



Research on the Public Space Design of Youth Apartments Based on the Renovation of Old Neighborhoods

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Abstract. In the current context of urban renewal and growing demand for youth housing, the transformation of old neighborhoods into youth apartments can not only effectively utilize idle resources and enhance the image of the city, but also satisfy the residential needs of youth groups and promote community vitality. This study takes Zhengzhou Qiming Village District as an example to discuss the design concept, principles and implementation strategies of public space for youth apartments in the transformation of old districts, combining the current situation of the district and the existing problems, rationally planning the spatial structure, making full use of the existing resources, and creating a public space for youth apartments that is rich in levels, diverse in functions, and in line with the characteristics of the youth groups.

Keywords: old neighborhood; youth apartment; public space; design concepts

1 Introduction

In today's society, the transformation of old neighborhoods has become an important part of urban development, and the design of public space for youth apartments is a part of neighborhood transformation that cannot be ignored. The transformation of old neighborhoods mainly focuses on improving the living environment, increasing the housing area, and perfecting the infrastructure, etc., while the design of public space for youth apartments is analyzed in terms of space utilization, aesthetics, and comfort for the characteristics and preferences of youth groups. This paper takes the public space of youth apartments as the research object and discusses the design and optimization of the public space of youth apartments in the transformation of old districts, with a view to providing more convenient and comfortable living environments for youth groups, creating an ideal home that really meets the needs of youth groups, and at the same time, integrating a new vision of spatial research for the transformation of old districts.

2 Theory and Design Cases of Youth Apartment

The concept of “Youth Apartment” emerged in the past 5-10 years, which is a kind of rental housing specially designed for young people, usually located in urban centers or areas with convenient transportation. The rooms are usually small in size, suitable for singles or couples, and usually consist of a single room or a room and a hall to meet basic living needs. In order to adapt to the economic ability of young people, the rent of youth apartments is relatively low and the lease conditions are flexible, which can be leased on a monthly or quarterly basis. They usually provide shared public facilities, intelligent management systems, and organize a variety of social activities to help residents build social networks and improve their convenience and social opportunities. Youth Apartments These apartments are designed to provide young people with a living environment that is both affordable and comfortable, while at the same time enhancing residents' sense of belonging and community through shared facilities and social activities. In recent years, the talent apartments built by governments at all levels to attract talent also fall into the special category of youth apartments.

Foreign research on public space of youth apartment is relatively early, and the main theories can be summarized into two aspects: the theory of shared community and the theory of interaction and space. Shared community ^{[1]-[2]} theory is the most representative of the Danish architect Jean Gudiman Hoyer put forward the theory of cooperative living, the core of the theory is to establish a sufficient shared space, as well as rich and diverse group activities. Theories related to interaction and space include Norberg Schulz's “Place Theory”, which emphasizes the close relationship between architectural space and the place in which it is located. Jan Geier's “interaction and space” theory, that in the whole space, people's necessary activities need to be sublimated into selective activities and even social activities, in order to effectively promote interpersonal communication.

There are fewer theoretical studies on the public space of youth apartments in China, and most of the literature has been concentrated in the past 10 years. However, there are rich results in related policy interpretation, design strategies and concrete practice cases. The main types are: youth apartments converted from old neighborhoods, community-based youth apartments transformed from old industrial factories, and talent apartments built by the government to attract talents. Different types of youth apartments have different focuses in public space design.

Qingdao's Old Liyuan Transformation Talent Apartment Project opens up the closed courtyard of the traditional Old Liyuan and re-plans it to form a more open and circulating public space. The Tongdewei Youth Community in Guangzhou combines community regeneration with youth culture to create a living atmosphere with a youth culture. It provides young people with a full range of living facilities, offering one-stop living services and enhancing the living experience. Four Seasons Hotel Paris creates a warm and luxurious atmosphere by choosing high-end and classic soft furnishing materials. The wall decorations use the works of local Parisian artists, and the patterns of the carpets and curtains have a unique French flavor, creating a cultural atmosphere in Paris.

3 Characteristics of Youth Groups and Research Analysis of Residential Demand

Youth's demand for public space^[3] often includes interpersonal interaction space interaction demand, living service facilities interaction demand, and transportation sex space interaction demand. Peter Farrer's spatial configuration research based on the residential needs of the crowd also discusses aspects such as user needs and neighborhood relationships, and residents hope to find like-minded people through social space interactions; to meet different aspects of young people's needs and enrich the user's life experience through the interactions of living support spaces; and the interaction needs of transportation space mainly include convenient transportation. The needs for transportation space mainly include convenient transportation, safe and comfortable walking and cycling environment, cultural and commercial facilities, etc. to help them travel and socialize more conveniently, comfortably and happily.

Earlier, Fuxing Island, an old factory in Shanghai, was transformed into the current "Fuxing Island Youth Apartments" after urban renewal; an old residential area in Beijing was transformed into the "Blue Harbor Youth Apartments"; and an inefficient office building in the center of Shenzhen was transformed into the "Blue Harbor Youth Apartments". Beijing transformed an old residential area into the "Blue Harbor Youth Apartment", an inefficient office building in the center of Shenzhen was transformed into the "Nanshan District Youth Apartment", Hangzhou transformed an old student dormitory into the "Gudang Youth Apartment", and Shenzhen's "Luohu Huangbeiling Youth Apartment" transformed an area that was originally in poor living conditions into the "Fuxingdao Youth Apartment". In Shenzhen, the "Huangbeiling Youth Residence in Luohu District" is a large-scale renovation of an old workers' village with poor living conditions, and part of the building has been transformed into youth apartments.

Since the reform and opening up, China's urbanization process has accelerated significantly, the size of the urban population has grown substantially, and the urban landscape has changed rapidly. At the same time, a large number of old neighborhoods built in the 1980s and earlier are gradually facing problems such as outdated infrastructure and deteriorating living environment, and are in urgent need of renewal and improvement. In 2016, the State issued the policy "Several Opinions on Accelerating the Development of the Housing Rental Market" to encourage local governments to develop the rental market, and in particular, to support the transformation of rental housing on collective construction land and old neighborhoods into rental housing to Meet the housing needs of new citizens and youth groups. In 2019, the Opinions on Improving and Implementing Positive Fiscal Policies to Accelerate the Promotion of High-Quality Economic Development was issued, which mentioned the need to vigorously develop rental housing, improve the housing problems of young and middle-aged groups in large cities, and promote the reform of the supply side of housing, including the renovation of old neighborhoods.

4 Design Practice of Youth Apartments in Older Neighborhoods for Transformation--Taking Qiming Village Neighborhood in Zhengzhou City as an Example

The selected neighborhood of Qiming Village is located at No. 11, Ruida Road, which belongs to the town of Shifo, Zhongyuan District, Zhengzhou City, with a total floor area of about 43,200 square meters and a total number of 476 households involved, covering 11 buildings. It covers 11 buildings. The building form of Qiming Village is slabs, and the age of the buildings in the district is long, with most of the buildings built in 1992, and the old and new buildings are different from each other. The area in which the district is located belongs to an old district, and its renovation is part of the comprehensive renovation project of old districts carried out by the Zhongyuan District of Zhengzhou City. The neighborhood is located in an old neighborhood, and its renovation is part of the comprehensive renovation project for old neighborhoods carried out in Zhongyuan District, Zhengzhou.

According to the results of the survey on the importance and satisfaction of the space and the demand for various functions of the public space of the residents, combined with the research on the site, this paper concludes that the following typical problems exist in this neighborhood: there are no house types and residences specifically for the young people, which cannot satisfy the demand of the young people for housing, the aging of the residential buildings and the insufficient infrastructures, the low quality of the living environment, the problem of social security, and the insufficiency of the management and services, urban renewal pressure, etc.

The focus of this renovation is in the two buildings of No.1 and No.2 near Ruida Road, adjacent to the main road and convenient transportation, the renovation targets mainly young people's first and second generation households, and on the basis of the renovation try to retain the old buildings, continue the surrounding culture, and combine the fresh vitality of the youth apartments with the spirit of innovation.

The overall transformation of the district makes full use of the existing building structure, and on the basis of not destroying the original structure, the space is reasonably divided and transformed, and in the design of the building façade, it is designed in a modular form, with an increase in the activity area, a larger window opening, and an increase in the number of green plants. As a comprehensive community, the youth apartment has a rigid demand for large public facilities in the public area, the design of the first floor is designed as a lobby, divided into reception, recreation area, entertainment area, roadshow area, bookstore area, and fitness area of the six panels set of recreation and entertainment and reception in one, the roof of the building draws on the Corbusier Marseille Apartment^[4] of the air streets and roof gardens, the unused open space reuse of outdoor resting places for tenants. In addition, a rooftop farm can also be designed on the top floor to create a three-dimensional interaction space for the residents, so that they can experience the idyllic atmosphere after work. The architectural design adopts a unitized design mode, and according to the living habits of the young people, the three types of apartments in the existing two buildings are transformed into a one-bedroom and one-bathroom

of 60 square meters, a small three-bedroom and two-bathroom of 90 square meters and a three-bedroom and two-bathroom of 120 square meters, which emphasizes the functionality and utilization rate of the space. Emphasizing functionality and space utilization.

Extend the function and facilities of the old neighborhoods converted into youth apartments.^[5] In the small space, smart home is a good choice to make life more convenient and save a lot of space through the intelligent lighting and temperature control system. It is also possible to add a variety of convenient facilities and community services suitable for young people's life, such as fitness facilities, leisure and entertainment facilities, study and work space, social exchange space, green leisure space, convenient service facilities, intelligent technology applications, security facilities and services, through the addition of the expansion of these functional facilities, it can be made possible to transform the old neighborhoods into a modern community more suitable for the life of young people, and to improve the residents' quality of life and comfort.^[6]

Adopting flexible spatial design makes it possible to adapt the same area to the needs of different functions, set up shared resources and facilities within the youth apartments, effectively utilize limited spatial resources, and improve the efficiency of resource utilization. Introducing an intelligent management system, realizing intelligent monitoring and management of public facilities through Internet of Things (IoT) technology, improving the utilization rate of facilities and reducing maintenance costs. Establish community service centers to provide a variety of services to facilitate young residents and enhance community cohesion. Adopt green building design concepts, configure energy-saving facilities, reduce energy consumption and improve energy utilization efficiency. Establish an information management platform to realize timely collection and analysis of information on residents' needs and the use of public facilities, and provide data support for improved management. Carry out colorful community activities to promote social exchanges and cultural interactions.

Priority in design is given to maximizing the use of existing resources and reducing the need for new resources. Renewable materials and energy-saving equipment are used to improve energy utilization efficiency. Adopt green building design concepts to reduce energy consumption by optimizing building orientation and increasing natural lighting and ventilation. At the same time, consider the protection and restoration of ecosystems in the design, such as increasing green coverage and rainwater collection and utilization. The design of youth apartments should take into account their integration with the surrounding transportation network, provide convenient public transportation services and a perfect pedestrian road system, reduce dependence on cars, and reduce traffic congestion and air pollution. Set up community service facilities inside the youth apartments, including convenience stores, cafes, and shared office spaces, to meet residents' daily life needs and reduce transportation emissions caused by going out. Through community participation activities and education and publicity, increase residents' knowledge and awareness of sustainable lifestyles, and promote the adoption of behaviors such as saving energy and reducing waste generation. Consideration can be given to introducing the concept of circular economy when designing youth apartments, for example, establishing a waste classification and reuse system to promote the recycling of waste resources and reduce the impact of waste emissions on the environment. Effective community management mecha-

nisms and monitoring systems should be established to regularly assess the sustainability performance of the community, identify and resolve problems in a timely manner, and continuously improve the level of sustainable development of the community.

5 Conclusion

With the development of the city, the transformation and renewal of old neighborhoods become inevitable, and in this process, through the careful design of the public space of youth apartments, new vitality can be injected into the neighborhood and the quality of the neighborhood can be improved. The study of the public space design of youth apartments based on the transformation of old neighborhoods has important theoretical and applied value, and it is of positive significance for promoting urban renewal and development, enhancing the living experience, and promoting the community's. It has positive significance to promote urban renewal and development, enhance the living experience and promote the sustainable development of the community. In the future, with the continuous improvement of policies and the joint efforts of all sectors of the society, it is believed that this model will be promoted and implemented in more cities, providing livable living space for more young people and providing new vision for urban renewal and transformation of old neighborhoods in China.

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