

# Construction Measures of Community Public Space Network based on Urban Renewal

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**Abstract:** With the development of social economy, at the end of last century, Chinese cities have entered the renewal stage of urban housing construction after the transformation from planned economy to market economy. After the reform and opening up, the development of community renovation is in full swing. For nearly half a century, these communities have become obsolete and objectively unable to effectively meet the actual needs of community residents. How to find a reasonable way to renew the community, solve various social contradictions, achieve economic, social and cultural transformation and revitalization, and promote the further development of urban functions has become a major issue in urban construction and community development. Based on this, on the basis of clarifying the composition structure of the community public space network, this paper builds the network connection between communities from the superposition of the necessary life line network and the public interest line network, so as to form the community public space network at the life circle level, so as to meet the needs of “human” in the city and improve people’s sense of well-being.

## 1. Introduction

With the transformation of the urbanization development stage and the value consciousness of urban construction, the perspective of urban development has shifted from the macro perspective to the basic life. The dynamic and balanced development of the city’s health, safety, openness, inclusiveness and vitality has attracted much attention. The priority of urban “economic needs” has begun to give way to “social needs”, that is, to pay attention to the satisfaction of the needs of “human” in the city. As the basic carrier of the national building, the community is the most basic living unit in the city and the area most directly related to people’s sense of gain, happiness and satisfaction. In the process of community development, the content of community renewal and improvement has changed from the configuration requirements of basic public facilities to the comprehensive requirements of a complete service system, a reasonable way of governance, a pleasant living environment and a profound community culture. The demand for the development of community space has shifted from the indicator orientation of basic configuration to the demand orientation of residents’ life. Therefore, its focus is to pursue the creation of a more “humanized” and “warm” living space from the perspective of “human” from the needs of people.

## 2. Composition of Public Space Network

The community public space network system consists of two network forms, namely, space network and social relationship network.

### 2.1. Space Network

Space network includes basic space network and public activity network. The basic space network takes the space node, that is, the public activity place, as the hub and the basic pedestrian passage as the silk line. The network forms in the process of connecting and extending different roads and spaces. The public activity network takes the stopping point of the flow of people as the hub and the trajectory of the flow of people as the silk thread. It is a network form that takes the

concentrated activity points of the flow of people as the core to form activity tracks interwoven with each other. The public activity network takes the basic space network as the carrier and relies on the spatial relevance of the basic space network and the interpersonal relevance of the acquaintance society. In the public activity network, the human activity track mainly covers the space places based on the walking route. However, due to the randomness and autonomy of the flow of people, the public activity network is rarely involved in the negative space and boundary space of the community, and some human activities can cross the space barrier. Therefore, the basic space network and the public activity network have different key points. The reasonable superposition of the two networks can form a continuously optimized public space network.

For example, with the renewal of the community and the change of residents' value consciousness, the public space in Yuzhong District has gradually formed a complex public activity network on the community basic space network based on the original public living space of the old community, and gradually formed a complete public activity network at the community life circle level with the continuation of the public activity network. The organization of public activity network mainly depends on the superposition and extension of two circuit networks in space, one is the necessary life circuit network of the community, and the other is the public interest circuit network of the community.

The necessary living line network of the community refers to the spatial line network composed of the traffic space, resident space and functional space in the community used by the basic living necessity activities of the community residents (i.e. activities to meet the basic living needs of the residents). As the flow of people in the community depends on the necessary traffic routes of the community, a complete and unimpeded community route is the basis for meeting the normal life of community residents, and the main traffic routes of mountain communities within the survey scope are composed of community footpaths and platform spaces, the necessary life route network with the main structure of life footpaths and the nodes of platform space and function space constitutes the infrastructure of the public space network. The perfection of the necessary living route network in the community is mainly affected by three aspects: walking accessibility, safety and sense of experience.

The public interest route network refers to the spatial route network composed of the traffic space, residence space and functional space in the community used by the selective activities and social activities related to the interests of community residents. Because the interest point is the main factor to induce the residents' choice of public activities, the interest space is the main node to produce spatial diversity and spatial interest on the basis of the necessary public network, and it is also an important carrier to reflect the residents' social living habits. Therefore, the core and key of the high vitality community space network is to shape the space of residents' public interest activities. For example, the interest activities of residents in Yuzhong District have similar characteristics, mainly chess and card activities dominated by mahjong, as shown in Figure 1.



Figure 1 Chess and card interest activity space dominated by mahjong

## 2.2. Social Relationship Network

The meaning of social relationship network is the relationship between actors in a group,

including two elements. The first is “connection relationship”, which refers to the connection state and connection mode between actors. The second is “contagion”, which includes emotions, ideas, information and culture attached to the connection between people. Depending on the connection relationship, things can flow. The “contagion” is attached to the mobile body and transmits according to different self rules. This connection relationship and infection attribute determine the structure and function of the social network. Social network studies not phenomena and attributes but structures, and focuses not on individual behaviors but on interpersonal relationships and group processes.

Therefore, the study of group connectivity plays a positive role in understanding and recognizing group networks, analyzing the characteristics of social networks, and repairing and extending networks. The social relation network of community public space network is rooted in the foundation of community space network. A healthy and benign public space network is not only the basis for meeting public activities, but also the key to maintaining social relations network, realizing community interpersonal communication and condensing community collective consciousness. The social relationship network is multidimensional. Due to the multidimensional interweaving of network relations within the community, common behavior patterns, values and ideologies have emerged, and social relations and collective consciousness within the community have also been formed. The maintenance of social relationship network is greatly influenced by community cultural value, community renewal strategy, community governance mode and other factors, and is also closely related to the communication nodes, communication frequency and communication mode of community residents.

### **3. Construction Measures of Community Public Space Network Based on Urban Renewal**

#### **3.1. Improving Community Network Structure**

The core of the construction of the necessary living route network is the structural completeness, which includes several aspects. The first is to lay the network base indiscriminately to meet the accessibility of lines per household, which is related to the realization of the basic rights and interests of residents’ space and the requirements of fairness and justice. The second is to ensure the smoothness of the network, which is the key to the efficiency of network use and the continuous extension of the network, including the removal of space obstacles, the repair of space access, the setting of barrier free facilities, etc. The third is the setting of network maintenance facilities, mainly including safety maintenance facilities and ecological maintenance facilities. Safety maintenance is particularly important in old communities, which is the basis for ensuring the normal and safe use of space resources by all kinds of people. Ecological maintenance facilities are the guarantee for the eco-friendly development of the space network, and the guarantee for the space quality and a good sense of walking space experience.

#### **3.2. Rational Allocation of Space Resources and Public Activities**

The core of the construction of the public interest route network is the matching of space resources and public activities, which is related to the exertion of the multiple values of space and the rational allocation of space resources. It is a targeted design based on the understanding of the interests and preferences of various groups in the community and the investigation of the activity habits of the main groups. Simply improving the space quality through transformation and simply adding service facilities and activity facilities can not directly affect the vitality of public space. The construction of public interest route network focuses on the addition of public interest activity points and the induction of public interest activities. Based on the original community interest route network, functions should be arranged on the route network according to the demand characteristics, and the existing interest points should be optimized.

Because interest is the main factor inducing public activities, the appropriate setting of interest points produces the diversity and interest of public space. According to the residents’ interest activities and living habits, the interest activities of two typical groups are taken as examples for

network organization.

Teenagers' interests often lie in exploratory public activities, such as in semi open spaces with low multi-directional accessibility, so as to obtain interesting places for activities that are relatively undisturbed. Therefore, the interest nodes of teenagers can be set in relatively independent space nodes and other areas, and the relevant interest facilities can be configured. The independent interest nodes and the community core public space can be connected by walking lines. The logo can be designed on the network lines, so as to ensure the relative independence of the interest points and the connection between the interest points and the public core points to ensure the activity safety of teenagers.

The interest points of the middle-aged and the elderly are chess and card interest activities. Such interest activities are less affected by the site, but related to the density of the crowd. The higher the density of the site information exchange, the easier it is to become one of the interest points of chess and card activities. Because of the flexibility of its distribution site, it is easy to form a network structure. The key of network setting is to dynamically adjust the network node density. On the one hand, corresponding site facilities and comprehensive business functions are arranged at the spatial nodes with dense flow of people information, such as community center square, community entrance square, community activity center, etc., to meet people's interest activities and life relations. On the other hand, improve the environmental quality of existing interest points and configure facilities to improve the vitality of small node space.

#### **4. Conclusion**

Under the background of people-oriented urban renewal, the process of spatial renewal should be accompanied by the change of "human" value consciousness. Residents' impressions and feelings about the city often come from the most intuitive sense of walking experience in daily life. From the humanistic perspective, citizens' sense of gain, happiness and satisfaction come from the direct perception of space use. Community is the most basic living unit, and community public space is the most direct public activity and communication place for citizens. Therefore, the construction of community public space network is not only a measure to meet social fairness and justice, but also a necessary basic facility to meet the public life of citizens.

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