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A Comparative Study of the Development Models of Metro Commercial Streets in Tokyo and Hangzhou

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Abstract: With the rapid development of urban rail transportation, metro commercial streets have gradually become an important way to drive urban economic development. As seen in many movies, dramas, and promotional material, prosperous scenes presented by Tokyo's metro commercial streets show a mature development model. In order to explore the effectiveness of this development model and its significance for other cities, this paper takes Tokyo and Hangzhou as case studies and analyzes the development status and differences of metro commercial streets in the two cities from the perspectives of urban planning, economic development, passenger flow, and development and operation models. It is found that Tokyo has effectively promoted the integration of commercial streets and urban space through the mature "transportation + business" model, forming a number of well-functioning urban commercial hubs. Although Hangzhou has been developing rapidly in recent years, it is still in an early stage due to several practical constraints. In addition, Hangzhou has the unique advantage of combining commercial areas with scenic attractions, which is rare among Chinese cities and should be further leveraged. Finally, this paper proposes that Hangzhou can learn from the Tokyo model to promote the comprehensive development of commercial areas around metro stations, create integrated spaces for shopping, working, and living, and foster a more dynamic interaction between rail transit and urban economy.

Keywords: metro commercial streets, metro system development, station-city integration, transit-oriented development

1. Introduction

With the continuous advancement of urbanization, rail transit has become an indispensable infrastructure in modern cities. It not only alleviates travel pressure, but also serves as a key instrument for reshaping urban structure and driving regional economic growth. As reflected in many films, shows, and news coverage, cities such as Tokyo have achieved a high degree of integration between transportation systems and urban commercial areas through the development of metro commercial streets. Metro stations are no longer merely transit nodes; they also function as hubs for commercial clustering and spatial linkage. This "transportation + business" development model enables more efficient urban land use and improves both land value and everyday convenience.

In China, an increasing number of cities are beginning to pursue similar development paths. Hangzhou, often regarded as a representative new first-tier city, has established a functioning metro network and has begun experimenting with the integration of transportation and commercial space. These efforts have injected new vitality into urban development. However, compared with Tokyo,

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the development of metro commercial streets in Hangzhou remains at a beginning stage. There are still noticeable challenges in areas such as station layout, development models, and commercial conversion efficiency.

Previous research has primarily examined rail transit through the lenses of land utilization, passenger flow, and urban structure. Some studies argue that rail systems significantly enhance land use efficiency and drive changes in spatial form [1-3]. Others note that metro line direction and station density directly influence the distribution and movement of pedestrian traffic, which in turn affects the operational performance of commercial zones [4-6]. From the perspective of urban planning, coordinated strategies between transportation and spatial design are also emphasized for improving functionality and economic output [7-9].

However, many of these studies focus on isolated aspects—such as land development or passenger flow management—and often lack a holistic comparison of development models and practical implementation. This paper, therefore, uses Tokyo and Hangzhou as comparative cases to examine the differences in development paths and key influencing factors behind metro commercial street formation, aiming to identify insights that may support more mature development in Hangzhou.

2. Key factors of the development of metro commercial streets

Whether the metro commercial street can be developed is not only a matter of building metro lines, but also affected by many external conditions. From a practical point of view, these influencing factors can be categorized into four aspects: urban planning, economic foundation, passenger flow, and development and operation mode.

First, urban planning plays a decisive role in the relationship between rail transportation and commercial space. In some cities, when the metro system was initially built, the main goal was to relieve traffic pressure, with a focus on commuting functions while ignoring the commercial potential of station nodes. This has led to some stations being unable to gather commercial resources despite their high passenger flow, resulting in wasted spatial resources. In contrast, Tokyo has taken a more mature approach. Its metro network was designed in conjunction with the city's functional layout, forming a multi-center urban structure through loop and radial lines, laying the foundation for subsequent commercial street development [1, 4, 7].

Second, the level of economic development of the city also determines how far the commercial street can go. The more active the economy is, the more businesses are willing to participate in rail-based commercial projects. Economically developed cities like Tokyo not only have many stations, but each station can take on the composite functions of commerce, office, and living. While Hangzhou, despite its rapid development in recent years, still has many metro station areas where commercial development remains relatively simple. The service quality is not high, and the attraction is limited [2, 5, 6].

Third, the passenger flow structure is the key to determining whether the commercial street is "lively." Without sufficient flow, even the best stores cannot survive. Some core stations in Hangzhou, such as Longxiangqiao, are full of people during peak hours, but many suburban stations remain "cold" for a long time. In contrast, Tokyo distributes passenger flow more evenly across stations through interconnection of lines and efficient transfers, enabling the development of more commercial districts [3, 6, 8].

Fourth, whether the development and operation mechanism are mature determines the sustainability of commercial space. At present, many commercial streets in Hangzhou are still developed by the metro company alone, with a traditional model, low enterprise participation, and a lack of persistent mechanisms. This results in unstable store operations and high vacancy rates. In contrast, Tokyo has long established an efficient tripartite cooperation model involving transportation

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companies, private operators, and the government to achieve an effective combination of capital, policy, and market forces [5, 9, 10].

The formation of a metro commercial street is not simply a matter of infrastructure and retail presence; it results from comprehensive coordination in city planning, transportation structure, and commercial strategy. The following section examines how these factors are reflected in Tokyo's practical experience.

3. Tokyo's metro commercial development

3.1. Overview of Tokyo's metro system

Tokyo has a very well-developed rail transit system, which is built and operated by a number of operating companies. The entire metro system is clearly structured, with a ring of lines centered on the Japan Railways Yamanote Line, plus many radial lines extending outward to form a rail network that spans approximately 50 kilometers in radius. These lines serve not only the 23 wards of the Tokyo metropolitan area, but also extend to the neighboring areas of Chiba, Saitama, and Kanagawa, covering a population of over 37 million people.

Such a highly accessible and dense transportation system has greatly facilitated the city's commercial development. Since the mid-20th century, Tokyo has developed the concept of "station-city integration." The core of this concept is to treat the metro station as an important node of the city, not only to solve transportation problems, but also to become a centralized area for commercial and living functions. The urban space is organically linked together, and the rail transit becomes the central force driving the regional development [1, 2].

3.2. Development and operation

Another key point is Tokyo's "through service" system. Simply put, this means that lines between different companies can be connected seamlessly, so that a train can go directly from one company's line to another without passengers having to change trains frequently. This makes traveling more convenient and also spreads passenger flow from the core area to a wider range, thus expanding the commercial coverage. The station's internal dynamic line planning is also reasonable, with close connection between stores, passages, and entrances and exits, and it has become the norm for passengers to spend money on the way during their commute [3, 4].

3.3. Government support and policy facilitation

The government also played a big role behind the development of Tokyo's metro commercial streets. After the bursting of the bubble economy in the last century, the Japanese government realized that the city could not continue to be overly concentrated in the city center, so it began to promote the development of multi-center in the metropolitan area. Many former railroad sites were redeveloped into new commercial streets and residential areas, bringing new space and foot traffic for rail transportation.

The government has also been supportive at the policy level. It has guided the rail transit companies to take the lead in developing the areas around the stations, no longer relying solely on ticket revenues, but enhancing the overall benefits through the development of commercial, office and residential projects. Stations thus became a small urban node integrating transportation, living, and consumption, and the urban structure gradually changed from a single center to a multifunctional, multilevel pattern [2, 5].

In addition to this, many public service facilities in Tokyo are prioritized along rail lines. Taking schools and hospitals for example, they are usually located near important stations. This practice not

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only facilitates the lives of citizens, but also further enhances the land value of these areas. Within the Yamanote ring area, the density of stations and lines is the highest, commercial vitality is the strongest, and the convenience of life is very high. It can be said that rail transit has become a core force for urban renewal and spatial optimization [5, 6].

4. Hangzhou's metro commercial development

4.1. Overview of Hangzhou's metro system

The construction of rail transit in Hangzhou started relatively late, but has developed at a very fast pace. Starting from the opening of Metro Line 1 in 2012, by the end of 2023, the number of metro lines had expanded to 12, with a total length of more than 516 kilometers. This rapidly expanding metro network has covered the main city and the surrounding sub-centers, forming an urban framework with the structure of "one main city plus three sub-centers." Rail transportation not only eases traffic pressure, but also becomes an important link connecting various functional sections of the city.

On the basis of the continuous improvement of the transportation system, Hangzhou has also begun to try to integrate the development of rail transportation and commercial space. Fengqi Road Station is the earliest typical representative of such attempts in Hangzhou. This station is the interchange hub between Metro Line 1 and Line 2. Around it, there is not only the Kerry Center, but also Fengqi Commercial Street and other large commercial areas. The metro station is directly connected to the commercial buildings through underground passages, which facilitates passenger access and improves the conversion capacity of the station's pedestrian flow. The metro is not only making it more convenient for people to travel, but also starting to become a diversion point for commercial development.

Now, with the continuous extension of the metro network, stations such as Wulin Square, Jiangjin Road, and Longxiangqiao are gradually growing into prototypes of metro commercial streets, integrating shopping, office, and entertainment functions. Especially, Longxiangqiao Station, relying on the prosperous environment of the Hubin business district, has realized a seamless connection between the metro station and large shopping malls, such as Yintai IN77, becoming one of the most commercialized metro stations in Hangzhou.

4.2. Current challenges and bottlenecks

Although the development momentum of Hangzhou's metro commercial streets is good, there are still many problems. On the whole, it is still in the exploration stage. The first problem is that the commercial layout is relatively simple. The commercial support of many stations is limited to basic services, such as convenience stores and fast food restaurants, without forming a diversified mixture of businesses. This situation limits the attractiveness of the stations and affects the overall performance of metro commerce.

The second problem is the uneven distribution of passenger flow. Some core stations like Longxiangqiao are often heavily congested during peak commuting hours, but some interchange stations or suburban stations are very quiet. This difference in passenger flow leads to high vacancy rates in some commercial spaces, while others are overcrowded, which cannot ensure a good passenger experience and affects business results.

The third problem is the relatively single development model. At present, Hangzhou metro commercial projects are mostly led by the metro company. The development is conservative, and the investment mode is mainly lease-based, lacking a market-oriented operation mechanism. This makes commercial projects less competitive in the long term, and many spaces have low utilization efficiency.

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The last problem is that spatial integration is not well achieved. Some metro station entrances and the ground-level shopping districts lack effective connection. Passengers have to exit the station and then detour to enter the mall. This is not only inconvenient, but also leads to inefficient conversion of passenger flow. The internal layout of the station is also mostly function-oriented, lacking leisure and social spaces, making it difficult to extend passengers' stay and limiting spending potential.

4.3. Policy recommendation based on Tokyo's experience

Tokyo's metro commercialization development provides Hangzhou with many valuable experiences. In Tokyo, rail transit not only undertakes transportation functions, but also becomes an important engine driving the development of urban space. Railway companies not only operate trains, but also manage businesses and develop real estate, realizing deep integration of "transportation + business." This model has helped Tokyo create mature commercial sub-centers in many stations. Shinjuku and Shibuya are typical examples.

It is suggested that Hangzhou can learn from this idea and promote the transit-oriented development (TOD) concept more widely in the city. Specifically, Hangzhou can prioritize the construction of high-quality integrated commercial projects at transfer hubs and high-traffic stations on a pilot basis. In the early stage of site planning, commercial functions should be integrated into the design, so that commercial and transportation elements are developed in parallel. At the same time, rail companies should be encouraged to establish long-term cooperation mechanisms with real estate developers and brand operators to improve overall development efficiency and operational vitality.

In terms of spatial design, it is recommended to optimize the station's flow layout, strengthen the connection between underground space and ground-level commercial areas, and enhance passenger access and consumption experience. Hangzhou's local consumption culture and city image are also worth integrating into the creation of commercial streets—for instance, introducing themed communities and creative retail brands to create a more diverse and attractive commercial atmosphere.

In terms of policy, the government should also play a more active role. Special support policies can be introduced, such as land consolidation incentives, tax reductions, and commercial operation subsidies, to reduce the entry threshold for enterprises and stimulate market vitality. From a macro perspective, Hangzhou can build a three-tier linkage mechanism with transportation stations as the core, driving improvements in surrounding neighborhoods and the overall urban space, so that rail transit truly becomes an important driver of urban economic and spatial development.

5. Conclusion

By comparing the development patterns of metro commercial streets in Tokyo and Hangzhou, a more intuitive understanding can be obtained of the logic behind the commercialization of rail transit. Tokyo has spent decades exploring a mature development path that turns transportation facilities into part of the city's economic system. Metro stations in Tokyo not only serve as commuting purposes, but also act as key hubs for business, daily life, and urban renewal. This process relies not only on sound planning and compact layout, but also on close cooperation between enterprises and the government, a long-term market-oriented operation mechanism, and continuous optimization of public space utilization.

Hangzhou is currently in a stage of rapid development. It is evident that it has established a relatively complete rail network and has made some commercial development attempts at key stations. However, overall, it is still in its early stage. Many stations lack sufficient supporting facilities, follow a single development model, and face low operational efficiency. In the face of these challenges, Hangzhou needs to further promote the integrated model of "transportation + business," and more

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actively guide resources to concentrate at key nodes, fully leveraging the role of rail transit in driving urban economy and spatial structure.

It is expected that in the future, Hangzhou can make good use of its existing TOD planning experience and, by learning from Tokyo in areas such as site selection, spatial layout, and cooperation mechanisms, develop more multifunctional, stable, and attractive commercial districts. This would not only improve the usage value of rail transit, but also stimulate more diverse development momentum for the city.

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