

Analysis of the relationship between urban planning and design and building design based on urban space

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Abstract: Under the background of the continuous development and expansion of China's economy, urban architecture has a key impact on the development of a city. In the process of urban construction, we must follow the planning design scheme and requirements, and urban construction also has certain styles and characteristics. There is a certain relationship between the two, but there are also differences. With the development of the construction industry, the strong adjustment of the relationship between urban planning and design and building design will play a practical role in promoting the development of the construction industry. In order to analyze the relationship between urban planning and building design, we first specifically explain the meanings of the two parts respectively, and then explain the interaction and guiding relationship between urban planning and building design from the aspects of design objectives, design processes and design tasks. Urban planning and design has become the main way of contemporary urban development, and there is a very close relationship between building design and urban design. Only by coordinating the relationship between them can we provide guarantee for the healthy and long-term development of the city.

1. Introduction

In recent years, urban construction has attracted much attention, and the relationship between them can be reasonably arranged and coordinated under the condition that it is in line with the development situation and future development planning of a city. It will play an important role in promoting the overall development of a city, so as to realize more rapid urbanization [1]. Urban planning and design and building design are frequently used methods and means in urban construction. Distinguishing the difference between urban planning and design and building design and handling the relationship between them are of great significance to maximize the integration of resources, accelerate the pace of urban construction, promote economic and social development and improve the quality of life of people [2]. In order to make the urban construction more scientific and reasonable, and the urban planning more perfect and accurate, we must pay attention to the design of urban planning, so as to ensure that the urban zoning and functions become more and more perfect. In the process of urban construction, various building designs are also essential. As an integral part of urban architectural planning and design, building design is closely related to each other, and there are also significant differences between them [3]. In order to make the city develop effectively, we must fully combine the relationship between urban planning and design and building design, and reasonably deal with the relationship between them, so as to make the urban construction more scientific and beautiful and achieve the goal of building an international metropolis [4].

The two key elements in the urbanization construction system are urban design and building design. Among them, urban design is the macro planning of urbanization construction, while building design belongs to the specific practice of urbanization construction. There is an inseparable close relationship between the two. The former, as the main body, directly affects and restricts the latter. At the same time, the latter, as a local factor, will also affect the integrity of the former to a certain extent [5]. Urban planning is the analysis and design of urban space, that is, the coordination

of the relationship between the regional space of human activities and each regional space. Building design is the result of meeting the requirements of indoor space use, economy and beauty, and coordinating with the surrounding environment, urban historical context and urban regulatory planning on the premise of certain characteristics and styles of the times [6]. Urban planning is to dynamically solve and coordinate the relationship between various buildings and the overall image of the buildings, to continue the history of the city and to look forward to the future of the city from the ecological and sustainable point of view. Therefore, we must pay attention to the scientific and effective treatment of the relationship between building design and urban design in the process of urbanization construction, so that both can play their due role in modern urban development [7].

2. Urban planning and architectural design

2.1. Research on spatial structure and urban planning

In a sense, urban planning is a kind of spatial regional planning, and its general task is to provide spatial structure for various activities (or land use). This kind of planning is also called "physical environmental planning". However, in terms of the research object, urban planning needs to meet the needs of urban comprehensive development and people's requirements for life. It involves the appearance form, nature and division of labor of the city, industrial development and layout, social development and facilities, scale investment and the composition, management and policies of all parts of the city. Space should be a more basic theory. Its combination with urban planning studies the form of the city from one side [8]. First, the trend of modern urban development and spatial research. Transformation from urban space to regional space: the development of regional transportation and information technology promotes the transformation of modern urban space from closed structure to open structure. The communication of information accelerates the construction of urban network, which makes each city closely related to the whole regional space. The emergence of urban dense areas has become an obvious phenomenon in the development of modern urban space. Second, spatial awareness and behavior patterns. Space is the all-encompassing feeling that the city provides to people, and urban designers should do everything possible to create all kinds of feelings that the city can provide. City and social life, economy and engineering technology; And ideology; And sports; It is closely related to time and so on. All kinds of factors influence the change of urban space. People's behavior movement in the city determines the feelings provided by the city, and the change of people's action mode in the city determines the change of urban space "people's action", that is, the essence of urban space. Starting from the essence of urban space, that is, from "human action", we can design an outstanding city; Designing urban space is no longer an empty design, but actually designing people's actions, movements, sights and psychological feelings, which is the task of urban designers.

2.2. Significance of building design and urban planning

Urban planning and design is the overall planning and design of the buildings, industrial development zones and residential zones of the whole city. Therefore, urban planning and design not only includes building design, but also provides development planning and overall layout for urban functional zoning, economic development and social service industry development. Building design refers to the overall planning and design of architectural style and architectural characteristics before construction. Building designers must consider the relevant knowledge of building design and ensure the safety of buildings [9]. Whether it is urban planning design or building design, it is a design concept, and both belong to the design work, but the design content is different. In addition, the main reason for the design is to ensure that the development of urban planning and architecture conforms to the current urban development concepts, such as sustainable development, low carbon and environmental protection, etc. In the process of design, both cities and buildings must adhere to the ecological concepts of sustainable development, low carbon and environmental protection. At the same time, it also embodies the principle of people-oriented. Whether it is urban planning or building design, it is to meet people's needs, so that the building

design style and the direction of urban planning can provide better service and perfect life. In the process of urban development, it is very necessary to strengthen urban planning and design and building design. Only through building design and urban planning and design can we ensure that urban development is more scientific and reasonable [10]. Especially in the process of building design, only by following the development design and direction of urban planning and making the building design conform to the characteristics of urban development can we ensure the development direction and future development trend of the city. Although urban planning and design does not have a certain specificity, it can guide the development of building design.

3. Coordination of urban planning and design with building design

3.1. The correct relationship between urban planning and building design

Urban planning and design is a planning scheme that tries to coordinate the current situation after comprehensively considering the urban characteristics and characteristics such as urban land resources, urban people's customs and urban characteristic culture. Building design carries out innovative construction of buildings in the environment of urban design, so we can get the conclusion that urban planning and design has certain guiding significance for urban building design. Urban planning and construction need to take into account the construction of residential buildings, public buildings and public facilities. The rational use of land resources and the rational planning of space resources in the city enable the three kinds of buildings to coexist harmoniously in the city, while the building design only needs the designer to innovate the building design under the general idea of urban architectural planning. When designing single or group buildings, architects must consider the big environment of the building and the small environment within the red line of the development site. Pursue "novelty, novelty and speciality" blindly without considering the environment of the building. For example, Chang 'an Street in Beijing, although each building unit has adopted the works of the best design institutes and the best architects in China, is not stingy with the construction cost, and is still the focus of criticism from the industry in terms of its artistic value. The main reason lies not in the shape of the building itself, but in the neglect of the surrounding environment and the overall disharmony caused by the strong desire for individual expression. It can be seen that under the guidance of urban planning and design, paying attention to the coordination of the surrounding environment, even the simplest building design can achieve good results. On the other hand, urban planning also has requirements for site design. First, it is reflected in the control of urban master planning on the development direction and layout structure of urban land; Second, it is reflected in the regulatory detailed planning. The requirements of the regulatory detailed planning are specific and have a more direct impact on the site design. The site design must make an appropriate and practical response to the detailed rules such as land use and architectural layout in the regulatory detailed planning, as shown in Figure 1.

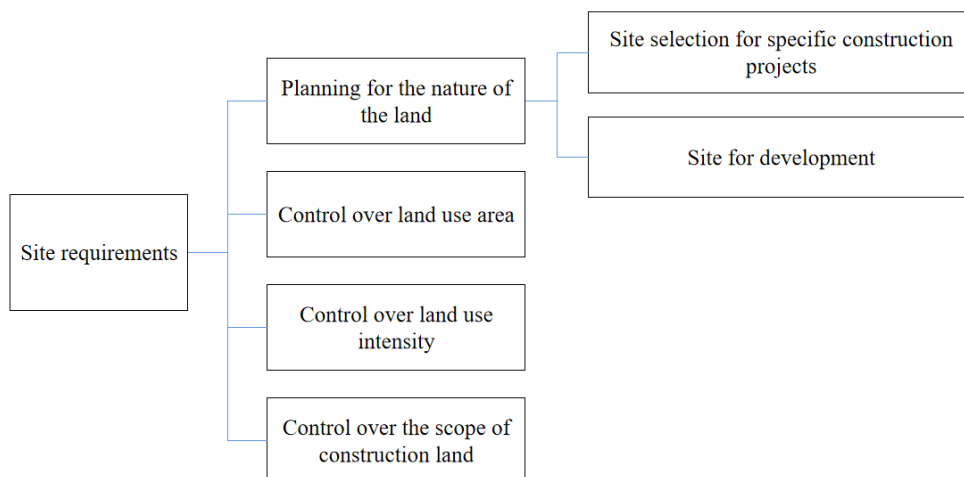


Figure.1 Site planning requirements

3.2. Processing way

The planning and design of the whole city should also have integrity and unity, which needs to be combined with the overall development and regional characteristics of the city, especially the architectural style and regional division of labor, so as to make the urban planning more scientific and reflect the characteristics of economy. Therefore, urban planning and design can take building design as the basis and premise. Conversely, building design should also be based on the planning and design characteristics and overall layout of the whole city, so as to make building design conform to the development orientation of the whole city, make building design scientific and reasonable, and conform to the development concept of the city. There are three main ways to deal with the relationship between urban planning and building design. First, we must treat urban planning and design scientifically. The urban planning and design is forward-looking and non-specific, which really guides the design style, scheme and characteristics of every building in the whole city. We must treat the urban planning and design scientifically, and the design of every building in the city directly guided by the urban planning and design. Second, we should scientifically deal with the relationship between urban planning and building design. Since there is a certain organic unity between urban planning and building design, it is necessary to consider both in urban planning and building design and combine them organically to ensure the consistency of design concepts, which is more conducive to the development of the whole city and the design and construction of various buildings. Third, we should ensure the scientific rationality of urban building design. In the process of urban transformation and development, many building designs lead to forced demolition because they do not conform to the urban planning and design. In the process of urban building design, we must carry out building design in combination with the whole urban planning and design scheme, so as to avoid the consequences of forced demolition because the architectural style design does not conform to the whole urban planning.

4. Conclusions

With the development of the times, there are new changes in urban space. Modern Chinese cities have formed new spatial characteristics with various functional divisions. The building density and layout in each area are also different, forming an overall heterogeneous spatial structure. It shows that the spatial structure has obvious characteristics of the times and adapts to society, production, life and technology. Urban planning and design and building design complement and influence each other. Urban planning and design includes building design, and plays a certain guiding role in building design. Architecture design needs to obey the urban planning and design, and make innovative and creative productions under the development policy of the whole urban planning and design. First of all, we need to look at the design plan of the whole city scientifically, which provides the direction for building design; Secondly, urban planning and design should be fully combined with the advantages and development characteristics of building design; Finally, we must standardize the building design and improve the scientificity of the building design, so as to make the urban development more perfect.

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