

Development of Public Transportation and the Real Estate Market in London: Stylized Facts and Prospect

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Abstract: This paper aims to assess how further developments in London's public transport sector could affect the housing market and suggest potential improvements. It begins with a brief introduction to both public transport and the real estate sector in London, then discusses the potential benefit and negative effects that different ways of development can bring. The study will analyze the current state of public transport in London and its impact on the property market, as well as identify areas for improvement. Options for further development will be explored, with findings providing insights into how improving public transport infrastructure can lead to increased property values in the London residential market, as well as social welfare. Recommendations for potential improvements are expected to be made based on these findings.

Keywords: public transport, real estate development, development

1. Introduction

1.1. Current Statute of London Public Transport

London, the most commercial, financial and influential city in the contemporary world, attracts thousands of tourists, investors, immigrants and speculators every year due to its diversified nature and mature capital market. With the sharp increase in passenger traffic in recent years (due to the end of COVID-19) [1], its transportation system will soon face greater challenges. London's public transport system includes trains, tubes, light rail, trams, buses and even cable cars. Buses provide a steady and affordable way to get around the city (as they are least likely to strike), while trains provide long-distance transport to the suburbs or other cities. Light rail and trams connect those main residential districts along with undergrounds/train stations. The underground provides fast connections between key points in the city center. All these options combine to create a comprehensive network, ensuring workers within London can get where they need to go quickly and safely every day. However, with the aging public transport facilities, maintenance costs rises severely; while it is not practical to build new public transport facilities. Which makes it necessary for the departments to reconsider how they should develop their public transport systems in order to continue promoting travel throughout London.

1.2. Overview of Real Estate Market

As the world's financial centre, London's real estate market has extremely high flexibility. Its housing types are very comprehensive, ranging from high-end luxury apartments to affordable housing. For those investors seeking to invest, there will always be properties suitable for them; the rental market is also popular. It is worth noting that in terms of housing prices, the convenience of public transport often has a major impact on pricing as it is close to central London; good transport links usually mean higher property prices than those farther away from major transport hubs. London's real estate market can be divided into several different areas: Zone 1 includes the central London boroughs of Westminster and Camden and due to its proximity to the business district and its good underground train connections, this makes it an ideal choice for commuters and rising house prices make it only accessible for the rich. In contrast, District 2 has more flexible public transportation options and quieter residential areas with more affordable housing compared to District 1 making it an attractive option for those looking for value when buying a home or investing in a rental property. In District 3 such as Bromley and Harrow house prices are generally lower than those closer to towns, but they will be closer to outdoor leisure facilities such as country parks; relative public transportation in this area usually consists only of buses. The houses here tend mainly towards larger villas with gardens which makes them appealing options for families who prefer this type of house. The outermost zone 4 mainly consists of commuter towns located outside Greater London such as Watford or Uxbridge; these homes are generally cheaper due their distance from the city centre but public transport is scarce so they are better suited for families who do not need daily commuting.[2]

1.3. Thesis Statement

The following parts of this paper are organized as follows: First, we will examine how improvements in the public transport sector can bring positive effects on London's property market regarding inter-city connections, multiplier effect, social welfare, sustainability, and new opportunities. Then we will evaluate the potential drawbacks of further development of the public transportation sector such as overpricing, noise pollution, dismissal of local identity and gentrification. After that we will point out possible solutions for these issues and discuss the best options for London to pursue before drawing a conclusion.

2. What Can it Bring us

2.1. Inter-Cities Connection

The further development of London's public transport can eventually improve the connection between the cities, and the construction and development of the interprovincial underground railway will expand the existing subway coverage network. This could lead to more efficient, reliable and cost-effective ways to travel between cities and provide services such as better healthcare, education and employment opportunities. It will also help reduce road congestion by encouraging people to use public transport instead of cars. In addition, it may improve air quality due to fewer emissions from vehicles on the road. Underground development across provinces will provide a higher level of inter-city connectivity, allowing passengers to travel long distances quickly and easily without making multiple train or bus changes. Ultimately, this could boost economic growth by increasing trade links between different parts of the UK. The Elizabeth Line is a good template for the development of inter-provincial underground railways. It can refer to China's Shanghai-SuTong Line[3] to connect the public transport networks of major neighboring cities together to form a large, unified management public transport network. For example, London can connect to Liverpool-Manchester and develop a

longer Elizabeth line because these two cities are major cities in England and their adjacent characteristics make them have a gradually trending public transport network, connecting Luton and Northampton from Watford, Birmingham, until Warrington (a city between Manchester and Liverpool). And the construction of such a large-scale railway network will bring about a huge Multiplier effect, which I will talk about later. As mentioned earlier, better public transport coverage will increase the attractiveness of surrounding housing, which will reduce the shortage of housing supply in London. Quality will also improve significantly as people are now away from the cities and have more personal space.

2.2. Multiplier Effect

The multiple effect in this case indicates the government's social return for public transport construction is far greater than their expenditure on manpower, material resources, and funds. Better accessibility and convenience from improved public transport will make it easier for people to move around cities, which could lead to increased demand for housing in areas near major transport hubs. This heightened demand may push up property prices, making it a more attractive investment option for potential buyers. Additionally, businesses may be more likely to open or expand operations in areas with better access since public transit will facilitate customers' and employees' ability to commute quickly and easily from other parts of the city; thus creating new jobs and stimulating economic growth across the London property market with higher staffing levels implying an increase in business demand. And this can affect surrounding real estate markets; The construction of HS2 is a good example as its implementation is expected to have a knock-on effect on property prices along the line and nearby regions. The high-speed rail line will reduce travel times between major cities such as Birmingham and London, making it simpler for individuals to get from one urban center to another. This could result in increased demand for housing near stations along the route leading to intensified competition among homebuyers resulting in higher costs. In addition, enhanced connectivity might also draw businesses seeking better access into central London or other parts of England potentially causing more job opportunities plus economic development within these locations too .[4] Through proper planning & execution of public transportation projects like HS2 , there exists potentiality towards having positive impacts upon local communities & economies alike .

2.3. Social Welfare

The main purpose of any public transport development in the world is to reduce traffic congestion on the roads and at the same time allow people without cars to reach their destinations quickly, and the further development of public transport in London will have a positive impact on the social welfare and attractiveness of life in the city tremendous influence. It will reduce road traffic congestion and improve air quality by improving the availability, reliability, and affordability of public transport. This may improve the health of residents and reduce noise pollution. Additionally, increased use of public transportation will provide more travel options for those unable or unwilling to use a private car. These improvements could make London a more attractive place to live, which could lead to higher house prices due to increased demand from people who want to move there. Merging and unifying the operating entities can improve the overall operational efficiency of the transportation system. The Zurich Transport Network in Switzerland is a good example[5]. Zurich public transportation solves the commuting of more than half of the city's population. This is a very impressive result; Unified management means unified appropriation budget, with shared goals and content of transportation services, which will make the price of public transportation lower. London can also form such a public transport consortium. The unified management system means that people can transfer to many different public transports with only one ticket, realizing free transfers. A

streamlined management system can also improve the efficiency of bus operations, increasing their punctuality. People can then have cheaper commute price thus rises their quality of living.

2.4. Sustainability

At present, with the impact of the general environment, the housing market is paying more attention to Environmental, Social and Governance (ESG) in the early stage of real estate investment, and the corresponding public transportation system has also begun to focus on its environmental protection. Public transportation is an important factor in reducing emissions as it reduces the number of cars on roads; this helps reduce air pollution, improve air quality, and directly affects people's health. Paying more attention to environmental protection and green initiatives will lead to more energy innovations entering into the market which indirectly increases demand for research and development. When all buses are converted to electric energy or even hydrogen energy sources then carbon emissions from cities will be greatly reduced; in addition, buses using electric energy are quieter than ordinary buses which makes them better suited for city life. Of course, there are risks associated with using new technologies; compared with ordinary buses these new energy buses will be more expensive plus their common power supply systems may be unstable resulting in delays occurring often. All in all, with increasing focus being placed on green travel today a sustainable public transport system will become a mainstream development trend in the next few years.

2.5. New Opportunities

With better links between central London and its suburbs, businesses may be encouraged to move out of the city center, leading to the development of industrial parks or administrative parks. This increased demand for office space and other types of commercial real estate such as retail stores or leisure facilities will further contribute to this trend. Moreover, it could also present opportunities for developers looking to build mixed-use developments that combine residential units with shops or other amenities near stations or bus stops, providing access to London's vast transport network. However, if too many industrial parks are formed in peripheral cities then this could lead to urban sprawl which is not what the real estate market wants. To address this issue, the Land Development Department can provide insight into how land use patterns are changing while the Public Transportation Planning Department can identify areas where public transportation is needed most. By combining their knowledge and expertise they can create a comprehensive plan that considers both current and projected needs for public transportation in an area; ensuring resources are allocated efficiently and effectively. Furthermore, working together these two departments can help reduce traffic congestion in urban areas by providing more efficient ways for people get around town - ultimately benefiting both sides as citizens gain better access to public transportation services while cities become more sustainable in terms of land use planning.

3. Negative Influence

3.1. Overpricing

Home sellers across London are overpricing by as much as 40 percent when it comes to the price at which they list their homes on the country's major portals, versus the reality of what buyers will pay.[6] Public transport can provide a lot of conveniences, but the overpricing effect of overplanning on the London property market could be a major problem, causing considerable distress to thousands of people within the society. The influx of people into areas with good public transportation has pushed up housing prices, resulting in fewer affordable housing options for those who cannot afford the high costs. This has knock-on effects on other aspects of life, such as education and job

opportunities, and access to basics like healthcare and food. Additionally, it makes it difficult for people to move freely and safely within their own communities, which can lead to feelings of isolation and alienation from their peers. In short, this overpricing is detrimental to individuals and society as a whole; not only does it limit access to basic services but it creates an environment that perpetuates inequality. Hong Kong is a classic case of excessive housing prices[7]: the excessive pricing of its real estate market has had a huge impact on society. Many people cannot afford housing due to sky-high prices and limited availability leading to increased homelessness and poverty. It also contributes towards widening the gap between rich and poor as those who can afford property benefit from rising prices while those unable to access finance are left behind. The high cost of living also leads to increased stress among residents as they struggle to make ends meet. Moreover businesses have suffered due to increasing rental costs for commercial space which has slowed economic growth significantly. The effect of overpricing is largely due to speculation by investors looking for short-term gains rather than long term stability therefore government or other stakeholders must take steps to address these issues to ensure everyone benefits from a healthy housing market. Continuing to build public transport will not only increase the gap between rich and poor in London because London is a diverse city, increasingly extreme social backgrounds push up the city's crime rate same as Europe today, which is what we don't want London to witness.

3.2. Noise Pollution

The noise has become so loud that it has had noticeable effects across the globe. Noise pollution began in the middle of the 19th century with urbanization—industrial activity and people migrating from rural areas to cities to earn money. Noise pollution from public transport is having a negative impact on London's property market and social welfare. Loud noises from buses, trains, and other forms of transportation can be heard throughout the city, disrupting sleep patterns and making it difficult to concentrate. This leads to increased stress levels among residents, resulting in health problems such as headaches and anxiety. Additionally, this noise pollution makes it harder for potential buyers to find suitable homes in the city due to their desire for peace and quiet. At the same time, this disturbance has a knock-on effect on businesses located near these noise sources; customers avoid them because of the unpleasant environment created by excessive sound which results in reduced revenues for local businesses further affecting London's economy. Despite this, people will continue living in these houses that exceed acceptable noise levels (due to their affordability) which will have serious implications for their physical and mental health. When I was a child I lived in a large community near northeast Beijing, but above it was an airway used by planes landing at Beijing Terminal 3 Airport; the plane's engines creating incredibly loud screeching sound, affecting the entire community. The community has a permanent population of around 15000, so many people are exposed to aircraft noise pollution, affecting their quality of life—similar impacts are likely if London City Airport continues expanding unchecked, millions of people could eventually be affected due to the under planning of some construction projects.

3.3. Local Identity Dismissal

The assessment of further developments in the public transport sector may eventually result in a dismissal of local identity due to changes in the real estate market, contrasting starkly with the classic architecture that preceded it. This clash between old and new has profound implications for a place's identity and can lead to an overall sense of powerlessness among those who have lived in these cities for generations. As developers begin building more skyscrapers in areas with good public transportation, demand for commercial space also increases, leading to an increase in real estate values which often results in gentrification and displacement of existing residents who cannot afford

the higher prices. Furthermore, as new businesses enter these communities they often bring their own culture and customs which may not reflect the identity of the original community. The demolition of historic buildings reduces cities' attractiveness; people will no longer remember the past, causing places to lose their uniqueness and people losing their sense of place. Thus, while improved public transport can bring many benefits such as increased mobility and economic growth, it can also have potentially negative effects on local identities if not managed properly. As a city with a long history, London needs to pay more attention to that kind of construction. The unique old town district and various churches are invaluable to London.

3.4. Gentrification

Gentrification is the process of renovating and improving a neighborhood, often resulting in increases in property values and rents. This could result in many areas being more popular with wealth in, leading to increased housing demand in these communities. As home prices rise, making it difficult for low-income residents to stay in their homes or find affordable housing elsewhere. As a result, the process of gentrification has had a major impact on London's property market, creating an environment where only high earners can live comfortably while the poor are left homeless. This indirectly leads to class Delegations; Here is one such city affected by extreme wealth and poverty disparities New Delhi [8]. The gentrification of New Delhi is having huge impacts on its society. As real estate prices rise, many poorer and working-class residents are evicted from their homes because they can no longer afford to live there. This has led to increased levels of homelessness and poverty as well as a decline in cultural diversity. The Influx of wealthier people into certain regions has also led to increased competition for jobs and resources, making it harder for people from lower socioeconomic backgrounds to get ahead. Gentrification also puts pressure on public services such as health care, as an education and an transportation, Influx of new residents needs them but may not be able or willing to pay for them. All in all, gentrification has negatively impacted New Delhi society by displacing poorer citizens and exacerbating inequality between social classes. Although London has a more advanced dispersed population density than New Delhi does, it is still necessary to be careful about possible outcomes like the impact s of property appreciation due to gentrification processes taking place there too.

4. Further Improvement

4.1. Improvement and Utilization

London's current public transport network has been unable to keep up with the city's rapid growth and development, resulting in overcrowded buses and trains, long wait times for services, and an overall decline in customer satisfaction. To solve these problems, London should improve its public transport system by expanding the existing transport network and increasing station capacity [9]. One way to achieve this is to increase maintenance budgets for existing infrastructure; this will allow for more frequent repairs and upgrades to ensure all parts of the network are functioning efficiently. Additionally, this extra funding could also be used to expand tram routes across the city; this will give commuters more choice when traveling in London and reduce congestion on busy lines. In addition to increasing maintenance budgets and expanding tram routes, another way London is improving its public transport system is by increasing the capacity of stations. This could involve adding extra platforms or carriages to existing lines to accommodate more passengers during peak hours; it could also involve building new stations in areas currently unserved by public transport. By doing this, commuters will not only have more access points across the city but they will also benefit from shorter wait times due to increased capacity at each station. Finally, improving London's public transport system requires better integration of different modes of travel (such as buses and trains), as

well as making use of new technologies such as contactless payment systems that allow customers to use their credit cards or mobile phones instead of cash when paying for rides. Providing real-time information about service disruptions through an app or website will also allow travelers to plan their journey accordingly without encountering any unpleasant surprises along the way. Overall, if London wants its citizens to experience a smoother city-wide commute than ever before, it must invest in improving its current public transport system by expanding its existing network and increasing station capacity - including allocating additional maintenance funds and extending tram routes throughout town - while ensuring all forms of travel are integrated into one seamless journey planning platform accessible both online and offline.

4.2. Innovate and Change

As demand for housing in London grows year after year, there is a need to use land more efficiently. One approach would be to combine Euston, St Pancras and Kings Cross train stations into one transport hub similar to the Grand central station in New York [10]. This would provide more space for real estate uses and create multiple areas that can be used for logistics and commercial purposes. By combining the three stations into one large transport hub, Londoners will benefit from greater access to public transport while also freeing up valuable land for other uses. At the same time the new station can also be designed into underground, as 3 different floor of train track facing different direction of its destinations. Developing new residential areas that are compatible with logistics and commercial uses can increase population density without taking up too much land [11]. These areas may include mixed-use developments such as office buildings or housing units designed for commuters or those who work in the area. This type of development will help reduce urban sprawl by creating denser neighborhoods where people can live close by without having to travel long distances every day. More efficient urban management through logistics needs and functional residential areas that are compatible with commercial use can also provide developers and planners with more opportunities to innovate, resulting in an exponential growth of London similar to the multiplier effect.

5. Conclusion

To conclude, London's public transport and real estate sectors both shares an important role, working together to provide a high standard of living for its citizens. They are intrinsically linked, public transit provides access to more expensive estates, increasing demand for housing and driving up prices. Improving public transportation can benefit the real estate market by making it easier for people to move around cities, increasing economic activity. In order to further improve this relationship and ensure that London remains an attractive place to live and work, more applications of innovative technology should be use to modernize existing stations, in order to increase station capacity. Additionally, new lines should be created with better management to reduce congestion on existing lines and provide more efficient connections between different parts of the city. At last, as passenger flow on public transportation increases year by year, further development of public transportation is necessary; this will bring more interest to the entire real estate sector in London as well as many other positive social benefits. However, the government should carefully consider why and how they should develop these projects as it may cause negative impact. Ultimately, developing and planning scientifically and rationally while working together with the planning department and development industry is the best way to maximize their goals—allowing them to transport more people with a larger transportation network.

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