

**Modern Urban Development and Urban  
Contextual Continuance from the Perspective of  
the Historic Urban Landscape Approach: A Case  
Study of Suzhou**

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歴史的都市景観の視点から現代都市開発と都市  
コンテクストの連続性：蘇州を例として  
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**Chapter 1**  
**Introduction**



## 1.1 Background

In the past 40 years, China's economy has developed rapidly, and Suzhou has become one of the most developed cities in China. The rapid growth of social and economic wealth has also caused this ancient city with a culture of more than 2000 years to undergo a dramatic social transformation in only a few decades [1] (pp. 5–6). This dramatic social change has led to a huge disconnect between people's material world and spiritual world, and has also put a large number of urban traditional features in jeopardy [2]. Fortunately, the value of Suzhou as a place of cultural heritage of mankind was recognized by all parties early on. In 1982, Suzhou was listed in the first batch of the state-listed famous historical and cultural cities in China, and, in 2012, it was designated as the first state-listed famous historical and cultural city protection zone [3]. Additionally, from a global perspective, several Suzhou gardens were listed as World Heritage Sites by UNESCO in 1997 and 2000 as symbols of Suzhou. As the first city in China to prepare a conservation plan for its historical and cultural aspects, Suzhou was further selected by UNESCO as a pilot city in China for the implementation of the historic urban landscape (HUL) approach in 2014 [4].

However, even so, there are still many issues affecting the sustainable development of Suzhou, and various urban problems brought about by economic globalization have made the conservation of urban context face entirely new challenges. Especially the blurring of the boundaries between cities, but the distinction between ancient and new urban areas within Suzhou has become more and more pronounced, as traditional spaces and regional cultures shaped over thousands of years have been eroded and new urban areas established rapidly in 20 years have abandoned the context of Suzhou. These challenges require not only the comprehensive protection of urban heritage in the process of urban development, but also consideration of urban heritage as a way of preserving the city's identity and incorporating it into the

planning process [5].

## **1.2 Previous Research and Study Targets**

### **1.2.1. Previous Research of HUL**

#### **1) The Concept of Historic Urban Landscape**

The term landscape appeared in the field of Western art in the 16th and 17th centuries, and was highlighted in the European Landscape Convention in 2000 as follows: "Landscape refers to an area perceived by people whose character is the result of the interaction of humans and natural elements" [8]. Its content is continuously expanded and intersects with an increasing number of disciplines. After introducing the concept of cultural landscape in geography, Sauer believed that "cultural landscape is formed by natural landscape through the action of cultural groups. Culture is the driving force, natural area is the medium, and cultural landscape is the result." [9]. Although a city is superficially quite different from nature or the countryside, as the space in which humans can thoroughly transform nature, its essence is still a human creation based on nature. That is to say, as one of the results of human intervention in nature, the city belongs to the research category of cultural landscape. Since the 1960s, the Conzen School has inherited and developed the methodology of the German Landscape Geography School, turning its research object to urban settlement landscapes and the forms of urban settlements. This has provided an important methodological basis for subsequent scholars to study historic urban landscapes from the perspective of urban morphology [10,11].

In the field of heritage conservation, the establishment of the HUL concept is relatively independent. Unlike the academic field, UNESCO introduced the concept of cultural landscapes in 1992 to fill the gap between cultural heritage

and natural heritage. However, in 2005, the concept of Historic Urban Landscape (HUL) was first introduced by UNESCO in the Vienna Memorandum for the further protection of cultural heritage [6]. In 2011, UNESCO adopted the Recommendation on the Historic Urban Landscape and defined it as the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of “historic center” or “ensemble” to include the broader urban context and its geographical setting [7]. In 2013, in order to promote the implementation and dissemination of the HUL approach, UNESCO published "Revitalizing Historic Cities: A Detailed Approach to Historic Urban Landscape Conservation", a manual that deepened the Recommendation and promoted the HUL approach. In 2015, the World Heritage Committee incorporated HUL as a cultural heritage conservation methodology into the Operational Guidelines for the Implementation of the World Heritage Convention to guide the nomination, inscription, conservation and management of World Heritage sites. 2016 saw the collaboration between the UNESCO World Heritage Training and Research Institute for the Asia and the Pacific Region and the City of Ballarat (Australia) The HUL guidebook was completed in 2016.

This means that an integrated and dynamic perspective of the urban system becomes an important principle in the process of conservation and development of the city itself. As Zhang concluded in her article: “Introducing the concept of landscape into HUL theory can be seen as an extended interpretation of cultural heritage. For the townscape that refers to tangible urban elements and cultural heritage, landscape also describes the intangible parts of the urban cultural landscape” [12]. As cities are the areas where the majority of the population lives, the continuous expansion of cities brings about changes in lifestyles, but also causes unprecedented threats to the urban landscape. Since 2011, the HUL approach has been successfully applied in a

number of cities around the world and integrated into new global approaches for sustainable cities [13].

## 2) The features of HUL

The HUL approach requires us to take into account the local context of each historic city. Whilst this will result in different approaches to management for different cities, at a minimum six critical steps were recommended to facilitate the implementation of the HUL approach (Table 1-1).

**Table 1-1. The six critical steps of the HUL approach**

THE SIX CRITICAL STEPS	
1	To undertake comprehensive surveys and mapping of the city's natural, cultural and human resources;
2	To reach consensus using participatory planning and stakeholder consultations on what values to protect for transmission to future generations and to determine the attributes that carry these values;
3	To assess vulnerability of these attributes to socio-economic stresses and impacts of climate change;
4	To integrate urban heritage values and their vulnerability status into a wider framework of city development, which shall provide indications of areas of heritage sensitivity that require careful attention to planning, design and implementation of development projects;
5	To prioritize actions for conservation and development; and
6	To establish the appropriate partnerships and local management frameworks for each of the identified projects for conservation and development, as well as to develop mechanisms for the coordination of the various activities between different actors, both public and private.

As a toolkit for the protection of the urban landscape, the most important concept of HUL is layering. This layering requires an understanding of the entire urban area as the cumulative result of human creation in different

periods, and requires that attention be paid to dynamic continuity in time and space in the process of studying cities. This allows the historic urban landscape to turn its attention to the heritage of cities that contain the current daily activities of mankind and those of more general historical significance, that is, cities that are the carriers of more extensive cultural landscapes isolated from the world heritage; this also allows us to expand the scope to include the wider natural and historical context that influences the cultural landscape [14].

### **3) Research Status**

World: From a global perspective, a large number of scholars have also begun to discuss the feasibility of implementing HUL in the context of their own countries, for example, Psarra's study of Venice focuses on the relationship between city and community and the complexity of urban heritage in both the figurative and the abstract. Colavitti's study on Sardinia discusses the non-financial compensation brought by the HUL perspective; Muminović's study on Serbia explores the localization of HUL as a tool for sustainability; Kırmızı's study on Cyprus explores more inclusive and participatory models that can be incorporated into management plans. The Kırmızı study for Cyprus explores more inclusive and participatory models that can be incorporated into management plans, etc. Among the most important scholars are Bandarin and van Oers, whose research on the HUL concept has been crucial to the promotion and dissemination of HUL worldwide [15,16]. The emphasis on the concept of the cultural landscape in the literature has brought it into line with the academic field and has become a key philosophical foundation for the historic urban landscape, which has led to the management and planning of heritage no longer being limited to the preservation of valuable objects or overall effects but has begun to focus on its dynamic nature.

Japan: Japan's Ministry of Education, Culture, Sports, Science, and

Technology (MEXT) began introducing the HUL concept in 2011, and by 2016 The research on the establishment of urban management strategies after the UNESCO "Recommendation on Historic Urban Landscapes" led by Nishimura Yukio began to be implemented. This project conducted a survey to identify the historic value of areal urban landscapes under regional planning, in conjunction with measures under the Act Concerning the Maintenance and Improvement of Historic Scenery and recommended the development of new urban plans based on "historic urban landscapes" as a priority [17]. The roadmap for the implementation of new urban planning and development measures centered on "historic urban landscapes" was clarified by recommending the process of establishing a historic town development plan and developing regulatory guidance measures with budgetary measures, while at the same time positioning the area as a priority area in the plan. However, until 2020, the main research is concentrated on the direction of cultural heritage and policies and regulations, and there are few directly related papers mainly on the dissertations of Qin Li, Alula Tesfay Asfha, Maulana, Ibrahim, Siririsak, Tiamsoon, Francisco Bautista Reyes, and others.

China: As World Heritage Institute of Training and Research-Asia and Pacific (WHITRAP) in Shanghai has played an important role in the development of the historic urban landscape concept, many domestic scholars have been highly involved in international research on HUL, such as Han Feng and Song Feng, who have identified the concept of HUL in China, in addition to studies such as Wang and Li on the ancient city of Pingyao based on HUL, and in 2014, Shanghai and Suzhou Wujiang Shuangwan village were selected as pilot cities for HUL, providing a good reference for the continued practice of HUL in East Asia.

## **1.2.2. Previous Research of Urban Context**

### **1) Urban Context and Urban Heritage**

The term "context" originally refers to a linguistic concept that indicates the logical relationship between a word and its surrounding text and is not related to urban development. However, with the rise of the modernist movement in the 1920s, in the process of solving the problems of urban expansion and urban renewal, modernists gradually stood in opposition to tradition, and a large number of new and different buildings emerged without regard to the characteristics of a city and its totality, which could further damage the historical and cultural characteristics of a city [18]. Based on this situation, the postmodernists introduced "context" into the field of architecture as an important way to understand architecture.

In the early days, the study of context in the field of architecture took the architectural monolith as the main object, and a lot of discussions were conducted around it, which gave rise to more thoughts on the relationship between architecture and the urban environment. For example, Kevin Lynch in his book *The Image of City* analyzed the process of building urban imagery from the cognitive impressions of the urban public and pointed out the interconnectedness between the urban environment and architecture. His view of the urban context was summarized into five elements: paths, landmarks, boundaries, nodes and areas [19]. In his book *The Architecture of the City*, Aldo Rossi pointed out that the intrinsic nature of architecture is the product of

cultural practices and that the deep structure of architecture exists in the collective memory of people in the city [20]. In *Collage City*, Colin Roy emphasizes that the context is a product of different time periods and that this sedimentary and fragmentary context determines the character of the city [21]. In *The Death and Life of Great American Cities*, Jane Jacobs argues that diversity is in the nature of cities; this encompasses economic, cultural, and social diversity, and is the basis for the continuation of the urban context [22].

In 1977, the Machu Picchu Charter emphasized that a city is not only concerned with the container but the contents, no longer isolated buildings, but the continuity of the urban texture [23]. By the end of the 1990s, Wu Liang Yong drafted the Beijing Charter, which pointed out that culture is the accumulation of history, surviving in the city and architecture, melting into people's lives, and including the construction of the city; the conceptions and behavior of citizens play an invisible influence, which is the soul of the city and architecture, and the meaning of architectural form comes from the local culture and interpretation of the local context [24]. This became an important programmatic document for urban development in the 21st century, and the importance of the tangible heritage that constitutes the urban context was confirmed.

## **2) Research Status**

World: Current research on urban contexts by scholars in various countries is mainly based on the study of specific areas within specific contexts. For example, Bakri's study of architectural heritage in the context of Malasia



proposes a built environment that considers sustainable development and provides guidance for conservation policies for heritage; Cakaric explores the value of water systems in the urban context and provides a reference for redesigning existing urban water environments from the perspective of water systems in the urban context; Shao's study of China in the context of rapid urbanization identifies the absence of landscape elements in cities and identifies factors that drive changes in the character of urban landscapes over time; Kytta, by taking a context-sensitive perspective, points out the link between the quality of the context and the happiness of residents, and indicates that the challenge for urban planners remains to improve accessibility in suburban environments and the associated positive empirical outcomes. It can be seen that the study of urban context begins to shift from targeting specific tangible cultural heritage to specific cultural elements or intangible parts of the context.

Japan: It is worth mentioning that Japan has formed a relatively complete legal system for the identification and protection of urban context based on the research of relevant scholars, and in 1919 Japan proposed the system of "aesthetic area" and "scenic area" based on the Urban Planning Law and the Urban Building Law and in 1933, the height of new buildings was restricted for the first time in the evaluation of the "aesthetic area" of Marunouchi Station in Tokyo. In 1950 and 1966, the Cultural Properties Protection Law and the Ancient Capital Preservation Law were enacted to provide a legal basis for the preservation and development of old buildings. By 1975, the establishment of the "Traditional Building Preservation Zone" system marked the maturity of Japan's historic environment system. Currently, Japan's model of protecting urban heritage and cultural landscapes under the Cultural Property Preservation Law and the Landscape Law has become an excellent example for other countries to follow. Under this system, apart from Yatsuka and Ooya's

early theoretical exploration of the urban context, Japanese scholars are now mainly focusing on urban heritage as the starting point for urban context research.

### **1.2.3. Historic Urban Landscape and Urban Heritage**

The historic urban landscape approach extends the object of conservation from “world heritage” to “urban heritage”, and the emphasis on intangible heritage makes it necessary to pay attention to the integrity of the urban context during development [25]. According to Miao, urban context should be seen as a dynamic and intrinsic sum of essential connections between people, the natural environment, the built environment and the corresponding socio-cultural background in the course of historical development and under specific conditions [26]. As Gao pointed out in his dissertation, “the urban cultural context refers to the cultural system with certain stable characteristics formed by the cultural accumulation of multiple generations of residents during the development of a specific city, which can represent the collective cultural character and be inherited, shared and externalized through architecture, landscape, literature, art and citizen behavior” [27]. HUL, through the concept of “layering”, expands the view of heritage to the city, which is more closely connected to everyday life, and describes the intangible part of this urban landscape [28]. Thus, the importance of intangible heritage, which constitutes the context of the city, has been confirmed.

#### 1.2.4. Literature Review of Suzhou

Research on the urban development of Suzhou currently focuses on specific elements of the ancient city, the traditional gardens, city walls, and historic areas.

Research for gardens: Zhang's study of the distribution and scale of gardens in Suzhou during the Ming and Qing dynasties explores the impact of urbanization on gardening during the Ming and Qing dynasties [29]; Mei's dissertation analyzed the changes and causes of gardens' sites in the ancient city, etc [30].

Research for the ancient city: Xie's study of the Pingjiang Road Historic Area identifies factors in the evolution of Suzhou's important historic area and proposes an urban heritage approach to this important historic area [31]; Fu chonglan's "History of Chinese Canals" argues that the city's rivers are the backbone of Suzhou city, and that the canals are one of the most important factors in the stability of the city's location and the development of Suzhou city [32]; Chen's paper analyzes the urban fabric of the ancient city of Suzhou and proposes optimal conservation strategies for the ancient city, etc [33].

Research for land-use change: The articles by Liang and Zhang analyze the process of land use in Suzhou and explore the intrinsic dynamics of urban expansion in Suzhou from the perspective of land use, etc [34,35].

The most noteworthy of these studies is Dr. Chen's series of Studies on the Morphological Evolution of the Ancient City of Suzhou, which points out the main development of the city from its foundation to the beginning of this century [36], but due to the age of writing, Chen's series of articles does not provide a morphological analysis of the last fifteen years of the most intense urbanization, nor does it summarize the urban heritage in the context of Suzhou.

### 1.2.5. Case study

#### 1) Cuenca

Cuenca is an important cultural and artistic center and tourist destination in, with a large number of cultural monuments inside the city, which was listed as a World Heritage Site in 1999 (Figure 1-1). Cuenca is located in an area with both plain and mountainous terrain, surrounded by mountains and a complex and tight water network like Suzhou. The remains of ancient settlements in the city and the transformation of riverbanks into linear parks provide an understanding of the archaeological, geomorphological, and natural environmental dimensions. The layering of urban land development indicates the evolutionary process of growth. The value of these urban heritage sites lies in their overall value, rather than in their artistic or typological value. Due to the complexity of the urban heritage, conservation activities have created an interdisciplinary research team with specific phases of activity including [37]:



**Figure 1-1. Image of Cuenca.**

(a) Phase I

A first "analytical phase", in which different studies have been developed in

the broad territory and urban areas, heritage, and perception. The objective of this phase was to develop those studies that allow the definition of the area and the identification of the different landscape units that constitute the city of Cuenca. These studies were directed to know more in-depth some of the physical, urban and heritage means that make up its structure, highlighting the importance of less obvious aspects that are an inevitable part of the essence of the historical city.

(b) Phase II

A second phase called "identification of landscape units", was developed from the information obtained in Phase I. The proposal to work with units is justified by the need for more specific management based on the problems and values of areas more or less homogeneous. The difficulty of working in the city as a whole, besides the opportunity to validate the methodology in a manageable size area of study and complexity, are among the issues that have motivated us to work with the landscape units.

(c) Phase III

Finally, a third phase called "Elaboration of Landscape and Valuation Unit File was developed." In this phase, we proceed to feed the information collected into a model of the tab as a means to identify cultural heritage values.

## **2) Kanazawa**

As the administrative capital of Ishikawa Prefecture, the present downtown area of Kanazawa City grew from the 15th century with Mido as the center and gradually spread outward (Figure 1-2). By the mid-17th century, Kanazawa's urban structure was gradually improved. Today, the road network in Kanazawa is the same as it has been for centuries, and the city's waterways are still in use today. The various stages of the development of Kanazawa castle town are reflected in the modern urban structure of Kanazawa, and the

network of streets and waterways, together with the castle town, has become an important part of the urban landscape of Kanazawa and reflect the city's cultural lineage.



**Figure 1-2. Image of Kanazawa.**

The Japanese Agency for Cultural Affairs selected the tradition and culture of Kanazawa Castle Town as an important cultural landscape in February 2010. Kanazawa is the second city after Uji to be selected as a cultural landscape that includes part of the city. Before that, most of the cultural landscapes selected in Japan were rural and mountainous areas. It is important to note that the selected area of Kanazawa's cultural landscape includes the downtown area around Kanazawa City, which makes it particularly difficult to clarify the value of Kanazawa's urban cultural landscape and conservation practices. This difficulty arises from the presence of different styles of architecture from various eras in the city center, which bring a much greater degree of complexity than the previously selected rural or mountainous areas. Therefore, the Kanazawa City Important Cultural Landscape Planning Committee divided it into three topics: inheritance of urban structure, inheritance of living and

production, and preservation and living use of architecture. To address these issues, the committee has developed a total of 68 programs according to a short-, medium-, and long-term schedule, hoping to achieve the preservation and revitalization of the urban cultural landscape through a combination of software and hardware.

a) Continuity of tangible elements

To ensure that these urban features are not destroyed by new construction or high-rise buildings, the Landscape Policy Division, the Urban Planning Division, and other relevant departments held an exchange of opinions with experts and scholars, as well as residents, and agreed that "high-rise buildings are an important factor in the incompatible landscape. In the meeting, a consensus was reached that "high-rise buildings are an important factor in landscape incoherence" [38]. Based on this consensus, the "Preservation and Revitalization of Cultural Landscapes in Kanazawa City" stipulates that if an area selected as an important cultural landscape overlaps with a traditional environmental protection zone and the overlapping area is within the Kanazawa City Landscape Plan, stricter restrictions on building heights must be imposed [39]. Due to the complexity and fragility of cultural landscape areas, the sustainable development of these sites is often more difficult than simple conservation. Faced with the conflict between building height restrictions and urban development, the Kanazawa city government hopes to gain an understanding of residents through communication with them. In addition to Kanazawa, many other cities in Japan impose height restrictions on street buildings, such as Kyoto City, which not only prevent disputes over high-rise buildings but also improve the quality of each building, allowing for "high-rise" development and "low-rise" preservation. In this way, the value of the whole neighborhood and the city can be improved by striking a balance between "high-rise" development and "low-rise" preservation [40].

In addition to the important urban heritage of Kanazawa, such as the city walls and the water network, there are also buildings of various periods. As the most everyday living space of the residents, machiya (traditional merchant's houses) carry the common memory of Kanazawa residents, and as a large number of historical buildings, they are widely distributed and become an important component of the urban landscape. Since 2010, Kanazawa City has been working on the conservation of the machiya within the conservation area and looking for sustainable development solutions. Since then, through the introduction of relevant laws and regulations, the conservation and revitalization of Kanazawa's machiya have been improved and the responsibilities of each party have been clarified. As of 2018, the opening of the Kanazawa Machiya Information Center has further facilitated the participation of residents in the conservation of machiya, and has made the participation of residents even more important in the conservation of machiya.

#### b) Continuity of intangible elements

Changes in modern lifestyles and improvements in science and technology have made a large number of traditional crafts the outcasts of the times. As these traditional skills are eliminated by modern processes and assembly lines, they begin to fade out of sight and the public's demand for them continues to diminish. In addition, due to the serious aging in Japan, a large number of traditional crafts are also facing the problem of aging artisans. Coupled with the decreasing demand from the public and the indifference of young people to traditional culture, there is a growing shortage of inheritors of traditional crafts. Faced with this problem, the Kanazawa City Important Cultural Landscape Planning Committee began to find a solution. The committee proposed a strategy to inherit and develop the traditional crafts in Kanazawa City, an important intangible heritage so that these traditional crafts can gradually change from out-of-date skills to new crafts that are compatible with



the lives of modern people. The new vocational district is an attempt to provide a place for traditional craftsmen to gather and communicate, to promote the creation of new skills, and to provide a space for people to encounter these traditional crafts so that intangible cultural heritage can re-enter people's daily lives.

### **1.3 Purpose and Significances of Research**

#### **1.3.1. Purpose**

This research hopes to explore the historical layering pattern of Suzhou and the composition of the urban context in Suzhou from the perspective of HUL. Firstly, this research takes 1949 (founding of the People's Republic of China) and 1978 (economic reform and opening up of China) as two key time points to compare the urban spatial forms and urban landscape elements of Suzhou in different periods, we try to use this as an entry point to reveal the process of evolution of the historical urban landscape of Suzhou from ancient to modern times and the problems that still exist in the current urban planning. Secondly, to study the urban heritage and its surrounding environment in the built-up areas in different periods, to find the value and the potential relevance of the heritage to the urban development as well as the current problems by means of data analysis. Then propose specific measures to help the integration of historic cities and newly built-up urban areas by combining the views of HUL. In addition, the research results of this paper may be useful for the urban planning of other cities with rich cultural heritage in China and East Asia.

#### **1.3.2. Significances**

Through literature survey and other methods, it can be found that most of the previous studies focused on the changes in the ancient city or gardens before 1949, or the changes in the land use of Suzhou in different periods and

the research from the angle of urban context are based on historical blocks. From the perspective of HUL, there is no research focus on the whole of Suzhou and the intangible cultural heritage area to analyze and find problems but a solely UNESCO-initiated attempt by Wujiang. This research starts from such a research gap to point out the problems existing in the urban development and identify elements of urban heritage that have a strong connection to the urban fabric from the perspective of HUL, then a community and intangible cultural heritage based system is proposed to achieve sustainable development in Suzhou (Figure 1-3).

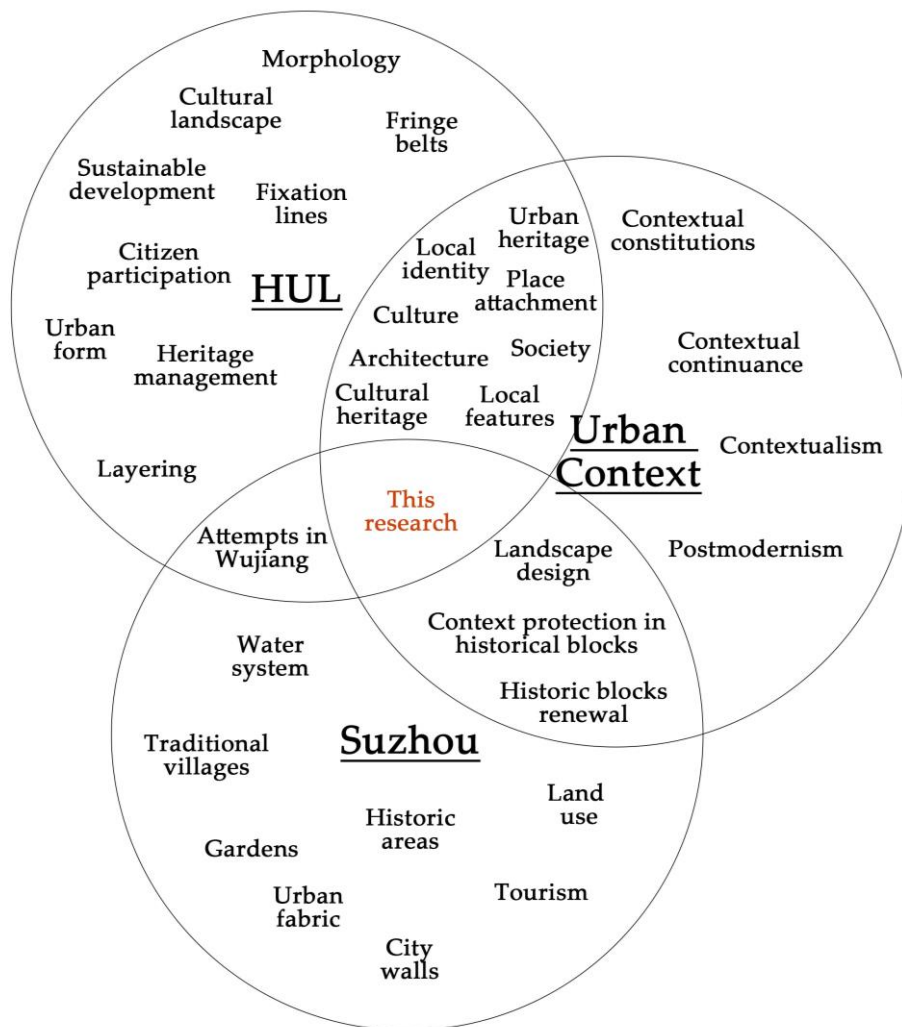


Figure 1-3. Significance of this study.

### 1.3 Research Object

This paper takes Suzhou (the prefecture-level city) as the research object (Figure 1-4). Today, Suzhou City consists of six districts, namely Gusu District, Gaoxin District, the Industrial Park, Xiangcheng District, Wuzhong District, and Wujiang District. Among them, Gusu District is the ancient city of Suzhou, with an area of 83.42 square kilometers. The Gaoxin District, the Industrial Park, the Xiangcheng District, and the Wuzhong District are all new urban areas established after 1949. Wujiang District, on the other hand, is a county-level city incorporated into the urban area of Suzhou in 2012, and because it is relatively independent in the process of urban development like Kunshan and Changshu (two county-level cities in Suzhou prefecture) [41], Wujiang District is still regarded as a county-level city for the time being along with the other four surrogate county-level cities are not included in the discussion.

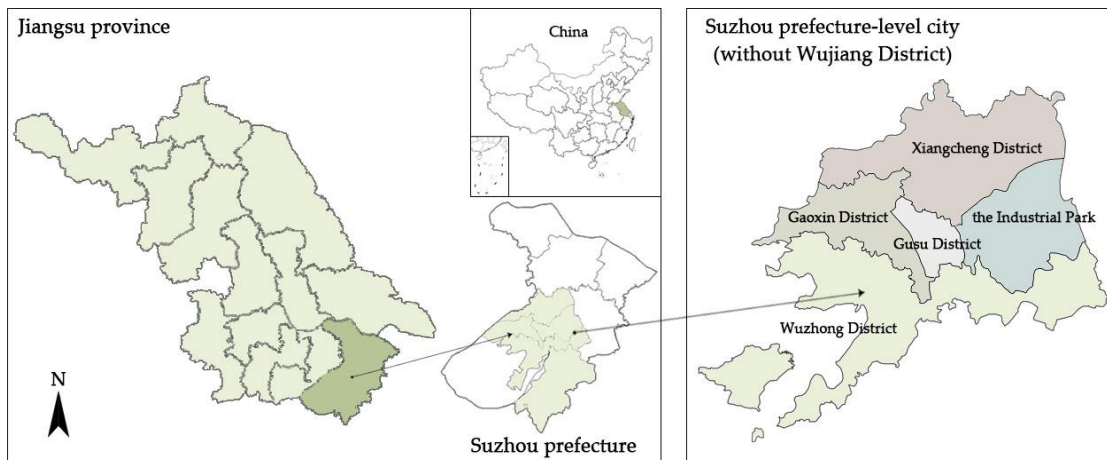


Figure 1-4. Location of the study area.

## 1.5 Research Methodology and Research Framework

### 1.5.1. Research Methodology

Based on previous studies and historical maps, photographs and other historical data, this study takes Suzhou (the prefecture-level city) as the research object.

Firstly, the urban characteristics and the process of historical changes in Suzhou are discussed.

Secondly, three important historical periods, pre-1949, 1949-1978, and post-1978, are used as the research framework to summarize the urban morphological changes of Suzhou through morphological analysis based on historical documents and satellite images. Then, this is used to derive the fabric features of each area.

Thirdly, on this basis, this study extracts and organizes the distribution of Suzhou's urban heritages in space and time, analyze the urban fabric around them and perform correlation analysis.

Then, based on the analysis results, the dichotomy between modern and traditional in Suzhou's urban landscape is discussed, and a universal system that can be the carrier of urban context for the sustainable development of Suzhou, especially the contextual continuance and the formation of local identity is proposed.

Finally, the full text is summarized and, considering the limitations and shortcomings of the current study, further research is proposed.

### **1.5.2. Research Framework**

This study consists of 6 chapters (Figure 1-5).

Chapter 1. Introduction: The present chapter, where the reasons and backgrounds of the previous research, research object, purpose and methodology are explained.

Chapter 2. This chapter discusses the basic information of the study site, which is the urban history of Suzhou, and the spatial, political, and general overview of Suzhou in a contemporary context. The aim of this chapter is to understand the study area, to acquire relevant basic knowledge.

Chapter 3. This chapter discusses the period of Suzhou's urban landscape

development and divides it into three stages: pre-1949, 1949-1978, and post-1978. The morphological analysis of the urban pattern of Suzhou based on the satellite map of these three stages is presented, and the trends and morphological characteristics of the urban development of Suzhou are shown by means of diagrams. Based on the morphological results obtained, it can be found that Suzhou developed rapidly after 1978 and completely broke the original urban form and fixation lines, with new urban areas gradually surrounding the old ones. In addition, these three stages have resulted in three different types of urban fabric.

Chapter 4. This chapter focuses on the morphological analysis of the distribution of urban heritage elements in Suzhou through both tangible and intangible aspects and finds that the current distribution of heritage in Suzhou is significantly unbalanced. In addition, a correlation study of the urban fabric around the heritage finds that different heritages are correlated with different components of the urban fabric according to their types.

Chapter 5. This chapter discusses the results obtained in Chapters 3 and 4, and critiques the current urban development model that focuses only on the economy and neglects the continuation of the urban context, starting with the problems reflected in current urban planning. Then, based on the current dilemma and the HUL perspective, the relevance of community and urban cultural continuity is emphasized, and the importance of a universal system with the combination of urban heritage fabric features and community-level diversity spaces for the continuity of Suzhou's urban context is pointed out.

Chapter 6. The last chapter, which includes the conclusions of the previous chapters, and considering the limitations and shortcomings of the current study, further research is proposed.

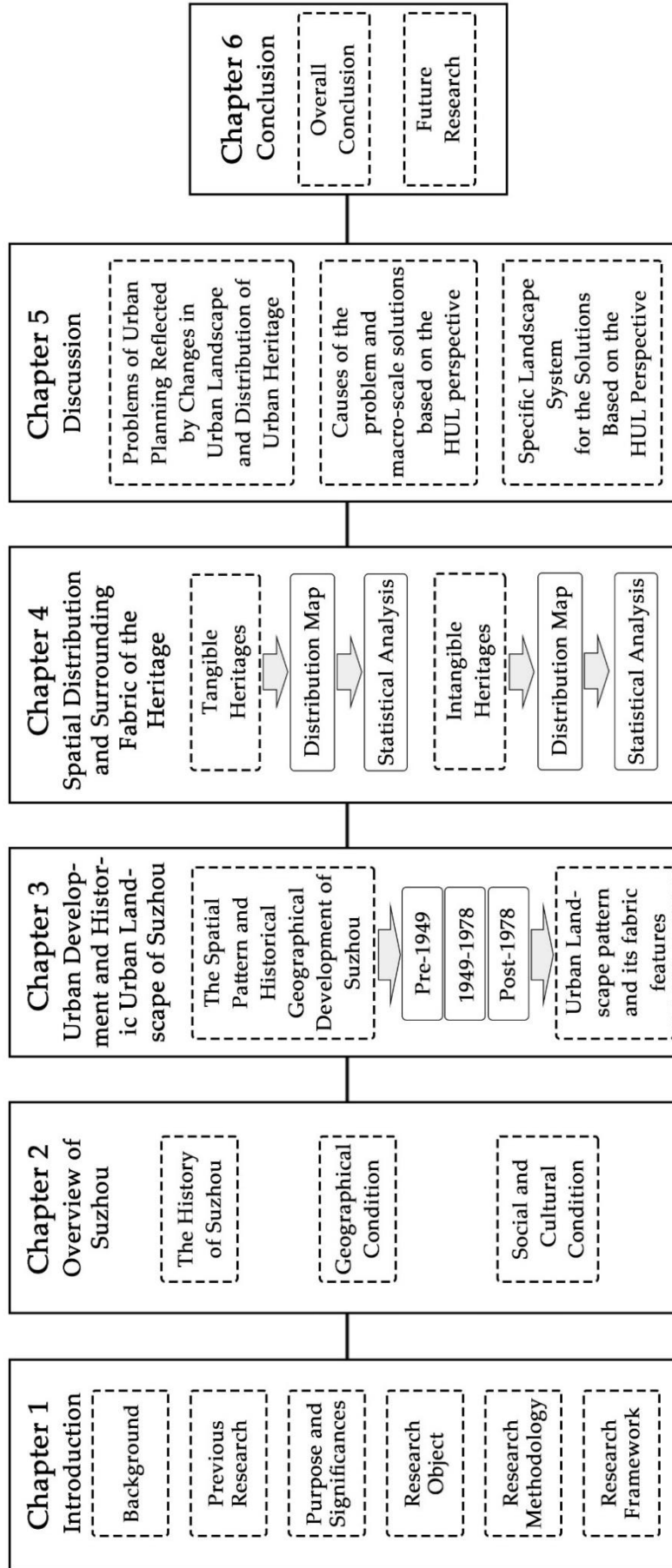


Figure 1-5. Research framework of the study.

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## **Chapter 2**

### **General Overview of Suzhou**

## **2.1 Introduction**

### **2.1.1. Background**

When we take a city as an object of study, we inevitably have to understand its basic situation first. Likewise, studying Suzhou from the perspective of HUL requires a complete understanding of the historical lineage of Suzhou due to the requirement of layering.

Thus, this chapter discusses scientific basics connected with the research site, which are the urban history of Suzhou, and its spatial, political, and general overview of Suzhou city in the contemporary context. The literature discussed here is the local records and official documents that connected with this research, through the discussions, positioning, and fundamental concepts of this research is given.

### **2.1.2. Objectives**

This chapter aims to understand the study area, with getting relevant basic knowledge in term of urban history, geographical condition, and social and cultural condition of Suzhou.

### **2.1.3. Research Method**

Data collection and in situ survey are the main methods of this chapter. References are drawn from studies by other scholars and Suzhou government departments, such as maps, research publications, books, and conference proceedings.

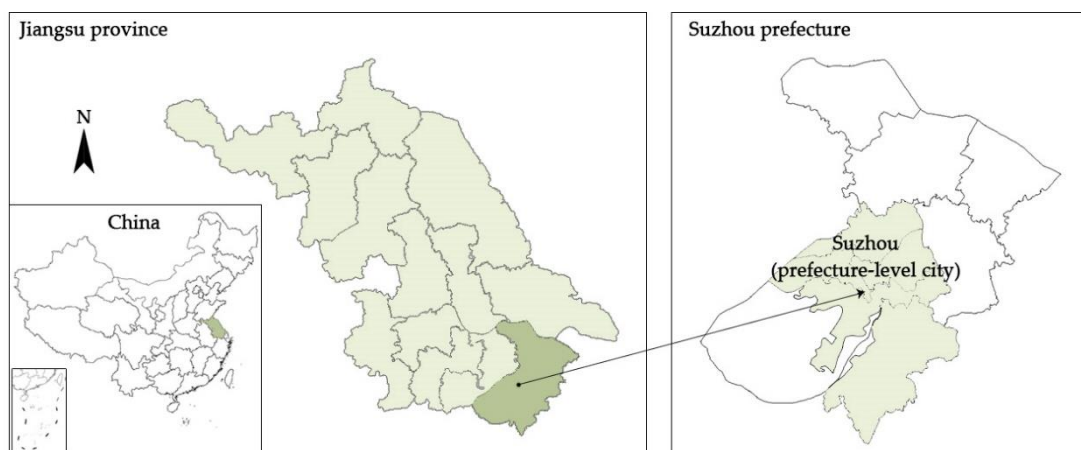
Firstly, this chapter presents basic information about the geographical,

demographic, and socio-cultural conditions of Suzhou to provide basic knowledge about the study area. Secondly, this chapter presents ancient maps and local historical archives from various periods collected during the research process as primary resources to provide data for further analysis in conjunction with government documents thereafter.

## 2.2 Overview of Suzhou

### 2.2.1. Geographical Condition

Suzhou, known as Wu in ancient times, or Su for short, also known as Gusu and Pingjiang, is located in the Yangtze River Delta and southeast of Jiangsu Province, with Shanghai in the east, Zhejiang Province in the south, Taihu Lake in the west and Yangtze River in the north (Figure 2-1). The city has many water systems and is known as the "Venice of the East". As one of the oldest existing cities in China, it has become the representative of private gardens in China due to the preservation of a large number of gardens from various historical eras, and is known as the "City of Gardens in China" [1] (p.4).



**Figure 2-1. Location of Suzhou.**

The total area of Suzhou prefecture-level city is 4,652.84 square kilometers, with a built-up area of 590.86 square kilometers (including Wujiang District) by the end of 2020. Gusu District, where the ancient city is located, has an area of

83.42 square kilometers; Wuzhong District, 2231.69 square kilometers; Xiangcheng District, 489.96 square kilometers; Gaoxin District, 332.37 square kilometers; Industrial Park, 277.96 square kilometers; and Wujiang District, 1237.44 square kilometers [2].

### **2.2.2. The History of Suzhou**

514BC, in the first year of King Helu's reign, King Helu of Wu ordered Wu Zixu to survey the land and build the Great City of Helu as the capital of Wu, which is now the site of Suzhou.

222BC, in the twenty-fifth year of the Qin dynasty, the Qin state pacified the south of the Yangtze River and set up the county of Huiji, starting with Wu County. The county and prefectural governments were located in the former capital of Wu (the site of Suzhou).

129AD, in the fourth year of Han Yongjian, Wu County was set up with 13 counties, with Wu County as the first canton and the county seat in Wu County, while the county seat of Huiji was moved to Shangyin (now Shaoxing, Zhejiang).

583AD, the third year of Sui Emperor Kaihuang, the county was abolished and the local administrative establishment was changed to state level. In the second month of the ninth year, Sui General Yu Wenshu broke the Wu Prefecture and the Wu area was pacified. Then Wu County was abolished and Wu Prefecture was renamed Suzhou, taking the name of Gusu Mountain in the west of the Prefecture. The name of Suzhou started from here.

605AD, the first year of the Sui Dynasty, Suzhou was renamed Wu Prefecture again. In the third year, Wu Prefecture was renamed Wu County. At the end of the Sui Dynasty, a large-scale peasant uprising broke out and wars continued in the area of Wu County until the death of the Sui Dynasty.

618AD, the first year of the Tang Wude, Shen Faxing, a member of the

Jiangnan clan and the governor of Wuxing, rose up and took the county of Biling as his county the following year, calling himself the king of Liang and the year Yanling, occupying more than ten counties south of the Yangtze River. In the third year, Li Zitong, a remnant of the peasant army at the end of the Sui Dynasty, defeated Shen Faxing and occupied Wu County. In the fourth year, Du Fuwei, a Tang general, defeated Li Zitong, occupied the eastern part of Yangtze River, and changed Wu County to Suzhou.

1113AD, Song Dynasty, the third year of Zheng He, Suzhou was transformed into the capital of the administrative region and was upgraded to Pingjiang Prefecture, and Suzhou was called Pingjiang from then on.

In 1275AD, the 12th year of the Yuan Dynasty, the soldiers of the Yuan Dynasty went south, and the garrison generals of Pingjiang city welcomed and surrendered. Jianghuai Province was established under the government. In December, Pingjiang Mansion was changed to Pingjiang Road. In the 20th years, the local roads, prefectures and counties have been reset, with the number of households as the upper and lower levels, Pingjiang Road as the upper road, and Wu County and Changzhou County as the upper counties. In the 21st year, Jianghuai provinces moved to Hangzhou, and Western Zhejiang Xuanweisi moved to Pingjiang. In the 22nd year, Jianghuai Province was changed into Jiangsu and Zhejiang Province

1368, Ming Hongwu first year, in the first month, Zhu Yuanzhang reign, the establishment of the Ming dynasty. In August, built Nanjing, striking Jiangnan province, to Yingtian, Suzhou and other provinces directly under the province. The following year, descending Wujiang, Kunshan, Changshu, Jiading 4 states for the county, Suzhou Prefecture led 6 counties.

Qing Shunzhi two years (1645), Prince of Yu Duodo led the division to Jiangnan, the Southern Ming regime fell. Doduo ordered Baili Boluo divided troops to recruit Suzhou and other provinces. Doduo undertook the system to

change the southern Zhili for Jiangnan Province. Set up Jiangning governor , stationed in Suzhou.

In January of the first year of the Republic of China (1912), the provisional provincial council of Jiangsu resolved to promulgate the "Provisional Local System of Jiangsu" by order of the Jiangsu Governorate, and abolished the prefectures, states, and counties and halls. Suzhou was renamed as Wu County.

In 1928, on September 6, the 16th year of the Republic of China, the Wuxian County Office was renamed the Wuxian County Government. on November 27, 17, according to the order of the Jiangsu Provincial Government, in compliance with the Municipal Organization Law, the provincial and county level system was implemented, and the Suzhou Municipal Preparatory Office was transformed into the Suzhou Municipal Government. on December 10, the Suzhou Municipal Government was officially declared.

In 1931, on September 3, the 19th year of ROC, according to the provincial government's order to abolish the Suzhou city government, the former Suzhou city district under the jurisdiction of Wu County. May 16, the county government of Wu County officially received the Suzhou city government.

1949, Suzhou was liberated, and was designated as a city and established as the Suzhou Special Zone.

1953, the People's Government of Jiangsu Province was established and Suzhou was changed to a city under provincial jurisdiction.

1958, the Provincial People's Committee informed that Suzhou City was handed over to the leadership of Suzhou Special Administration Department

1962, Suzhou City was restored as a city under provincial jurisdiction.

In 1983, Jiangsu Province began to implement the new system of city-controlled counties. The Suzhou area was abolished, and the two counties of Jiangyin and Wuxi, which were formerly part of the Suzhou area, were transferred to Wuxi City, while Wuxian, Wujiang, Kunshan, Taicang, Shazhou

and Changshu were transferred to Suzhou City. Suzhou City led five counties and one city.

On March 1, 1992, the Management Committee of Hexi New District of Suzhou City People's Government was established in the western part of Suzhou City, which is a dispatching agency of the municipal government and enjoys county-level authority. On November 9, the State Council approved the establishment of Suzhou National Hi-tech Industrial Development Zone.

1993, the name of Suzhou Hexi New District was changed to Suzhou Gaoxin District.

On February 11, 1994, Suzhou Industrial Park was established in the Jinji Lake area in the eastern part of Suzhou.

On December 31, 1999, the suburban district of Suzhou was renamed as Huqiu District, which was officially listed on September 8 of the following year.

On December 31, 2000, Wuxian City was abolished and Wuzhong District and Xiangcheng District of Suzhou City were established, which were listed in February of the following year.

In September 2000, the suburban district was renamed Huqiu District.

At the beginning of 2001, Wu country was abolished and incorporated into the urban area of Suzhou, and Wuzhong and Xiangcheng districts were established.

In 2002, Suzhou Gaoxin District was merged with Huqiu District.

In September 2012, Canglang District, Pingjiang District and Jingyan District were abolished and established as Gusu District with the former administrative areas of Canglang District, Pingjiang District and Jingyan District, and the county-level Wujiang City was abolished and Wujiang District was established.

### **2.2.3. Social and Cultural Condition**

The Wu culture originated from Tai bo and Zhong yong, who left the



Zhongyuan culture (the Yellow River culture) for the Wu area and combined the Zhongyuan culture with the local indigenous culture, which has developed over thousands of years and become a more mature and complete type of the regional culture in China. In other words, the Wu culture is a combination of the culture of the Yellow River basin and the culture of the Yangtze River basin [3].

In the early period, the population of Wu was sparse, and during the Northern and Southern Dynasties, the entry of northern minority tribes into the Yellow River basin caused a massive migration of Han nationality from the Central Plains to the south. This was another cultural fusion between the north and the south in the Suzhou region after "Tai bo Zhong yong ben wu"(the arrival of Taibo and Zhongyong in Wu), which also brought a large number of Han nationality from the north [4]. The An-Shi Rebellion of the Tang Dynasty also promoted the migration of Han nationality from the north to the Suzhou area and contributed to the economic and population growth of Suzhou. During the Song and Yuan Dynasties, the population was decimated by the war, and Han nationality from the north continued to fill the population gap. After that, the population composition was relatively stable, and Suzhou formed a social structure with Wu culture as the regional cultural characteristic and Han nationality as the main ethnic group.

In ancient times, rice and fish were the main food in Suzhou due to geographical factors. During its long history, Suzhou gradually developed unique food and living customs, and most of the houses in Suzhou were built near the river, and most of the travels depended on oars. In the Qing Dynasty, it was written in the "Notes of Lanfang" that "the world's food and clothes were not as luxurious as those in Suzhou", and in the "Qing Tares" it was said that "every family above the middle stream strives to have exquisite meals and snacks". These show the exquisite life of the Suzhou people at that time.

The Wu dialect has been spoken since the fusion of the ruling class and local ethnic languages in the Middle Plain during the Zhou Dynasty and was finally integrated with the languages of the Wu inhabitants through the Qin and Han Dynasties, the Northern and Southern Dynasties, and generations of northern immigrants who came south thereafter. Among the major dialects of Chinese, the Wu dialect is second only to the northern dialects in terms of the number of speakers. As a Wu dialect, the Suzhou regional dialect has always been regarded as the representative. Being an elegant and expressive language with a long history, the Suzhou dialect is regarded by linguistic scholars as an essential tool for preserving the cultural heritage of Suzhou [5].

Based on the influence of the Han nationality on the Suzhou region, Suzhou also attached great importance to education and was known as a famous cultural city. In the Qing Dynasty alone, Suzhou accounted for 22.8% of the total number of Number One scholars in China, the highest number in any province in the country. In the early 20th century, with the introduction of Western social sciences and natural sciences, various new schools were established in Suzhou, expanding the number of students. After the establishment of the Republic of China, primary and secondary education in Suzhou developed greatly, especially secondary teacher education, which occupied a certain proportion in the whole of Jiangnan region. The development of education laid a solid foundation for improving the cultural quality of the population in Suzhou. After the establishment of New China, the state attached great importance to the cultural education of all people, implemented multi-level education and compulsory education, expanded the education targets, and improved the cultural quality of the people, so that the number of illiterate people decreased year by year [4].

On the other side of cultural development is the equally developed commercial industry. Since ancient times, Suzhou has been "a metropolis in the

southeast", and its commerce and handicraft industries developed early, making it one of the most important bases in Jiangnan. In modern times, the commercial and handicraft industries were hit by imperialist economic aggression and declined. In addition, since the Qin Dynasty, Suzhou has been the seat of the local administrative capital, and there were a considerable number of feudal bureaucrats and literati in the city, especially in the urban area, where a considerable proportion of people worked in commerce and industry, while the proportion of the agricultural population was smaller. After the establishment of the Republic of China, the socio-economic structure of Suzhou changed, with the transformation of modern handicraft workshops into modern factories and the gradual increase in the number of workers. However, the composition of each occupation remained the same. After the establishment of New China, with the continuous development of the social economy, the employed population in the urban area has been increasing. In 2020, the total employed population in urban areas was 7,478,000, with the population of the primary industry being 192,000, the population of the secondary industry being 3,842,000, and the population of the tertiary industry being 3,444,000 [6].

The population of Suzhou is 6,716,200, of which the population of Gusu District is 924,200; Wuzhong District is 1,389,100; Xiangcheng District is 891,100; Gaoxin District is 832,600; Industrial Park is 1,134,000 and Wujiang District is 1,545,200. The proportion of urban population in Gusu District and the Industrial Park is the highest at 100% and 99.9%, while the lowest in Wuzhong District and Wujiang District is 76.96% and 75.09% [6].

The current inhabitants of Suzhou are mainly Han nationality. the history of minority residents settling in Suzhou is early, but no exact data is available, and the situation in the Republic of China is not recorded. After the establishment of the People's Republic of China (New China), the number of minority

residents settled in Suzhou increased year by year, but the overall number was always small; in 1952, the population of Han Chinese in Suzhou was 332,109, accounting for 99.996% of the city's total population; there were 3 minority groups in Suzhou, with a total of 12 people, accounting for 0.004% of the total population. By the fifth census in 2000, the city's Han population was 6,775,700, accounting for 99.76% of the total population; there were 46 ethnic minorities with 16,600 people [1] (p.152). Overall Suzhou's culture is less influenced by foreign influences and has a lineage of ethnic subjects

#### 2.2.4. Overview of Important Urban Plans

**Table 2-1 Summary of urban plans of Suzhou.**

Year	Title
1927	City Planning of Suzhou
1959	City Planning of Suzhou 1959 (abolished)
1986	Suzhou City Master Plan 1986–2000
1986	Suzhou Historical and Cultural City Protection Plan 1986
1996	Suzhou City Master Plan 1996–2010
1996	Suzhou Historical and Cultural City Protection Plan 1996
2007	Suzhou Historical and Cultural City Protection Plan 2007
2011	Suzhou City Master Plan 2011–2020
2013	Suzhou Historical and Cultural City Protection Plan 2013
2021 (publicity)	National territory development plan of Suzhou 2021-2035
2021	Suzhou Historical and Cultural City Protection Plan 2021

## **2.3 Conclusions**

The long history of Suzhou hints at the great cultural wealth buried in the city, and this chapter leads to the following conclusions.

1) Suzhou, as the most important administrative center in this region in ancient times, concentrated relatively excellent social resources, which provided the basis for the city's economic development.

2) The geographical features of Suzhou City created the conditions for the formation of a unique urban culture in Suzhou.

## Reference of Chapter 2

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**Chapter 3**  
**Urban Development and**  
**Historic Urban Landscape of Suzhou**

## **3.1 Introduction**

### **3.1.1. Background**

As one of the oldest cities in China, Suzhou's urban history almost covers phases of Chinese history, with the years 1949 and 1978 being particularly noteworthy. The scale of Suzhou began to change dramatically in 1978, along with the process of urbanization in China. Although the city's urban character continued and intensified for most of the 2,500 years since its establishment in BC514, the urbanization of the last few decades has been accompanied by a dramatic change in the scale of urbanization. In recent decades, however, the rapid pace of urbanization and the transformation of the city's functions have confronted this historic city with both internal and external challenges. The development of the city has changed from the natural and slow growth of the past to a planned and rapid sprawl [1] (pp. 5-6), and this rapid expansion of physical space has begun to leave other parts behind, and the relationship between the people living in it and the city has begun to change quietly [2].

### **3.1.2. Objectives**

The main objective of this chapter is to summarize the development process of Suzhou and to identify the important urban areas in these three periods through the HUL approach, then analyze the changes in these important areas with the built-up areas to obtain the trend of urban development and the current situation of Suzhou.



### **3.1.3. Research Method**

This chapter focuses on the morphological analysis of Suzhou by using the ancient maps mentioned below and satellite maps of specific years (Table 3-1) to clarify the urban built-up areas, fringe zones, consolidation lines, and major urban cores of each period. Secondly, the studies of Chen, Zhang, Wang, etc and the Suzhou Shizhi (chronicles of Suzhou) are used to further clarify the economic and social factors of Suzhou's urban morphological development. Finally, the urban morphological maps of each period are used to summarize the urban spatial characteristics of Suzhou's development to the present and to draw relevant conclusions.

The more formal and complete local records mainly appeared in the Song dynasty, and the earliest surviving ancient map is the " Map of Pingjiang " from the Southern Song dynasty; thereafter, there is the " Map of Waterways in Suzhou " from 1639 in the Ming dynasty; the "Map of Gusu", "Map of Suzhou", "Complete Map of Suzhou" and "Map of Suzhou Prefecture" from the Qing dynasty; "Newly Surveyed and Detailed Map of Suzhou and its Outskirts " and "Latest Suzhou City Complete Map" from 1913 to 1949, and seven other maps. These maps show the changes in the built-up area, water systems and the location of the city's major facilities of Suzhou (Table 3-2).

**Table 3-1 The structure of the urban landscape in Suzhou.**

<b>Date</b>	<b>Name of maps</b>
1229	Map of Pingjiang
1639	Map of Waterways in Suzhou
1745	Map of Gusu
1797	The Map of Three Latitudinal and Four Longitudinal Watercourses in Suzhou
1864-73	Map of Suzhou Geography
1872-81	Map of Gusu
1880	Map of Suzhou
1888-1903	Map of Suzhou City and Its Outskirts
1896-1906	A Complete Map of Suzhou
1908	Map of Suzhou Patrol District
1913-17	Map of Suzhou Prefecture
1914	Newly Surveyed and Detailed Map of Suzhou and its Outskirts
1921	The Latest Detailed Map of Suzhou and its Outskirts
1927	The Latest Map of Suzhou City
1931	New Map of Suzhou
1938	The Latest Map of Suzhou
1940	Map of Wu County and its Outskirts
1943	The Latest Map of Suzhou Tourism
1949	The Latest Map of Suzhou

### **3.2 The Urban Development Time Period**

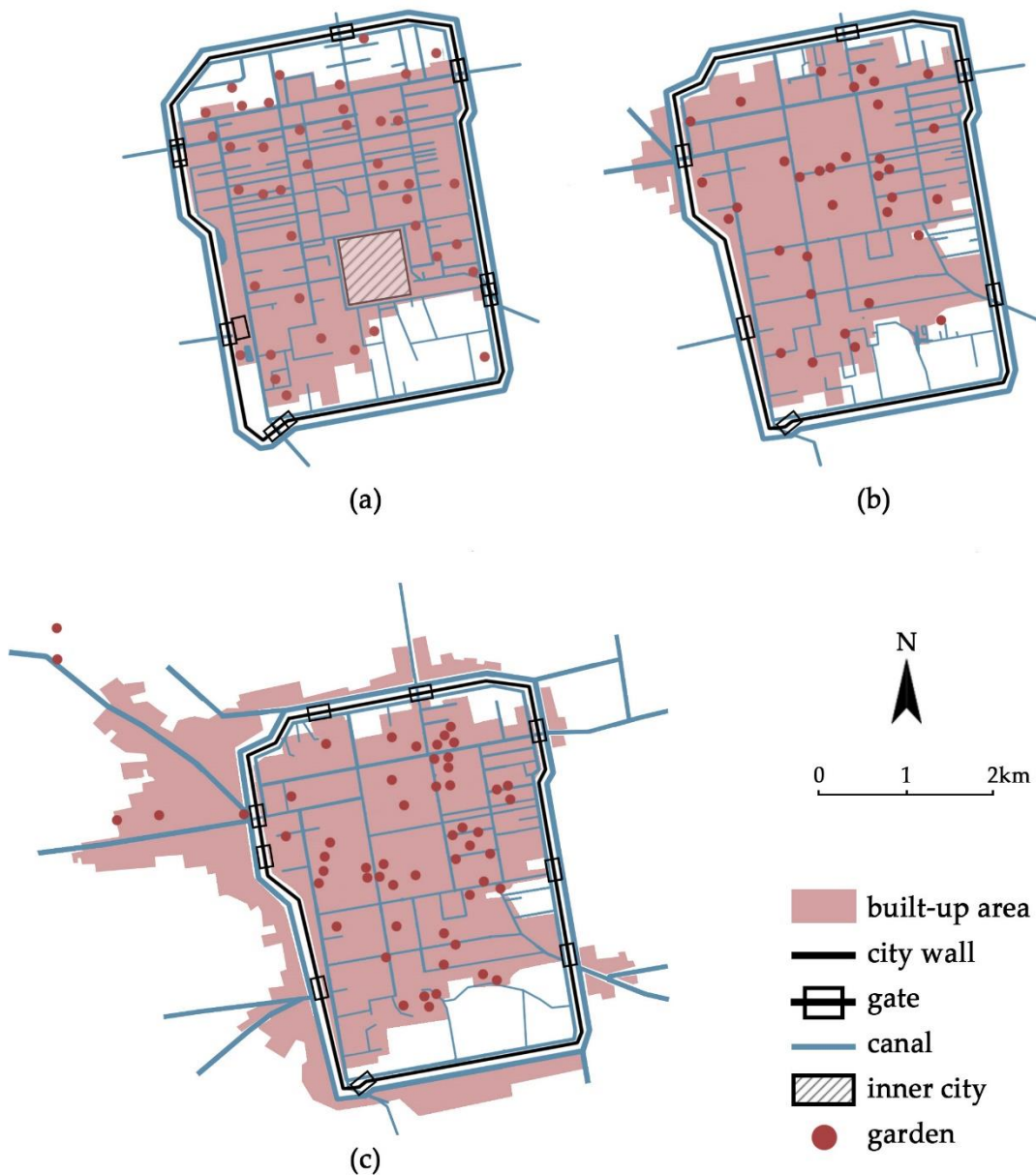
#### **3.2.1. pre-1949**

The ancient city of Suzhou was built in 514 B.C. More formal and complete local records and maps mainly appeared in the Song dynasty. Therefore, we take the Song Dynasty as the starting point to study the urban transformation of Suzhou. During this period of feudal society, the urban form changes in Suzhou were mainly concentrated within the city walls. The Suzhou City Wall was built in the Spring and Autumn period and the Warring States period.

However, due to the massive demolition of the city wall in the Qin dynasty, most of the city walls foundation sites that can be excavated today are from the Han dynasty, and, although the walls of Suzhou have been destroyed or rebuilt several times due to warfare since then, the site of the walls and the area they enclose have not changed significantly since Sui dynasty [3].

The Song dynasty was an important period of urban development in China. Suzhou had become a handicraft city with a certain scale at this time, and its economy had grown considerably. The former square market system in the city was replaced by the street market system, resulting in increased vitality and faster construction [4]. The theory of urban morphology pays attention to the “fixation line”, which largely limits and restricts urban development [5]. The Suzhou City Wall also greatly affected the development of the urban form during this period, and, due to military requirements, there was still an inner city that was the location of important military and administrative facilities surrounded by walls. Suzhou in this period had a clear axis and urban core. Zhang’s article also shows that the existence of the inner city during the Song and Yuan dynasties largely influenced the distribution of buildings in the city of Suzhou [6]. The administrative buildings of this period were mainly concentrated in the southern part of the city and the inner city, while the residential areas and temples were distributed in the north of the city with the Ganjiang River as the axis. The built-up area within the city had not yet filled the space enclosed by the entire city wall, and the urban form was limited by the city wall on the east and west sides, while the north and south sides had not yet overlapped with the city wall. Thus, the built-up area reflects obvious urban

fringe belts (Figure 3-1a).



**Figure 3-1. Spatial layout of Suzhou in Song Dynasty (a), Ming Dynasty and middle and early Qing Dynasty (b), Late Qing Dynasty and the Republic of China (c).**

During the Ming and Qing dynasties, Suzhou further increased its economic and political status and became the most important handicraft and commercial city in the country [7]. During this period, the inner city destroyed by the war was not rebuilt, and, with the disappearance of this original core of the city and the influence of the Jinghang Canal, the commercial core of the city changed

from its original layout located around the inner city to one in the direction of the Chang Gate. The urban form of this period began to cross the city wall, and the fringe belt of the city also broke through the wall at the northwest corner and thereafter led to the prosperity of Shantang Street (Figure 1b).

Due to social turmoil in the late Qing dynasty and the Republic of China, the rise of Shanghai as a port and the opening of the Shanghai–Nanjing Railway in 1908 changed the pattern of the original regional economic center of Suzhou, and the originally prosperous business district around the Chang Gate suffered a huge blow, causing business to begin to move to the east so that the original commercial center near the inner city once again flourished [8]. During this period, the built-up area of Suzhou began to expand to the southwest and east, but some farmland remained within the city walls, and an inner fringe belt appeared (Figure 1c). It is noteworthy that during this period, the first relatively systematic urban planning in Suzhou in modern times, the “Vision of Suzhou Public Works Plan”, appeared [9]. Although this was not fully realized due to the war, its emergence marked the beginning of the urban development of Suzhou from a completely natural growth stage to a stage with a certain degree of systematic planning.

Additionally, since Suzhou is located in the Yangtze River Delta, which is rich in waterways, these rivers are closely related to people’s daily life, and a parallel urban pattern of waterways and streets was formed during an early stage of the city. As an important transportation space, the number of canals reached a peak in the Song dynasty, and with the expansion of the built-up area to the north and south and the expansion of the residents’ living space into the water, the number of canals continued to decrease, but their overall structure remains relatively intact, basically maintaining the pattern of “three horizontal, four straight and two rings” [10]. It can be considered that the rich water system and the city walls together formed the most important landscape feature of

Suzhou in this period.

In addition, the admiration for gardening, coupled with the rise in economic standards, gardening became a common practice in Suzhou during the Song dynasty. The transformation of Suzhou into a handicraft city and the changing location of government buildings in the city led to a changing distribution of private gardens [11]. However, the number of gardens in the city was always on the increase. By the Ming and Qing dynasties, Suzhou's gardening activity reached its peak [12]. The transfer of commercial centers in the city and massive population growth led to a decrease in per capita floor space, which led to a further reduction in the scale of Suzhou traditional gardens during the Ming and Qing dynasties, but also to a peak in their numbers [13]. From the Jiajing period of the Ming dynasty to the Qianlong period of the Qing dynasty, the accumulation of recorded gardens in Suzhou had reached more than 300, and, during this period, it is said that in Suzhou, "half of the city was occupied by gardens and pavilions" [1] (p. 225). Although Western-style architecture and modern parks began to be introduced in the late Qing dynasty and the Republic of China [14], the rich and exquisite Suzhou traditional gardens were still another important landscape feature of the city.

### **3.2.2. 1949–1978**

Usually, we think of 1949 as the beginning of modern Chinese history and the starting point of the modern development of Chinese cities. With the acceleration of industrialization and the left-leaning social production movement that began in 1958 [15] (pp. 9–15). Although the industrial output value of Suzhou grew from CNY 205,870,000 to CNY 240,898,000 between 1949 and 1978, a large number of original houses in the ancient city were transformed into factories, nearly 280 factories had been converted directly from residential buildings, and farmland to the north and south of the ancient

city has been converted into danwei residential compounds or large factories, while the built-up area outside the city also consisted mainly of them. Most of the city walls of Suzhou were destroyed, and only the Jin Gate, Pan Gate, and Xu Gate survived; a large number of gardens were also destroyed during this period [16,17] (pp. 427–430). Additionally, under the influence of the industrial-led development model, the government strictly limited commercial, Suzhou's handicraft and commercial base developed during the late Qing and Republican periods gradually declined [18]. In 1959, Suzhou City issued its first urban planning after the founding of the People's Republic of China, which clearly stated that Suzhou would focus on traditional industry and tourism and that the planned land would be expanded from 19 square kilometers to 32 square km. The relocation of factories in the ancient city to outside the urban area to strengthen the characteristics of Suzhou as a garden city was also proposed [17] (p. 361). At this time, the urban form had broken through the fixation line (city walls) of the city on the north, west, and south sides, and the planning also included the Beijing–Hangzhou Grand Canal as the boundary of the new urban development. However, due to political reasons, this planning scheme was abolished the following year. During this period, Suzhou's urban development had a certain plan to follow, and the overall development was not fast, but the original plan could not ultimately be fully implemented due to time factors. As a result, although the natural growth had converged, this was still the main mode. Because of the industrial-led development model and the utilization of the existing infrastructure in the ancient city, the internal changes of the ancient city began to erode the original urban landscape, and the urban landscape of Suzhou began to decline (Figure 3-2).



**Figure 3-2. Spatial layout of Suzhou in 1960 (a), 1976 (b).**

During this period, Suzhou's water system was also greatly damaged, and a large number of rivers were directly filled in due to sanitation problems and the construction of new houses. A total of 23 rivers (totaling about 16.317 km in length) were filled in, and Suzhou's water network shrank from the original "three horizontal, four straight, and two rings" model to a "three horizontal, three straight, and one ring" model [17] (p. 448). This also led to the further disintegration of the urban pattern in the ancient city, which consisted of canals,



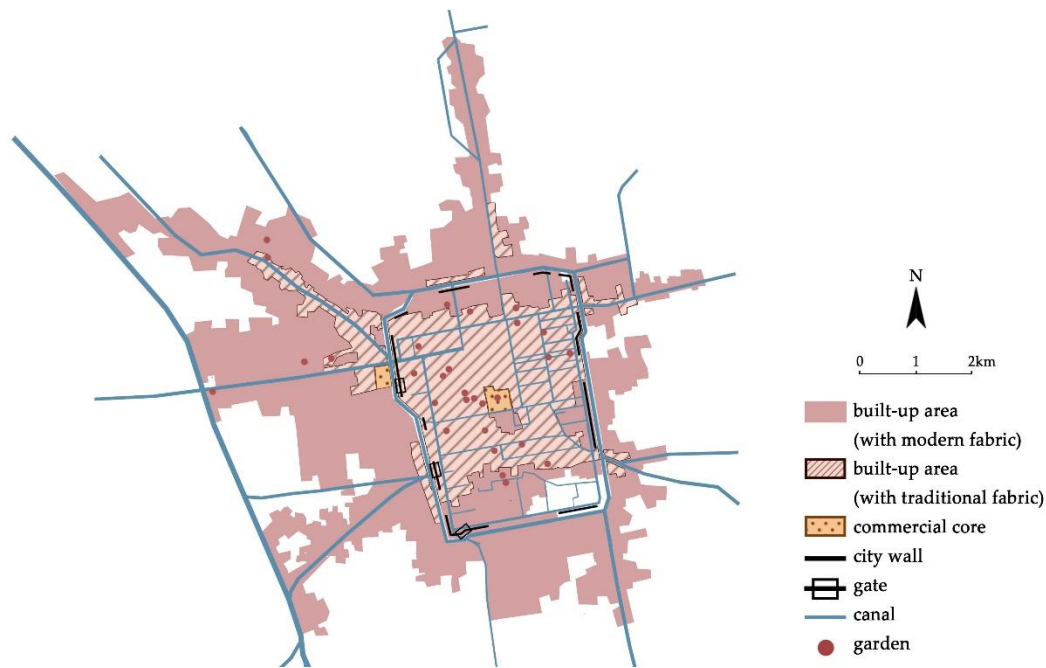
streets, and city walls.

Under the influence of left-leaning ideology, like the city walls, gardens were seen as symbols of feudalism at this time, so numerous gardens and temples were encroached upon or suffered great damage, and the development of the ancient city fell into a state of imbalance in which the economy completely overrides culture. Although famous gardens such as the Humble Administrator's Garden, the Lingering Garden, the Garden of the Master of Nets, and the Pavilion of Surging Waves were restored and opened to the public as special public spaces between the 1950s and 1960s, only a few of the hundreds of gardens that once existed in the city eventually survived [19]. These traditional gardens, once an important feature of the urban landscape, also began to decline during this period.

### **3.2.3. post-1978**

The year 1978, a very important year in China's modern history, marked a period of rapid urbanization [20]. By 1985, Suzhou was listed as a national coastal economic development area, and the national economy was rapidly improving, with the gross national product reaching CNY 2,341.04 million that year, an increase of 21.27 times from 1952. Among others, the gross domestic product of the pillar industry of the textile industries (including the silk industry) increased 53.7 times compared with 1949, accounting for 27.8% of the total industrial output value in 1985 [15] (pp. 3–4). While the economy was developing rapidly, Suzhou's urban construction began to re-enter a planning-oriented development mode. In 1982, the city was listed as a national historical and cultural city, with the clear goal of comprehensively preserving the ancient city of Suzhou. In 1986, the "Suzhou City Master Plan (1986–2000)" was introduced, defining the city as a famous historical and cultural city and a scenic tourist city and emphasizing the goal of comprehensively protecting the

features of the ancient city and actively building a new modern district. The population density of the ancient city would be controlled, and industries in the ancient city would be gradually transformed into tourism and service industries and a large-scale commercial center was formed in the Guanqian area and the Shilu area, which previously declined due to commercial decline has once again become the regional commercial center; the proportion of primary, secondary and tertiary industries in Suzhou changed from 17.3: 61.0: 21.7 in 1990 to 5.9: 56.5: 37.6 in 2000 [1,21] (pp. 307–308). New and expanded factories or public buildings that attract large crowds were strictly prohibited in the ancient city, and factories would be further relocated to industrial areas outside the city. The new industries outside the ancient city had shifted from the former labor-intensive industries to technology-intensive ones, and because of the reduced dependence on geo-graphical location, the new industrial zones set up centrally in the Gaoxin district on the west side had not been formed, but industries expanded along roads and other axes [22]. In addition to a small degree of radiation spreading from the ancient city, the city as a whole developed in a westward direction, gradually filling the area between the city walls and the Jinghang Grand Canal. Although the development of the Gaoxin district brought a chance for the preservation of the ancient city, the disintegration of urban fabric did not stop (Figure 3-3).



**Figure 3-3. Spatial layout of Suzhou in 1989.**

With the continuous improvement of the market economy, Suzhou has become one of the most economically developed regions in China under the joint promotion of the private economy and foreign capital. In 2001, the GDP of Suzhou's central city was CNY 61.856 billion, which surged to CNY 357.275 billion in 2010, an increase of about six times. In 1996, the "Suzhou City Master Plan (1996–2010)" was issued, and the overall urban layout of the city was formed by the ancient city (Old Suzhou), the Gaoxin district (New Suzhou), and the Industrial Park (Foreign Suzhou) under the premise of protecting the ancient city. In this period, the urban landscape in the ancient city was further protected, the proportion of the service industry continued to rise, and the ratio of primary, secondary and tertiary industries was adjusted from 5.2: 56.8: 38.0 in 2001 to 1.7: 56.9: 41.4 in 2010 [23]. The Gaoxin district and Industrial Park further absorbed populations and industries emigrating from the ancient city and the transformation of Suzhou's industrial structure has profoundly affected the evolution of its urban form [1] (pp. 307–308). The city scale grew rapidly; the west and south side completely broke through the Jinghang Grand Canal, which was the fixation line in the previous period, the north side broke

through the area with Suzhou Railway Station as the core, and the built-up area with high-tech factories and new-style residential zones on the east side spread rapidly to the east shore of Jinji Lake (Figures 3-4 and 3-5). Moreover, while the built-up area of the whole city was spreading rapidly, the original planned commercial center had not yet been completed [24].

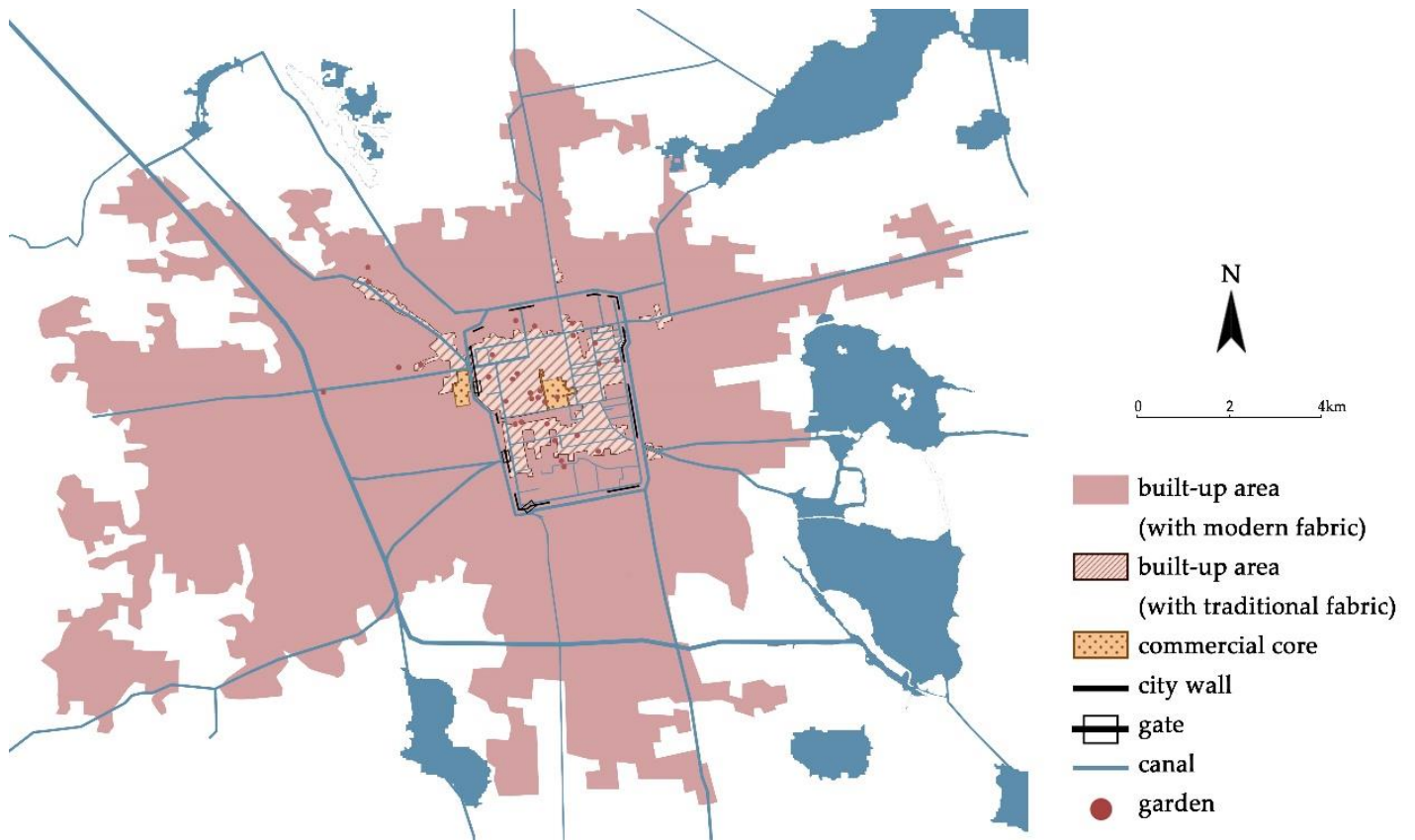
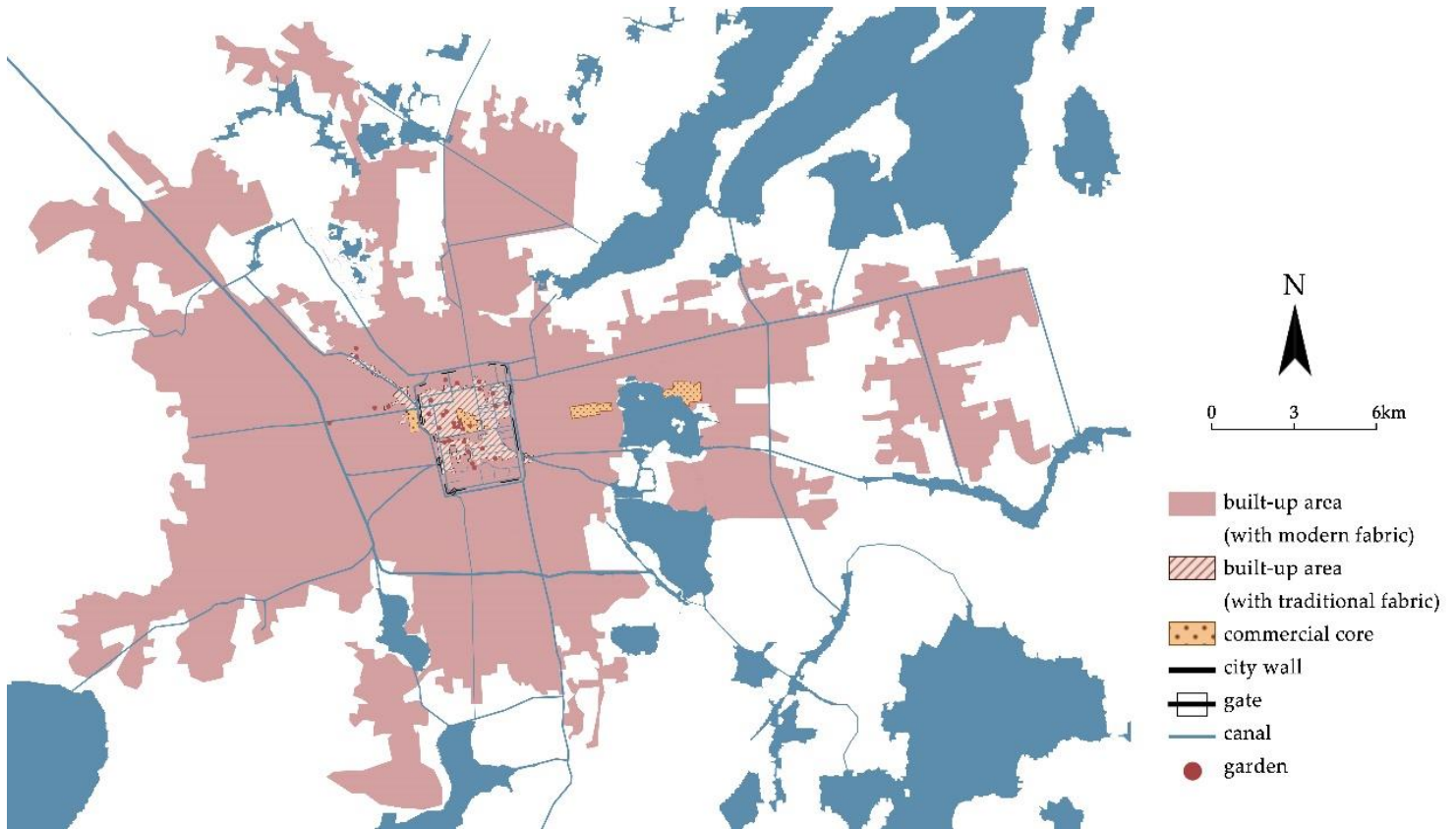


Figure 3-4. Spatial layout of Suzhou in 2000.

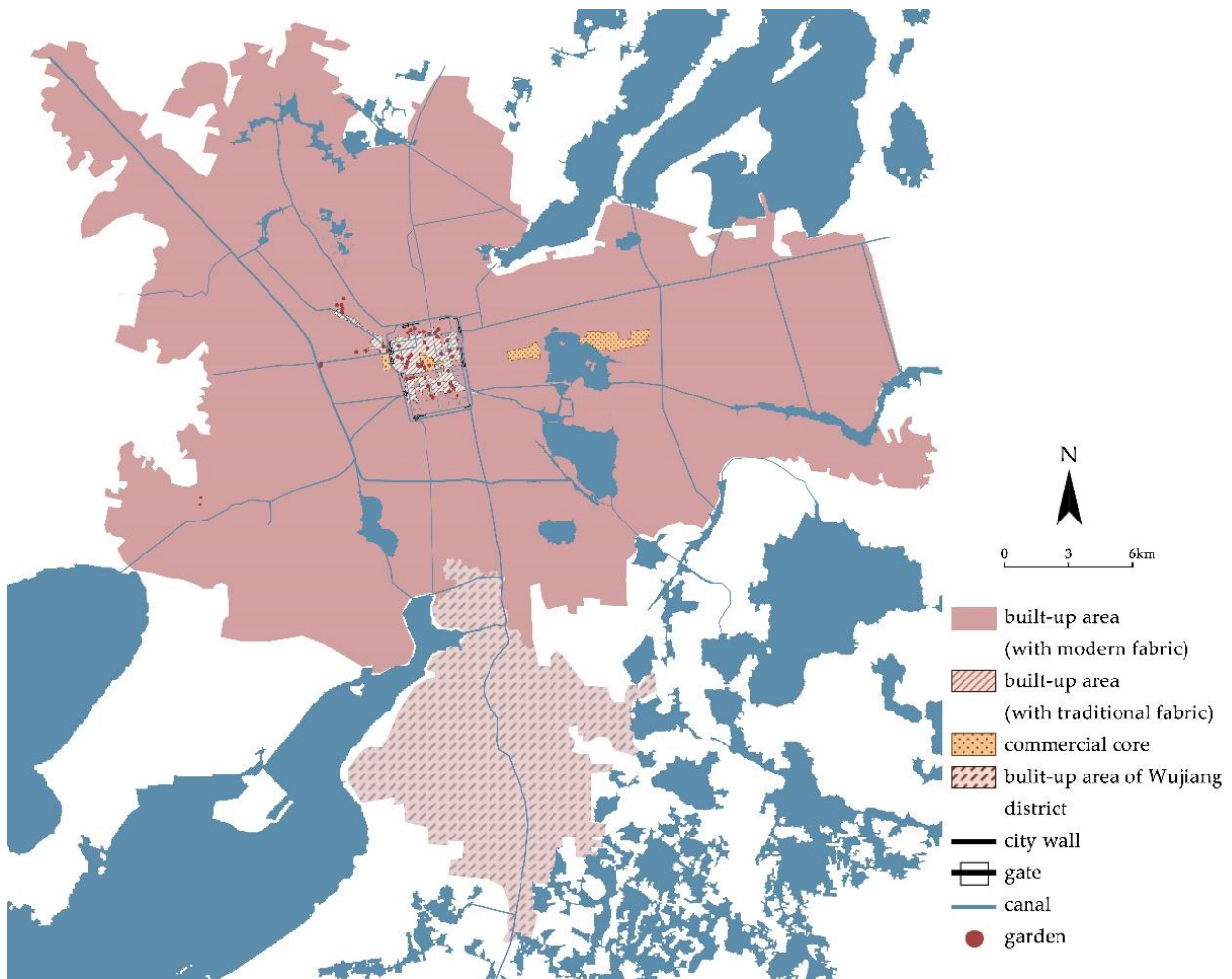


**Figure 3-5. Spatial layout of Suzhou in 2010.**

In the “Suzhou City Master Plan (2011–2020)”, Suzhou’s urban nature is defined as a national high-tech industrial base expanded from the original national historical and cultural city and scenic tourist city. Under the guidance of this plan, the ancient city was further protected and the population was basically stabilized at 740,000. By 2020, the regional per capita GDP of Suzhou reached USD 22,975, with 1% in primary industries, 46.5% in secondary industries, and 52.5% of the industrial structure in tertiary industries, of which the total industrial output value of high-tech industries reaches CNY 1,659.955 billion [25]. At the same time, the Industrial Park has concentrated a large amount of resources and evolved rapidly, not only has gathered a large number of high-tech enterprises but also the emerging commercial centers on both sides of Jinji Lake have taken shape. Moreover, as a district integrating complete urban functions, it has become a sub-center of Suzhou [26]. At present, the new master plan of Suzhou is still under preparation, and the districts are now

taking the “recent implementation plan” as a transition. The implementation plan of each district basically follows the urban positioning and pattern of the “Suzhou City Master Plan (2011–2020)”, and promotes urban infrastructure construction such as rail transportation; additionally, the new urban area in the north and the eastern urban sub-center are further strengthened [27–32]. During this period, Suzhou has expanded rapidly in all directions, with the ancient city becoming a service-oriented urban area, and the main industries have been transferred to the surrounding areas, the disintegration of the traditional urban fabric has also stopped. The urban development has changed from occurring in a specific direction as seen in the previous historical period to an even development of the surroundings. In many directions, the built-up area of the central urban area has been integrated with scattered villages and towns. It has even expanded to the prefecture-level administrative boundary of Suzhou on the east side, merging with Kunshan, which is a county-level city

under Suzhou City (Figure 3-6).



**Figure 3-6. Spatial layout of Suzhou in 2022.**

Since the reform and opening up of China, the protection of urban landscapes has led to the correction of unsuitable approaches to urban canals and the protection of the existing waterway pattern of “three horizontal, three straight, and one ring”. Since then, most of the canals have been scientifically managed; however, due to the water traffic being basically retired from the historical stage, as well as the expansion of urban scale, the pattern of canals, streets, and traditional urban space together has not been further expanded to areas outside the ancient city.

With the recognition of Suzhou traditional gardens as a cultural heritage site by the Chinese government and other international organizations, the

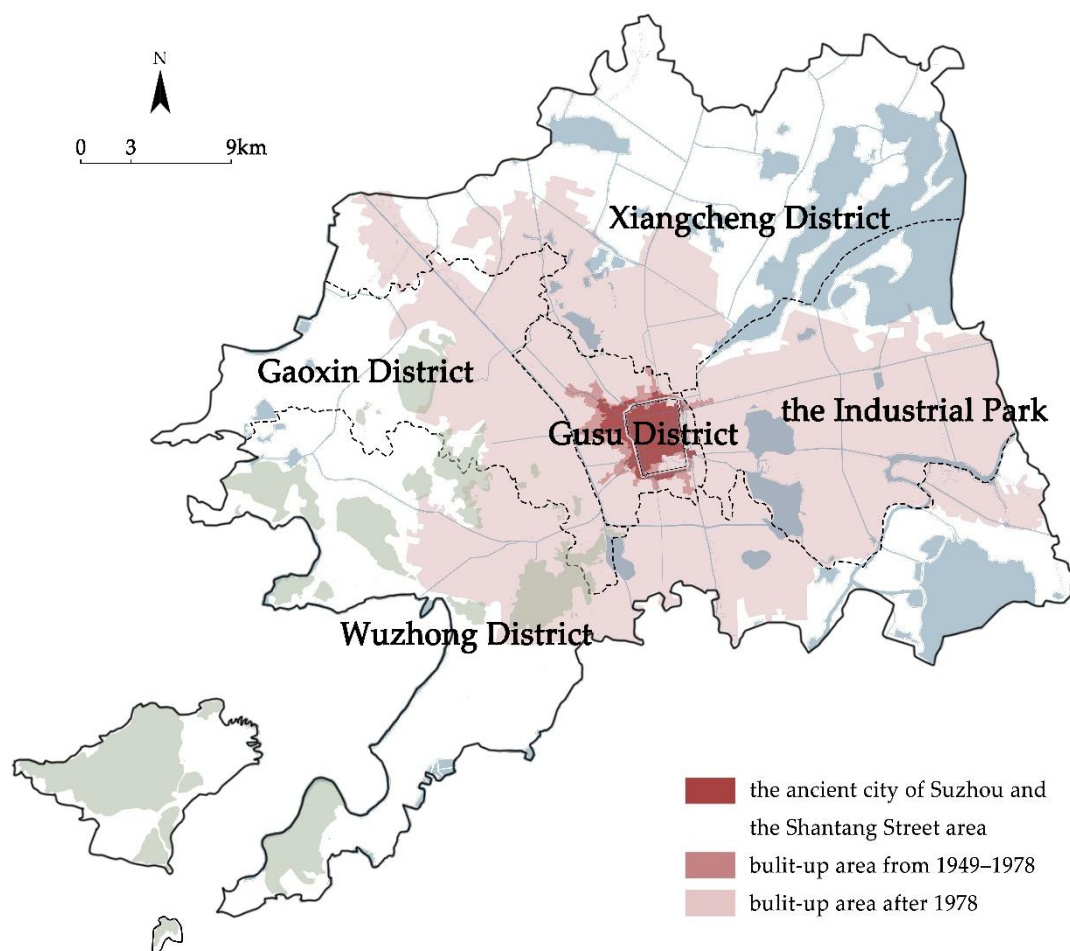
conservation of Suzhou traditional gardens is continuously improving. In 1997 and 2000, nine traditional gardens in Suzhou, including the Humble Administrator's Garden, the Liu Garden, the Garden of the Master of Nets, and the Pavilion of Surging Waves, were inscribed on the UNESCO World Heritage List. By 2015, the number of gardens in the "Suzhou Garden Directory" had been gradually expanded to 108, and a large number of gardens that were destroyed in the last century have been restored according to the three models of "comprehensive protection, restoration protection, and site protection" and the requirements of "authenticity, integrity, and continuity" to recreate the scenery of the "City of Hundred Gardens" in Suzhou [33]. At this stage, Suzhou gardens have become a popular leisure place for the public in the ancient city, and these former private houses have undergone a new identity change in the new period, becoming a public space with local characteristics of Suzhou.

### **3.3 Urban Landscape Structure under the Changing Urban Pattern of Suzhou**

The changes in Suzhou during these three periods culminated in the current urban form (Figure 3-7), consisting of the ancient city and the Shantang Street area (including the ancient city wall and moat), the urban area built between 1949 and 1978, and the urban area built post-1978 (excluding the Wujiang



district, which was merged in 2012).









**Figure 3-7. Morphological change of Suzhou.**

The ancient city, which was formed slowly over the past thousand years, has undergone drastic changes, but it still preserves a large area of the traditional water system, architecture, and street features. Nowadays, the Pingjiang Historical and Cultural District, the Shantang Historical and Cultural District, the Humble Administrator's Garden Historical and Cultural District, the Yi Garden Historical and Cultural District, the Chang Gate Historical and Cultural District, and a large number of cultural relic protection units constitute the core elements of the urban landscape in this area, and its urban fabric mainly consists of the traditional east-west long and narrow plot courtyards with some large irregular-shaped courtyards (i.e., Suzhou traditional gardens). The ancient city walls and moats have been subject to complex influences over

a long historical period, although their existence has ensured the continuation of the urban landscape elements and urban fabric of the ancient city. However, the production movement in the 1960s and 1970s caused the most complete damage to the walls leading to the loss of their original function so subsequent restoration has not been able to recreate the intact walls of places such as the ancient city of Pingyao [34]. Today, the Suzhou City Wall is combined with later-built parks or scenic spots serving as urban public spaces or as a spatial reminder for the boundary between the ancient and new urban areas. It has changed from being a continuous circular landscape belt in the past to a landscape element that appears only in fragments around the ancient city. The moat, on the other hand, has been relatively fortunate in that it has not changed much since the Song dynasty and has not been subjected to large-scale filling or damage in the last century, remaining largely intact. The continuous circular moat preserves the original boundaries of Suzhou’s ancient city and provides the basis for the construction of many urban public spaces, especially the urban parks, it also provides support for the sustainable development of the city (Table 3-2a).

**Table 3-2 The structure of the urban landscape in Suzhou.**

Zones	Urban Landscape Features	Urban Fabric
(a) The ancient city of Suzhou	Parallel water and streets in grid pattern; mainly traditional houses; many unique traditional gardens; part of the ancient city wall remains; mixed with some modern buildings; mixed land-use pattern	 
(b) Urban area constructed from 1949 to 1978	Mainly modern architecture; large number of enclosed, multi-story buildings in gated communities; mixed land-use pattern	 
(c) Urban area constructed after 1978	High-rise and multi-story residential buildings in gated communities; Many Skyscrapers and large commercial complexes; mixed land-use pattern	 

Due to the need for industrial development at that time, the urban areas built

between 1949 and 1978 were basically in the vacant land on the west side of the ancient city. Although the pace of urban development during this period was relatively slow, the commercial and residential areas that evolved in these areas were quite different from the urban landscape of the ancient city. Due to the requirements of social production methods and the preference for industry at the time, almost all of these residential areas were in the form of “danwei residential compounds” [35]. Their exterior is surrounded by walls and the building form gradually evolved into multi-story buildings during the renovation. These buildings are no different from buildings in other cities during the same period, and the homogenization of the urban landscape has become a threat; they have largely changed the urban fabric and skyline of Suzhou’s west side. Although the urban water system has a relatively high density, the form is more irregular than the water system in the ancient city (Table 3-2b). Since 1978, with the rapid urbanization of Suzhou, a large number of residential areas, public buildings, industrial zones, and commercial areas have been built to promote the expansion of the city, and these have gradually filled the inner fringe belt of the ancient city also eroded the original urban fabric. The urban landscape in these areas shows more different features: the residential areas are mainly located near the main arterial roads or subway lines, and they are as enclosed as the residential areas built between 1949 and 1978; the population increase has also led to a high number buildings with many floors, from 5 to 7 floors in the 1990s were replaced by from 20 to 30 floors and higher at present; the volume of commercial and public buildings has also expanded dramatically, and a large number of super high-rise buildings with glass curtain walls have appeared; although the industrial zone is located near the fringe zone, the volume of buildings in this area is also much larger than in the traditional industrial zone. Due to a large amount of vacant land in the urban fringe belt and the weakening influence of geographic factors on urban

expansion, the new urban area shows a more obvious expansion in all directions; the urban landscape has also changed greatly, especially the industrial park, which is the sub-center of Suzhou (Table 3-2c).

Due to its long development process of 2500 years, the urban landscape of Suzhou is complex and diverse, and the urban landscapes of different historical periods high-light the social concepts of the corresponding periods and also show us the challenges of urban culture and characteristics in the process of urban development: the urban landscape of Suzhou formed in different morphological periods appears to be largely incongruous; the vigorous development of the economy and the intervention of the modernist style make many urban areas unable to recall traditional Suzhou in terms of spatial perception. This urban landscape that has developed in recent decades is gradually causing Suzhou's landscape from the previous millennia to disintegrate or fragment, especially with the massive emergence of large commercial complexes, large industrial buildings, and high-rise buildings since 2000 (Figure 3-8, Figure 3-9).







**Figure 3-8. Current Suzhou's urban landscape in the Industrial Park.**



**Figure 3-9. Distribution of landscape features in Suzhou in 2000 (a), 2010 (b), 2022 (c).**

As an important commercial center in the past, the area around Guanqian Street in the ancient city was developed earlier, and the traditional relationship between the street and the stores along the street was completely broken with the formation of large and regular modern building complexes in a 215-hectare area to further support the commercial development. However, this has led to a different urban landscape in the city center as compared to the surrounding area (Table 3-3a). In addition, due to the late development of the southern area,

the development approach from the 1980s to the beginning of this century resulted in the existing communities in this area having similar building layouts and heights to those outside the ancient city, although there are no walls. The urban fabric formed by the building threatens the integrity of the ancient city fabric (Table 3-3b). It is true that under the guidance of urban planning, the buildings in the historic district have been properly protected and updated in accordance with the needs of society (such as the design of Suzhou Museum in this regard), but these buildings built in the past few decades are different from those of the ancient city, and they do not have a corresponding update plan to solve the problem of their coordination with other areas in the ancient city; instead, they exist as static “foreign bodies”.

Location	Issues	Urban Fabric and Features	
(a) Commercial complexes in the ancient city of Suzhou	Large-scale and regular form of modern buildings; centrally located; threats to the original skyline of the ancient city; different from the surrounding fabric		
(b) Multi-story residential buildings in the ancient city of Suzhou	Threats to the original skyline of the ancient city; different from the surrounding fabric		

**Table 3-3 Spatial types threatening the urban landscape of the ancient city.**

As a unique urban heritage that combines traditional architecture with highly artistic nature, Suzhou traditional gardens have undergone a transformation from private to public in the period from 1949 to the present, in addition to decreasing in number and growing again. Since the 1950s, gardens have been transformed from private residences to public spaces open to the public, and based on the rich and intact architectural and natural environment within the gardens, Suzhou traditional gardens have become a daily leisure space for the residents of the ancient city to drink tea and enjoy Suzhou opera [36]. It is noteworthy that, as a public space with local characteristics, such

spaces are mainly located in the ancient city and are rare in the newly built urban areas.

### **3.4 The Urban Fabric Types of Suzhou**

Based on the distribution and landscape features of the pre-1949 and post-1949 built-up areas, the urban fabric of Suzhou can be summarized into five types (Figure 3-10).

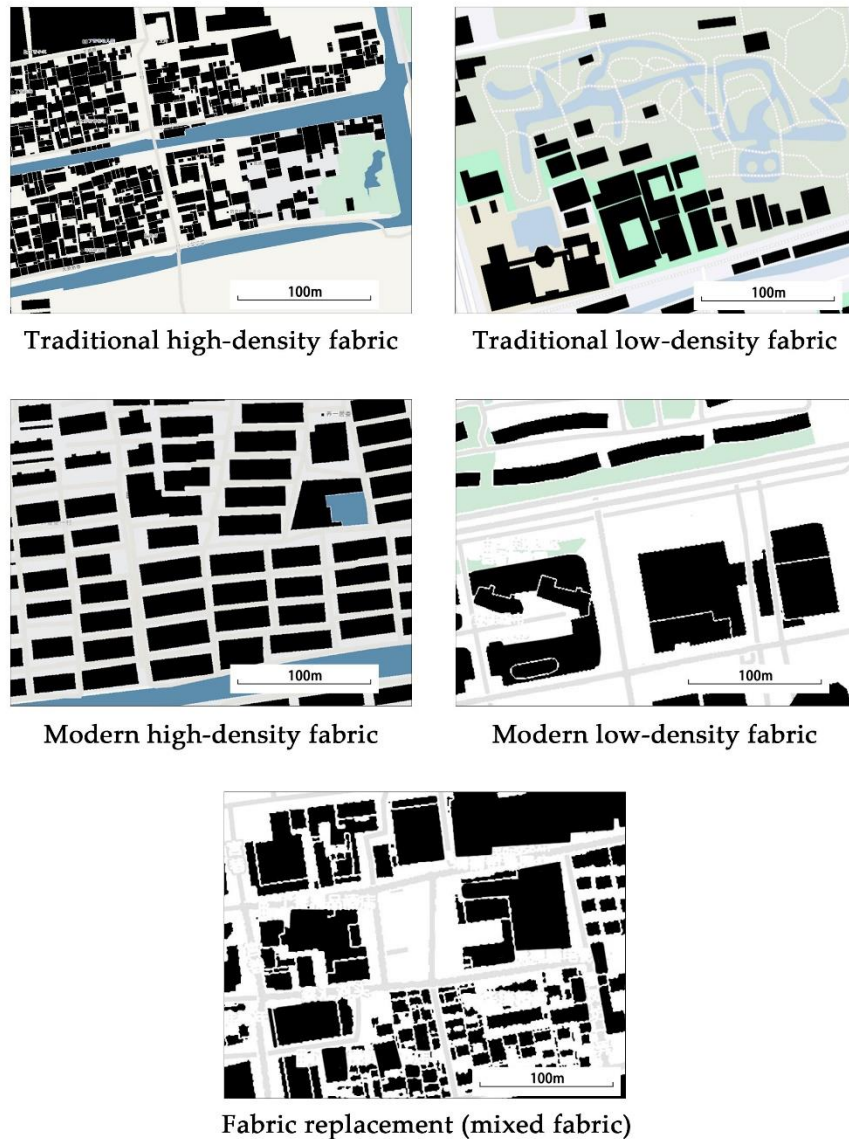
1) Traditional high-density fabric: this is the most traditional urban fabric of Suzhou, mainly found in the historic districts and consisting of small and medium-sized buildings and small and medium-scale streets in traditional forms.

2) Traditional low-density fabric: This is another traditional Suzhou urban fabric, mainly large traditional building complexes or traditional gardens.

3) Modern high-density fabric: This is a common urban fabric in Suzhou at present, mainly residential areas built after 1949, forming a more regular fabric which is distributed in both the newly built-up area and the ancient city.

4) Modern low-density fabric: This is the most representative urban fabric of Suzhou in the process of urbanization, mainly for large commercial areas, business office areas, or public spaces, with large building volumes, forming a more regular fabric, mainly in the new city, but also a certain distribution of commercial centers in the ancient city.

5) Fabric replacement (mixed fabric): This fabric was formed in Suzhou during the natural development and replacement of the city, and is reflected in the mixture of traditional and modern fabric, mainly in the ancient city.



**Figure 3-10. Different Types of Urban Fabric in Suzhou.**

### 3.5 Conclusions

In this chapter, based on the HUL approach, the following conclusions are obtained from the study of Suzhou's urban form in various periods.

1) Suzhou's urban expansion was based on natural growth as the main pattern before 1978, but the development of industry after the founding of People's republic of China caused great damage to the urban heritage and urban fabric.



2) Although the development of Suzhou after 1978 was based on planning and the urban heritage was protected, the urban landscape of new built-up areas outside the ancient city began to be separated from the ancient city.

3) The wave of urbanization after 2000 has greatly expanded the built-up area of Suzhou while shaping a new urban area (the Industrial Park) influenced by modernism and economic priority development model.

4) According to these urban features of Suzhou and morphological analysis, the urban fabric of Suzhou can be divided into five types: traditional high-density fabric, traditional low-density fabric, modern high-density fabric, modern low-density fabric and fabric replacement (mixed fabric).

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## **Chapter 4**

### **Spatial Distribution and Surrounding Fabric of the Heritage**

## **4.1 Introduction**

### **4.1.1. Background**

As a city of distinctive regional characteristics, elements of Suzhou's cultural preservation have been relatively well preserved in some areas, but the demands of sustainability in the city's development have made traditional conservation methods problematic as well. As the urban landscape has changed, the urban heritage issues involved have begun to emerge.

### **4.1.2. Objectives**

The main purpose of this chapter is to summarize the distribution of heritage in Suzhou, and in doing so, to obtain the current pattern of urban heritage in Suzhou and the connection between urban heritage and heritage outside the built-up area of the city.

### **4.1.3. Research Method**


The research method in this chapter is to sort out the distribution of Suzhou's historical and cultural heritage in the built-up areas of Suzhou through the list of cultural relic protection units at all levels provided by the Suzhou municipal government, the list of intangible heritage, historical documents in local libraries, ancient maps, local chronicles, etc., and to conduct correlation analysis based on the conclusions drawn in Chapter 3 and the classification of the fabric to summarize the features of the urban space around these heritages.

In the correlation analysis, the values is recorded as 0 (without features) and 1 (with features), a value closer to 1 means a greater correlation, closer to 0 means a smaller correlation, and closer to -1 means a greater negative correlation, examples are as follows.

**Table 4-1-1. Variables in the correlation analysis [4,13,14,26-29]**

<b>Location</b>	Area constructed before 1949	
	Area constructed from 1949 to 1978	
	Area constructed after 1978	
<b>Time of construction</b>	After 1949	
	Late Qing Dynasty-1949	
	Ming and Qing dynasties	
	Song and Yuan Dynasties	
	Before Song Dynasties	
<b>Special Areas</b>	Historic areas	
	Scenic area	
<b>Surrounding fabric</b>	Architectural fabric	Traditional high-density fabric
		Traditional low-density fabric
		Modern high-density fabric
		Modern low-density fabric
	Water system fabric	Traditional Scale River
		Modern Scale River
	Parallel river and street pattern	River with one parallel street
		River with two parallel streets
		River with no parallel street
	Road scale	Traditional Scale Road
		Modern Scale Road
	Special elements	Adjacent to the city walls
		Adjacent to the public space
Presence of fabric coverage		
<b>Features</b>	Feature 1	
	Feature 2	
	.....	

**Table 4-1-2. Example of basic data for correlation analysis and site image**

	Historic areas	Scenic Area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River
	1	0	1	0	0	0	1
	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space
	0	0	0	1	1	0	0
	Presence of fabric coverage	As a public space	Horizontal Extension	Vertical Extension	Free combination	Single Building	traditional building complex
The house of Sheng	0	0	0	1	0	0	0

## 4.2 Spatial Distribution of Tangible Heritage

### 4.2.1. Natural Environment

As a result of the human transformation of nature, different natural environments directly influence the formation of cultural landscapes and further influence the characteristics of settlements and cities. For Suzhou, which developed from the Wu culture, natural conditions have a fundamental influence on the development of the city and are the environmental basis for the creation of urban heritage.

Suzhou belongs to the Tai Lake Plain, which is a typical water network plain. The hills in the region of Suzhou are mainly located in the Wuzhong and Gaoxin districts [1]. The main hills are in the north-east direction, forming four groups and some isolated residual hills on the plain [2]. These hills provide environmental support for the many temples and other heritage sites in Suzhou that are built on mountains (Figure 4-1).

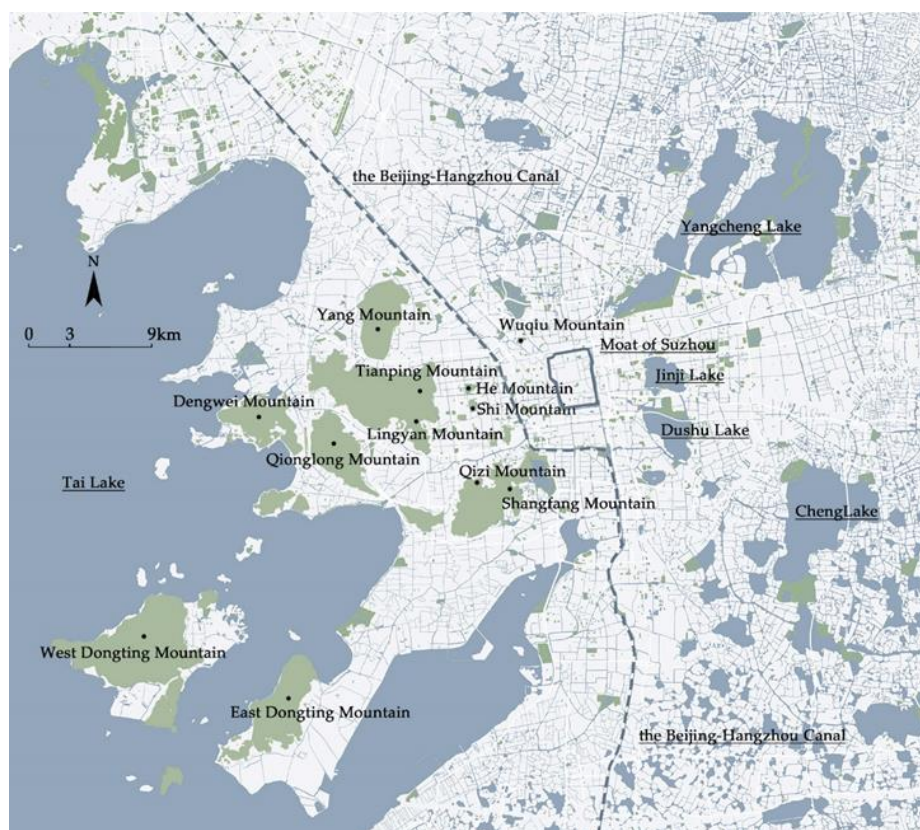


Figure 4-1. Natural Environment of Suzhou.



According to Wu Zixu, the builder of Suzhou City, “Wu and Yue were surrounded by three rivers, so the people had no place to move. But the southeast is low, millions of rivers converge here, rivers and lakes flood and flow everywhere, tributary channels are crisscrossed, and the nobles gang up to divide them, so the original old river courses are hard to figure out completely” [3]. It is evident that the water systems in the Suzhou area were numerous and often flooded before the construction of the city. The further use of the water system during the Middle Tang Dynasty led to the emergence of a water system with local characteristics, and during the Song Dynasty, the large polder system was demolished and a small polder system was formed; the hills and plains were continuously opened up with more rivers, gradually forming a dense spiderweb-like network of water systems [4]. Overall, the Suzhou water system was formed in the Tai Lake plain by natural lakes, rivers, and artificial rivers in the process of continuous development.

These waterways contributed to the development of the traditional water transportation system on the western side of Suzhou and influenced the distribution of heritage outside of the city.

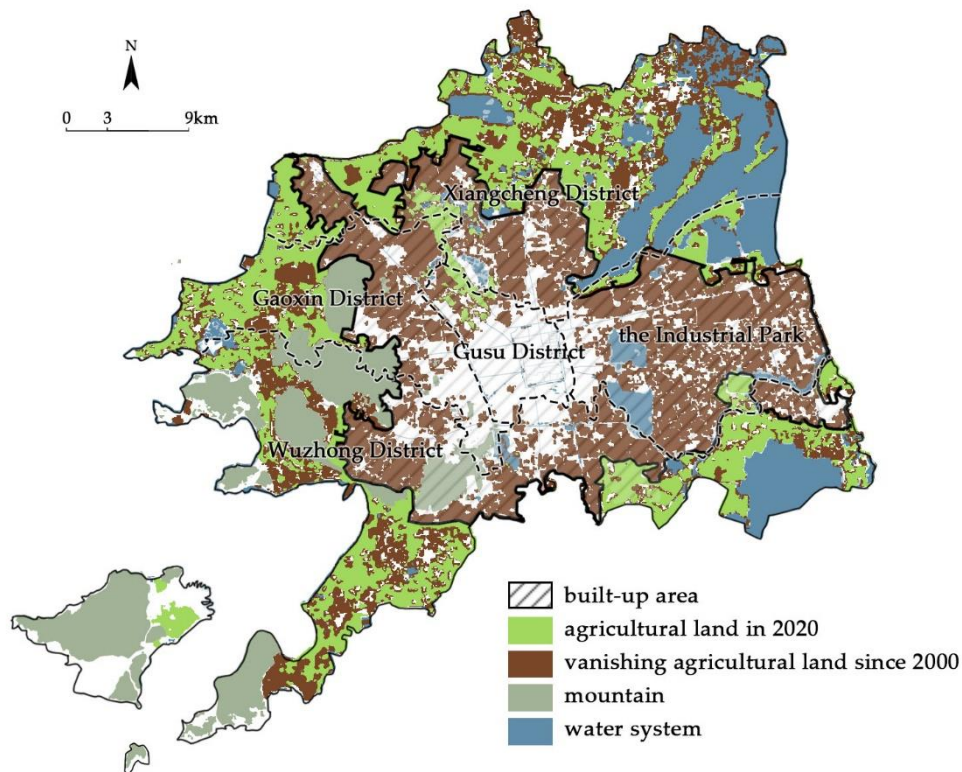
The relatively flat terrain and widely distributed yellow clay soil species made Suzhou an ancient agricultural area, while the dense network of water and lakes throughout the region laid the foundation for the implementation of a farming pattern in which rice was the main product and a system of water and dry rotational farming in the Suzhou area. The civilization developed under this mode of agricultural production had an important influence on the establishment of the city of Suzhou [5]. In the Wu-Yue Spring and Autumn Annals, the king of Wu’s concern about the location of the city is recorded as follows: “Our country is located in a remote place in the southeast, where the environment is harsh and flooded; the ruler is unable to defend himself and the people have no place to rely on; at present, the country has no granaries and

storehouses, and the fields are difficult to cultivate on a large scale due to natural conditions. What should we do?" [6]. It can be seen that the convenience of the natural environment for farming and grain storage became an important consideration for the ruler at that time during the survey stage, before the establishment of Suzhou.

#### **4.2.2. Urban System**

##### **1) Agriculture Model**

As it is in a region where rice is the main crop, polder fields (paddy fields surrounded by earthen dikes) have been an important mode of farming in Suzhou since the founding of the city in the Spring and Autumn period and became mature during the Tang and Song dynasties, when the large polder system began to disintegrate and gradually shifted to a small polder system during the Northern Song dynasty [7], which established the main layout of polder fields in Suzhou thereafter. After 1949, due to the low resilience of the polder fields left by the Republic of China (ROC), which led to flooding caused by successive breaches of the dike, the polder and related river channels were transformed and the joint polder model was implemented in the 1950s onward, allowing the polder to transfer water surface and gradually developing electromechanical drainage and irrigation, which improved resilience to droughts and floods. By the end of the last century, polder fields accounted for 53.3% of the total arable land area in Suzhou [8]. By 2000, agricultural land was still the largest land type in Suzhou, but due to the rapid urbanization in the following 20 years, the urban built-up area massively eroded the original agricultural landscape base, except for a small amount of preserved arable land, and the rest is mainly distributed outside the urban built-up areas (Figure 4-2).



**Figure 4-2. Agricultural land of Suzhou.**

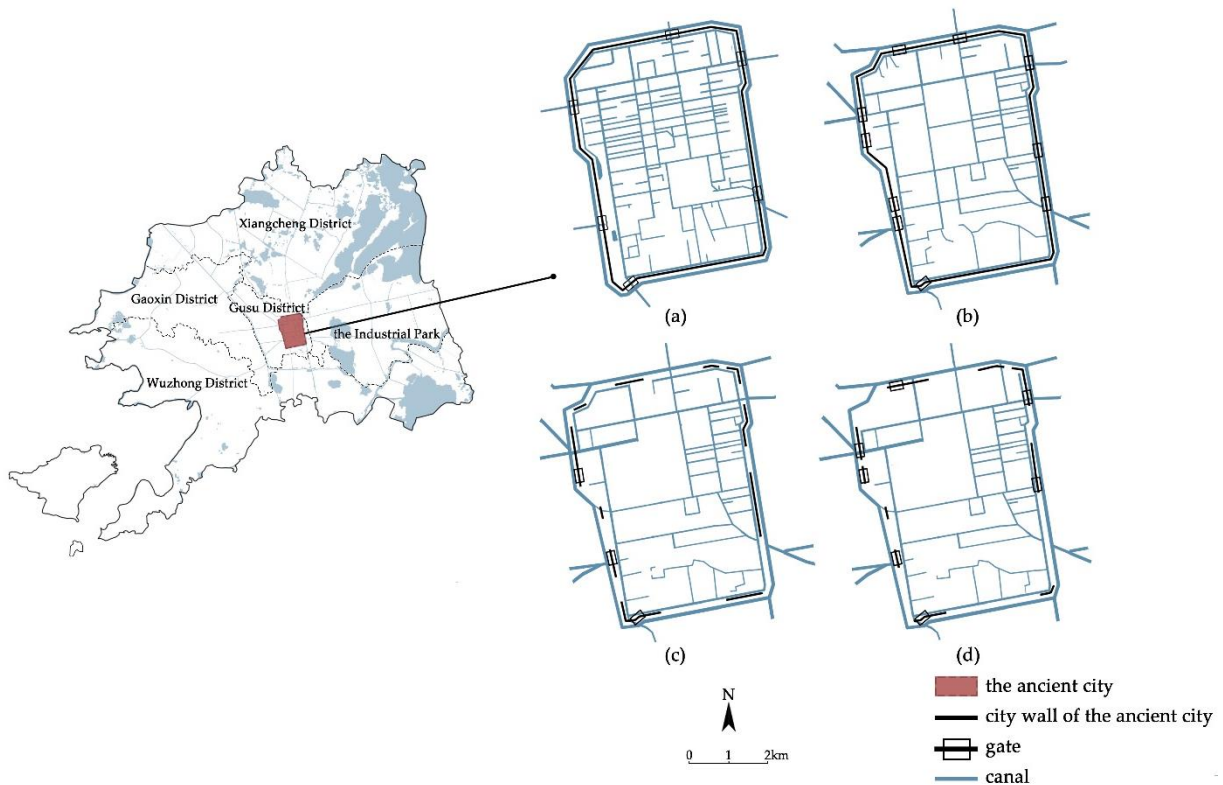
## 2) The City Walls

The city walls of Suzhou were built during the Spring and Autumn period and have been destroyed and/or rebuilt many times since then due to wars, but the site of the walls and the area they enclose have not differed greatly from the present appearance since the Sui dynasty [9]. The early city walls were built by rammed earth, and Wu Di Ji states that the Helu city (Suzhou) had eight gates: the West Chang Gate, the Xu Gate, the South Pan Gate, the She Gate, the East Lou Gate, the Jiang Gate, the North Ping Gate, and the Qi Gate. During the Five Dynasties period, the walls of Suzhou were built of brick and stone, during the Song Dynasty, there were five city gates and in the time of the Republic of China there were 10 gates and the total length of the walls was about 22.5 km [10]. As an important factor influencing the development of the city, the city wall shaped the form of the inner space of Suzhou for a long period, and it was

not until the Ming and Qing dynasties that Suzhou's urban development began to break through the limitations of the city walls due to the rise of Shantang Street for waterborne commerce [11]. It can be argued that during the feudal period, the city wall in Suzhou existed not only as a defensive infrastructure, but also served as an important boundary that distinguished between the inner and outer parts of the city, a boundary that allowed it to provide important intentional value for its residents.

Unfortunately, after the liberation, due to the one-sided pursuit of economic development after 1949, the original, intact city walls were not given much attention, and most of them were demolished; the historical city gates also suffered devastating blows, with only the Jin Gate, Pan Gate, and Xu Gate surviving. Although the preservation of the city walls received renewed attention after the reform and opening-up of China (1978), only two kilometers of the walls survived by 1985. In the decades that followed, the ancient city walls of Suzhou were rebuilt and have been regarded as urban heritages, but these walls have completely changed their functions, as public spaces or regional landmarks in conjunction with the moat of the ancient city. It has changed from a continuous ring of urban defenses in the past to a sporadic

urban landscape heritage around the ancient city (Figure 4-3).



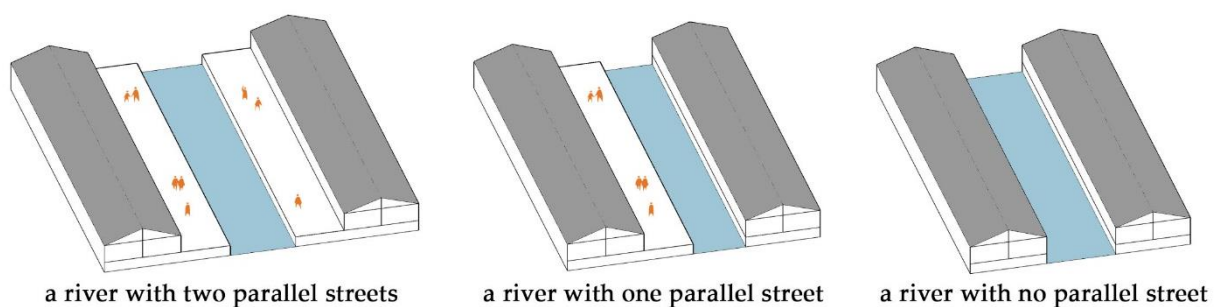
**Figure 4-3. The city walls and water system of Suzhou in Song Dynasty (a), Ming Dynasty and middle and early Qing Dynasty (b), 1949-1985 (c), 2020(C).**

In addition, due to their distribution and current status, their influence on the urban fabric is significantly reduced and can only be analyzed as a reference element, while the gates among them are categorized and explored in the architectural classification because they better fit the definition of architecture.

### **3) The City Rivers and Streets**

Unlike the external rivers outside the ancient city, most of the rivers in the city were dug by hand, and a four-horizontal and four-straight pattern was formed at the beginning of the city in order to disperse the water power, which gradually evolved into a three-horizontal and four-straight water network pattern in the Song Dynasty [12]. At that time, there were about 82 km of rivers throughout the city, providing important structural support for the urban

landscape of Suzhou. With the massive population growth and social changes during the Ming and Qing dynasties, many rivers were encroached on by the time of the Republic of China, and after the liberation of China, due to the left-leaning social production movement, the city's rivers were further violated; only the “three-horizontal and three-straight” waterways remain today [13]. Moreover, there is no specific name for the rivers in Suzhou; it is customary to name the rivers after the side streets. The streets and alleys in Suzhou are dense and narrow, the typical width of an arterial canal in the ancient city being 5–12m, and 3–6m for a branch canal [12]. A typical street is 6m wide and an alley 3–4 m, and the city developed three forms of street-canal system with local characteristics of Suzhou (a river with one parallel street, a river with two parallel streets, and a river with no parallel street) [14] (Figure 4-4). This is also due to the fact that the excavation of the rivers in the city limited the direction of the streets and lanes in the old city, and these features eventually formed the unique parallel urban pattern of water and streets in Suzhou. This highly distinctive urban space provides a unique spatial scale and walkable place for daily life in the ancient city.



**Figure 4-4. Types of traditional Suzhou parallel river and street patterns.**

#### **4) City Bridges**

As an important part of the infrastructure of a water city, bridges have been spread all over the city since the foundation of Suzhou to connect various neighborhoods. An ancient poem from the Tang Dynasty states, “Green waves

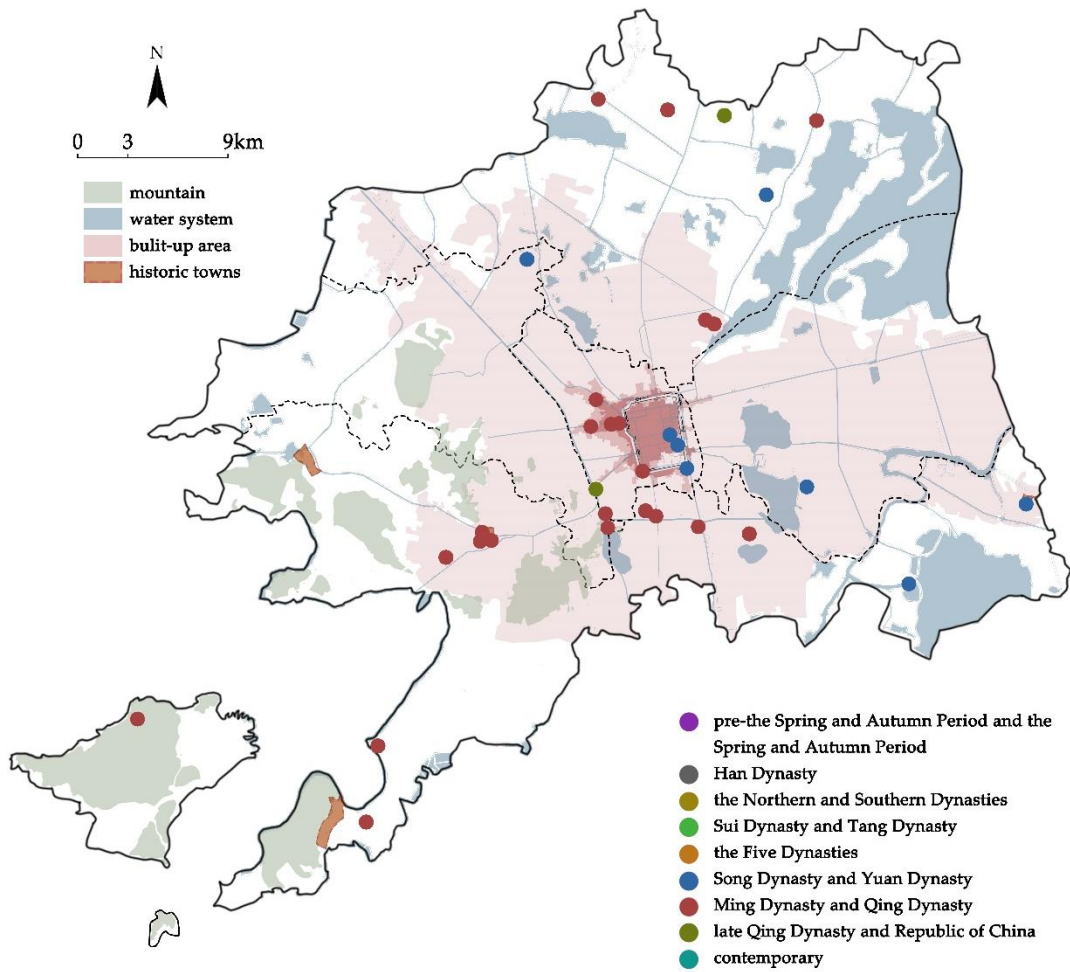
of water from east to west, north to south, and three hundred and ninety bridges with red railings." The record shows that at that time, there were 25 bridges per square kilometer in the ancient city of Suzhou, and it is commonly said that one could touch "two bridges in one step" [15]. In the old days, according to the unwritten rules, once the bridge is crossed, the name of streets and alleys will change, so a bridge is not only a traffic connection body, but becomes the street's dividing point. The bridges' names are also rich in local cultural characteristics. After the Song Dynasty, the bridges were named mostly via stone monuments. Some bridges have patterns, and inscriptions, and some bridges build pavilions to provide shelter for passers-by. These bridges with local characteristics have become an important element of the urban landscape (Figure 4-5).



**Figure 4-5. Part of Suzhou's Golden Age.**

However, after experiencing the prosperity of feudal society during the Ming and Qing dynasties, since the 17th year of the Republic of China (1928), with the further development of the social economy and to meet the needs of modern urban transportation, many stone arch bridges in Suzhou were changed into flat bridges, and along with the street reconstruction and river silting, some bridges were repeatedly damaged, and some were even demolished and scrapped. By 2020, only 33 ancient bridges classified as important cultural heritage remained within the city, most of them having been built during the Qing Dynasty; earlier bridges mostly no longer exist [16]. These bridges are mainly located in Wuzhong District and Gusu District, of which 23 are located in the urban built-up area and the rest in the rural area, with the overall distribution centered on the ancient city area to the southwest (Figure 4-6).





**Figure 4-6. Distribution of city bridges in Suzhou.**

Based on the method of this chapter, the percentage of each element in the total number can be obtained (Table 4-2).

**Table 4-2. The percentage data of bridges**

Area constructed before 1949	Area constructed after 1978	Historic areas	Scenic Area	Late Qing Dynasty-1949	Ming and Qing dynasties	Song and Yuan Dynasties
43.5%	56.5%	17.4%	13.0%	4.3%	69.6%	26.1%
Traditional Scale River	Modern Scale River	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	River with one parallel street
60.9%	39.1%	78.3%	8.7%	34.8%	8.7%	13.0%
River with two parallel streets	River with no parallel street	Traditional Scale Road (Vertical)	Modern Scale Road (Vertical)	Adjacent to the city walls	Adjacent to the public space	Presence of fabric coverage
34.8%	34.8%	60.9%	30.4%	8.7%	26.1%	47.8%

On the whole, it can be found that the current distribution of bridges is 43.5% and 56.5% for the built-up area before 1949 and the built-up area after 1978, respectively. Among all the objects, 78.3% of them are surrounded by traditional high-density fabric. It can be considered that although the bridge is a single element, there is often a certain settlement where the bridge exists, so its connection with the surrounding fabric environment is still certain.

At the same time, as an infrastructure, bridges are often closely related to rivers, and 60.9% of the current sample crosses traditional scale rivers, which comes from the limitation of the span of the bridge to the river when it was built. In addition, as 60.9% of the roads directly connected to the bridges are traditional scale roads, it can also be assumed that bridge heritage has a role in the preservation of connected traditional scale roads

To further explore the value of each bridge to the surrounding environment, this study also conducted a correlation analysis, and according to the different distributions we classified them based on the method in this chapter (Table 4-

3).

**Table 4-3. The correlation analysis of bridges in the pre-1949 built-up area**

	Historic area	Ming and Qing dynasties	Song and Yuan Dynasties	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional scale parallel road	Modern scale parallel road(Ver tical)	Adjacent to the city walls	Adjacent to the public space	Presence of fabric coverage	
Historic area	1																	
Ming and Qing dynasties	0.429	1																
Song and Yuan Dynasties	-0.429	-1	1															
Traditional high-density fabric	0.218	-0.218	0.218	1														
Traditional low-density fabric	-0.218	0.218	-0.218	0.111	1													
Modern high-density fabric	-0.535	-0.356	0.356	-0.408	-0.272	1												
Modern low-density fabric	-0.218	0.218	-0.218	-1	-0.111	0.408	1											
Traditional Scale River	0.089	-0.089	0.089	0.408	-0.408	0.25	-0.408	1										
Modern Scale River	-0.089	0.089	-0.089	-0.408	0.408	-0.25	0.408	-1	1									
River with one parallel street	0.509	0.218	-0.218	0.111	-0.111	-0.272	-0.111	-0.408	0.408	1								
River with two parallel streets	0.089	-0.089	0.089	-0.272	-0.408	0.667	0.272	0.583	-0.583	-0.408	1							
River with no parallel street	-0.327	0.327	-0.327	0.167	0.667	-0.408	-0.167	-0.102	0.102	-0.167	-0.612	1						
Traditional scale parallel road	0.429	0.048	-0.048	-0.218	-0.509	0.535	0.218	0.356	-0.356	0.218	0.802	-0.764	1					
Modern scale parallel road	-0.356	-0.089	0.089	-0.272	-0.408	0.667	0.272	0.583	-0.583	-0.408	0.583	-0.102	0.356	1				
Traditional Scale Road (Vertical)	0.535	-0.089	0.089	0.408	-0.408	0.25	-0.408	0.583	-0.583	0.272	0.583	-0.612	0.802	0.167	1			
Modern Scale Road (Vertical)	-0.655	0.218	-0.218	-0.333	0.333	0.408	0.333	0	0	-0.333	0	0.5	0.408	-0.408	1			
Adjacent to the city walls	-0.327	-0.218	0.218	0.167	0.667	-0.408	-0.167	-0.612	0.612	-0.167	-0.612	0.375	-0.764	-0.612	0	1		
Adjacent to the public space	-0.327	-0.218	0.218	0.167	0.667	-0.408	-0.167	-0.612	0.612	-0.167	-0.612	0.375	-0.764	-0.612	0	1	1	
Presence of fabric coverage	-0.655	0.218	-0.218	-0.333	0.333	0	0.333	-0.408	0.408	-0.333	-0.408	0.5	-0.655	-0.816	0	0.5	0.5	1

It can be seen that in the traditional areas built before 49, the correlation between the small and medium traditional building fabric and the traditional scale road is 0.408, which can be considered as correlated. The correlation between the traditional scale river and the traditional scale road is 0.583, which shows a high correlation, and this correlation presents a cross structure in the planar fabric. Another high correlation with the traditional river scale is the form of two streets and one river, which is also a confirmation of the traditional Suzhou urban street pattern.

The presence of traditional large-scale buildings in the traditional fabric is highly correlated with the form of a river without a street and whether it is connected with public space at 0.667. It can be assumed that the presence of traditional large-scale buildings provides public space in the high-density ancient city, while modern large-scale buildings show no correlation. This negative correlation reflects that the bridge does not serve as the main stopping space in the traditional space, although it provides the possibility of resting, which is worthy of our attention when using the bridge element.

The two rivers and one street form mentioned above also have a highly negative correlation of -0.612 with the presence of public space in the traditional built-up area, which also reflects the pattern of roads on both sides, which take on more traffic functions. In addition, the river street form of two rivers and one street shows a certain negative correlation with the presence or absence of muscle coverage in the surrounding area.

The high negative correlation of -0.816 between the presence or absence of fabric coverage in the perimeter of the transverse scale road is derived from the transformation of the traditional scale road in the process of urban reengineering, which indeed meets the needs of urban development, but also destroys the traditional fabric form. Interestingly, the presence or absence of public space adjacent to the bridge as the core of the traditional urban area

shows a significant correlation of 0.5 with the presence or absence of fabric coverage around the bridge, which shows that the emergence of public space in the transformation process around the bridge has brought about changes in the urban landscape in addition to the improvement of urban functions.

The post-78 built-up area, on the other hand, presents a somewhat different picture (Table 4-4).

**Table 4-4. The correlation analysis of bridges in the post-1978 built-up area**

	Historic area	Scenic Area	Late Qing	Ming and Qing dynasties	Song and Yuan Dynasties	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	Traditional Scale River	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional scale parallel road	Modern scale parallel road	Adjacent to the public space	Presence of fabric coverage
Historic area	1																	
Scenic Area	-0.158	1																
Late Qing Dynasty-I	1	-0.158	1															
Ming and Qing dynasties	-0.433	0.365	-0.433	1														
Song and Yuan Dynasties	-0.158	-0.3	-0.158	-0.822	1													
Traditional high-density fabric	0.192	-0.03	0.192	-0.083	-0.03	1												
Traditional low density fabric	-0.083	-0.158	-0.083	-0.433	0.527	-0.433	1											
Modern high-density fabric	-0.192	-0.365	-0.192	0.444	-0.365	0.083	-0.192	1										
Modern low density fabric	-0.083	-0.158	-0.083	0.192	-0.158	-0.433	-0.083	-0.192	1									
Traditional Scale River	0.228	-0.693	0.228	-0.184	0.058	0.501	-0.365	0.527	-0.365	1								
Modern Scale River	-0.228	0.693	-0.228	0.184	-0.058	-0.501	0.365	-0.527	0.365	-1	1							
River with one parallel street	-0.123	-0.234	-0.123	-0.178	0.272	0.284	-0.123	0.178	-0.123	0.337	-0.337	1						
River with two parallel streets	-0.123	-0.234	-0.123	-0.178	0.272	-0.178	-0.123	0.178	-0.123	0.337	-0.337	-0.182	1					
River with no parallel street	0.267	0.141	0.267	0.386	-0.592	0.386	-0.312	-0.051	0.267	-0.098	0.098	-0.461	-0.461	1				
Traditional scale parallel road	0.267	-0.592	0.267	-0.283	0.141	0.72	-0.312	0.283	-0.312	0.854	-0.854	-0.033	-0.033	0.071	1			
Modern scale parallel road	-0.158	0.567	-0.158	0.365	-0.3	-0.03	-0.158	0.03	-0.158	-0.318	0.318	-0.234	0.272	0.141	-0.592	1		
Adjacent to the public space	-0.192	0.426	-0.192	0.083	0.03	-0.278	0.433	-0.444	0.433	-0.843	0.843	-0.284	-0.284	0.283	-0.72	0.426	1	
Presence of fabric coverage	-0.267	0.592	-0.267	0.283	-0.141	-0.72	0.312	-0.283	0.312	-0.854	0.854	-0.395	0.033	-0.071	-1	0.592	0.72	1

As a new urban area, the traditional high-density fabric would show a highly negative correlation of -0.72 with the presence or absence of a fabric overlay situation, since the new urban areas mentioned earlier are mostly built in the form of high-rises residential and large modern building spaces, resulting in a completely different urban fabric than the traditional one.

However, the bridges in the built-up areas after 78 years remain the same as in the built-up areas 49 years ago, maintaining a high correlation between the traditional high-density fabric and traditional-scale roads (0.72) and between traditional-scale rivers and traditional-scale roads (0.854). It is worth noting that this correlation points to a structural feature of the Suzhou landscape with the bridge at its core: the traditional scale road that runs in the same direction as the bridge and the traditional scale river that runs vertically through the bridge are inseparable and should be considered as a whole, and by extension, the traditional high-density fabric should be further considered.

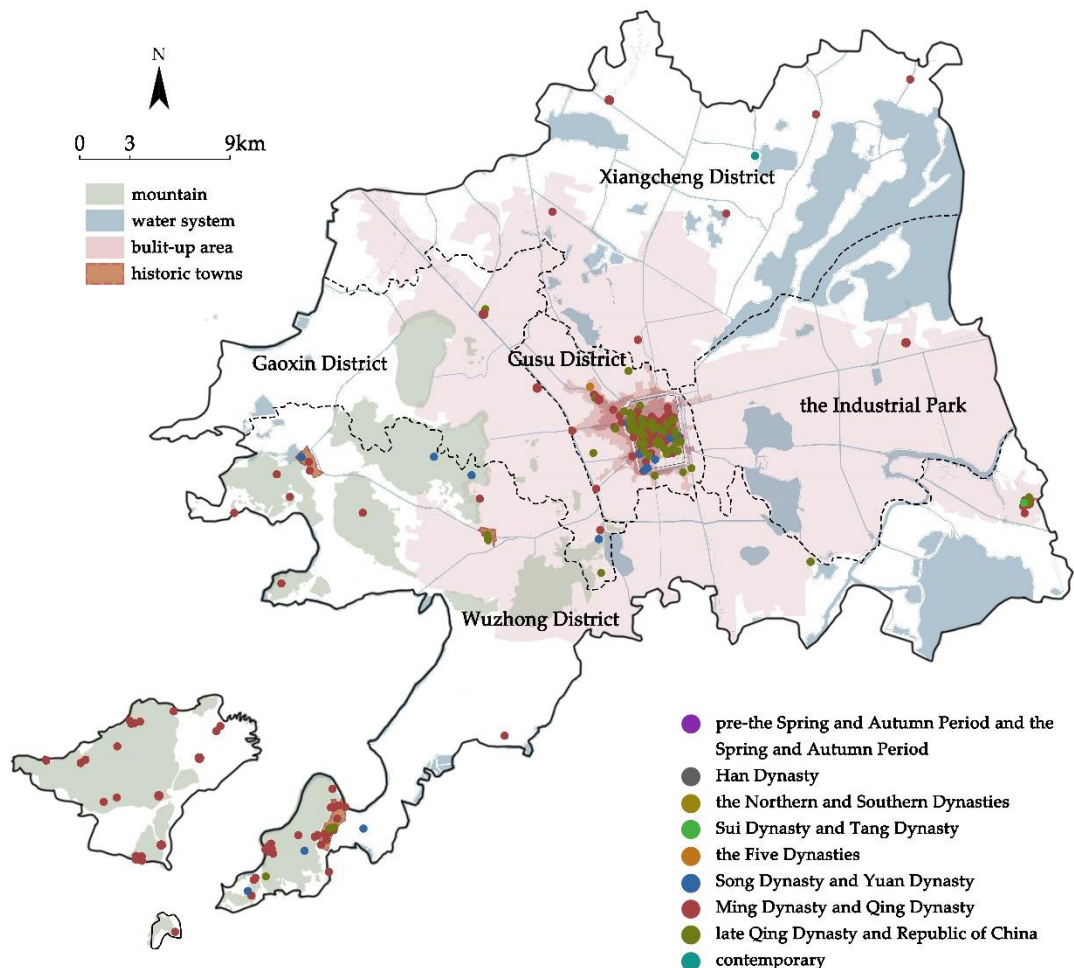
## **5) Important Architectures**

Contextualism in architecture emphasizes the integrity of a building with its surroundings and the intangible culture, history, and traditions of a place [17]. Specific buildings, which are important components of urban heritage, have a long and deep association with the citizenry [18]. As the most important elements forming the traditional urban space, these buildings provide the material basis for traditional community life for the residents in the ancient city. Suzhou is dominated by gray and white buildings with sloping roofs as the main architectural form, mostly built near the river and derived from structures such as gables and projections; the layout is mostly patio-like to meet the needs of light and ventilation, etc [19]. At present, 209 protected buildings exist in Suzhou mostly from the Qing Dynasty, the earliest being the Yan Yun Temple Pagoda from the Five Dynasties period and the latest being the



Xiangcheng Granary from 1976. These buildings are mainly in the traditional residential houses and temples of the Suzhou region.

Currently, Suzhou's architectural heritages are also mainly distributed in the Wuzhong and Gusu districts, but the overall distribution is different from that of the bridge heritage. They are mainly concentrated in the ancient city and the historical towns outside (especially those towns outside the built-up area). The distribution in the built-up area is also extremely uneven. The division of architectural heritage in Suzhou shows a high concentration of distribution in the southwestern edge of the administrative range and the center of the ancient city while with a sparse distribution in the rest (Figure 4-7).



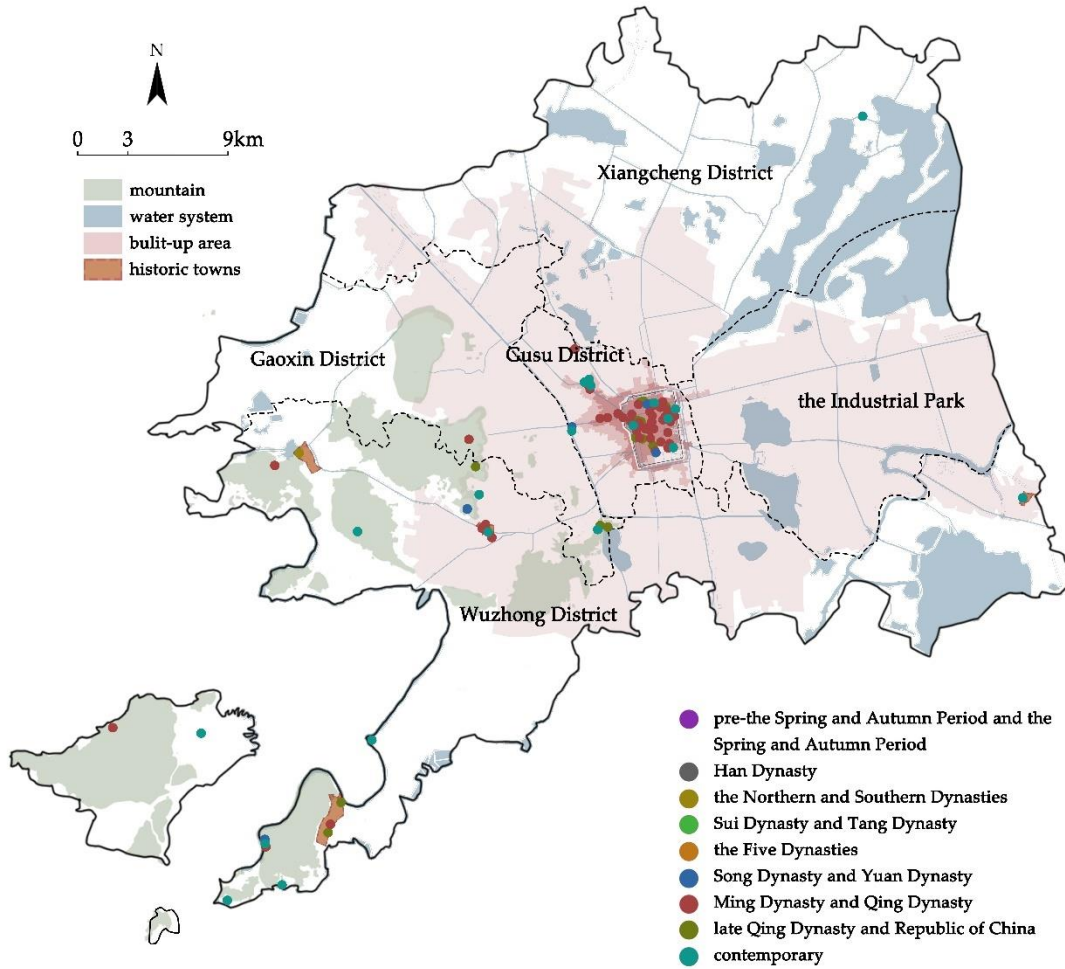
**Figure 4-7. Distribution of important buildings.**

As a complex of space and architecture created by artificial means in pursuit

of the spirit of nature, the Suzhou traditional garden is the ideal form of human habitation [20]. Implementing the principle of building according to local conditions has made it the most distinctive residential space with local features. Gardening in Suzhou has been prevalent since the Song Dynasty. By the Ming and Qing dynasties, the number of gardens in the city reached its peak. Although Suzhou experienced a setback in the first half of the last century with a large decline in the number of gardens, the gradual restoration and preservation of gardens since then has led to a significant rebound. With increasing conservation efforts and changing social attitudes, some gardens have been transformed from private homes to public spaces.

There are currently 82 gardens within the prefecture-level city of Suzhou that are included in the Suzhou traditional Garden List [21]. Eight of them are listed as World Heritage Sites, and 46 are also recognized as cultural relic protection units. The 82 current gardens are mainly concentrated in the ancient city and partly located near the west side of the mountain range; most of them were built during the peak of gardening activities in the Qing Dynasty.

The gardens, as specialized architectural complexes, also show a distribution mainly within the ancient city and historical towns outside the city, but the difference is that the number of gardens outside the built-up area of the city is smaller and does not show high concentrated features at the southwestern edge of the administrative range that similar to the architectural heritage mentioned above. At the same time, in the districts outside the ancient city, except for a small number of gardens distributed in the built-up area of Wuzhong District, there are no gardens distributed in the other districts of Suzhou (Figure 4-8).



**Figure 4-8. Distribution of Suzhou traditional gardens.**

Based on the method of this chapter, the percentage of architectures in the pre-1949 built-up area can be obtained (Table 4-5).

**Table 4-5. The percentage data of architectures in the pre-1949 built-up areas**

Historic area	Scenic area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River
36.2%	2.6%	85.5%	14.5%	55.9%	46.7%	23.0%
Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space
7.9%	15.1%	11.8%	3.3%	77.6%	53.3%	30.3%
Presence of fabric coverage	As a public space	Horizontal Extension	Vertical Extension	Free combination	Single Building	traditional building complex
44.7%	39.5%	9.9%	21.7%	21.7%	17.8%	32.9%

It can be found that the proportion of traditional high-density fabric and traditional scale roads in the ancient city is very high (85.5%), but the proportion of modern high-density fabric is also over 50%, and there is nearly 50% fabric replacement (44.7%).

**Table 4-6. The correlation analysis of architectures in the pre-1949 built-up area**

	Historic areas	Scenic Area	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	Traditional River	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Horizontal Extension	Vertical Extension	Free combination	Single Building	traditional building complex
Historic areas	1																				
Scenic Area	-0.038	1																			
Traditional high-density fabric	0.193	0.068	1																		
Traditional low density fabric	0.040	0.166	-0.150	1																	
Modern high-density fabric	-0.379	-0.020	-0.215	0.102	1																
Modern low density fabric	-0.403	-0.072	-0.364	0.102	0.486	1															
Traditional Scale River	0.108	0.008	0.047	0.175	0.045	-0.042	1														
Modern Scale River	0.084	0.104	-0.226	0.018	0.014	-0.030	0.014	1													
River with one parallel street	-0.012	0.045	-0.192	0.087	0.116	-0.027	0.604	0.285	1												
River with two parallel streets	0.232	-0.060	0.093	0.081	-0.044	0.024	0.477	0.27	-0.098	1											
River with no parallel street	-0.062	0.2	-0.029	0.134	0.015	-0.025	0.25	0.22	0.025	-0.068	1										
Traditional Scale Road	0.141	-0.109	0.598	-0.093	-0.031	-0.225	-0.006	-0.194	0.006	-0.048	-0.167	1									
Modern Scale Road	-0.228	0.072	-0.198	0.16	0.258	0.508	0.074	0.078	-0.009	0.139	0.099	-0.471	1								
Adjacent to the public space	-0.019	0.16	-0.177	0.38	0.239	0.302	0.218	0.179	0.201	0.157	0.119	-0.196	0.33	1							
Presence of fabric coverage	-0.209	0.100	-0.269	0.119	0.319	0.404	-0.084	0.129	-0.011	-0.043	0.057	-0.279	0.259	0.041	1						
As a public space	-0.020	0.204	-0.012	0.318	0.229	0.080	0.198	0.063	0.185	0.037	0.077	0.046	0.136	0.318	-0.077	1					
Horizontal Extension	0.026	-0.054	0.136	-0.011	-0.017	0.088	0.029	-0.097	-0.140	0.152	-0.061	0.019	0.133	0.118	-0.120	-0.042	1				
Vertical Extension	0.135	0.013	0.171	-0.126	-0.272	-0.508	0.053	-0.095	0.000	-0.045	0.082	0.129	-0.211	-0.138	-0.185	-0.164	-0.174	1			
Free combination	-0.098	-0.087	0.035	-0.126	0.146	0.115	0.053	0.083	0.089	0.103	-0.097	0.129	0.013	0.209	-0.153	0.064	-0.121	-0.277	1		
Single Building	-0.063	0.139	-0.249	0.053	0.066	0.117	-0.172	-0.008	-0.100	-0.17	0.107	-0.329	0.159	0.069	0.24	-0.129	-0.096	-0.245	-0.161	1	
traditional building complex	0.033	0.059	-0.108	0.205	0.119	0.051	0.092	0.209	0.093	0.061	0.106	-0.025	-0.014	-0.120	0.193	0.302	-0.234	-0.304	-0.33	-0.292	1

In the built-up area before 1949, the correlation between the traditional scale river and river with one street is 0.604; the traditional scale river and river with two streets shows a correlation which is 0.477. This part reveals that the traditional scale river and waterway parallel forms are highly correlated, suggesting that for buildings with waterways surrounding, the parallel pattern of street and river is the more important element.

In addition, modern low-density fabric is negatively correlated with vertical extension, which is a noteworthy element in new urban areas (Table 4-6).

Since the number of samples in the built-up area between 1949 and 1978 is too small for correlation analysis, and due to the high similarity between the environment and the post-78 built-up area, they are included in the post-78 built-up area and analyzed together.

**Table 4-7. The percentage data of architectures in the post-1949 built-up areas**

	Scenic Area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River	
	38.5%	28.2%	76.9%	28.2%	38.5%	28.2%	25.6%
<b>Modern Scale River</b>	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	
	25.6%	23.1%	10.3%	25.6%	66.7%	30.8%	43.6%
<b>Presence of fabric coverage</b>	As a public space	Horizontal Extension	Vertical Extension	Free combination	Single Building	traditional building complex	
	23.1%	69.2%	2.6%	25.6%	23.1%	20.5%	30.8%

In newly built-up areas, both traditional high-density fabric and traditional

scale roads have a high proportion (76.9% and 66.7%), but the difference is that the proportion of public space is much higher than in traditional built-up areas

which is 69.2% (Table 4-7).

The significant negative correlation between traditional building complexes

Table 4-8. The correlation analysis of architectures in the post-1949 built-up area

	Historical areas	Scenic Area	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	Traditional Scale River	Modern Scale River	River parallel street	River with one parallel streets	River with two parallel streets	River parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Horizontal Extension	Vertical Extension	Free combination	Single Building	traditional building complex
Historical areas	1																					
Scenic Area	-0.496	1																				
Traditional high-density fabric	0.433	0.073	1																			
Traditional low density fabric	-0.144	0.24	0.208	1																		
Modern high-density fabric	-0.517	0.207	-0.192	-0.144	1																	
Modern low density fabric	-0.378	-0.266	-0.468	-0.013	0.324	1																
Traditional Scale River	0.501	-0.238	0.322	-0.238	-0.102	-0.238	1															
Modern Scale River	-0.223	0.023	-0.236	0.023	0.139	0.023	-0.21	1														
River with one parallel street	0.067	-0.073	0.156	-0.073	0.192	-0.343	0.375	0.375	1													
River with two parallel streets	0.08	-0.212	-0.015	-0.024	-0.094	-0.024	0.382	0.189	0.015	1												
River with no parallel street	0.019	0.154	0.043	-0.107	0.139	0.023	0.193	0.462	0.096	-0.199	1											
Traditional Scale Road	0.559	-0.161	0.645	-0.04	-0.112	-0.524	0.415	-0.083	0.387	0.06	0.042	1										
Modern Scale Road	-0.413	0.076	-0.426	-0.171	0.615	0.446	-0.01	0.245	0.03	0.141	0.117	-0.236	1									
Adjacent to the public space	-0.057	0.368	0.359	0.368	0.262	0.024	-0.043	0.076	-0.113	0.044	0.194	0.073	0.086	1								
Presence of fabric coverage	-0.308	-0.073	0.156	0.062	0.192	0.198	-0.182	0.375	0.133	0.216	-0.043	0	0.162	0.132	1							
As a public space	-0.387	0.418	0.162	0.294	0.299	0.047	-0.117	0.608	0.101	0.225	0.137	0	0.324	0.474	0.365	1						
Horizontal Extension	0.205	-0.102	0.089	-0.102	-0.128	-0.102	0.276	-0.095	0.296	-0.055	-0.095	0.115	-0.108	-0.143	-0.089	-0.243	1					
Vertical Extension	0.26	-0.238	0.322	-0.107	-0.223	-0.107	0.193	-0.21	-0.043	-0.005	-0.076	0.415	-0.137	-0.398	0.096	-0.372	-0.095	1				
Free combination	-0.183	0.198	0.011	-0.073	0.568	0.062	-0.182	0.096	0.133	-0.185	0.096	0	0.03	0.255	0.133	0.233	-0.089	-0.322	1			
Single Building	-0.153	0.382	-0.05	0.24	-0.021	-0.187	-0.162	-0.309	-0.288	0.033	-0.309	0.073	-0.073	0.184	-0.136	0.045	-0.085	-0.162	0.168	1		
traditional building complex	-0.201	0.066	-0.344	0.066	-0.085	0.191	-0.277	0.365	-0.112	-0.049	0.108	-0.513	0.269	-0.042	0.021	0.508	-0.112	-0.406	-0.378	-0.351	1	

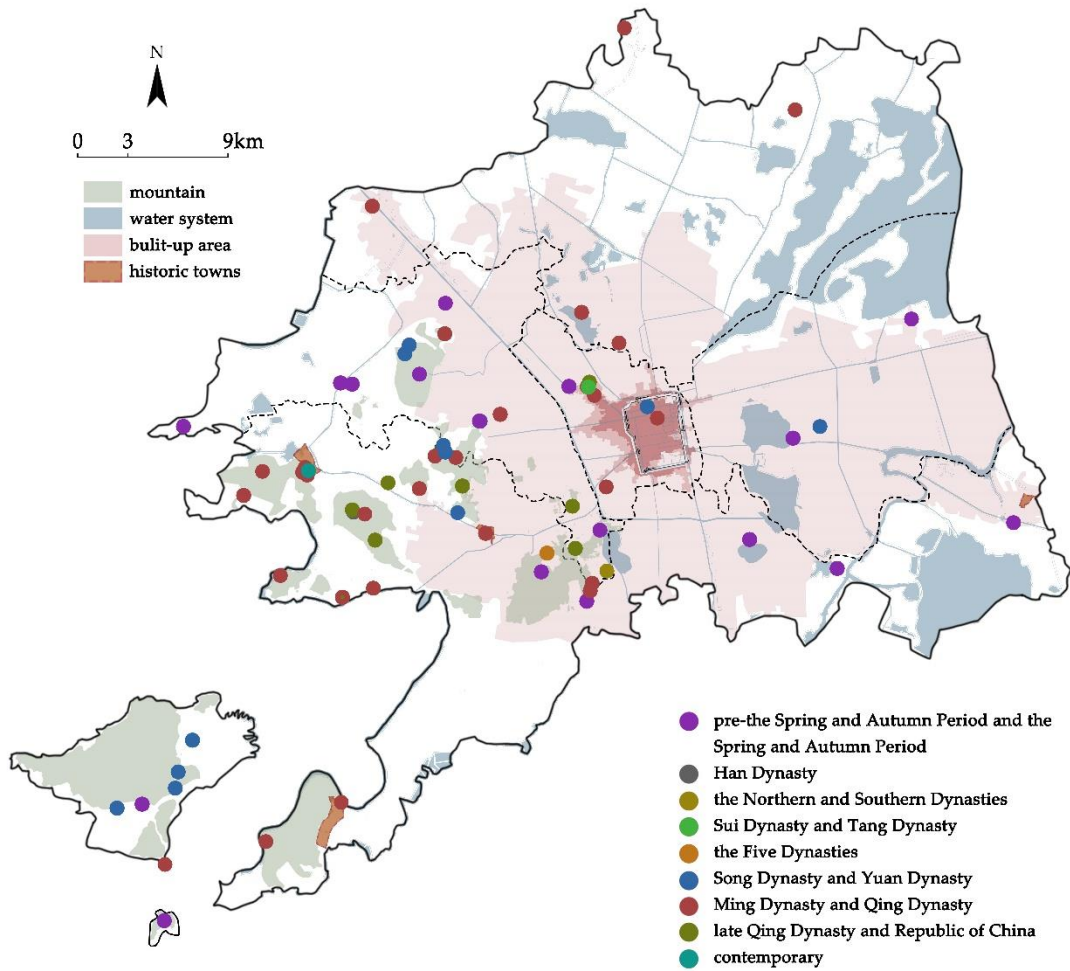


and traditional scale roads is -0.513, while the correlation between traditional building complexes and being public spaces is 0.508, this indicates that the current large traditional buildings are separated from the surrounding landscape in newly built-up areas (Table 4-8).

## **6) Relics and Tombs**

As the most direct expression of the past culture, ruins and tombs contain life forms and specific historical fragments of people from the past. There are currently 54 cultural relic protection units in Suzhou. Mainly including the tombs of famous people in the Ming and Qing dynasties, in addition to a number of sites dating back to the Neolithic period, these provide the basis for our understanding of the living conditions in ancient Suzhou

The chronological distribution of the relics and tombs is more even than that of the buildings and bridges, and it is especially noteworthy that these relics and tombs are not highly concentrated in the ancient city, but are more distributed around the hills on the west side of Suzhou, and with a relatively even distribution in the built-up area (Figure 4-9).



**Figure 4-9. Distribution of relics and tombs.**

Based on the method, the following conclusions can be drawn.

**Table 4-9. The percentage data of relics and tombs**

Area constructed before 1949	Area constructed from 1949 to 1978	Area constructed after 1978	Historic areas	Scenic Area	After 1949	Traditional high-density fabric	Traditional low density fabric
20.7%	3.4%	75.9%	17.2%	20.7%	3.4%	34.5%	17.2%
Modern high-density fabric	Modern low density fabric	Traditional Scale River	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Scale Road
31.0%	48.3%	6.9%	24.1%	3.4%	13.8%	10.3%	10.3%
Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	Relics	Stone carving	Tombs		
62.1%	51.7%	6.9%	31.0%	13.8%	55.2%		

The site is mainly distributed in the built-up area after 78, accounting for 78.9%. We can see the fabric of modern buildings is the main feature with 31% and 48.3%, which shows that the fabric of large modern buildings is the element with the largest proportion. In addition, modern scale roads also occupy a great proportion of 62%. This confirms the view that the urban landscape in the overall area is characterized by modernism. Besides, the high proportion of public spaces adjacent to the area is 52.7%, which stems from the fact that public spaces are often built in dependence on the environment in which the heritage is located or the heritage itself is located in a traditional public space. This provides a way of thinking about the connection between heritage and the daily life (Table 4-9).

**Table 4-10. The correlation analysis of relics and tombs**

	Area constructed before 1949	Area constructed from 1949 to 1978	Area constructed after 1978	Historic area	Scenic area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	Relics	Stone carving	Tombs
Area constructed before 1949	1																				
Area constructed from 1949 to 1978	-0.097	1																			
Area constructed after 1978	-0.905	-0.335	1																		
Historic areas	0.894	-0.086	-0.809	1																	
Scenic Area	0.37	0.37	-0.508	0.443	1																
Traditional high-density fabric	0.704	-0.137	-0.608	0.629	0.346	1															
Traditional low-density fabric	0.668	-0.086	-0.596	0.517	0.668	0.629	1														
Modern high-density fabric	-0.343	-0.127	0.378	-0.306	-0.343	-0.487	-0.306	1													
Modern low-density fabric	-0.493	-0.183	0.545	-0.441	-0.493	-0.411	-0.441	0.694	1												
Traditional Scale River	-0.139	0.694	-0.164	-0.124	0.197	-0.197	-0.124	0.112	0.009	1											
Modern Scale River	0.11	-0.107	-0.058	0.169	-0.089	-0.07	-0.257	-0.204	-0.061	-0.154	1										
River with one parallel street	-0.097	-0.036	0.107	-0.086	-0.097	-0.137	-0.086	-0.127	0.196	-0.051	0.335	1									
River with two parallel streets	0.289	-0.076	-0.242	0.347	-0.204	0.131	-0.183	0.164	0.014	0.286	0.475	-0.076	1								
River with no parallel street	-0.173	0.556	-0.073	-0.155	0.386	-0.246	-0.155	-0.228	-0.328	0.354	0.338	-0.064	-0.136	1							
Traditional Scale Road	0.386	-0.064	-0.338	0.444	-0.173	0.468	-0.155	-0.228	-0.328	-0.092	0.338	-0.064	0.521	-0.115	1						
Modern Scale Road	-0.653	0.148	0.555	-0.584	-0.302	-0.479	-0.396	0.524	0.755	0.213	-0.057	0.148	-0.099	0.032	-0.435	1					
Adjacent to the public space	0.437	0.162	-0.482	0.39	0.286	0.235	0.39	-0.219	-0.396	0.233	-0.089	-0.173	0.165	-0.111	0.09	-0.417	1				
Presence of fabric coverage	0.197	0.694	-0.482	-0.124	0.197	0.089	0.236	-0.183	-0.263	0.463	-0.154	-0.051	-0.109	0.354	-0.092	-0.068	0.233	1			
Relics	-0.159	-0.127	0.204	-0.109	0.209	-0.016	0.088	-0.289	-0.201	-0.183	0.318	-0.127	-0.052	0.262	-0.228	-0.09	0.178	-0.183	1		
Stone carving	0.289	-0.076	-0.242	0.082	0.043	0.341	0.347	-0.052	-0.186	-0.109	-0.226	-0.076	-0.16	-0.136	0.192	-0.306	-0.012	0.286	-0.268	1	
Tombs	-0.053	0.17	-0.022	0.044	-0.224	-0.221	-0.323	0.305	0.316	0.245	-0.14	0.17	0.159	-0.149	0.079	0.296	-0.157	-0.028	-0.744	-0.444	1

In the built-up area after 1978, traditional fabric shows significant negative correlations of -0.608 and -0.596, and the correlation with large buildings also verifies the percentage analysis at 0.545 showing a significant correlation. This is a noteworthy trend, implying that the heritage fabric, as a distant or relatively independent element from the city, is also beginning to be affected by urbanization (Table 4-10).

The area of 49-78 years is significantly correlated with the traditional small river and river without street forms at 0.694 and 0.556, respectively, and with the presence or absence of surrounding fabric cover at 0.694. While the traditional high-density space is still correlated with the traditional scale road at 0.468, it can be assumed that the heritage in this area can have some effect on the preservation of the traditional scale settlement space. However, it is still not possible to curb the damage of modern fabric to the original environment around the heritage, which is an urgent problem to be solved.

At the same time, we find that the type of heritage itself does not correlate well with the characteristics of its surroundings, which also indicates that the relics themselves are different from bridges and buildings, which are current forms of heritage that have less impact on the environment. The continuation of the urban landscape from the remains should consider their reuse forms, and the integration with public space should be considered in new urban areas.

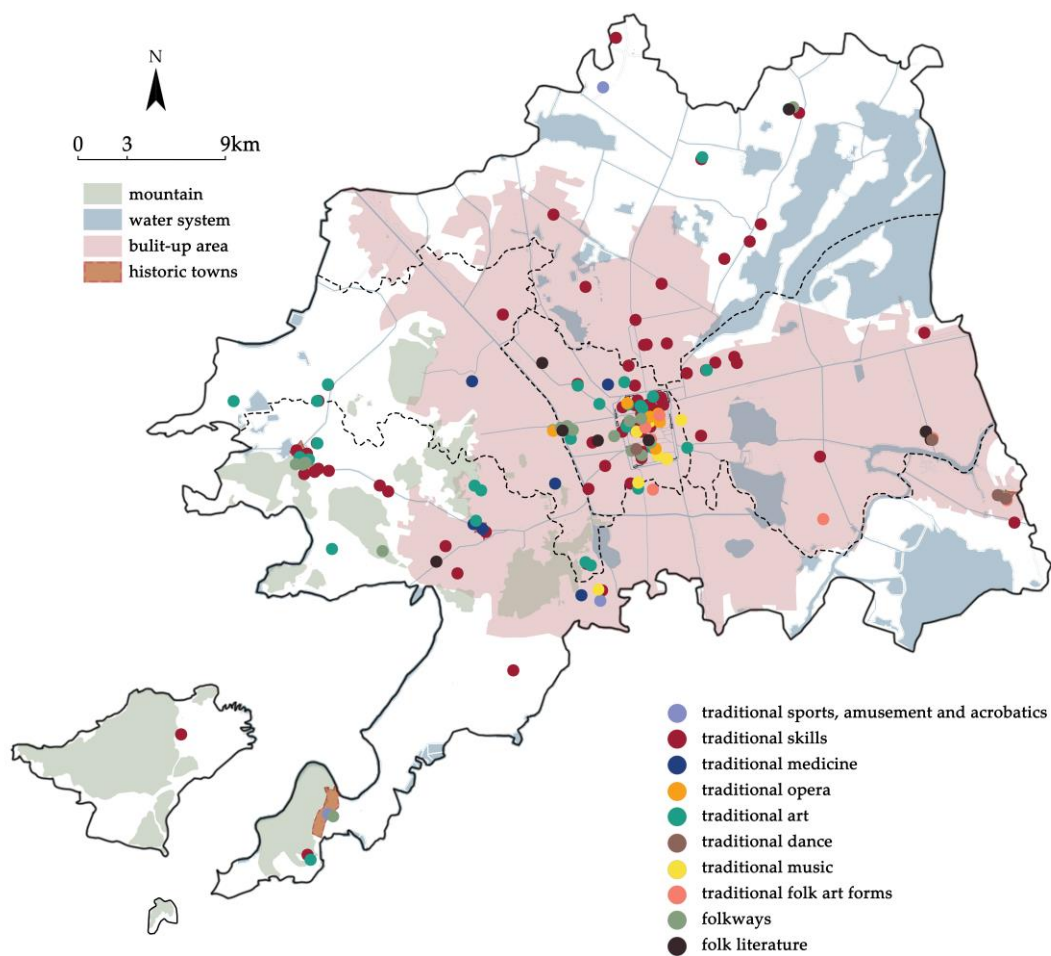
### **4.3 Spatial Distribution of Intangible Heritages**

The Convention for the Safeguarding of the Intangible Cultural Heritage defines “intangible cultural heritage (ICH)” as the practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts, and cultural spaces associated therewith—that communities, groups, and, in some cases, individuals recognize as part of their cultural heritage. This

intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature, and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity [22]. In other words, the existence of ICH is a dynamic result of the mutual adaptation of practitioners and the current environment, which contributes to the identity of the group. The recognition of ICH also means that the protection of context has shifted from purely material to the key element of people. As a cultural system nurtured on a plain with a unique water network, Suzhou's culture is essentially a combination of an agricultural culture and a river and sea culture, which has led to the formation of regional traditions such as the soft and gentle Wu dialect, the life style of living near the river and feeding on fish and shrimp, and the sericulture handicraft industry [23]. For thousands of years, the people who inhabit this area have lived in dependence on the environment and have continued to practice these traditions. Since the understanding and expression of ICH depend on tangible existence, the living landscape constructed based on both tangible heritage and the physical environment becomes a spatial expression of culture, and this feature makes ICH also have the ability to transmit values [24,25]. It is this capacity that has shaped the most important basis of identity for the local people of Suzhou. Therefore, the value of ICH for context continuance has the same importance as the value of the human element in context preservation as a factor influencing the sustainability of Suzhou.

Currently, there are 6 human Intangible culture heritage items, 33 national items, 124 provincial items, and 172 municipal items in Suzhou. They are mainly divided into traditional sports/amusement and acrobatics, traditional medicine, traditional opera, traditional skills, traditional arts, traditional dance,

traditional music, traditional folk art forms, folkways, and folk literature. Intangible heritages are also mainly distributed in the built-up areas of Wuzhong District and Gusu District, with traditional skills and traditional arts as the main groups. The ancient city is the area with the highest distribution density, while outside the ancient city there are scattered distributions in all directions of the built-up areas, not showing a clear tendency as the distribution of tangible heritage (Figure 4-10).



**Figure 4-10. Distribution of intangible culture heritages.**

Since intangible cultural heritage differs greatly from one another, it is divided into three main categories, traditional skills, traditional arts and folklore.

### 4.3.1 The Traditional Skills

In the built-up area before 1949, the proportion of the surrounding areas with traditional high-density fabric is 88.5%, while the modern high-density fabric is also 73.1%, corresponding to 80.8% of the objects with fabric covering. Most of the ICH are located in areas with complex urban fabric and the low percentage of public space explains that it is mainly due to the demand for a direct external display of these ICHs, while places with complex fabric, such as Guanqian Street, are often areas of the commercial core (Table 4-11).

**Table 4-11. The percentage data of traditional skills in the pre-1949 built-up areas**

Historic area	Scenic area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River
15.4%	7.7%	88.5%	38.5%	73.1%	57.7%	15.4%
Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space
3.8%	7.7%	3.8%	3.8%	65.4%	57.7%	46.2%
Presence of fabric coverage	As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Company Address	Government Management Office
80.8%	30.8%	30.8%	26.9%	15.4%	57.7%	3.8%

By correlation analysis, the results can be obtained (Table 4-12).



**Table 4-12. The correlation analysis of traditional skills in the pre-1949 built-up areas**

	Historic area	Scenic area	Tradition al high-density fabric	Tradition al low-density fabric	Modern high-density fabric	Modern low-density fabric	Tradition al Scale River	Modern Scale River	River with one parallel street	River with two parallel streets	River with no parallel street	Tradition al Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Company Address	Government Management Office
Historic areas	1																				
Scenic Area	-0.123	1																			
Traditional high-density fabric	0.154	-0.799	1																		
Traditional low-density fabric	-0.118	-0.228	0.286	1																	
Modern high-density fabric	0.018	0.175	-0.219	0.123	1																
Modern low-density fabric	-0.282	0.247	-0.309	0.197	0.709	1															
Traditional Scale River	0.114	-0.123	0.154	-0.118	-0.222	-0.282	1														
Modern Scale River	-0.085	-0.058	0.072	-0.158	0.121	0.171	0.469	1													
River with one parallel street	0.277	-0.083	0.104	0.068	-0.15	-0.337	0.677	-0.058	1												
River with two parallel streets	-0.085	-0.058	0.072	-0.158	-0.33	-0.234	0.469	-0.04	-0.058	1											
River with no parallel street	-0.085	-0.058	0.072	-0.158	0.121	0.171	0.469	1	-0.058	-0.04	1										
Traditional Scale Road	-0.138	-0.397	0.496	-0.089	-0.442	-0.296	0.086	0.146	-0.093	0.146	0.146	1									
Modern Scale Road	-0.282	0.247	-0.309	-0.123	0.358	0.37	0.365	0.171	0.247	0.171	0.171	-0.459	1								
Adjacent to the public space	-0.181	0.312	-0.39	0.22	0.04	0.168	0.033	-0.185	0.022	0.216	-0.185	0.025	0.168	1							
Presence of fabric coverage	-0.333	0.141	-0.176	-0.015	0.584	0.372	-0.062	0.098	0.141	-0.41	0.098	-0.15	0.372	-0.136	1						
As a public space	-0.053	-0.192	0.241	0.672	0.217	0.234	-0.053	-0.133	0.12	-0.133	-0.133	-0.216	0.065	0.219	0.114	1					
Location with traditional fabric	0.178	-0.192	0.241	0.158	-0.535	-0.441	-0.053	-0.133	0.12	-0.133	-0.133	0.31	-0.441	0.051	-0.309	0.097	1				
City Public Facilities	-0.018	-0.175	0.219	0.59	0.368	0.344	-0.018	-0.121	0.15	-0.121	-0.121	-0.287	0.169	0.134	0.296	0.91	-0.029	1			
Institute Location	0.114	-0.123	0.154	-0.337	-0.222	-0.282	0.114	-0.085	0.277	-0.085	-0.085	0.31	-0.066	-0.181	-0.062	-0.284	-0.053	1			
Company Address	-0.282	0.247	-0.309	-0.283	-0.169	-0.103	-0.066	0.171	-0.337	0.171	0.171	0.195	0.055	0.168	-0.023	-0.441	0.234	-0.533	1		
Government Management Office	0.469	-0.058	0.072	-0.158	0.121	0.171	-0.085	-0.04	-0.058	-0.04	-0.04	-0.275	-0.234	-0.185	-0.41	-0.133	-0.133	-0.121	-0.085	-0.234	1

The traditional roads have a certain correlation with traditional high-density fabric, while modern high-density and modern low-density fabric by a certain negative correlation, showing that the traditional skills still tend to choose streets where the traditional scale exists, which is related to the direct viewing method, where small-scale roads can ensure the efficient viewing. This will be a factor in the selection of similar ICH for spreading.

The correlation between traditional low-density fabrics and whether the heritage is located in public space and public facilities is also significant at 0.672 and 0.59, showing that in addition to the preference for direct public display, there is also a tendency to choose to be close to important urban landscape nodes in the ancient city.

Traditional scale rivers and one street with one river show a significant correlation of 0.677, while large rivers and rivers without streets show a high correlation of 1, showing two more obvious characteristics of rivers and streets.

For the same reason, the built-up areas from 1949 to 1978 were also classified as built-up areas after 1978 and combined into the built-up areas after 1949 for analysis.

In the built-up area post-1949, the percentage statistics show that the new urban areas have very few objects located in scenic and historical areas, accounting for only 3.2%. The surrounding areas with modern high and low density fabric are 74.2% and 71.0%, and the same, percentage of modern scale roads is also very high at 74.2% (Table 4-13).

**Table 4-13. The percentage data of traditional skills in the post-1949 built-up areas**

Historic area	Scenic Area	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	Traditional Scale River
3.2%	3.2%	9.7%	3.2%	74.2%	71.0%	6.5%
Modern Scale River	River with one parallel street	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage
35.5%	6.5%	25.8%	9.7%	74.2%	22.6%	9.7%
As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Company Address	Residential area	Government Management Office
6.5%	6.5%	29.0%	6.5%	58.1%	12.9%	6.5%

**Table 4-14. The correlation analysis of traditional skills in the post-1949 built-up areas**

	Historic area	Scenic area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River	Modern Scale River	River with one parallel street	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Company Address	Residential area	Government Management Office				
Historic area	1																								
Scenic Area	-0.033	1																							
Traditional high-density fabric	0.558	0.558	1																						
Traditional low-density fabric	-0.033	0.558	0.558	1																					
Modern high-density fabric	-0.31	-0.31	-0.306	-0.31	1																				
Modern low-density fabric	-0.285	-0.285	-0.512	-0.285	-0.052	1																			
Traditional Scale River	-0.048	-0.048	-0.086	-0.048	-0.145	-0.121	1																		
Modern Scale River	-0.135	-0.135	-0.243	-0.135	0.129	0.326	-0.195	1																	
River with one parallel street	-0.048	-0.048	-0.086	-0.048	0.155	-0.121	0.466	0.08	1																
River with no parallel street	-0.108	-0.108	-0.193	-0.108	0.011	0.215	0.145	0.641	-0.155	1															
Traditional Scale Road	0.558	-0.06	0.631	-0.06	-0.306	-0.271	-0.086	-0.243	-0.086	-0.193	1														
Modern Scale Road	-0.31	-0.31	-0.555	-0.31	0.158	0.435	0.155	0.283	0.155	0.179	-0.306	1													
Adjacent to the city walls	-0.099	0.338	0.084	0.338	-0.21	0.005	-0.142	-0.078	-0.142	-0.142	-0.177	-0.034	1												
Adjacent to the public space	-0.06	-0.06	0.262	-0.06	0.193	-0.271	-0.086	-0.015	-0.086	-0.193	0.262	-0.056	-0.177	1											
Presence of fabric coverage	-0.048	0.695	0.358	0.695	-0.445	-0.121	-0.069	0.08	-0.069	-0.155	-0.086	-0.145	0.486	-0.086	1										
Location with traditional fabric	0.695	0.695	0.802	0.695	-0.445	-0.411	-0.069	-0.195	-0.069	-0.155	0.358	-0.445	0.172	-0.086	0.466	1									
City Public Facilities	0.285	0.285	0.271	0.285	-0.11	-0.217	-0.168	0.268	-0.168	0.272	0.031	-0.11	-0.005	0.031	0.411	0.411	1								
Institute Location	-0.048	-0.048	-0.086	-0.048	-0.145	0.168	-0.069	-0.195	-0.069	-0.155	0.358	0.155	-0.142	-0.086	-0.069	-0.069	-0.168	1							
Company Address	-0.215	-0.215	-0.164	-0.215	0.096	0.177	0.223	-0.19	0.223	-0.246	-0.164	0.096	-0.01	0.057	-0.309	-0.309	-0.753	-0.309	1						
Residential area	-0.07	-0.07	-0.126	-0.07	0.227	-0.178	-0.101	0.117	0.291	-0.007	-0.126	-0.433	0.022	-0.126	-0.101	-0.101	-0.246	-0.101	0.132	1					
Government Management Office	-0.048	0.695	0.358	0.695	-0.145	-0.121	-0.069	0.08	-0.069	0.145	-0.086	-0.145	0.486	-0.086	0.466	0.466	0.121	-0.069	-0.309	-0.101	1				

A correlation-based study then reveals that whether it is located in a historic district or scenic area is significantly correlated with traditional fabric at 0.558, 0.558, and 1, and combined with the percentages, we can infer that traditional fabric is present in only two historic towns in the new urban area. This is further confirmed by the high correlation between own traditional fabric and traditional architectural fabric (0.695, 0.802, and 0.695).

It is also worth noting that the proportion of the company's location among these techniques is 58%, while the proportion of whether they are used as public space is very low at 6.45%, the traditional scale roads are also very low at 9.7%, which is completely different from the pre-49 area, and it can be assumed that the skills in the new urban area exist as productive elements and are not displayed to the residents.

### 4.3.2 The Traditional Arts

In terms of percentage, the traditional high-density fabric is high at 83.9%, traditional scale road is 64.5% and modern scale road is also high at 67.7%, this is because the area within the traditional fabric but also close to the main urban road or wide urban road so that people can approach. The percentage of those adjacent to public space is 74.2%, and the percentage of those as public space is also high at 54.8%, which shows the high dependence of art on public space (Table 4-15).

**Table 4-15. The percentage data of traditional arts in the pre-1949 built-up areas**

Historic area	Scenic aarea	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric
29.0%	32.3%	83.9%	48.4%	41.9%	35.5%
Traditional Scale River	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage
3.2%	3.2%	64.5%	67.7%	74.2%	74.2%
As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Company Address	Government Management Office
54.8%	61.3%	58.1%	12.9%	22.6%	9.7%

**Table 4-16. The correlation analysis of traditional arts in the pre-1949 built-up areas**

	Historic area	Scenic Area	Tradition high-density fabric	Tradition low density fabric	Modern high-density fabric	Modern low density fabric	Traditional Scale River	River with no parallel street	Traditional Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Company Address	Government Management Office
Historic area	1																
Scenic Area	-0.441	1															
Traditional high-density fabric	0.28	-0.448	1														
Traditional low density fabric	-0.335	0.437	-0.102	1													
Modern high-density fabric	0.033	-0.586	0.373	-0.43	1												
Modern low density fabric	-0.474	-0.223	-0.225	-0.313	0.463	1											
Traditional Scale River	0.285	-0.126	0.08	-0.177	-0.155	-0.135	1										
River with no parallel street	0.285	-0.126	0.08	-0.177	-0.155	-0.135	1	1									
Traditional Scale Road	0.474	-0.642	0.225	-0.361	0.357	-0.014	0.135	0.135	1								
Modern Scale Road	-0.623	0.476	-0.303	0.116	0.027	0.223	-0.265	-0.265	-0.512	1							
Adjacent to the public space	-0.272	0.407	-0.259	0.571	-0.395	-0.179	0.108	0.108	-0.283	1							
Presence of fabric coverage	-0.76	0.407	-0.259	0.424	-0.096	0.437	-0.31	-0.31	-0.437	0.326	1						
As a public space	-0.134	0.349	0.131	0.36	-0.148	-0.275	-0.201	-0.201	0.004	0.354	-0.091	1					
Location with traditional fabric	0.216	0.265	0.192	0.372	-0.398	-0.518	0.145	0.145	0.103	0.288	-0.166	0.61	1				
City Public Facilities	-0.177	0.307	0.161	0.3	-0.073	-0.19	-0.215	-0.215	-0.084	0.246	-0.053	0.936	0.533	1			
Institute Location	-0.246	0.146	-0.616	-0.18	-0.327	0.318	-0.07	-0.07	-0.318	0.227	0.227	-0.424	-0.484	-0.453	1		
Company Address	0.504	-0.373	0.237	0.095	0.01	-0.401	0.338	0.338	0.239	-0.034	-0.387	-0.44	0.112	-0.479	-0.208	1	
Government Management	-0.209	-0.226	0.144	-0.317	0.385	0.441	-0.06	-0.06	0.243	-0.555	0.193	-0.361	-0.412	-0.385	-0.126	-0.177	1

In terms of correlation, the objects in the historic district show a significant negative correlation of -0.623 with modern roads; the presence of texture overlay in the historic district and the surrounding area also show a high negative correlation of -0.76, which is in line with the current conservation principles. The scenic area and the traditional scale roads show a significant negative correlation of -0.642, which comes from the fact that the scenic area of the ancient city is a more open space such as Guanqian or Huqiu, and there is no traditional form of fabric present. The significant negative correlation between location with traditional fabric and the modern low-density fabric is -0.518, and the significant correlation with the as a public space is 0.61. Combining the percentages, it can be assumed that the public space with traditional fabric is an important factor when considering the location of art heritages (Table 4-16).

In terms of percentages, the percentage of in historic and scenic areas is 10% and 3.3%. Meanwhile, the presence of modern high-density fabric in the surrounding area is as high as 70%, modern low-density building fabric is also as high as 66.7%, and modern-scale roads are 93.3%, which can show the great difference in the microscopic urban landscape of artistic ICH (Table 4-17).



**Table 4-17. The percentage data of traditional arts in the post-1949 built-up areas**

Historic area	Scenic Area	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	Traditional Scale River	Modern Scale River
10.0%	3.3%	16.7%	6.7%	70.0%	66.7%	13.3%	36.7%
<b>River with one parallel street</b>	River with two parallel streets	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space
16.7%	3.3%	30.0%	10.0%	93.3%	43.3%	10.0%	13.3%
<b>Location with traditional fabric</b>	City Public Facilities	Institute Location	Company Address	Residential area	Government Management Office		
<b>16.7%</b>	33.3%	26.7%	30.0%	10.0%	3.3%		

Table 4-18. The correlation analysis of traditional arts in the post-1949 built-up areas

	Historic area	Scenic Area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale River	Modern Scale River	River with one parallel street	River with two parallel street	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public	Presence of fabric coverage	As a public space	Location with traditional	City Public Facilities	Institute Location	Company Address	Identical	Government Management	
Historic area	1																						
Scenic Area	-0.062	1																					
Traditional high-density fabric	0.745	0.415	1																				
Traditional low-density fabric	-0.089	0.695	0.598	1																			
Modern high-density fabric	-0.024	-0.284	-0.293	-0.408	1																		
Modern low-density fabric	-0.471	-0.263	-0.443	-0.094	-0.154	1																	
Traditional Scale River	-0.131	-0.073	-0.175	-0.105	0.257	-0.139	1																
Modern Scale River	-0.254	-0.141	-0.155	0.074	-0.106	0.098	-0.298	1															
River with one parallel street	-0.149	-0.083	0.04	0.239	-0.098	-0.253	0.351	0.217	1														
River with two parallel streets	-0.062	-0.034	-0.083	-0.05	0.122	0.131	-0.073	0.244	-0.083	1													
River with no parallel street	-0.218	-0.122	-0.293	-0.175	0.111	0.154	0.171	0.558	-0.293	-0.122	1												
Traditional Scale Road	1	-0.062	0.745	-0.089	-0.024	-0.471	-0.131	-0.254	-0.149	-0.062	-0.218	1											
Modern Scale Road	-0.356	-0.695	-0.598	-0.464	0.408	0.378	0.105	0.203	0.12	0.05	0.175	-0.356	1										
Adjacent to the public space	-0.291	0.212	-0.03	0.306	-0.161	0.333	-0.343	-0.247	-0.211	0.212	-0.426	-0.291	-0.036	1									
Presence of fabric coverage	0.63	-0.062	0.447	-0.089	0.218	-0.471	-0.131	-0.254	-0.149	-0.062	-0.218	0.63	0.089	-0.291	1								
As a public space	0.196	0.473	0.351	0.288	-0.385	-0.139	-0.154	-0.095	-0.175	-0.073	-0.043	0.196	-0.681	0.053	-0.131	1							
Location with traditional fabric	0.745	0.415	0.76	0.239	-0.293	-0.443	-0.175	-0.155	0.04	-0.083	-0.293	0.745	-0.598	-0.211	0.447	0.351	1						
City Public Facilities	0	0.263	0.063	0.094	-0.463	0.05	-0.277	0.049	-0.126	0.263	-0.154	0	-0.378	0.095	0	0.347	0.253	1					
Institute Location	-0.201	-0.112	-0.067	0.141	0.23	0.107	-0.237	0.01	-0.067	-0.112	-0.066	-0.201	0.161	0.385	-0.201	-0.015	-0.27	1					
Company Address	0.267	-0.122	0.098	-0.175	0.111	-0.154	0.171	-0.045	0.098	-0.122	0.048	0.267	0.175	-0.279	0.267	-0.257	0.098	-0.395	1				
Residential area	-0.111	-0.062	-0.149	-0.089	0.218	0	0.523	-0.023	0.149	-0.062	0.267	-0.111	0.089	-0.291	-0.111	-0.131	-0.149	-0.201	-0.201	1			
Government Management	-0.062	1	0.415	0.695	-0.284	-0.263	-0.073	-0.141	-0.083	-0.034	-0.122	-0.062	-0.695	0.212	-0.062	0.473	0.415	-0.112	-0.122	-0.122	-0.062	1	

In terms of correlation, scenic areas show a significant negative correlation of -0.695 with modern scale roads, and a significant correlation of 0.695 with traditional low-density fabric, while traditional low-density fabric also shows some negative correlation of -0.464 with modern scale roads (Table 4-18).

The reason for the difference from the traditional urban areas is that the scenic areas of new urban areas are often spaces located in the natural environment that are different from the traditional high-density built spaces of the ancient city, so the differences should be noted when considering the space of heritage in the scenic areas.

The high correlation between traditional high-density fabric and traditional scale road is 0.745, and its correlation with the location with traditional fabric is 0.76, and the correlation between the historic district and the traditional scale road is 1 because the surrounding streets with traditional fabric are in the historic town, and the environment of the historic area provides and offers the possibility of preserving the traditional fabric.

Meanwhile, the significant negative correlation between modern-scale roads and location with traditional fabric is -0.598. Combined with the 93.3% share of modern-scale roads, it can be further pointed out that the space for the existence of traditional arts in newly built-up areas is not as traditional style, and traditional art exists only as an activity separately.

### 4.3.3 The Traditional Folklore

In the built-up area before 1949, the proportion of heritage objects located in historic districts is also relatively small, at 12.5%. The high proportion of fabric coverage indicates a high proportion of both types of fabric around these objects, but only 25% of them are public spaces, and 12.5% are adjacent to public spaces. This indicates that folklore does not use public spaces and historic areas as a platform for spreading in traditional urban areas (Table 4-19).

**Table 4-19. The percentage data of traditional folklore in the pre-1949 built-up areas**

Historic area	Scenic Area	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric
12.5%	12.5%	87.5%	25.0%	87.5%
<b>Modern low density fabric</b>	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage
87.5%	50.0%	87.5%	12.5%	87.5%
<b>As a public space</b>	Location with traditional fabric	City Public Facilities	Institute Location	Government Management Office
25.0%	25.0%	37.5%	25.0%	37.5%

**Table 4-20. The correlation analysis of traditional folklore in the pre-1949 built-up areas**

	Historic area	Scenic area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Location with traditional fabric	City Public Facilities	Institute Location	Government Management Office
Historic area	1														
Scenic Area	-0.143	1													
Traditional high-density fabric	0.143	0.143	1												
Traditional low-density fabric	-0.218	0.655	0.218	1											
Modern high-density fabric	-1	0.143	-0.143	0.218	1										
Modern low density fabric	0.143	0.143	1	0.218	-0.143	1									
Traditional Scale Road	0.378	-0.378	0.378	-0.577	-0.378	0.378	1								
Modern Scale Road	-1	0.143	-0.143	0.218	1	-0.143	-0.378	1							
Adjacent to the public space	-0.143	1	0.143	0.655	0.143	0.143	-0.378	0.143	1						
Presence of fabric coverage	-1	0.143	-0.143	0.218	1	-0.143	-0.378	1	0.143	1					
As a public space	-0.218	-0.218	0.218	0.333	0.218	0.218	0	0.218	-0.218	0.218	1				
Location with traditional fabric	0.655	-0.218	0.218	-0.333	-0.655	0.218	0.577	-0.655	-0.218	-0.655	0.333	1			
City Public Facilities	-0.293	-0.293	0.293	0.149	0.293	0.293	-0.258	0.293	-0.293	0.293	0.745	0.149	1		
Institute Location	0.655	0.655	0.218	0.333	-0.655	0.218	0	-0.655	0.655	-0.655	-0.333	0.333	-0.447	1	
Government Management Office	-0.293	-0.293	-0.488	-0.447	0.293	-0.488	0.258	0.293	-0.293	0.293	-0.447	-0.447	-0.6	-0.447	1

In terms of correlation, through the significant correlation of its traditional fabric with historic areas and traditional scale roads and the low proportion obtained previously, it can be confirmed that the locations of heritage related to the traditional fabric are located within historic areas, while most of them are located in more complex or more modern areas. This can be considered that the intangible cultural heritage of the folklore type does not have a strong spatial association with traditional forms in the ancient city (Table 4-20).

In the built-up area after 1949, the proportion of modern fabrics is also very high, 65.2% and 69.6%, while the proportion of as a public space is very high, 69.6%, which is actually because, in the new urban areas, many folklores are located in the community or regional cultural centers (Table 4-21).

**Table 4-21. The percentage data of traditional folklore in the post-1949 built-up areas**

Historic area	Scenic area	Traditional high-density fabric	Traditional low-density fabric	Modern high-density fabric	Modern low-density fabric
17.4%	8.7%	26.1%	17.4%	65.2%	69.6%
<b>Modern Scale River</b>	River with one parallel street	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space
69.6%	26.1%	43.5%	43.5%	52.2%	13.0%
<b>Presence of fabric coverage</b>	As a public space	Location with traditional fabric	City Public Facilities	Company Address	
4.3%	69.6%	26.1%	87.0%	13.0%	

**Table 4-22. The correlation analysis of traditional folklore in the post-1949 built-up areas**

	Historic area	Scenic Area	Traditional high-density fabric	Traditional low density fabric	Modern high-density fabric	Modern low density fabric	Modern Scale River	River with one parallel street	River with no parallel street	Traditional Scale Road	Modern Scale Road	Adjacent to the public space	Presence of fabric coverage	As a public space	Location with traditional fabric	City Public Facilities	Company Address
Historic area	1																
Scenic Area	-0.142	1															
Traditional high-density fabric	0.772	0.519	1														
Traditional low density fabric	0.395	0.673	0.772	1													
Modern high-density fabric	-0.628	-0.423	-0.813	-0.628	1												
Modern low density fabric	-0.694	-0.467	-0.898	-0.694	0.906	1											
Modern Scale River	-0.694	0.204	-0.468	-0.195	0.509	0.589	1										
River with one parallel street	-0.273	-0.183	-0.353	-0.273	0.226	0.393	0.393	1									
River with no parallel street	-0.402	0.352	-0.122	0.06	0.272	0.199	0.58	-0.521	1								
Traditional Scale Road	0.523	0.352	0.677	0.523	-0.464	-0.564	-0.182	0.278	-0.415	1							
Modern Scale Road	-0.479	-0.322	-0.621	-0.479	0.58	0.691	0.313	-0.224	0.489	-0.916	1						
Adjacent to the public space	-0.178	0.797	0.358	0.503	-0.53	-0.305	0.256	0.064	0.181	0.181	-0.146	1					
Presence of fabric coverage	-0.098	-0.066	-0.127	-0.098	0.156	0.141	-0.322	-0.127	-0.187	-0.187	0.204	-0.083	1				
As a public space	-0.195	0.204	-0.037	0.303	0.112	0.179	0.384	0.393	0.008	0.199	-0.066	0.256	0.141	1			
Location with traditional fabric	0.772	0.519	1	0.772	-0.813	-0.898	-0.468	-0.353	-0.122	0.677	-0.621	0.358	-0.127	-0.037	1		
City Public Facilities	0.178	0.12	0.23	0.178	-0.283	-0.256	0.024	0.23	-0.181	0.34	-0.371	0.15	0.083	0.586	0.23	1	
Company Address	-0.178	-0.12	-0.23	-0.178	0.283	0.256	-0.024	-0.23	0.181	-0.34	0.371	-0.15	-0.083	-0.586	-0.23	-1	1

In terms of correlation, the same historic areas are highly correlated with the surrounding traditional high-density fabric and location with traditional fabric, both at 0.772 (Table 4-22).

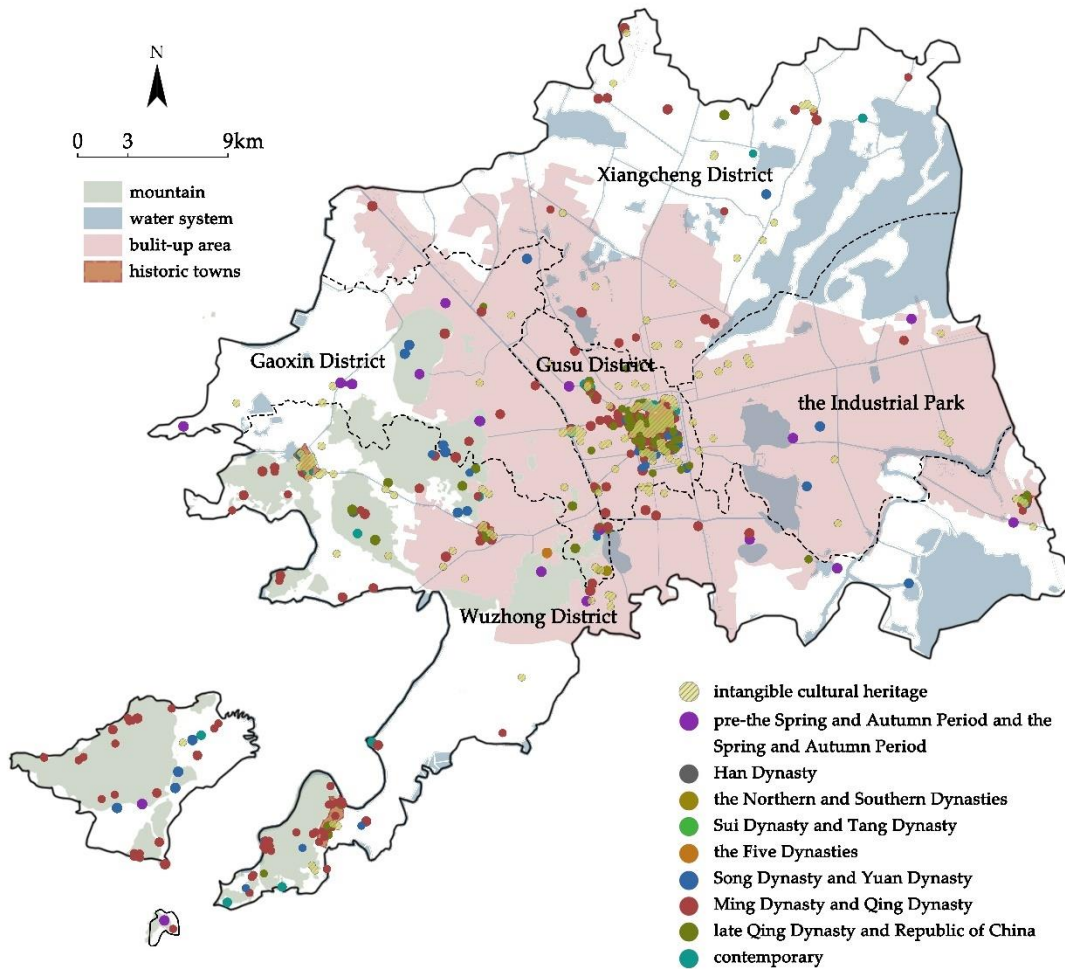
The high correlation between its traditional fabric and the surrounding traditional high-density fabric is 1 and 0.772 with the historic area, and the high negative correlation with the surrounding modern fabric is -0.813 and -0.898. Again, combining the percentages, we can infer that the folklore of the traditional premises is mainly concentrated in the historic towns, and most of the others are divided into the modern district.

This again shows that Suzhou's current folklore has little to do with the binding of the traditional fabric, and its inheritance does not particularly require a certain basis.

#### **4.4 The Pattern of Suzhou's Urban Heritage**

Overall, the natural heritage of Suzhou has provided the basis for the creation of Suzhou's cultural heritage, which has developed to the present day, with the Ming and Qing dynasties as the most significant period. The highest density of cultural heritage distribution is in the ancient city, followed by the historical towns and around the mountains. The overall distribution shows the ancient city as the center, and the number of elements on the west side is much larger than that on the east side (Figure 4-11). In addition, from the perspective of administrative divisions, Gusu district has the largest amount of cultural heritage, followed by Wuzhong district, then Xiangcheng district and Gaoxin district, and the industrial park has the least. Excluding the ancient urban area in the center of the city, the industrial park, as the district with the highest built-up area, has the least amount of cultural heritage distributed, while other districts also show the pattern of the amount of cultural heritage in the built-up area being less than that in the unbuilt-up area.





**Figure 4-11. Distribution of heritages in Suzhou.**

After 2000 years, the overall urban landscape is nearly unchanged in the ancient city of Suzhou. Although cultural heritage from all periods has been preserved, relatively little urban heritage has survived from prior to the Song Dynasty due to the changing times. Within the ancient city of Suzhou, a large number of early urban spaces and buildings have been gradually replaced with Ming and Qing dynasties and ROC forms in a natural process of succession as a result of population growth, living needs, and changes in social attitudes during the various periods. Outside the ancient city, the built-up area of Suzhou was small until 1987 and was gathered within the present Gusu district, so much of the Song and pre-Song cultural heritage remained, mainly in the area around the mountains and waters. Inside the historic town, the situation

is similar to that in the ancient city of Suzhou.

The distribution of intangible cultural heritage is mainly due to the fact that the bearers of intangible heritage are people rather than fixed objects, and the current development of urbanization makes the built-up areas more convenient for the bearers' lives. At the same time, the high concentration of ICH in the ancient city is due to the richness of the traditional space on the one hand. On the other hand, the fact that ICH is often seen as part of the tourism industry in the ancient city, the large amount of traditional space provided by the ancient city in line with the development of tourism makes these ICHs exist as commercial space in the tourism economy.

#### **4.5 Conclusions**

In this chapter, the following conclusions are drawn from the study of the distribution of heritage within Suzhou.

1) The distribution of Suzhou's cultural relics is concentrated in specific areas and at specific times and is not evenly distributed, which becomes a particularly serious problem in certain areas.

2) Most of the heritage is concentrated in built-up areas as urban heritage, but there are still a few in unbuilt-up areas, especially in the southwestern edge of the administrative range.

3) Suzhou's urban heritage and its surrounding urban fabric form unique urban features and problems (Table 4-23):

**Table 4-23. The features and problems of Suzhou's urban heritages**

Tangible heritage	
Features	Problems
<p><b>Bridges:</b></p> <ol style="list-style-type: none"> <li>1. Do not exist a single element</li> <li>2. Have a cross landscape structure</li> <li>3. Does not serve as the main stopping space.</li> </ol> <p><b>Buildings:</b></p> <ol style="list-style-type: none"> <li>1. The parallel pattern of street and river is the more important elements.</li> </ol> <p><b>Relics:</b></p> <ol style="list-style-type: none"> <li>1. Not highly related to the characteristics of its surroundings</li> <li>2. Their integration with the public space should be considered.</li> </ol>	<p><b>Buildings:</b></p> <ol style="list-style-type: none"> <li>1. Separated from the surrounding landscape.</li> </ol> <p><b>Relics:</b></p> <ol style="list-style-type: none"> <li>1. As a distant or independent element from the city, is also beginning to be affected by urbanization.</li> </ol>
Tangible heritage	
Features	Problems
<p><b>Skills:</b></p> <ol style="list-style-type: none"> <li>1. Have demand for direct display.</li> <li>2. Tend to choose traditional streets because of the direct viewing method.</li> <li>3. Be close to important urban landscape nodes.</li> </ol> <p><b>Arts:</b></p> <ol style="list-style-type: none"> <li>1. The high dependence of art on public space</li> <li>2. Tend to choose public space with traditional fabric in traditional area.</li> </ol> <p><b>Folklore:</b></p> <ol style="list-style-type: none"> <li>1. Has little to do with the binding of the traditional fabric.</li> </ol>	<p><b>Skills:</b></p> <ol style="list-style-type: none"> <li>1. Skills in the new urban area exist as productive elements and are not displayed to the residents.</li> </ol> <p><b>Arts:</b></p> <ol style="list-style-type: none"> <li>1. Traditional art exists only as an activity separately in new urban area.</li> </ol>

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**Chapter 5**  
**Discussion**

## **5.1 Introduction**

### **5.1.1. Background**

Chapter 3 points out the division of Suzhou and the features of the urban fabric, while Chapter 4 further analyzes the urban heritage based on these contents, and this chapter is based on the results of Chapters 3 and 4 to discuss.

### **5.1.2. Objectives**

The purpose of this chapter is to discuss the results of the previous two chapters, identify the deep-seated reasons for these results, and examine these results to conclude an urban fabric model that can be beneficial to the urban development of Suzhou.

### **5.1.3. Research Method**

This chapter discusses the problems and HUL-based solutions from a macro perspective, and based on this broad framework, proposes improvement solutions for the micro part by combining the problems and features derived from the previous two chapters.

## **5.2 Problems of Urban Planning Reflected by Changes in Urban Landscape**

It is undeniable that Suzhou's urban planning began at a fairly early stage. The above mentioned a number of urban plans from 1959 to 2011. These plans clearly show the tendency of urban construction in different periods. Although they all consciously protect the local characteristics of Suzhou, almost all the protections are concentrated on the protection of the existing part of the ancient city. In the detailed rules of the "Suzhou Historical and Cultural City Protection Plan (2013–2030)", the idea of dividing Suzhou into "Old Suzhou", "New Suzhou", and "Foreign Suzhou" is still conveyed [1]. Although this strict



division has played a role in the conservation of the ancient city, when we look at the current urban landscape of Suzhou, it can be easily observed that although the ancient city and other areas are not spatially divided, this planning idea has actually caused the separation of the ancient city from other areas of Suzhou in terms of the urban landscape. This has contributed to the transformation of the process of preserving the ancient city into a process of heterogeneity between the historic center (the ancient city) and its surroundings. In other words, the current urban plans only follow the trend of urban development; they do optimize the space within the ancient city, but, for the surrounding urban areas, they still build on the previous imbalanced urban patterns and economic-focused development approaches.

In the face of the incongruity within the ancient city, as well as the incongruity between the ancient city and other regions, we should recognize that the sense of place as a human interaction with space and the resulting emotional attachment to place is essentially a special relationship between people and place after the transformation of cultural and social characteristics [2,3]. The sense of place is also inseparable from personal identity, and the physical and symbolic characteristics of place are embodied in the sense of personal identity as a sense of place [4]. Identification with place determines sentimental attachment to landscape and cultural values of an area, and motivates preservation and promotion of such values. A strong local identity favors the growth of sustainable development models, because sustainable development tends to be based on the promotion of local specificities [5]. Suzhou as a whole should form a similar sense of place identity in the daily life of its inhabitants, instead of forming different place identities based on the concept of “districts” and evolving genius loci that are separate from each other. The current plan focuses on the protection of the ancient city; advocates a “Suzhou-style life”, which is a traditional, slow-paced lifestyle; and emphasizes

the tourism and service industry as the mainstay industries. However, by default, other post-development areas have been built in a “new” way, and, in the process of promoting openness and tolerance, the problem of urban homogenization has been ignored, especially in industrial parks. Such a situation leads to the possibility that the place identity of Suzhou’s residents faces further separation as the plan advances. In essence, this is a disconnect between the current urban planning, the site, and its residents; it also demonstrates the current urban planning’s disregard for the historical continuity of the overall city.

As an urban heritage and unique public space that carries the living habits of the residents in the ancient city. The daily life of the residents in Suzhou gardens is highly local and can shape a strong place identity. The conservation and development of this public space will be an important prerequisite for sustainable development. As Manenti argues that “sustainability, that is the transmitted of architectural and cultural heritage of the area to new generations, can also be interpreted as conservation, restoration and creation of places which are symbolic and representative of common life. And if human experience is necessarily relational, the places of relationship in which you can interpret the values of coexistence can only be a legacy; preserved, improved and transmitted” [6]. Goldsteen and Elliot (1994) assert that “the word identity has distinct advantages in terms of open spaces, streets, and spaces between buildings because it encompasses the notion of a specific location and the unique relationship between the place and its context” [7]. However, Suzhou traditional gardens, as an urban heritage full of regional aesthetic values, have not developed outside the ancient city while assuming the role of public space for its residents to further shape a similar sense of place identity to ensure the sustainable development of Suzhou. Residents of the newly built-up areas are exposed to the urban spaces based more on modernist urban parks or

commercial spaces (Figure 5-1), which creates a lack of regional cultural values and traditional aesthetics, and this reality together with macro planning makes the urban landscape feature of Suzhou more fragile and sensitive.

**Figure 5-1. The traditional garden (left) and modern park (right) in Suzhou.**



### 5.3 The Dilemma of Suzhou's Urban Heritages

There is no doubt that the current scope and continuity of the conservation in the ancient city of Suzhou are worthy of recognition. However, the distribution of urban and other heritage also shows that even in a city with a long history and distinctive regional identity like Suzhou, there is a mismatch between the traditional trajectory of cultural development and the rapid urbanization process. This mismatch shows that the urban heritage that makes up the urban context is still spatially uneven and fragmented: the urban heritage in the ancient city is highly concentrated and covers almost the entire area, while the urban heritage in the new district is very small and far from sufficient to cover the built-up area, especially in the Industrial Park. Outside the built-up areas, a large amount of cultural heritage is distributed in places far from the urban areas, far from the daily life of the urban residents.

The reasons for this dilemma are multiple. First of all, the traditional development of Suzhou was based on the water trade of the Beijing-Hangzhou Grand Canal, which brought prosperity to the ancient city and its western side and determined the tendency of the tangible heritage to be distributed

westward. However, the Industrial Park and Gaoxin District are newly built urban areas based on economic benefits, and their establishment and expansion rely on modern logistics and railroad systems instead of traditional water transportation. Therefore, the space outside the ancient city is more favorable for the construction of large factories. In particular, the large amount of farmland and wasteland remaining on the east side of the ancient city after 2000 was considered most favorable for the construction of supporting infrastructure to receive supporting industries and related raw materials from Shanghai [8]. Secondly, due to the influence of planning, the Industrial Park is particularly special. As a new urban area that has absorbed a large number of out-migrants from the ancient city and foreigners, this district has been rapidly transformed from a simple, high-tech industrial zone to a highly modernized urban area that has complete urban functions and infrastructure [9]. The industrial expansion and the homogeneity of the original land properties in these 20 years have meant that the industrial park lacks the support of the tangible cultural elements that have been layered for thousands of years in the ancient city in the process of developing sound urban functions. The lack of local characteristics brought about by modernism has contributed to the dominant style of the area; alternatively, it can be said that the problem of a homogenized urban landscape has arisen. On the other hand, heritage is often confined to historical environments, such as historic centers, historic towns, and archaeological sites [10]. In these areas, urban heritage is continuous in the temporal dimension through layering. In contrast, the current identification of heritage objects (i.e., cultural relic protection units) is based on static temporal and spatial spheres [11]. Faced with a wider urban space and a wider range of cultural elements, heritage in the traditional sense can neither be discovered and identified in the built environment in new urban areas nor can it act directly in new urban areas to shape the character of the urban landscape and

continue the context in a traditional form across geographical limitations. The dilemma that the park now faces comes from the serious lack of urban heritage in this urban area, which makes the further development of the new urban area and its integration with the old one a huge obstacle.

The emergence of these problems in newly built-up areas such as the Industrial Parks is essentially a symptom of the disintegration of residents' connection to the city and the loss of urban policy makers' perception of urban landscape features due to the pursuit of economic efficiency in the rapid development of Chinese cities. Even in the currently publicized urban plan for 2021–2035, no further effective solutions have been proposed. Although the plan proposes a holistic approach to work and an expanded interpretation of the historical deposits that form the urban heritage (e.g., the newly delineated Wusa Road historical district and the Guantaiwei River-Tiancizhuang historical district, which are mainly characterized by the ROC), the policy planning still emphasizes only macroscale landscape corridors and landscape views, and the protection and continuation remain focused on the existing historical towns and city [12], without optimizing the modern living space that has lost its regional features.

As a modern urban area rising from the ground, the Industrial Park is faced with the spread and solidification of this functionally-oriented urban space, and the residents as individuals are unable to develop a sense of community that can unite these young communities. At the same time, the Industrial Park is gaining importance as the new city center of Suzhou, and a weak community will undoubtedly hinder the further development of the city. It can be argued that if the Industrial Park, as a part of Suzhou, becomes an island of landscape and spiritual space separate from the urban context of Suzhou, this will do great damage to the sustainable development of Suzhou at both the community level and the planning level.

In addition to new urban areas, historic urban areas also face problems. Admittedly, according to the results, it can be found that these areas have ample layers of history, which provides the material basis for urban heritage and points to a correlation between traditional space and urban heritage. But in terms of the continuity of context, the material basis in the ancient city is highly tied to tourism instead of daily living space and the heritage conservation model dominated by the official discourse does not identify the heritage or context elements within historic urban areas on a larger time scale. Currently, there is only one officially recognized post-1949 tangible heritage site in the unbuilt-up area of Xiangcheng District, while the rest are pre-1949 heritage sites. Urban sustainability requires planners to respect the dynamic process of the city and create high-quality tangible or intangible constructions that are in line with the urban context of the present [13]. However, the absence of post-1949 urban heritage will result in a break in the cultural continuum, which will push the heritage back into a static state of time and space. At the same time, this means the absence of contemporary regional landscape standards, which will make the continuation of Suzhou's context more difficult in this modernist era.

Moreover, the shift in the function of the ancient city to tourism has left Suzhou's ICH in a state of rigidity, and as Eichler points out, tourism essentially determines how ICH is represented to the outside world outside the perspective of the cultural bearers, and the high degree of entanglement of ICH with tourism hinders communities from determining the meaning of ICH and their right to cultural self-determination [14]. Coupled with the current concentration of Suzhou's ICH in the historic city district and the widespread distribution of residential areas and out-migrating residents of the ancient city in the new city district, Suzhou's ICH has been cut off from the widest community. In the Law on Intangible Cultural Heritage, authenticity is

officially interpreted as 'maintaining what it was like in the past when transmitting and disseminating this ICH, as well as respecting its historical original', otherwise, 'variation and distortion to the historical original is detrimental to the ICH' [15]. This has led to a tendency for the preservation of ICH in China to fall into stasis as well. However, human subjectivity, as the key element of ICH, determines that ICH should be in the dynamic process of being constantly recreated by the practitioners or communities concerned [16]. The rigidity and separation from the community have put Suzhou's context in danger not only in the tangible heritage field under the appearance of "comprehensive conservation", but also in the field of ICH inheritance under threat.

Therefore, the integration of the historic center with modern urban areas requires a modification of the current policy perspective and the positioning of urban heritage in society, i.e., focusing on the connection between urban heritage (especially the in-tangible cultural heritage) and the daily living space of locals, rather than treating them as "antiques" detached from the community.

#### **5.4 Macroscopic Implications from the HUL Approach**

To solve the above dilemma, HUL's approach proposes a brand new perspective: a city should contain a broader urban context, which includes not only historic areas but also contemporary areas and intangible parts of the built environment [17]. In other words, through HUL's landscape approach, Suzhou's heritage conservation approach will enter into a dynamic mode and further help us to understand urban heritage by considering the city as a holistic environment, no longer limiting the concept of urban heritage to the historic district, and the continuation of Suzhou's urban context within the wider built-up area will further develop from the transmission of tangible forms to a renewal that incorporates intangible heritage.

HUL regards urban heritage as the engine for the development of the historic environment and the entire urban space, which requires the preservation of this urban heritage beyond the material achievements of the particular era and socio-cultural context, and thus integrates the possibilities of creating future sustainability, which must focus on the intangible and spiritual components [18–20]. The current urban planning in Suzhou also requires HUL's intervention to achieve sustainable development. Additionally, as a pilot city for HUL in China, more detailed rules should be applied to urban planning to deal with the problems caused by rapid urbanization.

Areas built in different periods have different landscape features that should be noted and coordinated to create a more coherent experience of the area as a whole, especially between the industrial park and the ancient city in the case of Suzhou. This experience not only concerns architectural forms and the urban landscape, but also intangible aspects. For now, in the ancient city of Suzhou, not only has the spatial atmosphere formed by the water system and the streets over thousands of years gradually become an island in the urban landscape, but the way of life around the small bridges and flowing water has also fallen into this dilemma. Although material reproduction of these spaces is not advocated, the Suzhou-style artistic spatial conception and value layering should be widely accepted in the city and would allow people to form similar place attachments, which is an important factor that would ensure the continuity of the city. For this reason, the continuity and unity of different districts in Suzhou should be considered from a micro perspective in the planning process so as to ensure the individual residents will have a correct perception of Suzhou's features and develop the place attachment at a realistic level.

In this perspective, to achieve the continuity of the urban context we need first to recognize that in the relationship between heritage and people, the



attachment of the individual to a tangible place will help the individual to acquire a sense of belonging and purpose to that place, while the merging of the individual personality with the place creates a local identity, which in turn gives meaning to the life of that community [21]. Therefore, the value of traditional landscape elements and traditional spatial scales brought by tangible heritage cannot be ignored, but the form of its existence cannot fall into formalized reproduction. For this reason, considering the Industrial Park and other newly built-up areas where tangible heritage is scarce, the spread of intangible culture becomes even more important. The new urban areas, as areas that have received a large number of out-migrants from the ancient city, have a basis for community identification with the urban context of Suzhou.

Mairi's study of the Outer Hebrides demonstrates a community-based model that involves the local community in the specifics of intangible culture and in doing so enables residents to better understand the meaning of intangible heritage and its associated landscape context [22]. Abu Bakar's study of the Melaka region also points out that in order to ensure the transmission, maintenance, and recreation of intangible culture the community participation approach is crucial [23]. In 2011, UNESCO, in its review of intangible heritage projects in urgent need of safeguarding, also noted that "intangible heritage" always changes over time, and therefore living forms, re-creation and continuous development are the norm for intangible heritage [24]. In 2015, UNESCO articulated in Ethical Principles for Safeguarding ICH that 'authenticity and exclusivity should not constitute concerns and obstacles in the safeguarding of ICH [25]. Howett also points out that the overemphasis on physical structures that prove their historical value will change their effect on communities in non-core areas [26]. This is to say that while the material basis is the origin of the ICH, further spreading in non-core areas can no longer be overly dependent on it.

Modern living space is the most intuitive form for people to understand the city, Lynch in another of his works, *Managing the Sense of an Area*, emphasizes the value of individual perceptions of specific places in the city [27]. Wellman, on the other hand, argues that the large and complex population and fast-paced modern life of modern cities have greatly weakened intersocietal ties, and this weakening of social relationships has further led to the loss of a sense of community [28]. Good urban space and urban context can facilitate social relationships and mitigate the effects of weak social ties on community attachments [29]. So, the resulting good community is the key to urban development and helps cities to better resist threats from economic, social, and natural sources [30]. As an important part of the urban context, intangible heritage is not strictly limited by geographic space, which makes it possible to implant a wider range of heritage sites in new urban areas. The provision of more nodes in new urban areas for the presence of intangible heritage units or inheritors will help alleviate the “desolation” of heritage in these places and help Suzhou’s new urban areas develop soft power that matches the material base, thus finding a way out of the homogeneous landscape dilemma that is consistent with Suzhou's regional characteristics and achieving regional integrity. At the same time, the popularization and re-creation of intangible heritage into the community will help people who have moved out of traditional urban areas to recall this common memory to achieve a return to a sense of community. This means that turning the sight to people in the newly built-up areas will help those areas formed in a short time to return to the urban context of Suzhou. In addition, bringing ICH into these newly built-up areas will prevent the misappropriations or undermining of their rights to cultural heritage practice and form a tool of conflict resolution and prevention, eventually to socially restore society [31].

Specifically, a universal system should be established in newly built-up areas.

Such a system should aim to achieve the goal of community interaction or community participation in urban renewal, and needs to include the following features:

1). these spaces should be as traditional in scale, walkable and multi-use as possible to ensure that traditional forms of daily community activities can occur

2). one of the core functions of these multi-use spaces is to provide a space for ICH and to integrate the educational and training institutions so that ICH will no longer be tied to tourism and will increase its contact with the communities.

3). the formation of these spaces should ensure the community voice based on the integration of traditional landscape elements

4). 4. establishing a supervisory committee composed of residents and managers to ensure the long-term interests of the community and to enable the selection of ICH projects appropriate to the local community

In response to the rapid formation of urban space, HUL's perspective also allows us to see the need for a sustainable balance between the urban and natural environments, between the needs of present and future generations and the legacy from the past [17]. Urban space built on arable farmland is actually a process of blind urban sprawl annexing agricultural landscapes. As a cultural landscape, the polder fields and other farmland in Suzhou show the interaction between agricultural production and regional culture, and the disappearance of food and agriculture as part of the local landscape is also the disappearance of a portion of the context. Both urban and agricultural landscapes are important components of the urban context and in HUL's perspective, the city is an extension of the cultural landscape [32]. There is no assignment of superiority or inferiority to agriculture or the city; they are simply seen as different presentations of the human transformation of nature—they are both

ways that help us to understand the production and life of the region.

Therefore, the redesignation of traditional agricultural landscape areas in new urban areas will help agriculture move from a primary industry to an urban landscape that helps urban residents understand the context of traditional areas, and will also provide a basis for intangible heritage in newly built urban areas. Specifically, the traditional agricultural space should be integrated with the multi-use space proposed above as part of the spatial elements to mitigate the full spread of modernist style in the new urban areas. Establish a management mechanism for land-scape-maintaining agricultural land and work with the above-mentioned supervisory committee to determine the specific area of agricultural space within the multi-use space.

In addition, the Suzhou Landscape Bureau has shown consistency with the HUL approach in the identification of the Suzhou traditional Garden List. Among the 84 gardens within the administrative scope, 20 gardens combine tradition and modernity created by modern craftsmen or designers, 13 of which are located in built-up areas of Suzhou. This undoubtedly alludes to the concept of a border urban context in terms of traditional gardens and architecture. Particularly noteworthy is the Suzhou Museum, which has become popular due to I.M. Pei's original design and whose current popularity among the public has made it one of the most culturally distinctive urban landmarks in Suzhou. This design attempt is a successful combination of traditional Suzhou landscape and modernism [33]. Interestingly, Slavova's research in Bulgaria also shows examples of the creation of new heritage and intangible heritage elements that enhance community life through civic acts [34]. Also as Tweed mentions in his article "in this postmodern era, where citizens play a greater role in determining what is cultural, elitism in designating heritage will no longer be taken for granted" [35]. As Spennemann proposed that cultural values held by a community are mutable qualities, and

heritage items listed in local government heritage registers are canonized in their value as heritage, although these values were attributed by a past generation, may no longer reflect the perceptions of the present [36]. The selection of the Suzhou traditional Garden List (which is an honorary designation and a regulatory mechanism—unlike cultural relic protection units, which have legal significance) thus points to the possibility that contemporary elements in line with Suzhou's context can be screened and promoted through a joint official and civic effort.

Therefore, by establishing a sample bank or selection mechanism in which residents can participate throughout the process, more objects should be selected within a wider range of urban spaces under the guidance of this approach to select a heritage that is in line with contemporary values. In addition, a summary of features based on such a mechanism will serve as a reference for the renewal in other areas.

In short, in Suzhou, a city that has done a still excellent job of urban preservation, this universal system will be able to gain enough support from the historic center, the heritage, and the locals to provide a framework to guide the continuation of Suzhou's context. This is the basis for Suzhou's capability to be the first to try this landscape approach. This system is summarized below (Figure 5-2).

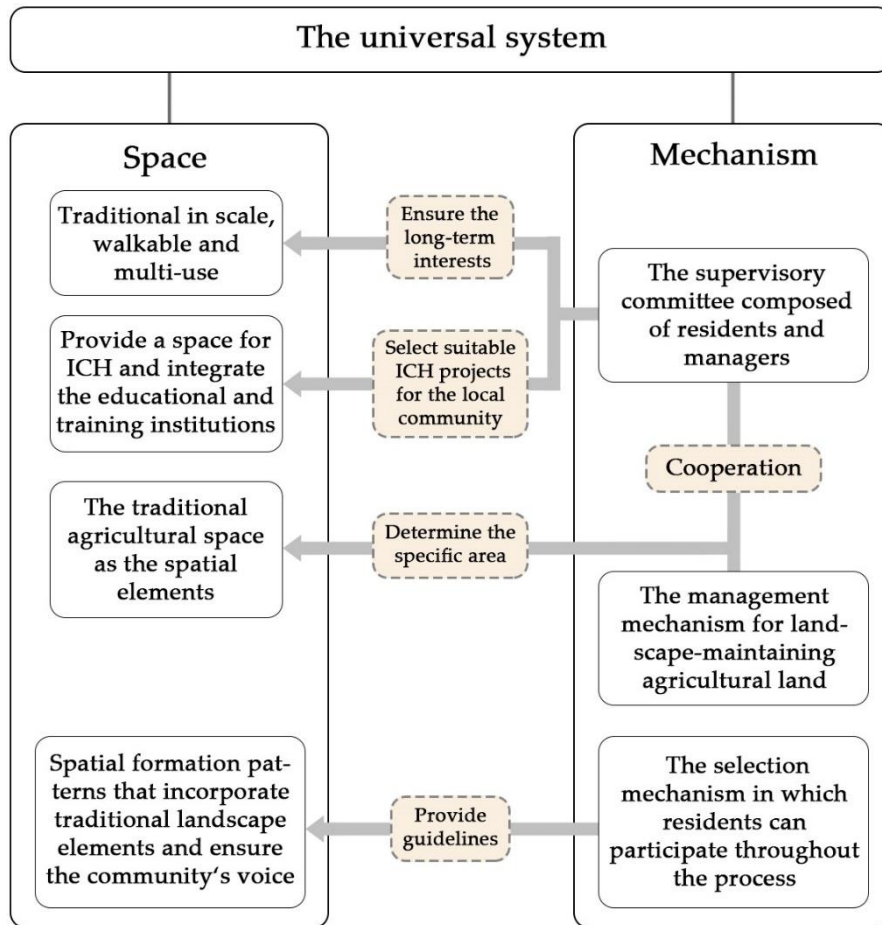


Figure 5-2 Mechanisms and principles of the universal system.

### 5.5 Spatial Strategies

Since heritage authenticity is changing, the study in Chapter 4 summarizes the embodiment of authenticity in the present. And different areas embody different types of authenticity, some of which are worth learning from and some of which are worth reflecting on. These provide guidelines for the specific renewal of the space.

### **5.5.1. The Tangible Heritage**

#### **1) Bridges**

The distribution of bridges in the city of Suzhou and their association with the surrounding fabric is mainly due to the process of urbanization requiring urban infrastructure to conform to the needs of urban economic construction, causing the ancient city to undergo massive lane reconstruction, causing a large number of bridges to be destroyed and disappear. The existing bridge surroundings are dominated by traditional fabrics, and also because these areas are not located on major urban transportation routes, but are traditionally pedestrianized living areas. This rather suggests the relationship between the space where the bridge is located and Suzhou's traditional pedestrian space. Especially in the post-1949 areas, the value of the bridge is particularly evident as an area lacking traditional landscape and walking. At the same time, although the bridge itself does not serve as a stopping space, its high association with the cross structure and the varying widths of Suzhou streets offer the possibility to implant traditional landscape elements in the community by relying on the bridge (Table 5-1).

**Table 5-1. Suggestions in different types of areas (Bridges)**

	<b>Pre-1949 areas</b>	<b>Post-1949 areas</b>
<b>With intact traditional fabric around</b>	Combine with the community center and other activity spaces to form a community space around the bridge and strengthen the value of the bridge's "cross" landscape structure	Combine with the community center and other activity spaces to form a community space around the bridge and strengthen the value of the bridge's "cross" landscape structure
<b>With mixed fabric around</b>	As a community space around the bridge, the spatial renewal process restores the traditional fabric and traditional road scale of the space involved in the "cross" structure, increases walkability, and reduces the interference of vehicles	As a community space around the bridge, the spatial renewal process restores the traditional fabric and traditional road scale of the space involved in the "cross" structure, increases walkability, and reduces the interference of vehicles
<b>With intact modern fabric around</b>	Create small multi-purpose community spaces at the traditional spatial scale under the "cross" structure to solve the problem of overly homogeneous functions in the modern fabric area	Increase the coverage of bridges and traditional scale water systems to reduce the absence of traditional elements in these areas; create small multi-purpose community spaces at the traditional spatial scale under the "cross" structure to solve the problem of overly homogeneous functions in the modern fabric area

## 2) Architecture

The results from Chapter 4 show that while the percentage of parallel pattern of water and streets is not high. However, the traditional scale roads and water-street pattern are highly correlated, because the authenticity embodied in the pre-1949 area is no longer the original form due to the urban overlay in each period, but the style of Suzhou after the large reduction of tributaries, so the proportion of buildings facing the water is smaller. In addition, the high degree of correlation points to a similar structural relevance to the bridge, i.e., the buildings are considered in the context of the landscape and should be treated together with the parallel water and street pattern, which also points to the importance of the waterway in reflecting of Suzhou's landscape features and contextual continuity in communities.

The problems encountered in the post-49 area arise from the neglect of the



urban landscape by urbanization as mentioned above, and the ignorance of the micro-urban landscape strategies by macro-planning, which is the destruction of the traditional structure. Although HUL does not require the restoration of the past, the management of change, or the modest representation of the past, that is, it requires the adaptation of the traditional structure to the modern space. In other words, in today's society, the traditional architectural heritage provides the basis for the selection mechanism and points out its possible ways as a new type of space: the combination of traditional high-density buildings can enclose traditional scale streets and provide a diversity of storefronts for the community, while building complexes can provide public spaces with more traditional artistic values beyond the riverfront space and increase greenery.

In addition, the high relationship between modern-scale rivers and as a public space (0.608) comes from the fact that building complexes in modern urban areas are associated with urban green areas, which are more often adjacent to modern urban waterways, and the lack of traditional scale river in modern urban areas. This points out that when considering the use of buildings as elements of a multi-use system, it should not only pay attention to the parallel pattern of streets and water and the "cross" landscape structures but also take advantage of the existing large rivers and try to provide a basis for the construction of traditional scale water systems in community's multi-use spaces by relying on the existing environment (Table 5-2).

Since architecture is the main element of the urban composition, it and the "cross" structure can form the most important material carrying in the multi-purpose space, so the suggestions will be combined with the contents of the bridge section.

**Table 5-2. Suggestions in different types of areas (Architecture)**

	<b>Pre-1949 areas</b>	<b>Post-1949 areas</b>
<b>With intact traditional fabric around</b>	Preserve the original fabric; increase the diversity of the buildings without destroying them, especially around large building complexes, and provide community public space with the "cross" structure.	Preserve the original fabric; increase the diversity of the buildings without destroying them, especially around large building complexes, and provide community public space with the "cross" structure.
<b>With mixed fabric around</b>	Preserve the existing traditional fabric, focus on showing the traditional scale	Preserve the existing traditional fabric, focus on showing the traditional scale, and try to be close to the river to create a parallel pattern of rivers and streets to reflect the value of the water context.
<b>With intact modern fabric around</b>	Provide traditional scale space for multi-use community space to solve the problem of overly homogeneous functions in modern fabric areas; try to be close to the river to create the "cross" landscape structure and the parallel pattern of rivers and streets	Provide traditional scale space for multi-use community space to solve the problem of overly homogeneous functions in modern fabric areas; provide matching space for ICHs and opportunities for them to contact with the community; combine large public space with gardens and other traditional building complex forms; try to be close to the river to create the "cross" landscape structure and the parallel pattern of rivers and streets

### 3) Relics and Tombs

The low relevance of the relics to the surrounding urban fabric is mainly due to the independence of the relic itself, which is mainly located near the mountains, and most of these areas are unbuilt-up spaces outside the city of Suzhou in the past, which are often reflections of a single specific person or a specific historical fragment, and therefore are not highly dependent on the surrounding.

These relics originally existed as heritage elements far from the city, but the current push for urbanization has brought some of them into the built-up area and highly associated them with the modern fabric. Although this allows them to exert their cultural value, it reverses the relationship between the original space in which the relics are located and the built-up area. This means that the

process of layering in the new urban area is greatly affected, with the original natural and agricultural environment being completely covered, which also leads to the destruction of the layering around the heritage. This heritage could have better served as a boundary reminder of the urban development process and existed as an important node for the urban green network. In fact, the preservation of this original environment would have been an important engine for the spatial diversity and the continuation of the urban context (Table 5-3).

Since the relics do not change with the layering, suggestions from them can only be based on how to strengthen the connection between the universal system and the existing heritage in the newly built-up areas. Therefore, this section only makes recommendations for areas in the post-1949 built-up area where the surrounding modern fabric is intact (with greater potential and space for renovation).

**Table 5-3. Suggestions in different types of areas (Relics)**

	<b>Pre-1949 areas</b>	<b>Post-1949 areas</b>
<b>With intact traditional fabric around</b>	/	/
<b>With mixed fabric around</b>	/	/
<b>With intact modern fabric around</b>	/	The agricultural elements in the multi-use space are combined with other green spaces in the newly built-up areas to form a walkable system able to connect to the public spaces or urban green spaces formed around the heritage, creating further awareness of the layers of Suzhou's context

## 5.5.2. The Intangible Heritage

### 1) The Traditional Skills

The traditional space of the community, shaped by the “cross” landscape structure and traditional architecture and agricultural space, etc., can provide the material space to support traditional skills in newly built-up areas. The high proportion stems that most intangible cultural heritage is located in areas with complex urban structures, where the high density of traditional and modern fabric can provide a high level of urban diversity with sufficient human traffic, and where traditional businesses associated with traditional skills have a strong need for direct external display. Places with complex building types, such as Guanqian Street, which is often the commercial core of ancient urban areas, can provide such conditions, yet this advantage is lost in the residential areas of newly built-up areas. This provides an idea of how to behave in the community: to be a factor in attracting residents to multi-use spaces and to provide traditional forms of products to increase employment and achieve the continuity of context at the same time.

Besides, the tendency of traditional skills to exist in the streets of the traditional fabric also stems from the mismatch between the intangible cultural heritage itself and the fully modernized commercial space, this mismatch becomes a noteworthy problem. This means that traditional skills still exist as a retrospective of past cultures. They are not integrated with current modern life that meets the needs of modern people but is merely an extension of tourism. Related researches show that sustainable urban development does not only emphasize the connection between heritage conservation and the tourism economy but also requires the connection between heritage conservation and lifestyle (continuity of context). This inevitably requires integrating traditional skills into the modern urban space for the relationship with the locals instead of sticking to the "tourist attractions" in the traditional urban areas. The

traditional space of the community, shaped by the cross structure and traditional architecture and agricultural space, etc., can provide the material space to support traditional skills in newly built-up areas.

In post-1949 areas, the high percentage of the modern fabric also stems from the neglect of urban context in the process of drastic urbanization. The precipitous fall in the number of traditional spaces has separated a large amount of space for the placement of intangible heritage from itself. At the same time, the high percentage of companies and the low percentage of public spaces in the location of traditional skills points out the way for it in the new urban area - as a productive element rather than a cultural element for the public. This is a serious problem, as the new urban area is the largest but the most heritage-deficient space, if the traditional skills cannot be further developed as a cultural element but only as a productive element, it will inevitably lead to the further disappearance of traditional culture in the newly built-up areas and then form a cultural fault. In modern urban planning, production space is far away from residential or living space, so it is extremely necessary to express traditional skills as an important contextual element in the communities of newly built-up areas, which will help to relate traditional culture to people's daily life. To meet this requirement in new communities, traditional skills should be placed in locations where there is a high concentration of community activity and where there is space of appropriate scale for display (Table 5-4).

**Table 5-4. Suggestions in different types of areas (Traditional Skills)**

Features of pre-1949 areas	Optimization suggestions for the post-1949 areas
Need for people flow to support display; need for traditional fabric spaces; disconnected from daily life and trapped in a tourism attraction	Located near the dense activity space based on the "cross" landscape structure; traditional scale roads and surrounding fabrics; provide traditional and daily products and partial commercial attributes; the transformation from productive elements to living elements, reducing spatial closure

## 2) The Traditional Arts

In the pre-1949 areas, the high percentage of traditional and public spaces stems mainly from the degraded role of traditional art in modern spaces. They have changed from originally universal arts to relative niche and aging-appropriate art forms. On the one hand, public spaces in traditional urban areas gather residents of higher age groups, thereby providing a suitable audience for the expression of traditional arts. On the other hand, traditional spaces are the basis for traditional arts' birth and performance. Thus, the association between traditional arts and traditional spaces is further strengthened in a niche situation. Traditionally, art forms such as Kunqu and Pingtan, often require the space to provide the right atmosphere and a wealth of related elements to support their thematic activity. Therefore, this requires that traditional arts cannot be implanted with independent elements like themselves alone when entering a community, but rather remain relevant to other spatial types.

In the post-1949 areas, Traditional arts as an ICH separated from the surrounding space is similar to traditional skills in the post-1949 areas: it exists for a more singular purpose, i.e., as a cultural carrying point under elitism. Although it can be said that in the newly built-up areas, traditional arts have not become a productive element that is completely detached from daily life as

the case with the skills, the urban space in which it is located does not present a clear external display as in the pre-49 area, which will lead to the unsustainability. If this situation continues, it will also lead to a huge obstacle to the transmission of the urban context. It is necessary to form a structural traditional art space and combine it with public space as a kind of daily life space for the residents in the newly built-up areas, especially to shape children and young people's recognition of traditional art.

According to the previous analysis, at present in the ancient city, gardens are indeed the performance space for many traditional arts, but as the public space the openness of gardens is insufficient in modern urban areas, at the same time there is a certain contradiction between the community multi-use space and the scale of gardens. Therefore, the implantation of traditional arts should be combined with small traditional buildings (traditional high-density fabric) or traditional garden elements rather than large complexes such as gardens (Table 5-5).

**Table 5-5. Suggestions in different types of areas (Traditional Arts)**

<b>Features of pre-1949 areas</b>	<b>Optimization suggestions for the post-1949 areas</b>
Demand for public space; demand for traditional diversity space; niche and older audience	Close to public space; combine with community-level commercial space to form a complete activity chain; provide aging-appropriate space; increase the acceptance of children and young people by way of being atmosphere elements

### **3) The Folklore**

In the pre-1949 areas, the low correlation between folklore and traditional fabric mainly stems from the fact that the transmission of folklore or folk

literature is often based on oral or family-based transmission without the need for specific types of space as support, and only some forms of folklore such as temple fairs, which require specific historical space, have a clear need for a site. Therefore, for folklore in the pre-49 area, attention should be paid to its interactivity and participation with community residents, rather than simply being close to historical areas or commercial spaces for external display, to prevent the disconnection between folklore and the daily lives of residents.

In the post-1949 area, it shows a wide concentration in non-historic areas and is less correlated with the traditional fabric also similar to the ones in pre-49 areas. In addition, the high percentage of public space is due to the presence of community-based centers or cultural centers as folklore carriers, which means that the structural elements of folklore combined with their features are highly correlated with the type of space associated with the community. This would be a great advantage in the process of transmission and would help communities without ICH to quickly establish cohesion and a sense of cultural inheritance (Table 5-6).

**Table 5-6. Suggestions in different types of areas (Folklore)**

Features of pre-1949 areas	Optimization suggestions for the post-1949 areas
Low demand for specific space types; highly relevant to the community itself; depend on residents' communication to inheritance.	To act as high accessibility space (fundamental bond between the residents and the multi-use space), attracting residents to further use the site to generate more activities and increase the possibility of access to other ICHs; prevent the folklore-bearing space from becoming a static cultural museum.

### 5.5.3. Summary of Strategies

Based on the above analysis and discussion, the following summary can be obtained (Table 5-7):



**Table 5-7. Spatial Strategies**

Tangible heritages	Intangible heritages
<ol style="list-style-type: none"> <li>1. Siting close to the river.</li> <li>2. Increase the coverage of the bridge and traditional-scale rivers.</li> <li>3. The multi-use community space should be small and traditional scale under the "cross" structure, with the riverfront space as the main form of public space, to solve the problem of overly homogeneous functions in the modern fabric areas.</li> <li>4. Provide matching architectural spaces for ICH and small businesses with opportunities to engage with the community.</li> <li>5. If there is a large public space, it can be combined with the traditional gardens or other traditional building complex forms.</li> <li>6. Agricultural and natural elements in the community should be combined with other green spaces in the newly built-up areas to form a walkable green network able to connect to the public spaces or urban green spaces formed around the heritage.</li> </ol>	<p style="text-align: center;">Traditional skills</p> <ol style="list-style-type: none"> <li>1. Located near the dense activity space based on the "cross" landscape structure.</li> <li>2. Traditional scale street and fabrics</li> <li>3. Provide traditional and daily products and partial commercial attributes.</li> <li>4. The transformation from productive elements to living elements, reducing spatial closure.</li> </ol> <p style="text-align: center;">Traditional arts</p> <ol style="list-style-type: none"> <li>1. Close to public space.</li> <li>2. Combine with commercial space at the community level to form a complete activity chain.</li> <li>3. Provide aging-appropriate space.</li> <li>4. Increase the acceptance of children and young people by way of being atmosphere elements.</li> </ol> <p style="text-align: center;">Folklore</p> <ol style="list-style-type: none"> <li>1. To act as high accessibility space, attracting residents to further use the multi-use space to generate more activities and increase the possibility of access to other ICHs.</li> <li>2. Prevent the folklore-bearing space from becoming a static cultural museum.</li> </ol>

## 5.6 Conclusion

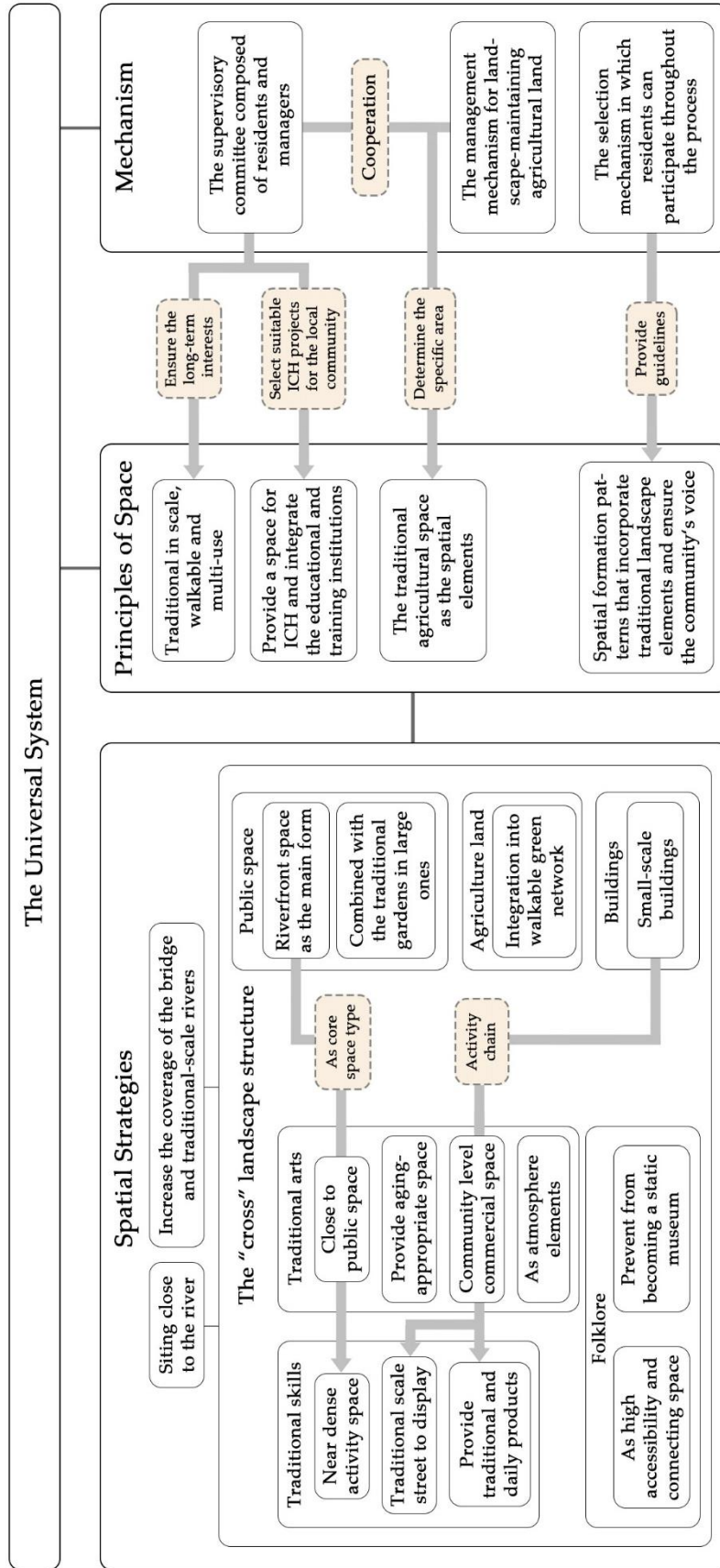
Based on the analysis of the HUL method and the discussion of its value for sustainable urban development, this chapter concludes the following.

- 1) The current fragmentation of Suzhou's urban landscape will have a great impact on residents' sense of local identity and community cohesion.
- 2) Resident participation is important for the continuity of urban context and

the harmony of urban landscape.

3) The intangible part of the urban cultural heritage can bring the possibility of the continuation of the urban culture in newly built-up areas.

4) The universal systems with multi-use space that serves the community will provide solutions to problems from contextual continuity and landscape disconnection, this system consists of mechanisms, principles of space, and spatial strategies, as follows (Figure 5-3):



**Figure 5-3. The universal system.**

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**Chapter 6**  
**Conclusions**

## 6.1 Overall Conclusions

This paper analyzes the urban development patterns and landscape features of Suzhou, a city with more than 2500 years of history, in different historical periods through HUL. Specifically, the time periods of pre-1949, 1949–1978, and 1978–present are included, and the study of the three time periods is used to point out the parts of Suzhou’s current urban planning strategy that deserve improvement. This analysis has revealed that the ancient city of Suzhou has suffered a great deal of damage in the last few decades, and, after realizing this problem, the conservation of the ancient city of Suzhou has been carried out quickly and achieved phased results. As a city that implemented urban planning earlier in China, the value of the ancient city has been recognized and protected, but the ancient city does not include the entirety of Suzhou: while the ancient city has been protected, opposition between the new city and the ancient city has begun to appear. The urban development model dominated by economic benefits has allowed Suzhou to distinguish between ancient city protection and urban development in the process of its rapid economic growth. This distinction has led to a fractured urban landscape, the increased fragility of urban heritage, and the erosion of traditional urban living spaces by modern architecture. The lack of research on how to further develop Suzhou traditional gardens, which have both aesthetic value and social functions, has led to further shrinkage of Suzhou’s local identity in newly built-up areas. These realities of rapid urbanization have resulted in a dramatic change in the city’s identity and thus poses a great threat to the continuity of the urban context and place identity.

The morphological approach shows the causes and consequences of the separation of Suzhou’s urban landscape during the development process and highlights that the need for tangible and intangible elements such as urban heritage and traditional lifestyles are no longer limited to the concept of mere



“conservation”. This also conveys the message that Suzhou, as a typical city in China in terms of economic development and urban heritage conservation, has a greater responsibility to explore a sustainable development path that other cities can follow to effectively preserve urban heritage without creating a dichotomy between the old and the new.

Based on the results of the morphological analysis, the study continues to analyze the spatial distribution of the elements of the context and the relevance of the urban environment around the heritage. The results shows us that the overall distribution is centered on the ancient city, and the tangible and intangible heritage of the city is mainly distributed on the west side, except for the high-density ancient city. The unbuilt-up areas on the west side are also more distributed, while the new city built within a short period has almost no urban heritage, and the rapid urbanization has annexed a large amount of agricultural land. The analysis of correlations points to the fact that both tangible and intangible heritage, as components of Suzhou's context, have special circumstances and features in different built-up areas.

This requires interpreting the geographical elements and material and immaterial components of Suzhou from the perspective of HUL and connecting them to the city's economic, political, cultural, and natural development processes. The exploration of the current urban landscape features and the residents' place attachment should also form the core of urban planning, which will help Suzhou find a way to balance development and conservation in accordance with the needs of all parties. Besides, HUL approach also suggests a solution that integrates contemporary built-up areas with intangible heritage by expanding the scope of context, which requires planners to reshape the urban landscape of the new urban areas of Suzhou based on the value of intangible heritage in the community, as a basis for reintegrating the regional culture with the context of Suzhou.

Planners should pay attention to the problem of over-urbanization. Arable land is not just a place for food production, and a single understanding and marginalization of its function will lead to the disappearance of the traditional cultural foundation. Fortunately, HUL's view on the need to strike a balance between the natural and built environment provides a solution to the current blind expansion of cities, and sows the seeds for the continuation of the urban context.

In addition, urban conservation and sustainable development cannot be achieved without the full participation of the public. The current planning process is often dominated by experts and government departments, which can lead to conflicts with the public during the implementation of planning. However, using the HUL method reasonably will help reduce these contradictions and can better promote the building of neighborhoods. Although a perfect solution may not be found, this method will certainly help us to find a better balance between the public and the policy makers, and provide a good basis for creating a city with outstanding urban features, cultural richness, and livability. These methods will sow the seeds for the continuation of the urban context.

To this end, we propose a universal system that contributes to the formation of a continuous context and urban landscape in Suzhou's communities. This system consists of two major parts: mechanism strategy and spatial strategy, in the hope that it can remedy the shortcomings of current planning at both macro and micro levels, and achieve sustainable development in Suzhou.

## **6.2 Future Research**

This study focuses on the possibility of sustainable development in Suzhou from the perspective of urban morphology, and therefore the suggestions made are based on the perspective of planar morphology and planar composition.

However, it is undeniable that the shaping of urban space and individual perceptions of the city also depends on the three-dimensional spatial perception. Thus, future research will focus on the three-dimensional spatial study of the space around the heritages, which should include elements such as the specific form, façade, and height of the building. Through the study of these elements, a more complete spatial optimization proposal will be explored to achieve a more specific sustainable development and contextual continuance plan for Suzhou.

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