

# Cities, Metro, and Gentrification

Dinghao Zhou\*

Goldsmiths, University of London, 8 Lewisham Way, London SE14 6NW, United Kingdom

\*Corresponding author: Dinghao Zhou, [hola.dinghao@gmail.com](mailto:hola.dinghao@gmail.com)

**Copyright:** © 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** The construction and circulation of railways, especially urban rail transit, change the travel patterns of residents along the lines and provide convenience for residents in outer suburbs to enter the city center. At the same time, urban rail transit will likely have an impact on the social structure and types of residents in the area. This paper explores the urban gentrification caused by railways in mainland China, covering the old city renovation plan, demolition along the subway line, subway line terminus, and other perspectives. The findings show that with the development of urban rail transit, land prices in the area will increase and communities will become gentrified, which means possible crowding out of low-income citizens. This article intentionally explores the relationship between the subway and gentrification.

**Keywords:** Gentrification; Metro; Mainland China

**Online publication:** December 31, 2024

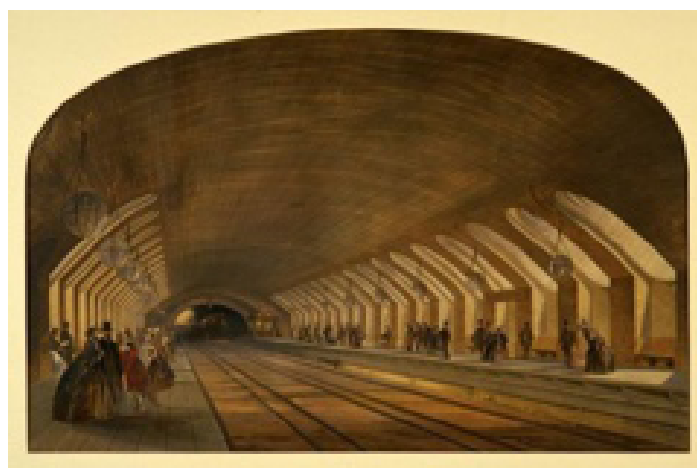
## 1. Previous studies

### 1.1. The history of urban metros

When the London Underground in the United Kingdom opened in 1863, it was the world's first subway using locomotive trains<sup>[1]</sup>. Its construction came as congestion in London reached a crisis point in the 1850s. After two years of construction, the Metropolitan Line shown in **Figure 1** was completed and connected London's three major mainline train terminals, while also alleviating the traffic pressure on the bank.

Over the next 161 years, 11 subway lines were opened in London and its trains have since been converted from steam locomotives to electric locomotives, which has greatly improved the environment of the station and trains. The London Underground currently serves 4.8 million passengers every day and is the 11th busiest subway system in the world<sup>[2]</sup>.

The first subway in mainland China is Beijing Subway Line 1. Planning for this line began in 1969 and it was officially opened in 1981. After 2010, mainland China ushered in a spurt of subway construction. By 2016, 89 new rail transit lines were built on the mainland, with a total construction mileage of 2,500 kilometers<sup>[3]</sup>.



**Figure 1.** Baker Street Station on the metropolitan railway, 1863–1869 (Print)

## 1.2. Definition of gentrification

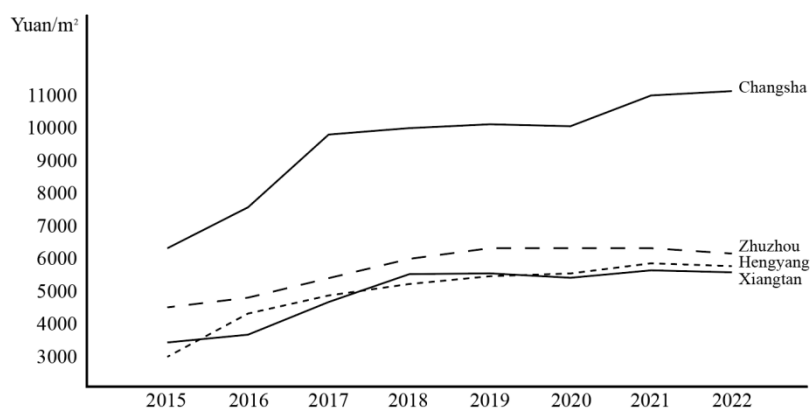
According to the Cambridge Dictionary, gentrification is the process by which a place, especially part of a city, changes from being a poor area to a richer one, where people from a higher social class live<sup>[4]</sup>.

Gentrification is a term defined by academic research. This paper studies the use of gentrification to attract high-end shopping malls and high-income residents to a city center for consumption and residence, thereby reversing urban decline<sup>[5]</sup>.

## 2. How metros lead to gentrification

### 2.1. Construction of the metro increases the housing prices

Changsha opened its first metro, Metro Line 2, on April 29, 2014. No other cities in Hunan Province have a metro system. According to the housing price inquiry website, the average house price in Changsha in 2015 was 6,401 yuan per square meter, while the average house price in other cities was between 3,000 to 4,000 yuan per square meter, as can be seen in **Figure 2**<sup>[6]</sup>.



**Figure 2.** The average house price per m<sup>2</sup> in cities in Hunan Province

Over the following years, Changsha successively opened Metro Line 1, Line 3, Line 4, Line 5, and Line 6. The average housing price in Changsha continues to lead the province with an average growth rate of 1.6%. However, the rapid growth in house prices has forced people who want to buy a house but do not have sufficient financial support to give up looking for a house in the city center or along the subway. Renting a house is also affected by proximity to the metro, as houses near metro stations are much more expensive than in other areas. This has caused some tenants to move out of their original living areas due to rising rents.

Known as “Asia’s largest community”, Beijing Tiantongyuan stands on the northwest side of Beijing Olympic Park. It is a large community covering an area of nearly 8 square kilometers. From 2000 to 2003, with the completion of successive projects, the population of the community expanded rapidly and even exceeded 100,000 <sup>[7]</sup>. Tiantongyuan also attracts tenants from Beijing with second-hand housing prices that are far lower than those in the central city. Problems are also being exposed in increasingly crowded conditions. The lack of transportation planning has resulted in extremely congested roads in the city, and metro Line 5, which connects the city center to the community, is also overwhelmed. Many people need to wait for several metro trains before they can get on the subway to the city center, as shown in **Figure 3**.



**Figure 3.** Office workers queuing to take the subway, 2019

At the same time, property values along the subway have increased significantly. In Beijing, Shanghai, and Guangzhou, property values in inner suburbs 0-500 meters away from subway stations have increased by 20% to 25%, while property values in outer suburbs have increased by 10% to 15%. This affects many of the businesses in these areas, with numerous shops moving out of the area due to rising rents or management fees. Most of these shops that are left are small commodity shops or breakfast shops operated by individuals or families. Those who have stayed must face the dwindling family funding and those who leave face pressures after moving out.

Additionally, in the Huajiachi area in the center of Hangzhou, some shops along the street need to be demolished due to the transfer between Line 15 and Line 18 <sup>[8]</sup>. Kaixuan Road in the Huajiachi area was once a famous night snack street in the east of the city and there used to be numerous catering and lifestyle service shops in this area. Since the news of the demolition came out, many residents have expressed their reluctance to leave this place and have sought to stop the demolition.

## **2.2. Impacts of the metro construction**

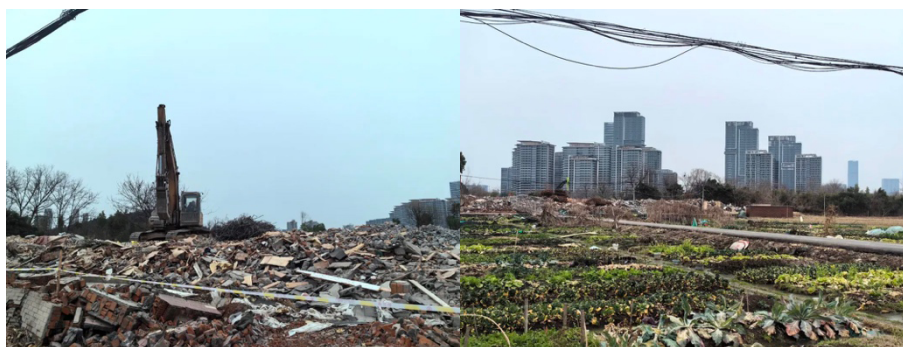
In Hangzhou, a downtown area needed to be demolished due to the construction of Metro Line 15 <sup>[9]</sup>. This time the demolition covered four residential buildings in the Jingxiu Community, with a total of more than 300 households. Some people bought second-hand houses here before the demolition, and they will receive

demolition compensation higher than the purchase price. Some residents are even undergoing “secondary demolition.” They originally lived in the Caishiqiao area and moved to this area in the 1990s due to the expansion of Qingchun Road. **Figure 4** shows the demolition of the village in the city.

Although the demolition fees are very attractive, some citizens believe that the rent is more attractive than the demolition fees<sup>[10]</sup>. Wu Qi, who lives in Liubao, moved to Qianjiang Prefecture after the demolition and received tens of millions in subsidies. Before the demolition, Wu Qi’s self-built house could bring him nearly 500,000 yuan in rental income every month. The demolished households who already own a large amount of property will become richer after receiving compensation.

### 2.3. Commercial buildings replacing demolished villages

In Yujiaheng, Xianlin Street, Yuhang, Hangzhou, villagers whose houses are being demolished lament the disappearance of their homes. This place, which also passes Metro Line 3, Line 5, and Line 16, will be “upgraded” to Luting Road. According to the plan, more than 15 billion yuan will be invested to build a commercial complex and office building. This area will be built into a high-end new urban area, and under the cold wind, the dilapidated villages and buildings about to be demolished are an indication that this place will disappear forever<sup>[11]</sup>.



**Figure 4.** Urban villages under demolition, 2024

## 3. The relationship between subways and gentrification

Observing these examples, it can be seen that the construction of the subway is a catalyst for gentrification, which accelerates the speed of gentrification in this area. In mainland China, the cost of constructing subways is usually borne by the cities where they are built. Therefore, while promoting development, the construction of subways will lead to a strain on local fiscal revenue.

There are two major parts of financial investment in subway construction, one is the financial investment during the construction period, and the other is the maintenance and updating of facilities and equipment during the operation period. If the government needs to reduce its financial burden, it needs to focus on these two aspects. Perhaps the best option to reduce the pressure of financial investment during the construction period is to invest in nearby real estate<sup>[12]</sup>. Some local governments will demolish residential buildings near the subway through urban renovation plans, transforming urban villages into so-called high-rise modern residences. For example, while the Amiling Station of Changsha Metro Line 3 was being built, Changfang Group Real Estate Company, a government-funded real estate company, built a 30-story commercial residence here<sup>[13]</sup>.

The accessibility of the subway has also led some commercial real estate companies to create new centers near it. Of course, this will also be promoted by the government. However, this kind of commercial real estate

renovation project is likely to occupy space that originally belonged to nearby residents. Also in Changsha City, there are nearly ten commercial complexes near Wuyi Square Station in the city's commercial center, as well as a nationally famous commercial pedestrian street, Huangxing Road Pedestrian Street. Wuyi Square has become a landmark name for people to eat, drink, and have fun in Changsha. However, there was originally a leisure square called Wuyi Square in this area. Before the construction of the metro line, there was a large fountain in the center of the square, with different plants blooming in all seasons, which made it a perfect place for nearby residents to relax. However, after the opening of Metro Line 2 and Line 1, this public square was transformed into a sunken commercial plaza. The fountain was removed and the vegetation was trimmed. Today's Wuyi Square is just one of many commercial plazas. Some metro companies will also directly participate in real estate development for example, Shenzhen Metro's development business accounts for 50% of Shenzhen Metro's revenue. In the first eight months of 2022, Shenzhen Metro's sales performance ranked second on the list with 17.524 billion yuan<sup>[14]</sup>. This proves that metros in many cities can force local gentrification.

Ultimately, the construction of the subway is driven by the government. The local government hopes to increase local land prices through the construction of subways and increase local visibility through the occupancy of high-end commercial centers<sup>[15]</sup>. However, is this a form of neglect for urban residents? When urban villages are demolished, landlords will become richer after receiving large amounts of compensation, while people who rent houses in this area will lose their place of residence. This further widens the gap between rich and poor people, and those who lack financial support will be reduced to the fringes of the city. From another perspective, the so-called "modernization" from low-rise old residential buildings to high-rise commercial buildings is also an exploitation of the residual value of land. Real estate companies will sell more houses to new residents at higher prices after paying demolition fees and these companies make a lot of money by selling a much higher number of houses than before.

This gentrification happens because of urban planning. The spatial pattern brought about by urban planning is essentially a grasping of power and control over daily life spaces. Urban planning essentially makes people in a certain area petty bourgeois. Residents who live in places with convenient transportation brought by subways and consumer satisfaction brought by high-end commercial centers will naturally think that this is a common thing. They will even protect their own interests and gain a sense of superiority by excluding poorer people from entering the area.

However, the subway should not only serve a small number of people in the city. The government may have to change the infrastructure construction so it does not serve the purpose of gentrification. The subway was first used as a means of transportation to relieve congestion in the city center and give people living in the suburbs equal opportunities to travel quickly throughout the city. Perhaps forcing the subway to unbind itself from real estate is the right choice to realign subway systems with their original purpose.

## Disclosure statement

The author declares no conflict of interest.

## References

- [1] London Transport Museum, 2024, The Metropolitan Line, accessed April 13, 2024. <https://www.ltmuseum.co.uk/collections/stories/transport/metropolitan-line>

- [2] Institute for Transportation, 2017, Transportation Feats of the World: Journey on the London Underground, accessed April 16, 2024. <https://intrans.iastate.edu/news/transportation-feats-of-the-world-journey-on-the-london-underground/>
- [3] Li ZY, 2010, 2010: China's Metro Construction Enters a Period of Great Leaps and Bounds, accessed April 16, 2024. [https://www.gov.cn/jrzq/2010-12/19/content\\_1769108.htm](https://www.gov.cn/jrzq/2010-12/19/content_1769108.htm)
- [4] Cambridge Dictionary, 2019, Gentrification, Meaning in the Cambridge English Dictionary, accessed April 14, 2024. <https://dictionary.cambridge.org/dictionary/english/gentrification>
- [5] Freeman L, 2005, Displacement or Succession? *Urban Affairs Review*, 40(4): 463–491. <https://doi.org/10.1177/1078087404273341>
- [6] Anjuke, 2024, Hunan Housing Price Ranking Trends in the Past Years, Hunan Major Cities in the Past Years the Ranking of Housing Prices, Hunan all over the Past Years the Average Price of Housing Query: Anjuke, accessed April 16, 2024. <https://www.anjuke.com/fangjia/hunan/>
- [7] Chen H, 2018, Tiantongyuan Beijing Affordable Housing Starting Point, accessed April 19, 2024. [https://www.sohu.com/a/244897292\\_114988](https://www.sohu.com/a/244897292_114988)
- [8] Zhan HW, 2023, A Place in Hangzhou City Center is Determined to be Demolished and relocated! We will build an Underground Interchange Station and a Compensation Scheme Out, accessed April 18, 2024. [https://zzhz.zjol.com.cn/yepd/zhwgrym/202307/t20230728\\_26029752.shtml](https://zzhz.zjol.com.cn/yepd/zhwgrym/202307/t20230728_26029752.shtml)
- [9] Zhan HW, Li SJ, 2023, A Residential Area in the Center of Hangzhou was Demolished due to Subway Construction! One Owner had his House Demolished twice in 5 years. Zhejiang, accessed April 18, 2024, [https://zzhz.zjol.com.cn/yepd/zhwgrym/202310/t20231024\\_26382103.shtml](https://zzhz.zjol.com.cn/yepd/zhwgrym/202310/t20231024_26382103.shtml)
- [10] Qian F, 2017, Hangzhou Demolishes over 20,000 Households this Year: Some Families Get more than 10 Million in Compensation, accessed April 18, 2024. <https://china.huanqiu.com/article/9CaKrnK1v6k>
- [11] Ni JL, 2024, Demolition Can Payout Tens of Millions! Some Villagers Turn their Heads and Bring up new Cars! Overnight Riches Happen, accessed April 18, 2024. [https://hz.house.ifeng.com/news/2024\\_01\\_26-56585256\\_0.shtml](https://hz.house.ifeng.com/news/2024_01_26-56585256_0.shtml)
- [12] Li ZQ, 2023, Metro's Real Estate Business: Land Acquisition Breaks Tens of Billions of "Gold" TOD, accessed April 20, 2024. <https://www.stcn.com/article/detail/908066.html>
- [13] Xu YM, 2020, Another New Disc was Unveiled! Changfang Metro Ginza Line 3 Ami Ling Station is on the Cover, accessed April 20, 2024. <https://fdc.rednet.cn/content/2020/09/03/8274109.html>
- [14] Zuo YQ, 2022, Metro Companies Around the Land Amount to More than 58.5 Billion Yuan, and Real Estate to Feed the Metro Investment has Become a New Model, accessed April 20, 2024. <https://www.chinanews.com.cn/cj/2022/10-14/9873356.shtml>
- [15] Xu KM, 2023, Cities Need to be Careful Again Regarding Metro Construction and Operation, accessed April 21, 2024. <https://bj.crntt.com/doc/1067/0/4/6/106704628.html?coluid=7&kindid=0&docid=106704628>

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.