

## Research on the Development of High Speed Rail and Urban Economy in the New Era

### —Taking Zhengwan High-speed Railway New City Area of Nanyang City as an Example

Jianping Gao

Nanyang Institute of Technology, Nanyang, Henan 473004, China

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**Abstract.** As China's development enters the fast lane, the forerunner of transportation and economic development is getting more and more attention from various cities. The "high-speed rail economy" has become a new economic growth model. As an important transit point on Zhengwan High-speed Railway, Nanyang City, while actively responding to the national call and construction of the railway, also puts its sight on the impact of high-speed rail on the urban economy. This article will focus on this emerging economic development, sum up the current research results of high-speed rail and urban economy, and then demonstrate the close relationship between Zhengwan high-speed rail and Nanyang economic development from both positive and negative aspects, and strive to be at the theoretical level. And in the real sense, it can help urban development.

#### Introduction

As China's development enters a new era, transportation, the prerequisites and necessary conditions for this economic construction, are increasingly being valued by people. Convenient transportation promotes social division of labor, industrial development and the formation of economies of scale, and even Expanding international economic and trade cooperation and personnel exchanges play an important role. The high-speed railway, as a leader in transportation tools, has also become an inevitable choice for the development and construction of various cities in China. Since China's first high-speed railway, the Beijing-Tianjin inter-city railway, was opened in 2008, the high-speed railway that China has put into operation has reached more than 6,800 kilometers. More and more high-speed railways have improved transportation efficiency and shortened the distance between cities. The big one has driven the development of the local economy of the railway and attracted scholars to explore the impact of high-speed railways on the economic development of the city.

#### Overview of the Research on "High-Speed Rail Economy"

The "high-speed rail economy" is a new type of economic form that relies on the comprehensive advantages of high-speed railways to promote production factors such as capital, technology and manpower, as well as consumption factors such as consumer groups and consumption materials, and achieve optimal allocation and agglomeration development at high-speed railway stations. The construction of Zhengwan High-speed Railway Nanyang Station is also the representative of the "high-speed rail economy". High-speed rail can promote industrial upgrading and transformation of the regional economy and promote economic structural changes, which will affect a city's real estate, tourism, commerce, logistics, finance, entertainment and other aspects. In addition to the aviation industry, most industries will benefit from high-speed rail. .

Between the high-speed rail and the urban economy, in recent years, more and more scholars have studied the relationship between the two. Some scholars have analyzed the macroeconomic effects brought by high-speed rail to cities from the aspects of urbanization and social benefits. For example, Luo Wei (2013) used multiple linear regression models to analyze local economic

development without high-speed rail, and comparative evaluation method analyzed the overall social and economic development of China before and after the opening of high-speed rail; Qi Chenglin (2014) believed that railway speed-up from urban population To the cities along the high-speed railway, the concentration of urban agglomerations and the size of the city in the form of olives affect China's urbanization pattern, which has a significant effect on China's economic population growth; Sun Cong (2014) used 85 models to analyze 85 cities.

Some scholars have focused on the topic and analyzed the impact of high-speed rail on the economic development of a certain region. For example, Luo Ling (2013) believes that high-speed railway has accelerated the urbanization process of cities along the line, expanded the scale of cities along the line, and has an important impact on urban development and structural reconstruction along the line; Chen Jianjun (2014) believes that high-speed rail is along the line. The necessary factors for urban economic growth rather than sufficient factors, the construction of high-speed rail will help to adjust the urban agglomeration system, bring market structure effect and labor pool effect; Yao Ruqing (2010) analyzed the relationship between Shanghai and Hangzhou high-speed rail to Shanghai and Hangzhou and Hangzhou itself. The results show that the Shanghai-Hangzhou high-speed railway after the opening has promoted the development of Hangzhou Chengdong New City and the business service industry, and played a "catalytic" role in urban development.

Another scholar looks at the high-speed rail from the related industries to the urban economy. For example, Zhang Shuming (2013) believes that high-speed rail mainly affects the development of tourism industry from three aspects: tourism market pattern, tourism behavior and tourism resource development. It should effectively integrate regional transportation network and regional tourism resources to maximize tourism industry benefits; Huang Ailian (2011) The study believes that Wuhan-Guangzhou high-speed railway has promoted tourism in Guangdong, Hunan and Hubei, changed the tourist source market, promoted weekend trips and short trips, stimulated high-end tourism products, and greatly promoted regional tourism development; Yin Ping (2012) Zhengxi high-speed rail, for example, studied the impact on the spatial structure of regional tourism. The results show that Zhengzhou, Luoyang and Xi'an have further become regional business tourism centers, and other cities along the route have become featured tourism and product tourism sites.

Other scholars analyze the significance of high-speed rail from the industrial structure. For example, Wang Gang (2013) measured the economic pull of high-speed rail construction on various industries, studied the economic impact of relevant key industries, and provided technical support for transportation technology for various industries; Shi Weidong (2008) analyzed Beijing. After the completion of the Shanghai-High-speed Railway, the development of innovative creative industries in Shanghai and Beijing and the areas along the line and the use of creative industries to promote industrial transformation and development along the line have promoted a virtuous cycle of industrial economy along the route.

However, in general, the existing research is mostly conducted from a nationwide or a number of cities, and it is too broad; or according to other cities, the analysis based on local conditions is not relevant to Nanyang City. Sexuality can only provide a preliminary reference for the study of the impact of Zhengwan High-speed Railway on the economic development of Nanyang City.

### **The Status Quo of High-Speed Rail Development in Nanyang City**

Zhengwan High-speed Railway is an important part of Zhengzhou High-speed Railway. It is the main high-speed passenger transportation channel connecting North China, Central China and Southwest China. It has a total length of 818 kilometers and investment of hundreds of billions. It is the 60 major railway projects determined by the state in 2015. The railway started at Zhengzhou South Station, passing through Henan's seven cities, and finally Chongqing Wanzhou. The Henan section started construction in 2016. It is expected to be commissioned in 2019. After passing, Zhengzhou to Wanzhou can be reached in just over 5 hours, which will be greatly changed. In particular, the cities along the way are mostly densely populated and have great potential for development. This high-speed rail repair can greatly change people's travel conditions and the economic development speed of cities along the way. Therefore, it is known that Nanyang has

become Zhengwan High-speed Railway. After an important transfer station, the people of the city rejoiced.

The construction site of Zhengwan High-speed Railway Nanyang Section is near the Pingluo Village in Luying Town, Wolong District. It was built by the China Railway 17th Bureau and is currently under construction. In January 2018, Nanyang City launched the implementation plan for the first phase of the high-speed rail area. As early as last year, Nanyang City has already planned the scope of the high-speed rail new district: the area covers an area of about 9.4 square kilometers, east of the 312 National Highway, north of Niujiao Road, west of Hongcha Road and south of Ligao Road. In addition to the high-speed railway station, the district also includes planning projects such as the station square and seven main and minor passages, especially the design of the Riyue Lake Landscape Park. When it is completed, it is really a "green city half city water, sun and moon." Zhengwan High-speed Railway will bring huge opportunities and changes to Nanyang. On this occasion, taking the high-speed rail new city area to be built as an example, it is of great practical significance to study its impact on Nanyang's economy. This research will help to analyze the inextricable relationship between high-speed rail and Nanyang urban development, and urge the city to better play the leading role of the high-speed rail economy in the process of construction.

With the acceleration of the construction of Zhengwan High-speed Railway, the supporting construction of the high-speed railway station in Nanyang City is also in full swing. Located in the eastern part of Nanyang New City, the high-speed rail area is an important window to show the image of Nanyang City. First of all, this project is an important transportation hub, including the station square, long-distance passenger station, bus hub station, tourist distribution center, underground taxi yard, inner circulation road, underground passenger service and equipment, etc. The role of transportation will become another center of the city. Secondly, this project plans to start seven roads, including Guangwu Road, Xingfu Avenue, Zhanqian Avenue, Yingbin Road, Tuanjie Road, B3 Road and B10 Road, which will have a huge impact on urban traffic. Finally, the project includes the construction project of Riyuehu Park, green planting 65660.31m<sup>2</sup>, road 16426.40m<sup>2</sup>, square 14014.60m<sup>2</sup>, water landscape 85360.70m<sup>2</sup>, building 1000m<sup>2</sup>, etc., which will soon become the new tourist landscape area of Nanyang.

### **The Positive Impact of Nanyang High-Speed Rail New City Area on Nanyang Economic Development**

First, the transportation is more convenient and contributes to economic development: Nanyang City has encountered unprecedented opportunities due to its superior geographical location advantages and current leading external traffic conditions. However, due to the rapid development of social economy and urban construction in Nanyang City, vehicles The rapid increase in the number of possessions and the rapid growth of the transportation industry have accelerated the growth of traffic demand and the increasingly prominent traffic problems, which is one of the important factors restricting the economic development of the city. The construction of the high-speed rail area is a major strategic project of the city, which will have an important impact on the overall development of Nanyang City. First, it will alleviate the increasingly tense traffic pressure in Nanyang City. The comprehensive transportation hub and the station square and underground space in the starting area of Nanyang high-speed railway area are integrated passenger transportation hubs integrating railway, highway, public transportation, rental and social vehicles. It will effectively connect with Nanyang Wolong Station and pass the high-speed railway for Nanyang area. Travellers offer multi-modal, efficient and convenient transfer conditions.

Second, changes in the industrial structure are conducive to the upgrading of industrial structure: high-speed rail will bring more people, logistics, capital flow and information flow to Nanyang, reduce the cost of factor flow and product flow, and promote the accumulation of various production factors. Drive the development of modern service industry and emerging industries in Nanyang, promote the optimization and adjustment of industrial layout and the transformation and upgrading of industrial development. First of all, the positive effect of the construction of high-speed rail on the industry will be reflected in the modern service industry such as trade and

tourism, real estate, science and technology education, and human resources. Secondly, the construction of high-speed rail will further enhance the investment environment of Nanyang, promote the gathering of various resource elements such as talents, capital and information, facilitate the introduction and cultivation of emerging industries, transform and upgrade traditional industries, and further promote the optimization and adjustment of Nanyang's industrial structure.

Third, create a human landscape and promote the tourism economy: the construction of the high-speed rail new town area includes a large number of green landscapes, such as the iconic Sun Moon Lake Park. The construction of Riyue Lake is the main landscape of the area before the high-speed railway station. It is a window showing the overall image of Nanyang New City and the characteristics of Nanyang City. It is a human landscape with livable city. Its construction brings a beautiful landscape to the development of Nanyang City, and will soon add a new human landscape to Nanyang to promote the development of the tertiary industry. The development of tourism is an important measure for Nanyang to promote economic transformation and upgrading, foster new economic growth points, and accelerate the construction of a “double new and one special” industrial system. Nanyang City will further expand the scale of the tourism industry, enhance the quality of development, and accelerate the construction of tourist destination cities. It will focus on the implementation of four major actions: characteristic brand building, functional matching promotion, publicity and marketing promotion, and industry service promotion to fully create the “Wolong Capital”. This project is a microcosm of an environmental space in the city. It is a spatial environment with urban environmental quality and landscape characteristics. It directly reflects the modernization process of the city. The construction of this project will provide more convenient services for tourists coming to Nanyang. One of the important manifestations of service quality will help the development of tourism economy industry in Nanyang City.

### **Analysis of the Negative Impact of Nanyang High-speed Railway New City Area on Nanyang Economic Development**

First, it will put some pressure on Nanyang City's finances in the short term. High-speed railways have high operating costs and long cycle times. It is difficult to avoid losses in a short period of time. In addition, in order to build a high-speed rail new district, the Nanyang Municipal Government is expected to invest 1,681,914,500 yuan. The huge financial investment will inevitably lead to an increase in government costs in a short period of time, and the government's finances will be tight. Therefore, in the case of high operating costs in the early stage, it will put a lot of pressure on local government finances. However, this phenomenon will increase with the increase of high-speed rail operation time, and the commercial capital injection in the new city will gradually ease.

Second, be alert to the adverse effects of the “aisle effect”. The aisle effect means that the flow of people, logistics, capital flow, and information flow only passes through the local area, and does not have any effect on the local area. Even under the action of the “siphon effect”, the local elements flow to other cities with better conditions. If Nanyang does not have better public services, infrastructure, living environment, industrial ecology, etc., high-speed rail may cause Nanyang local talent, capital, technology and other production factors to flow to Zhengzhou and other provincial capital cities, which has a negative impact on the development of Nanyang. Therefore, Nanyang City has planned a supporting service facility based on the high-speed railway station, and strives to build a comprehensive service new area integrating transportation, commercial center and tourism landscape, and Nanyang City will also use better infrastructure and better industry. The environment attracts talent, capital, and industry.

Taking the construction of high-speed rail new city area as an example to study the relationship between Zhengwan high-speed railway and Nanyang economy, we can find the causal link between economy and high-speed rail from the actual situation and solve some practical problems faced by Nanyang when meeting the high-speed rail economy. If you can urge Nanyang to speed up preparations for industrial upgrading, reserve space for the development of the service industry and tourism after the opening of the high-speed railway; you must also see a certain crisis in the joy of

welcoming the high-speed rail, and prepare for it in advance. Good financial work; it is necessary to make Nanyang's basic service facilities further, make Nanyang city more livable, make the city's charm more prominent, etc., in order to better retain talents and retain funds, which has important practical significance and application.

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