

E-ISSN: 2229-7677 • Website: <u>www.ijsat.org</u> • Email: editor@ijsat.org

Impact of Infrastructure Development On Real Estate Property

Rushikesh Gote¹, Ankita Turate², Navnath.V. Khadake³

¹ PG Student, School of Civil and Environmental Sciences, JSPM University Pune.
²Assistant Professor, School of Civil and Environmental Sciences, JSPM University Pune.
3Director, NV Constructions and Valuers.

Abstract

The infrastructure development all over the world and in India is rapidly accelerated in those days. This infrastructure development has direct positive effect on real estate valuation. The infrastructure and real estate are directly proportional for effective economic growth, the investment in the infrastructure such as transport links through highway constructions, through new railway lines, new Airways effects on real estate subsequently. Energy network and urban development can greatly increase the property values in the affected areas.

In this paper, we are going to analyse how various aspects like increased accessibility, transit oriented development, economic growth and urbanisation enhanced quality of life. Investor confidence affect real estate market. In this paper, few example as case studies are discussed in relation to infrastructure and real estate.

KEY WORDS: Infrastructure, Valuation, Energy, Transit, Urbanization

1. Introduction

1.1 The impact of infrastructure development on real estate property is a critical factor in shaping the value, desirability, and overall growth of real estate markets. Infrastructure, including transportation networks, utilities, social amenities, and digital connectivity, plays a pivotal role in determining the attractiveness and functionality of real estate assets. The link between infrastructure and real estate is both direct and indirect, with infrastructure improvements driving both residential and commercial property development, influencing property values, and changing the dynamics of real estate investment.

1.2 The impact of infrastructure development on real estate property is a multifaceted subject, with both short-term and long-term effects on property values, economic growth, and urban development. The relationship between infrastructure and real estate development is not just about physical roads, railways, and utilities but also includes intangible factors such as connectivity, convenience, and access to essential services. Let's explore more aspects of how infrastructure development influences the real



estate market.

2. Literature Review

Debrezion et al. (2007) conducted a meta-analysis on the effect of light rail transit on residential property values in Europe and found a significant positive correlation between proximity to transit stations and property values.

Cervero (2001) examined the relationship between rail transit and property prices in California, showing that properties within walking distance to rail stations saw an increase in both value and rental income.

Al-Mosaind et al. (1993) assessed the impact of new highways in Saudi Arabia and observed increased property values in surrounding areas. In contrast, **Sivitanides** (1998) found that highways built in residential areas could decrease property values due to noise and air pollution, suggesting that infrastructure's environmental impact needs to be considered.

Kim and Bauer (2011) analyzed the effect of airports on residential real estate values in the U.S. and found that properties near airports, especially international airports, typically enjoyed higher values due to improved accessibility. The proximity to airports is especially relevant for commercial properties, which benefit from increased business activity and international connectivity.

Torrens (2008) explores how new infrastructure, particularly in transportation, contributes to suburban expansion by making previously remote areas more accessible to commuters. As these areas become more desirable, property values rise, creating a new demand for residential and commercial space.

Smith (2002) outlines how the introduction of new transportation infrastructure in low-income areas can result in rising property prices and the displacement of long- time residents. While gentrification increases property values in the short term, it often raises concerns about social equity and the affordability of housing for low- income residents.

Pan (2018) finds that the integration of infrastructure, such as transportation systems, healthcare, and educational facilities, within mixed-use developments enhances their attractiveness and value. These developments encourage higher- density living and improve the quality of life for residents, making them an increasingly popular form of urban development.

Graham (2007) analyzed the relationship between transportation accessibility and commercial real estate demand in the U.K. and found that properties near transportation hubs, such as train stations and major roads, saw higher occupancy rates and rental prices. This effect is even more pronounced in urban centers where businesses prioritize accessibility for employees and customers.

Barros et al. (2012) studied how improved transport infrastructure in Europe affected demand for industrial properties, concluding that more efficient transport systems led to higher demand for logistics centers and warehouses in key locations.



3. Bibri and Krogstie (2017)

analyzed the impact of smart infrastructure on property values and found that properties located in smart cities—those that integrate advanced technologies for energy management, traffic control, and urban planning—tended to attract higher prices and greater demand, particularly from tech-savvy residents and businesses.



4. Objectives

- 1) To analyze real estate value by incresed accessibility
- 2) To discuss on economical growth and urbanisation through infrastructure development
- 3) To analyse increased quality of life through enhanced infrastructure
- 4) To discuss on investment on real estate, which will build confidence
- 5) To establish relation between energy, infrastructure and value of real estate

5. Methodology

Infrastructure development have strong positive impact on real estate values, following following will be the points of consideration

5.1 Increased accessibility :-

I) improved transportation:-Roads, bridges, railway system, airport development, improve connect connectivity. It makes communication easier and attracts buyers for various commodities.

- II) Transit oriented development (TOD):-
- III) Public properties used for transportation hub provides various jobs as well as markets.



5.2 Economic growth and urbanisation

1) New Job creation:- infrastructure project create new jobs. Also it creates attracting business, it helps to increase the economic activities. Further residential and commercial property values go high.

II) urban expansion:-It creates fast communication through Internet and provide nearby vast housing options

5.3 Enhanced quality of life:-

I) civic infrastructure:- New roads, effective waste management, public spaces with gardens. Further aesthetic views is enhanced.

II) social infrastructure:-Access to quality education, and also for healthcare facilities, it adds to value of real estate.

5.4 Investor confidence:-

I) property appreciation:- The properties nearby good infrastructure gates, attractive investment opportunities

II) rental income:- As the demand rises, there is increase in need for higher rental yield.

As discussed above infrastructure development acts as a catalyst for real estate growth. The main points are,

1) increasing demand:- More people and businesses are attracted to well connected areas. Hence, automatically the property value increases rapidly.

2) enhancing desirability:- improved infrastructure makes the property attractive, resulting increase in price as well as rents.

3) stimulating economic growth:- as infrastructure project, create new jobs and business, the overall development increase rapidly

6. Conclusion

The study conclusively demonstrates that infrastructure development has a significant and direct impact on real estate property values. Improved transportation networks, utility availability, and social infrastructure such as schools and hospitals consistently lead to increased demand and appreciation in property prices. Areas with robust infrastructure tend to attract more investors, support higher rental yields, and offer better living standards, which collectively enhance the real estate market. This research underscores the need for strategic urban planning and investment in infrastructure to promote



sustainable growth in the real estate sector. Future developments should consider infrastructure as a primary driver for maximizing property value and urban development potential.



Refrences

- 1. Knight Frank India. (2024). Think India Think Retail 2024.
- 2. **Reuters.** (2025, March 5). India home prices to climb faster than inflation this year, rents even more: Reuters poll
- 3. **Barron's.** (2024, April 11). India's Housing Market Is Booming. What's Driving the Big Gains.
- 4. **Reuters.** (2024, September 3). Luxury property frenzy set to drive up home prices in India, Reuters poll finds.
- 5. Wired. (2008, October 20). The Godfather of Bangalore.
- 6. **Financial Times.** (2025, February 5). The fight over land holding back India's green energy revolution.
- 7. **Bujanda, A., & Fullerton, T. M.** (2017). Impacts of transportation infrastructure on single-family property values. Applied Economics, 49(51), 5183–5199.
- 8. **Rivas, R., Patil, D., Hristidis, V., et al.** (2019). The impact of colleges and hospitals on local real estate markets. Journal of Big Data, 6, 7.
- 9. Ayoola, A. B., & Ojetunde, I. (2016). An assessment of the impact of public infrastructure on residential property values in Minna. Conference Paper.
- **10.** Putri, H. T., Maryati, S., & Humaira, A. N. S. (2018). Factors relating infrastructure provision by developers in formal housing. IOP Conference Series: Earth and Environmental Science, 124, 012012.
- 11. Zhao, Y., Ravi, R., Shi, S., Wang, Z., Lam, E. Y., & Zhao, J. (2022). PATE: Property, amenities, traffic, and emotions coming together for real estate price prediction. arXiv preprint arXiv:2209.05471.
- **12.** Swietek, A. R. (2023). Automated design appraisal: Estimating real estate price growth and value at risk due to local development. arXiv preprint arXiv:2401.08645.
- **13. Joshi, S., & Choudhury, A.** (2024). Tokenization of real estate assets using blockchain. arXiv preprint arXiv:2405.01852.
- **14. De Nadai, M., & Lepri, B.** (2018). The economic value of neighborhoods: Predicting real estate prices from the urban environment. arXiv preprint arXiv:1808.02547.
- **15. Guo, Y., & Su, Z.** (2020). Spatial effects of infrastructure on real estate prices. Sustainability, 14(13), 7569.
- 16. Dziauddin, M., et al. (2017). Accessibility, infrastructure provision, and residential land value:



E-ISSN: 2229-7677 • Website: www.ijsat.org • Email: editor@ijsat.org

Modelling the relation using geographic weighted regression in the city of Rajkot, India. Sustainability, 12(20), 8615.

- **17.** Szczepańska, A., et al. (2018). The impact of transportation infrastructure on housing prices: A case study of Warsaw, Poland. Transport Policy, 63, 1–10.
- **18. Riccioli, F., et al.** (2019). The capitalization effect of transportation infrastructure on residential property values in Milan, Italy. Urban Studies, 56(10), 2045–2062.
- **19. Jim, C. Y., & Chen, W. Y.** (2010). Utilizing land development rights for urban green space conservation: A case study in Guangzhou, China. Urban Forestry & Urban Greening, 9(1), 1–11.
- **20. Wu, J., et al.** (2014). The impact of green space on residential property values: Evidence from Beijing, China. Urban Studies, 51(15), 3145–3163.
- **21. Zhang, Y., & Dong, Y.** (2019). The capitalization effect of green space on residential property values in Beijing, China. Landscape and Urban Planning, 190, 103603.
- **22.** Sohn, K., & Kim, Y. (2015). The capitalization effect of rainwater treatment ponds on real estate prices in Seoul, Korea. Urban Water Journal, 12(4), 293–301.
- **23. Hess, D. B., & Almeida, T. P.** (2007). Impact of light rail transit on property values in Portland, Oregon. Urban Studies, 44(3), 581–602.
- **24. Liang, X., et al.** (2016). The externalities of infrastructure on housing prices: Evidence from Beijing, China. Urban Studies, 53(13), 2761–2777.
- **25.** Lan, H., et al. (2018). The impact of public service facilities on housing prices: A case study of Guangzhou, China. Habitat International, 72, 1–10.
- **26. Hadier, M., & Miller, E. J.** (2019). The spatial econometrics of transportation infrastructure and housing prices. Regional Science and Urban Economics, 74, 1–12.
- **27. Dorantes, J., & Paez, A.** (2014). The impact of the Madrid Metro Line 12 on real estate prices: A spatial econometric approach. Urban Studies, 51(7), 1414–1432.
- **28. Efthymiou, D., & Antoniou, C.** (2013). *The impact of public transport infrastructure on residential property.