring in their family members. Also, they were not allowed to intermarry with Whites.[8] This resulted in high level of gender disproportion in the Chinese population and isolated ethnic community in Chinatowns. Censuses showed that in the 1900s the gender ratio of men to women of Chinese population in US was 100:7.

After the WWII the US government began to allow Chinese women enter the country as wives of Chinese Americans who had served in the US military. The female Chinese population began to grow to the normal level. In 1950, 34.5% of the population was female. After the 1965 immigration law, the percentage increased to 42.6% in 1970 and 45% in 1990.

Because of the problems resulting from the early immigration policy, Chinatown was once a newcomer's temporary shelter, congested with bachelors and ethnic businesses, and semi-dissociated from the mainstream American society. However, along with the steady increase of women and children immigrants, it had become a family-based ethnic community with various social and economic activities to fulfill the needs of the community itself. More and more enterprises and institutions were established to cope with the increasing demands in goods and services, especially those cultural-related ones that could not be satisfied by the western industrialized merchandisers of the American

[7] Zhou, *Chinatown* (Philadelphia: Temple University Press, 1992), 75.
[8] Sung, *A Survey of Chinese-American Manpower and Employment* (1976), 4.

society. As time moves on, more and more labor-intensive small businesses appear and start to build up an economic base for the community.

People who choose to live in Chinatown are usually first-generation and recent Chinese immigrants. At the first arrival, new immigrants tend to stay in the metropolitan area, close to the ethnic community and job market. Not only the familiar circumstances, but also the social and economic support from the ethnic community attract and benefit these new arrivals. Family linkages, entry-level jobs, and the transitional environment there provide a shelter and training program for new immigrants in the adapting stage.

Since most of new immigrants came as family members and usually follow the footsteps of their predecessors, the pattern of the settlement continues and the ethnic segregation persists. Though immigrants after 1965 are more really to merge into the American mainstream, only a small Chinese population lives in middle class suburban neighborhoods other than Chinatowns.

Traditional industries in Chinatown started with hand laundries and food services. In the 1930s and 1940s, these were the labor-intensive, low-paying, and backbreaking jobs that no one else was interested in. After the disillusion of the gold dream, harsh reality forced the Chinese immigrants accept whatever the job was. However, even the undesirable laundry business began to decline very soon because of the inventions of home washers and dryers. The restaurant business, on the other hand, was able to survive and flourish. It started as quick and inexpensive food services for the Chinese laborers, and because of the special taste of Chinese Cuisine, later it became an industry based on consumers extended to the non-Chinese population.

Since the immigration reform of 1965, Chinese immigrants have poured into Chinatowns in United States and brought rapid growth to the communities. Chinatowns' economy was diversified, and gradually moved beyond the narrow ethnic territory. The garment industry replaced laundries and became the second most important business. Restaurants continued thriving, while services based on ethnic clients started booming as well. Various businesses spread out through the Chinatown, such as Chinese insurance and real estate agencies, import/export businesses, banking and accounting services, health care, beauty salons, grocery stores, jewelry and hobby stores, herbal medicine stores, news and media, etc.

From Chinatown's history we see that immigration policies, ethnic and cultural barriers determined Chinatown's socioeconomic situation.

For settled Chinese Americans, Chinatown means more than a place clustered with Chinese people, products and restaurants -- it is a culture identification and heritage. To the outsiders, it serves as the epitome of traditional Chinese culture.

III. A Town of Chinese Culture: Possible Solution

3.1 Evaluating Urban Environment in Current Chinatowns

3.1.1 Historic Images and Current Conditions

From the facts and analysis shown in the first two chapters, under the cover of transitional shelter and ethnic enclave, a Chinatown is a dynamic economic entity, with intensity of labor power and small businesses, and the industrious people. It is "not only a productive arena, but also a place of cultural significance and a community of symbolic and sentimental attachment."[9]

Unfortunately, the appearance of these Chinatowns is not able to deliver the positive image of a productive and growing community. A Chinatown is more like a typical American Downtown congested with Chinese immigrants, facing the problems of unpleasant physical environment, humdrum daily life, and lethargic local economy. It is, from a planner's view, an urban place that needs to be redeveloped and promoted as a healthy and thriving ethnic society that presents the pride of the unique culture and the good life quality.

Figure 3-1: Typical Street Scenes of Chinatowns: Streetscape of commercial strips is a congestion of buildings and signs lack of identity and with no amenities.
a. San Francisco Chinatown, Grant at Jackson.
Source: http://www.kenny-international.com/S.F./Pictures/Chinatown/View.html
b. Chicago Chinatown, Wentworth.
Source: http://stuweb.ee.mtu.edu/~lkok/chicago_chinatown2.htm
c. Toronto Chinatown. By author.

Branching out from the Mainstream Chinese culture and residing in North American society, Chinatowns in North America developed a mixture of lifestyles of pre-industrialized Chinese small towns and typical American inner cities.

[9] Lin, Reconstructing Chinatown (Minneapolis: University of Minnesota Press, 1998), i.

On one hand, the ethnic businesses maintained a small-scale and labor-intensive pattern, and the entire community seems to be a clannish closed system that is significantly separated from the mainstream American society. Chinese traditions are sustained in many daily life details here as they were in China one half century ago, though the harsh physical and social environment allows only a minimum possibility of propagating and enhancing these traditions into an admirable part of the diversity of multi-cultured America. Despite the undesirable congestion and messiness, people enjoy living there as in a small traditional business town in China, with pedestrian shopper flowing in and out stores and friends or relatives living on the next block. From a populous country, closer relationship, smaller private spaces, and stronger sense of membership and neighborhood are affecting the life pattern of Chinese people all the time.

On the other hand, Chinatowns have almost all kinds of common problems typical American inner cities do: dilapidating building structures, underprivileged and un-educated population, unemployment, high crime rate, underdeveloped infrastructure, and the lack of planning effort. Visitors are attracted by the exotic atmosphere, but never impressed by the entire place as a pleasant tourist resort, a comfortable shopping environment, or a desirable residential neighborhood. Despite the oriental gourmet and the hint of foreign building style, Chinatowns are just a special type of American downtowns that need to be redeveloped and revitalized stage-by-stage. General urban design strategies, such as building up identities and creating spaces to encourage pedestrian activities, and economic development strategies, such as creating employment opportunities and a balanced mix of businesses, can always applied to Chinatown as to general downtown development in America. Here in Chinatown, the major efforts should not only come from the state and the local government, because of the fairly large amount of ethnic and cultural issues related with the redevelopment and revitalization. Community based organizations should be more involved in various development decisions in Chinatowns, especially the Chamber of Commerce and the Chinese American Associations, however, most of the time there is the lack of cooperation between different organizations, and the decision making is usually limited in a short-term and piece-meal scope.

It is easy to understand the difficulties of dealing with problems accumulated through decades or even centuries, but there are always some shortcuts to initiate a new prospect. My idea of ameliorating the social-economic condition of Chinatowns is to start with strengthening and expanding the advantages of Chinatowns as a tourist attraction. Tourism is now one of the major industries of Chinatown, which brings business to Chinese restaurants and specialty shops. From this point of view, improvement of the architectural environment and establishment of more cultural-related attractions are critical strategies to start with. A neo-traditional community that visually presents the image of Chinese architectural styles, spatial characters and life styles will be a window of the traditional Chinese culture, and therefore will successfully draw the attention of general American tourists. The discussion below is to develop a set of urban design

guidelines for establishing a neo-traditional Chinatown, and converting a blighted neighborhood to a regional attraction.

3.1.2 Assets and Concerns in the Urban Environment of Chinatowns

People live in Chinatown most likely because of two reasons: First, it is the place to make their stay profitable, comfortable and legal, or it is the transitional shelter protecting and training newcomers. Second, it is a place with symbolic and sentimental significance that links them to a sense of culturally belonging.

While the Chinatown dwellers yearn for their mother culture, they seem to be less motivated in revitalizing actions. More or less, people in Chinatown care more about the safety and sanitary, employment and Medicare, and chances to merge into middle class American society. The result is that, to the general public, Chinese traditions in Chinatown end at Chinese cuisine, several colorful roofs and gateways, festival parades, theory or myth of *Fengshui*, handicrafts, gambling games, and Clans. There is a noteworthy lack of museums and galleries which introducing history and culture of Great China, its glorious ancient civilization and promising present. Even the recent development in Chinatowns still hasn't paid enough attention in disseminating the great achievement of China in literature and painting, music and calligraphy, philosophy and thoughts, religions, urban development and architecture. More apparently, it is even harder to try to get a hint of Contemporary China from Chinatowns in America.

To prepare urban design guidelines for a neo-traditional Chinatown, we start with the strength and weakness analysis for the current urban environment of a typical Chinatown.

Assets (Strengths):

- A regional business and civic center of the American Chinese population
- Unique ethnic merchandise and service supplier
- Presence of an ethnic merchandise and service market
- Exotic theme as regional tourist attraction
- Proximity to downtown and major employment centers
- Proximity to other multi-cultural communities
- Existence of high-density resident population
- Easy access from major freeways and local streets (location)
- Operation of the public transportation system
- Cultural and linguistic ties to China.

Concerns (Weaknesses):

- Lack of visual identity as a community of the Chinese population
- Lack of comfortable, pleasing pedestrian environment, through the absence of open spaces, scale of buildings, layout of the streets and the vegetation.
- Lack of inviting activities throughout evening hours and off-peak seasons
- High congestion of the entire neighborhood

- Lack of middle class American Chinese residents
- Large portion of Non-English speakers and unemployed population
- Lack of influx of tourists and visitors in conjunction with major sports, art, entertainment and conference activities
- Lack of economic balance, with a need of major businesses and industrial enterprises to complement the job centers and residential population
- An erosion of the streetscape character, including deteriorating paving, narrow sidewalks, and loss of street trees
- Existing buildings which are out of character or scale by virtue of inappropriate design, bulk size or setbacks
- Inconvenience of parking places Chinatown at a competitive disadvantage with American suburban locations
- Homogeneity of business and merchandise disadvantages Chinatown in competition of attracting general shoppers.
- Isolation from the mainstream of American society, historically and culturally
- Negative public imagination caused by the historic inscription – undocumented immigrants, sweatshops, poverty, poor sanitation, high congestion, dilapidating physical appearance, and organized criminal syndicates.

3.2 Neo-Traditional Urban Design Concepts that Promote Tradition and Economy

Facing these realities, I am seeking the solutions for building a Chinatown that has both traditional Chinese identity and economic propellant. Lucky I see the possibility of construct such a Chinese community in North America. First of all, Chinatowns, the ethnic enclaves in different culture, have strong desire of identifying themselves as part of the Chinese culture. Secondarily, the urban lifestyles in North America allow lower density development, which makes the reappearance of traditional Chinese neighborhood feasible. Thirdly, the existence of ethnic market and the attraction of exotic architectural style provide the motive power for a dynamic local economy. More over, the current lifestyles in Chinatowns encourage mixed-use development and pedestrian dominant circulation patterns, which enhance the places' potential of being converted to a high quality urban environment.

Urban design strategies for a North American Chinatown should not only help establish the physical identification of a Chinese community, but also sustain an ethic economic entity as thriving as the communities in contemporary China. As neo-traditional development receives widespread welcome in North America, a neo-traditional Chinatown will be a viable option to achieve the goal.

The desired habitat environment for Chinese Americans should satisfy Chinese American lifestyle, enhance quality of life, present tradition and pride, and facilitate local economic development. From this point of view, the vision, focus and design strategies for a neo-traditional Chinatown should be as follows:

The vision of a neo-traditional Chinatown:

- A community image that establishes pride and identity as a regional center of the American Chinese population (Unique sense of place, accomplished visually, socially, culturally, economically, locationally, and educationally);
- A regional tourist attraction that generates new establishments of businesses and employment opportunities, and increases community revenue;
- An overall vehicular and pedestrian circulation system that increases the accessibility to the area from major traffic arteries, job centers and other residential neighborhoods;
- A increased mixed-use development that retains residents, tourists, jobs, businesses, entertainment and services;
- An interconnected commercial corridor network that maximizes the continuity of the urban business texture;
- A Chinese-style and human-scale streetscape and spatial pattern that invites people, businesses and activities (created architecturally, environmentally, and physically);
- A parking system that provides enough capacity and convenience to users;
- A network of public open spaces "urban living rooms" that integrates pedestrian circulation with the activities and attractiveness of the location.

Efforts needed for the improvement of:

- A sense of quality;
- A feeling of security;
- A variety of access options.

The design strategies include:

- Identifying the entire community as a regional ethnic and cultural center that carries and presents the pride of Chinese heritage;
- Expanding lifestyle opportunities by offering a wide range of residences at urban densities together with supporting commercial services;
- Continuing to develop a compact, high density core that acts as the focal point for the Chinatown community and the region;
- Designing the physical setting for pedestrians and non-pedestrians, residents and tourists, considering their needs for comfort, convenience and safety;
- Encouraging the development of cultural and entertainment facilities and cultivating new educational opportunities;
- Highlighting the distinctive design and development features that define the Central Culture and Business District;
- Developing a strong transit system geared towards the needs of potential and current users;
- Expanding and managing the parking system, considering street capacity and short- and long-term parking user needs;

- Creating a network of public spaces that is integrated with an adequate system of pedestrian ways, which should stimulate and support the highest quality of development.

3.3 Design Guidelines for a Neo-Traditional Chinatown

3.3.1 Design with Chinese Architectural Styles and Spatial Characteristics

To create strong, unique identity for a Chinatown, a neo-traditional urban design is the most effective approach. Sublime city walls and resplendent palaces, images of dragons and phoenixes, inscribed celebration arches, tiled roof peaks, deep and curved eaves, walled poetic gardens and rhythmical houses, stone-paved narrow but intimate lanes and alleys, semi-private courtyards with tea tables seating under trees, children playing around winding corridors, bustling folk markets on the river front, bridges and boating docks along the canals, ...these are all the traditional images of Chinese cities missed and valued by generations of Chinese people all over the world. Nothing can do better as a material carrier of Chinese culture.

Here I propose a neo-traditional Chinatown, a living model of Chinese traditional lifestyles, to aim at my goal of realizing the vision of a wealthy and proud Chinatown. It is will be a Chinatown that applies architectural styles and spatial characters that reflex Chinese spirits and serve contemporary urban life in North American, not merely imitating ancient Chinese cities. As a typical Chinese community and a tourist attraction, the architectural styles and spatial characters of this Chinatown should be planned and designed to compliment the functional purpose and cultural intension of various places.

When applying classic Chinese architectural styles, we mean to utilize the traditional forms, structures, spaces, material, and colors as architectural vocabularies to construct individual and groups of buildings. As introduced in the next chapter, these are basic elements defining the term of "Chinese style."

Besides the appearance of buildings, human experiences in an urban environment are mainly composed by the outdoor spaces. These urban spaces, which are designated to certain uses, are enclosed by interfaces of various architectural and non-architectural elements. Thus, the grammatical rules of constructing this Chinatown are more critical for successfulness of transmitting the spirit of traditional Chinese urban culture. From the findings in Chapter IV, these rules are shown in forms of spatial characters in urban spaces, such as grid, enclosure, axis, symmetry, sequence, and hierarchy. Meanwhile, looking through the great unity and diversity of classic Chinese architecture, there is always a noticeable balance between order and variety (See Appendix I: Roof Types of Classic Chinese Buildings; Appendix II: Classic Chinese Building Complexes; and Appendix 3: Classic Chinese Courtyards).

Figure 3-2: Glory of Classic Chinese Architecture: The Temple of Heaven, Beijing
Source: *Scenic Spots and Historic Sites of China* (Beijing: China Travel & Tourism Press).

All elements and the rules to put them together serve the same purpose: to create places for people. Public places frame the general spatial structure of the city – a network of entrances, corridors, plazas, open green spaces, canals, docks, and landmarks. Semi-public places build up the transitional peripheral and linkage between the zones of public activities and residential neighborhoods. Shared by tourists, occasional visitors and residents, tributary canals, lanes and alleys, and neighborhood open spaces are therefore semi-public in nature. Residential courtyards should be considered private in urban spaces, since they are serving as an exclusive interior open spaces shared by surrounding households only.

Symbolic elements, such as gateways, fence walls, signs, panels and banners, watchtowers, bell & drum towers, decorative columns, celebration arches, altars, monuments, and pavilions etc, highlight the uniqueness of the community as a Chinese heritage. The history and legends behind these symbolic features remind American Chinese and all the visitors of the presence of Chinese culture as the glory and the essence of human civilization. They are media just as important as documentary records in carrying on the tradition and culture, and revealing its extensiveness and profundity.

To develop a pedestrian friendly and human scaled urban space, decorative details need to be well designed to compliment both the cultural intention and user comfort. Signs, sculptures, frescos, reliefs, and graphics can be used either as part of the architecture or independently to create additional attractiveness. Landscaping the streets and plazas is also indispensable for a high quality development. Street gardens, water

features, hills and woods, pavilions, these elements beautify and soften the hardscape and bring variety to the city's geometric spatial structure. More over, streetlights and street furniture should also be in forms of Chinese accent to fit the view.

3.3.2 Provide for Diverse and Mixed-Use Development

To maximize the economic opportunity and accommodate diverse lifestyles, a Chinatown needs to fulfill all kinds of social and economic activities involved in the daily life of Chinese Americans. At the same time, as a tourist attraction, it should provide maximized comfort and convenience for volumes of visitors as well. Land use planning of a Chinatown should aiming at expanding lifestyle opportunities by offering a wide range of residences at urban densities together with supporting commercial services, and continuing to develop a compact, high-density core that acts as the focal point for the Chinatown community and the region.

Residential development should provide a full range of housing options that retain and attract various classes of residents. Single-family homes, townhouses, apartments for all income levels help build up the population structure for the self-sustained community. Medium- or higher-income families, moderate- to low-income families, and the non-family households coexist in the same community, with the residential styles shaped to fit their needs and income levels respectively. An average of 3-storey development is strongly suggested to keep the proper density meeting the housing demand and support commercial and institutional facilities.

Consistent with the concept of retrieving the tradition, for various categories of residential land uses, architectural styles and spatial patterns should follow the neo-traditional courtyard house template, which was discussed in Professor Wu's book about the Ju'er Hotong redevelopment project in Beijing.[10] Aware of the attractiveness of traditional Chinese residential neighborhoods to the tourists, residential and commercial mixed-use development strategies should be applied along the tourist shopping and visiting routes, and lanes (Hutong) and alleys (Linong) in residential neighborhoods should keep the traditional characteristics and be open for tourists to explore.

Commercial land use development should provide a mix of businesses with an intensity and diversity attracting regional consumers. Commercial facilities here are not only serving local residents, but more for the regional tourist market. This is the key point to make the mode of the community economy basic and sustainable in long term.

The following is the suggested program list for different type of land uses in the central culture and business district of a Chinatown:

Commercial Uses:

Retail:

Chinese building materials and garden supplies

[10] Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999).

General merchandise stores
Food Stores
Chinese grocery, Meat and Fish Market, retail bakeries, other food stores
Apparel and accessory stores
Chinese fashion stores, etc
Furniture and home furnishings
Eating and drinking places
Chinese restaurant, cafeterias, etc
Drug and proprietary stores
Miscellaneous retail stores
Chinese specialty sporting goods
Chinese Book stores
Chinese Jewelry and antiques stores
Chinese music and video store
Chinese tobacco stores
Chinese liquor stores
Chinese handcraft and curio stores
Chinese hobby stores
Chinese
Chinese florists
Chinese fabric stores
Chinese herbalists
Gasoline service station/ Chinese convenient food
Electronic supplies store

Personal services:
Chinese beauty salon
Dressmakers
Business service center
Photography and Film developing
Travel Agencies
Martial Arts
Home Decoration
Ceremony service

Professionals:
Accountants
Attorneys
Art Galleries
Acupuncture
Banks
Financial Institutions
Pharmacists
Animal Hospitals
Architects'

Constructors
Real Estate Developers

Institutional Uses:

Governmental:
The City Hall
Chamber of Commerce

Culture Center:
Museum and Library
Chinese newspaper, radio and TV
Chinese Youth Club
Chinese American Association
Community center
Conventional center

Educational:
Elementary schools
High School
Community college
Chinese School
Training center

Religious:
Churches
Temples
Religious research centers

Social Services:
Medicare
Day care
Senior care

Recreational Uses:

Parks and Gardens
Clubs, sports facility, Chinese games, Karaoke
Chinese festival celebration,
Chinese martial arts and sports
Hotel and Tourist center
Theatre
Teahouse

Industrial Uses:

Chinese food processing
Garment

Home decoration
Handicrafts
Furniture
Print and publishing
Other light manufactures

3.3.3 Accommodate and Encourage Cultural-Related Activities

A Culture Center is a must for every Chinatown. Symbolically it is the central core of a Chinatown, with spatial and functional significance. Major governmental, institutional and commercial organizations cluster around a central grand activity plaza. This is the focal point of the entire Chinatown; the destination of a tourist's trip, the stage and stalls of a grand ceremony, the exhibition place of Chinese architecture and art, and the open market of featured Chinese specialties.

The built environment with quality is a splendid grand theater; it now needs a wonderful show to play there. It is very important that festivals and thematic events happen in a Chinatown periodically, creating some excitement and inviting more visitors. Strategies to fulfill this objective phase by phase are highlighting the distinctive design and development features that define the Central Culture and Business District, encouraging the development of cultural and entertainment facilities, and cultivating new educational opportunities.

In Chinese traditions there are various festival celebrations year round: Western New Year, Chinese New Year (Spring Festival), Lantern Festival (YuanXiao Festival), Tomb Sweeping Festival (QingMing Festival), Dragon Boat Festival (DuanWu Festival), Chinese Valentine's Day (QiXi), Mid-Autumn Festival, Senior's Festival (Double Nine Festival), etc. Festival celebration is the best season for business promotions, cultural presentations, street fairs, and public activities. Street activities can include mass gatherings, parades, ceremonies, performances, competitions, exhibitions, fairs, sports, and gaming. All these should be based on tradition of the specific festival and the climate of the season.

Besides traditional festivals, other cultural-based or business-based events will also keep the center and the entire community vigorous and flourishing. Programs such as A Chinese Art Festival, International Art Festival, Chinese Food Festival, Grand Chinese Cuisine Competition, Peony or Narcissus Festival, Farmer's Market, Chinese Traditional Costume Show, Chinese Antique Fair, Buddhism and Taoism Research Conference etc will become additional tourist attractions.

3.3.4 Develop an Efficient and Pleasant Circulation System

The ultimate goal of the community-wise circulation system design is to maximize the convenience and comfort for both vehicles and pedestrians, businesses and residents, dwellers and visitors, so as to facilitate the local social and economic development. Design strategies include:

A. Develop a strong transit system adapted to the needs of the Chinatown as an ethnic community, an economic entity and a tourist resort.

First of all, the circulation system should provide the maximum access reaching out regional freeway and highway network, and the adjacent local road and street systems. The accessibility from outside to the Chinatown greatly affects the successfulness of the community as a tourist resort.

Secondary, separated vehicular and pedestrian circulation systems are critical for development of urban commercial environment. According to existing street patterns and the traffic flow, several different methods can be applied for the separation. For two-dimensional approaches, vehicular routes and pedestrian routes are two paralleled systems that flow independently and should only meet each other on the parking spaces of the pedestrian destinations. Because in most situations it is very costly to make a complete separation, overlaps and crosses happen along the streets and at the road intersections. In these cases, according to the hierarchy of the road systems and the primary uses of the adjacent land, traffic lights, speed limits, and different paving textures help to define the priority of vehicular or pedestrian movements.

Vehicular and pedestrian circulation systems can also be separated three-dimensionally. Bridges and tunnels are used to form the overpass of one circulation system and another. Normally in a commercial environment the pedestrian comfort is put primary, therefore the overpass systems should keep pedestrians movement in the same level as much as possible. Climate controlled skywalks are very popular in high-density downtown business district development, where they make the second floor of commercial buildings all connected block after block.

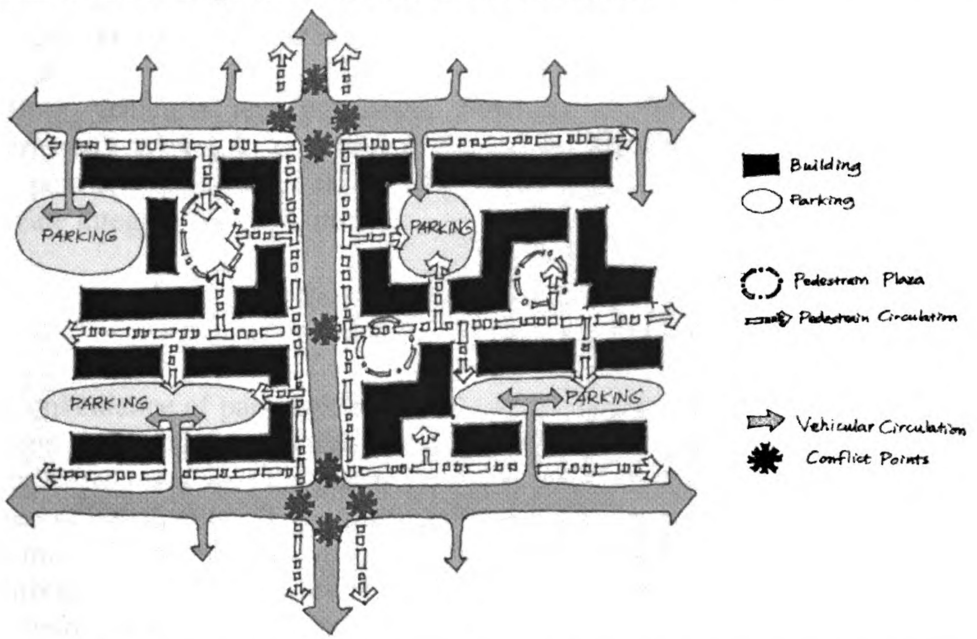


Figure 3-3: Separated circulation systems for vehicles and pedestrians: paralleled systems

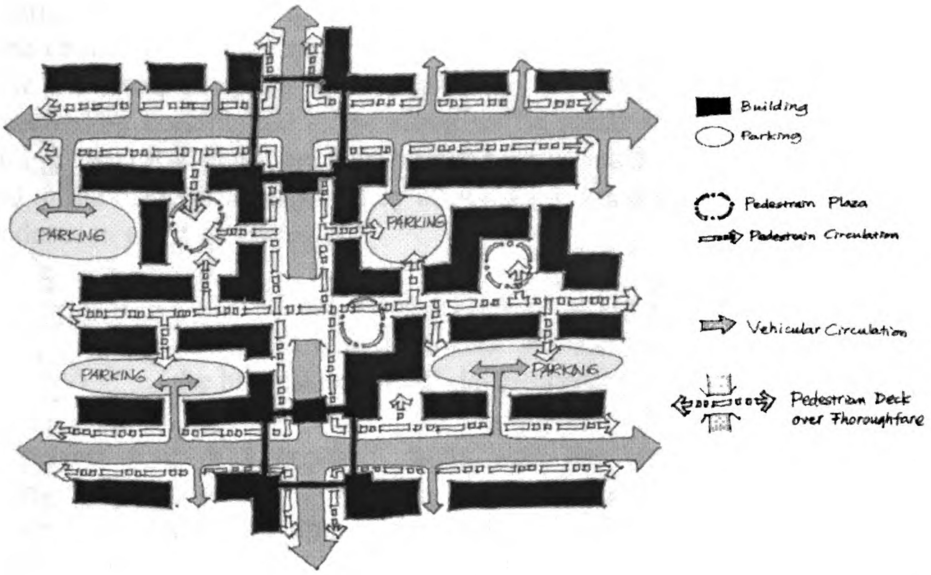


Figure 3-4: Separated circulation systems for vehicles and pedestrians: three-dimensional separation

In Chinatown, all these approaches can be applied based on the spatial character and the functional use of different places. The architectural styles of bridges and skywalks should also fit into the scene of a neo-traditional Chinese community.

Major commercial corridors and the central core area should be highly pedestrian friendly, if it cannot be completely automobile-free. Using a pedestrian-automobile separated circulation system doesn't necessary harm the convenience for people coming by car – as long as the parking spaces are well planned to keep parking and destinations close enough for a pleasant walk.

Both vehicular and pedestrian circulations should provide a sequential visual experience that exhibits the entire city as an art of Chinese architectural and urban design. Start points, guided routes and the highlights of the sequence ought to be clearly defined to create integrity for each tour.

B. Expand and manage the parking system, considering street capacity and short- and long-term parking user needs

Convenience of parking directly affects the popularity of a commercial district. Type, location and amount of parking spaces determine the possibility for a passing-through driver to stop and visit the place. They also strongly affect the tourist experience and the degree of satisfaction. The challenge here is to develop a parking system that provides maximized convenience without breaking the continuity of the street interfaces or disturbing the pedestrian flow. A mix of parallel parking, bay parking and deck parking will help control the distribution of traffic volume and protect the commercial and cultural atmosphere of the entire place.

Centralized deck parking should locate near major entrances of the Chinatown, and near the central core. The parking structure can also apply Chinese architectural style to preserve the visual integrity. While ensuring a free flow of pedestrians in the central core area, secondary commercial strips along traffic roads should provide parallel parking to encourage drive-by shoppers and visitors. Bay parking areas should be limited and located in the backyards enclosed by buildings to maintain the high quality of streetscape and pedestrian environment.

C. Creating an adequate system of pedestrian walkways that is integrated with a network of public spaces, stimulating and supporting the highest quality of development

A perfect tour of Chinatown starts with the entry gateway of the community, following the planned route showing all the excitement of the town, and then backs to the start point again. A tour chaining all the highlighted points is like a pearl necklace; along the route visitors won't miss any of the wonderful beads. Consequently, public spaces, including commercial corridors, culture centers, parks, gardens, event plazas and other landmarks, need weave together with pedestrian walkways to consummate a high quality image of this tourist town. These public spaces should be grouped spatially according to purposes, in order to create a rhythmic sequence for the tour.

IV. Chinese Architectural Style and Urban Spaces: The Heritage

Understanding the characteristics of Chinese architecture and urban spaces, their evolution and impacts on urban lives are the prerequisites of developing urban design strategies for a neo-traditional Chinatown. A Chinese style urban environment will provide not only the visual identity for the Chinatown, but also a physical and communicable experience for people. The neo-traditional design strategies aim at reconstructing the urban life in Chinatowns through recovery of the tradition and enhancement of the locality. Here, the neo-traditionalism concept is more of a lifestyle than of an architectural style.

4.1 Classic Chinese Architectural Style And Spatial Patterns

Traditional or classic Chinese architectural style refers to the structural, spatial and decorative styles applied in Chinese mainstream culture before 1911. The spatial patterns of traditional Chinese cities, neighborhood and individual buildings are also based on those developed in the feudal age of China. They are all, more or less, a reflection of the centralized, hierarchical social structure.

4.1.1 City and street patterns

Chinese cities maintained the consistency of their structural characteristics since their very origin till the end of Feudalism in 1911. Cities and towns formed in central populous area where closely interrelated governmental, religious and commercial activities were a core of life in these evolving urban areas.

Special characteristics of Chinese cities stem from the strong role given to city planning. "Chinese architecture and city planning were so interrelated that the Chinese never designed or built structures independently as 'objects' but rather considered all part of a continuous environment."[11]

Traditional Chinese capital cities were created in a rigid grid and axis system, coordinated with existing or man-made natural features. Major roads were laid out on longitudinal and latitudinal lines, while the center of the city was usually the governmental building cluster, literally a city within the city. Defensive city walls, with solidly constructed gates and watchtowers, enclosed the entire city. The rules of etiquette decided the placement of different land uses and the city was planned based on its regional function and social hierarchy of the political, military, and merchant classes of

[11] Treister, *Chinese Architecture, Urban Planning, and Landscape design* (Gainesville: University of Florida, 1987), p38.

its residents. The entire city then became a series of courtyards and alleys following the grids.

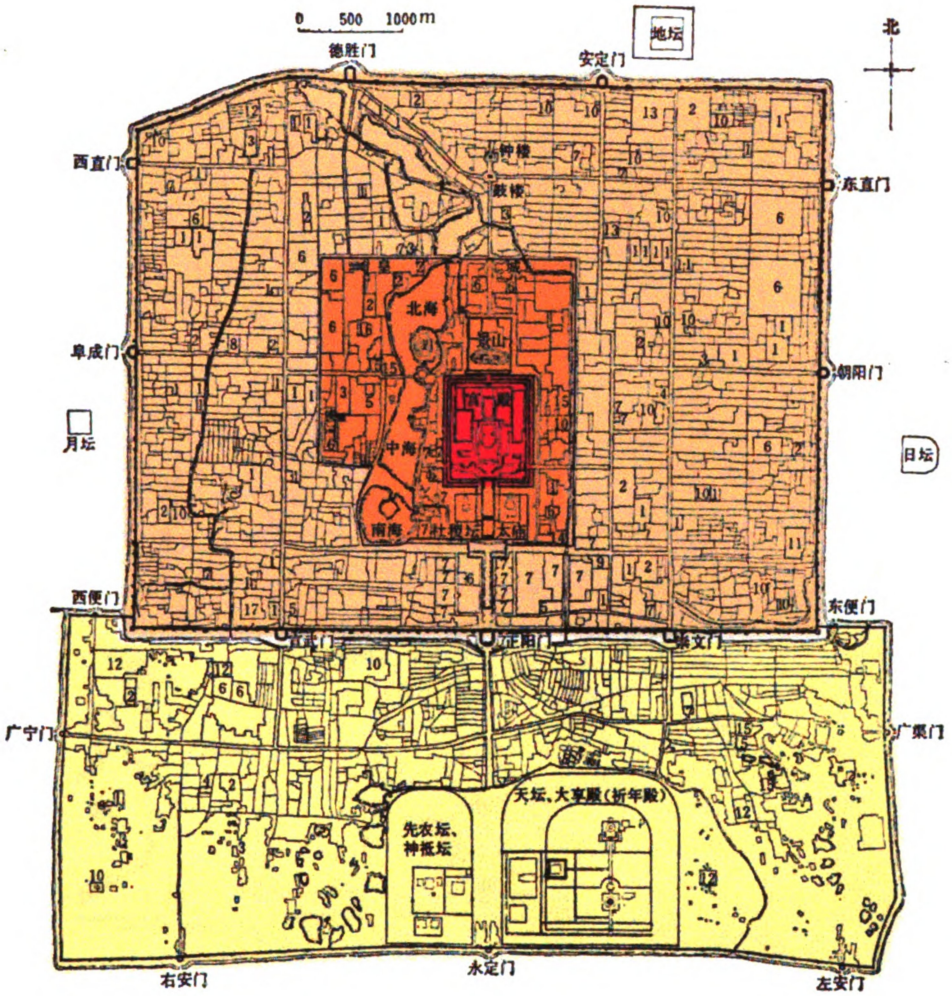


Figure 4-1: The Spatial Structure of Beijing, Ming and Qing Dynasty.
Source: The Committee, *History of Chinese Architecture* (Beijing, Press of Chinese Construction Industry, 1986), p 51.

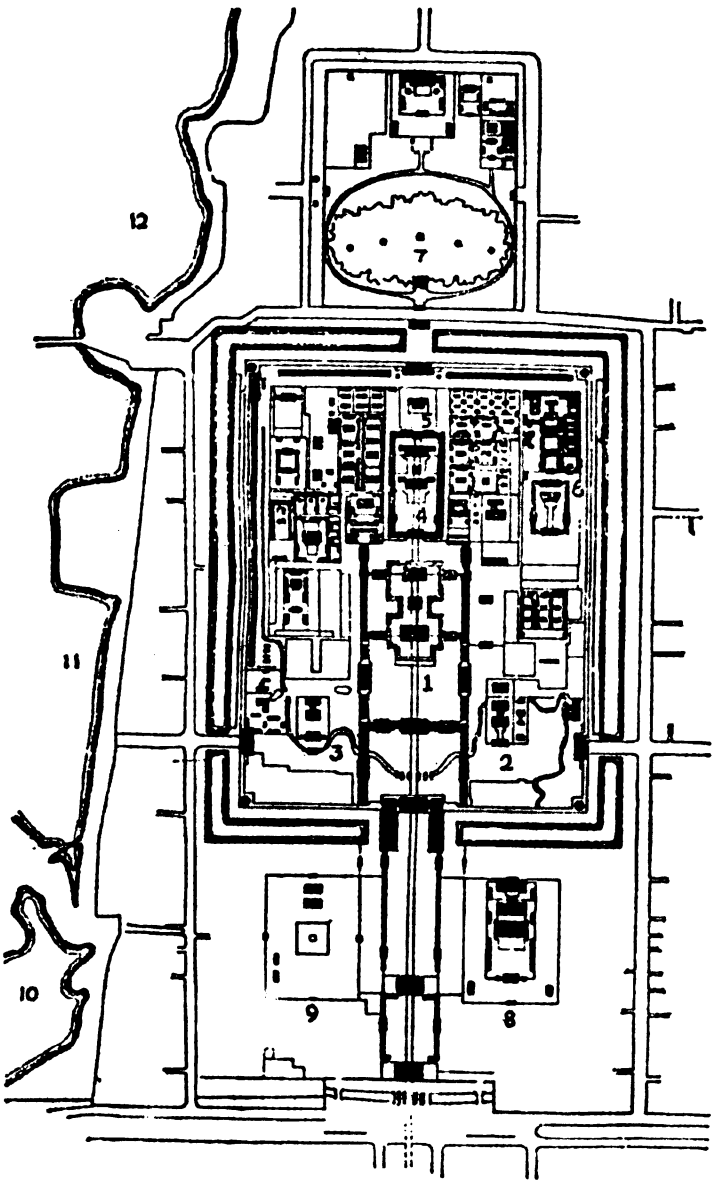


图 3-4 北京明、清故宫总平面

1—太和殿；2—文华殿；3—武英殿；4—乾清宫；5—钦安殿；6—皇极殿；养心殿、乾隆花园；7—景山；8—太庙；9—社稷坛；10、11、12—南海、中海、北海

Master Plan of the Forbidden City, Ming & Qing Dynasty

1- the Hall of Supreme Harmony; 2- the Hall of Literary Grace; 3- the Hall of Martial Spirit;
4- the Hall of Heavenly Purity; 5- the Hall of Royal Peace; 6- the Hall of Regal Supremacy;
7- the Hill of Scenery; 8- the Temple of Royal Ancestor; 9- the Altar of the State;
10- the Lake of South Sea; 11- the Lake of Mid Sea; 12- the Lake of North Sea

Figure 4-2: Master Plan of the Forbidden City, Ming and Qing Dynasty
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 61.

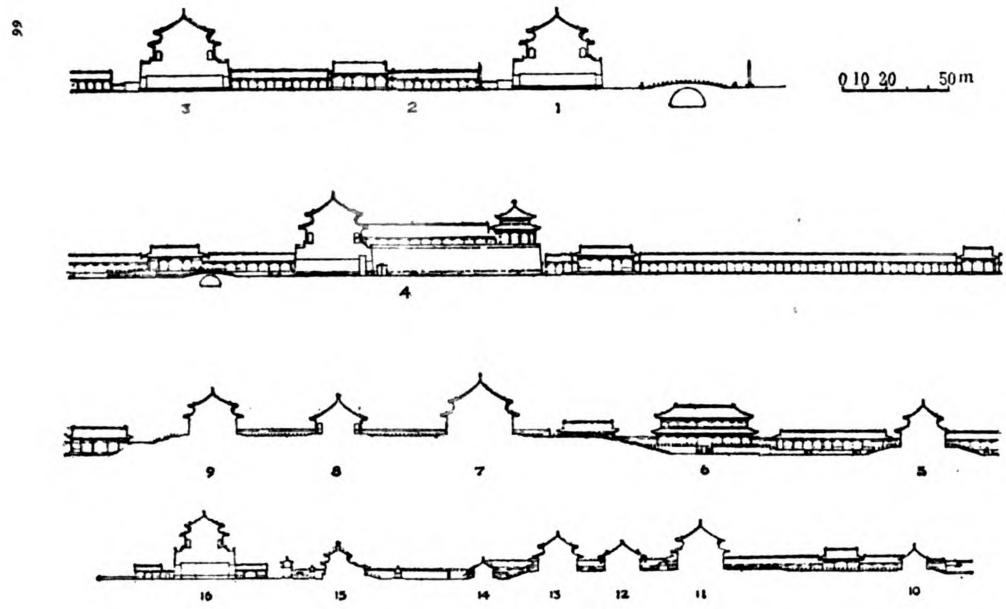


图 3-3 故宫纵剖面

1—天安门；2—东庑；3—端门；4—午门；5—太和门；6—体仁阁；7—太和殿；8—中和殿；9—保和殿；
10—乾清门；11—乾清宫；12—交泰殿；13—坤宁宫；14—坤宁门；15—钦安殿；16—神武门

Figure 4-3: Section of the Forbidden City
Processional axis: from the TianAn (Heavenly Peace) Gate on the south (point 1) to the ShenWu (Divine Might) Gate on the north (point 16).
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 66.

Figure 4-4: The Central Space: the Hall of Supreme Harmony, Forbidden City, Beijing.
Source: http://www.bjta.gov.com

Figure 4-5: Aerial view of the Forbidden City from the north: the pivot
Source: Han, *The Imperial Palace* (Beijing: The Foreign Languages Press, 1995)

Figure 4-6: City Wall of the Imperial City and the Watchtower
Source: Han, *The Imperial Palace* (Beijing: The Foreign Languages Press, 1995)

Cities before the Tang Dynasty applied a ward (*Li-Fang*) system in order to close and guard city units at night. In residential neighborhoods, buildings were grouped to form courtyards, and enclosed by short walls. The market or commercial neighborhood also applied similar patterns. The system, developed to ensure easy military control, also limited the freedom of activities and the growth of the city. However, this spatial pattern was carried on for hundreds of years and is the unique fabric of traditional Chinese urban spaces.

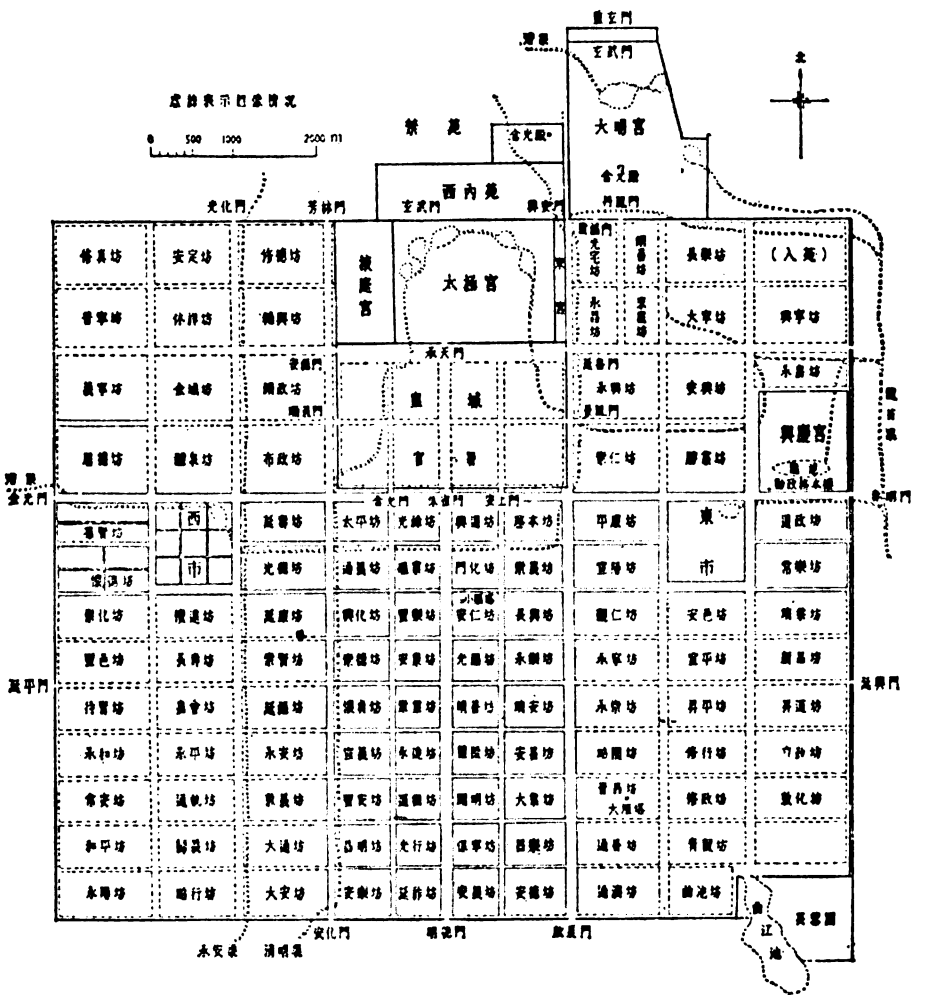


Figure 4-7: Plan of the Capital of Tang Dynasty, the ChangAn City
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 44.

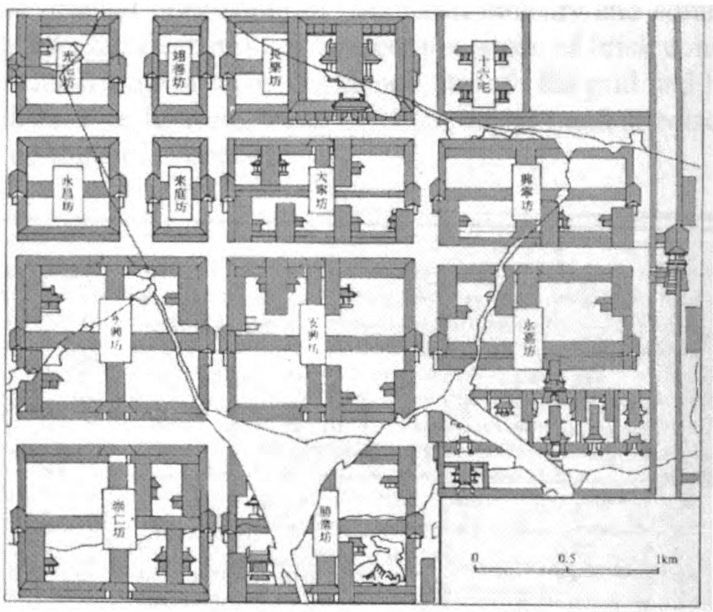


Figure 4-8: Residential wards of the Li-Fang System, Chang'An, Tang Dynasty.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 70.

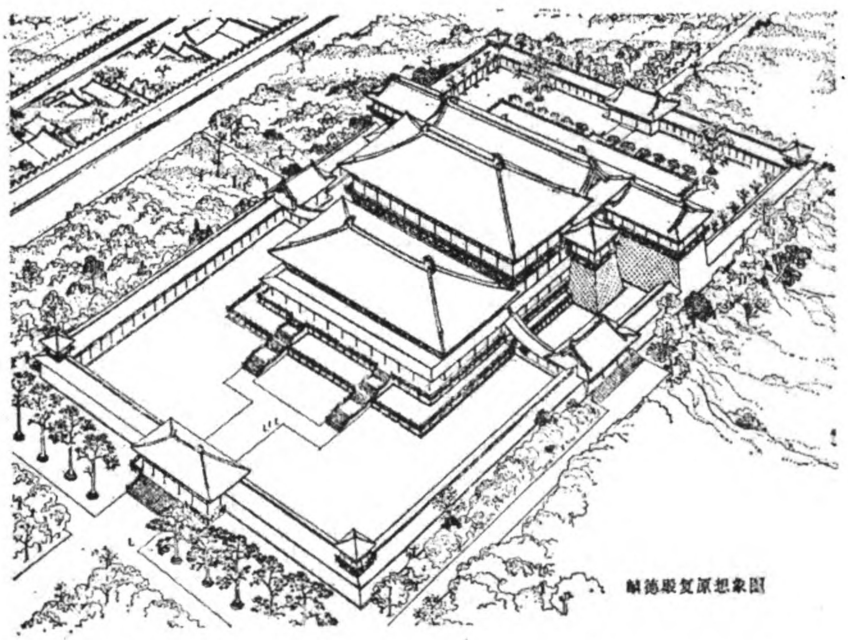


Figure 4-9: The LinDe Hall in DaMing Palace, ChangAn City, Tang Dynasty.
ChangAn City in Tang Dynasty was the largest and the most prosperous city in the world. The DaMing Palace was about three times as large as the Forbidden City built in Ming (1368 ~ 1644) and Qing (1644 ~ 1911) Dynasty, and the LinDe Hall in the DaMing Palace was about three times of area of the Hall of Supreme Harmony in the Forbidden City.
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 60.

Because of the gradual flourishing of handicraft industry and commerce, cities since the Song Dynasty became freer in form to meet the needs of brisk commercial activities. *Li-Fang* and the curfew system were abandoned, though the grid and hierarchy structure still dominated cities. Fire fighting, transportation, bridges and streetscapes were further developed based on this new freedom.

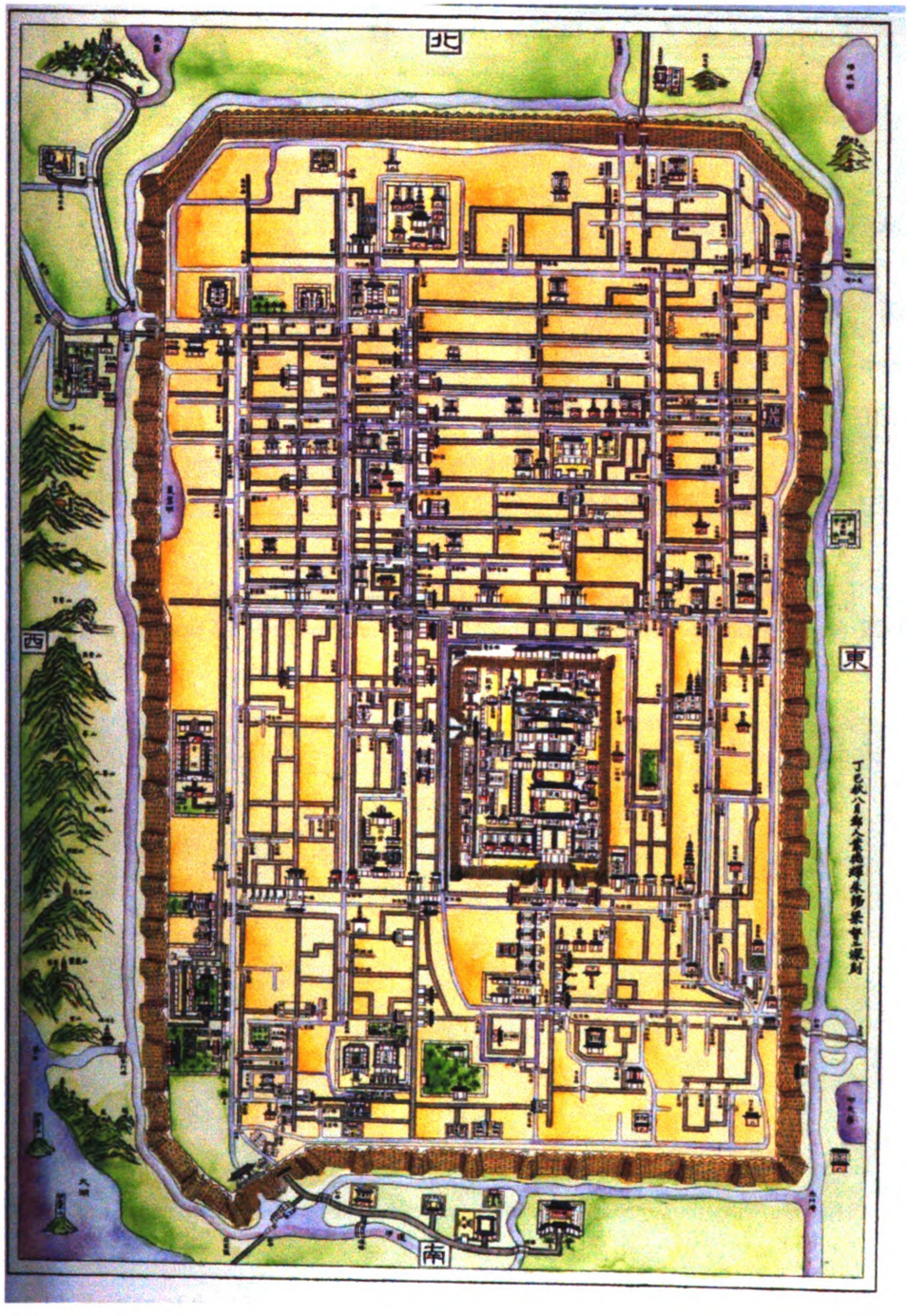


Figure 4-10: Pingjiang (SuZhou) Map, Song Dynasty.
Source: Prentice, *Suzhou – Shaping an Ancient City for the New China: Ann EDAW/Pei Workshop* (Washington DC: Spacemaker Press, 1998), p 9.

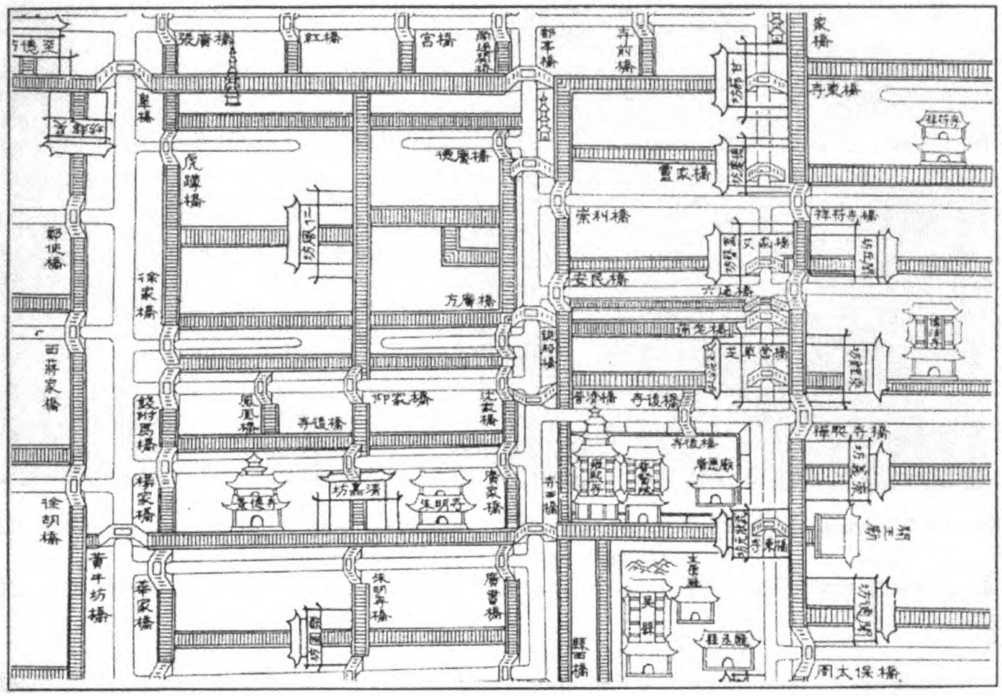


Figure 4-11: Street Pattern of Suzhou in Song Dynasty (960 – 1279).
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 71.

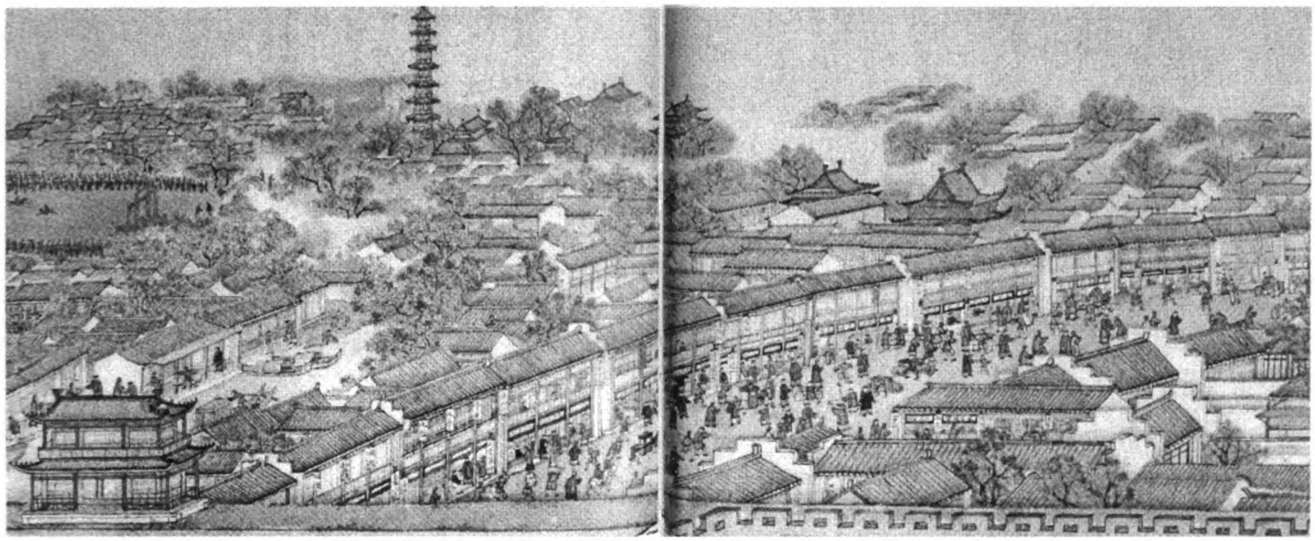


Figure 4-12: Section of the 1795 scroll *ShengShi ZiSheng Tu* (Scroll of the Flouring Times) depicting ChangMen Street in City of SuZhou.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 154-155.

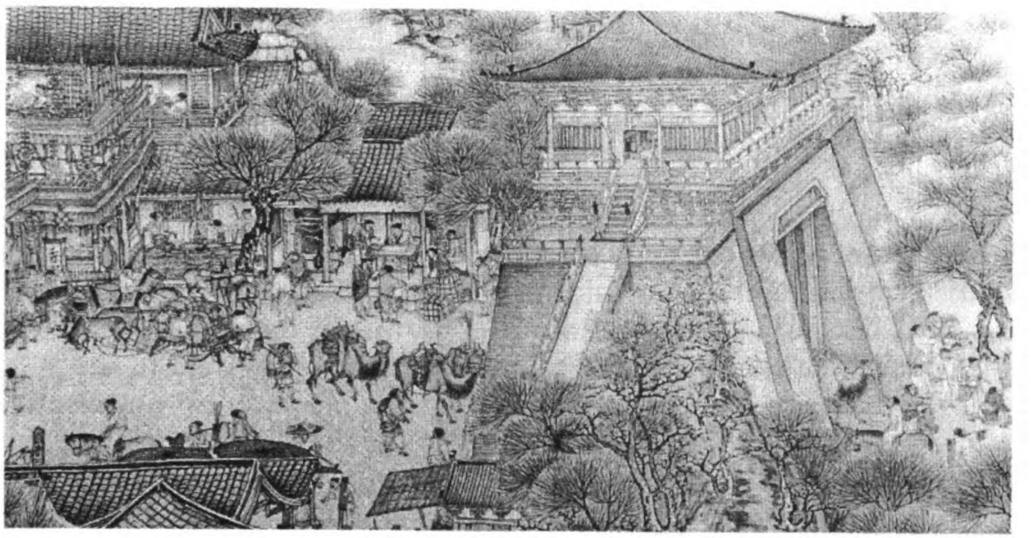


Figure 4-13: Section of the scroll *Qingming Shanghe Tu* depicting street at one of the gates of the capital city of the Northen Song Dynasty, BianLiang.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 72.

Figure 4-14: Section of the scroll *Qingming Shanghe Tu* depicting life at a crossroad in the city of BianLiang.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 73.

4.1.2 Architectural styles

Traditional Chinese architecture is a result of five thousand years of technical and artistic practice in wood and masonry structures. Because of the restricted social hierarchy system and the differences of wealthy in ancient China, a set of different

standards was strictly applied in designing of buildings serving different purposes and different class of people.

The most complete standard, *The Rule of Construction* (Ying2 Zao4 Fa3 Shi4), was developed as governmental regulation in the Song dynasty (960AD ~ 1279 AD). The Rule was later further defined and modified in several major dynasties, and was applied in almost all the buildings in China until the end of the feudalism kingdom of China in 1910s. Though *the Rule of Construction* was codified in Song dynasty, many of building structures in Tang Dynasty (608AD ~ 907AD) had also applied the standards. According to the Rule, buildings for royal palaces and religious purposes were to use the best quality materials, richest colors and decorations, largest spaces, and the highest level of terraces and roof structure.

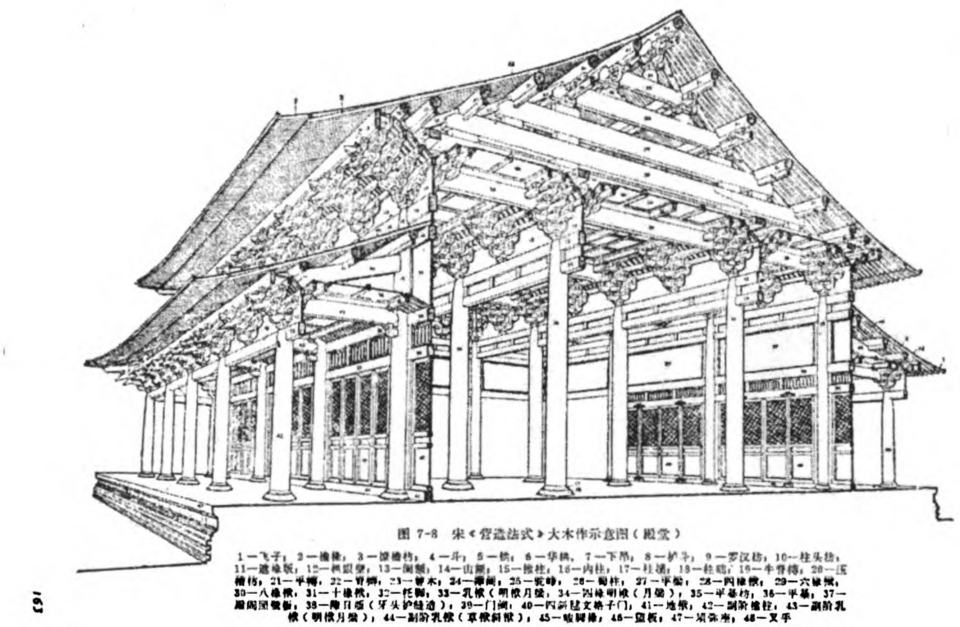
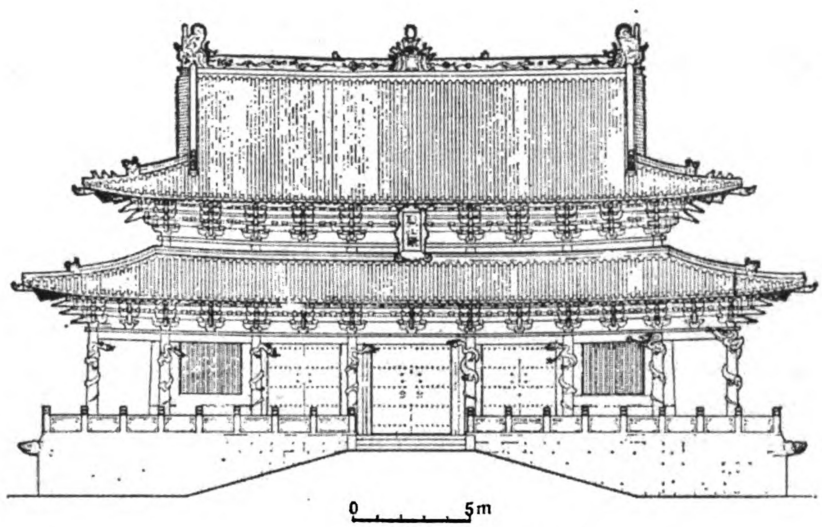


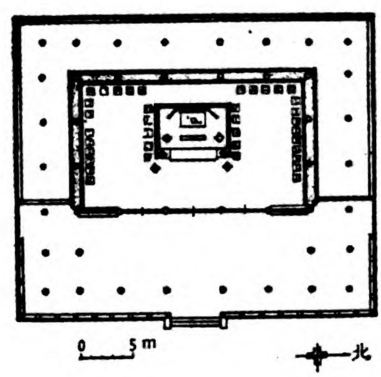
Figure 4-15: Wood Structure, *the Rule of Construction*, Song Dynasty
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 163.

Traditional Chinese architecture was based on a structural system rather than a certain unified form. The visual form of a typical building is of three sections: roof, walls, and platform. Timber elements formed the framing system. Columns supported a series of beams and purlins, and beams and purlins bore the weight of the giant roof structure, which was regarded the most symbolic image of the Chinese traditional architectural style. The entire building was placed on a raised masonry platform. This protected the wood from rain and moisture, and was shaped to accommodate the use, the hierarchy, and the environment surrounding the building. Walls were not load bearing, therefore the

interior and exterior spaces defined by these walls could have unlimited freedom in size and shape.

The basic modular unit of structures is *jian*. *Jian* is the space between two adjacent columns paralleled with the roof ridge. The length of this space unit in the other direction is called depth (*Jin-Shen*). The number of *Jians* is always an odd number because of the symmetric building layout. Based on the hierarchy system, building serving higher class people and purposes were to apply more *jians* and longer spans than those for lower ones. The design and construction of formal buildings were based on the modular system, from the numbers of *jians*, to the scale of depth, to the scale of lumber elements, and to the scales and styles of decorative details. Composition of the three major sections of a building, the roof, the walls and the platform, were also according to the modular and proportional relationship.





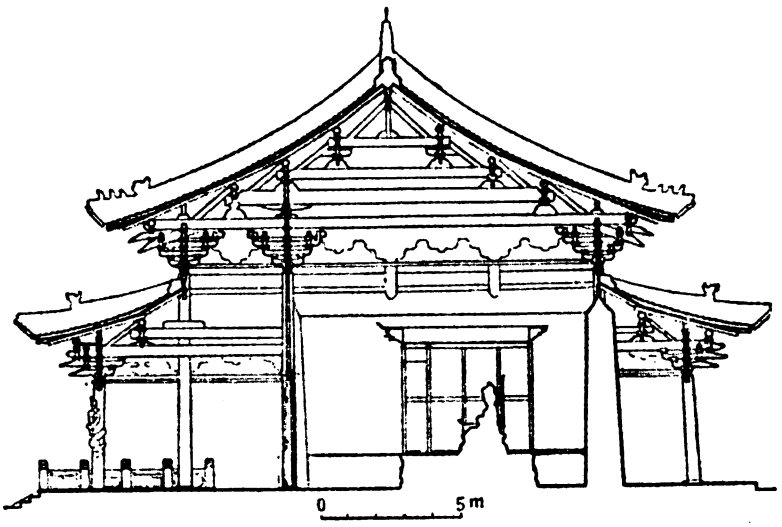


Figure 4-16: The Plan, Elevation and Section of a Traditional Chinese Building: Sacred Mother's Hall, Jin's Ancestor Hall, City of TaiYuan, Shanxi Province, Northern Song Dynasty (1023-1031 A.D.)
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p101-102

Roofs are the most characteristic images of Chinese architecture. Roof forms convey the feeling of shelter; and deep shadows emphasized the entrance and expressed invitation to the inner spaces; the curve of ridges softened the relationship between manmade structures and the natural environment. High unity of roof shapes covered with massive tiles gave the diverse indoor and outdoor spaces harmonious integrity. Functionally, the long overhangs create deep shelter from summer sun, and the upward curve invites light and sheds the rain.

Figure 4-17: Beauty of the Roofs: Sacred Mother's Hall, Jin's Ancestor Hall, City of TaiYuan, Shanxi Province, Northern Song Dynasty (1023-1031 A.D.)
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong: Joint Publishing Co., 1986), p 87.

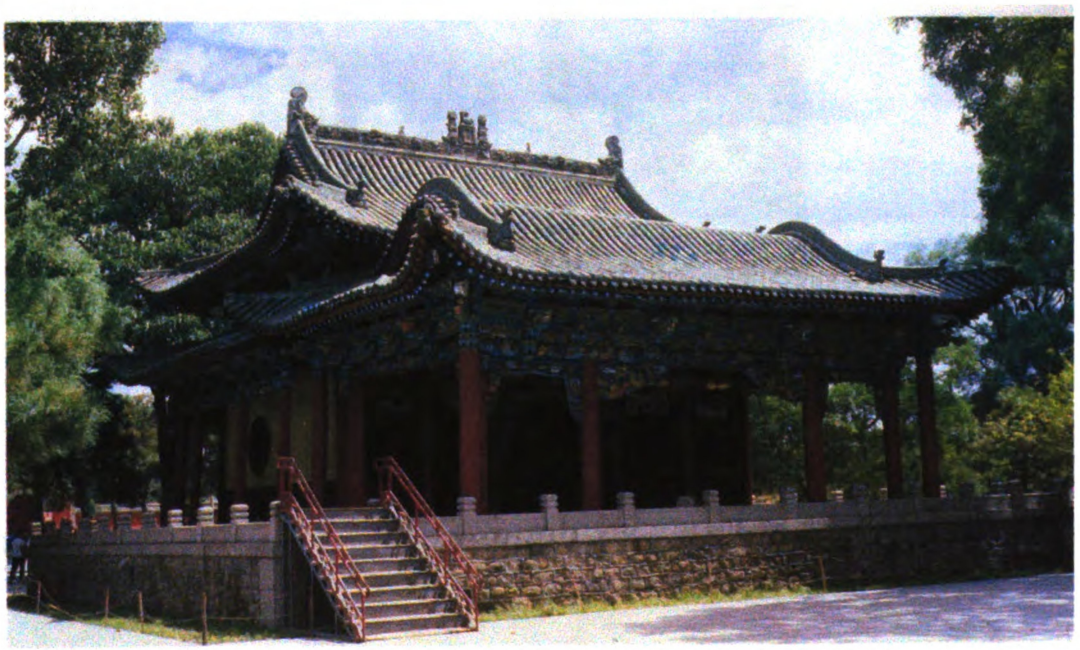
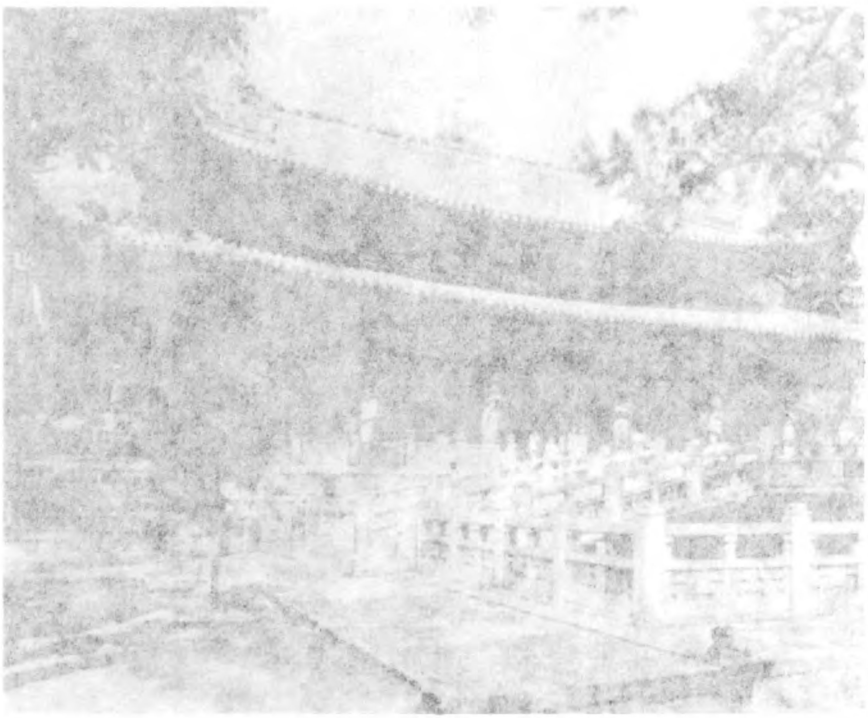


Figure 4-18: Beauty of the Roofs: Ceremonial Hall, Jin's Ancestor Hall, City of TaiYuan, Shanxi Province, Northern Song Dynasty (1023-1031 A.D.)
Source: Liu, *Chinese Architecture* (London: Rizzoli International Publications, Inc., 1989), p 235.



Under the eaves there were fine and rich texture created by range upon range of wood brackets (*Dou-Gongs*). *Dou-Gong* transmits the massive roof weight to beams and columns. The Dou-Gongs not only spread the load evenly to the major support structure, but also create a sculpture-like fabric in the shadow of the roof. In later dynasties, the decorative feature of *Dou-Gongs* was prominently emphasized, compared with their original role as structural elements.

Figure 4-19: *Dou-Gong*. Chunyang (Pure Positive) Hall, Yongle (Everlasting Happiness) Palace, Ruicheng City, Shanxi Province, Yuan Dynasty (1212 A.D.). Source: Liu, *Chinese Architecture* (London: Rizzoli International Publications, Inc., 1989), p 133.

Figure 4-20: *Cai-Hua.* The Hall of Supreme Harmony, the Forbidden City, Beijing, Qing Dynasty. Source: Liu, *Chinese Architecture* (London: Rizzoli International Publications, Inc., 1989), p 251.

The scale of the building, type of the roof, color and material applied were all decided by *the Rule of Construction*. Longer spans and more jians, richer color schemes, higher terraces, and more valuable materials were used for people of higher social standing. The

King's palace was rated the highest and had nine *jians*[12] for the primary building structure, applied a four-slope palace-style (*WuDian)* roof structure and gold-plated or golden-yellow glazed roof tiles, red-painted round columns, golden decorative painting (*Cai-Hua*) with rich green and blue patterns on red background, and the highest and most decorative platform. For officers of lower ranks, buildings would apply five to seven *jians*, smaller spatial spans and lower height, regular four-slope roofs, green or blue grazed roof tiles, red-painted round columns, greenish and bluish *Cai-Hua*, and fewer-step terraces. Residential buildings for common people had a simple 3-jian structure, two-slope roof with gray pottery tiles, round wood columns painted in chestnut color or black, gray brick walls or white-lime washed brick walls, no *Cai-Hua*, and platform with only few steps.

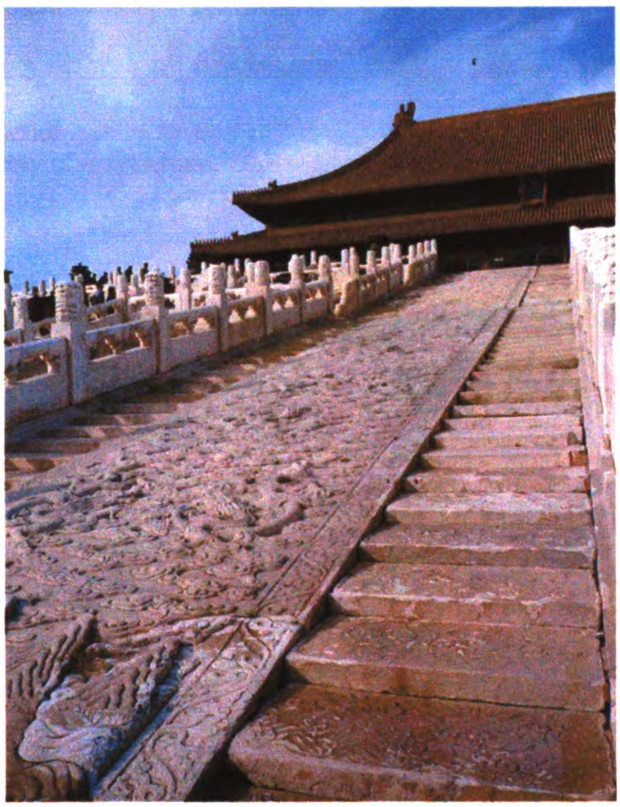


Figure 4-21: Marble steps flanking the Cloud-and-dragon Ramp leading to the Hall of Supreme Harmony, the Forbidden City, Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong: Joint Publishing Co., 1986), p 142.

[12] Nine is the magic number in Chinese culture, which means most or infinity.

Figure 4-22: Interior view of the Hall of Supreme Harmony, the Forbidden City, Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong: Joint Publishing Co., 1986), p 143.

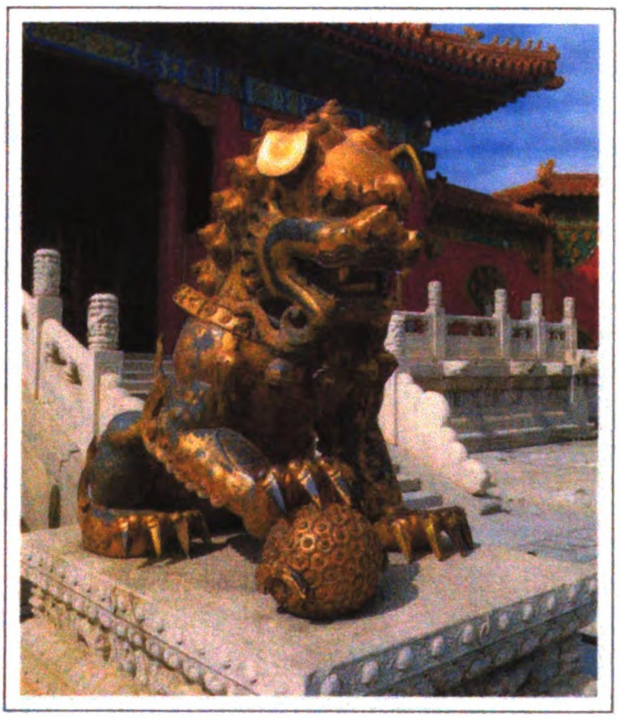


Figure 4-23: Decorative details of a building for royal purpose: gold-plated bronze lion and roof tiles, white marble terraces and railing, and extremely rich colors.
Source: Han, *The Imperial Palace* (Beijing: The Foreign Languages Press, 1995)

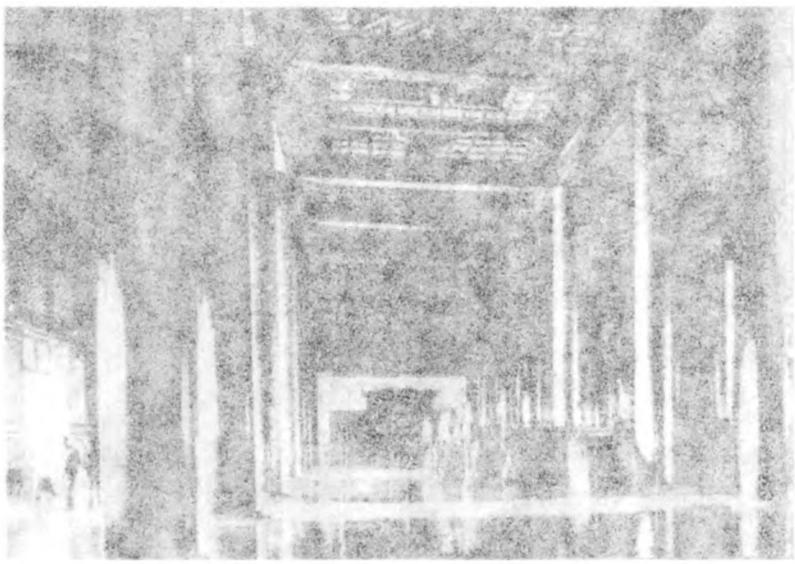


Figure 4-24: A Residence in the North Third Hutong, Beijing
Source: Wang, *Ancient Chinese Architecture -- Vernacular Dwellings* (New York: Springer Wien New York, 2000), p 122.

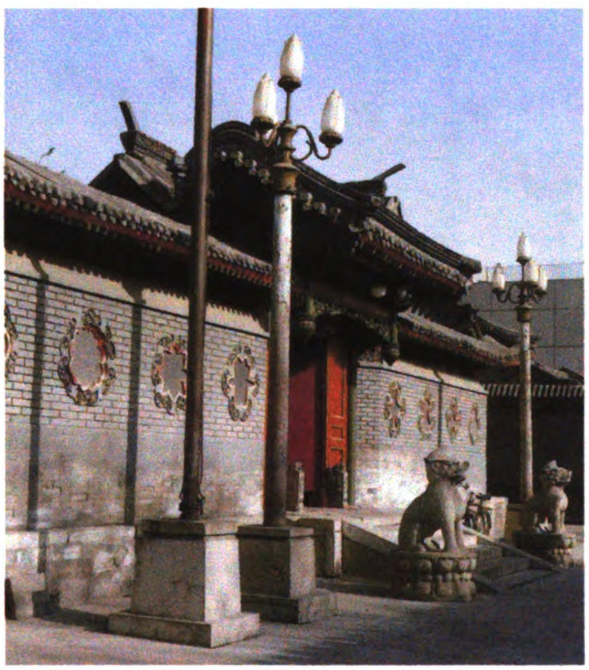


Figure 4-25: Middle gate of a Residence in Lishi Hutong, Beijing
Source: Wang, *Ancient Chinese Architecture -- Vernacular Dwellings* (New York: Springer Wien New York, 2000), p 2.

Figure 4-26: A courtyard house, Fujian Province.
Source: Liu, *Chinese Architecture* (London: Rizzoli International Publications, Inc., 1989), p 175.

Figure 4-27: A courtyard house, Wuxi City, Jiangsu Province.
Source: Liu, *Chinese Architecture* (London: Rizzoli International Publications, Inc., 1989), p 175.

Figure 4-28: A residential courtyard, Shexian, Anhui Province
Source: Wang, *Ancient Chinese Architecture -- Vernacular Dwellings* (New York: Springer Wien New York, 2000), p 120.

The most significant spatial character of traditional Chinese architecture should be the series of courtyards enclosed by connected buildings, walls and arcades. The indoor and outdoor spaces for different functions were defined by and interrelated with each other. Series of courtyards usually had a common axis and were laid out in a symmetric and formal manner. Along the axis, movement through spaces was arranged sequentially with intervals of building-courtyard-building. The designed route cut through the central *jian*, which is usually for public or extended family use or passage, of buildings positioned on the axis. Most rooms were placed off the axis and aligned symmetrically. Colonnades, usually along the sides of the courtyard, served as connections between buildings, and also transitional spaces between interior rooms and exterior yards.

Based on the rules of *Feng-Shui*, central buildings and the courtyards created with other buildings usually had a south-north orientation, with the major entrance facing south. Buildings on the central axis had more importance and higher hierarchy and were called "main" or "upper" buildings, while those on east and west sides of the court were ranked lower and called "wing buildings." The entire building group is closed from the public, with all buildings, windows, and doors (except the main entrance gate and occasional windows in the front elevation) facing the inside courtyards.

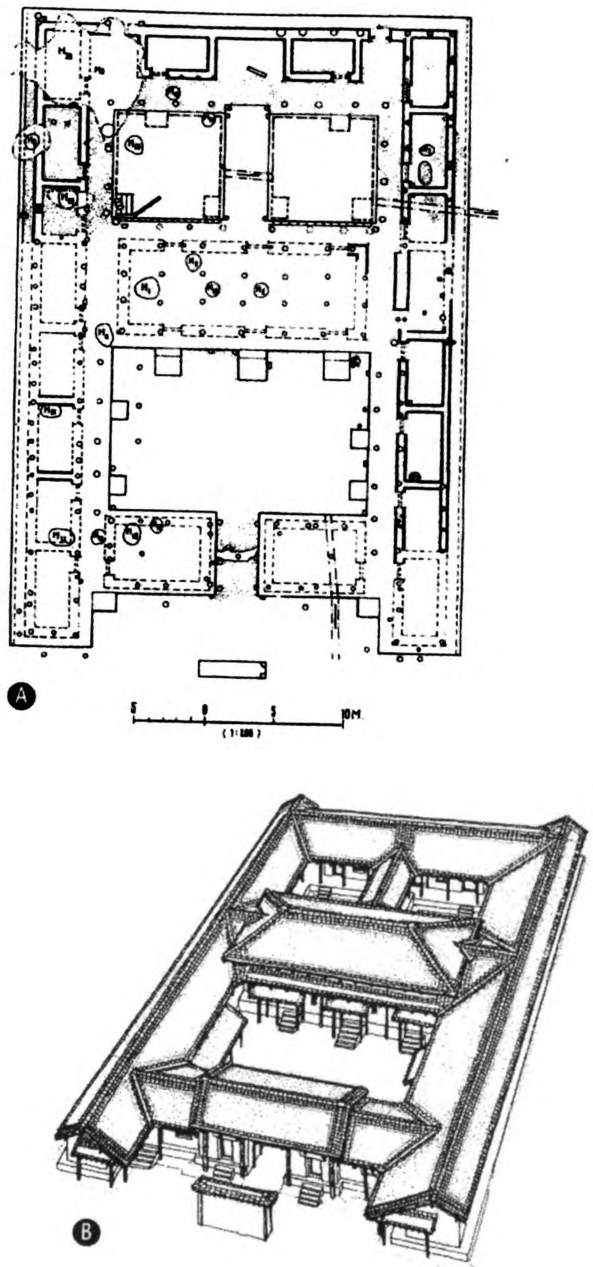


Figure 4-29: Restoration of a Western Zhou Dynasty (1027 – 771 B.C.) Courtyard House based on excavations in Qishan, Shaanxi Provice.
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver:UBC Press, 1999), p 71.

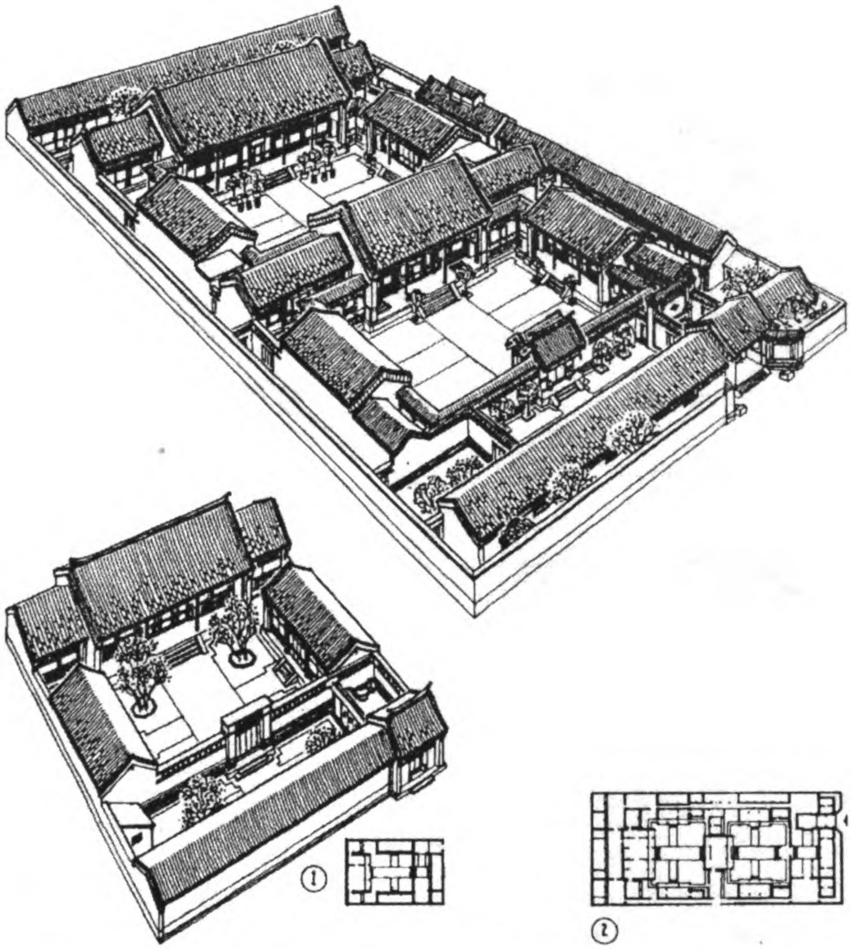


Figure 5.11 **Bird's-eye view of typical Beijing courtyard houses**
Source: Liu 1990, 210.

Figure 4-30: Bird's-eye view of typical Beijing courtyard houses
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999), p 82.

The typical courtyard pattern of the plan was applied in various kinds of Chinese architectural complexes, ranged from residential to religious uses, and from governmental to commercial uses. The essential philosophy here is a defensive attitude toward outsider and the open, caring, observing and anti-private attitude within the patriarchal social system. As people were ranked by order, places within the court were ranked in sequence as well. Spaces located on the axis and close to the center of the court were honored places for the most important people and uses. Rooms on sides, corners and areas further away from the central area were regarded as less important and for people of lower position. The level of privacy increased from south to north, and from center to edges. This assignment of users to places followed the strict hierarchical order of family and society.

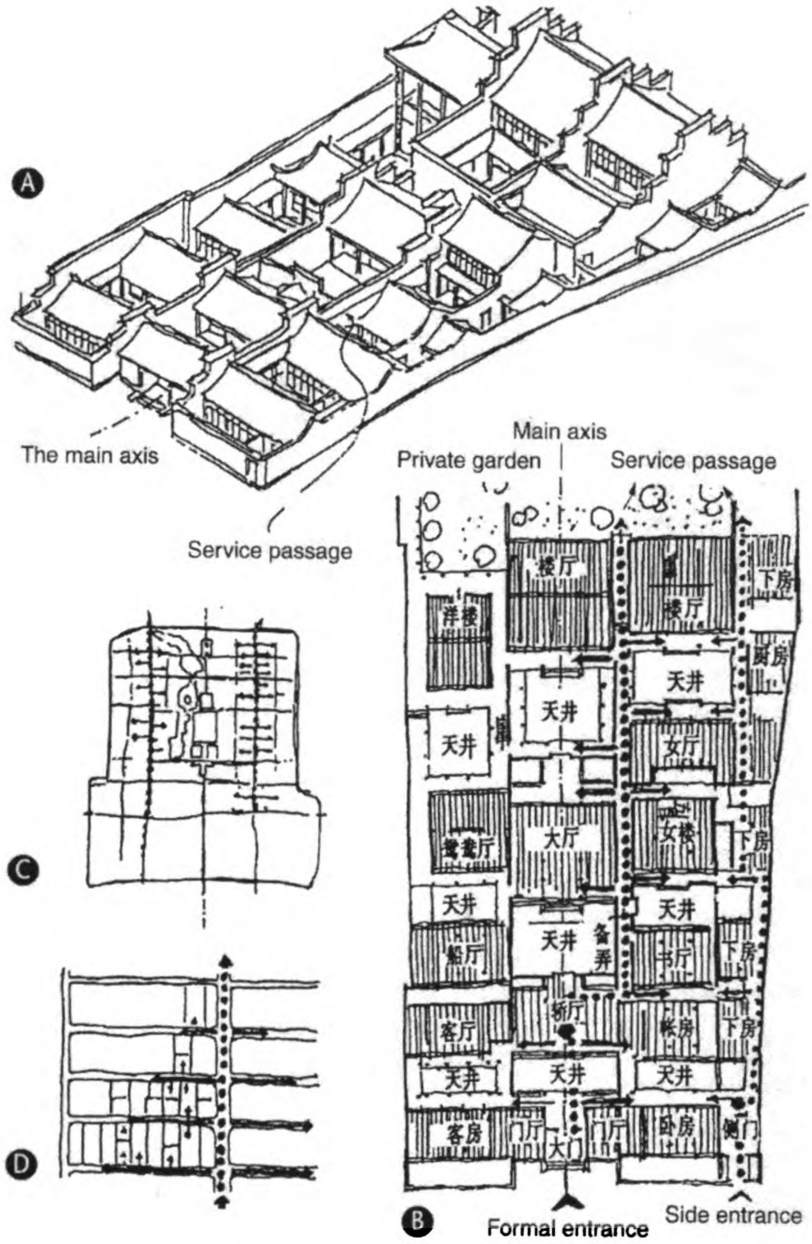


Figure 4-31: Circulation routes in the courtyard houses and in the city
(A) and (B): A large residence in Suzhou. (C): The circulation system in the Old City of Beijing. (D): The circulation systems in the Hutong neighborhood of Beijing. The fish-bone-like circulation system has been applied both in housing complexes and entire historic city.
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999), p 76.

Closer observation brings the founding that though serving different purposes ranging from governmental to religious, the land use patterns within courtyard compounds remained consistency: administration or activity places are at the center core, main

entrances, receiving areas and group activities on the south, sleeping-living and other private places on the north and in the major wing buildings, and service and recreational areas further to the edges.

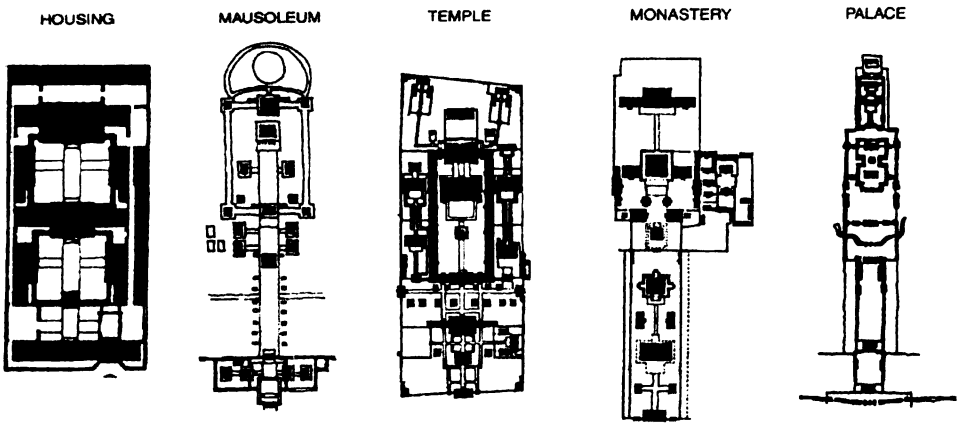


Figure 4-32: A comparison of forms of courtyard complexes
Most traditional Chinese building types, including houses, mausoleums, temples, monasteries, and palaces, are arranged around courtyards of varying shapes and sizes.
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999), p 81.

While most of the major Chinese structures applied a rigid grid system and the codified regulation for spaces, Chinese gardens, either huge royal gardens in the imperial city or mini-gardens in residential courts, were designed with natural, informal and curvilinear spatial layouts. A geometric relationship among elements was still observed in major spots of manmade structures, but the handling of water feature, rocks, planting materials and meandering were all created as extracts of natural beauty -- free in form, varied in components, and refreshing as an oasis.

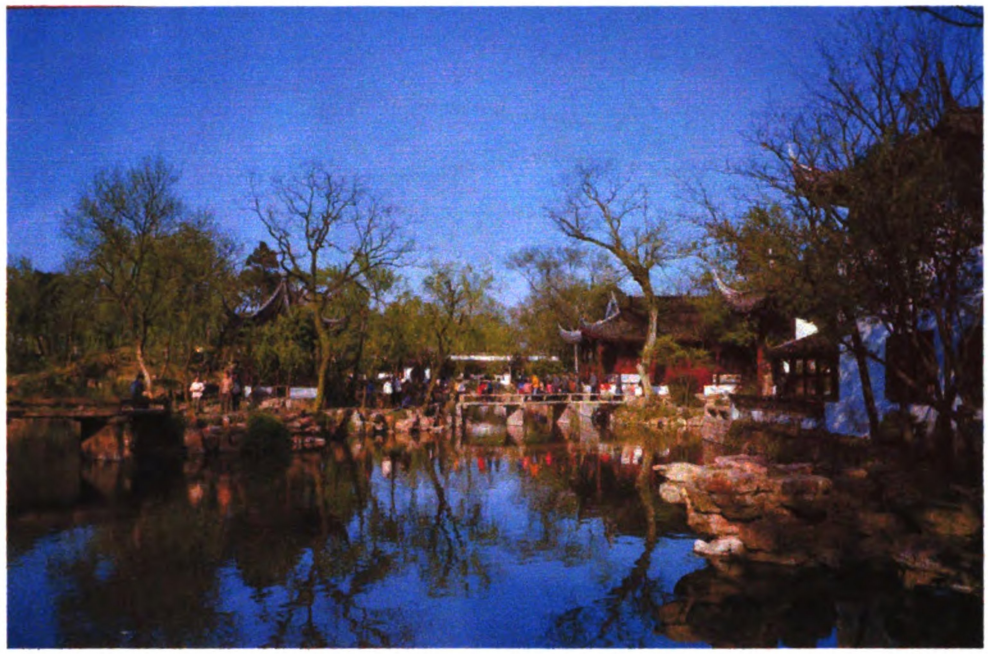
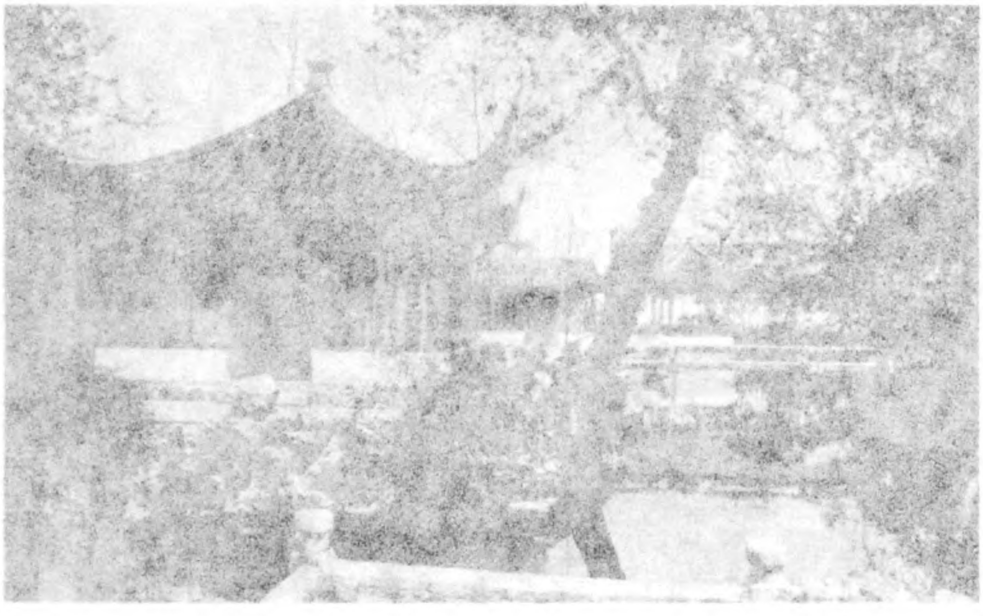


Figure 4-33: Panorama of ZhuoZheng (Humble Ministration) Garden, a private garden in SuZhou
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 229.

Figure 4-34: Wuzhu Pavilion of ZhuoZheng Garden, SuZhou
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 229.



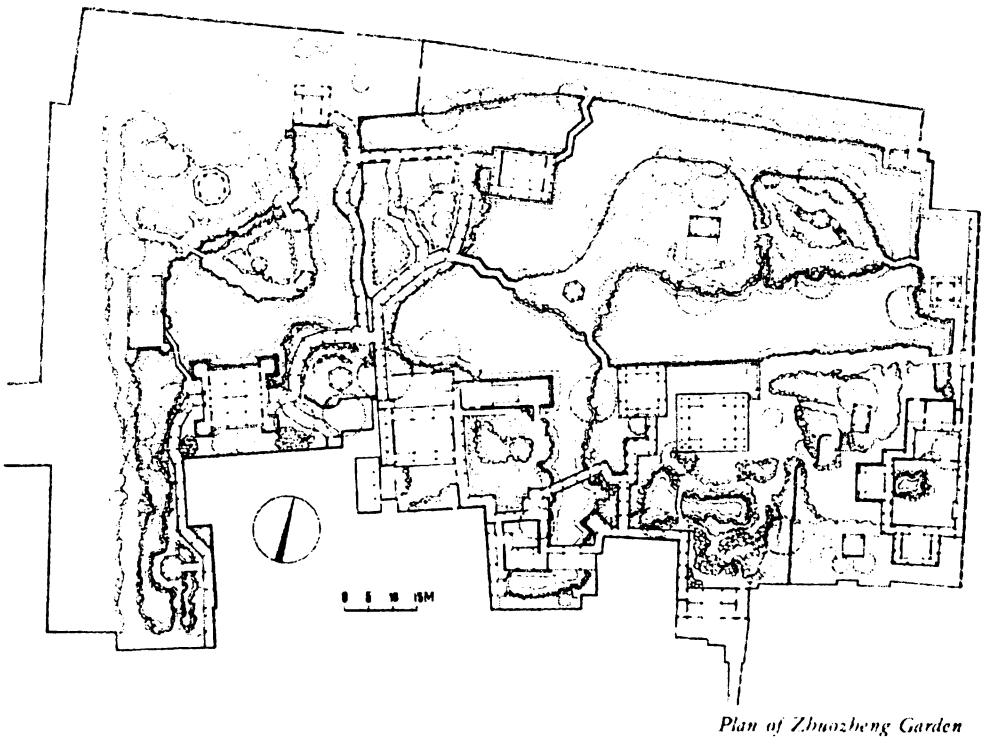


Figure 4-35: Plan of ZhuoZheng Garden, SuZhou
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 229.

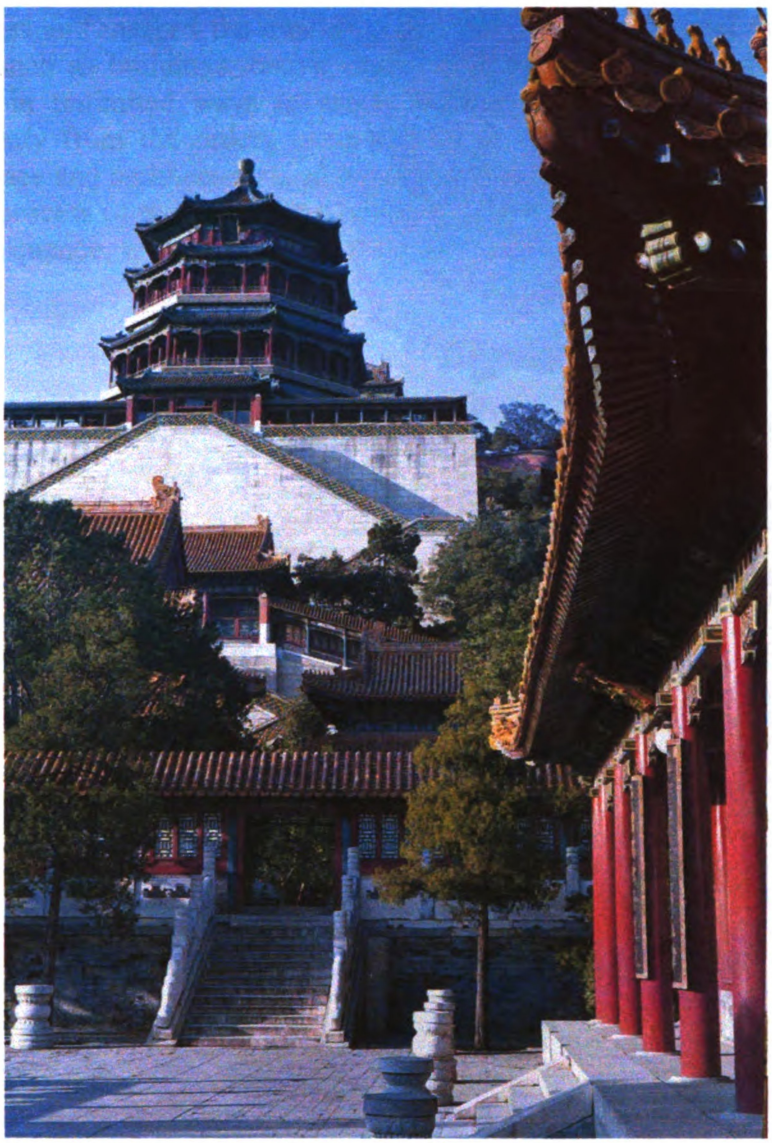


Figure 4-36: FoXiang (Buddhist Scent) Hall in Summer Palace, a Royal Garden of Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 215.

Traditional Chinese architecture shows high respect to the surrounding environment. In the countryside, streets, open spaces and buildings were laid out to follow natural topography, while in cities they were woven into existing urban fabric according to the recognized precedents or codified regulations. Natural elements were always invited into the relatively closed architectural environment. Architectural forms were designed to complement Nature, in proportion of scale, shape of roof, transition of space, and in penetration between natural scenery and building structure. Building compounds tended to be horizontal and nestled closely to the ground. Religious buildings, such as Pagodas, were vertically constructed to show the worship to God. These towers dominated surrounding

urban spaces and marked the area as a specific place. Traditional place-making elements, such as buildings, courts, walls, openings, and landscaping, could be composed in unlimited ways to create infinite varieties of spaces while the inherent unity from the orders integrates all as one. The charm of traditional Chinese space and architecture is also expressed in the transformation of time and place – in process of movement, the beauty of spaces is revealed layer by layer, in rhythmic sequence, with exciting climaxes.

Figure 4-37: Bird's eye view of the Temple of Heaven, Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 161.

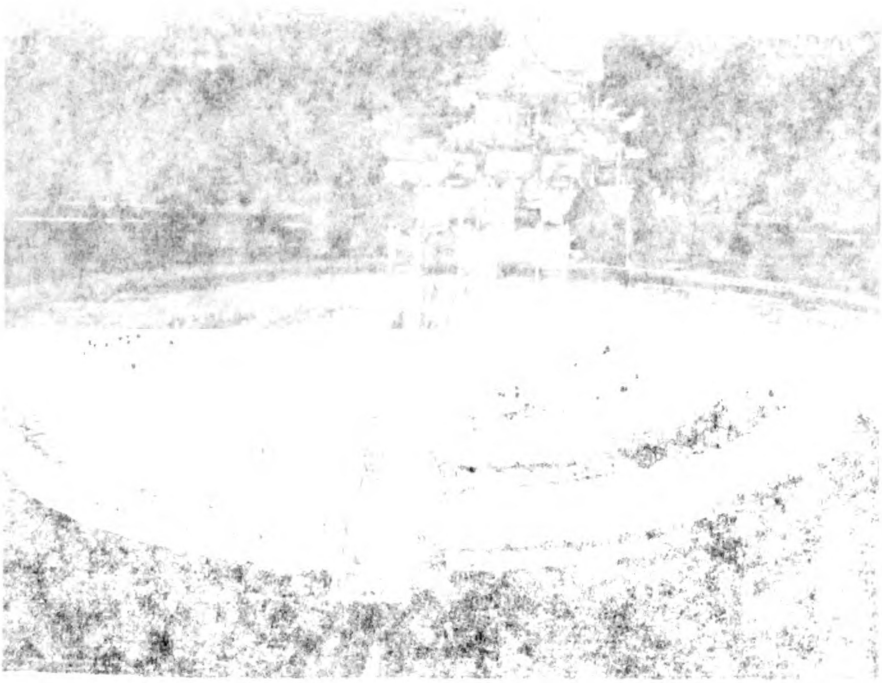


Figure 4-38: View of the HuangQiongYu (Great Cosmos) Hall through the doorway, the Temple of Heaven, Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 159.

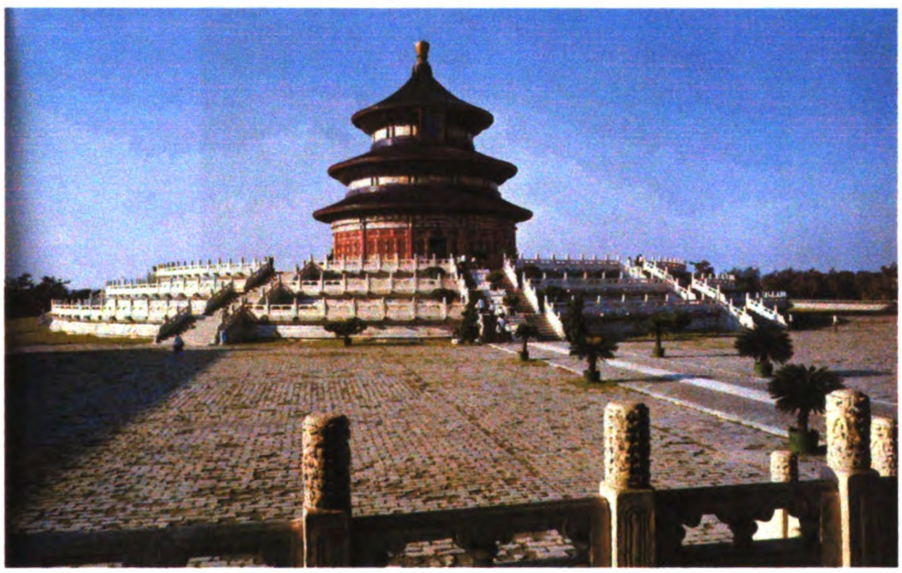


Figure 4-39: QiNian (Prayer for Good Harvests) Hall, the Temple of Heaven, Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 157.

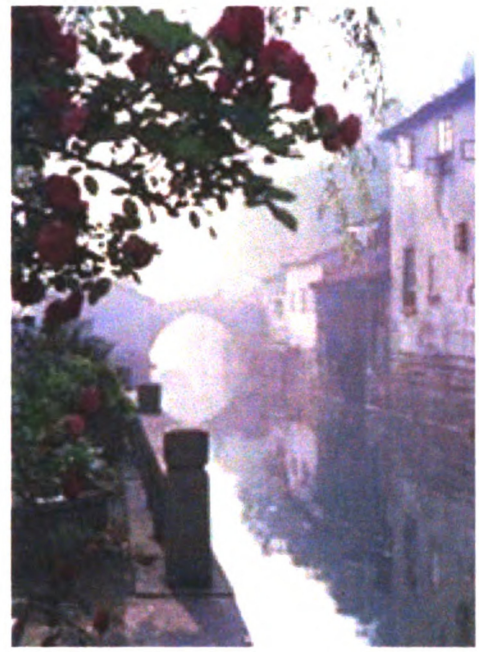


Figure 4-40: Waterway in a residential neighborhood, ZhouZhuang, Suzhou.
Source: http://www.travelchinaguide.com/cityguides/suzhou.htm

Figure 4-41: Waterway in a residential neighborhood, ZhouZhuang, Suzhou
Source: http://www.travelchinaguide.com/cityguides/suzhou.htm

Figure 4-42: Guangxiao Temple, Guangzhou, about 400AD
One of the four famous temples in Guangdong Province, it has a history of 1,500 years. The temple enjoys a very important position in the Buddhist history in China. Many famous monks from China and abroad have come to preach here since the Eastern Jin Dynasty (317-420).
Source: http://www.guangzhou.chinats.com

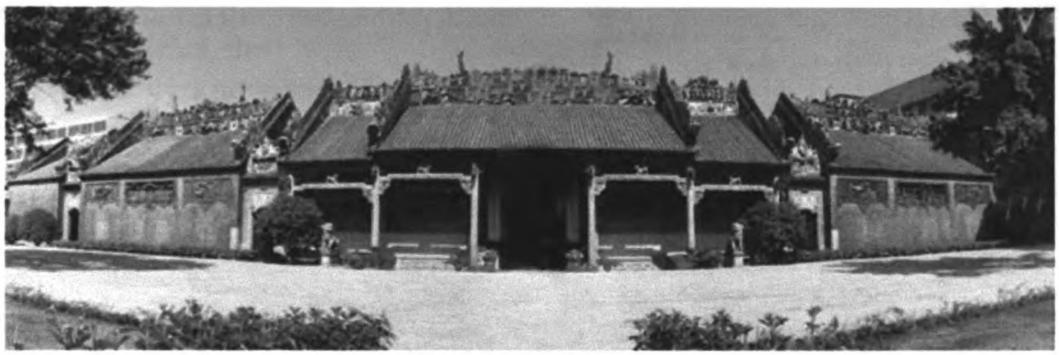


Figure 4-43: Ancestral Temple of The Chen Family, Guangzhou.
It is now the site of the Guangdong Folk Art Museum. The 100-year-old temple is the largest and best preserved and decorated ancient architecture existing in Guangdong Province.
Source: http://www.guangzhou.chinats.com/hischen.htm

4.2 Architectural styles and spatial patterns in the modern and contemporary Chinese communities (1930s -- 1990s)

Since the Opium War in 1840, China entered the era of semi-colonial, semi-feudal society. Along with the invasion of western capitalist industrial system, large numbers of western-styled buildings appeared in the major cities of China. Modern western

architectural styles and construction technologies accelerated the steep change in Chinese architecture.

Between the Opium War (1840) and the Sino-Japanese war (1894-1895), Chinese architecture experienced the early stages of modernization. In dozens of concession territories, western colonists established their domination through series of administration, tax, police and justice departments. Western architecture and changes in urban forms emerged in major ceded territories and trading ports. These new buildings were mainly one or two-story, of classic European colonnade style, and applied a mixed structure of masonry and wood.

After the Sino-Japanese War, more and more western countries entered China and started investments and industries. At the same time, Chinese national capitalism began its the early development. Industrial districts rose in many cities. Modern building materials, such as cement, glass and machine-made bricks and roof tiles, started to be manufactured and applied in new constructions. In the 1910s, multi-story buildings appeared in major cities, more steel structures were used, and reinforced concrete started to be employed. The architecture, usually by western architects, was still predominately classic European styles.

In 1920s and 1930s, because of further investment by foreign and national capitalists in concession territories, large-scale developments were launched. Regarded as a symbol of capital and power, high-rise office buildings, apartments and hotels sprouted everywhere. During this time period, eight- to nine-story buildings were built frequently. In City of Shanghai, there were 28 buildings have more than ten stories. The highest one had 24 stories, demonstrating the great improvement of building technology.

Figure 4-44: Bing Jiang Road of Bund, Shanghai, 1920s and 1930s
The Bing Jiang Road built in 1939 was designed with extraordinary style. By the magnificent buildings of the Bund, the Huang Pu River forms a beautiful view with glittering water. Paralleling Bing Jiang Road, stand the Jiang Feng Bank, Customs House, Peace Hotel and the Bank of China.
Source: http://www.shanghai.chinats.com

Some noticeable architectural movements took place in this turbulent era of growth. While western classicism and neutralism merged into common new developments in Chinese cities, the newborn modernist architecture began to influence China as well (Figure 4-45). However, Chinese architects and nationalists advocated that China should develop its own architectural style from the traditional architectural forms and spatial concepts. Therefore, the Movement of Chinese Original Style was launched in late 1920s to carry forward the Chinese spirit in architectural design and urban development. The Chinese Original Style was actually the Chinese neutralist style, which combined various classic Chinese architectural styles of different dynasties in the thousands years of Chinese history. The one of the earliest and representative works was the Sun Yat-sen Mausoleum in Nanjing, designed by Yanzhi Lu, winner of the design competition, in 1920s (Figure 4-46).

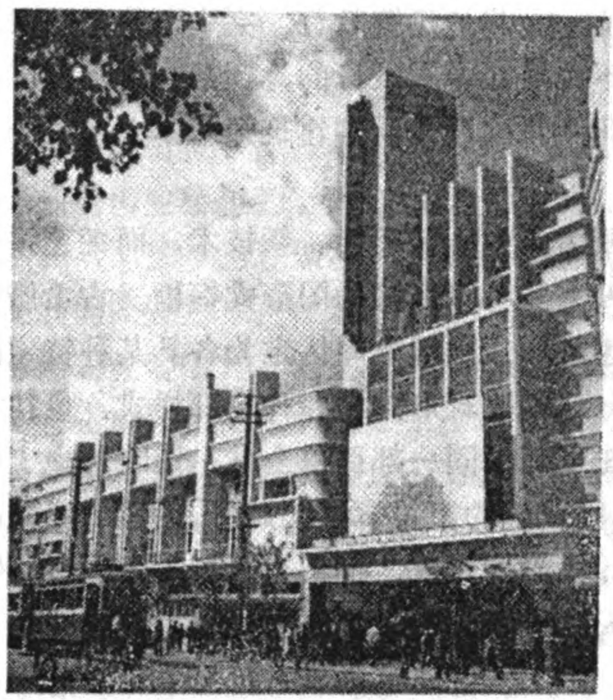
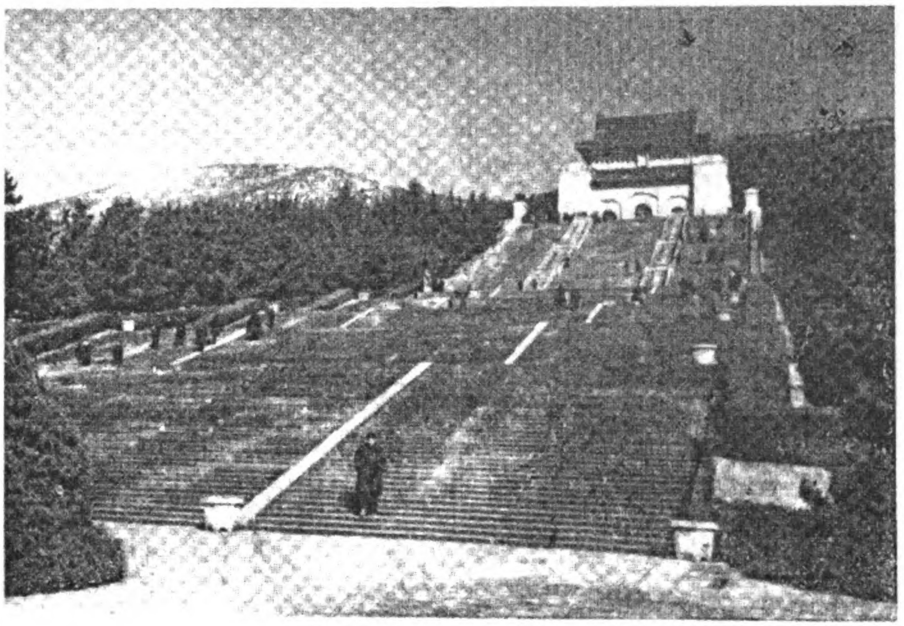


Figure 4-45: DaGuangMing (Great Bright) Cinema, Shanghai, Built in 1920s to1930s
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p276.



南京中山陵全景

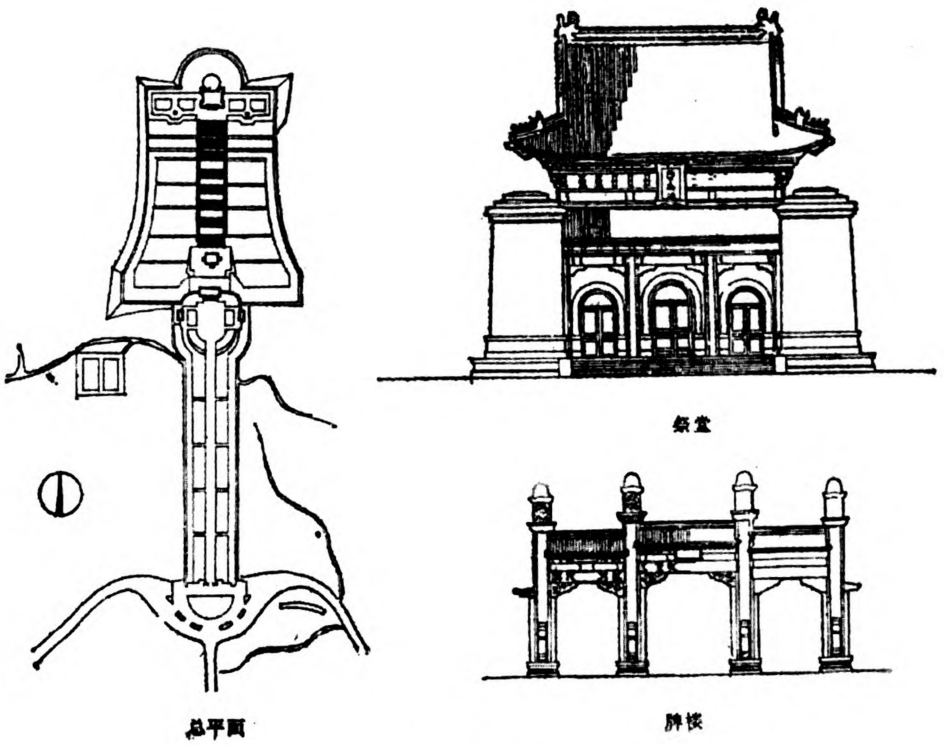


图 13-9 南京中山陵

Figure 4-46: the Sun Yat-sen Mausoleum, Nanjing, designed by Yanzhi Lu, 1920s
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 280.

Not only the traditional Chinese architectural styles were facing the tremendous challenge of modernization. Chinese cities, during the years between 1840 and 1949, also experienced significant changes, compared with the past two thousand years of their peaceful evolution in Chinese feudalism. Industrial districts emerged in cities, and transportation systems were given emphasis and dominated the growth of the city. Commercial streets, rather than governmental or religious buildings, became the center of the city. This industrial era brought to cities various new urban social and economic activities. New types of public buildings serving commercial, institutional, recreational, and transportation purposes flourished. Infrastructure was also greatly improved. Since 1860s, water, electricity, gas, sewage, telecommunication, trolley and bus services were established in major cities successively. However, Chinese cities in this era were mostly in a free growth status. There were very few planning efforts in the urban development process.

While high-rise modern buildings, busy commercial streets and stylish single-family homes presented a prosperous view of the city, large amount of low- and moderate-income working class people were living in very high-density neighborhood. In South China, it was in the form of lanes and alleys, which derived from prototype of three-side-enclosed courtyard. In North China, it was compounds, which were a series of four-side-enclosed courtyard shared by dozens of families.

Because of the Second World War (the War of Resistance Against Japan, 1937 to 1945) and the Third Chinese Civil war (1945-1949), urban development and economic activities were severely curtailed. In the three decades after China was taken over by the Chinese Communist Party in 1949, political issues imposed super significance over any social-economic activities. Therefore there were relatively very few architectural and urban developments taking place from early 1950s to late 1970s. Most of the buildings built in this period were mid-rise concrete boxes, with no amenities.

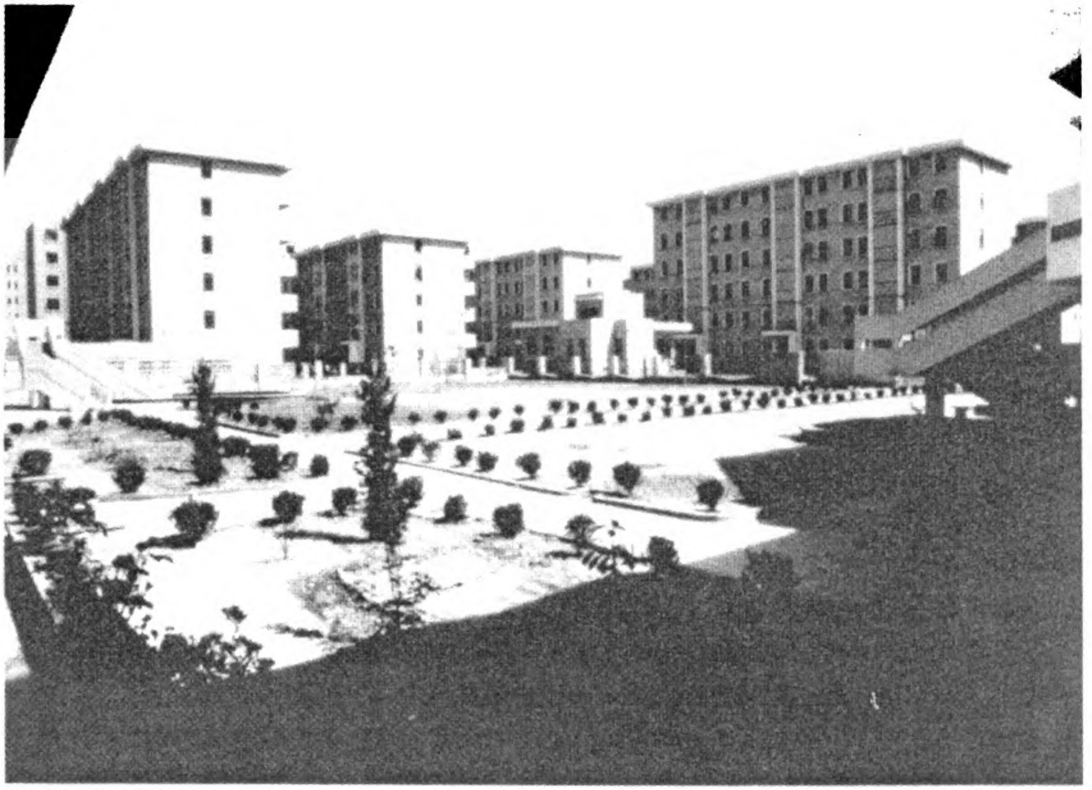


Figure 4-47: Residential neighborhood built in 1960s and 1970s
Source: Treiser, *Chinese Architecture, Urban Planning, and Landscape design* (Gainesville: University of Florida, 1987), p53.

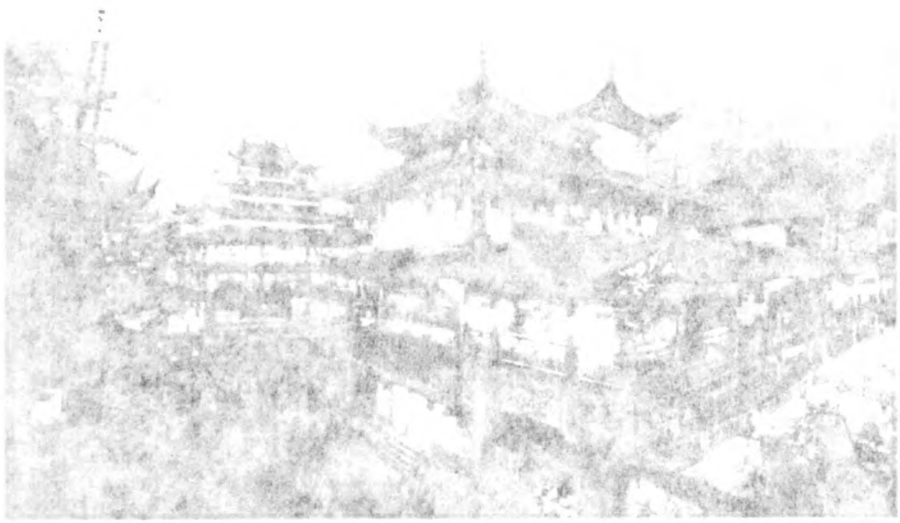
In 1980s, the post-Mao administration began focus on preservation of Chinese traditional architecture and urban environment. It also began a rehabilitation and revitalization of traditional Chinese culture, which was almost completely destroyed in Mainland China during the so-called Cultural Revolution in the1960s and 1970s.

Recognizing the preciousness of the historic heritage, major historic cities started imposing strict protection on traditional architecture and neighborhoods. In some cities, wrecked historic sites were rebuilt to imitate the ancient traditional townscapes in order to cherish tradition and attract visitors (Figure 4-48 and 4-49).

Figure 4-48: Confucius Temple and the Market, Nanjing, JiangSu Provice, rebuilt in late 1980s
Source: http://www.nj.ac.cn

Figure 4-49: YuYuan Historic Commercial District, ShangHai
Source: Information Office of Shanghai Municipality, Shanghai Today (Shanghai: China Intercontinental Press, 2000).

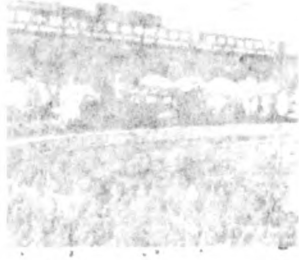
The 1990s was an era of rapid economic growth in Mainland China. Very large scale developments happened in almost all the urban areas of the country. Great business opportunities attracted large amount of domestic and oversea investors. Many international real estate developers, design and consulting firms were involved in the development of new districts and new towns, reinforcing the contemporary and postmodernism images of the flourishing Chinese cities.



Aiming at building an urban environment to facilitate economic development and encourage commercial activities, architects and urban designers in China concentrated more efforts on environmental designs for commercial streetscapes and residential neighborhoods. Size, amount and codes are no longer the only requirements for the new development. Style, scale, urban context, decorative details, lighting, transitional spaces, open space, and street furniture are now all indispensable considerations in urban environment. Designers and developers are now trying to create places with culture and amenities.

Figure 4-50: Modern Architecture in China: The site of the Chinese Export Commodities Fairs, Guangzhou, late 1980s
The spring (in April) and autumn (in October) fairs have been bonding in Guangzhou since 1957. In 1974, it became a fair site. The unique and large-scale fairs enjoy a high reputation in the world.
Source: http://www.guangzhou.chinats.com

Figure 4-51: Modern Architecture in China: Western Han Nanyue King Tomb Museum, Gangzhou, 1990's



Discovered in 1983, the Nanyue King Tomb, which dates back to 2,000 years ago, is the earliest large-scale painted stone-chamber tomb ever found in south of the Five Ridges. Buried with the tomb owner in jade shroud are a gold seal and many exquisite jade adornments. It has now become a famous museum in the world.
Source: http://www.guangzhou.chinats.com

Figure 4-52: The New Railway Terminal, Beijing, late 1990s
Source: http://picture.21youth.com/main/city.htm

Another noteworthy urban development concept in contemporary Chinese cities is District Development. Different from the single-land-use district concept in western planning ideas, district in China usually refers to large-scale mixed-use project that inclusively has various kinds of residential, commercial, institutional, recreational, and sometimes industrial development necessary to create a small size self-dependent community.

Figure 4-53: New District Development in the 1990s
Source: http://www.olympichouse.net/jingdian/dijing.htm

Figure 4-54: New Development in the 1990s
http://bj.building.net.cn/Supply/View_JJ.asp?Buildings_No=B000008

However, it is obvious that the new developments, neither in architectural style nor in spatial pattern, reflect classical Chinese tradition. While contemporary Chinese cities benefit from westernized economic development modes and the process of modernization, Chinese architectural and spatial traditions are in danger of disappearing from the new Chinese urban context. Except for some historic resorts spattered in the shadows of skyscrapers, there is little evidence to identify well-developed cities such as Shanghai, Guangzhou (Canton) and Shenzhen as Chinese. Because of the cost of urban land, courtyard-style residential neighborhoods are no longer developed. Existing traditional neighborhoods suffer from severely underdeveloped facilities and utilities, and, most often, from unendurable congestion. Cost of maintaining and improving these neighborhoods as a livable urban residential area with traditional architectural style and spatial character will be very high. It is not a surprise that these neighborhoods are vanishing during the continuous urban renewal programs.

Compared with contemporary American urban areas, Chinese cities benefit greatly from their historic origins, mixed-use development strategies and the less automobile-dominant transportation pattern. Unlike those American cities originating from the ghettos and sweatshops in early industrialization, most of Chinese cities emerged from residential settlement and market places, and brought along hundreds or even thousands years of history. In China, living in cities means having higher social hierarchy, being financially better off, and taking advantage of utilities that are more developed. The popularity of cities encouraged various mixed-use developments that gradually became a tradition. At the same time, smaller road capacity and less industrialized economy resulted in less dependence on automobiles. It kept enough pedestrian flow on the street, which preserved an intimate urban environment and stimulates commercial and social activities.

Because of the unique social and cultural background in China, though facing many problems in land use, density and circulation, cities are still the most desirable places for residents and businesses. Population living in the city cores vitalizes urban life. Jobs and public facilities are near by. Public transportation systems provide the convenient commuting. Streets are pedestrian friendly, with commercial diversity satisfying various consumers. Scale and atmosphere of the streets encourage human activities.

Reviewing the history and examining the present, we see the two striking characteristics of the urban development in contemporary China: loss of traditional Chinese architectural styles and spatial patterns, and successfulness of downtown economic development. The conflict between historic preservation and economic development is a common dilemma seen in the modernization process of historic cities all over the world. In China, cultural heritage was sacrificed for politics and profit much more than it should. Due to the absence of the First and Second Industrial Revolutions in China, the modernism movement in China encountered more difficulties than in western countries. On one hand, traditional building styles, urban structures and infrastructures could not accommodate the needs of modern industrial society. The urgency of catching up with other industrialized countries pressed the nation to speed up and rebuild cities meeting the requirements for future development, even at a cost of losing tradition. On the other hand, wars and political movements kept breaking the natural process of the urban evolution; most of the time, cultural heritage, including traditional architecture, was destroyed in order to demonstrate and consolidate the revolutionary social changes.

The result of recent changes in China is the massive and rapid disappearance of traditional architectures and neighborhoods. The loss is irreversible. At the same time, urban economy enjoys the advantages of modernization and is booming stunningly.

At the same time, on the other side of the world, Chinatowns are crouching in dilapidated, congested, out-of-date neighborhoods that have no style and physical attraction, struggling to visualize and keep their cultural identity, and trying to financially benefit from their ethnic uniqueness.

Figure 4-55: Tianhe New District, Guangzhou, late 1990s
Source: http://www.guangzhou.chinats.com

Figure 4-56: Pudong New Area, Shanghai, late 1990s
The Pudong New Area was established in April 1990. It has a total area of 523 sq. km. It consists of 4 smaller key areas and has become a new hot spot for investment in China. The Oriental Pearl is the world's third tallest TV tower after the 553-metre CN Tower in Toronto and the 535-metre Moscow TV tower. The 88-storey JinMao Building in Pudong is the tallest skyscraper in China and a soaring monument to Shanghai's economic boom.
Source: Information Office of Shanghai Municipality, Shanghai Today (Shanghai: China Intercontinental Press, 2000).

V. A Design Alternative for a Conceptual Neo-Traditional Chinatown

Through the historic documents on ancient Chinese cities, It appears that the imperial capital cites in Ancient China were always planned for administrative, military, religious and etiquette purposes, instead of organic. According to the canonical plan of capital in historic document, the capital city must be planned to follow some strict rules, such as north-south orientation, axiality, centrality, modulus and grids, intervals, hierarchy, proportion, etc. Through hundreds of years in the feudalism age, the canonical model barely changed. Capital cities of Han, Tang, Yuan, Ming and Qing dynasties were all to some extent following these rules. The City of Beijing in Ming and Qing dynasty could be regarded as a good example of the ideal capital, since it follows most of the rules mentioned in the canonical plan, structurally and functionally. However, except for the Forbidden City and its vicinity, the most part of the ideal capital city had gone along with the process of modernization.

My idea of the conceptual neo-traditional Chinatown is to create a new town that follows this canonical plan. This new Chinatown will have a spatial structure and land use pattern that mirrors an imperial city. However, it will be far more than a copy of an ancient capital – it is an ideal Chinese city reflecting greater Chinese culture and history through its form and function. The following are some thoughts about this up-coming "model" city.

1. It is a full-range presentation of Chinese architecture and a live model of Chinese urban lifestyles.
2. It shows the diversity and variety of Chinese architecture, inclusively presenting the Chinese styles of northern and southern, eastern and western, ancient and modern.
3. Various architectural and urban spatial styles will be located according to their original geographic distribution. The major frame of the city's spatial and functional structure is from the canonical plan of the ideal capital city. The city will be in the shape of a rectangle, oriented north-to-south. The grid system divides the city quad into nine sections, with the cultural and civic center in the central section. Waters and hills will be inserted to break the rigid grid system in residential neighborhoods; helping generated organic urban fabrics that reflect regional features in different areas of China. The northern part of the city will be more grid-like, while the southern part will have some organic features representing non-capital cities. Design styles in each section of the city will correspond to the style in each geographic area of China. Smooth transition will be applied to keep the integrity of the entire urban style.
4. While every component of this city functions as a normal municipality, they are all presentable as a showcase of Chinese urban life at the same time. All the commercial, recreational and institutional land uses, and most of the residential and industrial land

uses will be open to tourists. Especially in residential areas, visitors will be able to experience traditional Chinese urban spaces such as residential courtyards (*siheyuan*), alleys (*hutong*), and residential quads (*lifang*), etc. Waterfront development will show the unique commercial and recreational styles in ancient southern Chinese cities, such as SuZhou and Shaoxing.

5. Adding to the regular circulation systems for pedestrians and automobiles, this city has two additional circulation routes that serve its residents and visitors respectively: the fitness trails and the boating waterway. Fitness trails are mainly routed for residents of the Chinatown, incorporating with the green open spaces in each residential subdivision. The boating waterway is the third alternative route for the leisure tour within this Chinatown, chaining major attractions together. Southern cities such as SuZhou, YangZhou and NanJing were once very prosperous and famous for their waterfront business and recreation area. In southern China, enjoying market and recreational events while boating along the river was once a very popular and delightful lifestyle of the middle class.
6. The image of the city will be identified very strongly as classic Chinese. Fairly large amounts of symbolic and decorative elements will be used to visually stress its Chinese style, such as city walls, watchtowers, Chinese gazebos, gateways and archways, verandahs, Chinese gardens, etc. All of these elements will be assigned with functions that fulfill the daily needs of contemporary urban life.
7. The plan of this city will also provide flexibility for its future expansion. It will be alterable in both the spatial structure and the land use pattern.

5.1 Prototype for the proposed Chinatown – the Ancient Canonical Plan

The urban form and the symbolism of a conceptual capital city were systematized around the Eastern Han period (206 B.C. – 25 B.C.). *Zhou Li* (Record of the Rite of Zhou) and especially its last section, *KaoGongJi*, gives an elaborately laid out and detailed description of what purports to be the governmental and administrative structure and organization of Royal Zhou. According to *KaoGongJi*, an idea capital city should be constructed following the rules below:

5.1.1 Choice and Preparation of the Site

The ideal capital city should be at the center of the land. The officer measures the sun's shadow at the summer solstice to determine the center of the earth. This is the place "where earth and sky meet, where the four seasons merge, where wind and rain are gathered in, and where *Yin* and *Yang* are in harmony. Therefore the myriad things are at peace. Thus it is here that the royal capital to be built." [13] It makes the royal capital the focal point of the cosmos.

The king establishes the capital of his state, "discerns the directions of the four quarters, and puts right the proper positions (of the Royal Palace and the Ancestral Hall); he gives to the city its principle layout and to the fields their proper divisions; he devises

[13] Wright, *The Cosmology of the Chinese City* (1977), p 47.

the offices and apportions their positions; so that the center is established to which the people turns."[14]

5.1.2 Cardinal orientation

As noticed in early research, the prominent feature that "the ideal Chinese city shared with a majority of the great capitals of Asia were cardinal orientation, cardinal axiality, and a more or less square perimeter delimited by a massive wall." [15] It is of a significant importance that the main processional axis running from south to north, coming from ancient Chinese astronomic and biologic theories. It was believed that the North Pole corresponded to the position of the emperor on earth, around whom the vast bureaucratic state system revolved. The emperor, also the Son of the Heaven, throned facing south corresponding to the pole star, which watched over southerly the world of men at the axis of the universe. He was therefore empowered to govern the men's world drawing assistance of the power from the cosmic center, and all the people on earth "face the north to acknowledge their allegiance as his subjects."[16]

5.1.3 City Layout

In *KaoGongJi*, the idea layout of the city is summarized as follows:

"The artificers, as they built the capital, demarcated it as a square with sides of nine *li* (Chinese miles), each side having three gateways. Within the capital there were nine meridional and nine latitudinal avenues, each of the former being nine chariot tracks wide."

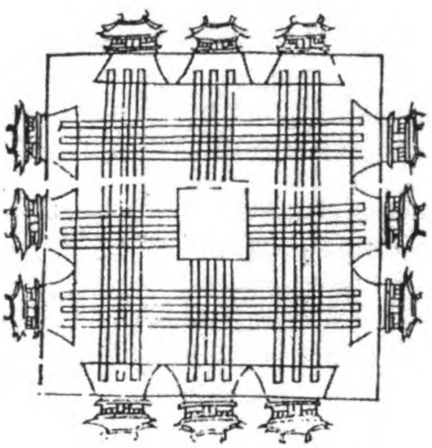


Figure 5-1: Canonical Plan of the royal Zhou capital (Wangcheng) in the Sanli tu jizhu (juan 4.3b), produced in the mid-tenth century.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 34.

[14] Ibid.
[15] Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 33.
[16] Ibid.

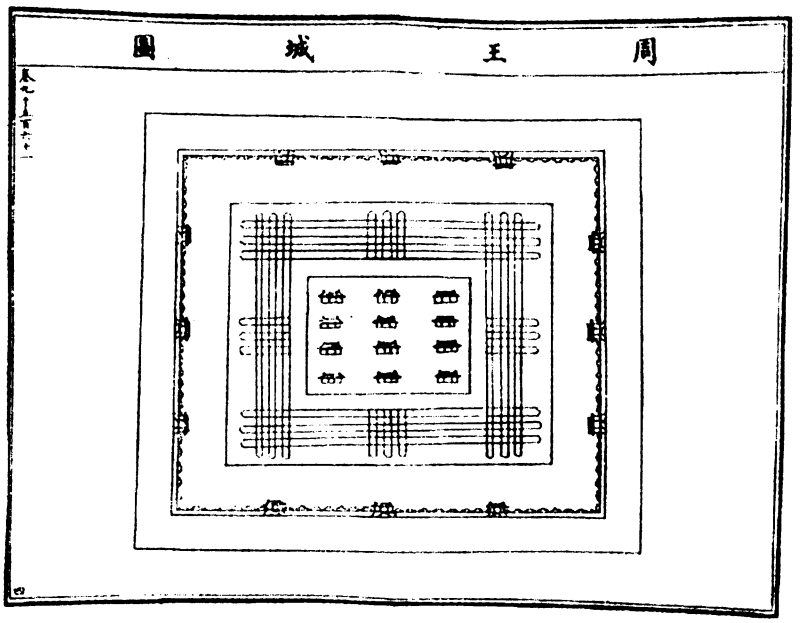


Figure 5-2: Canonical plan of the royal Zhou capital in the *Yongle dadian* (juan 9561.4a-b), produced in 1408.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 35.

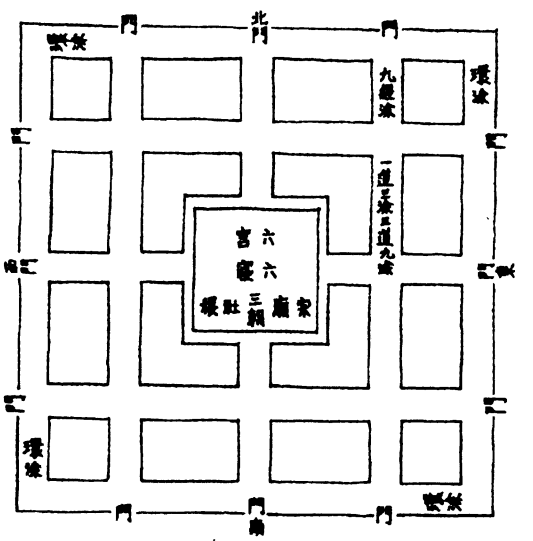


Figure 5-3: Canonical plan of the royal Zhou capital in the *Kaogong ji tu* (B, p.110) produced in the second half of the eighteenth century.
Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 35.

These drawings show clearly the concept of the ideal layout. "The city was subdivided into nine units, with the royal palace in the center, as a microcosm embedded in a concentric system, from the Chinese empire up to the scale of the whole world, on the pivot of which resided the Son of the Heaven."[17]

Grid subdivision principles came from the old well-field system of the early agricultural community. Again, the layout of the grid system reflected metaphorically the way the ancient Chinese perceive the world: the form of a gridded square indicated the earth, the central location of the royal palace indicated the centralized power of the emperor as the Son of the Heaven, and the concentric system indicated this power radiated from the royal palace in all directions to the entire royal capital, and then to the frontiers of the world.[18]

Noticeably there are some numbers used repetitively in the plan of the ideal royal city. In ancient Chinese culture, the numbers three, nine and twelve have particular meanings. "*Three* represents the three sectors of the intelligible universe (heaven, earth and man); *nine* symbolizes the ancient Chinese world (the nine provinces as established by the Emperor Yu); and *twelve* is the number of months in a year."[19] *Three* also means affluent and multiple, while *nine* is typically used as a symbol of supreme or utmost. The application of these magical numbers in this plan sets up a hierarchy system with harmony and order.

5.1.4 Characteristics of principal structures

After defining the spatial structure and hierarchy system of the ideal capital, *KaoGongJi* further addressed the placement of different land uses to the royal palace. The Ancestral Hall shall be on the left, that is, the east, and the Altar to the God of the Earth [(the Altar to the State)] on the right, or the west. And then, "in the front (i.e., the south) is the Imperial Court, while at the back (i.e., the north) lies the market."[20]

Ancestor worship dominated the traditional Chinese culture since "the earliest known time of Chinese civilization." The position of the ancestor hall had become a crucial criterion of the appropriate layout for a city or a settlement. The Altar to the God of the Earth [(the Altar to the State)], with the soils of five colors symbolizing the territories in the five directions (four quarters and center), functioned as another foci of the state's affairs. It was the place where annual rite of sacrifice served to "show reverence to the heaven and to be on intimate terms with the Earth, and is to teach the people to remain in gratitude."[21]

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[17] Xu., *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 35.
[18] Ibid, p 35 – 36.
[19] Ibid, p 36.
[20] Ibid, p 36.
[21] Ibid, p 37.

Located at the rear part of the city, the market place was regarded as the least honor in Chinese tradition. It had been highly supervised and controlled by government until the mid of Tang Dynasty.

5.2 Spatial and Functional Structure of the Proposed Chinatown

An examination of historic Chinese cities demonstrates the significant influence of the canonical capital city portrayed in *KaoGong Ji, Zhou Li.* Cities, northern or southern, capital or local, planned or organic, all more or less show the basic principles for composing a city: the axial spatial sequences, concentric core serials, longitudinal and latitudinal traffic arteries, grid and network patterns for subdivisions, hierarchy system of functional structures, etc. Since there was no radical change in social structure during the entire feudal era of China, capital cities, which were the functional expressions of social and economic configuration of the concurrent historic period, remain very similar in form. The minor topological transfiguration of urban structures of capital cities was, in most situations, initiated by the topographic character of the locality. Most of the ancient capital cities in Northern China were located on the North China Plain, which allowed the plan of the cities to follow the canonical model and its rectangular form. Jiankang (Nanjing) in East Jin Dynasty (Figure 5-4), City of Chang'An in Tang Dynasty (Figure 4-9), Dongjing in Song Dynasty (Figure 5-5), and Beijing in Yuan, Ming and Qing Dynasty (Figure 4-1) were all apparent examples.

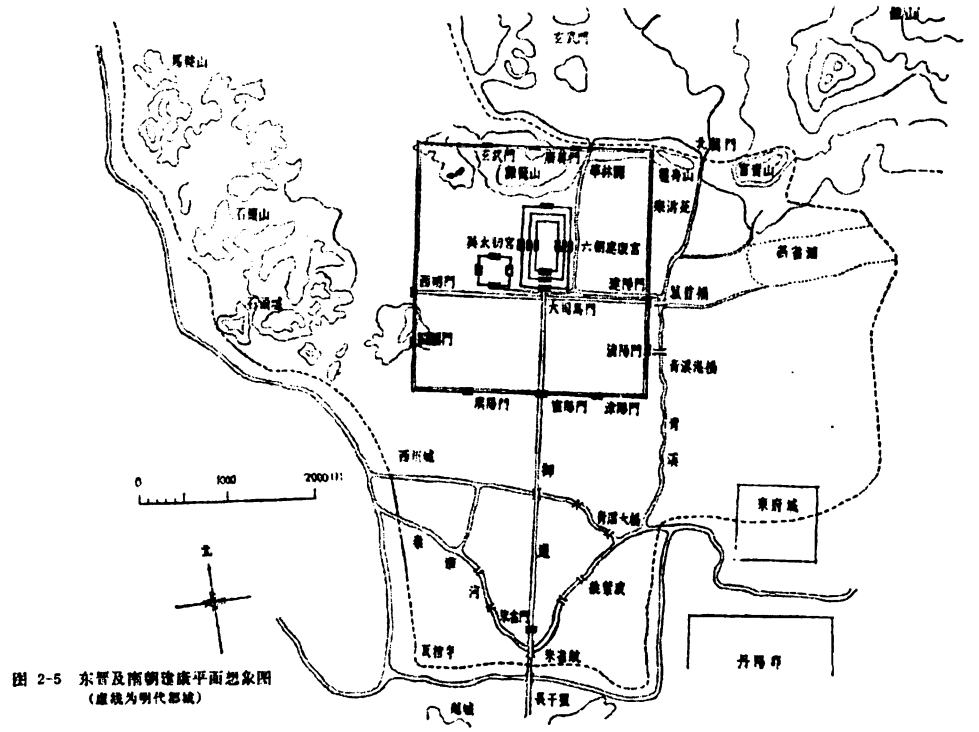


Figure 5-4: City of JianKang (Now the City of Nanjing) in East Jin Dynasty
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 42.

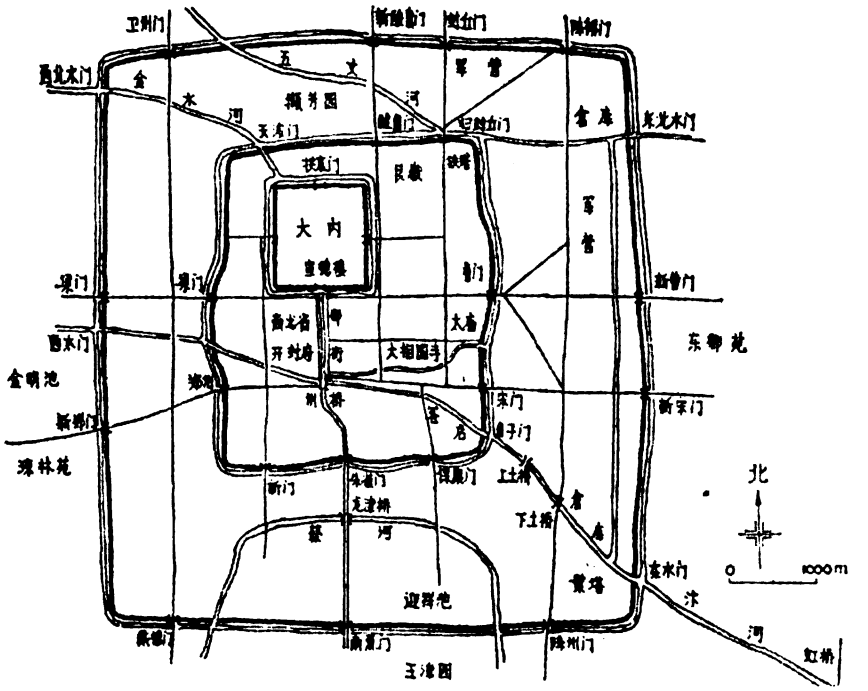


Figure 5-5: City of DongJing in Song Dynasty
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 48

On the contrary, while the imperial capital was considered the center of the cosmos, regional and local cities, no matter how high the administration level, were all considered the world of the populace and treated differently. The cosmological implication in the canonical capital plan doesn't apply to these ordinary cities.[22] Cooperating with the variety of geographic conditions, freedom from the rigid rules brought regional and local cities a great diversity in spatial and functional arrangements.

The physical growth of a non-capital city is more organic than planned, and normally based on the existing structural frame. Transformation of socioeconomic role of a city in its region determines the transformation of the spatial and functional structure of the city. Natural landscape also greatly influenced the layout of a city. Because of the hilly topography and higher density wetlands, cities in Southern China were normally shaped to incorporate with the landform. Evidences can be seen in cities such as Shaoxing and Chongqing in Qing Dynasty (Figure 5-6 and 5-7).

[22] Xu. The Chinese City in Space and Time. 2000. p. 66.

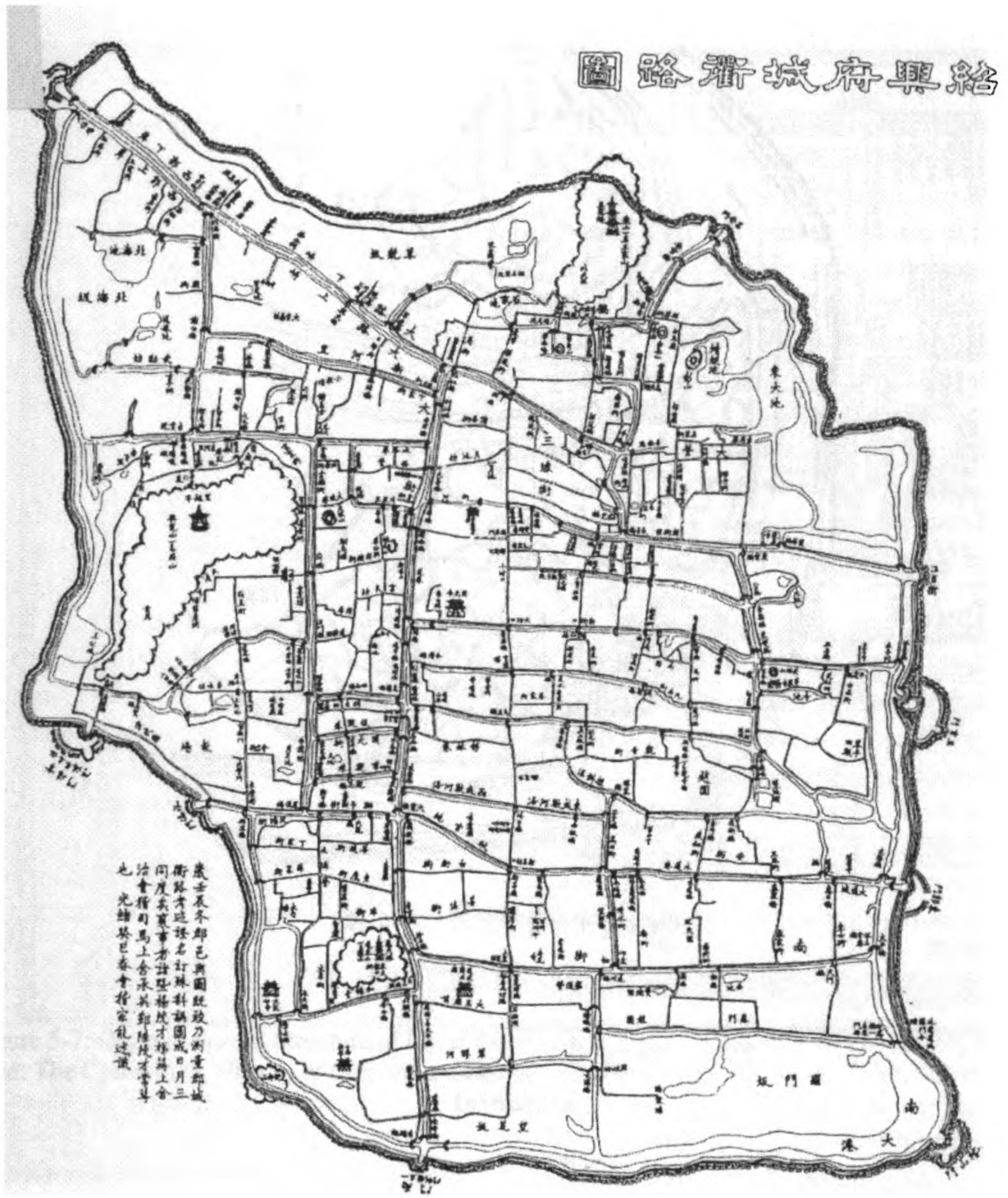


Figure 5-6: Organic Spatial Structure of Local Cities: City of ShaoXing (Zhejiang Province) in Qing Dynasty

Source: Xu, *The Chinese City in Space and Time* (Honolulu: University of Hawaii Press, 2000), p 63.

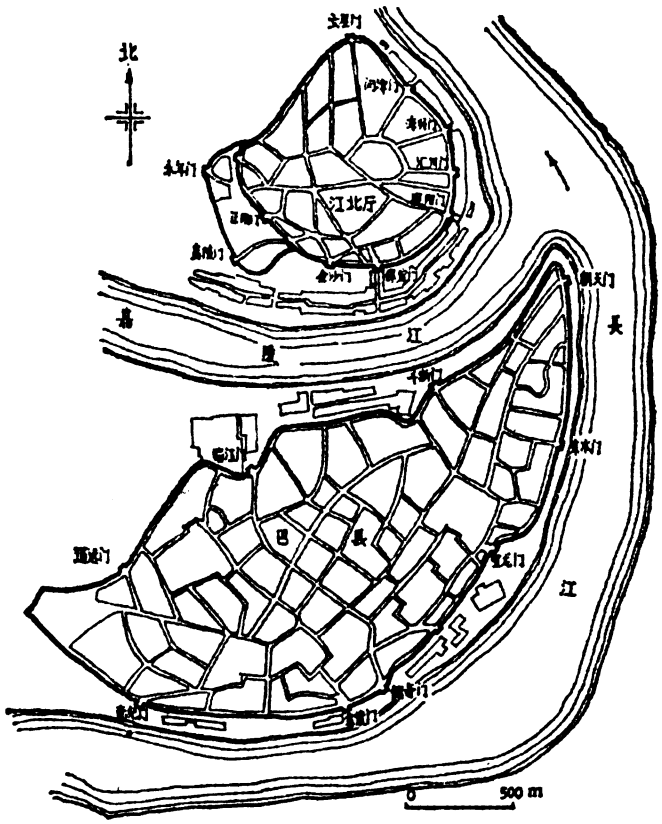


图 2-14 清代巴县（重庆）平面

Figure 5-7: Organic Spatial Structure of Local Cities: Chongqing (Sichuan Province) in Qing Dynasty
Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 55.

Remarked as "an unparalleled masterpiece of city planning,"[23] the city of Beijing is the best existing model of the ancient Chinese capitals. The frame of spatial and functional structures is well preserved, clearly showing the original design of the city as a grand capital following the Canonical Plan. It is an integrate system, with strong geometric interrelationship organizing all spatial elements and functional uses together. Its 4.9-mile-long north-south central axis, 0.6 miles by 0.5 miles Forbidden City as the central core, 1.6 miles by 1.7 miles Imperial City, 4.2 miles by 3.3 miles Inner City and 4.9 miles by 1.9 miles Outer City as southern expansion, establish an imposing three-dimensional image of a great ancient capital. The series of concentric rectangles, the overwhelming Central Axis processing from south to north, the symmetric layout of entire city, the longitudinal-latitudinal road system, layers of great city walls, the grand gateways and the watch towers, the majestic palaces and plazas, the huge and picturesque

[23] Wu, 1999, p 7.

royal gardens, -- all of these make this city an unsurpassable demonstration of classic Chinese capital planning art.

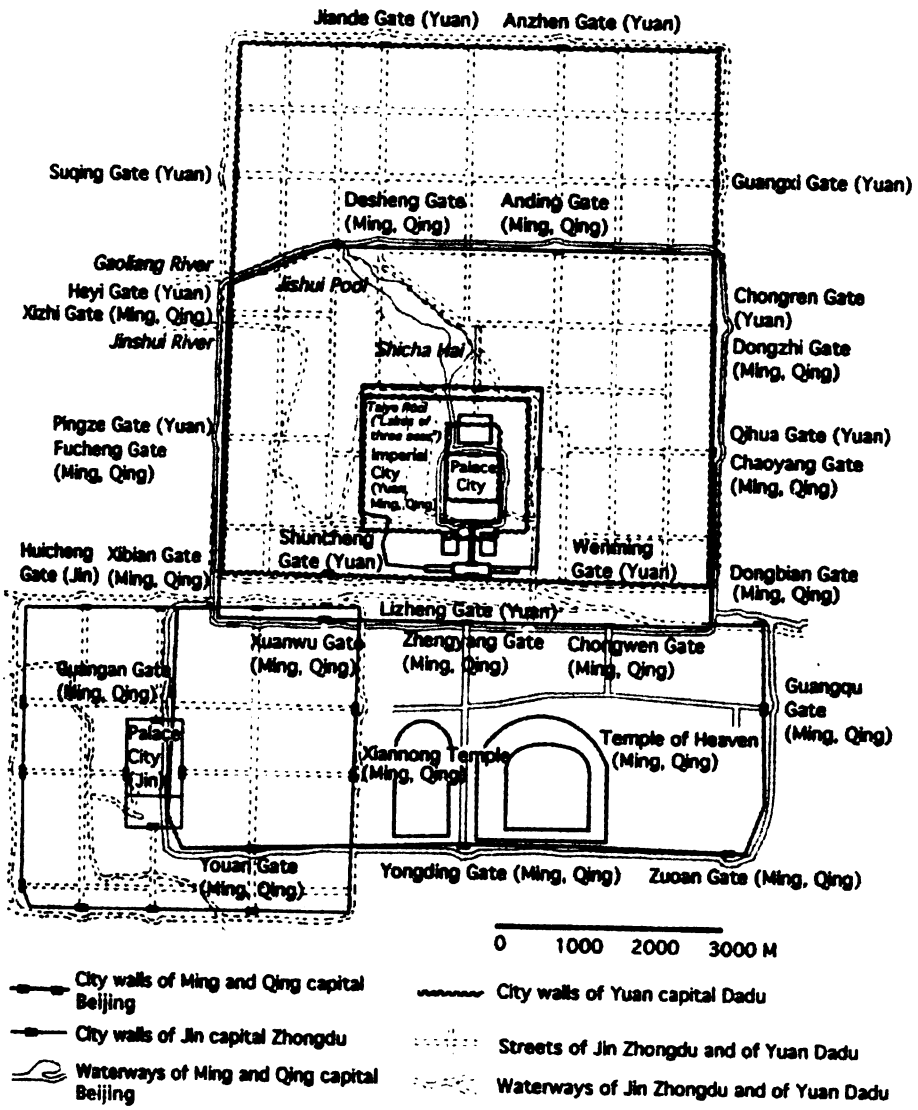


Figure 5-8: Evolution of Beijing's site since the twelfth century:
Zhongdu in the Jin Dynasty, Dadu in the Yuan Dynasty, and Beijing in the Ming and Qing Dynasties.
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999), p 7.

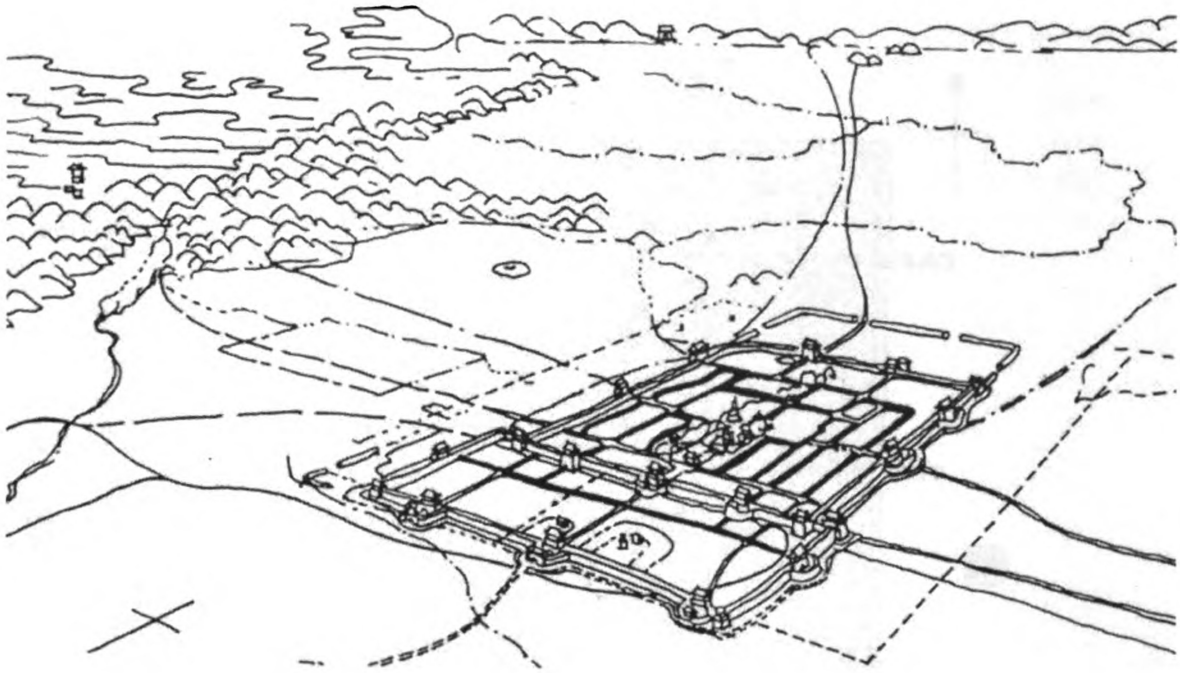


Figure 5-9: the Physical Form and Urban Structure of Beijing
"Beijing is a planned entity ... Therefore we must first of all realize the value of the wonderful structure which gives the city its intrinsic character. The system of architecture in Beijing as a whole could be the most intact, the most extraordinary, and most precious piece of art that still retains its vitality in the tradition [of planning classical Chinese capital cities]. This would be the pint of departure in any attempt to understand the city."
Source: Liang, *Beijing – an Unparalleled Masterpiece of Urban Planning* (Beijing: Press of Chinese Construction Industry, 1987), p 55.

Besides the spatial plan, major functional uses of this capital city were also arranged according to the rules in *Zhou Li*. The Emperor's palaces are located in the fenced central core (Forbidden City). South of the central core, on the east there is the Ancestor's Hall, on the west the Altar to the God of the Earth (the Altar to the State). In front of the Imperial City, there are major governmental departments. Because of the increasing significance of commerce in feudal socioeconomic life, market places expand from north of the Imperial City to all the peripheral areas surrounding it.

In addition to the canonical plan, out of the City Wall there are four (temples) on four sides of Beijing: the temple of Heaven on the south, the temple of Earth on the north, the temple of the Sun on the east, and the temple of the Moon on the west. The Drum Tower and Bell Tower are located on the northern section of the central axis, outside the Imperial City.

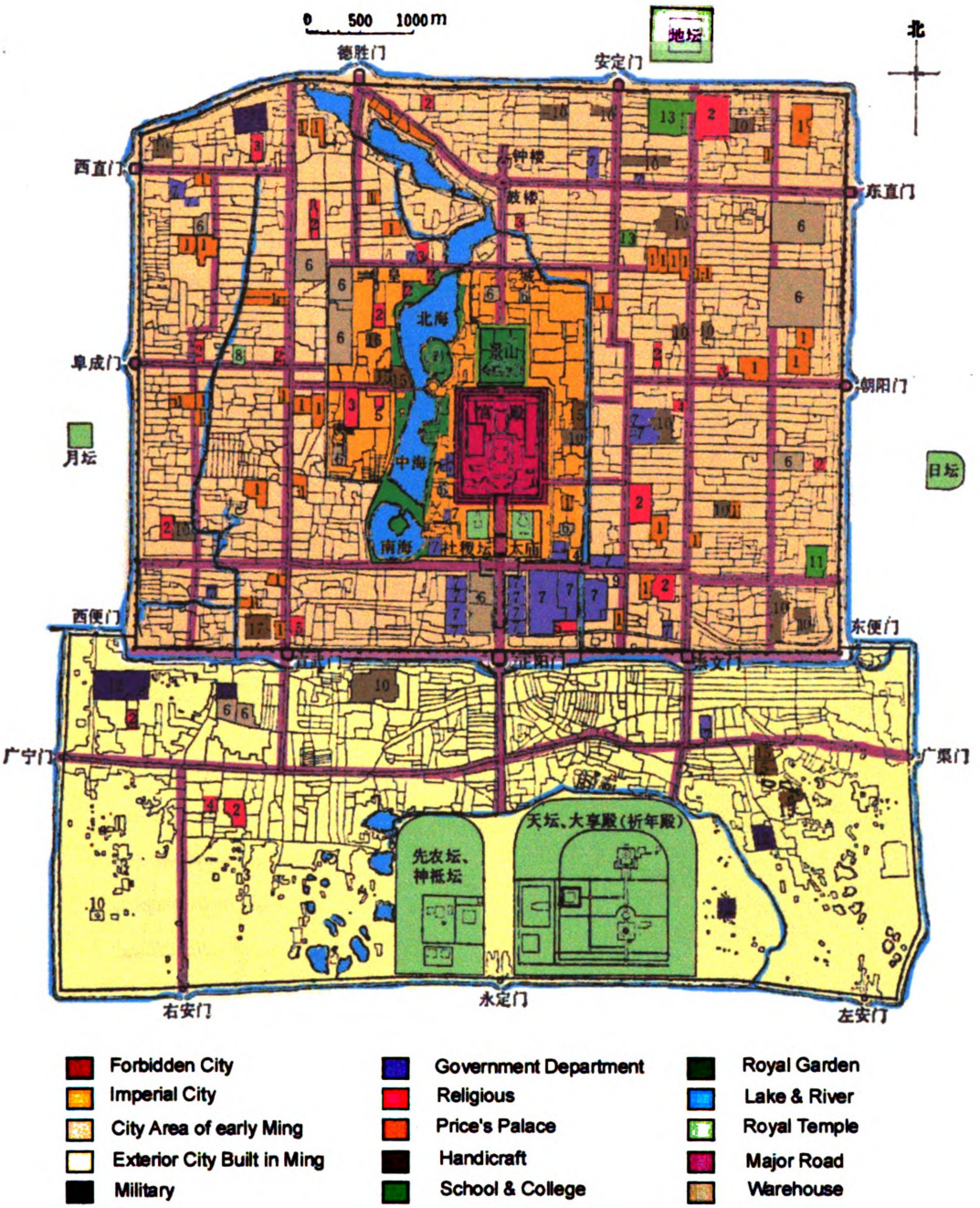


Figure 5-10: Spatial Structure and Land Use Analysis: City of Beijing in Ming and Qing Dynasty
Reproduced from: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p 51.

Not only the main structure, but also the urban fabric of the historic Beijing is delicately woven according to a certain order. Professor Wu's research shows the

hierarchy of urban spaces in the Old City of Beijing (Figure 5-11).[24] The Order consistently exists in the city as a whole, and then branches down to the street blocks, the neighborhoods, the lanes and alleys (HuTong), the courtyard compounds, the buildings, and then the rooms. The spatial sequences, while approaching private places (destinations) from public places (major streets), are mostly in a fish-bone-like structure, the spaces dominated by these places are series of rectangles. Places with the higher hierarchy are located on the central places and control larger area of surrounding spaces.

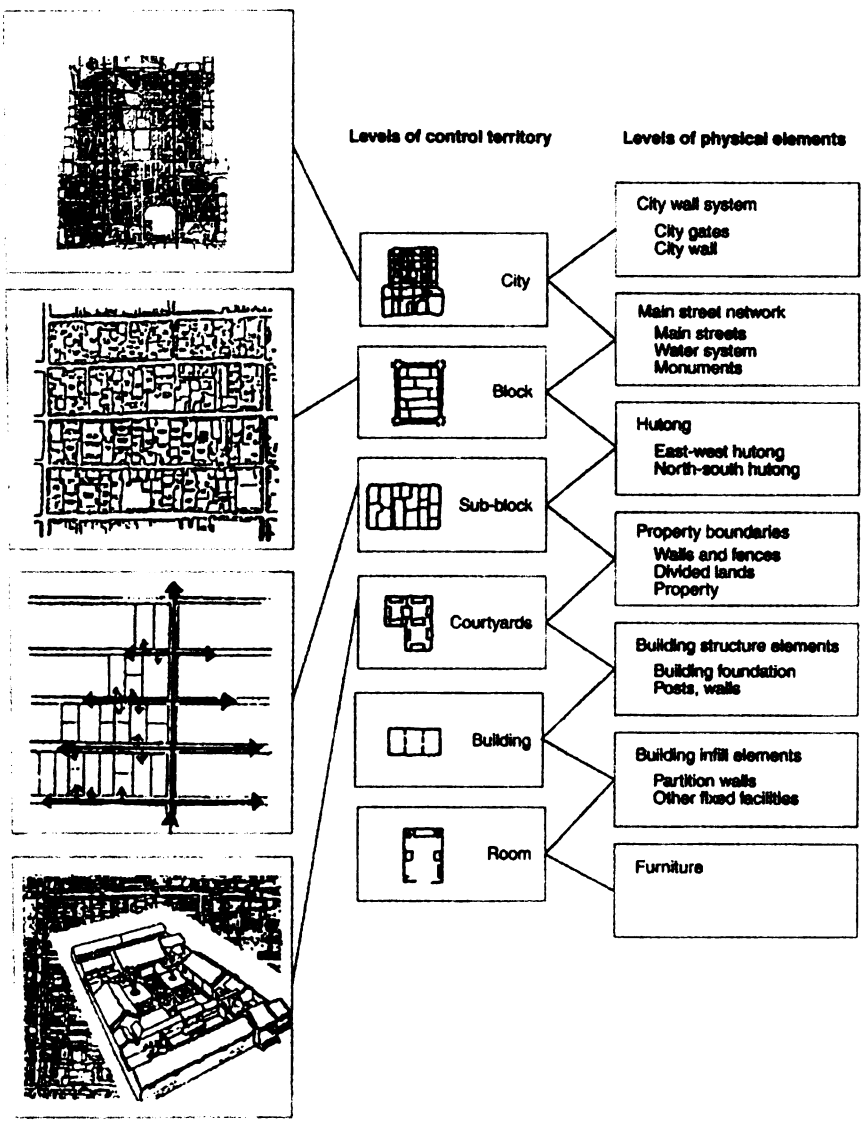


Figure 5-11: The hierarchy of urban spaces in the Old City of Beijing
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999), p 75.

[24] Wu. Rehabilitating the Old City of Beijing. 1999. p 74-75.

Rooted deeply in ancient Chinese culture, the style of courtyard compounds spreads all over the country and becomes Chinese vernacular architecture. A closer observation on these urban space units shows that the prototype of courtyard houses was extendedly adapted to a great variety of uses in the city, from residential to governmental, religious, and commercial (Figure 4-32) .[25] The application of processional central axis, symmetry, high level of enclosure, and sense of sequence and hierarchy can be found in the construction of various urban spaces. Noticeably, in courtyard compounds, equal emphasis is given to buildings and spaces enclosed by these buildings. This is consistent with the Chinese Buddhist philosophy that "the void is the mass, the mass is the void," which in architecture demonstrates the complimentary relationship between space and entity.

However, though the historic Beijing is considered the best model of a classic Chinese capital city, after years of wars and modernization in last two centuries it lost many of its valuable assets. Except for the Forbidden City and the Imperial City, today in most areas of the city its traditional characteristics have partially or completely disappeared, such as city walls, classic architectures, lanes and alleys, courtyard residential neighborhoods.

To treasure classic capital cities as the great heritage of Chinese culture, I suggest the proposed neo-traditional Chinatown follow the spatial and land use pattern of the canonical plan and the historic Beijing. Not only through the architectural features, but also the entire urban structure, the Chinatown shall demonstrate the tradition and lifestyle of a glorious Chinese city.

5.3 An Urban Design Alternative: Master Plan of the Conceptual Chinatown

Based on the above research on conditions and needs of Chinatowns, and the spatial and architectural character of classic Chinese cities, I developed a neo-traditional master plan for a conceptual Chinatown.

As addressed before, the neo-traditional Chinatown is designed to follow the spatial and functional structure of the canonical plan in *KaoGongJi* and the historic city of Beijing.

5.3.1 Layout of the Proposed Neo-Traditional Chinatown

A neo-traditional Chinatown is a Chinatown in the form of tradition and accommodating contemporary urban life. The canonical Plan of the royal Zhou capital described in *Zhou Li* is an ideal template for establishing a city disseminating ancient Chinese philosophies and cosmology. However, it is easy to find out that throughout all of these the monarchism dominated every aspect of the social and economic activities, and the right of common people were always put behind. The humble position of markets

[25] Wu. Rehabilitating the Old City of Beijing. 1999. p 80-82.

and the obvious absence of open public spaces (parks, civic plaza etc) were all the evidences of the ignorance of the right of common people.

To develop a conceptual design for a neo-traditional Chinatown, the spirit of democracy, freedom and equality should be weaved into all the spaces and images as the predominant design principles. This is a Chinese community where people are the leading role of all the social and economic activities. Therefore, urban design for a Chinatown is to create a series of stages for Chinese American people, presenting the great Chinese heritage to the general American public.

Based on the canonical plan and the thoughts above, my design alternative for the ideal conceptual Chinatown applies the spatial and land use structure shown below.

The city is in form of a square, and partitioned into nine divisions by four traffic arteries: two longitudinal, two latitudinal. There are three gateways on each side of the city, corresponded with the entrances to the center core area from the two traffic arteries and one pedestrian main street on the axis. Of the nine divisions, the central core serves as the civic center of the city, administratively, culturally, and economically. Commercial corridors are in the four divisions along with the main pedestrian streets, and lead to the very center of the city. The other four divisions located on the four corners of the city square are residential dominated neighborhoods.

The nine sections are not evenly divided. Considering the proper ratio between land dedicated to commercial use and that to residential use, divisions for the central civic core and commercial corridors are smaller and narrower than the residential areas on the four corners.

Nine gateways define the symbolic boundary of the entire area. However, the geographic boundaries of the city stop at the alleys next to the four traffic arteries outside of the gated square. The outside ring serves as mixed use development areas for housing and light industries. On one hand, this layout brings about three concentric squares with metaphoric meanings described in *KaoGongJi*, which have now converted to signify that the continuation and prosperity of the Chinese culture and Chinese communities will extend from the Central Kingdom (the Original meaning of the name of state of China) in all the directions to the world. On the other hand, it prevents the inconsistency of streetscape style caused by putting the geographic boundaries of two ethnic communities on the centerline of major roads.

As portrayed in *KaoGongJi*, the processing axis starts from the south and heads to the north. On the pivot the topography of the city going higher from the south to the north. On the southern part of the pivot there are more water features, and on north part of it there is a hill terminating the visual sequence and holding the positive spirit (*Yang*) southwards to the city core.

Four primary gateways of the four pedestrian main streets on the south-north and east-west axis are named after the four guardian spirits for four directions in Taoism:

Black Turtle Gate for the south, Red Bird Gate for the north, Green Dragon Gate for the east, and White Tiger Gate for the west.

South of the center core, on the east there is the Ancestor's Hall, and on the west the Altar to the State. Outside the four major gateways there are the Temple of the Sun on the east, the Temple of the Moon on the west, the temple of Heaven down the south, and the Temple of Earth up the north.

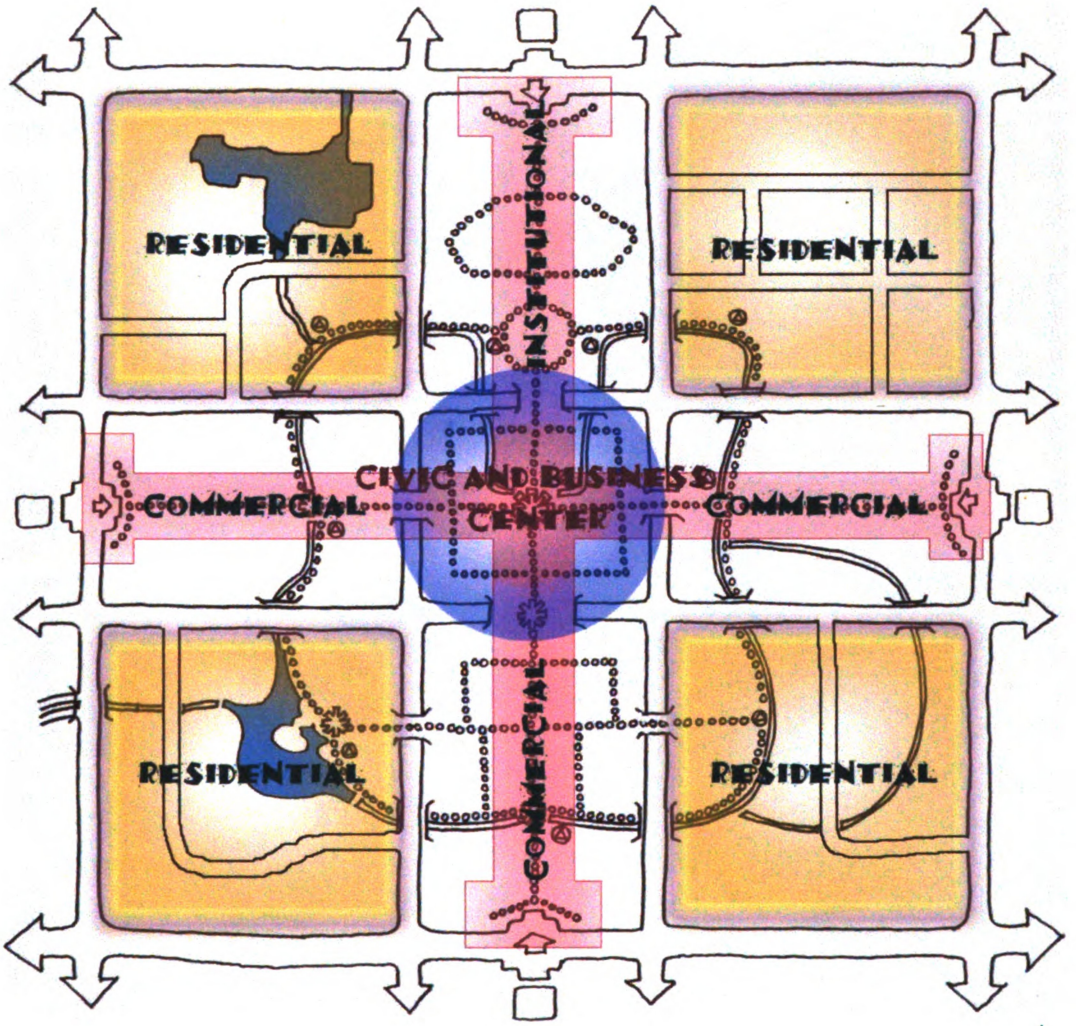


Figure 5-12: The conceptual plan of a neo-traditional Chinatown

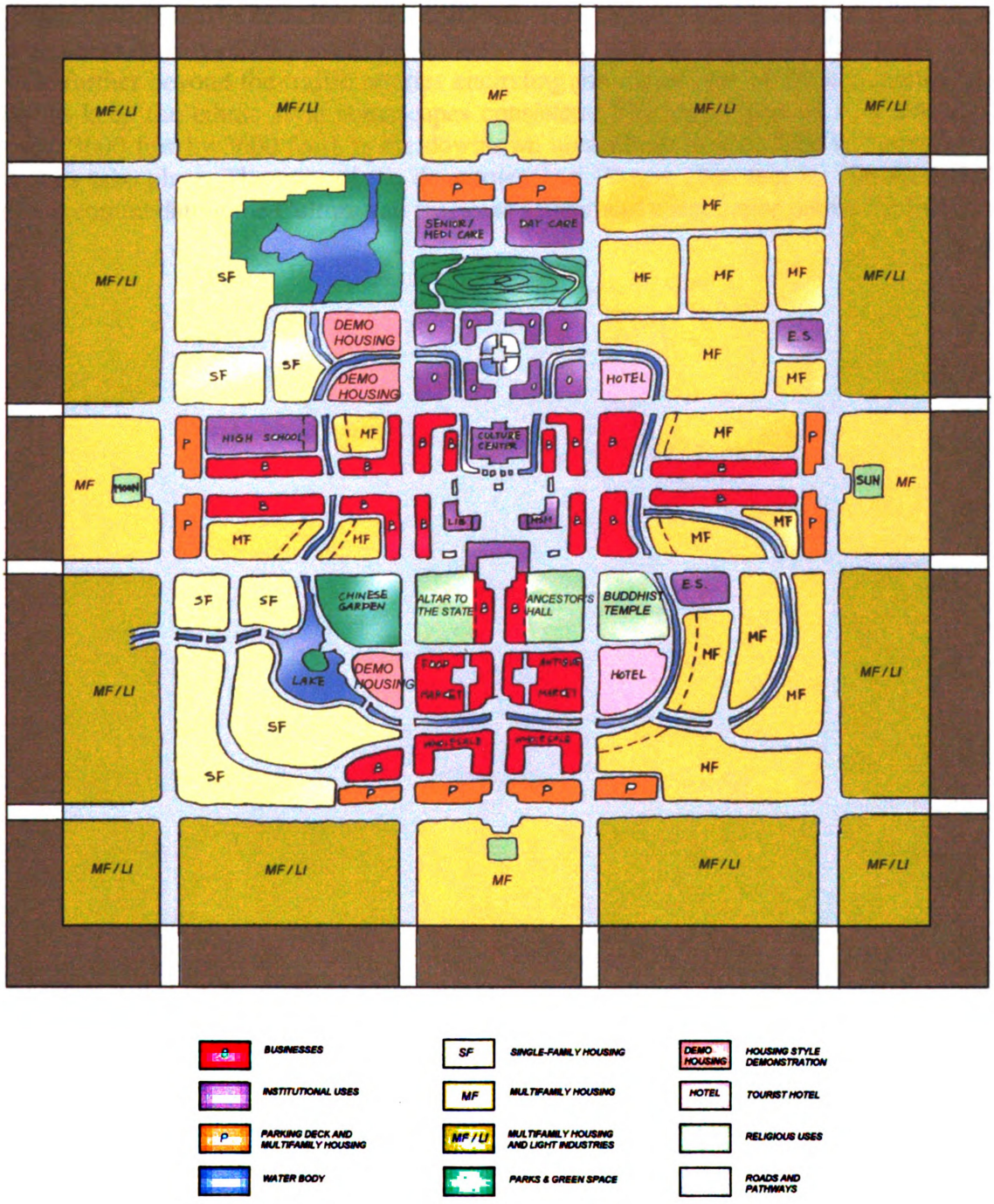


Figure 5-13: Land Use Planning for the Conceptual Chinatown

5.3.2 The Master Plan

This is a design for a neo-traditional Chinatown. The master plan visualizes an example of a neo-traditional urban design approach, with classic Chinese architectural styles and spatial characteristics reflecting Chinese spirit and land uses accommodating contemporary urban life in Chinatowns.

This conceptual Chinatown is designed for about 12,000 residents, with a development density of 50 persons per acre in average. The boundaries of this ethnic area are set further beyond the traffic arteries encircling the major part of the community, in order to keep the ethnic style streetscapes consistent. The major part of it, a 298-acre square (3600 feet by 3600 feet), is the downtown area where major social and economic activities take place. The core of the downtown is a 19-acre (900 feet by 900 feet) city block accommodating the Culture and Business Center and other major public facilities.

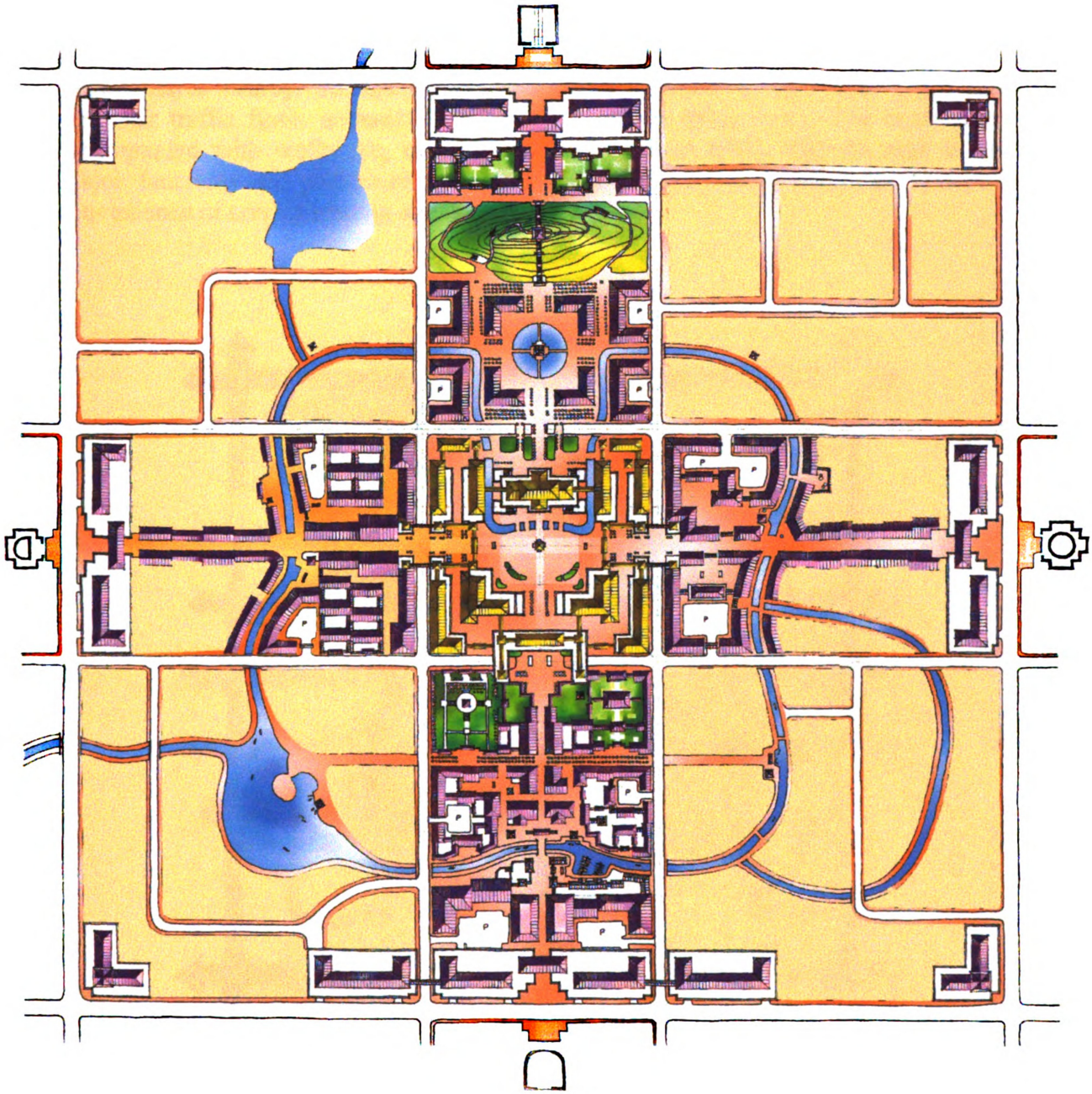


Figure 5-14: Master Plan for the Conceptual Chinatown

5.3.3 Circulation and parking

Figure 5-15 shows the circulation systems of the proposed Chinatown. Major roads, in longitudinal-latitudinal grids, defined the structural frame of this Chinatown. Major

pedestrian streets are located on the north-south and east-west axes running through the entire downtown quad. In all commercial and institutional areas as well as most of the residential neighborhoods, vehicular circulation and pedestrian circulation are separated systems. The main pedestrian streets on the two axes are paralleled with the major thoroughfares nearby. At the intersections of the pedestrian axis and major roads, vehicular traffic flows underneath the street-level pedestrian decks. The boating loop, accompanied with walkways, cross under the vehicular traffic through arch bridges. Major functions are positioned between vehicular system and pedestrian system for convenience of service loading and customers.

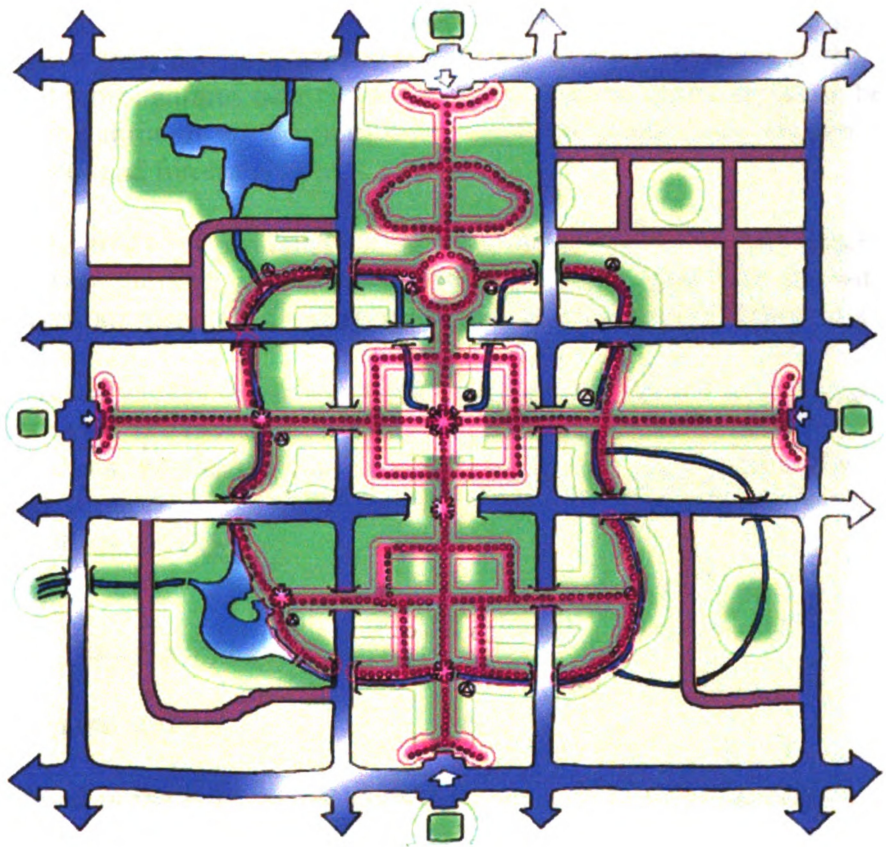


Figure 5-15: Circulation System of the Conceptual Chinatown

Four traffic arteries bonding the downtown quad are four-lane two-way drives. Four major thoroughfares passing through the downtown quad are two-lane two-way drives. All these major roads have additional space for parallel parking, in order to slow down the traffic and encourage street activities. Sidewalks are 15 feet minimum in width, and the pedestrian boulevards on axes are 45~60 feet in width. Canopy trees are planted along the streets, and all sidewalks are landscaped with planting and decorative elements. In

major conjunctions, roads are paved with bricks or tiles to emphasize pedestrian's priority.

Parallel parking, bay parking and deck parking are combined together to serve the community and its visitors. Major parking decks located at the four great gateways are for general visitors; those at four corners of the downtown quad are for the residential neighborhoods; those in the central quad are for the Culture and Business Center. Considering the intensive customer flow, a few places allow bay parking. Bay parking is not encouraged because of it negative impact on the quality of the urban environment. The parking lots are located in the backyards enclosed by buildings to keep the continuity of the streetscapes.

There are many transportation options in the downtown area. Cars as well as pedestrians have great access to all the places. Bus services run through the longitudinal and latitudinal thoroughfares near the central core. Tourist motor-carts can be rented and allowed running through all the pedestrian streets in commercial districts. Boating is good for a scene- and fun-hunting tour.

Five fitness trails are available in the downtown quad. One is running along the boating waterway, through all the tourist attractions. The other four are within the four residential divisions respectively, cooperating with parks and neighborhood green spaces.

Variety and efficiency of the circulation systems will bring this proposed Chinatown vitality. Not only convenience, but also excitements are interlaced into the tours, attracting residents, businesses, and tourists. This lays down the base of a dynamic and thriving local economy, and opens a window for the Chinese American community towards the outside society.

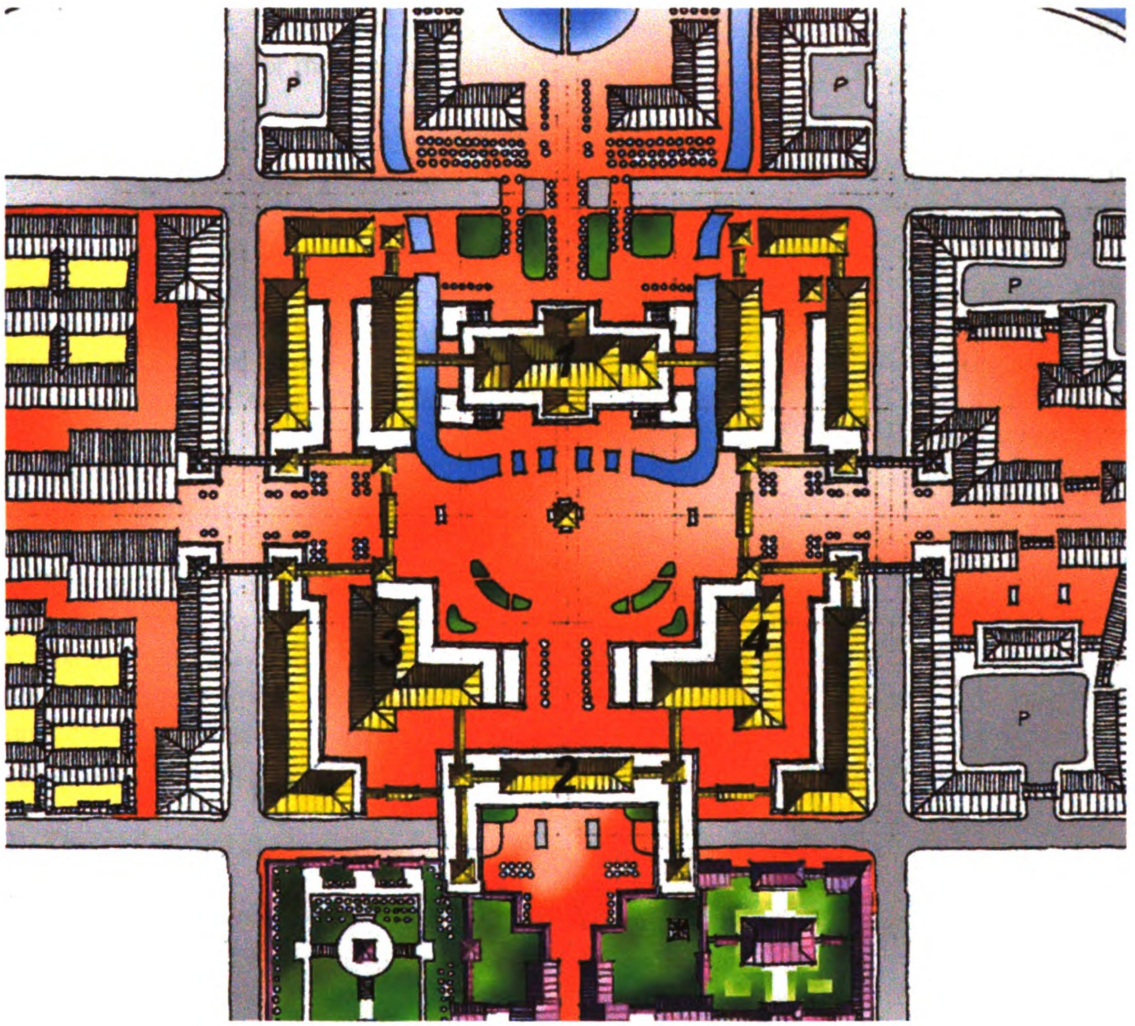
5.3.4 Places and Sequences

(1). The central core

As described in the introduction, the Grand Plaza of the Culture and Business Center is located at the center of the city on the intersection of the north-south axis and east-west axis. Implicating the replacement of monarchy with civil right, this civic center quad now occupies the central area, which was the official location for the imperial palace city within the capital city.

As a core of the city's social and economic life, the central quad is a place that accommodates various activities for both the community and visitors. Imitating the concentric rectangular structure of ancient capitals, the central quad is a double-layer courtyard, with governmental and institutional uses in the inner court, and commercial uses in the outer layer. A grand building complex hosting the Culture Center and the City Hall with exhibition, conference and performance facilities is placed on the south-north axis, facing south and dominating the entire central plaza. It is at the spot that was used to

place the royal palace. At the east and west side of the grand complex there are two wing buildings serving accessory functions, including receiving centers, offices, hotels, and secondary conference rooms. On the southern part of the grand plaza, the Museum of Chinese Art and History and the Library of Chinese Culture are located on two sides of the main axis. The outer layer of this central quad serves as the business center of the city, where major businesses and business organizations anchored. The Central Plaza is designed in a monumental scale to uphold large public activities. It also provides a broad prospect for the Grand Complex, complementing the supremacy of the entire central core.



1. THE CULTURE CENTER COMPLEX
2. THE MERIDIAN GATE
3. THE CHINESE LIBRARY
4.THE MUSEUM OF CHINESE CULTURE

Figure 5-16: Plan Detail of the Central Plaza

Traditional architectural features are applied in this area as in the entire Chinatown. To emphasize the central and dominant position, buildings in this area are endowed with highest hierarchy in both form and scale. More like gate towers than palaces, they are three- to six-story structures with giant golden roofs and one or two-story stone terraces. The reason of choosing a gate tower template for major public architectures is to utilize the multi-story structure for contemporary urban programs. At the same time, the castle style image can help creating a sublime manner for the center of the Chinese community. The giant roofs, the building walls with exposed structural frame, and the terraces in form of a city wall with battlements serve as a strong symbolic implication of a classic imperial city, while the entire place is physically open, full of civic spirit, and allows free flow of pedestrians. The lower floors that take forms of city walls can also serve as long-term parking ramps for the central area.

The plaza is paved with tiles and patterns that reflect Chinese tradition. The canal flows through the north part of the plaza, with five small stone bridges leading to the main entrance of the Grand Complex, which is mirroring the scene of the entry plaza of the Imperial City in Beijing. Two decorative columns are lined symmetrically in front of the building. A celebration platform is placed at the geometric center of the plaza, with a great bronze incense burner burning all year around. Trees and flowerbeds are delicately planted in order to bring natural elements to the place without disturbing pedestrian flows. Decorative elements such as Chinese style sculptures, archways, reliefs are situated wherever detailed visual attractions are needed. Street furniture such as benches and lights are located around the rim of the plaza and in the commercial strips for pedestrian comfort.

The second floor of all the buildings in the central quad is connected by climate-controlled skywalks in Chinese colonnade style. Not only will they provide a higher level of visual integrity and enclosure, these connections will also greatly increase the pedestrian flow for the businesses on the second floors. The walking tour through these connected walkways around the central quad is also a pleasant and explorative experience, especially the sequential change of birds' eye level viewpoints.

(2). The pedestrian boulevards

Following the plan of the canonical capital city, the main processional axis is from the south heading to the north. It is a pedestrian boulevard, starting with the major gateway on the south, passing through the major business corridor, then the altar and the temple, then arriving at the business and culture plaza, which is the center of the city. Heading further north, the sequence continues to experience the memorial water palace and the office park, the scenic hill, the health care center and day care center, and then ends at the northern gateway of the downtown quad.

Being less important and less processional, the east-west axis of the city was laid out symmetrically on each side of the north-south axis. Similar to the main pivot, it is the tree-lined pedestrian commercial corridor starting with the east and west gateways and leading to the central plaza.

The major pedestrian walkways on the axis are all started from the parking decks at four gateways leading to the central core. Applying the city wall and watch tower image of the ancient capital cities, the lower levels of the gateway buildings in the form of stone battlement are used as parking decks serving shoppers and tourists, and the upper parts of them in the form of classic Chinese buildings are used as multifamily housing. Similar structures are also applied on the four corners of the downtown quad, to create an integrated spatial structure as an enclosed city with city walls.

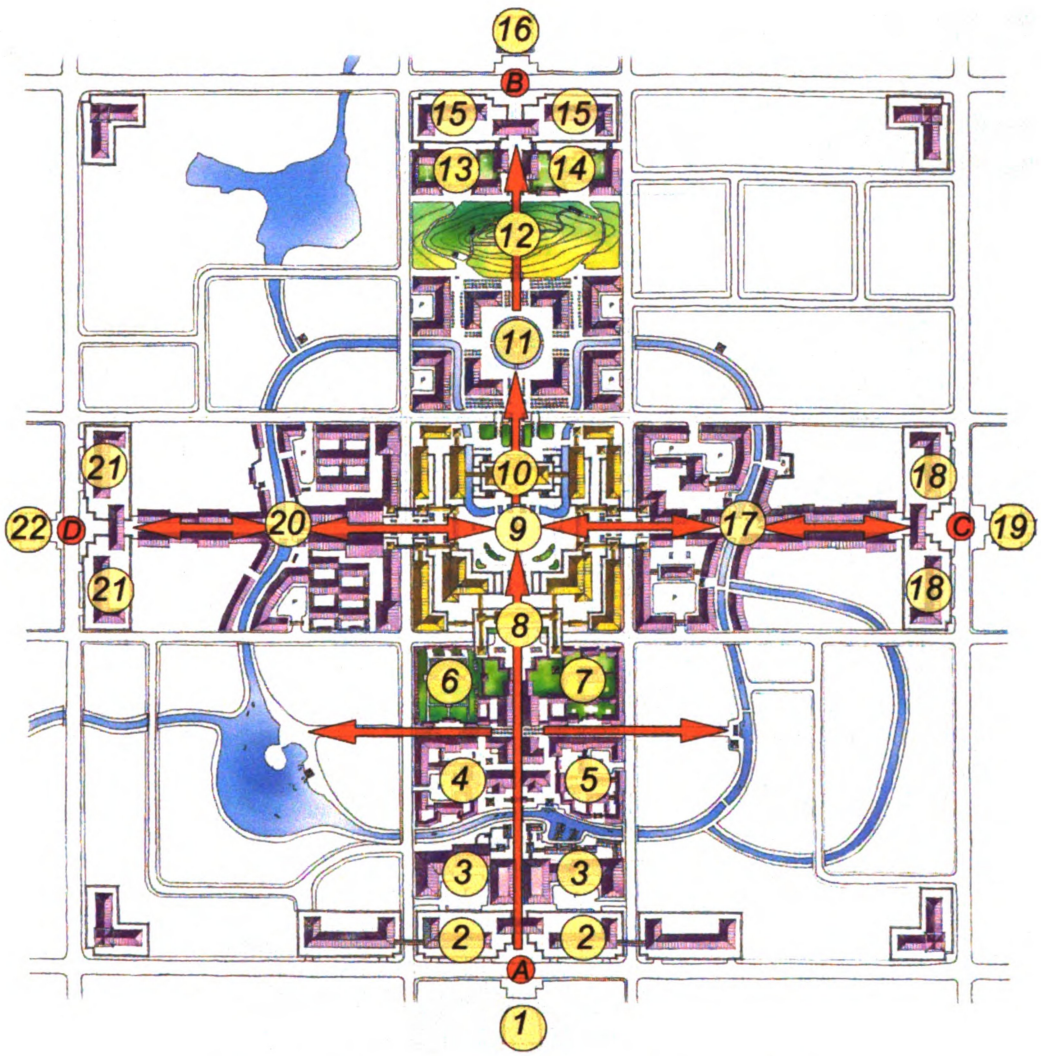


Figure 5-17: Axial Sequences on the Pedestrian Boulevards

A. The Gate of Black Turtle; B. The Gate of Red Bird; C. The Gate of Green Dragon; D. The Gate of White Tiger

Longitudinal Sequence: 1. The Temple of Heaven; 2. The parking decks on the southern gate; 3. The wholesale markets; 4. The Food Market; 5. The Antique Market and Teahouse; 6. The Altar to the State; 7. The Ancestor's Hall; 8. The Meridian Gate; 9. The Grant Plaza; 10. The Cultural Center Complex; 11. The Water Palace; 12. The Scenic Hill; 13. Heath Care Center; 14. Day Care Center; 15. The parking decks on the northern gate; 16. The Temple of Earth.

Latitudinal Sequence: 17. The East Market Plaza; 18. The parking decks on the eastern gate; 19. The Temple of the Sun; 20. The West Market Plaza; 21. The parking decks on the western gate; 21. The Temple of the Moon.

The boating route, with pedestrian walkways accompanying aside, is a loop for leisure and recreation. It chains various attractions including Chinese style boating docks, waterfront markets and recreation centers, major commercial corridors, Chinese Gardens, demonstrative Chinese residential neighborhoods, the memorial water palace, and the central civic plaza. It creates a circular spatial sequence that may begin and end at any point on the loop. Curvilinear in form and intersectant with the axial sequences, this loop offers an experience in a series of spaces with rhythmic changes in scales, enclosure, characteristics and functions. In season of the Dragon Boat Festival, the waterway and the lakes attached will be an ideal place for upholding boat racing and other aquatic events.

Complementing with each other, the axial and circular sequences bring diversity to the city's spatial structure and maximize the exploitation of the city as a tourist resource.

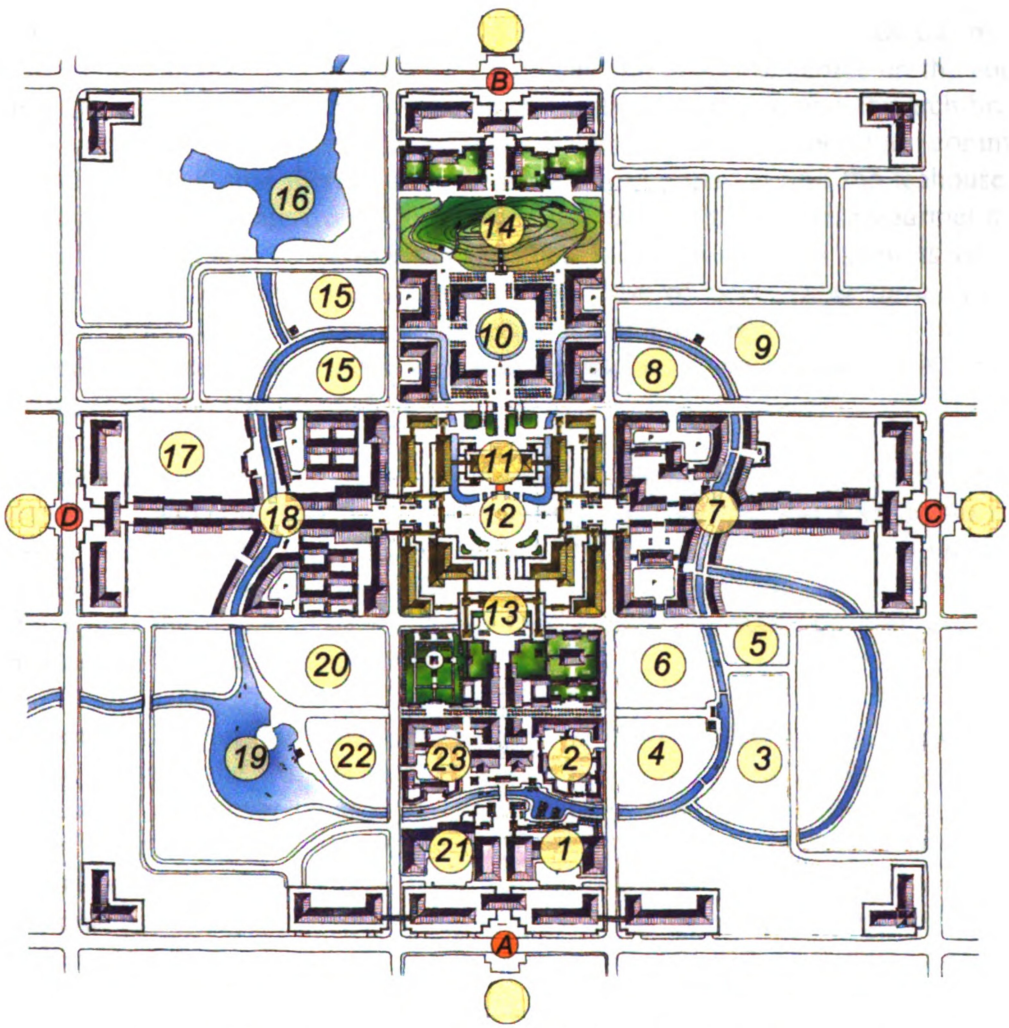


Figure 5-18: The Circular Sequence on the Loop of Boating Waterway
The Gate of Black Turtle; B. The Gate of Red Bird; C. The Gate of Green Dragon; D. The Gate of White Tiger
1. The Boarding Center; 2. The Antique Market and the Teahouse; 3. The Waterfront Residential Neighborhood; 4. The Tourist Hotel in southern style; 5. Elementary School; 6. The Buddhist Temple; 7.

The East Market Plaza; 8. The Tourist Hotel in northern style; 9. Courtyard Residential Neighborhood in Lanes and Alleys; 10. The Water Palace; 11. The Cultural Center Complex; 12. The Grand Plaza; 13. The Meridian Gate; 14. The Scenic Hill; 15. Northern Style Housing Demonstration; 16. The North Lake; 17. High School; 18. The West Market Plaza; 19. The South Lake; 20. The Chinese Garden; 21. the Wholesale Market; 22. Southern Style Housing Demonstration; 23. The Food Market.

Inside the southern gateway, which is the starting point of the processional axis, adjacent to the parking decks are the wholesale markets. This location has easy access for both pedestrians from the meridian boulevard and automobiles from three major thoroughfares. A mix of deck parking, surface parking and parallel parking provides a great convenience to the wholesale customers. Surface parking lots are accessible from the major thoroughfares, enclosed by building complexes in order to preserve the continuity of the streetscape for both pedestrian and vehicular routes.

North of the wholesale markets, the canal with boating route crosses the meridian boulevard, with a landscaped green buffer area and the boarding center on the southern bank, and one of the many boating docks on the northern bank. Across the arch bridge, a decorative archway symbolizes the secondary entrance to the meridian commercial corridor. On the east side there are the Chinese antique market and the teahouse, with colonnades open to the waterfront. On the west side there is the Chinese gourmet market, with Chinese restaurants of various local delicacies from different regions of China. Spatial patterns of this area encourage the free flow of pedestrians through out the corridors and courtyards defined by the commercial buildings. To solve the conflict between pedestrian environment and vehicular accessibility, surface parking is handled in the same way as in the wholesale district.

The meridian commercial corridor continues heading north, across a latitudinal pedestrian street, and comes to the religious-commercial district. The Altar to the State is on the west, and the Ancestors' Hall on the east. Because of the processional requirement of religious places, the entrances of the altar and the temple are all on the latitudinal street, facing to the south. Along the meridian boulevard, there are folk custom and religion related businesses on both sides.

The commercial corridor then ends at a large receiving plaza in front of the Meridian Gate, the gateway to the Culture and Business Center. The plaza is incorporated with a grand pedestrian deck over passing a latitudinal thoroughfare. The Meridian Gate is an imitation of the gate of the same name in the Old City of Beijing, a U-shape building with monumental scale and superior dignity. It terminates this section of the main axis with a strong statement, both spatially and visually. To bring variety and interest, the bell tower and the drum tower are placed on the corners of the giant platform, instead of the two watchtowers.

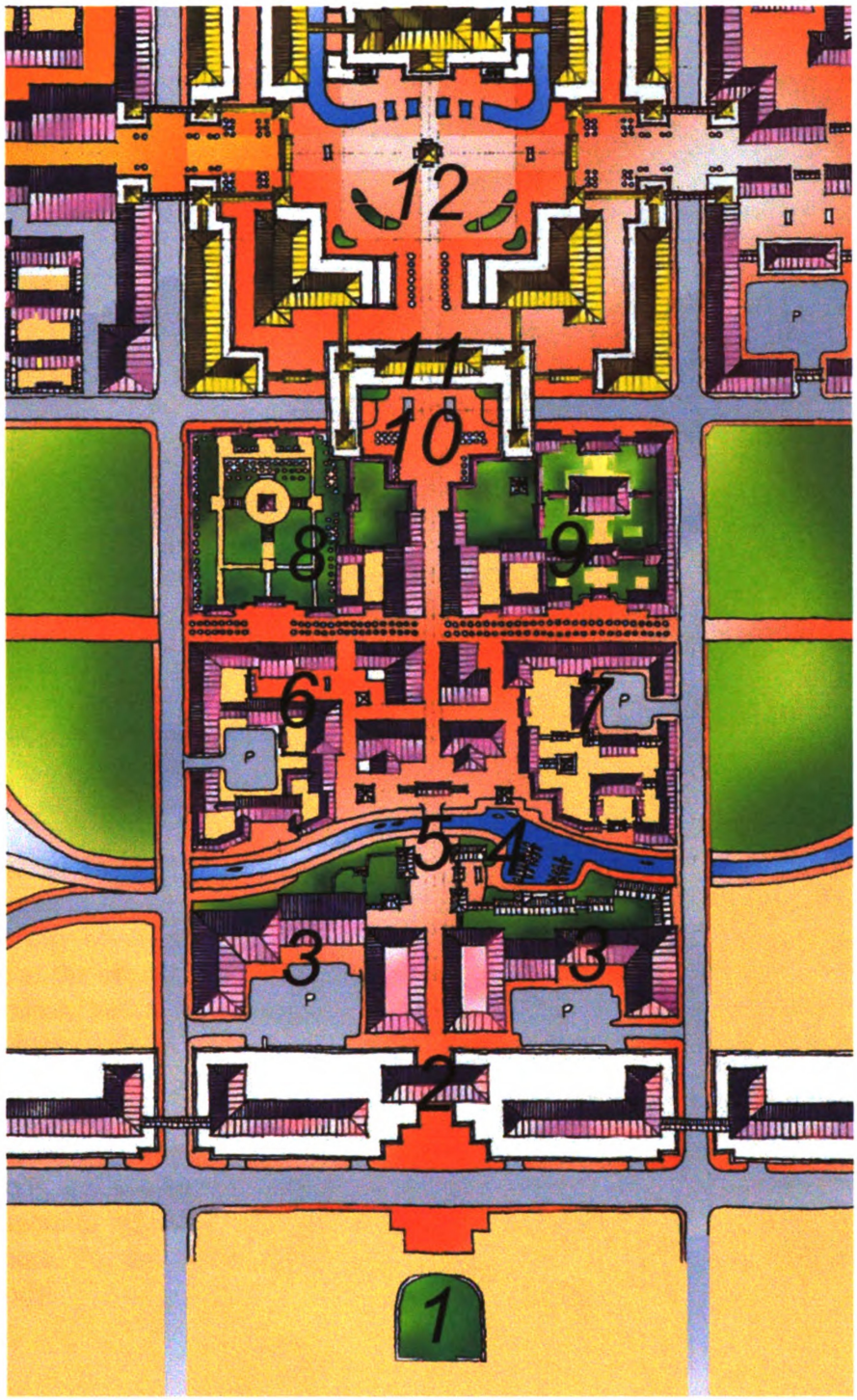


Figure 5-19: The Meridian Boulevard Commercial Corridor
1. The Temple of Heaven; 2. The Gate of Black Turtle; 3. The Wholesale Market; 4. The Boat Boarding Center; 5. The Archway; 6. The Food Market; 7. The Antique Market and Teahouse; 8. The Altar to the State; 9. The Ancestor's Hall; 10. The Pedestrian Deck and Receiving Plaza of Meridian Gate; 11. The Meridian Gate; 12. The Grant Plaza.

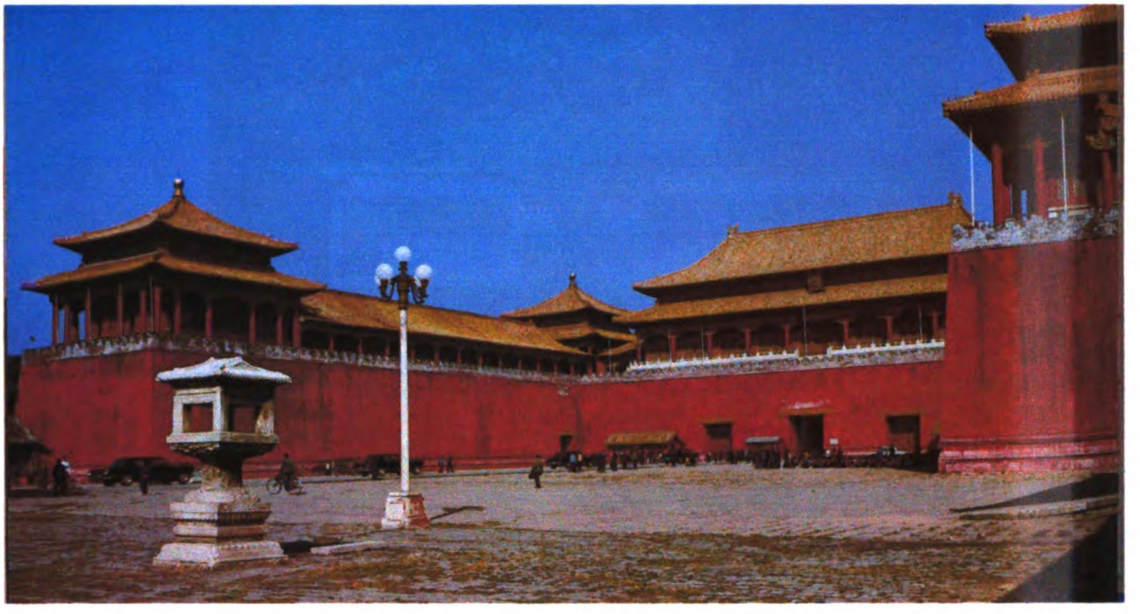


Figure 5-20: The Meridian Gate, the Old City of Beijing
Source: Chinese Academy of Architecture, *Classic Chinese Architecture* (Hong Kong, Joint Publishing Co., 1986), p 138.

Crossing through the Grand Plaza in the central quad, which is the climax of the south-to-north sequence, the axis then leads further north to the memorial water palace on the next city block via another pedestrian deck. The water palace is a grand memorial pavilion at the center of a 250-foot-diameter round-shape water body. Four narrow paths on four directions bridge the pavilion with the pedestrian spaces surrounding the water. Stone tablets with inscriptions are placed in the grand pavilion, in memory of the great achievement of the traditional Chinese culture. Not only serving the memorial purposes, this place can also be used for celebration of various events, such as weddings and commencements. The entire place is in the shape of a square, concentric with the round water body and enclosed by the two-story buildings of official or institutional uses. Fairly large amounts of trees are planted surrounding this area to help create a serene atmosphere. For the same reason, the boating loop detours to avoid disturbing the round water body.

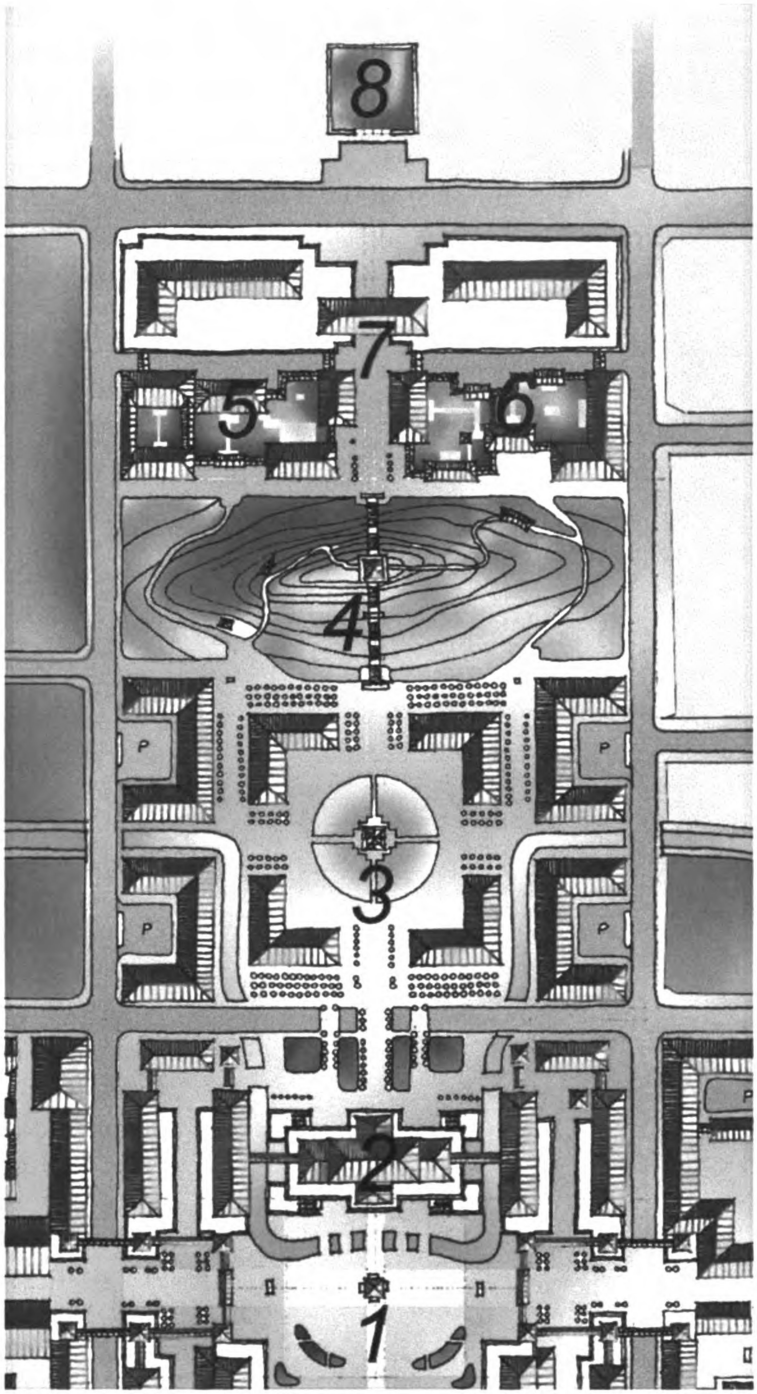


Figure 5-21: The Northern Section of the Pivot
1. The Grand Plaza; 2. The Cultural Center Complex; 3. The Water Palace; 4. The Scenic Hill; 5. The Health Care Center; 6. The Day Care Center; 7. The Gate of Red Bird; 8. The Temple of Earth.

The scenic hill is located north of the square of water palace. The hilltop, with a small sightseeing gazebo, is positioned on the main axis and designed as the highest point of the entire city. Two straight step ways on the main axis lead to the hilltop from the southern and northern base, and two winding hiking trails from the east and west sides. The presence of the hill fulfills *FengShui* requirements for the city structure, and the gazebo on the hilltop provides a perfect viewpoint for the perspective of the entire city, especially the spatial sequence on the main axis. Groves, lawns, trails and resting shelters congregate the place as a leisure and recreational attraction as well.

North of the hill, on the west side of the axis there is the neighborhood health care center, carrying both western and Chinese treatments. On the east side there is the day care center. Both of the two institutions apply building form of courtyard compounds, in which enclosed spaces can be available for safe outdoor activities. Main entrances are located on the southern side facing the small hill, and service entrances are on the northern side facing the parking decks of the northern gateway, which is the northern end of this pedestrian axis in the downtown area.

As the processional sequence on the pivot, this spatial series absorbs the essences from the structural and functional patterns of both the canonical plan and the Old City of Beijing. The sequence starts from the general market places inside the southern gate, leads to the climax at culture-dominated city core through a smooth transition, then heads further north to institutional and recreational uses, and finally ends at the northern side of the highest point. The design has further enhanced the place's quality and capacity for contemporary urban life and tourist attraction.

The spatial sequences on the east-west axis are relatively straightforward. In the sections closer to the major gateways, simple linear spaces are applied for strip malls, with multifamily housing courtyards inside the blocks. In the sections closer to the civic center, series of courtyards are applied to obtain expanded spaces for commercial or residential activities. On the east side of the civic center, dual courtyards are used for commercial spaces to accomplish the separation and cooperation between pedestrian flow and parking. On the west side of the civic center, multifamily housing courtyards are woven into the downtown commercial spaces, encouraging downtown residents to participate in urban economic activities and providing visual access to the traditional housing patterns from the spatial sequence. At the intersections with the waterway, boating docks are positioned for the convenience of altering the ways and routes of circulation, and images of broad decorative bridges are used to vary and continue the pedestrian boulevards.

(3) The boating loop

Accompanied with waterfront walkways, the sequence on the boating loop offers visitors an opportunity to explore this Chinatown in full-range. The tour can be started from any of the boating docks; here as an example, the tour starts with the boarding center and heads counterclockwise. The boarding center is adjacent to the Meridian Boulevard, a commercial corridor with various Chinese businesses and traditional

activities. The strong visual axis passing through the giant archway of the Meridian Gate and terminated by the Grand Complex of the central quad, the clusters of various buildings and spaces in Chinese styles, and the semi-open winding colonnades at the waterfront with people enjoying tea and sightseeing – these are all images of a thriving downtown in a traditional Chinese community. Following the loop and moving towards the east, the waterway crosses underneath the major traffic through a Chinese-style arch bridge. Entering the residence-dominated blocks on the southeast division of the town, a hotel of southern Chinese garden style and the Buddhist temple are on the left bank. On the right bank, there are the waterfront residential neighborhoods and an elementary school, all in traditional Southeast Chinese style. A boating dock with shelter is placed at the intersection of the waterway and the pedestrian alley between the temple and the hotel. The waterway then makes a turn and heads north to the commercial corridor on the east-west axis, crossing underneath another major thoroughfare.

Being in the business district again, on both banks of the waterway are retail businesses, with multifamily housing on the upper stories of the buildings. The three to four-story continuous streetscape following along the canal accentuates the narrowness and curviness of the waterway space. Again at the conjunction with the east-west main pedestrian boulevard, the boating dock is located to provide convenience and add special features to the place. This is also a point to pause the meandering tour and join the crowd heading straight to the grand Central Plaza.

Heading further north, the waterway enters the northeast residential division of the town and makes another left turn at the southwest corner of the division. In this division, courtyard styles of Northern China are applied to all the buildings, including the tourist hotel located on the corner left of the waterway, and an elementary school in the residential neighborhoods.

Crossing another major thoroughfare, the waterway then enters the memorial water palace's city block from the east. After the office complexes on the edge of the block, the waterway turns down to the south, heading to the grand Central Plaza and leaves the round water body of the palace undisturbed. Passengers can disembark here and walk into the serenity between lines of canopy trees, with the splendid pavilion amidst vast water in sight.

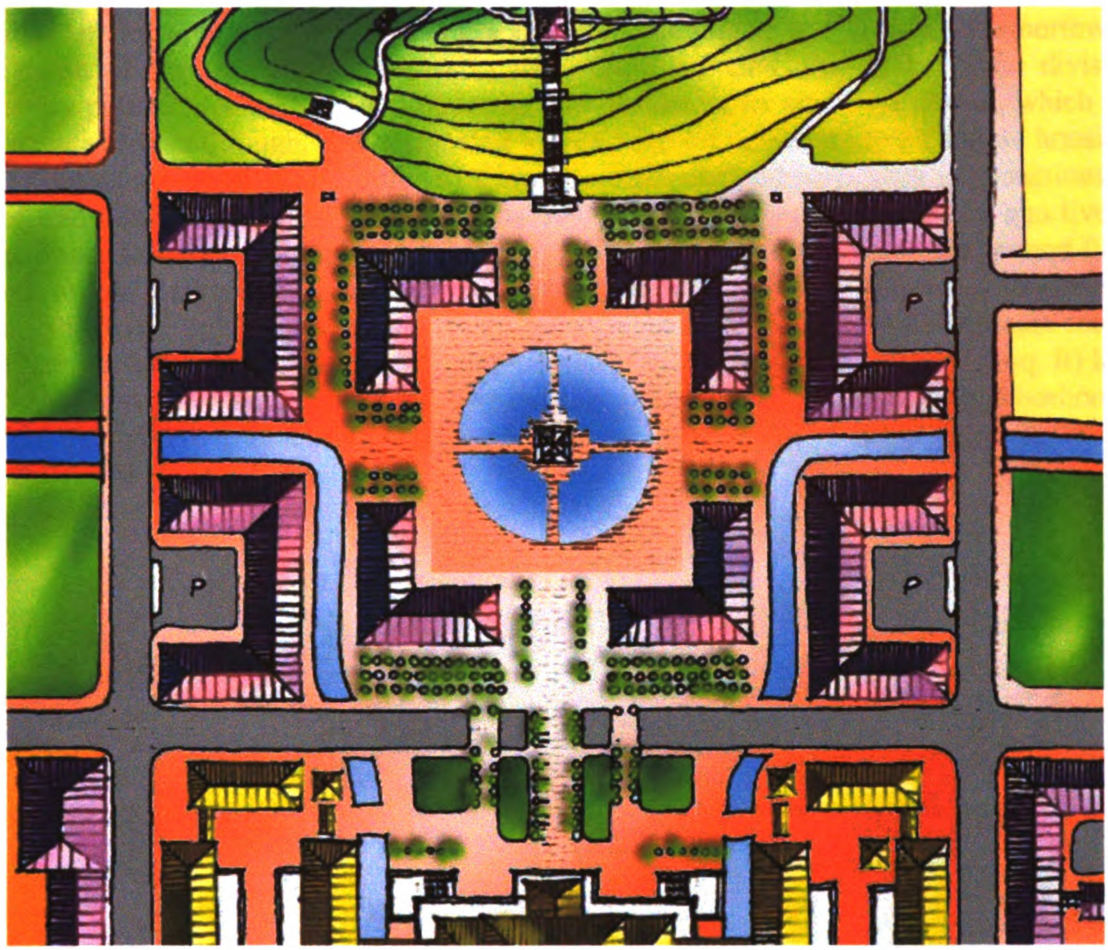


Figure: 5-22. The Water Palace

The waterway comes into the grand Central Plaza through the alley between the Grand Complex and its east wing. This is a slim linear space with no pedestrian walkways coming along; the immediate edges of the canal are steep walls of the giant terraces of the two buildings. However, instead of bringing about suppression through the non-human scale, this section of the waterway is designed exclusively for the boating tourists to enjoy a monumental exhibiting space with reliefs, sculptures and inscriptions on the stone walls. All these artworks are of Chinese folk art style, delineating major legends and events in Chinese history. The waterway then flows into the northern part of the grand Central Plaza from the east side, crossing five decorative stone arch bridges in front of the Grand Complex. Then it makes another turn on the west side of the plaza, heading back northwards through the alley on the west wing. As other parts of the central quad, the waterway within this area is also laid out symmetrically. The memorial wall along the banks on the east side is mirrored to the west side, with different contents but the same style.

Back to the west wing of the memorial water plaza, the boating tour gives passengers one more chance to review the broad and peaceful scene of the area. The waterway then

turns left towards the west, crossing a major thoroughfare, and entering the northwest division of the downtown area. Also residence-dominated, this is an urban division mainly planned for middle- and upper-income residents. Its southeast corner, which the waterway flows through, is a designated tourist zone for demonstrative Chinese housing. Various housing styles of Northwest China are demonstrated here, with introductions of the traditions and customs of the regions they originated from. Real families can live in the upper floors of these houses, taking care of the small businesses on the ground floor and in the courtyards. The west part of the division is a single-family residential neighborhood, applying larger courtyard houses with lower density. The northeast corner of the division is a 15.5-acre (750 feet by 900 feet) park, with a 2-acre (90000 sq. ft) lake connected to the boating waterway. The existence of the park ensures this neighborhood a high quality environment for residence, and provides a large green open space for residents of the entire city.

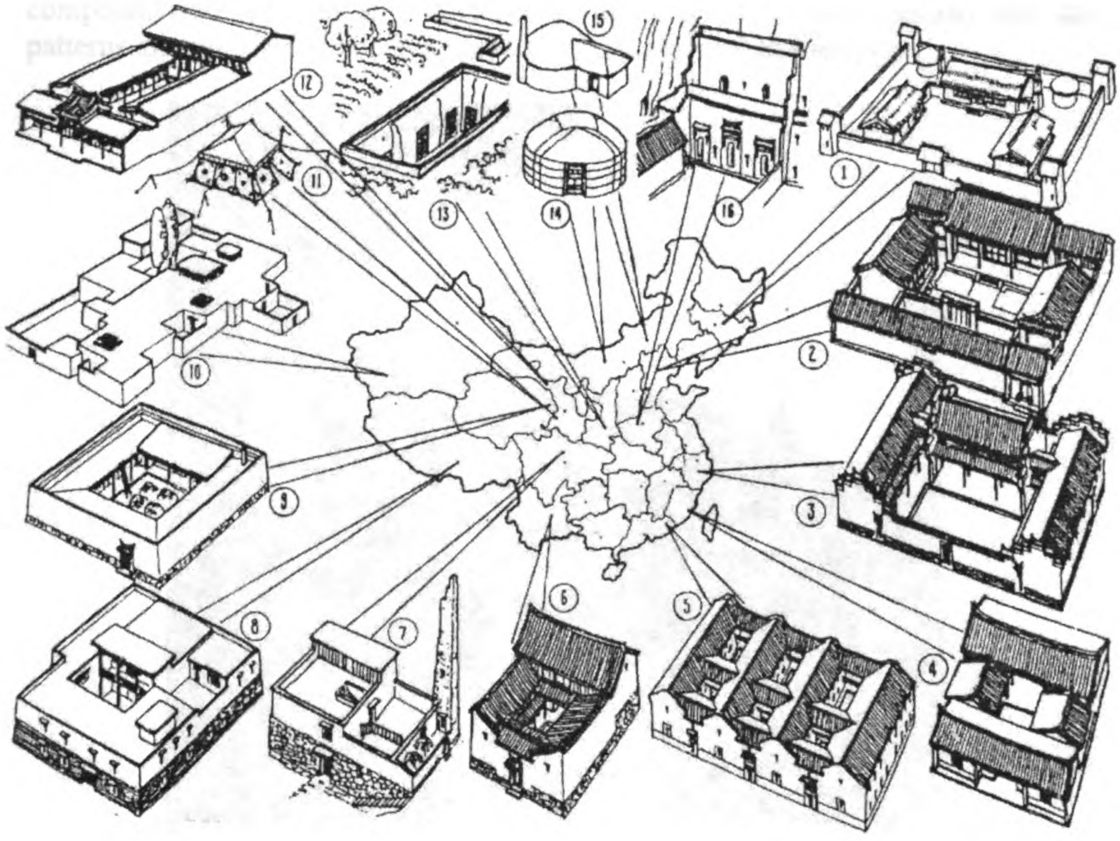


Figure 5-23: Diversity of Chinese Housing Styles
Source: Liu, *A Brief History of Chinese Residential Architecture* (Beijing: Press of Chinese Construction Industry, 1990), p 206

The boating route continues, turns back to the south and then again runs into the commercial corridor on the east-west axis. The spatial and functional characteristics

along the waterway are similar to the eastern section of it within the commercial district. Heading further south, the waterway enters the southwest division of the downtown, joining in a scenic lake with a picturesque peninsula. This is a lake that serves both the residents and the tourists, and is part of the boating route. 1.8 acres (80000 sq ft) in scale, the lake allows not only free boating but also other water-related recreational activities. The waterfront of this lake is developed in style of a Chinese royal garden, with a Buddhist tower on the island, a winding corridor along the lakeshore, several delicate sightseeing gazebos, and a buoyant arch bridge. Willow trees dominate the entire waterfront, with other landscaping elements such as rockeries, trails, groves, sculptures and garden furniture, demonstrating the gracefulness of the royal gardens in North China. On the east side of the lake there are the southern style Chinese Garden and a small block demonstrating housing styles in Southwest China. The garden can be an imitation of famous Chinese gardens in SuZhou, or a new design following traditional garden construction rules. In either way, the form, materials and color schemes should all respect the Chinese tradition. On the west side of the lake, there is another middle-class single-family residential neighborhood. Similar to the one in the northwest division, courtyard compounds are applied to reflect the tradition, and the scale, density and the street patterns are modified to accommodate contemporary urban lifestyles.

Figure 5-24: Rockery Art in Liuyuan Garden, SuZhou
Source: Liu, *Chinese Architecture* (London: Rizzoli International Publications, Inc., 1989), p 208.

Figure 5-25: Chinese garden in Portland
Source: Hall Christopher, "A Serene Garden in Portland Draw Crowds," The New York Times, 17 December 2000, sec. TR 3.

Flowing further east, the waterway leads back to the boarding center on the Meridian Boulevard. A boating tour is complete, with a full-range display of various excitements the Chinatown offers.

5.3.5 Residential Neighborhoods

The four residential divisions on the corners of the downtown quad, as mentioned earlier, are residential neighborhoods where traditional courtyard compounds are modified for Chinese American urban dwellers. Single-family housing is a more traditional use of courtyard compounds. A courtyard compound was originally designed to serve one family, though very often an extended one that might include three or four generations of family members and their servants. Multifamily housing became an adapted land use for courtyard compounds later because of the increasing demand for urban land and the emergence of the urban working class. Professor Wu's book had shown some design options of multi-story courtyard compounds for apartments.

Figure 5-26: New courtyard house for modern urban life
Source: Wu, *Rehabilitating the Old City of Beijing* (Vancouver: UBC Press, 1999), p 135.

The most challenging part of redesigning traditional courtyard neighborhood for American urban dwellers is to cooperate the traditional spatial patterns with the vehicular circulation and parking requirements. In these neighborhoods, not only the courtyard compounds, but also the lanes and alleys should be laid out with traditional characteristics. In order to preserve the intimate scale, the sense of enclosure and the peacefulness of these lanes and alleys, the vehicular circulation system is designed paralleled to these narrow pedestrian pathways, to provide automobile access from the other sides of the courtyard compounds (see figure 5-27). Parallel parking and surface parking are highly restricted in these neighborhoods. Private parking garages are accommodated in the ground floors of courtyard buildings, with direct access from mobile roads. In some areas of single-family neighborhoods, garages may be located in a distance to the housing courtyards, if the landscaping and pedestrian priority requires doing this way. It is important that pedestrian circulation sustains continuity of the walkways and their interfaces, and the interestingness and the safety of the walking journey. Figure 5-28 shows a design intention to weave pedestrian walkway network with small open spaces as nodes and marks. The network is in the form of traditional lanes and alleys, and with the convenience of both pedestrian and vehicular movement.

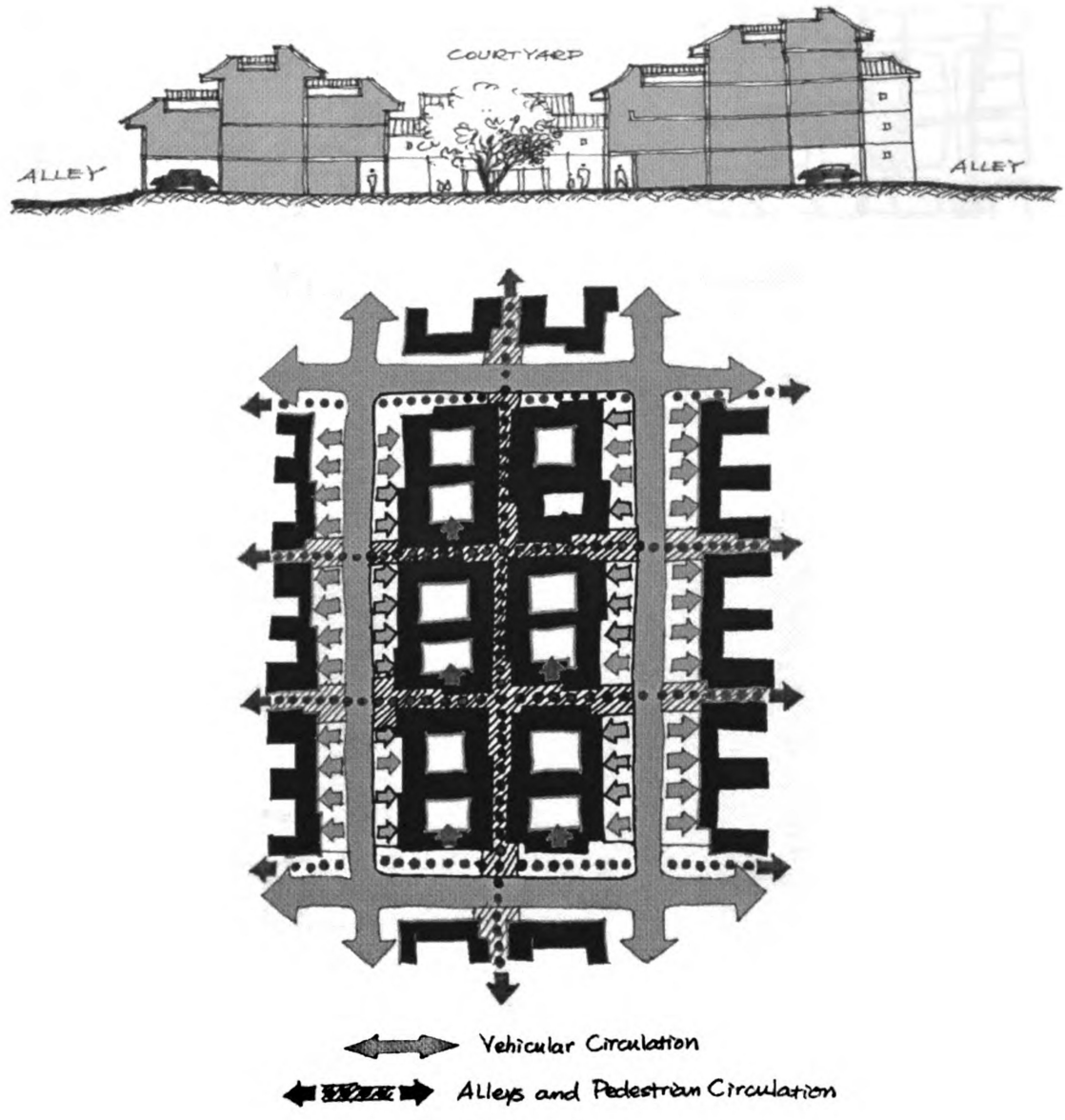


Figure 5-27: Parking and Vehicular Access in Courtyard Neighborhoods

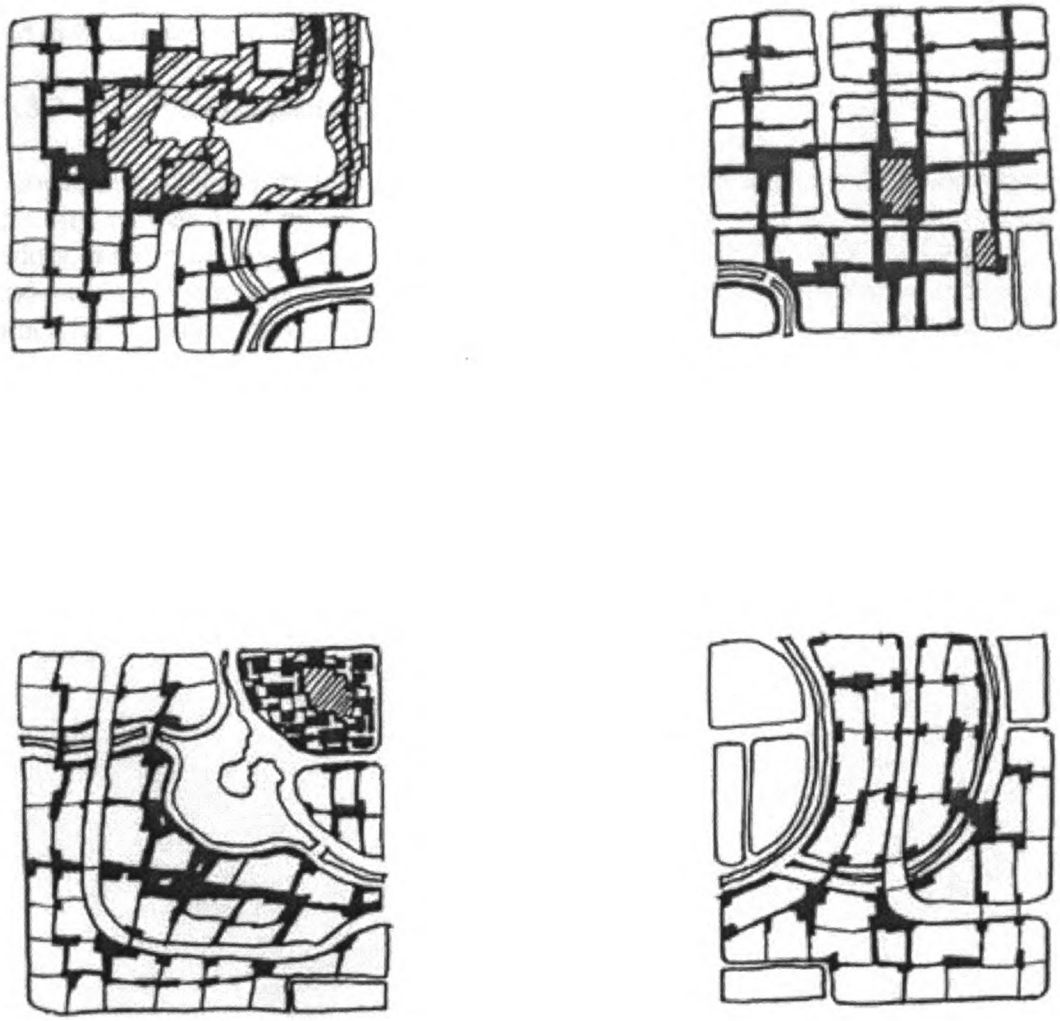


Figure 5-28: Street and Spatial patterns in the four residential neighborhoods: demonstrate the traditional Chinese alleys, waterfronts, gardening, courtyard houses, and urban life styles.

5.3.6. Outer Layer of the City

The outer layer of the city, i.e. the peripheral area beyond the downtown quad defined by the four great gateways, is area of residential and light industrial mixed-use development. Traditional Chinese architectural forms are applied to the streetscape facing the downtown quad, in order to maintain the consistency of styles on both sides of the major thoroughfares. Architecture in this area should show the smooth transition from the typical Chinese styles near the edge of the downtown quad to the general American styles in blocks further away. Light industries provide job opportunities and retain the variety of the local economy. Residential neighborhoods in this area are still more or less applying Chinese features in architectural styles, but they are mostly individual buildings

instead of courtyard compounds. They provide options to the Chinatown dwellers who intend to live in western lifestyles.

5.3.7. Future expansion

The concentric square structure of the proposed Chinatown determines future expansion of the city will be in a radial form. Major functions of the city, such as commercial corridors, residential neighborhoods and tourist routes, can all be extended basing on the spatial and functional structure of the present design. Axis can be extended to prolong the commercial corridors, and then residential areas outside these corridors will expand accordingly. A second tourist loop can be added if necessary.

VI. Conclusion: Merging Neo-Traditional Chinatown into the American Urban Context

Except for the special cultural and ethnic component it carries, Chinatown is just another typical American downtown that faces various urban problems and needs revitalization. General urban design and economic development strategies that suitable for a typical downtown can also strongly enhance the physical, social, and economic condition of a Chinatown.

Locality development, as one of the major components of downtown economic development strategies, targets planning and development controls, townscape improvement, household services and housing. These are important approaches leading to the attractiveness of the location and higher quality of life for the Chinatown dwellers.

The following three major aspects frame up the locality development strategies.

First of all, land management and land deals are forming an important component of any economic development program.

Secondly, livability is an extremely important component of economic development. An attractive entrance and exit for a city shows the pride and community spirit of its residents. Pleasant physical environment can help build local business, either by retaining local spending or by attracting customers from outside the region.

The third is image management. It comes to be found increasingly important in the face of regional competition for corporate location. It calls for the development of a visual theme that:

1. Creates a sense of identity,
2. Improves the amenity base or livability of the community, and
3. Improves the attractiveness of the civic center in an effort to improve local businesses.[26]

We see very clearly that urban design strategies directly serve the purpose of locality development. Also, from American downtown development cases we get the same experiences that well-developed commercial district design strategies based on local need and circumstances will help attract population and encourage investment and business anchor in the downtown area. These will all lead to the successfulness of economic development.

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[26] Edward J Blakely, *Planning Local Economic Development: Theory and Practice* (California: Sage Publication, 1994), 155.

Urban design strategies emphasize the importance of the quality of the Chinatown's physical setting as a place. "Streets, sidewalks, buildings, and open spaces are the primary components that shape downtown's urban design character. ...Downtown can be designed to encourage pedestrian movement, to provide for special activities, and to promote social interaction. If these objectives are pursued, even if they are not perfectly accomplished, downtown can become a more successful place for people and a more attractive focus for investments in new development and renovation."[27]

Besides the land uses, activities, and attractions, Chinatown's character as a place also plays an important role in its economic success. The appearance and perception of a downtown, and the space uses and activities could "be integrated to create a smoothly functioning whole [and] help determine whether people will chose downtown over other locations and whether they will keep coming back to support an expanding range of economic functions." If the physical environment of Chinatown welcomes people and promotes their enjoyment, it will serve as a catalyst for creating a multiple-use market and sustain the market's growth and vitality.[28]

With high uniqueness of physical and cultural appearance, a neo-traditional Chinatown may still be viewed as an ethnic enclave that is isolated from the general American society. The isolation problem might not be a problem that can be solved solely by urban design or economic development strategies – for historic reasons, there are Chinese Americans living their entire lives here and not being able to merge into the American mainstream. However, urban design efforts can greatly help introduce the Chinese culture and open the community to the general American public. America is a multicultural society itself, and Chinese American culture is part of it, ever since the day the first Chinese settled on this new continent. A tourism-oriented neo-traditional Chinatown presenting Chinese lifestyle and cultural spirit will bring different cultures closer to each other, improve mutual understanding, and help the dwellers in Chinatown get fully involved in the social and economic activities of the community.

Physical communication bridges cultural communication and stimulates social-economic interactions. To geographically build up the linkage to other adjacent American cities, a Chinatown should locate near the downtown of a metropolitan American city, have easy access from both downtown commercial core and suburban middle-class neighborhoods, and be set in a multicultural environment.

Considering the social and economic relationship between American cities and the Chinatown community, I would like to reiterate that a neo-traditional Chinatown is a community with cultural and economic integrity, and an open system to the outside world. It carries the traditional and contemporary Chinese culture in a vigorous and legendary Chinese urban lifestyle. The meaning of a neo-traditional Chinatown, to Chinese Americans is a spiritual homeland; to other Americans it is a window to the real China.

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[27] Cyril B. Paumier, *Designing the Successful Downtown* (Washinton D.C.: ULI, 1988), 47-48.
[28] Ibid.

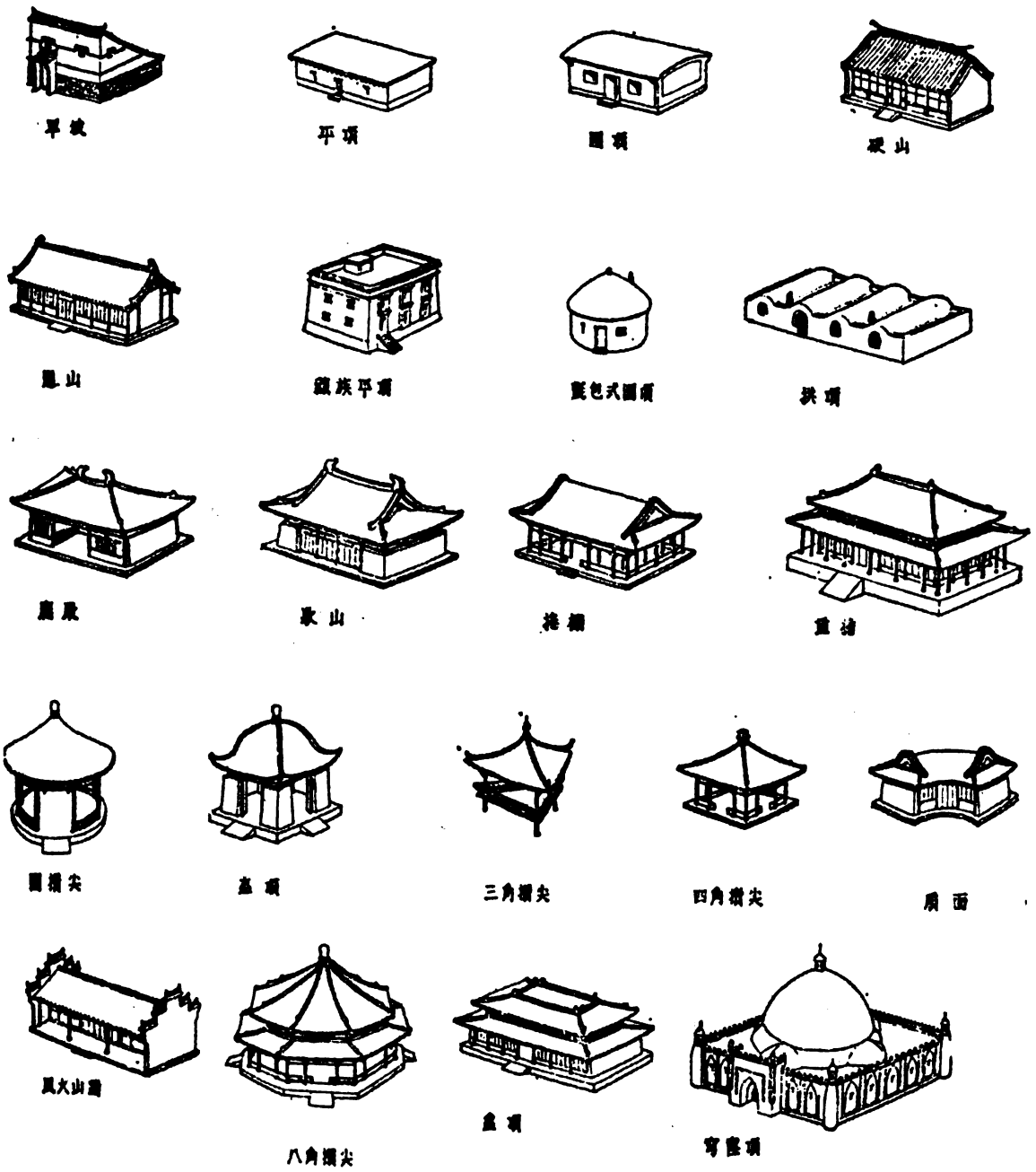
The implementation process of urban design strategies is crucial for the successful downtown development. Implementation strategy with private and public cooperation should recognize and capitalize on the following characteristics of a Chinatown:

- A strong financial, service, corporate head-quarters, and government center that will continue as the dominant office center of the Chinatown;
- A stabilized or expanding retail function, restructured to meet changing market demands generated by continued expansion of the employment base, improved quality of the inner city markets, and an expanded visitor base;
- A greater dependence on convention and conference marketing to support hotels, entertainment facilities, and restaurants;
- Improved transportation systems both into and within the Chinatown;
- An increased demand for high quality housing;
- An existing system of entertainment facilities, including sports centers, theaters, museums, arts centers, and urban parks.[29]

[29] Urban Land Institute, *Downtown Development Handbook* (Washington, D.C.:Urban Land Institute, 1980), 15.

APPENDIX I

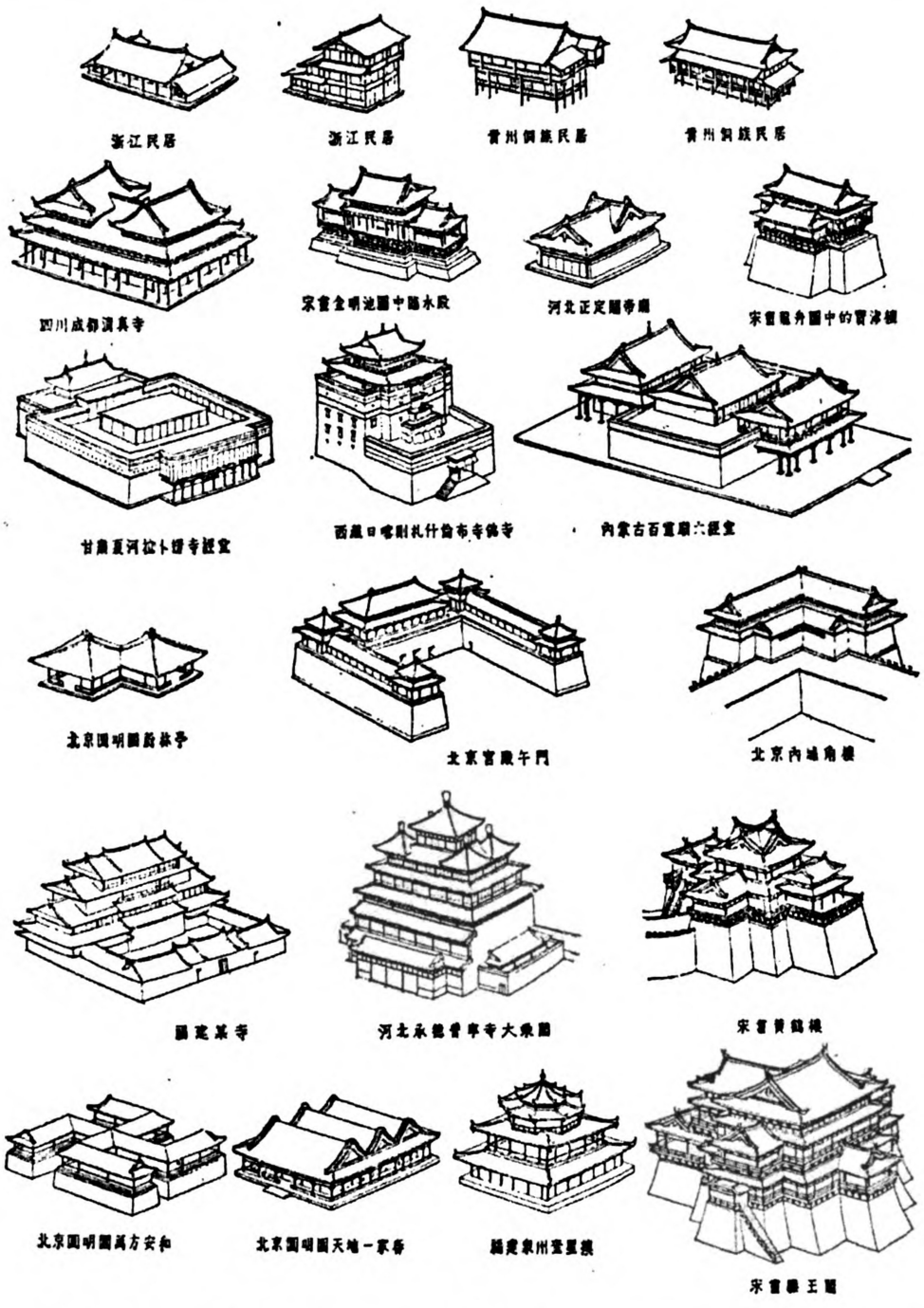
CLASSIC CHINESE ARCHITECTURE: ROOF STYLES



Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p157.

APPENDIX II

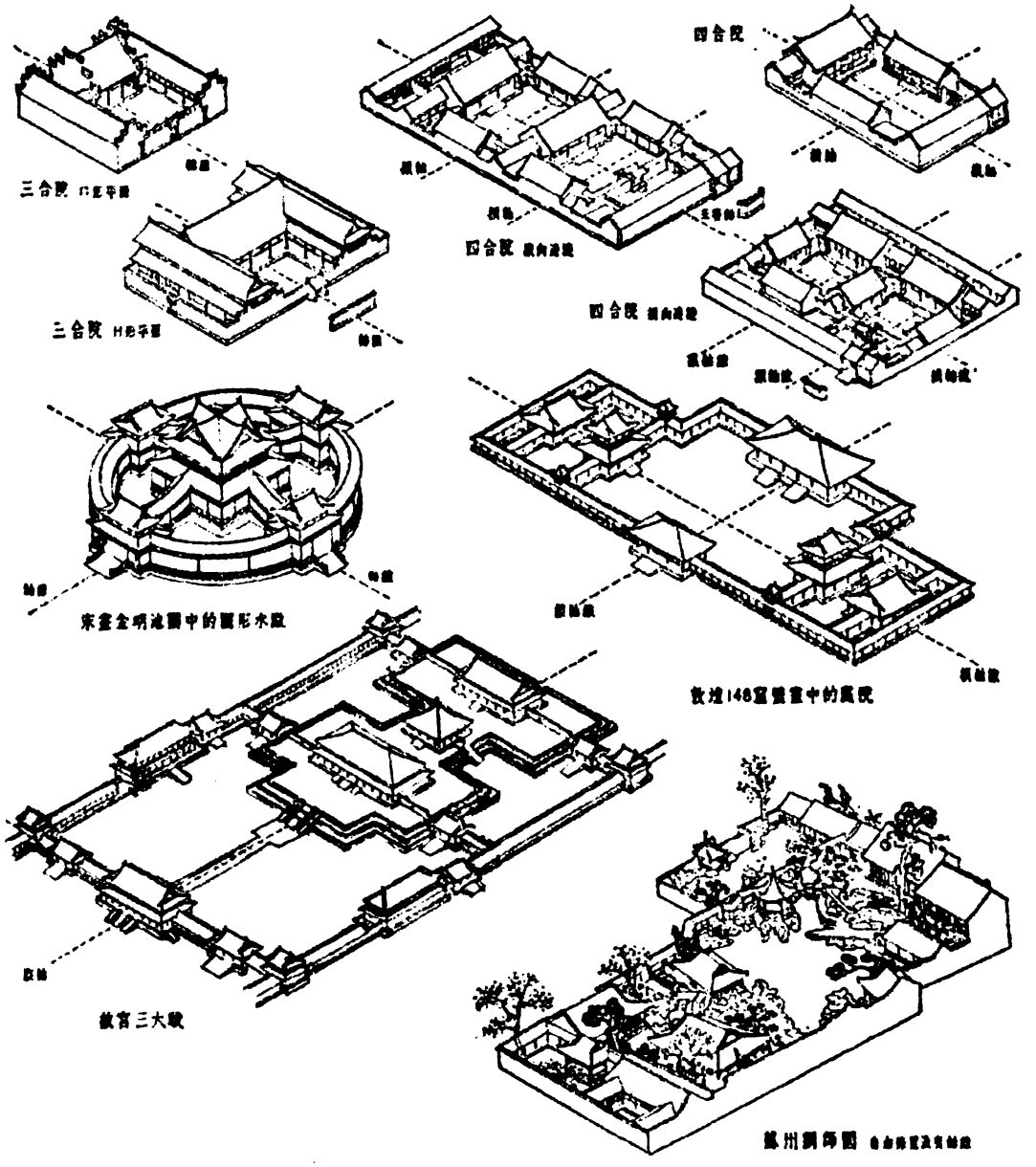
CLASSIC CHINESE ARCHITECTURE: BUILDING COMPLEXES



Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p158.

APPENDIX III

CLASSIC CHINESE ARCHITECTURE: COURTYARD COMPLEXES



Source: The Committee, *History of Chinese Architecture* (Beijing: Press of Chinese Construction Industry, 1986), p159.

SELECTED BIBLIOGRAPHY

Alperovich, G. "Density Gradients And The Identification Of The Central Business District." *Urban Studies* 19 No. 3 (1982): 313-320.

Barnes, W. Anderson. "Downtown development: plan and implementation." Washington, D.C.: ULI-Urban Land Institute, 1982.

Bianchini, et al. *City centers, city cultures: the role of the arts in the revitalization of towns and cities.* Manchester: CLES, 1991.

Blakely. *Planning Local Economic Development: Theory and Practice.* California: Sage Publication, 1994.

Bookout, Beyard and Fader. *Value by design: landscape, site planning, and amenities.* Washington, D.C.: Urban Land Institute, 1994.

Campbell, R. "New urbanism: The debate goes on (Andres Duany and Rem Koolhaas represent opposing sides at the March conference at the Harvard Graduate School of Design)." *Architectural Record* 187 no. 4 (1999): 54-54.

Chinese Academy of Architecture. *Classic Chinese Architecture.* Hong Kong: Joint Publishing Co., 1986.

The Committee. *History of Chinese Architecture.* Beijing: Press of Chinese Construction Industry, 1986.

Czarnecki, J. E. "New Topics For New-Urbanists (The Seventh Congress-For-The-New-Urbanism Focuses On The Wealth Of Cities)." *Architectural Record* 187 No. 7 (1999): 66-67.

Daniels, Keller, and Lapping. *The Small Town Planning Handbook.* Chicago: American Planning Association, 1995.

Duany and Plater-Zyberk. *Towns and Town-making Principles.* New York: Rizzoli, 1992.

Ewing. *Developing Successful New Communities.* Washington, D.C.: Urban Land Institute, 1991.

Fawcett, L. "The New Urbanism - Toward an Architecture of Community." *Landscape Architecture* 86 no. 2 (1996): 95-95.

Friedman, J. J. "Central Business District and Residential Urban-Renewal - Response to Undesired Change." *Social Science Quarterly* 58 No. 1 (1977): 45-59.

Gantt, H. "Congress-for-the-New-Urbanism - New urbanism meets the existing city." *Places-A Forum of Environmental Design* 12 no. 1 (1998): 84-86.

Han. *The Imperial Palace.* Beijing: The Foreign Languages Press, 1995.

Huergo, J. "Building Culture Downtown: New Ways of Revitalizing the American City." *Museum News* 77 no.4 (1998): 25.

Information Office of Shanghai Municipality. *Shanghai Today.* Shanghai: China Intercontinental Press, 2000.

Jones, R. "The New Urbanism: Hope or Hype For American Communities?" *Journal of the American Planning Association* 63 no. 4 (1997): 535-535.

Jones, Pettus, and Pyatok. *Good Neighbors: Affordable Family Housing.* Melbourne: The Images Publishing Group Pty Ltd, 1997.

Kelbaugh, D. "The New Urbanism." *Journal Of Architectural Education* 51 no. 2 (1997): 142-144.

Kong. *The New Chinatown.* New York: Hill and Wang, 1987.

Laurence A. Alexander. Ed. *Promoting effectively for downtown business : dynamic new case studies.* New York, N.Y.: Downtown Research & Development Center, 1983.

Lejeune. Ed. *The New City.* Washington: University of Miami, 1996.

Liang. *Beijing – an Unparalleled Masterpiece of Urban Planning.* Beijing: Press of Chinese Construction Industry, 1987.

Lin. *Reconstructing Chinatown.* Minneapolis: University of Minnesota Press, 1998.

Liu, Laurence. *Chinese Architecture.* London: Rizzoli International Publications, Inc., 1989.

Liu, Zhiping. *A Brief History of Chinese Residential Architecture.* Beijing: Press of Chinese Construction Industry, 1990, p 206.

Helson and Duncan. *Growth Management Principles and Practices.* Chicago: American Planning Association, 1995.

Planning & Zoning Center, Lansing. *Notebook for Improving Community Appearance.* Lansing, Michigan: the Center, 1994.

Prentice. *Suzhou – Shaping an Ancient City for the New China: An EDAW/Pei Workshop.* Washington DC: Spacemaker Press, 1998.

Rudlin, Falk and URBED (the Urban and Economic Development Group). *Building the 21st century home: the sustainable urban neighbourhood.* Oxford: Architectural Press, 1999.

Rypkema. *Downtowns in the 1990s: the economic future of America's center cities.* Washington, D.C.: Hyett Palma Publications, 1990.

Schwanke. *Remaking the Shopping Center.* Washington DC: The Urban Land Institute, 1994.

Sullivan, A. "Land-Use and Zoning in the Central Business District." *Regional Science and Urban Economics* 14 No.4 (1984): 521-532.

Sung. *A Survey of Chinese-American Manpower and Employment.*1976.

Treiser. Chinese Architecture, Urban Planning, and Landscape design. *Gainesville: University of Florida, 1987.*

Urban Land Institute. Downtown Development Handbook. *Washington, D.C.: Urban Land Institute, 1980.*

Urban Land Institute. *Downtown Development Handbook.* Washington, D.C.: Urban Land Institute, 1992.

Urban Land Institute, *Density By Design.* Washington, D.C.: Urban Land Institute, 1988.

Urban Land Institute, *Developing Urban Entertainment Centers.* Washington, D.C.: Urban Land Institute, 1998.

Urban Land Institute, *Shopping Center Development Handbook.* Washington, D.C.: Urban Land Institute, 1999.

Wang. *Ancient Chinese Architecture -- Vernacular Dwellings.* New York: Springer Wien New York, 2000.

Wright, Arthur F. "The Cosmology of the Chinese City." *The City in Late Imperial China.* Stanford: Stanford University Press, 1958.

Wu. *Rehabilitating the Old City of Beijing*. Vancouver: UBC Press, 1999.

Xu. *The Chinese City in Space and Time*. Honolulu: University of Hawaii Press, 2000.

Zhou. *Chinatown*. Philadelphia: Temple University Press, 1992.

----. *Scenic Spots and Historic Sites of China*. Beijing: China Travel & Tourism Press.

----. *Urban design guidelines for uptown development*. Charlotte, NC: Charlotte-Mecklenberg Planning Commission, 1984.

----. *New Urban Housing*. Pittsburgh: Community Design Center of Pittsburgh, Inc., 1994.

Arasan, Rengaraju and Rao. "Trip characteristics of travelers without vehicles." *Journal Of Transportation Engineering-Asce* 122 no. 1 (1996): 76-81.

A knowledge of the rip characteristics of different groups of travelers in an urban area is of great use in planning land use and transport-related facilities. Travelers in households without vehicles (not even bicycles) make their trips either by walking or by using public transport. The mode choice of this group in Tiruchirapalli, Tamilnadu state, India is modeled for work trips using a binary legit model. Stratified mode-choice models are developed based on the location of the travelers' residence in relation to the central business district (CBD). The trip distance is identified as the major factor influencing mode choice. The critical trip length, which is defined as the limiting distance beyond which a traveler is not likely to make the journey on foot, is estimated for different subgroups of travelers using the probability models of mode choice. It is found that the acceptable walking distance for the different subgroups varies between 1.3 and 2.5 km.

Banai, R. "The new urbanism: an assessment of the core commercial areas, with perspectives from (retail) location and land-use theories, and the conventional wisdom." *Environment and Planning B-Planning & Design* 25 no. 2 (1998): 169-185.

Transit-oriented development (TOD) and (neo-)traditional neighborhood development (TND) are variants of the recently emerging models of 'new urbanism'. The compact pattern of the new urbanist models of community development with integrated and mixed uses, pedestrian and vehicular orientation provides for public facility and retail locational characteristics which are in contrast to the sprawled, segregated, land-use pattern of the urban or suburban development. In the general schematic treatment of the new urbanist models, however, the specific space-economic features of the 'core commercial areas' are given little attention, despite a vast theoretical and empirical literature on land use, and public and retail facility location. Land-use and retail location

theories supply perspectives that aid in the assessment of the retail facilities in the core commercial areas, as well as of the general land-use pattern of new urbanism. The correlations between the properties of retail location theories used as assessment criteria and the properties of TND and TOD are noted. Furthermore, a typology of the neighborhood and/or community centers is provided which contrasts the features of the old with the new shopping centers, with reference to actual case examples. The transformation of the community shopping centers, reflective of the changing conventional wisdom and practice, exhibits an affinity with new urbanism. Both the changing conventional wisdom and the theoretical perspectives supplement the spatial planning paradigm of new urbanism. Thereby an observational and a metatheoretical basis is provided toward an assessment of the 'feasibility' of the land-use and public (retail) facilities in the planned communities which are guided by the new urbanism.

Brueckner, Thisse, and Zenou. "Why is central Paris rich and downtown Detroit poor? An amenity-based theory." *European Economic Review* 43 no.1 (1999): 91-107.

This paper presents an amenity-based theory of location by income. The theory shows that the relative location of different income groups depends on the spatial pattern of amenities in a city. When the center has a strong amenity advantage over the suburbs, the rich are likely to live at central locations. When the center's amenity advantage is weak or negative, the rich are likely to live in the suburbs, The virtue of the theory is that it ties location by income to a city's idiosyncratic characteristics. It thus predicts a multiplicity of location patterns across cities, consistent with real-world observation.

Cook, Cc. and M. Lauria. "Urban Regeneration And Public-Housing In New-Orleans." *Urban Affairs Review* 30 no. 4 (1995): 538-557.

Public housing, if located proximate to the central business district or other valued development sites, is often seen as a threat to urban regeneration activities. Growth coalitions may develop strategies to remove the threat to increase the value of the land and probability of reinvestment. In cities with an African-American majority electorate, like New Orleans, the electoral coalition of the governing regime is inherently unstable and has to pursue its development strategies carefully. Public housing poses a more intractable political barrier to regeneration strategies than do privately owned slum neighborhoods. In New Orleans, the governing coalition has been forced to retreat to its previously faltering spatial-containment policy.

Ford, L. R. "Lynch Revisited - New Urbanism and Theories of Good City Form." *Cities* 16 no. 4 (1999): 247-257.

Over the past two decades, there has been increasing controversy about the pros and cons of new urbanist or neo-traditional architecture and planning ideas. Some have argued that standard suburbia has become dull, alienating, and isolating and that a return

to the design ideas of the early twentieth century would be a step towards fixing the problem, Others have argued that the new urbanism is just another marketing ploy aimed at segmenting buyers according to aesthetic tastes in order to sell more houses. They argue that new urbanist communities are unauthentic and that we cannot go back to the past, Both sides often take extreme stands and there are few procedures for evaluating neo-traditionalist ideas in a reasonably objective way. I suggest that the ideas of planner Kevin Lynch as published in three books: The Image of the City, What Time is This Place?, and A Theory of Good City Form, can be useful in structuring ways to monitor trends and compare the potentials of both standard and new urbanistic communities.

Kristensen and Tkocz. "The Determinants of Distance to Shopping-Centers in an Urban Model Context." *Journal of Regional Science* 34 no. 3 (1994): 425-443.

We discuss the distance to shopping in the context of three fundamental theories: The Optimal City Theory, the Central Business District Theory and a Cost-Benefit Theory. Each is described and estimated separately by econometric models. The three theories are combined in a final model using the expansion method. The final model, including all three theories, is based on enquiry data from 15 Danish towns.

Krumholz, N. "Equitable approaches to local economic development." *Policy Studies Journal* 27 no. 1 (1999): 83-95.

Central city economic development during the 1980s and 1990s resounded with the theme of "public-private partnerships" putting together new downtown hotels, sports stadiums, and festival marketplaces. Yet, as city after city proclaimed its "renaissance" and "rebirth," poverty and unemployment increased in many of the same cities. Economic disparities: also increased between central cities and their suburbs. These contrasting patterns of growth and decline were often reflected in local economic development struggles over downtown versus neighborhoods, economic development as job generation versus real estate development, and the rich and powerful versus the poor and marginalized. In some cities, these concerns often were articulated by African-American, Latino, and blue-collar communities and their activist supporters. They led to new development strategies designed to balance more equitably the costs and benefits of local economic development. The new strategies included opening government to previously excluded constituencies, linking downtown development to neighborhood development managed by community development corporations, and balancing development across economic sectors. This article reviews efforts irt several cities to implement redistributive urban planning and local economic development policies. It concludes with three possibilities for improving broader equity outcomes in future local economic development.

Mcguiness and Mcneil. "Statistical-Models to Predict Commercial-Space and Parking-Space Occupancy." *Journal of Urban Planning and Development-Asce* 117 no. 4 (1991): 129-139.

This paper examines the use of simple analytical models to estimate quantitatively the demand for site-specific commercial and parking space. The influence of locational and other site characteristics on demand is captured and quantified through regression equations for occupancy, based on data from the Pittsburgh, Pennsylvania, central business district. In addition to site and locational considerations, the use and condition of the building and type of tenant are included in the models. The predicted occupancy is then used to analyze demand. The models are discussed in terms of price impacts, economic influences, and the effects of competing markets. These models are applied to the development of the site of the existing Greyhound bus terminal in Pittsburgh. Development options are identified and costs estimated, which are then compared with revenues based on market rates and predicted occupancy. A net present value analysis is used. Limitations and other applications of the models are also discussed.

Robertson, K. A. "Can small-city downtowns remain viable? A national study of development issues and strategies." *Journal Of The American Planning Association* 65 no.3 (1999): 270-283.

A healthy downtown is an essential element of the prosperity of most non-suburban small cities (25,000 to 50,000 population). Unfortunately, the professional and scholarly literature has focused primarily on downtown development in large cities. Based on a national survey of 57 small American cities and case studies of Auburn, New York; Banger, Maine; Carson City, Nevada; Texarkana, Texas/Arkansas; and Wausau, Wisconsin, this article explores the key problems confronting small-city downtowns and the revitalization strategies employed to cry to overcome them. Significant differences between downtown development in small and large cities are presented throughout the article, as well as the importance of a sense of place.

Voith, R. "Parking, transit, and employment in a central business district." *Journal of Urban Economics* 44 no. 1 (1998): 43-58.

In this paper the author presents a general equilibrium model to examine the role of parking and transit subsidy policy on the size of a central business district (CBD), CBD land values, and the market shares of cars and transit. The three main features of the model are: (1) agglomeration economies increase continuously with labor market size; (2) congestion arises from auto use only; transit is noncongestible; and (3) locational equilibrium is maintained in the sense that firms and individuals cannot reduce costs or increase utility by moving, given equilibrium prices and city size. The author derives the conditions under which parking taxes can be levied and used to subsidize transit and increase equilibrium CBD size and land values. The authot computes an optimal parking tax that maximizes CBD size and land values and derive relationships among parking

taxes, transit use, and congestion. The author finds nonmonotonic relationships among parking taxes, land values, and transit use.

Wolshon and Wahl. "Novi's Main Street: Neotraditional neighborhood planning and design." *Journal Of Urban Planning And Development-Asce* 125 no.1 (1999): 2-16.

Recently, there has been interest in many suburban communities around the United States to revive traditional styles of commercial and residential land development. These neotraditional developments are characterized by a land use intensive style of zoning in which densely spaced residential neighborhoods are integrated with commercial areas. One of the primary objectives of these districts is to form self-sufficient neighborhood communities. Although such land use is common in many large urban areas and rural cities, this type of combined land use is rarely seen in suburban communities. One effort to revive this traditional urban style of land development within a suburban community is the Main Street project in the city of Novi, Mich. This paper highlights some of the factors that impacted the planning and design process of the project and how these factors and decisions influenced the final appearance and function of Novi's neotraditional downtown district. The lessons learned from the Main Street project can serve as a model for engineers and planners who may be contemplating the implementation of similar projects in their own communities.

Zhang, Wb. "An Urban Pattern Dynamics with Capital and Knowledge Accumulation." *Environment and Planning A* 25 no.3 (1993): 357-370.

In this paper a dynamic model of urban pattern formation with endogenous knowledge and capital accumulation is proposed. The Alonso model is extended to include two of the most important dynamic forces for urban development-capital accumulation and technological progress. The standard assumption of the existence of the central business district (CBD) is still accepted in this approach. It is assumed that two production sectors (industry and service) and one knowledge production sector (research institutions and university) are located at the CBD. First, a compact framework for analyzing dynamic interactions of the three sectors and urban pattern formation is suggested. Then, the existence of stationary urban patterns is guaranteed and the stability conditions provided. Last, the effects of changes in government's research policy and some other parameters upon the system are examined.