Research on the Design of Community Activity Center in Urban Historic Conservation Areas: Take Tan Hualin as an Example

Yujun Liu¹ and Hong Xu¹*

¹School of Urban Construction, Wuhan University of Science and Technology, Wuhan 430070, China
Email: xuhong@wust.edu.cn

Abstract. With the rapid development and expansion of the city and the gradual aging of the population, there are many problems in the management of the urban historic conservation areas, and their protection and renewal are beginning to attract the public’s attention. This paper takes Tan Hualin urban historic conservation areas in Wuhan as an example, through the preliminary investigation and data collection of Tan Hualin, based on its architectural and cultural characteristics, historical context and residents’ needs, to build a community activity center in the urban historic conservation areas.

Keywords: Historic conservation areas, Community activity center, Tan Hualin

1. Introduction

Most of China’s historic conservation areas are located in the central area of the city. Nowadays, we are vigorously promoting the development of urban stock, limiting the city's unrestrained expansion to the surrounding areas. Some old buildings and communities in the central city have been greatly impacted, and large-scale high-speed demolition and construction activities have seriously threatened the fate of historical blocks. The renewal and protection of historic conservation areas has gradually entered the eyes of the public and become a hot topic.

Figure 1. Community environment.
Figure 2. Streets in the community.
2. Overview
Tan Hualin historical conservation area is located in the northeast corner of Wuchang old city in Wuhan city. It runs through an east-west Main Street, starting from Zhongshan Road in the east and reaching Desheng Bridge in the west, with a total length of about 1.2km [1], and an area of about 1.02 km². There are many shops on both sides of the main street. When you go deep into the block along the north and south alleys of the main street, you will find that it is surrounded by residential areas that have been built for a long time. After years of development and evolution, Tan Hualin is now dominated by low rise and multi-storey residential buildings.

The main street of Tan Hualin is spacious with various types of shops, attracting a large number of tourists. In contrast, the old residential areas in the north-south direction of the main street have relatively poor environment, narrow roads, high road network density, and lack of entertainment and leisure places for the surrounding residents. As shown in figure 1,2.

After field research and data collection, there are many historical buildings scattered in the middle of the residential area in Tan Hualin historical conservation area, and their color and shape have their own styles.

In the northwest of Tan Hualin community, there is a small rest square with a small number of sports facilities for nearby residents, but it is far from meeting the requirements of residents.

![Figure 3. Topographic map of Tan Hualin historical conservation area.](image)

3. Project Site Selection
In order to build an open community as the site selection strategy, we should consider that the open community is not only to open the wall of the community, but to build a “big open, small closed” mode based on small blocks with appropriate scale [2]. Considering the needs and accessibility of community residents for the activity center, we hope that the activity center, as a communication medium between the community and the outside world, is not only for the community. As a result, the project is located in the northwest corner of Tan Hualin block, close to the existing small open space square and a subway station under construction. As shown in figure 3,4,5,6.
There are three entrances in the selected base, two of which are connected with the main street of Tan Hualin, and one is connected with the rest square in the north. The northern part of the base is connected with Tan Hualin primary school, which can be used as the core node of vitality in the block. The northern part of the base also faces Shiyings former residence, which is listed as a historical building. After the completion of the subway station in the future, the activity center can be used as a derivative of the existing rest square, open part of the functions of the community activity center, and create a good open community atmosphere.

4. Function Determination
The community activity center should take the community as the carrier to provide the community residents with rich and colorful cultural activities and cultural resources. Based on the survey of other communities with activity centers in Wuhan, the following results are obtained after the questionnaire is distributed to the residents, as shown in figure 7.

In Tan Hualin historical conservation area, there are more middle-aged and elderly people aged 55 to 70. When determining the function of the activity center, we should consider the needs of this kind of people. Through the comprehensive analysis of the survey results and questionnaire survey, it is concluded that the community activity center should be inclined to provide places for children and the elderly, such as chess room, parent-child activity room, etc. In addition, there should be a place for physical fitness. Besides, considering the contact between the community activity center and the outside world, the space with catering function is added.
5. Architectural Design

The community activity center is located in Tan Hualin community with rich history and culture. It aims to provide a place for leisure, entertainment and communication for nearby community residents. The activity center uses white walls and grey tiles as the main color of the building, which echoes the original architectural style of the community. The street style roads inside the activity center are also consistent with the road style of Tan Hualin.

The activity center is composed of four main buildings. Different functional areas are arranged in different buildings and floors, and connected by corridor and outdoor activity site. Each functional area is separated and connected with each other, as shown in figure 8.

5.1. Modeling Design

The historical buildings in Tan Hualin block are mainly modern buildings, basically with sloping roof as the roof shape, so in the roof design, the community activity center follows the design of these
historical buildings. The sloping roof and its convex shape in the center echo with Chongzhen hall, which is separated by a road on the South Main Street. As shown in figure 9.

In the design of building facade, the activity center adopts square block and regular window opening mode, which is consistent with its traditional roof shape. In the choice of color, we did not choose the red color similar to Shiying’s former’s residence, but chose the cyan gray color similar to the surrounding residential houses to maintain the color fit between the activity center and the original building.

![Elevation drawings](image)

**Figure 9.** Elevations and sections.

5.2. **Detail Design**

Next, the detailed design of the building is explained:

5.2.1. **The Form of Connection.** After investigation, the community activity center is finally designed into four independent blocks, which are divided into three parts. Referring to the style of the former
site of Renji Hospital, the three parts are connected together in the form of corridor, forming the
internal space form of corridor and inner courtyard.

1) Road design. As the main street in Tan Hualin district is spacious, other alleys tend to be narrow,
so when organizing the internal roads of the community activity center, we hope to connect with the
original texture of Tan Hualin alleys. Finally, in addition to the large outdoor activity venues in the
north, the roads inside the activity center are relatively long and narrow, creating a sense of street.

2) Aging design. In addition, considering the age composition of the residents in Tan Hualin
historical conservation area, the activity center has also been designed to adapt to the aging, adding a
ramp to facilitate wheelchair travel.

6. Conclusion
For the architectural design of urban historic conservation areas, it is different from the ordinary
architectural design, which should consider the degree of fit between the new buildings and the
surrounding environment:

6.1. Keep the Texture of the Street
Historic conservation areas have a certain street direction and spatial level. When selecting new
buildings, we must respect their original street texture and spatial connection [3]. We can not only
consider the needs of new buildings and destroy the overall texture of historic conservation areas.

6.2. Connection between New and Old Styles
Historic conservation areas are protected and may not have been greatly renovated, but the
surrounding environment has been changing, such as the change of roads and the construction of
public facilities. After the change of the external environment, it may not be suitable for historic
conservation areas. In the architectural design, we can consider new buildings to reconcile the
relationship between historic conservation areas and the external environment.

6.3. Continue the Original Style
Pay attention to the new building in the shape, color and material selection to keep in touch with the
existing block style. Historical conservation areas itself has high aesthetic value, so we can’t just focus
on innovation and ignore the beauty of these old buildings and towns in architectural design.

At the same time of urban development, we should also consider the renewal of historic
conservation areas in the old city. The historical district located in the central area of the old city has
very high commercial value and attention. The new community activity center can improve the public
activity environment of the historical conservation areas and increase the vitality of the district. But in
the process of renewal construction, we also need to pay attention to the long and rich historical
heritage in the block [4], and pay attention to the actual needs of residents in the block.

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