

Research Article

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The Role of Public Transportation in Sustainable Economic Growth in Jakarta Through the Concept of *Transit Oriented Development* (TOD)

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Abstract: *Public transportation in metropolitan cities like Jakarta has an important role in increasing economic growth. A crowded and densely populated city, of course, people's mobility is very high, so transportation is very crowded and even dense until transportation causes congestion. Public transportation in Jakarta consists of MRT (Mass Rapid Transit), LRT (Light Rail Transit), and Transjakarta buses. The high number of public transportation users in the city of Jakarta is certainly made a transit system for public transportation with the concept of Transit Oriented Development (TOD) capable of increasing sustainable economic growth such as reducing congestion, increasing the growth of business areas, operational efficiency, improving, encouraging the growth of business centers that are more crowded with potential consumers, increasing productivity and expanding job market access. This study uses a qualitative method with a literature and descriptive approach. The results of research on public transportation users in the city of Jakarta such as MRT, LRT, Transjakarta have an increase in the number of passengers from 2023 to 2025 so that it has an impact on improving the community's economy in a sustainable manner through reduced congestion, increased community mobility, efficiency in operations, especially transportation, and the economy in the TOD area.*

Keywords: *Public Transportation, Transit Oriented Development (TOD), Economic Growth.*

Introduction

Public transportation in Jakarta has a crucial role in supporting sustainable economic growth. As the capital city of Indonesia with a population of more than 10 million, Jakarta faces significant traffic congestion and air pollution challenges. The role of public transportation in Jakarta in supporting sustainable economic growth is a very relevant topic given the challenges of urbanization and urban mobility that the city faces. Greater Jakarta, as the largest metropolitan area in Indonesia with more than 27 million inhabitants, is experiencing rapid urbanization and economic growth. However, this also has a negative impact in the form of increased motorization and traffic congestion. Approximately 1,105,000 people travel to Jakarta every weekday from the surrounding Bodetabek area, demonstrating the magnitude of commuter flows (Hasibuan et al., 2014). The deteriorating condition of urban mobility in Greater Jakarta is an important policy issue that needs to be addressed. Although Jakarta strives to become a "world city" with various development projects such as an integrated public transportation system, there are still many infrastructure and environmental issues that remain unresolved. There are concerns about policies that tend to be pro-rich and anti-poor, while Jakarta is trying to transform into a modern city (Steinberg, 2007). This shows the contradiction between development aspirations and the existing socio-economic reality. To support sustainable economic growth, Jakarta needs to develop an effective and integrated public transportation system. The Jak Lingko program, which includes MRT, LRT, KRL, and Transjakarta Buses, is an important step in this regard (Rachman et al., 2021) The goal is to encourage people to switch to using public transportation to reduce congestion and air pollution that is very severe in Jakarta. Nonetheless, the implementation of the public transportation system in Jakarta still faces several challenges. Public sentiment analysis shows that the KRL is the only mode of public transportation with a negative response number

exceeding positive responses. In addition, the short-term impact of the Jakarta MRT on congestion reduction tends to be limited and localized, especially along the city's central business corridors (Widita, A., Welch, T., Rukmana, D., & Diwangkari, 2023). The development of public transportation remains one of the important pillars in overcoming traffic problems in Indonesia, especially in Jakarta (Soehodho, 2017). However, its implementation needs to consider aspects of social acceptance and the impact on various community groups. Sustainable public transportation development must also be in line with orderly spatial planning, adaptive capacity building of communities, and dynamic urban systems to realize resilient and sustainable cities (Renald et al., 2016).

An analysis related to public transportation in Jakarta can increase sustainable economic growth with the application of *the concept of Transit Oriented Development (TOD)* with the potential to improve the quality of the urban environment and sustainable economic growth. TOD has the characteristics of mixed land use, compact, walking distance, and development that focuses around public transit areas. Simulations show that the implementation of TOD is not only effective in restructuring urban land growth or increasing the share of public transportation modes, but also improving the quality of the urban environment (Hasibuan et al., 2014) in addition to the implementation of TOD, another indicator is the improvement of service quality, and the integration of various modes of public transportation can encourage sustainable economic growth in Jakarta. However, it is important to pay attention to user perceptions and preferences in designing public transportation improvement policies (Aditya Mahatidanar Hidayat, 2023) (Joewono et al., 2016).

Based on the presentation, the purpose of the research is based on hypotheses in solving problems through *the Transit Oriented Development (TOD)* approach in creating Sustainable Economic Growth in Jakarta through public transportation.

Method

The research uses qualitative methods with the research method used in this writing is a literature and descriptive study. Qualitative research raises the problem being researched requires research studies that are descriptive, intensive, comprehensive, detailed, and produce in-depth analysis (Abdussamad, 2021)

Results and Discussion

Overview of the Development of Public Transportation in Jakarta

The development of the number of MRT, LRT, and Transjakarta passengers in 2023 to 2025.

Basically, from January 2023 to November 2023 there was an increase in MRT passengers, but in April 2023 there was a very high decrease, and in December 2023 there was a decrease from the previous month, namely November 2023. However, when compared to the following years, every April 2023 (4,800 million) there is always a decrease in passengers at the Jakarta MRT, it also happens in April in 2024 (5,000 million) and in 2025 (7,000 million). Likewise, the average number of LRT passengers is 4,500 million, with the number of passengers in April 2023 (3,800 million), April 2024 (4,200 million) and April 2025 (4,900 million). There is an attraction for LRT passengers in June and July 2025 there will be a surge in passenger increases of up to 7,000 million. Likewise, on the Transjakarta Bus in April 2023, the number of passengers was very low, only reaching 2300 million, and April 2024 was also classified as the lowest number in the same year, reaching 3,200 million, while the highest number of passengers from 2023 to 2025, namely in July and October 2024, reached 4,500 million. The number of MRT, LRT and Transjakarta Bus passengers can be presented in the following Figure 1, 2, 3.

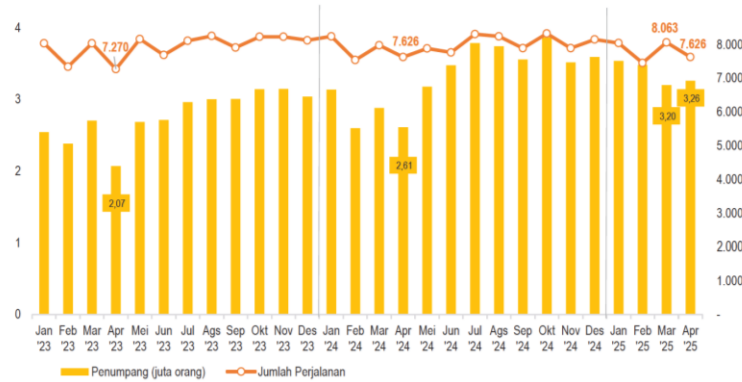


Figure 1. Development of the Number of Passengers on the Jakarta Mass Rapid Transit (MRT) 2023 – 2025

Source: <https://jakarta.bps.go.id/id>

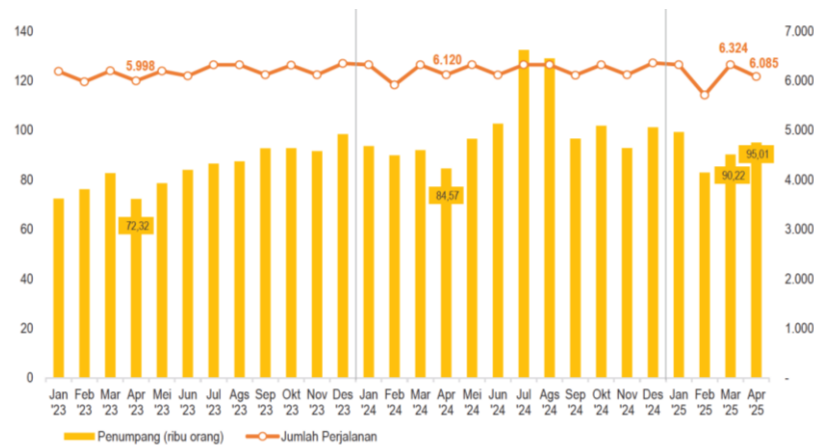


Figure 2. Development of the Number of Trips and the Number of Light Rail Transit (LRT) Passengers

Source: <https://jakarta.bps.go.id/id>

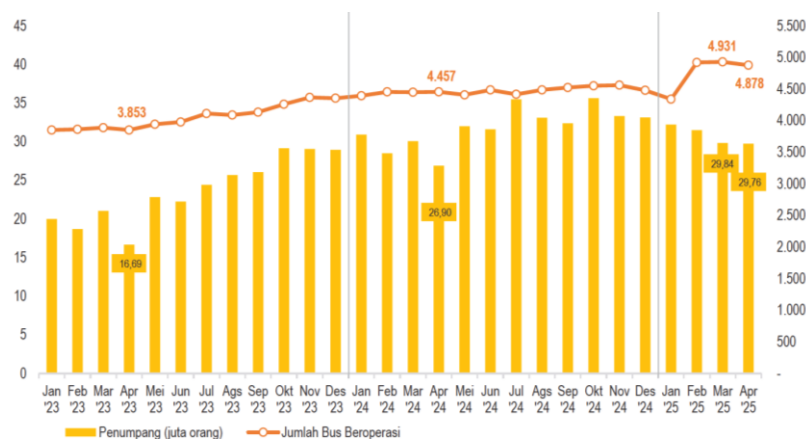


Figure 3. Development of the Number of Passengers & Number of Transjakarta Bus Operating (Units) 2023 – 2025

Source : <https://jakarta.bps.go.id/id>

Based on Figures 1,2,3 it shows that MRT, LRT, and Transjakarta from 2023 to 2025 there will be an increase in the number of passengers and the number of operations, this shows that the mobility of people in the city of Jakarta is increasing.

Implementasi *Transit Oriented Development* (TOD)

The definition of Transit-Oriented Development or transit-oriented area is a strategy to develop a sustainable urban design using land use and prioritizing pedestrians for walking to create a sense of comfort and safety and can also be integrated with station points on public transportation (Zafira & Puspitasari, 2022). *Transit Oriented Development* (TOD) is an urban planning approach that integrates housing, offices, and surrounding public spaces. In Jakarta, TOD areas have been developed in the areas of Dukuh Atas, Lebak Bulus, Fatmawati, and Jatibening Baru. According to Ayuningtias & Karmilah, (2019), a well-planned TOD is able to create dense areas, diverse functions, and encourage land efficiency. In Jakarta, data from PT MRT Jakarta currently shows that the TOD area has recorded an increase in property value as well as the growth of new business districts. Furthermore, the implementation of TOD is able to create *agglomeration economies*, namely the concentration of mutually beneficial economic activities between business actors, service providers, and consumers. The concept of TOD that prioritizes transit-based development, with an orientation to *mixed-use* and high-density areas around public transportation nodes, has been implemented in several strategic points of Jakarta such as Dukuh Atas, Lebak Bulus, and Fatmawati. This shows that TOD areas show faster economic growth than non-TOD areas, especially in the form of increasing property values and real estate investment. the growth of small and medium enterprises (MSMEs) around the station, an increase in the flow of passengers as a form of increased economic activity. However, on the other hand, the implementation of TOD also poses challenges such as gentrification, increased rental prices, and the risk of social exclusion for low-income people who cannot afford to survive in the TOD area (Region & City, 2022).

The Role of Public Transportation as an Economic Driver in Jakarta through the *Transit Oriented Development* (TOD) concept

Public transportation in Jakarta, such as TransJakarta, MRT, and LRT play an important role in reducing dependence on private vehicles, creating the efficiency of urban mobility. With the increase in citizen mobility through mass transportation, it can accelerate the movement of people to the centers of economic activity. This opens up new economic opportunities, such as the growth of MSMEs around stations, shopping centers, and the service sector that supports the movement of people so that economic growth is increasing. Hasibuan & Mulyani, (2022) said that transit-oriented development (TOD) is recommended to achieve sustainable transportation through development around transit stations, as TOD areas have a high chance of being visited by the public/visitors. Increased investment in infrastructure is a key strategy to increase the level of national economic development (Shi et al., 2024). A study by Cervero & Murakami, (2009) confirms that an efficient public transportation system is positively correlated with economic growth because it increases productivity, expanding access to the job market. This shows that areas connected to the public transportation system have experienced an increase in economic activity, such as the growth of MSMEs, an increase in the volume of passengers to office areas, and a surge in consumption in trade centers. In addition, the presence of public facilities around transit stations increases economic access by providing more employment options and basic services near residents' residences (Hasibuan & Mulyani, 2022). Public transportation systems with *Transit Oriented Development* (TOD) can

reduce congestion (Cervero & Sullivan, 2011), with congested road conditions, the costs incurred due to congestion such as fuel waste, loss of productive time, and increased vehicle operational costs, and vice versa if the road conditions are not congested, the more efficient it is to drive, the more productive time it is, this can increase economic efficiency and supporting economic growth, this is in accordance with research (Kawulur et al., 2020) which states that congestion can lead to economic decline. The TOD concept, with a focus on the accessibility of public transportation, can create more strategic locations for various economic activities, such as business, residential, and retail centers. By integrating public transportation with land development, TOD can encourage the growth of business centers to be more crowded by potential consumers, because access to business centers is getting easier, this can be seen in the city of Jakarta with the existence of TOD areas, such as Lebak Bulus, Blok M, and Dukuh Atas, designed to facilitate access to shopping centers and other facilities through MRT stations. LRT, or Transjakarta buses, and the impact is very real once the area is increasingly crowded with visitors.

Conclusion

Public transportation in the city of Jakarta such as MRT, LRT, and Transjakarta Bus as public transportation is currently used as public transportation chosen by the people of Jakarta City, with the number of passengers from the three public transportations increasing from 2023 to 2025. The increase in the number of public transportation users in Jakarta has increased economic growth, one of which is reducing congestion, with smoother transportation, of course the level of mobility is higher, operational efficiency is getting higher, even with the implementation of the TOD (*Transit Oriented Development concept*), it is increasingly creating comfort in public transportation, not only that the area around TOD is economic growing more so that it increases sustainable economy for the area around OTD.

References

- Abdussamad, Z. (2021). Metode Penelitian Kualitatif. In *Proceedings of the National Academy of Sciences* (I, Vol. 3, Issue 1). Syakir Media Press.
- Aditya Mahatidanar Hidayat, K. C. (2023). Passengers' Intentions to Use Public Transport during the COVID-19 Pandemic: A Case Study of Bangkok and Jakarta. *Sustainability*, 15(6), 104–116.
- Ayuningtias, S. H., & Karmilah, M. (2019). Penerapan Transit Oriented Development (Tod) Sebagai Upaya Mewujudkan Transportasi Yang Berkelanjutan. *Pondasi*, 24(1), 45. <https://doi.org/10.30659/pondasi.v24i1.4996>
- Cervero, R., & Murakami, J. (2009). Rail and property development in Hong Kong: Experiences and extensions. *Urban Studies*, 46(10), 2019–2043. <https://doi.org/10.1177/0042098009339431>
- Cervero, R., & Sullivan, C. (2011). Green TODs: Marrying transit-oriented development and green urbanism. *International Journal of Sustainable Development and World Ecology*, 18(3), 210–218. <https://doi.org/10.1080/13504509.2011.570801>
- Hasibuan, H. S., & Mulyani, M. (2022). Transit-Oriented Development: Towards Achieving Sustainable Transport and Urban Development in Jakarta Metropolitan, Indonesia. *Sustainability (Switzerland)*, 14(9). <https://doi.org/10.3390/su14095244>
- Hasibuan, H. S., Soemardi, T. P., Koestoer, R., & Moersidik, S. (2014). The Role of Transit Oriented Development in Constructing Urban Environment Sustainability, the Case of Jabodetabek, Indonesia. *Procedia Environmental Sciences*, 20, 622–631. <https://doi.org/10.1016/j.proenv.2014.03.075>
- Joewono, T. B., Tarigan, A. K. M., & Susilo, Y. O. (2016). Road-based public transportation in urban areas

- of Indonesia: What policies do users expect to improve the service quality? *Transport Policy*, 49, 114–124. <https://doi.org/10.1016/j.tranpol.2016.04.009>
- Kawasan, T., & City, S. (2022). *Telaahan mengenai Kawasan, TOD, dan Smart City*. 4(3), 1–153.
- Kawulur, D. O. ., Naukoko, A. T., & Th.B Maramis, M. (2020). Analisis Dampak Kemacetan Terhadap Ekonomi Pengguna Jalan, Depan Tugu Taman Kota Manado. *Jurnal Berkala Ilmiah Efisiensi*, 20(1), 83–93.
- Rachman, F. F., Nooraeni, R., & Yuliana, L. (2021). Public Opinion of Transportation integrated (Jak Lingko), in DKI Jakarta, Indonesia. *Procedia Computer Science*, 179(2020), 696–703. <https://doi.org/10.1016/j.procs.2021.01.057>
- Renald, A., Tjiptoherijanto, P., Suganda, E., & Djakapermana, R. D. (2016). Toward Resilient and Sustainable City Adaptation Model for Flood Disaster Prone City: Case Study of Jakarta Capital Region. *Procedia - Social and Behavioral Sciences*, 227(November 2015), 334–340. <https://doi.org/10.1016/j.sbspro.2016.06.079>
- Shi, J., Bai, T., Zhao, Z., & Tan, H. (2024). Driving Economic Growth through Transportation Infrastructure: An In-Depth Spatial Econometric Analysis. *Sustainability (Switzerland)* , 16(10), 1–18. <https://doi.org/10.3390/su16104283>
- Soehodho, S. (2017). Public transportation development and traffic accident prevention in Indonesia. *IATSS Research*, 40(2), 76–80. <https://doi.org/10.1016/j.iatssr.2016.05.001>
- Steinberg, F. (2007). Jakarta: Environmental problems and sustainability. *Habitat International*, 31(3–4), 354–365. <https://doi.org/10.1016/j.habitatint.2007.06.002>
- Widita, A., Welch, T., Rukmana, D., & Diwangkari, A. (2023). Impact of the MRT Jakarta on Congestion: Evidence from a Before-After, Treatment-Control Evaluation. *Journal of Planning Education and Research*, VIII(I), 1–19.
- Zafira, W. S., & Puspitasari, A. Y. (2022). Penerapan Prinsip Transit-Oriented Development (TOD) untuk Mewujudkan Transportasi yang Berkelanjutan. *Jurnal Kajian Ruang*, 2(1), 110. <https://doi.org/10.30659/jkr.v2i1.20440>