

# **Research on the Problems and Countermeasures of Urban Public Infrastructure under the Background of Supply-side Reform --Take Wuhan as an Example**

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**Abstract:** As China's economy shifts from a “speed-based” to a “quality-based” growth and the deepening of supply-side reform, the government makes full use of “supply management” as a means. The government accelerates the efficiency of various resource allocation, focus on the quality of economic development, raises the happiness index of the people, and promotes the development and improvement of public infrastructure. However, almost every city in my country is facing the contradiction between the shortage of infrastructure and the increasing actual demand at this stage. This article mainly studies the opportunities and challenges faced by urban public infrastructure construction and development in the context of supply-side reforms. Such as the uneven distribution of regional public infrastructure, the old facilities are not repaired in time and the financing channel is single. And on this basis, it puts forward solutions such as establishing an effective public infrastructure supply mechanism, implementing effective supervision and management, establishing a scientific performance evaluation system, establishing and improving the PPP model, and dredging the channels for expressing residents’ demands. So as to achieve the goal of promoting our country’s economic transformation, improving the living standards and quality of urban residents, and developing and improving urban public infrastructure.

## **1. Introduction**

Supply-side reform refers to the use of reform to promote structural adjustments, reduce ineffective and low-end supply, expand effective and mid-to-high-end supply, enhance the adaptability and flexibility of the supply structure to changes in demand, increase total factor productivity, and make the supply system better adapt to changes in demand structure. President Xi Jinping pointed out in the report of the 19th National Congress of the Communist Party of China to deepen supply-side structural reforms. To build a modern economic system, we must take improving the quality of the supply system as the main direction of attack, and significantly enhance my country’s economic quality advantages. Supply-side structural reforms, as a main line, lay a solid foundation for building a modern economic system. Urban public infrastructure refers to the general term for providing public products and public services for the development of various urban undertakings and the improvement of the living standards of urban residents. It has the characteristics of public goods: non-exclusive and non-competitive. The supply and demand relationship of urban public infrastructure in our country is facing a structural imbalance that cannot be ignored. Dislocation of supply and demand” has become the biggest roadblock to the continued economic growth. Starting from the background of supply-side reforms, if China's economy is to achieve long-term sustainable development, it must match the supply and demand of urban public infrastructure. The government must establish an effective public infrastructure supply mechanism to improve the efficiency of resource utilization, so as to increase the total quantity and quality of effective element supply and the potential economic growth rate.

## **2. The Status Quo of Wuhan's Public Infrastructure in the Context of Supply-side Reform**

(1)In the context of supply-side reforms, the practical innovation of public infrastructure construction in Wuhan

First, transform and improve old communities. During 2015, the Wuhan government

strengthened the creation of “happy communities” in 100 old communities, focusing on improving community roads, drainage, public lighting and other infrastructure. It determined the list of 100 old communities that participated in the event. The government formulated an implementation plan, held a special work deployment meeting, and incorporated the annual performance target task assessment. The city has initiated more than 1,500 projects and completed 1024 projects, accounting for 68.3%.The government has cultivated and developed 405 community social organizations, carried out 456 community cultural activities, repaired 29,949 square meters of damaged roads in the community, renovated and dredged 13,592 meters of community drainage pipe network, and carried out a large-scale renovation of the community’s public infrastructure.

Second, establish a “three-one system”. In recent years, the public resource trading platform of Wuhan Citizen's Home has been completed and put into operation, which has transformed the city's public resource trading pattern from decentralized to centralized. As of the end of March 2017, the total transaction volume of municipal public resource platforms was 15,532, with a total transaction value of 498.5 billion yuan. The public resource trading platform will straighten out the public transaction management system in accordance with the model of “One Committee, One Office, and One Center”. In this way, a unified place and facility, a shared information system, and a standardized and transparent operating mechanism can be realized.

Third, promote the first trial of public education. In 2016, Wuhan also promoted the construction of public basic education. The “Top Ten Plans and Deployments of the City of University” were proposed to create an innovative ecosystem. It clearly requires the district to take the lead in the four aspects of “district-school integration of production, education and research, infrastructure, public services, and talent cooperation integration”. In this way, we will build a “university city” demonstration area and build an organic combination of public infrastructure and regional education.

(2)In the context of supply-side reforms, the bottleneck faced by Wuhan's public infrastructure construction

While advancing related policies, a series of issues have also been brewing. The construction of some old community facilities seriously lags behind the development of social and economic construction. Wuhan has adjusted its industrial structure in recent years, and the second and third types of industries have basically withdrawn from the downtown area. This has brought great development opportunities to the economic construction of the new districts surrounding Wuhan, and the social and economic development has been rapidly developed. However, this has overwhelmed the original public infrastructure, which is mainly reflected in the fact that water supply and drainage, power supply, and garbage disposal are far from meeting the needs of economic development. There is a widespread phenomenon of quick success and instant benefit in the construction of public infrastructure. At the same time, water supply and drainage, garbage collection and sewage treatment projects that urgently need capital investment have no capital investment, resulting in the roads built in various towns are mostly “slab roads.” There is only the road surface, and there are no pipeline facilities under the road, which will inevitably bring troubles to future pipeline construction or cause road sections. Some projects are not equipped with any sewage treatment facilities after the introduction, and the sewage is discharged into the existing water body at will, causing the deterioration of the urban environment, which are concentrated manifestations of the lack of a sustainable development strategy for the entire city.

### **3. Challenges Faced by Wuhan's Public Infrastructure Development in the Context of Supply-side Reforms**

(1)The distribution of regional public infrastructure is uneven, and there is a lack of unified guidance for sustainable planning

Wuhan’s public infrastructure construction in economically underdeveloped areas is obviously lagging behind. The local construction plan is also quite chaotic. There are basically no formal design drawings in the planning, and most of them are simply imitated. Its function is relatively single. The construction team engaged in urban public infrastructure construction lacks professional

talents. Due to the lack of personnel management and training, the blindness and arbitrariness before construction are large, resulting in low construction efficiency and quality, and many hidden dangers. In general, the planning and implementation of Wuhan's public infrastructure construction are not in place, and there is a phenomenon of random construction. There is a widespread phenomenon of focusing on the immediate and neglecting long-term development. During the construction process, the ground and underground were not synchronized. Ground hardening and underground engineering construction such as water supply, drainage, heat supply, and sewage discharge are independent of each other, resulting in repeated excavation and repeated construction of street pavement. The above behavior not only consumes manpower, financial resources, and material resources, but also causes serious damage to the original facilities and brings great inconvenience to the production and life of the people.

(2)Lack of investment funds and single investment and financing channels

With the establishment of the fiscal decentralization system, local governments have obtained the investment decision-making power of local infrastructure, and there are more and more local construction projects. After the 1990s, investment in urban infrastructure construction began to shift to local investment. City self-raised funds have become the main source of infrastructure construction funds. However, due to the implementation of the tax-sharing system in 1994, most of the taxes began to shift to central taxes and shared taxes, and local governments had insufficient funds to invest in public infrastructure construction. Most urban public basic industries implement monopoly operations and lack incentive regulatory mechanisms. In general, Wuhan has relatively weak financial resources in the construction of public infrastructure. Infrastructure investment mainly relies on superiors, and there is a single investment and financing channel.

(3)Lack of accountability mechanism, emphasis on construction and neglect management

At present, there is still a phenomenon of "emphasizing construction and neglecting management" in infrastructure construction in Wuhan. The main manifestation is that the management system and mechanism of infrastructure construction are not sound and perfect, the powers and responsibilities of relevant government departments are not clear, and the supervision and maintenance of projects are not in place in time, which affects the overall quality and efficiency of the project. In particular, related irregular operations such as construction vehicles and mechanical loading on the road have caused damage to public infrastructure such as roads and water supply. After the completion of individual construction projects without supervision, they are easily damaged by internal and external factors, bringing hidden dangers to urban public infrastructure.

(4)The legal guarantee system for urban construction planning is not sound

At present, the laws and regulations directly applicable to urban public infrastructure construction and planning related projects in Wuhan are still incomplete. Most of them exist in the form of industry department regulations and local regulations, which cannot fundamentally restrict the behavior of all parties. In the relevant laws and regulations currently issued by our country, there is a lack of legal instructions on the specific implementation and management methods of public urban infrastructure construction plans. The government failed to achieve a reasonable allocation of resources for public infrastructure construction. In addition, the unclear ownership of property rights and the lack of exit mechanisms will also have a negative impact on urban construction planning.

#### **4. Suggestions on the Construction of Public Infrastructure in Wuhan**

(1)Overall planning the coordinated development of the old and new districts, and improving the infrastructure construction plan

The government should be guided by the scientific development concept, with the starting point of improving the living environment, perfecting urban functions, and coordinating urban and rural development, and clarify the short-term development goals. It should also highlight the construction of infrastructure projects in key areas, and coordinate the simultaneous development of the old and new areas. In this way, we can strengthen the top-level design, rationally divide functional areas, and scientifically and rationally plan the layout of infrastructure construction. While the

government speeds up facilities for drainage, water supply, sewage, roads, telecommunications, communications, sanitation, and greening, it must also enhance democratic participation in decision-making. It should make public planning and design plans, increase transparency and participation in decision-making, extensively solicit opinions from residents and experts, and clear channels for residents to express their appeals.

(2)Reform the fund management system and raise public infrastructure funds through multiple channels

It is necessary to improve the investment system of urban public infrastructure construction led by public finance. We want to form a diversified investment mechanism with government guidance, social participation, and market operation. It is also necessary to speed up the establishment and improvement of the system of paid use of municipal public facilities, and promote the transformation of municipal public utilities from service-oriented to operating-oriented. The government can use the PPP model to guide social capital investment and achieve diversified operations. The PPP (Public-Private-Partnership) model refers to the formation of a partnership-style cooperative relationship between the government and private organizations in order to provide certain public goods and services on the basis of concession agreements. The contract clarifies the rights and obligations of both parties to ensure the smooth completion of the cooperation and ultimately enable the parties to achieve a more favorable result than expected to act alone. The establishment of a community relationship of “benefit sharing, risk sharing, and full cooperation” between the government and social entities can reduce the government's financial burden and reduce the investment risks of social entities.

(3)Combining supervision and improving the comprehensive management level of municipal public infrastructure

We must adhere to equal emphasis on supervision and management, and constantly innovate and explore new mechanisms and models for urban public infrastructure management. It is also necessary to further straighten out the management system, effectively solve the current problems of fragmentation, and gradually promote the relatively centralized exercise of the power of administrative punishment in urban management. At the same time, the government can collect residents’ satisfaction surveys and problem feedback on public infrastructure, and take corresponding measures for problems that need to be dealt with in a timely manner. The most important thing is to establish a scientific performance evaluation system, to further equip with a strong management team, to enhance the standardization and professionalization of management, to improve the comprehensive management level of municipal infrastructure.

(4)Strengthen the legal guarantee system for urban construction planning

The government should improve and clarify relevant laws and regulations, standardize the layout, construction and construction of urban public infrastructure construction, form a fundamental binding force, and reduce unnecessary waste. Each district government shall, in accordance with the actual situation of the region, formulate the management method of the urban public infrastructure construction plan in the region on the basis of the “Planning Law”. At the same time, local governments should formulate a legal guarantee system for urban construction planning according to local conditions, pay attention to tapping the advantageous resources of local public infrastructure construction, and promote the rational layout of urban public infrastructure construction, so as to achieve sustainable development of the ecological environment.

## 5. Conclusion

In the context of supply-side structural reforms, it addresses the problems of unbalanced distribution of regional public infrastructure, lack of investment funds, and imperfect accountability mechanisms in the development of urban public infrastructure construction. The government should infiltrate the concepts of innovation, coordination, greenness, sharing, openness and sustainable development into every aspect of urban public infrastructure construction. Relevant departments should focus on improving public infrastructure construction plans, raise public infrastructure funds through multiple channels, and strengthen the legal guarantee system for urban construction

planning and implementation. Economic development should be promoted simultaneously with the equalization of urban public basic service construction, and performance appraisal should be implemented simultaneously with the mechanism of evaluating people's happiness. The government plays an important role in establishing and improving multiple sustainable investment and financing mechanisms, promoting my country's economic transformation, improving the living standards and quality of urban residents, and developing and improving urban public infrastructure construction.

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