



# Research on Landscape Planning and Design of Old Residential Area under the Background of Park City

## —Taking Xiaojiahe Community as an Example

Hongtao Ding

School of Architecture, Southwest Minzu University, Chengdu, China

Email: 1406062903@qq.com

**How to cite this paper:** Ding, H.T. (2022) Research on Landscape Planning and Design of Old Residential Area under the Background of Park City. *Open Access Library Journal*, 9: e9114.

<https://doi.org/10.4236/oalib.1109114>

**Received:** July 18, 2022

**Accepted:** August 19, 2022

**Published:** August 22, 2022

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### Abstract

Taking Chengdu Park City as the background, starting from the old community, relative to the old village park city big idea, the author has transformed from the old small local community landscape environment, Xiaojiahe community, for example, summarized the landscape, at the same time through on-the-spot investigation, analysis of induction of Xiaojiahe community problems, such as lack of barrier-free design of public space, landscape is not reasonable, unreasonable planning, lack of public space, etc.; Combined with the case of landscape planning and reconstruction of old residential buildings at home and abroad for comparative analysis, to explore the suitable scheme of Xiaojiahe community; Finally, this paper puts forward the landscape planning and design strategy of Chengdu Xiaojiahe community, reconstruction elements, key points and difficulties, and uses them to discuss the landscape planning and design strategy of Chengdu old community. The old residential areas are mainly located near the city center, and these land prices are very high in the city. At present, urban land resources are tight and construction costs are high. In 2021, all old houses will be disposed according to the “renovation of old houses” method, which includes an important public infrastructure. Therefore, the research on landscape planning and design of renovation of old residential areas is a topic of practical significance. The author takes Xiaojiahe Community in Wuhou District of Chengdu as an example to put forward his own opinions on landscape planning and design of renovation of old residential areas in Chengdu.

### Subject Areas

Urban Planning

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## Keywords

Park City, Old Community, Landscape Planning and Design, Xiaojiahe Community

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## 1. The Research Reviewed

The renewal process of old residential buildings in foreign countries is relatively early. After a long period of development in foreign countries, the renewal and reconstruction of residential areas are mainly divided into three modes: reconstruction, renovation and maintenance [1]. Developed countries also go through a long development process in the renewal and reconstruction of residential areas, with the basic experience of large-scale demolition and reconstruction, the construction of neighborhood units with equal emphasis on new construction and maintenance, and the community micro-renewal with emphasis on humanistic spirit [2]. In 1976, *Big Cities in Europe and their Changes—The Future of Their Old Towns* proposed that old settlements should not undergo large-scale renewal and service facilities should be added [3]. Since the 1980s, investment in the renovation of residential environment has increased correspondingly, and attention has been paid to the creation of spiritual and cultural environment.

He has made great achievements in the theory of residential renewal, among which the representative theories are livable theory and external space theory. Livable theory needs to meet the needs of multiple levels. The theory of “External Space design” proposed by Yoshinobu Ashuhara gives a complete interpretation of the definition, constituent elements and design points of external environment [4]. Pay attention to its formation, function, character and culture, and gradually create a comfortable and reasonable external environment from the base of the building environment, enclosure surface, facilities and three elements.

The practice of residential renewal construction in China can be divided into three stages. The first stage is represented by the 1950s to 1980s in China, which is mainly characterized by large-scale construction and small-scale renovation of residential areas. The second stage is represented by the 1990s in China, which is mainly characterized by multi-goal orientation and rapid overall renewal of residential areas.

## 2. Reference for Typical Cases of Landscape Reconstruction in Old Communities

### 2.1. Participatory Landscape Renovation Design

Domestic many for old community landscape transformation classic case worthy of our reference and study, the participatory design, also known as the joint design, collaborative design or design is a lot of upgrading lacks, effective guidance, to participate in the process of implementation of plural consultation, should

highlight the users and the opinions of the stakeholders and the solution to the appropriate degree of older communities is a key factor One of the.

Now take Yingshuili Community in Tianjin as an example, covering an area of 9.6 hectares. The common household group in the old community is the elderly, who have lived here for a relatively long time. Eighty percent of them have lived here for more than 15 years and have close neighborhood relations. Due to its early construction time, Yingshui Li Community is relatively old and has low landscape quality and many significant problems [5].

Based on the principle of participatory design, the design team listened to appeals, solved problems, discussed improvement solutions together, and clarified responsibilities and responsibilities. Actively communicated with the community on issues such as traffic and space setting, and finally reached a consensus on the reconstruction of parking facilities and space area for public activities. According to the needs of the main groups, suitable for aging design, save limited space. The novel setting of “hand wall” enhances the overall atmosphere of the community. The reconstruction of community public space is carried out from various aspects, and the real survey data in the early stage are closely related to the use needs of residents in the design process.

## **2.2. Research on “Micro-Transformation” of Old Urban Residential Areas**

The construction standard of the old residential area cannot serve the needs of modern people because of its long history. The mainstream way is demolition and large-scale reconstruction, the comprehensive cost is high, destroy the original urban culture. Micro-transformation refers to an organic and systematic and regular update mechanism on the premise that the current construction pattern remains basically unchanged [6]. The micro transformation emphasizes the gradual improvement of the living environment and public facilities, and partial improvement. In the renovation of old residential areas, it is emphasized that users, that is, every resident is a participant in the design [7]. In terms of strategy, there are the following aspects: ① Old people should fully respect and meet the functional demands and spiritual pursuit of residents, people-oriented implementation to people. ② Excavate the historical and cultural connotation of the community, maintain the historical continuity and image characteristics of the environment, and highlight the cultural power. ③ Actively use green and appropriate technology to reduce the daily use of energy consumption in old residential areas, improve the performance of housing, to ensure the safety and quality of housing. ④ According to the factors such as the building age, block texture, residents’ will, culture and characteristic industries, the old residential area is divided into three categories according to the urgency of renovation, renovation can be carried out and renovation can be postponed.

With the transformation of the demolition of old residential areas in the country, in the future, old residential areas tend to be small-scale and continuous renovation, and the problem of old residential areas has become more

prominent in large and medium-sized cities in China [8]. Xiaojiahe community in Wuhou District of Chengdu city also faces such problems. The author combines the characteristics of Xiaojiahe community in Chengdu city, draws lessons from the advantages of participatory reconstruction cases, emphasizes cooperative design, collaborative design or joint design, and emphasizes the needs of diverse themes in the community. On the other hand, paying attention to the micro-transformation of the community is an excellent solution to the transformation of the old community. The gradual improvement of living environment and public facilities is emphasized. Through partial demolition and construction of buildings, functional replacement of buildings, retention and repair, micro-transformation of communities can be realized to improve the landscape environment of communities and enhance cultural characteristics [9].

### 3. Problems Existing in Landscape Environment of Xiaojiahe Old Community

#### 3.1. Overview of Xiaojiahe Community

Xiaojiahe Sub-district Office, referred to as Xiaojiahe Sub-district, is located in the southern part of Chengdu High-tech Zone, starting from the first ring Road in the north, reaching the third ring Road in the south, starting from Yongfeng Road, Chuangye Road, Zirui Avenue and Chengdu-Kunming Railway liaison line in the east, and joining Shuangnan Street, Hongpenglou Street and Huaxing Street in Wuhou District in the west. The district covers an area of 4.75 square kilometers, with a population of 79,200. It is divided into residential living areas and industrial parks, and has jurisdiction over seven communities: Zhengjie Community, Xingrong Community, Yongfeng Community, Lianyi Community, Xinbei Community, Xinguang Community and Xinsheng Community (Figure 1).

In 1997, some state-owned units began to build dormitories for workers in Xiaojiahe. Almost all of them are seven-story brick and concrete structures. They

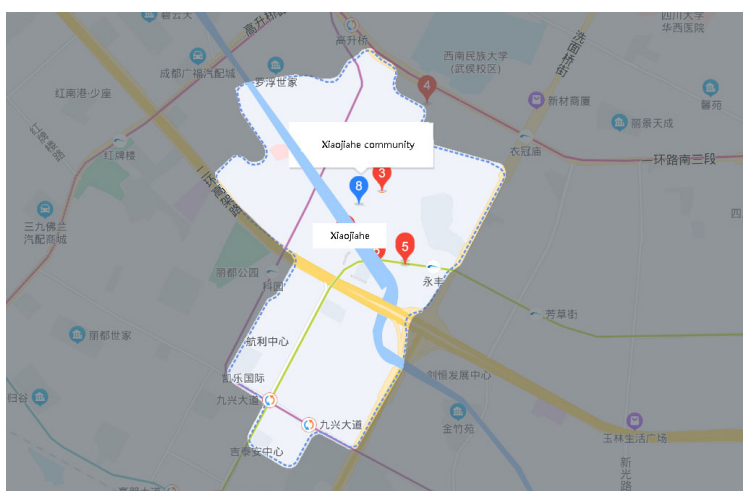


Figure 1. Plan of Xiaojiahe District. (Source: Author).

all have their own balconies and bathrooms. But with the development of The Times, Xiaojiahe community is no longer the representative of Fashion in Chengdu, and those high-end and warm dwelling places in the past have gradually become old courtyards. The older the cultural relics become, the more valuable they become, but the older the streets become, the more dilapidated they become (**Figure 2**).

### 3.2. Lack of Landscape, Lack of Communication Space

During the construction period of Xiaojiahe community, the initial design mainly pursued the architectural space for living, and the designers and residents basically had no demand for the landscape of the space under the background of that time. In addition, Xiaojiahe community belongs to the old community, from the original design of the old community to the lack of timely repair and update, resulting in the absence of landscape, functional deficiencies, unable to meet the needs of residents. Outstanding problems mainly include: (1) the district green rate is low, incomplete green vegetation, bare ground, overgrown weeds, wild shrubs, no systematic landscape system; (2) Lack of property in old residential areas, lack of management, no effective maintenance of landscape greening, private occupation of residential public space, public space sharing is destroyed. (3) There is no targeted design of public space for the main groups in the community [2].

With the passage of time, the original small-scale buildings can no longer meet the needs of modern family life, and some old residents gradually move out of the community [10]. At the beginning of the design, the road width between buildings was 6 - 8 m, and the distance between residential buildings was 4 - 6 m, so the landscape design and some public rooms were not considered. In addition, the current residents are mainly the elderly, and the space between the buildings is mainly for social activities such as shopping for vegetables and playing cards, while the original landscape design is insufficient (**Figure 3**).



**Figure 2.** Current situation of old Buildings in Xiaojiahe. (Source: Author).



### 3.3. The Supporting Public Service Facilities Are Not Reasonable

In Xiaojiahe community, the elderly account for more than half of the permanent residents, the elderly due to physical factors, mobility inconvenience. In addition, most of the old people's children do not live together, and some are not even in a city, there is a mobility inconvenience and lonely nesters. Public service facilities appear to be particularly important, which is one of the key conditions to solve the happiness of the elderly in their old age. In Xiaojiahe Community, the elderly mainly socialize and enjoy public space and public facilities [11]. According to the observation, the elderly mostly engage in activities in twos and threes. Most of them chat, play mahjong, drink tea, and use street fitness facilities in some areas (Figure 4).



**Figure 3.** Current landscape of Xiaojiahe Community. (Source: Author).



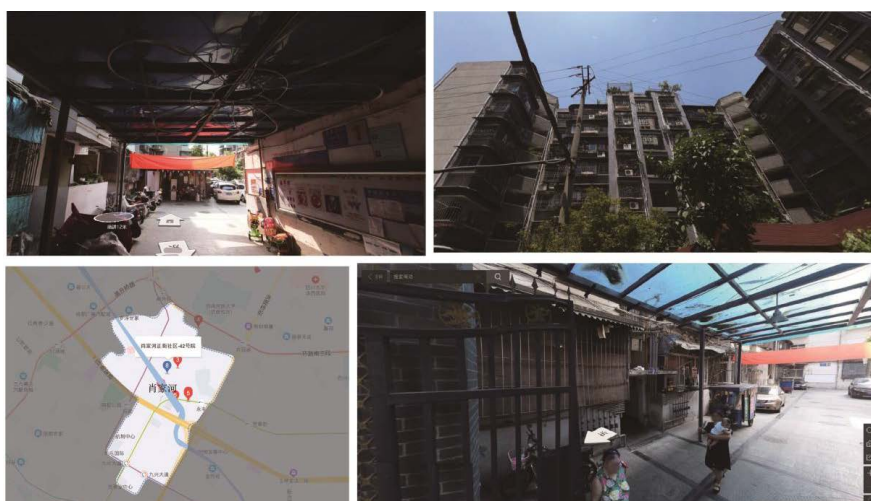
**Figure 4.** Current situation of public service facilities in Xiaojiahe Community. (Source: Author).

At present, the community public facilities are insufficient, resulting in the phenomenon of random parking of vehicles, disrepair of public facilities, random access of vehicles, unmanaged plants, and random stacking of construction and household garbage (Figure 5). The fundamental problem is that the residential planning lags behind the development of The Times, which requires scientific planning for secondary transformation and reasonable arrangement of spatial layout and residents' needs [12]. Residents report problems such as chaotic housing rental, random entry and exit, noisy market and so on. Therefore, improvement in these aspects should be strengthened in the process of community construction, in which the layout and maintenance of public, the establishment of guards, the design of parking lots, and the layout of garbage recycling stations are particularly important.

#### 4. Suggestions on Landscape Planning and Design of Xiaojiahe Old Community

##### 4.1. From the overall layout, the Landscape Sequence of Each Space Is Strengthened and the Structure is Distinct

At the beginning of the design, the two-dimensional spatial layout was the primary consideration. For Xiaojiahe community, the “micro-transformation” design was mainly followed, and the original thematic spatial structure was not adjusted, so as to enrich the spatial function locally, beautify the space, and improve the overall use experience [13]. First demolition of illegal buildings and makeshift, d public space transform sports equipment installation maintenance fill establish bringing unit addresses the use of ruderal vacant lots and Bian-JiaoDe decorated recreation facilities, according to the principle of participatory design, add small neighborhood entrance square opening outdoor leisure and public communication space, including the existing road, landscape and greening regulation for afforestation in combination with small corner space Open



**Figure 5.** Current situation of public service facilities in Xiaojiahe Community. (Source: Author).

landscape greening system is set in the public space of the district, and centralized greening is reconstructed. Cultural corridor and other infrastructure are established, and sculpture sketches and rest facilities with cultural connotation are added [14].

#### 4.2. Combining with the Current Situation of the Community, Create a Comfortable Environment

In recent years, with the government's attention to the renovation of old residential areas, it has gradually improved the construction of public facilities and strengthened the building of community culture. For example, to create characteristic folk street blocks, to revise the streets, to make them neat and clean, and to create cultural blocks [15]. In the building of the community, it is necessary to coordinate with the development of external cultural blocks to create unique cultural characteristics of the community. Guess the illegal buildings inside the community and build a three-dimensional parking lot (Figure 6). Centralized construction of parking shed, standardize the parking of electric vehicles, save the interior space of the community, to avoid safety risks.

#### 4.3. Participatory Transformation, Highlighting the Characteristics

Xiaojiahe community buildings are mainly built in the late 1990s. Their facades are dilapidated and damaged, with "fast-food" design and some functional problems. Therefore, the primary work of the building body is necessary repair and reinforcement, so that it can achieve an additional thirty years of life and basic seismic performance [16]. Secondly, in terms of the building itself, it still insists on participatory renovation and mobilizes all the residents to actively participate in making suggestions and suggestions. Finally, the collective study of the success of the old district transformation example, applied to their own district



**Figure 6.** Parking building map of Xiaojiahe District. (Source: Author).



transformation [17]. Great mobilization of public support and participation in the old community green transformation initiative. The exterior facade of the building is uniformly refit with convex “anti-theft window”, exterior wall is painted, insulation is transformed, and the roof is installed with integrated design of solar, photoelectric, photothermal [18]. Optimize the community space and establish appropriate elderly activity centers to serve the elderly population in the community (Figure 7).

#### 4.4. Make Full Use of Space to Create Reasonable Collocation of Landscape Nodes and Plants

Untended bushes in old residential areas are a major concern, causing hygiene problems. ① The green design of residential area should be adapted to local conditions and local conditions, so that there are plants in spring, summer, autumn and winter to form a miniature ecosystem of the residential area (Figure 8). ② The uniformity of the environment. By dispersing the area index of the original centralized green space to other living Spaces in the community, residents can enjoy beautiful environment and sports facilities [19].

Due to the limited planting area of residential areas, some color blocks or color ball conjugation are adopted at the entrance or exit of the main scenic spots to enhance the landscape of residential areas, so as to achieve a more beautiful



Figure 7. Activity center map. (Source: Author).



Figure 8. Plant ratio diagram. (Source: Author).

prying effect. Some are mainly used in residential communities with red series of garden plants (trees and shrubs), and red flower series of garden plants, such as Crabapple flower and flowering plum [20].

## 5. Conclusion

“Chengdu Park City” is a new urban development concept guided by the concept of ecological priority and green development, highlighting the characteristics of “people-oriented” urban humanistic care, shaping the harmonious and unified urban form of “people, city, environment and industry”, advocating a simple, moderate, green and low-carbon lifestyle, etc. [21] From the old community as the breakthrough point, the author explores the transformation of the old community located in the downtown area in the process of park city. In view of China’s national conditions, the main place for the elderly is still family houses, most of which are old residential areas, and Chengdu is no exception. The living condition of the elderly directly affects the quality of their old-age life, and the renewal and transformation of the old community are an inevitable choice. The optimization design of the landscape environment of the old residential area can better serve the home care. In the process of Chengdu park city, there are dual advantages in policy and environment. In terms of environment, climate, pace of life and leisure culture, it has great potential for development [22]. The author takes the research on landscape planning and design of the old residential area under the background of park city as the research object, summarizes its landscape problems, selects the representative Xiaojiahe community as an example, and discusses the landscape planning and design strategies of the old residential area in combination with the specific needs of the elderly.

## Conflicts of Interest

The author declares no conflicts of interest.

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