

Urban Greenway Landscape Design Research

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ABSTRACT

With the rapid development of modern society and economy, many environmental problems have emerged. In recent years, the goal of carbon peak and carbon neutrality has resulted in the concept of green, ecological and environmental protection gradually deeply rooted in popular hearts. Citizens not only have a stronger desire for green and natural environment, but also gradually pay attention to the urban greenway landscape design. This paper integrates the strong ecological concept into the urban greenway landscape design, makes full use of various resources, compares the development of urban greenways at home and abroad, and finally studies the urban greenway landscape design suitable for the local regional cultural characteristics.

Keywords: Urban greenway, landscape design, ecology, environmental protection.

1. INTRODUCTION

In recent years, with the continuous acceleration of the urbanization process, it has brought new problems in all aspects of the city. For example, urban environmental pollution, urban traffic congestion, urban green space fragmentation, heat island effect and other problems. These issues have become global issues to be valued. With the improvement of the Chinese economy, the lifestyle has been changed. The original green landscape environment cannot meet the living needs of the citizens. The linear space field such as greenway not only improves the utilization rate of urban space, but also can effectively connect the functional space of each city. With the implementation of the greenway concept, it not only improves the utilization rate of urban space, expands the service scope, effectively connects the functional space of each city, and forms a complete green urban transportation system. The research purpose of this project is to analyze and summarize the urban greenway landscape design, domestic and foreign design methods and factors affecting greenway landscape design, which is very important to improve the urban greenway landscape design in the region, summarize experience brings benefits to urban residents, and greatly beautify the environment, in line with the goal of national ecological construction.

2. THE CONCEPT AND DEVELOPMENT OF URBAN GREENWAY

2.1. The Concept Of Urban Greenways

Urban greenway is a green passage connecting various functional Spaces of the city, which affects and restricts the various functional plots it passes through. It is generally a recreational road for pedestrians, cyclists and fitness crowd. It's also considered a slow lane. Its connotation is rich, the function is diverse, the goal is clear. In general, it is of great significance to the ecological protection and sustainable development of the country. Small aspect, it is of great significance to citizens' leisure and slow traffic. It not only integrates the city and nature, but also has ecological and landscape aesthetic values. Relying on the city, it connects the important urban public space and assists urban transportation to a certain extent.

2.2. The Development Of Urban Greenway At Home And Abroad

The beginning of greenway research abroad is the Boston Common greenway system in Olmsted, USA. (As shown in Figure 1) American urban greenway takes the road of economic landscape. The establishment of American greenway has brought benefits to the ecological environment, residents' life and urban development. And the British greenway is at the heart of urban openness. The Greenway in The UK is mainly an

ecological green channel for pedestrian leisure services and commuting. It was originally designed to improve the quality of urban environment. Japan's greenway is to achieve ecological, leisure, disaster prevention trinity of functional goals. The design is very delicate, mostly built along the river, connecting the big city with the surrounding towns, forming a complete landscape belt.



Figure 1 Boston Park Plan (Picture from Author)

Among the urban greenways in China, the most notable is Wuhan East Lake Greenway. (As shown in Figure 2) The 101-km east Lake Greenway is located in the East Lake Eco-tourism Scenic area in Wuhan, Hubei Province. It is the longest 5A urban core area around the lake greenway in China. For the citizens and tourists to create a humanistic atmosphere of the city "ecological greenway", east Lake greenway in the construction of many regional cultural elements, actively popularize the historical context of Wuhan to tourists, awaken people's sense of historical belief and city belonging^[1].



Figure 2 Wuhan East Lake Greenway autumn corner. (Photo by Fan Xiangxu)

3. THE ROLE OF GREENWAY IN URBAN CONSTRUCTION

3.1. Ecological And Environmental Protection

Greenway plays an important ecological role in urban development. It connects other nonlinear green Spaces, makes different areas of the city form a unified whole, and becomes the media and bridge for people to access various functional Spaces. With the rapid economic development, the urban environment is polluted. The construction of greenway not only accords with the sustainable development strategy but also solves the environmental crisis and becomes an important measure

and method to protect the urban environment. Greenways not only increase the activity space of human beings to bring convenience to citizens, but also provide important guarantee for the growth and reproduction of animals. Animals can also adapt to climate change through migration^[2].

3.2. Leisure And Recreation Function

With the continuous improvement of economic level, people's way of life has been changed, more pursuit of spiritual life. The recreational function of greenway can be demonstrated. As a linear space, its main motion modes are running, cycling and walking. These three ways not only meet the needs of users, but also create different environmental atmosphere. Compared with traditional squares and parks, the service scope is broader, closer to the life of citizens and more convenient.

3.3. The Role Of Social Aesthetics

With The advantage of the greenway lies in connecting the squares, parks, scenic spots and historical sites in the city to form a cultural corridor with historical and aesthetic functions. Success makes people feel the spirit of the site, has a certain landscape aesthetic value, but also more commemorative significance.

4. CLASSIFICATION OF URBAN GREENWAYS

4.1. Urban Road Greenway

Urban road greenways, connecting various transportation hubs, are generally close to commercial, residential or office areas; numerous vehicles and busy roads. This kind of greenway should be set up more seats or fitness equipment with leisure and entertainment functions, convenient for the young people of office workers and the elderly in residential areas in their leisure time to rest and entertainment or exercise and fitness. (As shown in Figure 3)



Figure 3 Urban road greenway (Photo by the author)

4.2. Park Greenway

Generally, accompanied by the behavior of rest, fitness and entertainment, this kind of greenways are mostly built in parks or communities and squares. There are many entertainment facilities nearby, which is convenient for citizens of all ages to entertain and play. (As shown in Figure 4)



Figure 4 Park greenway (Photo by the author)

4.3. Waterfront Green Road

It can occur in riverbanks, in parks, and in greenways near the water, which are generally easy for people to ride or go jogging. On one side is the other side of the river is the landscape green vegetation, giving a person a kind of relaxed and leisure thoughts in nature. (As shown in Figure 5,6)

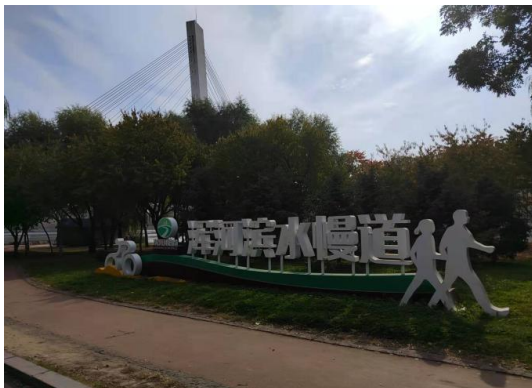


Figure 5 Waterfront greenway (Photo by the author)

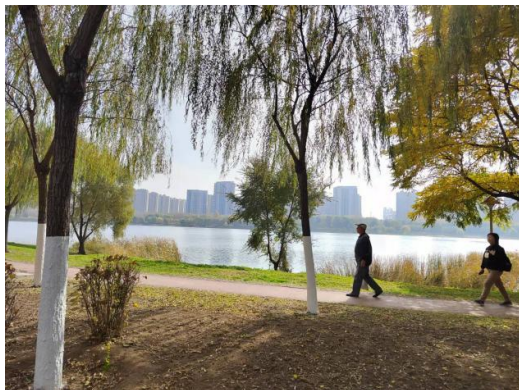


Figure 6 Waterfront greenway (Photo by the author)

5.URBAN GREENWAY LANDSCAPE DESIGN PRINCIPLE

5.1. People-Oriented Principles

People-oriented principle is in the city green landscape design to meet the user's physiological and psychological needs, adhere to the people-centered concept and policy, to implement the humanized design in all aspects of urban green road landscape design, and combined with the aesthetic needs of people and inner true feelings, on the surrounding environment, the differences between the north and the south plant and climate conditions are ingenious use of reasonable. Strive to meet the standards of human behavior, to meet people's physiological and psychological needs. In line with the people-oriented design concept to meet the city residents leisure activities, cultural exchanges, fitness and other basic ways. Urban greenway landscape design can also be said to be the carrier of users' trust emotions. Designers should fully understand the urban appearance and local customs of the region. In the design, the humanized design concept is maintained to ensure the comfort and safety of urban and rural residents. Landscape sketches, leisure seats and post stations can be set up around the urban greenway to facilitate the rest and recreation of citizens.

5.2. Coordination Principle

According to the difference of climate conditions in the north and the south, targeted research should meet the requirements of urban greenway design in the south and the north, and coordinate different plant landscapes in the south and the north to carry out comprehensive design, so as to ensure the sustainable development of urban greenway landscape. In the design of urban greenway, the surrounding environment should be coordinated, so that the environment and urban greenway can be effectively integrated and become an organic whole.

5.3. Principles Of Universality

Macroscopically, the adjustment of industrial structure and the common development of urban and rural areas are the new stage of urbanization development in China, while the design and development of urban greenway should increase the investment in the production and construction of rural greenway, so as to realize the comprehensive, coordinated and sustainable development of urban and rural economy. The development of greenway is not only limited to the development of a small part of the city, but also to meet the overall universal development^[3].

Microscopically, the greenway is not only for young people, but also for the elderly and children. Only for the whole masses can the greenway landscape design have

significance and value. Functionally, to meet the elderly rest and fitness space to meet the fitness of young people and children's entertainment space, the construction of urban and rural public universal greenway landscape.

5.4.The Principle Of Identifiable

On the macro level, the principle of discernibility shows that local characteristics should be fully considered in urban greenway landscape design, adding the flavor of local culture greenway landscape design, and highlighting the unique regional culture of the region^[4]. Experience the unique urban greenway scenery of different cities. This is the identifiability of greenways in different cities. Microscopical, is to implement the specific design to achieve a perfect greenway identification system, rich road landscape changes, contains the characteristics of the landscape plant landscape, so that people can identify the city greenway tour route.

5.5.The principle of accessibility

The function of accessibility principle in urban greenway landscape should be fully considered. Under the premise of ensuring the safety and comfort of greenway landscape space, more attention should be paid to vulnerable groups. The beauty and comfort of urban greenway is the help and protection of vulnerable groups. From the greenway design and construction as a designer should set up blind road, corresponding in the entrance and exit do more guide system, more set up flat avenue and rest and entertainment seats. Wireless network coverage and hot water are provided in the corresponding service area to help the disabled people get spiritual comfort in the urban greenway landscape in their spare time after work.

5.6.The Principle Of Ecology

Respond to the call of the country, keep up with the development of The Times, follow the principle of ecology. Protect the landscape environment and combine the greenway system with the ecological environment in the urban greenway landscape design. Avoid human activities to the original landscape ecology caused bad impact. People should conform to nature and its law of development. Cherish and protect the ecological and natural landscape. In this way, human beings and the environment can progress together and develop harmoniously.

6.URBAN GREENWAY LANDSCAPE DESIGN METHOD

6.1.We Will Improve The Standardization Of Urban Greenway Construction

In the construction of urban greenway, the relevant construction personnel need to fully understand the topography and landform of the region, have professional qualifications and ability, and know the climate, soil and soil, paving, people's ideas and preferences. And accurately grasp the design drawings, to the construction specifications and drawings provisions can be clear in mind. Avoid serious operation problems, and have a strong execution force, for the follow-up construction completed to lay a good foundation.

6.2.Follow The Principle Of Taking Measures According To Local Conditions

The book "garden smelting" put forward "appropriate, appropriate garden." It describes that the landscape design should be carried out on the premise of suitable places and respecting nature^[5]. In the same way, the urban greenway landscape design should follow the principle of adapting measures to local conditions, so as to design the urban greenway landscape suitable for the region to the greatest extent with the minimum impact on the original environment, terrain and nature. For example, residents of cold ground cities rarely go out in the winter months. Climate conditions seriously affect the living conditions of residents in the cold cities in northeast China. This also has an impact on the urban greenway landscape design. Because the regional characteristics of cold land directly affect the behavior mode of winter people, the development of urban greenway in cold land lags relatively backward. For the urban greenway landscape of cold land, the corresponding method to the design of green plants, waterscape and ground pavement of urban greenway, so as to follow the principle of adapting measures to local conditions in cold land city. It ensures the sustainable development of the urban greenway landscape.

6.3.Select The Appropriate Landscape Plant Configuration

Climate conditions determine the choice of plants, in order to maximize pollution control effect to meet the site function, in urban greenway landscape design choose plants, should combine the existing site vegetation and regional climate characteristics reasonable choose plants, choose plants can filter air, choose wind sand plants, choose to reduce rainwater runoff plants, choose plants conducive to biodiversity, choose hot heat can block sun and wind broad leaf plants, must consider environmental psychology and human behavior.

6.4. Strictly Follow The Design Procedures

The design of urban greenway landscape should conform to the ecological concept and the requirements of sustainable development. Through the preliminary discussion and a large number of on-site research, the designer understood the geographical location, climate conditions, hydrological soil and other details of the urban greenways in this area to formulate the design specifications, which has formed a complete design system. Therefore, we should strictly follow the design procedures to carry out the relevant work, to determine the overall design scheme and details.

7. CONCLUSION

As an important support of the urban open space, the urban greenway plays a role in connecting the various functional spaces of the city. Urban greenway can not only relax the mental state of citizens, but also create a better condition for healthy life. Urban green road landscape can not only be water conservation, urban green road landscape green plants to reduce carbon dioxide emissions and biodiversity protection plays an important role, make people have a good ecological environment to efficient work and exercise fitness. Through the study of urban greenway landscape design, the reader can understand the design principle of urban landscape design, and through the analysis of the urban greenway in different regions at home and abroad, the ecological concept into the urban greenway landscape design, make full use of various material resources, and finally get the methods and measures of urban greenway landscape design, to better build a beautiful urban home.

Last but not least, standing at the historical intersection of the two centenary goals, a designer should not forget his original aspiration and bear in mind his mission, committing himself to strong riring and vigorous work. Combine urban greenway landscape with ecological and natural protection to create comfortable, secure and healthy social sports and leisure places for the people. Only then can we live up to the great trust of history, the people and the times.

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