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Urban and rural planning model innovation from the perspective of smart cities

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Abstract: Urban and rural planning is the knowledge base for the development of smart cities, and it is also conducive to improving the quality and level of urban and rural planning in China. Helping demanders and builders provide rich technical support in the design, planning, construction and application of smart cities, which is very helpful to build smart cities. The future development and iteration of the city will create opportunities for the interconnection between cities. However, the expansion of urban area to suburbs leads to the low effective utilization rate of urban resources. The increasingly dense urban population also reduces the service quality and work efficiency of social institutions and increases the difficulty of information sharing. The traditional manual work based planning approval method is no longer sufficient to meet the current urban development needs. In the construction of modern urban and rural planning, the concept of smart cities has received more attention and importance, and the application of urban and rural planning technologies in smart cities and urban and rural planning. The analysis of urban and rural planning will completely change the traditional way of formulating urban and rural planning, and the construction of smart cities will comprehensively improve people's quality of life and the operational efficiency of cities.

1. Introduction

In order to further ensure the overall quality of urban and rural planning and promote the acceleration of urbanization, the focus should be on urban and rural distribution, so that urban and rural distribution planning can keep up with the times and achieve further optimization and integration [1]. Urban and rural planning is the knowledge foundation for the development of smart cities and is also conducive to improving the quality and level of urban and rural planning in China. In recent times, the changes caused by the urban and rural planning era have greatly affected the lives and work of the public, not only making urban control and life more intelligent, but also easing the tension between urban and rural land use [2]. It provides rich technical support to help demanders and builders in the design, planning, construction, and application of smart cities, which is very helpful in building the future development and iteration of smart cities and creating opportunities for interconnection between cities [3].Therefore, the relevant staff should be clearly aware of the important role of urban and rural planning technology in the development of smart city planning, and carry out collaborative work through various aspects [4]. Urban and rural planning

has also had some impact on the current urban and rural planning and design and the effective construction of smart cities, and played a vital role, effectively promoting the construction speed of smart cities, and also making urban and rural planning and design more scientific.

With the development of market economy, the comprehensive social benefits are gradually strengthened, and the shortcomings of urban planning are gradually exposed in people's field of vision [5]. However, the expansion of urban area to suburbs leads to the low effective utilization rate of urban resources. The increasingly dense urban population also reduces the service quality and work efficiency of social institutions and increases the difficulty of information sharing [6-7]. At the same time, with the development of information technology, the amount of urban construction information has increased rapidly, the efficiency of information processing and transmission has increased, and the planning approval business faced by urban planning management departments has doubled. The traditional manual mode of planning approval is far from satisfying the existing urban development [8].Give full play to the role of urban and rural planning technology and smart city technology, comprehensively display the real-time status and specific information of urban planning, and formulate solutions that match the actual situation. In the era of urban and rural planning, digital information technology has effectively defined the basic connotation of smart cities with advanced technological means and standardized technical requirements [9-10]. In the construction of modern urban and rural planning, the concept of smart cities has received more attention and importance, and the application of urban and rural planning technologies in smart cities and urban and rural planning. The analysis of urban and rural planning will completely change the traditional way of formulating urban and rural planning, and the construction of smart cities will comprehensively improve people's quality of life and the operational efficiency of cities.

2. Planning Technology Business Solutions in the Era of Smart Planning

2.1. Planning Technology Business in the Smart Era

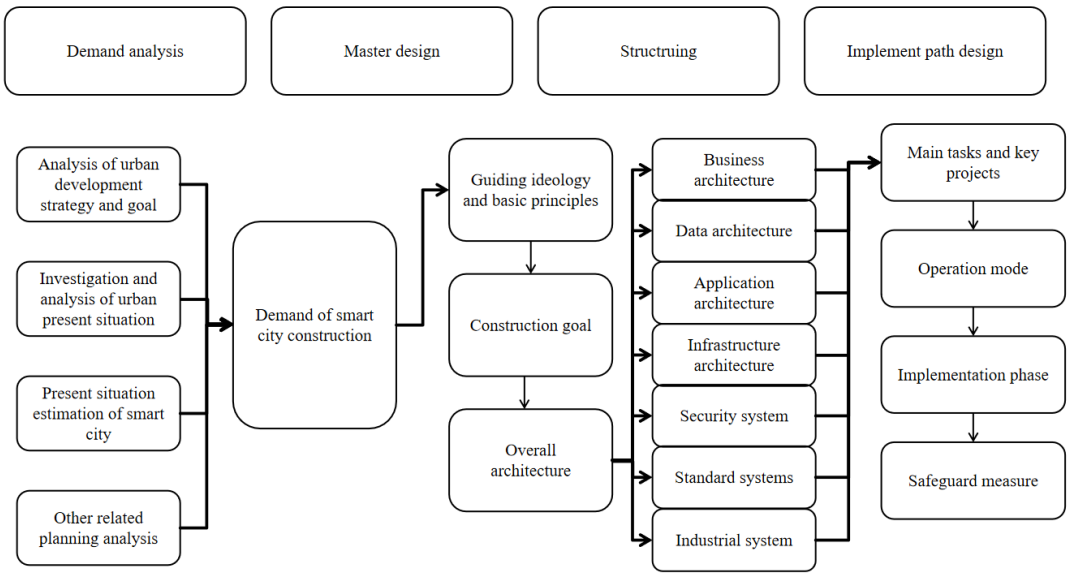

Figure 1: Basic process of top-level design of smart city

Whether in the traditional urban planning business, in the digital planning era, or in the current urban planning business that is entering the era of smart planning, the technical business faced by design units is mainly the business needs of scheme design. In the context of smart cities, the

improvement and upgrading of transportation facilities relies on the use of sensors and cameras, which can comprehensively manage and supervise the traffic conditions of the entire city. In urban and rural planning, special attention should be paid to the construction of transportation facilities. Fast and convenient travel methods can significantly improve people's happiness in life. For example, when a traffic accident occurs in a certain place, the cause and location of the accident can be determined immediately, and relevant vehicles can be warned and diverted to reduce the traffic flow around the accident site to reduce road congestion and relieve traffic pressure, as shown in Figure 1.

In the initial stage, the simplified charts are mainly used to show the data quickly, and the data information is slightly boring and intuitive. Developing interactive dynamic simulation technology, animation processing technology and three-dimensional map technology can effectively improve this situation and realize technological innovation. Due to the influence of the priority of social and economic construction, economic growth is the primary requirement in the planning of most towns in China. Especially after the end of the housing commercialization reform, land has been the core pillar to stimulate the rapid economic development. Moreover, as a result of socio-economic development, cities are a process of social and economic construction from bottom to top, particularly representing high-end talents at every level of society. Their urban and rural planning ideas also demonstrate their respective economic rights and value orientations. At the same time, in addition to technical and economic indicators, the results in the plan also include various details and summaries. In addition, the application of various types of data can be applied to other aspects of urban planning.

2.2. Smart Planning Technology Business Solutions

According to the characteristics of the planning technology business in the smart planning period, the entire solution provides unified and seamless technical and business connections based on the different work natures of the design unit, construction unit, and review unit. In specific practice, if the construction of smart cities can be effectively strengthened and the existing infrastructure of the city can be improved, then the service functions of the current city can be improved. Regarding the development of Chinese cities in the past, the widespread popularization of existing Internet technology and the continuous innovation and in-depth research on digital technology have not only put forward more effective suggestions for the transformation of urbanization in the new era, but also have a profound impact on the transformation of urbanization. The work points out a better and scientific development direction. It can not only realize the integration of urban master planning, detailed urban planning and various special planning data, but also realize the vision of sharing a blueprint between the government and the public in a real sense. Then, with the continuous innovation of science and technology and the continuous innovation and development of technology, the original simple electronization has become automation and intelligence, and smart cities have embarked on the road of Internet and intelligence development. The application of Internet of Things technology in smart city planning is mainly to realize all-round perception of urban physical space and effective collection of relevant information from the technical level, and provide data guarantee for the top-level design of smart city planning. The layer specifies the layer name, layer attributes, drawing and feature types and colors of entities in the layer, and defines whether the entities in the layer need to be closed.

3. Urban and rural planning application strategies for smart city planning

3.1. Establishing the concept of comprehensive urban planning

Only by applying big data technology scientifically and effectively can we give full play to its role in smart city planning. To apply big data technology scientifically and effectively, we need to establish a comprehensive concept of urban planning and pay close attention to the top-level design of urban development. The coordinated development of various cities can reduce the problem of uneven development between cities. At present, broadband technology has become the representative of the network. At the same time, on the basis of continuously promoting innovative cities and upgrading construction technology, combined with current big data technology, the security of data information will be improved, and the benign development of cities will be effectively promoted. Prospect of the proportion of application scenarios in rural smart cities is shown in figure 2.

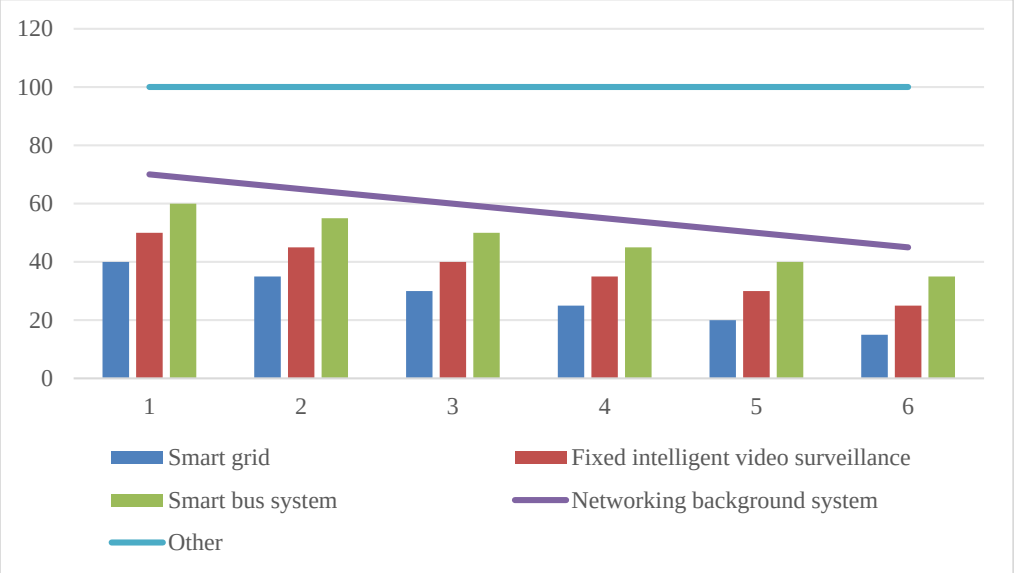

Figure 2: Prediction of the proportion of application scenarios for smart cities in China

If the relevant management departments want to ensure the high feasibility and rationality of the special planning for smart cities, they should also analyze the final effects of smart applications from multiple perspectives. We need to use objective and fair methods to complete the scientific assessment of infrastructure construction in the region, and clarify the key content that must be optimized and compensated in the specific planning process of smart cities. In the new era, urban and rural planning should pay more attention to the needs of urban residents, effectively improve service quality and living standards. In order to effectively build smart cities to meet the needs of multiple stakeholders and coordinate the interests of these parties, the application of data processing technology needs to be fully considered. Secondly, use virtual reality technology to display digital cities. Only by successfully creating a digital city model can we promote the realization of smart city planning and construction goals.

3.2. Improve the effectiveness of urban spatial resource allocation

Smart city planning is aimed at better allocating urban spatial resources. Smart management in the process of urban construction can truly achieve intelligent and efficient development in data, optimizing and utilizing the management methods in the current smart city construction process.

Therefore, if you want to effectively solve this problem, you must first speed up the sharing mechanism of data information. Not only does paper information need to be stored electronically, it also needs to be classified and stored. CAD warehousing ideas. As shown in Figure 3.

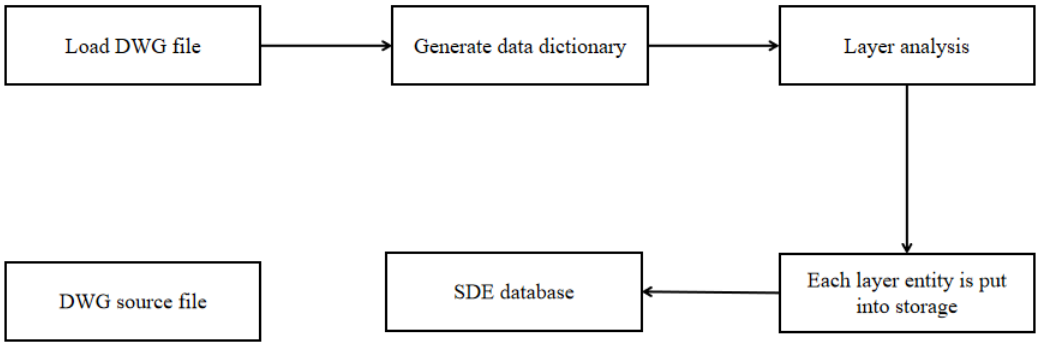

Figure 3: CAD warehousing ideas

This unified urban operation center will achieve the integration and sharing of various data resources in the city. Smart management is based on project networks, office suite software systems, decision support systems, system integration, and information technology integration. Relevant personnel need to refine the goals of different stages according to the special plan, avoid problems with the implementation direction of the plan, and ensure that the directional guidance role of the special plan is fully utilized. Compared with traditional garbage disposal methods, this not only saves significantly the consumption of human, material and financial resources. It also protects the environment to a great extent, further promotes the application of communication technology, and also reflects the smart level of the city.

4. Conclusions

To sum up, the overall good effect of urban planning will directly promote the rapid economic and social development of China. Give prominence to the advantages of information management, realize the comprehensive integration and scientific application of all kinds of data and information, avoid excessive waste of all kinds of resources, and make the collection and feedback of urban information efficient and accurate. In addition, in the construction of smart cities, we should also start from the aspects of intelligent integrated services and intelligent management to create urban development space serving the people. In the process of urban planning practice, we should fully tap the open and shared big data resources and screen out valuable research data in order to scientifically and accurately diagnose the symptoms of urban problems. Compared with the planning and development of residential areas, other types of planning and development have little difference in basic parameters and calculation methods, but there are some subtle differences in index system and norms. In the practical implementation of urban and rural planning and smart city development, it can greatly improve the quality and efficiency of all aspects of operation. To fully leverage the role of big data technology in smart city planning, it is necessary to establish a comprehensive urban planning concept, create a digital city model, develop a smart multi collaborative system, and enhance the effectiveness of urban spatial resource allocation.

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