

Retraction

Retracted: Guangzhou Digital City Landscape Planning Based on Spatial Information from the Perspective of Smart City

Mathematical Problems in Engineering

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their

agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] W. Yang, X. Xi, L. Guo, Z. Chen, and Y. Ma, "Guangzhou Digital City Landscape Planning Based on Spatial Information from the Perspective of Smart City," *Mathematical Problems in Engineering*, vol. 2021, Article ID 5572652, 11 pages, 2021.

Research Article

Guangzhou Digital City Landscape Planning Based on Spatial Information from the Perspective of Smart City

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With the development of society and the improvement of urban economic level, people are no longer satisfied with the simple material and functional requirements of the city; thus, the spiritual requirements of city beauty, environmental quality, place atmosphere, and so on need to be improved. Based on the above background, the purpose of this paper is to analyze the landscape planning of Guangzhou's digital city based on spatial information from the perspective of smart cities. Based on the relevant theoretical research, this paper combs the ideas of intelligent urban road landscape design. This paper analyzes the concept of urban road and smart road and puts forward the definition and characteristics of intelligent urban road landscape; according to the research on the development status of urban road and the connotation of smart city, combined with the concept and principle of urban road landscape design, it summarizes the design method of smart city road landscape. This paper, taking the innovative design of urban landscape as the research object and using the research methods of literature analysis and field investigation, innovatively combines the urban landscape design with digital information technology, changes the traditional landscape design ideas, constructs the urban landscape innovative design model, realizes the personalization of the urban landscape design, as well as the intelligent, digital, diversified, and humanized service and function. The experimental results show that nearly 60% of people are satisfied with the Guangzhou digital urban landscape planning based on spatial information in the smart city perspective.

1. Introduction

Since the 1990s, with the continuous development of information technology and the rapid development of communication systems, the network is widely used in the world, the process of urban informatization is accelerating, and people's lifestyle has undergone great changes. The rapid development of information technology provides opportunities for the change and upgrading of urban industrial structures and the change of social development, reflecting the concept of "intelligent city." In the city, the scenery is positive, which can reflect the city's preferences and development. In the process of forming the urban development mode, we should not only consider the land planning and layout of urban development, but also consider the significance of the corresponding landscape technology. Only urban development can have a higher

level of implementation example, which is also our new challenge to our work. Particularly, in the twenty-first century, China's urban construction is gradually shifting to the improvement of the characteristics and quality of the city as the center, focusing on the speed of urban construction, economic growth rate, urban development scale, and emphasizing the improvement of urban characteristics and image.

Due to the importance of smart city research, many research teams began to study smart city and achieved good results. Centenaro et al. introduced the most advanced communication technologies and smart-based applications used in the smart city environment and explained the big data that supports smart cities by focusing on the method of big data fundamentally changing the population at different levels of the city analysis of the prospects. On this basis, the business model of future smart city big data is proposed, and

the topic of business and technology research is pointed out [1]. Menouar et al. study the semantic annotation of cloud sensors and connect the cloud with the Internet of things to realize and consider innovative services. By defining the cloud of things (CoT) paradigm, things like semantics are considered to perform the aggregation of heterogeneous resources. They investigated the smart city vision, provided the main required information, and highlighted the benefits of integrating different IOT ecosystems into the cloud under the new CoT vision [2]. Chapman et al. study the security and privacy of smart city applications. Specifically, they first introduced promising smart city applications and architectures [3].

At present, urban agglomeration is one of the main strategies of global urbanization. However, it is not clear how the density of the city is related to the process of the surrounding landscape. Vasiljevi et al. aim to emphasize the potential of the landscape around the city as a complementary provider of urban ecosystem services in the context of reduced urban green space density. They believe that people's perception of the suburbs will change from the definition of a specific population density and geographical distance between urban and rural areas to a landscape defined by its function [4]. To improve the efficiency of urban landscape planning and design, Zhang proposed and developed a virtual landscape-based urban landscape planning system combined with the current computer development technology. Therefore, this paper introduces the computer virtual technology, especially the key technology of virtual simulation, and then designs the urban landscape planning based on virtual simulation of the system function, overall simulation platform, and specific design, and finally gives a development example of urban roaming three-dimensional planning system [5]. With the continuous improvement of people's happiness index, people's demand for tourism life has also changed. They pay increasing attention to urban landscape planning. Therefore, urban landscape has become an important factor affecting the development of urban tourism economy. Choi mainly writes on the interactive relationship between urban landscape planning and urban tourism economic development, then analyzes the positive role of Bali urban landscape planning on urban tourism economic development in the form of a case, and finally puts forward suggestions for further improving the urban landscape planning and promoting the development of urban tourism economy [6].

Based on the background of the rise of digital media art brought about by the development of smart cities, this article systematically analyzes and compares the landscape innovation design research of Guangzhou and the outstanding cases of urban smart city landscapes at home and abroad, taking Guangzhou as an example to apply smart city art to landscape innovation design research.

2. Smart City and Urban Landscape

2.1. Connotation of Urban Landscape

2.1.1. Aesthetic Connotation of Urban Landscape. With the continuous development and progress of the times, people's

quality of life is getting higher and higher. From the pursuit of material life to the pursuit of aesthetic cultivation, art, aesthetics, and spiritual world, people's goal pursuit has gradually changed [7, 8]. The urban landscape design in the new era should change from single aesthetics to diversified artistic aesthetics. In the process of urban landscape construction, to prevent the balanced popularization of urban landscape, we should pay attention to reflecting the city's personality and cultural characteristics. With the development of the times, people began to be interested in the cultivation of beauty, began to appreciate and create beauty gradually, and worked hard to improve their own aesthetic ability [9]. In the modern urban landscape design, we should not only pay attention to the coordination of urban characteristics and cultural history, but also pay attention to the integration of new gardening materials and modern science and technology and combine all relevant factors to build and meet the architectural beauty conforming to the urban culture and history.

2.1.2. Residential Connotation of Urban Landscape. As the human habitat of the city, the urban landscape not only plays a role of beauty, but also is a space for humans to experience life. We should pay attention to the spiritual construction of the place [10]. The construction and design of urban landscape is the result of human adaptation, deformation, and natural creation. Human beings living in cities are actually the process of interaction and harmonious coexistence between human beings and nature.

2.1.3. Systematic Connotation of Urban Landscape. As a whole system, the urban environment is mainly divided into three levels, namely, the main system, all levels of subsystems, and system elements [11, 12]. In the complex open and integrated urban landscape system, the urban landscape system can be divided into physical type and spatial type, which can be subdivided into buildings, structures, landscape devices, plants, urban squares, urban parks and green spaces, city street, urban coastal space, and other factors [13].

2.1.4. Symbolic Connotation of Urban Landscape. As the image symbol of the city and the carrier of human culture and spirit, urban landscape can be divided into cultural symbols, historical symbol, and public emotion symbols through the differences of language, mode, shape, structure, and urban construction materials [14]. The development of digital media art clearly expresses the city information and unique city culture with image accuracy and simplicity, which plays an important role in the process of urban development.

2.1.5. The Connotation of Information Transmission of Urban Landscape. The traditional urban landscape connotation means the connotation of beauty, habitat, system, and landmarks [14]. The development of digital information technology and media art has accelerated the process of urban information transmission and feedback. Landscape is

the habitat of human life, and information transmission is necessary. The significance of urban landscape information transmission is unified, which affects the aesthetic meaning of urban landscape and the connotation of habitat, system connotation, and symbol connotations.

2.2. Functions of Urban Landscape

2.2.1. Communication Culture. Every city has its own cultural characteristics, which is the accumulation of material and spiritual wealth created by human beings in the long-term working life. That is the social phenomena and traditional customs and lifestyle of people in the city [15, 16], i.e., the sum of habits, regional habits, literature and art, ways of thinking, norms of action, and values. The human environment of the city is the spiritual needs and emotional life of the citizens. The cultural design of the city is mixed with the urban landscape design. The most common factor is to extract and use them from cultural, historical, ethnic, religious, and other factors [17]. Therefore, in the process of urban landscape architecture, designers should actively understand the history and culture of the city and apply these cultural elements to the design. The landscape with cultural importance is the same as the name card of the city. It shows the cultural ideal and spiritual pursuit of the urban residents [18]. For smart cities, the first thing to do is to reduce noise, which can be processed using the following functions:

$$F(u) = \int |Du| dx dy + \frac{1}{2} \lambda \|u - u_0\|^2. \quad (1)$$

The corresponding equation is

$$-div\left(\frac{\nabla u}{|\nabla u|}\right) - \lambda(u_0 - u) = 0. \quad (2)$$

The denoising problem can be transformed into the optimization problem of the function; let the error function be

$$E(x, y) = div\left(\frac{\nabla u}{|\nabla u|}\right) - \lambda(u - u_0). \quad (3)$$

It is assumed here that the final output is an ideal noise-free image, which is

$$u(x, y) = N(u_0(x, y), w), \quad (4)$$

where $u(x, y)$ is the noise image and w is the connection weight.

If you want to significantly improve the effect of planning image processing, you can use the mixed variational functional model of forward and backward diffusion:

$$\begin{aligned} \min_{u \in BV} E(u) &= a \int \frac{1}{p} |\nabla u|^p dx + (1-a) \int \frac{1}{q} |\nabla u|^q dx \\ &+ \frac{\lambda}{2} \int |u - f|^2 dx. \end{aligned} \quad (5)$$

The entire network model can be written as

$$N(x, y) = \sum_{k=1}^n w_k \exp\left(-\frac{\|V_0(x, y) - c_k\|}{2\sigma_k^2}\right). \quad (6)$$

The weight adjustment is as follows:

$$\begin{aligned} \Delta w_k &= \sum_{x,y} \frac{\partial E(x, y)}{\partial w_k}, \\ \Delta c_k &= \sum_{x,y} \frac{\partial E(x, y)}{\partial c_k}. \end{aligned} \quad (7)$$

2.2.2. Economic Development. As an important part of modern urban construction, urban landscape design not only meets the aesthetic requirements of urban residents and the beautification function of the urban ecological environment, but also promotes the development of urban economy [19, 20]. In the promotion of urban economy, the role of urban landscape is reflected in the direct or indirect promotion of economic growth. First of all, in the direct preferential aspect, to meet the needs of urban landscape and residents, the traditional landscape economic growth point of urban landscape planning and design industrial chain is actively developed in the urban landscape construction, to a certain extent, promoting the urban economic development. Scientific urban landscape construction can achieve the purpose of saving water, land, and financial expenditure from the perspective of indirect benefits [21]. Through the construction of landscaping, a lot of resources can be saved and the environment can be improved. Urban landscape design will have a positive impact on urban economic development.

In the process of implementing a smart city, an optical model is needed to illustrate how the three-dimensional discrete data field generates, reflects blocks, and scatters light. Therefore, the reasonable selection of the optical model is an important factor in the planning effect.

$$\frac{\Delta I}{I} = \frac{\rho * E * \Delta s * \beta}{E} = \rho * \Delta s * \beta. \quad (8)$$

When Δs approaches 0,

$$\frac{dI}{ds} = -\rho(s) * \beta * I(s) = -\kappa(s) * I(s). \quad (9)$$

As the model's lighting conditions changes, the image will also change with the discovery

$$\begin{aligned} I(s) &= I_0 \exp\left(-\int_0^s \kappa(t) dt\right), \\ t(s) &= \exp\left(-\int_0^s \kappa(t) dt\right). \end{aligned} \quad (10)$$

From this, we can see that

$$\partial = 1 - t(s) = 1 - \exp\left(-\int_0^s \kappa(t) dt\right). \quad (11)$$

When Δ approaches zero, use the following differential equation to illustrate the change of light intensity:

$$\frac{dI}{ds} = T(s) * \rho(s) * A = T(s) * \kappa(s), \quad (12)$$

$$I(s) = I_0 + \int_0^s g(t)dt.$$

2.2.3. Ecological Protection. The concept of sustainable urban development is put forward, and the ecological concept is injected into modern urban construction. Ecological concept is widely used in landscape design, and sustainable ecological design has gradually become the development trend of urban landscape design [22, 23]. The design under the ecological concept is related to the harmony between human and nature and the sustainable development of human beings. The ecological concept should be applied to the innovative design of urban landscapes such as “Wetland Park,” “noncourtyard,” and “sponge city.” This kind of ecological, green, and sustainable urban landscape and urban planning and design actively promote the ecological protection and sustainable development of the city to a certain extent. The use of cutting-edge science and technology and green building materials reduces cutting and environmental pollution technology and ecological integration, so that the urban landscape and the natural environment coexist harmoniously [24].

2.3. Smart Urban Road Landscape. The road environment of smart city is based on big data and integrates the concept of human centered. In the process of development and construction, we should focus on protecting the ecological environment and abiding by the sustainable development policy. The road environment for road traffic is provided according to the road and surrounding environment, i.e., the environmental construction of road landscape, the cultural atmosphere of urban area, and the belt-like landscaping courtyard on the road structure.

The construction of intelligent city road landscaping can reduce energy consumption after road use and integrate various physical forms of road landscaping, buildings, and small objects into modern network technology. Based on the use of natural conditions, it plays a role of warning, guidance, and rest for tourists in travel. Before and on the way to the city destination, tourists can recognize a variety of information services, interact with each other, understand various information in the road section in time, and then adjust the travel plan according to the time.

2.4. Road Landscape Characteristics of Smart City

2.4.1. Situational. Intelligent city roadblock is a kind of roadblock that conveys the characteristics of urban scenic spots along the way. Landscape engineering, auxiliary facilities, landscaping, plant landscape, and local node regional landscape design are designed to improve the overall regional theme atmosphere. In the design of intelligent city,

roadside park, forests, and flowers can become the main body, which can unify and perfect the beautiful structures of Higgins flower beds and grass, so that tourists will have a specific feeling before they arrive in the city.

2.4.2. Security. The construction of an intelligent city road should first meet the characteristics of road safety. The construction of an intelligent city roads should be based on road safety, realize the monitoring and comprehensive understanding of all aspects of the road through network and sensor technology, and provide early warning and roadside support.

The most important point of urban road construction is to meet the road safety. In the road landscape design, the road direction should be clearly defined, and the atmosphere created by lighting, plants, and sketches will not affect the driver’s normal driving. The construction of urban roads should be based on road safety. Through the application of intelligent control system, all aspects of road monitoring and comprehensive understanding can be realized, and the traffic guidance, intelligent early warning, and emergency structure can be implemented on time.

2.4.3. Ecology. Smart urban road construction may damage the natural ecology nearby. Therefore, in the process of route selection and design, ecological protection should be fully considered to reduce the damage to biodiversity and protect and implement the original natural resources. To ensure the development of less environmental impact, please use it to form an ecological city road landscape with regional characteristics.

Due to the inherent ecological characteristics of plants, plants play a unique role in ecological protection in road greening. Plants in urban road environment have the effect of sound insulation and noise reduction. The noise generated by vehicle driving will affect the life of residents along the path and endanger physical and mental health. Through the dense food materials and the unique arrangement of plant branches and leaves, the shielding effect of green plants can effectively absorb sound waves and reduce noise. In summer, cover the plants with plastic film, reduce the direct light on the ground, reduce the radiation energy, adjust the temperature, and form a cool mountain breeze through the ventilation of the green corridor. Winter can prevent manna from releasing heat on the ground. Thermal protection can adjust and improve the microclimate of road environment. The suitable ecological plants along the line can reduce the surface temperature, and the plant landscape of urban roads can improve the climate, protect the ground, improve the ground temperature, and prevent aging.

2.4.4. Experiential. Through the analysis of regional landscape and path selection, the concept of people-centered is followed, so that tourists can enjoy a good natural landscape along the line. In the process of intelligent city road landscape design, to improve the experience and quality of the city, modern information technology is used in auxiliary

facilities and landscape facilities. In the process of information collection, action decision-making, and landscape viewing, tourists can feel the new experience brought by smart urban road landscaping.

The intelligent road can provide better information for tourists to better understand the situation of the city and provide better information for tourists along the road. The application of intelligent control system in the landscape design of urban road is more humanized and convenient, which can increase the engine of urban road construction. From the perspective of urban user experience, each public experience focuses on urban construction methods.

3.4.5. Fusibility. In urban road construction, the integration of comprehensive identification technology and network technology can realize data storage, calculation, and analysis, and improve the decision-making ability of business departments through the participation of citizens.

The intelligent network information technology is integrated into the urban road, and the information collection and analysis system is established by collecting tourists' information, to fully understand the information of tourist groups, change of requirements, opinions and suggestions, to realize scientific decision-making and scientific management. To increase the investment of information technology in the construction of intelligent city roads, encourage relevant companies to improve the operation status, improve the management level, improve the interaction between tourists and relevant resources and departments, and effectively integrate resources and publicize the development of the whole city area.

3. Urban Landscape Experimental Design

3.1. Experimental Data Collection. The investigation is divided into two aspects. First, we investigate the site conditions of the project area, that is, basic design elements such as topography and topography, existing plant species, and water resource conditions. Data collection can be horizontally compared and analyzed through onsite survey, measurement and mapping, or detailed vertical analysis based on relevant information obtained by relevant regional departments in Guangzhou, to solve all design factors that may affect mountain ups and downs, river tides, and other factors. Second, investigate local resources such as tree planting and stone materials, and use these materials rationally to create the city's main road scenery with natural characteristics in line with the region.

3.2. Landscape Investigation of Experimental City

3.2.1. Urban Culture Excavation. To create a characteristic urban landscape, the landscaping design of the main road to the city should explore the urban culture, learn historical city planning in museums, historical planning bureaus, etc., ask for the names of local villages, and refer to historical materials. Learn about regional culture, urban history, architectural sites, urban stories, and urban landscapes, and

extract elements from the environment to provide inspiration for the design of major roads in Guangzhou and better reflect the regional culture of Guangzhou.

3.2.2. Line-of-Sight Analysis. According to the speed of the vehicle and the linear structure of the road, the existing road structure will be subdivided. From the vehicle's point of view, when the line of sight is analyzed at high speed, the line of sight becomes narrower and the visual focus expands with the distance. However, the road landscape design of Guangzhou City can now design an excessively iconic landscape from two aspects of the road and design a large iconic landscape. Detailed scenery, eye-catching scenery, and low-speed driving areas can be designed for plain scenery, but the scenery requirements are simple and clear and do not require much attention. When driving in a straight line, the design of tourist attractions on both sides of the road is relatively simple, and only specific areas are reasonably allocated, while the landscape design for curved driving is more complicated. To avoid a long and exhausting driving experience, to achieve the change of landscaping rhythm and the purpose of safe driving, please design their own close focus in different areas.

3.3. Experimental Landscape Design

3.3.1. Partition Design. The road environment in Guangzhou is linearly distributed. In this linear space, the factors that affect the design of the landscape area include the surrounding urban land planning, surrounding terrain factors, and road vision analysis. First of all, most land plans in Guangzhou belong to businesses, residences, factories, or schools. In the landscape design of major urban roads, other land should be used. Second, the regional setting of major urban roads in Guangzhou is affected by topographical factors. The impact is clearly that mountains, valleys, rivers, etc., have an important impact on the regional setting. Finally, the line of sight is also essential in the area of setting design. To ensure the safety of the road environment, the connectivity between multiple environments in the linear space is improved.

3.3.2. Road Design. The park roads and landscape roads in the project area are developed according to the main roads, and the road direction and road classification are determined according to the functional area, terrain, and mass flow. Focus on the connection between low-speed system, road and walking path, minimize the impact on the road on the premise of meeting the walking activities on both sides of the road, and minimize the impact on the surrounding environment under the premise of meeting.

4. Analysis of Landscape Experiment Design of Smart City

4.1. Guangzhou's Transportation Infrastructure. First of all, the first stage of street landscaping design is to clarify the relationship between traffic. With the development mode of

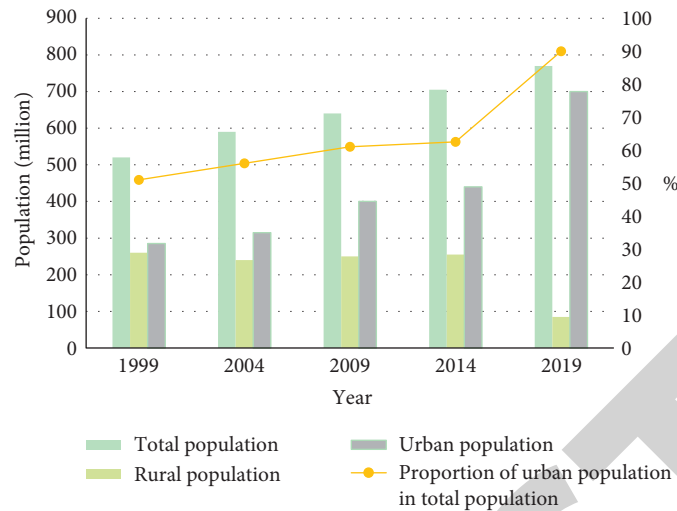


FIGURE 1: Changes in rural population and urban population.

mass transportation and the theory of shared distance transit-oriented development (TOD) model, orders for people, bicycles, mass transit, and personal cars can be considered and communicated. The pedestrian areas on the streets of Guangzhou are generally landscaping infrastructure companies. For example, the association design of Grace street in Barcelona can increase the walking space of the street, strengthen the humanistic treatment, and improve the overall distance quality. In addition, there are a series of auxiliary spaces such as parking lots, space under the bridge and obstacles in the current demonstration road traffic system, but a part of the space can be reused and integrated through landscape design, which is a very popular activity. The distance between space and intelligence is an indispensable part of space. The changes of rural population and urban population in recent years are as shown in Figure 1 and Table 1.

It can be seen from Figure 1 that the proportion of cities in the total population has been increasing, and the urban population has increased by nearly 40% within 20 years. This requires a more scientific and reasonable urban planning layout. We have recently made statistics on the urban and rural floating population in recent years, as shown in Table 2 and Figure 2.

4.2. Guangzhou's Cultural and Recreational Infrastructure.

Just as one of the important factors of the road is traffic infrastructure, the leisure infrastructure of street landscape space is also one of the important factors of street landscape. On the road of perfect design without problems in the street, the gorgeous scenes make people look like a vivid ballet. A better example is Copenhagen Super Street. In view of the occurrence of Super Street, the designer uses spiral, square, and linear free leisure space to meet the functional requirements of people. The space is fully utilized and the natural distance is also full of vitality. At the same time, it is necessary to combine the cultural and artistic characteristics of the city to effectively emphasize the distance characteristics and the

excellent characteristics of the space that can realize the cultural and artistic value of urban regeneration. For example, Wangfujing pedestrian street is the symbol of Beijing, and the bronze sculptures with rich ancient features are assigned to pedestrian streets. In the streetscape design, the alteration and integration of public art can enhance the vitality of the street landscape in Guangzhou, increase people's participation, and improve the characteristics and vitality of the street landscape in Guangzhou. The overall planning requirements for cultural and recreational infrastructure are shown in Table 3 and Figure 3.

We have made statistics on the cultural and entertainment situation in Guangzhou, as shown in Table 4 and Figure 4.

4.3. Landscape Design of Greening Plants in Guangzhou.

Vegetation greening plays an important role in urban street landscape design. Plants absorb exhaust gas, reduce air pollution, make the space around the street better, absorb noise pollution, and provide more things for people around. In addition, since plant cultivation relies on traffic roads, the distinction of traffic roads can be realized by other plant species. The plant green belt is also a beautiful insulating belt for fire belts and cities. The greening of streets in Guangzhou mainly includes pedestrian road greening, car greening, and public place greening. Generally speaking, plant types that are not vulnerable to pests and fallen leaves should be considered comprehensively based on the local soil moisture and sunlight. For example, the green belt of a pedestrian street is mainly to separate pedestrians from vehicles and combine the architectural styles on both sides of the street to achieve the historical and cultural expression of the street. You can consider choosing characteristic tree species. The landscape design of greening plants is shown in Table 5 and Figure 5.

4.4. Street Landscape in Guangzhou's Smart City. The street landscape design of a smart city needs to follow art and science at the same time. According to the unity of art and

TABLE 1: Demographic changes.

	1999	2004	2009	2014	2019
Total population	517	592	634	700	756
Rural population	265	243	247	248	87
Urban population	287	318	412	431	704
Proportion of urban population in total population	56%	60%	64%	67%	91%

TABLE 2: Urban and rural floating population.

	2015	2016	2017	2018	2019
Urban floating population	3.73	3.85	4.36	4.17	3.88
Rural floating population	4.33	4.53	4.4	4.61	4.74
Proportion of urban mobility	27%	29%	31%	35%	28%
Proportion of rural mobility	55%	59%	61%	67%	69%

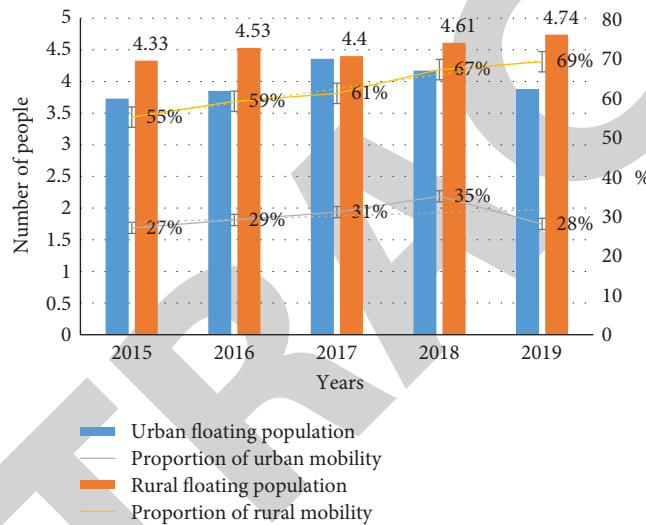


FIGURE 2: Changing trends of the floating population.

TABLE 3: Legend of Jingyuan in the master plan of scenic spots.

Serial number	Scene source type	Text	Graphic size	Graphic color
1	Humanities	Super Jingyuan (humanities)	The diameter of the outer ring is b	$C = 5$ $M = 99$, $Y = 100$ $K = 1$
2		First-class Jingyuan (humanities)	The diameter of the outer ring is $0.9 b$	
3		Second-level Jingyuan (humanities)	The diameter of the outer ring is $0.8 b$	
4		Tertiary Jingyuan (humanities)	The diameter of the outer ring is $0.7 b$	
5		Fourth-level Jingyuan (humanities)	Diameter is $0.5 b$	

science, the scientific principle of plant composition can form the characteristics of plant form, colors, outline, and line of intelligent cities to obtain better natural beauty effect, highly unified. The satisfaction of street landscape design survey is shown in Table 6 and Figure 6.

We compared several parameters of Guangzhou under the smart city and got the data, as shown in Table 7 and Figure 7.

(1) Smart city fully reflects the flexibility of road landscape design in Guangzhou. The plasticity of the street

landscape in Guangzhou reflects the hardness of the plant branches. Each plant has different vegetation characteristics. Many plants can be cut immediately after cutting, but some plants cannot grow new plants in a short time. Some plants have strong branches, but some plants are of poor quality. To build a reasonable plant area, Guangzhou mainly planted silver and green trees of various aquatic plants in water-rich areas. (2) It fully reflects the adaptability of the factory to the smart city environment. In the process of Guangzhou landscape construction, considering

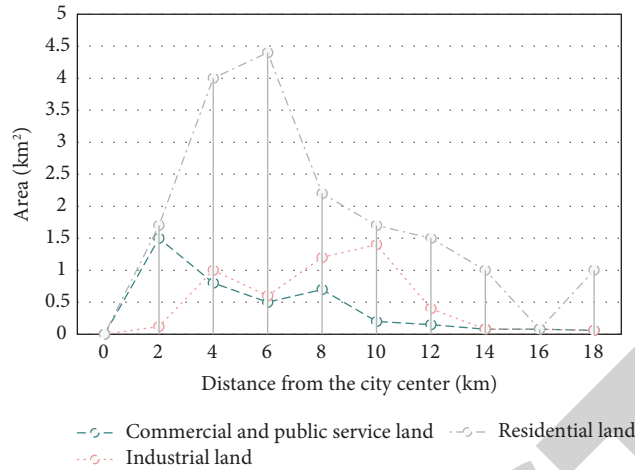


FIGURE 3: General planning requirements for cultural and recreational infrastructure.

TABLE 4: Cultural and entertainment venues in Guangzhou.

	Yuexiu district	Haizhu district	Tianhe district	Baiyun district	Huangpu district	Huadu district	Panyu district	Luogang district	Nansha district
Cinema	36	35	39	35	37	35	38	42	33
Stadium	37	40	40	43	39	42	38	39	43
Park	7	13	7	6	5	6	9	11	8
Library	5	7	8	5	13	12	8	8	6

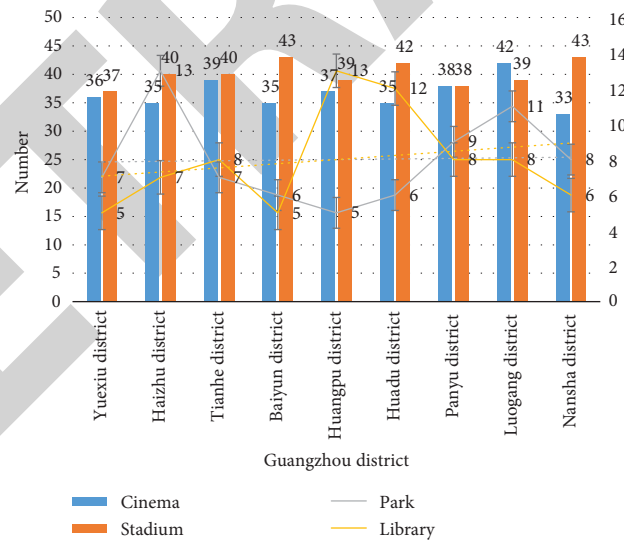


FIGURE 4: Recreational facilities in various districts of Guangzhou.

TABLE 5: Greening plant landscape.

	Whole province	Provincial capital	Suburbs
Public lawn	2000	1000	6000
Residential area	800	1600	100
Protective green space	3000	2500	4100
Scenic woodland	1800	1900	2700

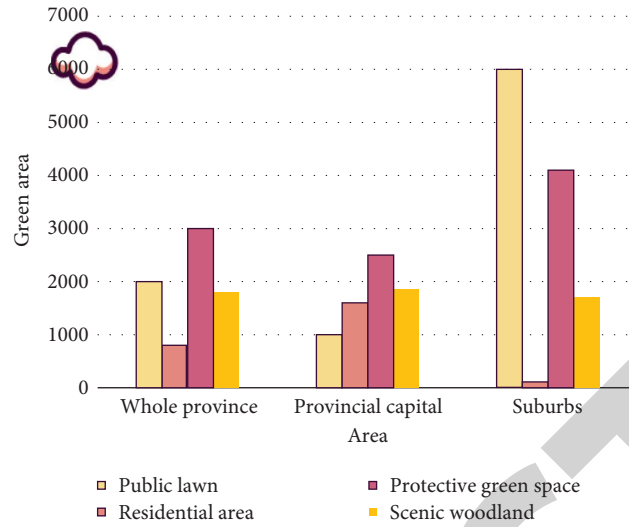


FIGURE 5: Urban greening plant landscape design.

TABLE 6: Resident satisfaction.

	Very satisfied (%)	Not very satisfied (%)	Satisfied (%)	Dissatisfied (%)	Very dissatisfied (%)
Satisfaction	10	31	16	35	8



FIGURE 6: Satisfaction of urban street landscape design survey.

TABLE 7: The value of each parameter.

	Greening	Resident satisfaction	Traffic condition	Casual	Landscape
Traditional city	3.01	3.37	3.27	3.92	4.12
Smart city	6.51	6.4	6.88	6.4	6.8
The optimal value	7.78	7.92	7.72	7.5	7.71

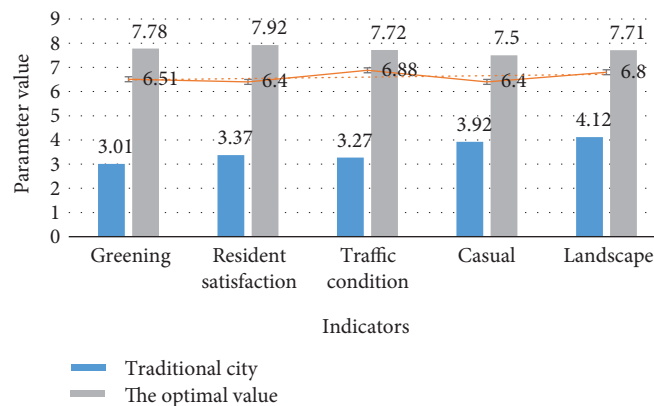


FIGURE 7: Parameters in different city modes.

the interaction between plants and the natural environment, to adapt to the environment, various plants were planted in other places. The main reason that affects the growth environment of plants is water. Affected by sunlight, cities need landscapes such as high altitude, high altitude, and high altitude. (3) It fully reflects the diversity of road landscape in Guangzhou. The shape and appearance of plants have a very diverse aesthetic relationship. There are very diverse choices in the shape and appearance of plants in Guangzhou.

5. Conclusions

With the development of science and information technology, an intelligent city has appeared. In the construction of intelligent cities, distance landscaping design needs a scientific combination of planning, information technology, aesthetics, horticulture, botany, action psychology, and spatial geography. This paper combines the actual situation of distance landscaping design in the development of smart cities, applies distance landscaping design in the smart city planning of Guangzhou, and actively encourages smart city development. In the smart city planning of Guangzhou, the emergence of smart cities is not only an effective means of urban planning, but also a prerequisite for urban development.

This thesis focuses on the development of domestic and international urban landscapes, main theoretical research, domestic and foreign case studies, and summarizes the traditional urban landscape framework, urban landscape components, general methods of landscape planning and design, and existing shortcomings. Based on this, a point (mark, node) + line (path, boundary) + surface (region) of the Guangzhou city landscape style framework is proposed, and the historical context and natural elements are extracted according to the thinking and interrelationship of the elements.

This article concludes that there are two main problems with my country's gardening plan. One is the planning method, and the other is the design environment system. This article focuses on the improvement of planning methods and epoch-making content, looking for control rules for breakthroughs in the connection planning system, but the landscape plan can be linked to the entire plan, the regional plan, and the detailed plan. However, this is limited to the author's business ability, technical ability, and research time, which provides a reference for future research, which is also the main direction of future research.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding the publication of this research article.

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