

Artistic Design of Urban Greenway Landscape

Peiyun Bie¹, Hanhan Zhou^{1,2*}

¹College of Tourism & Landscape Architecture, Guilin University of Technology, Guilin 541004, China

²Institute of Guangxi Tourism Industry, Guilin 541004, China

ABSTRACT

As a link between urban green space and residents' life, the urban greenway plays an important role in improving urban environmental quality and residents' quality of life. This paper aims to explore the artistic design of urban greenway landscape. From the principles of ecology, regionalism and humanization, combined with specific design methods of greenway landscapes, entrance and exit landscapes and leisure node landscapes, it puts forward a set of urban greenway landscape art design schemes with practical and aesthetic values.

KEYWORDS

Urban greenway; Greenway landscape; Landscape design

In the rapid development of modern society, the city of reinforced concrete jungle has brought convenience to human beings, and brought a series of problems such as environmental pollution and ecological destruction. In order to alleviate these problems, the urban greenway, as an ecological infrastructure, can not only provide citizens with a space close to nature, but also becomes an indispensable part of urban planning. In order to make these greenways not just road for traffic, but beautiful scenery spots, we need to incorporate more artistic elements into design.

1 Design Principles of Urban Greenway Landscape

1.1 Ecological Principle

The ecological principle requires greenway designers to fully investigate local natural conditions, including soil types, climate characteristics, hydrological conditions, and biodiversity. For example, when planning greenways on both sides of a river, the erosion effect of water flow on the shoreline should be considered, and ecological slope protection technology should be adopted to cultivate plants with developed roots to strengthen the riverbank. At the same time, a certain natural buffer zone should be retained to reduce the impact of human intervention on the water. In addition, the advantages of the river ecosystem can also be used to set up facilities such as hydrophilic platforms and resting pavilions to increase the interaction between citizens and water.

For the mountainous terrain, the greenway design should follow the original terrain trend as far as possible, reduce the excavation and filling of the mountain, and maintain the continuity of the natural landscape. Planting adaptable local plants along the mountain greenway can not only beautify the environment, but also prevent soil erosion. At the same time, facilities such as observation decks and rest pavilions are set up, so that citizens can enjoy the city scenery and the fresh air in the mountains while walking.

1.2 Regionalism Principle

The greenway design should reflect the historical and cultural characteristics of the city. Designers can tell the stories of the city by setting up cultural corridors, historical sculptures, commemorative buildings, and other art installations along the greenway. For example, in a city with a long history, greenways can be connected to historic sites, and through the installation of tour signs and explanatory boards, citizens can be guided to understand the historical allusions of each stone monument and building. In some modern cities, greenways can be used to connect landmark buildings of different ages to form a historical axis of urban development, so that citizens can feel the changes of the city in the process of walking.

Greenways should also become the carrier of urban cultural activities. Through holding various cultural activities on a regular basis, such as folk festivals, art exhibitions, history lectures, etc., citizens can deepen their understanding of local culture in participating activities. For example, an open-air theatre or performance square along the greenway can be constructed to provide a platform for artists to display and enrich the cultural life of the public. Through these activities, and the greenway is no longer just a path for people to walk, but has become a multifunctional space that showcases urban culture and promotes community communication.

1.3 Humanization Principle

The humanization principle requires that the design of greenways should be people-oriented and pay attention to people's actual needs. It means that user comfort, convenience and safety need to be considered from the beginning of the design.

First of all, the design of greenways should focus on accessibility. It means that it is necessary to rationally plan the entrances to the greenway, so that it is evenly distributed and convenient for citizens to enter the greenway from different directions^[1]. For example, multiple entrances are placed near densely populated residential, commercial and office areas to shorten the distance for citizens to reach the greenway and improve the utilization rate of the greenway. At the same time, the road layout inside the greenway should also consider the actual needs of the public, and set walking and cycling paths with moderate width and gentle slope to ensure that the public can smoothly walk through the greenway without obstruction.

Secondly, the functional partition inside the greenway should be clear and reasonably configured according to the needs of different activities. For example, there are dedicated running, cycling and walking paths in the greenway to avoid the interference between different activities. In addition, functional areas such as children's play area, elderly fitness area and pet activity area can also be set up to meet the needs of different age groups and interest groups. The construction of these functional areas can not only enrich the recreational experience of citizens, but also promote the interaction and communication between community members.

Moreover, the design of greenways should also consider the convenience. Convenient facilities such as seats, water dispensers, and public toilets should be reasonably arranged along the greenway to ensure that citizens can feel comfortable and convenient when using the greenway. Especially in the long greenway, at regular intervals, the rest area should be set up and shade and shelter facilities should be provided, so that citizens can have rest in a timely manner when needed.

2 Art Design Methods of Urban Greenway Landscape

2.1 Design of Green Corridor Landscape

In the modern urban planning, the green corridor, as an important ecological infrastructure,

shoulders the responsibility of improving the urban ecological environment and providing residents with leisure space. Landscape plants are one of the core elements of the design of green corridors, and their diversity and layering are essential to create a green corridor environment that is both beautiful and ecological.

The arbor is the key element that constitutes the framework of the green corridor, which not only provides shade and shelter for pedestrians, but also shapes the overall image of the green corridor. From the perspective of tree shape, the arbor can be divided into a variety of forms such as spire, cone, cylinder and flat head. These different tree shapes are matched with each other in the green corridor to form a rich visual level. In terms of growth habits, the arbor can be subdivided into evergreen trees and deciduous trees. The former is evergreen all year around, giving people a feeling of vitality, but the latter changes colors with the seasons, bringing a seasonal beauty^[2].

Although shrubs are not as tall as arbors, they also play an irreplaceable role in the design of the green corridor. The classification of shrubs is similar to that of arbors, but some of these plants, such as crape myrtle and vertical begonia, blend the characteristics of small arbors and shrubs because of their unique forms, which makes the landscape of green corridors more rich and diverse. Ground cover grass and flowers are low and cover the ground. They can not only effectively prevent soil erosion, but also add colors to the green corridor.

In the actual design, it can often be seen that a single pure forest, scrub or lawn can not meet people's pursuit of a better environment. The ideal plant community should consist of multiple layers of arbors, shrubs, herbs and even vines. Each plant has its own specific ecological niche, and they work together in the ecosystem of green corridors. This multi-level arrangement of plants not only enhances the ornamental value of the greenway, but also provides a richer sensory experience for visitors.

2.2 Design of Greenway Entrance and Exit Landscape

The design of urban greenway entrances and exists does not necessarily need to pursue the appearance of high-end atmosphere, and the more important is its functionality and practicality. The design of the entrance and exit should be based on the broad road, and can play a clear sign role to guide the public to enter the greenway smoothly. On this basis, designers can reasonably set markers that can block motor vehicles from entering the urban greenway according to the actual human flow characteristics of urban greenways, so as to ensure the safety and purity of the greenway.

The road design of greenway entrances and exists should be capacious enough to facilitate the passage of pedestrians, bicycles and other non-motorized vehicles. The wide road can not only accommodate the flow of people during peak hours, but also provide enough space for citizens to stay, rest or have a brief conversation. In addition, the entrance and exit also need to set up a clear sign to distinguish the greenway from other urban roads. These symbols can be eye-catching signs, sculptures, or art installations with local characteristics, aiming to enable people to identify the entrance of greenways at a glance and enter smoothly.

In order to ensure the safety of the greenway and avoid motor vehicles straying into or intentionally entering the greenway, designers need to set up effective blocking facilities at the entrance. These facilities can be fixed obstacles, such as stone balls, iron fences, etc., or they can be mobile barricades, such as lifting posts, car bars, etc. Regardless of the form of obstacle facilities, it is necessary to ensure that they can effectively prevent motor vehicles from entering without affecting the normal passage of non-motor vehicles and pedestrians^[3]. For example, low stone pillars or iron railings should be set up at the entrance, which can serve as barriers while not hindering the passage of bicycles and wheelchairs.

When designing the entrance and exit of urban greenways, it can also combine the local cultural characteristics to create a regional iconic entrance image. For example, in some historic cities, sculptures or reliefs reflecting local history and culture can be set up at the entrance of the greenway, which not only increases the artistry of the entrance, but also allows citizens to feel a strong cultural atmosphere before entering the greenway. At the same time, designers can also use natural elements such as green plants and flowers to decorate the entrance, thus making it more close to nature and consistent with the overall style of the greenway.

2.3 Design of Leisure Node Landscape

Leisure nodes not only provide a space for citizens to relax and entertain, but also are an important window to display urban culture and ecological concepts. Therefore, when designing leisure nodes in greenways, designers need to consider multiple factors comprehensively to ensure that each node can give full play to its function and enhance the utilization value of greenways.

Before designing the leisure node, designers should conduct a comprehensive and detailed investigation of the design area, which includes a detailed understanding of the greenway's passenger flow, node spacing, surroundings, and existing facilities. Through the analysis of these data, designers can better grasp the actual use of the greenway, so as to make more scientific and reasonable planning decisions. For example, for areas with large passenger flow, the number of leisure nodes can be appropriately increased to meet the needs of more citizens. For remote areas or areas with small passenger flow, the number of nodes can be moderately reduced to optimize the resource allocation ^[4].

In addition, designers also need to investigate the full length of the greenway and determine the best layout of the leisure nodes according to the location of the scenic spots along the greenway. The reasonable node layout can not only enhance the ornamental value of greenways, but also increase its social value. For example, setting up observation decks or rest areas in scenic locations can provide citizens with opportunities to rest while enjoying natural beauty.

The design of leisure node should not only consider the basic rest function, but also consider other supporting service facilities. For example, in the node, seats, pavilions, water fountains, information boards and other facilities can be set up to provide citizens with more comprehensive services. Seats and pavilions can provide citizens with shade shelter from the sun and rain. Water dispensers can meet the drinking water needs of citizens. Information boards can provide guide information and other useful information of the greenway. In addition, some art installations or cultural exhibition areas can be set within the leisure node to enhance the culture atmosphere and make citizens enjoy the artistic edification while resting.

3 Conclusion

The art design of urban greenway landscape is a very comprehensive work, which involves ecology, geography, sociology and other disciplines. Only by combining these principles and methods can we create an urban greenway landscape that conforms to modern aesthetics and has practical functions.

Funding

The Research Foundation Ability Improvement Project of Young and Middle-aged Teachers in Universities in Guangxi in 2024, "Research on the Correlation between Garden Plant Biodiversity and Landscape Design" (2024KY0258); The Research Foundation Ability Improvement Project of Young and Middle-aged Teachers in Universities in Guangxi in

2024 "Research on the Protection and Inheritance of Geographical Name Culture in the Lijiang River Basin from the Perspective of Heritage Resource Theory" (2024KY0257).

About the Author

Peiyun Bie, Research direction: Landscape architecture planning and design.

Hanhan Zhou, Master, Lecturer, Research direction: Landscape architecture planning, design and theory.

References

- [1] Zhao W. Research on Design Methods and Countermeasures of Urban Greenway Landscape [J]. Journal of goods and quality, 2019, 000 (031) : 93-94.
- [2] Sheng LW. Study on Landscape Design of Urban Greenway Slow Walking Space [J]. Footwear Craft and Design, 2023, 3(22):151-153.
- [3] Li WG, Xiao Q. Research on Design Methods and Countermeasures of Urban Greenway Landscape [J]. Digital Design (II), 2019(6):101-101.
- [4] He L. Design of Urban Greenway Landscape in Garden Construction [J]. New Materials · New Decoration, 2022, 4(16): 58-60.