

# *Research on the Path of Wuhan Logistics Hub City under the Background of the Construction of Pilot Zone*

**Jiahao Zhou**

*School of Logistics, Wuhan Technology and Business University, Wuhan, 430000, China*

**Keywords:** Logistics Hub, Advance Zone, Urban Development

**Abstract:** As the core city of Central China city circle, the construction of Wuhan logistics hub city can stimulate the logistics efficiency of surrounding cities, open up the logistics channel in central China, and build the domestic and international circular logistics node. Starting from Wuhan's urban transportation, industry and economy, and aiming at the city's transportation service capacity, economic growth efficiency and hub stability, this paper analyzed the current overall situation of Wuhan, analyzed the problems and puts forward optimization strategies. The results showed that there are problems in Wuhan industrial structure, short board of transportation and toughness of urban logistics. Considering the elements of industrial modernization, regional coordinated development, domestic and international double cycle in combination with Wuhan construction pilot zone, it provided strategies for Wuhan's logistics hub city construction and explored new paths From the four aspects of digital technology, industrial integration, regional cooperation and personnel training in the paper.

## **1. Introduction**

The development of logistics industry affects the economic growth rate, and the construction of logistics hub city is a powerful step in the process of urban development [1, 2]. As a national "five-type" hub city, Wuhan's logistics hub construction and layout will certainly play an exemplary role in the development of other cities in China. In September 2022, the Standing Committee of the Hubei Provincial People's Congress pointed out that it is necessary to coordinate the 14th Five-Year Plan of our province and comprehensively build the pilot zone of the new development pattern, and the task of the construction of the pilot zone has a guiding role in the construction of Wuhan as a logistics hub city.

## **2. Problems Existing in Wuhan Logistics Hub**

### **2.1 Industrial Structure Still Needs to Be Optimized**

Wuhan is located in the central part of China and is the only sub-provincial city in the central region. Wuhan has a diversified industrial structure, mainly focusing on automobile manufacturing, optical fiber industry, biomedicine and heavy industry. In 2022, the GNP of Wuhan will reach 18866.43 million yuan, an increase of 11.784 million yuan over 2021, with a growth rate of 6.66%.

The tertiary industry was 116,739,900 yuan, accounting for 61.88%, and the tertiary industry growth rate was 5.08%. After the outbreak of the epidemic, Wuhan city's economy rebounded and showed an overall upward trend, but the proportion of the tertiary industry still lags behind that of other cities in China, as shown in Table 1. The proportion of tertiary industry, which represents the proportion of tertiary industry in urban development, is positively correlated with logistics input efficiency [3]. The layout of urban logistics hubs affects logistics efficiency and therefore economic growth.

Table 1: Industrial and economic distribution of Wuhan City from 2018 to 2022

Unit(ten thousand yuan)	2018	2019	2020	2021	2022
GDP	14928.72	16223.21	15516.07	17688.03	18866.43
Primary industry	362.00	378.99	402.18	441.57	475.79
Secondary industry	5579.42	5988.88	5327.17	6136.99	6716.65
Tertiary industry	8987.31	9855.34	9786.71	11109.47	11673.99

## 2.2 Short Board of Transportation Needs to Be Repaired

Wuhan is a “five-type” port city. Its geographical location and the support of national policies make the development of the re-property industry in Wuhan have innate advantages and acquired blessings. However, after the total social cargo transport volume of Wuhan falls to a new low in 2020, the rate of refund is slow, and the railway freight volume in 2022 is 87.37% lower than that in 2019, as shown in Table 2. The number of China-Europe freight trains in Wuhan is significantly behind that of Zhengzhou, Xi 'an, Chengdu and other cities. The disadvantage of railway freight transport reduces the comprehensive hub capacity and greatly reduces the domestic and foreign industrial integration of Wuhan.

Table 2: Freight volume of "road-railway-water-transport-aviation" in Wuhan from 2018 to 2022

Unit(10,000 tons)	2018	2019	2020	2021	2022
Total social transport volume	62517.88	67555.22	52686.12	63555.88	61524.66
Railway	7372.80	8186.10	7999.70	966.00	1033.70
Road	38633.90	41778.20	31724.91	49353.09	44977.41
Water transport	16491.33	17573.73	12951.00	13216.00	15494.00
Aviation	19.85	17.19	10.51	20.80	19.55

## 2.3 The Toughness of Urban Logistics Is Low

The epidemic in 2020 and the "city restriction order" in Wuhan have caused heavy damage to people's lives and economy in Wuhan. The resilience of urban logistics refers to the adaptability of urban transportation logistics in the face of public emergencies and the stability of its own development. The resilience of urban logistics is generally related to the innovation ability of urban economy and the service ability of public infrastructure [4]. Major events in the past, such as public health events and natural emergencies, have a relatively large impact on Wuhan, in the final analysis, because of the relatively low logistics resilience of the city.

## 3. Requirements for Logistics Hub Construction in Pilot Zone Construction

The construction of national hub has the following requirements: (1) good location conditions; (2)

intensive spatial layout; (3) Priority is given to storage facilities; (4) Strong openness and publicity; (5) Perfect service function; (6) Overall operation and management; (7) Regional synergy [5]. The following tasks are proposed for the construction of the pilot zone in Hubei Province.

### **3.1 Industrial Modernization**

The construction of the pilot zone clearly points out the construction of a modern industrial system, which is characterized by "innovation first and technology based". As an important module in the tertiary industry, the logistics industry is characterized by its ability not only to serve the production and circulation of the primary and secondary industries, but also to promote the coordinated development of other tertiary industries.

### **3.2 Coordinated Regional Development**

Regional coordinated development is the comprehensive requirement of urban development. As a multi-type port city, it not only plays the role of national hub, but also assumes the huge task of cargo circulation. Secondly, regional coordinated development also includes the coordinated development of urban agglomeration along the Yangtze River Economic Belt and the close integration of urban circle, such as the rapid formation of the pattern of "Wu-e-Huang-Huang" urban circle, which drives the surrounding economy [6].

### **3.3 To Build an Important Hub of Domestic and International Double Circulation**

Accelerating the construction of comprehensive transportation hub and national-level important logistics hub is an important task at present. The factors of double circulation at home and abroad require the formation of more advanced logistics origin, more abundant circulation nodes and more diversified market links, which will consolidate its own strength for the development of Wuhan and efficiently communicate with the international community.

In order to meet the national requirements and standards for logistics hubs, specific requirements are put forward for the construction of logistics hubs in Wuhan City in view of the task of construction of pilot zones in Hubei Province. The construction of logistics hub in Wuhan needs to be highly digitalized, which can ensure the service capacity of infrastructure and the construction of logistics informatization. The construction of logistics hub needs to place it in an important node of multi-industry integration, complete its own construction and optimize the development of other industries. Emphasize the agglomeration of logistics hub, improve the regional system capacity through the construction of logistics hub, and speed up the process of domestic and foreign cooperation.

## **4. Analysis on The Path of Building a Hub City in Wuhan**

### **4.1 Digital Technology Enables Logistics Hub Facilities**

Logistics hub facilities are fundamental to determine the capacity of logistics hub and the development degree of hub city. Digital economy enables logistics facilities to improve logistics efficiency. The improvement of logistics efficiency by digital technology is reflected in the fact that digital technology, through 5G network, Internet of Things, artificial intelligence and other technologies, has brought intelligent and intelligent logistics equipment update to the traditional logistics industry and the construction of smart logistics park. Smart logistics equipment has greatly improved productivity in warehousing, logistics, picking and other logistics links. The construction

of smart logistics park can make logistics hub facilities present in the form of network, and improve the cohesion and stability of urban logistics network.

#### **4.2 Industrial Integration Open Logistics Hub Pattern**

The coordinated development of industries is a necessary condition to ensure the steady rise of urban economic strength. The logistics industry is the most typical of the service industry and has the ability to serve other industries. The integration with other industries can increase the demand of the logistics industry and promote the opening of the logistics hub pattern. As a super-large city in China, Wuhan has diversified industries, but the value of its tertiary industry is still at a low level among the same cities. Therefore, the logistics industry should be more closely connected with other industrial structures, analyze the industrial pattern of Wuhan, do a good job in the strategy and phased process of industrial integration, and carry out "competition to promote training" for advantageous industries. In order to meet its logistics needs, it will continuously improve its own logistics hub ability, spread and penetrate other industries, and create an open Wuhan logistics hub pattern.

#### **4.3 Regional Cooperation Expand the Scale of Logistics Hubs**

Deep regional cooperation is an important measure to prevent urban individualization and useless construction. At present, Wuhan City is building a "Wu-e-Huang-Huang" urban circle, Ezhou Huahu Airport's airport capacity, Huangshi Port's water transportation assistance and Huanggang Dabishan backup area's industrial support, so that the current comprehensive hub has begun to take shape, but there is still a need for closer cooperation. Government cooperation can accelerate the timeliness of regional cooperation and improve the efficiency of logistics industry between urban circles through multimodal transportation. Secondly, for other economic groups in Hubei Province, such as "Xiangyang-Shiyan-Sui" and "Yichang-jingzhou-jingmen", we should seek common ground while reserving differences, develop in synergy, and expand the scale of Wuhan logistics hub by helping regional construction and eventually forming large, medium and small cities.

#### **4.4 Personnel Training Supplement Logistics Hub Construction Sustainable Development**

As the city with the largest number of college students in China, Wuhan has abundant reserve talents. At present, the supply of talents in the logistics industry has problems such as the deviation of the definition of logistics talent structure, the deviation of students' logistics ability and enterprises' demand ability, and the insufficient integration of production and education in schools. First of all, universities should give full play to their own professional characteristics, make fine distinctions in the structure of logistics talents, and export job-type, technical and managerial talents to the society respectively. Secondly, fully investigate the social needs, transfer the logistics industry ability needs to the task of talent training, and evaluate the completion; Finally, the in-depth integration of production and education, docking logistics enterprises, through the "order type internship" to abandon the fleeting practical training teaching, help students master the logistics industry skills, and form a pattern to promote the sustainable development of logistics hub construction.

### **5. Conclusion**

As the capital city of Hubei Province, Wuhan is also the core city of the Yangtze River

Economic Belt. The construction of its logistics hub will inevitably affect the logistics industry and economic development of the whole central region. In view of the existing problems and the task of the construction of the pilot zone, this paper puts forward relevant suggestions for the construction of Wuhan logistics hub, which has certain significance for the improvement of urban logistics service capacity, the development of regional economic system, and the internationalization and sustainable development of the city.

## References

- [1] Xin Zhang, Shen Zhong, Fengge Yao, Yuexin Li, Jian Li. *Industrial green total factor productivity in China's Yangtze River Economic Zone: Temporal and spatial difference analysis based on 108 panel data*[J]. *PLoS One*, 2022, 17(7): 259-366.
- [2] Snežana Tadić, Mladen Krstić, Milovan Kovač, Nikolina Brnjac. *Evaluation of Smart City Logistics Solutions*[J]. *Promet-Traffic & Transportation*, 2022, 34(5): 725-738.
- [3] Xiaoshuang Liu. *Study on resilience level of Urban logistics in China based on System clustering Model*. *Logistics Engineering and Management*, 2022, 44 (10): 18-21 (in Chinese).
- [4] Yongmei Cai. *Analysis on the relationship between economic growth of tertiary industry and input-output efficiency of logistics* [J]. *Business Economics Research*, 2023, (12): 72-75 (in Chinese).
- [5] Zuo Lei, Baian Xu, Siyu Sun, Jun Shi, Yaofei Wang. *SWOT Analysis and Countermeasures for Constructing a "Five-type" national logistics hub in Wuhan* [J]. *Logistics Technology*, 2022, 41 (01): 14-20 (in Chinese).
- [6] Matusiewicz, M, Rolbiecki, R. *The tendency of city stakeholders to implement sustainable logistics measures using the port city of Gdynia as an example*[J]. *Scientific Journals of the Maritime University of Szczecin-Zeszyty Naukowe Akademii Morskiej w Szczecinie*, 2021, 66(138): 69-80.