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Public Perception of Transit-Oriented Development in Indonesian Transportation Policy

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ABSTRACT

Rapid urbanization and increasing dependence on private vehicles have intensified sustainability challenges in metropolitan areas of Indonesia, making TOD a strategic policy response. However, the success of TOD initiatives is highly contingent upon public acceptance and perception. This study aims to examine how green urbanism influences public perception of TOD within the context of Indonesian transportation policy. Employing a quantitative research design, data were collected through an online survey administered to residents of the Greater Jakarta metropolitan area, yielding 219 valid responses. The study measured key constructs including green urbanism, environmental concern, environmental responsibility, and public perception of TOD using a Likert-scale instrument. Data were analyzed using Structural Equation Modeling (SEM) to assess the relationships among variables. The results demonstrate that green urbanism exerts a significant and positive effect on public perception of TOD, indicating that individuals who value environmentally sustainable urban practices are more likely to support transit-oriented policies. These findings suggest that environmental values play a critical role in shaping societal responses to transportation reforms. The study concludes that integrating green urbanism principles into TOD planning is essential for enhancing public support and policy effectiveness. From a policy perspective, the results underscore the importance of embedding sustainability-oriented narratives and community-oriented environmental strategies in urban transportation planning to ensure long-term viability and public legitimacy.

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KEYWORDS:

public perception, public trust, transportation policy, transit-oriented development

1. INTRODUCTION

Research on public perceptions of sustainable transportation, particularly transit-oriented development, aims to comprehend, depict, and elucidate public awareness and opinions on these sustainable practices. Equally significant is understanding how people have responded or may respond to their implementation. Understanding public perceptions of sustainable transportation can help ensure successful transportation policy implementation by aligning the goals of policymakers with the needs of the public (Jain et al., 2021). Public perception can also lead to improvements in public transportation service facilities (Park et al., 2022). Therefore, governments worldwide are responding quickly to public perceptions to realize sustainable transportation by promoting green urbanism (Cain et al., 2021; Hermansyah et al., 2024).

Urban development based on green urbanism is currently in high demand in major cities around the world. For example, in Egypt, according to El-Bastawisy (2023), urban development is moving towards satellite cities and new communities by promoting sustainable development goals to achieve green urbanism. Meanwhile, as reported by Rayan et al (2022), cities in Pakistan are proactively adopting urban policies and developing sustainable green urban infrastructure frameworks to establish eco-regional paradigms that support greener growth. In contrast, the concept of transit-oriented development in Taiwan is debated due to the lack of consideration of ecological and environmental dimensions. Therefore, as noted by Huang dan Wey (2019), improvements to environmental planning and design are needed for transit-oriented development to achieve green transit-oriented development, sustainable development goals, and urban livability.

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The concept of transit-oriented development was innovatively designed to address urban sprawl by shifting dependence from private vehicles to public transportation with the aim of reducing traffic congestion, improving urban efficiency, maintaining environmental quality, and promoting regional economic growth. An irregular and ineffective urban concept with high-intensity space utilization and development results in urban sprawl (Ramlan & Rudiarto, 2015), because the urban concept still targets the road network with the development of the number of private vehicles, the provision of toll roads in the city, and the priority given to private vehicles (Joga, 2017). Consequently, there is very little possibility for pedestrians, bicycle lanes, robust transportation networks, and other urban green infrastructure (Fandeli, 2021).

In Indonesia, the concept of TOD is being implemented in metropolitan cities, including Jakarta. Guidelines for transportation-oriented development in Indonesia are regulated by the Minister of Agrarian and Spatial Planning - National Land Agency Regulation No. 16/2017. The document, as depicted in Table 1, describes three typologies of areas based on the level of mass transportation services, as well as the development of service and activity center functions in the area. Development of this concept can be considered as a new breakthrough in the Indonesian context. Therefore, the community's understanding and evaluation of this plan has a significant impact on the community's perception, which then becomes the basis for the decision makers to support or reject the implementation of the TOD Area plan.

Table 1. Three TOD Area Typologies

TOD area typology	Function	Location
City Center TOD	Primary economic center with region-wide service functions	City service center
Sub-City Center TOD	Secondary economic center serving sub-city areas or designated activity centers within the city or urban district	Sub city service center
Neighbourhood TOD	Local economic center providing neighborhood-level services within the municipal area	Inner city neighbourhood service center

A. Green Urbanism for Living

TOD and green urbanism are now widely recognised as promising development models for shaping a more sustainable urban future (Park et al., 2022). This perspective is further supported by Syukri and Purnomo (2023), who argue that green urbanism offers an effective solution to global challenges such as climate change, air pollution, and environmental degradation. In China, this environmentally oriented urban concept has been adopted and implemented by policymakers through policy networks that effectively reflect the principles of green urbanism in urban development practices (Pow & Neo, 2015). Moreover, a growing number of cities worldwide have embraced green urbanism, including those in Sweden, Germany, Australia, China, and Singapore (El-Bastawisy, 2023). Overall, green urbanism theory emphasises the recalibration of the relationship between cities and nature and has evolved into a key conceptual and theoretical foundation for emerging urban planning paradigms (Viviers et al., 2017). **H1:** green urbanization positively influences EC

B. Environmental Concern

Several decades ago, numerous scholars directed their attention to environmental concern (EC) as it relates to public perceptions (Gooch, 1996; White & Hunter, 2009). Since then, EC research has expanded into multiple dimensions (Goodale, 2021; Hannibal et al., 2016), one of which focuses on analysing human interactions with ecosystem services, including the development of TOD initiatives aimed at enhancing environments free from air pollution. As cities continue to allocate investment and prioritise public transportation, they play a crucial role in shaping more sustainable transport landscapes. However, in contrast to these efforts, the implementation of the forest city concept in Malaysia along with public readiness to utilise public transportation has been assessed as unsuccessful (Roslan et al., 2024). Empirical evidence suggests that individuals are more likely to use public transportation when they perceive accessibility and comfort to be adequate (Ueasin, 2020). Other studies further indicate that women tend to favour public transportation, a preference often attributed to higher levels of environmental awareness (Shadiqi et al., 2023). **H2:** EC positively influences ER

C. Environmental Responsibility

Fig. 1 ER Framework

Scholarly research on environmental responsibility has increasingly expanded to encompass several key dimensions, including energy security (Tomoff & Jüchter, 2018), limited educational opportunities (Aarnio-Linnanvuori, 2019),

emission levels (Goman & Oblova, 2018), environmental education (Jovanovic et al., 2017), and environmental behaviours (Aarnio-Linnanvuori, 2019).

Figure 1 illustrates that environmental responsibility (ER) encompasses actions from two primary perspectives: corporate and individual. From the corporate perspective, the emphasis is placed on environmental management, corporate strategy, and market imperfections. From the individual perspective, the focus lies on environmental awareness, psychometric measurement tools, consumption processes, and environmentally responsible consumption. Both dimensions contribute substantially to the overall fulfilment of environmental responsibility.

This conceptualisation is reinforced by the findings of Kovač et al. (2020), who confirm that contemporary transportation companies are increasingly required to prioritise ecological sustainability in their business operations through the adoption of environmentally friendly transport systems. This argument is further supported by Gogolová et al. (2023), who demonstrate that strong environmental responsibility within public transportation companies can lead to cost efficiency while simultaneously preventing environmental degradation. **H3:** ER positively influences green urbanism

II. METHODOLOGY

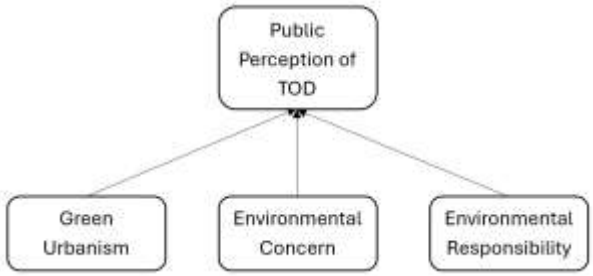

Fig. 2 Research Framework

This study employed a probability sampling technique, specifically a voluntary response sampling method, characterized by its reliance on convenience sampling. Data collection was facilitated through an online questionnaire, administered via Google Forms, and disseminated to residents of the Jabodetabek region (comprising Jakarta, Bogor, Depok, Tangerang, and Bekasi). Respondents rated the questionnaire items using a Likert scale ranging from 1 to 5, resulting in a total of 219 participants. The variables examined in this research included green urbanism, environmental concern, environmental responsibility, and public perception. The data were analyzed using structural equation modeling (SEM) with the assistance of SmartPLS software version 3.2.9.

III. RESULTS

Jakarta, as a metropolis, faces complex challenges in the context of urban planning, including the widespread dispersion of the urban fabric that results in dependence on private vehicles. TOD areas are emerging as potential alternative solutions to these challenges, focusing on increasing population density, improving accessibility between locations, as well as further integration of the public transportation system. The implementation of transit-oriented development is directed by regulations contained in DKI Jakarta Governor Regulation No. 44/2017 on the Development of TOD Areas. This Governor Regulation classifies areas based on mass transportation service functions and land use objectives. The typologies of TOD areas identified include City Region Center, City Center, and Neighborhood City Center. These typologies, as shown in Table 2, are characterized by the dominance of office, commercial, and residential activities, as well as different mass transportation services.

Table 2. Three Typologies of TOD in Jakarta

Typology of TOD Area in Jakarta	Function	Location
Urban Center	Main office and commercial activities, served by mass public transportation with a regional service scale	Regional
City Center	Main office and commercial activities, served by mass public transportation with a city-level service scale	City
Neighborhood City Center	Predominantly residential uses located around stations and terminals, served by mass transit	City

A. Analysis of Measurement Results

The bootstrapping analysis, based on the Original Sample (O), Sample Mean (M), and Standard Deviation (STDEV) values, reveals varying levels of estimation stability across the structural paths. For the relationship between Environmental Concern and Environmental Responsibility, the Sample Mean (–0.238) remains relatively close to the Original Sample estimate (–0.233). However, the comparatively large Standard Deviation (0.161) suggests substantial variability in the coefficient estimates across the bootstrap samples, indicating lower stability for this particular path.

The structural path from Green Urbanism for Living to Environmental Concern demonstrates a high degree of consistency, as evidenced by the close alignment between the Original Sample (0.783) and the Sample Mean (0.786), alongside a low Standard Deviation (0.032), reflecting strong estimation stability. A similar pattern is observed for the relationship between Green Urbanism for Living and Environmental Responsibility, where the proximity between

the Original Sample (0.899) and the Sample Mean (0.897), coupled with a very small Standard Deviation (0.016), indicates a highly precise and robust coefficient estimation.

Table 3. Variable Measurement Results

Variable	Original Sample	Mean	SD
GU	-0.233	-0.238	0.161
EC	0.783	0.786	0.032
ER	0.899	0.897	0.016

B. Analysis of T Statistics

Several empirical studies employing t-statistical analysis commonly adopt the criterion that correlations between variables are considered statistically significant when the p-value is less than 0.05 (Taufiqurokhman et al., 2024). This threshold is widely used to determine whether observed relationships are unlikely to have occurred by chance and therefore reflect meaningful statistical associations.

Table 4. Variable Correlation T Stat

Variable	T Stat	P Values
GU	1.444	0.149
EC	24.454	0.000
ER	55.422	0.000

The results of the t-statistical analysis indicate that not all structural paths in the model are statistically significant. Specifically, the path from Environmental Concern to Environmental Responsibility yields a t-statistic of 1.444 with a p-value of 0.149, falling below the required significance threshold and therefore indicating a non-significant relationship. In contrast, the path from Green Urbanism for Living to Environmental Concern demonstrates a remarkably high t-statistic of 24.454 with a p-value of 0.000, reflecting a very strong level of statistical significance. Similarly, the relationship between Green Urbanism for Living and Environmental Responsibility records a t-statistic of 55.422 with a p-value of 0.000, also indicating a highly significant effect. Overall, these findings confirm that only the structural paths involving Green Urbanism for Living exhibit statistical significance within the model.

IV. DISCUSSION

The findings of this study make a substantial contribution to the literature on the interrelationships between green urbanism, environmental concern, and environmental responsibility within the context of sustainable transportation policy, particularly TOD in metropolitan areas of Indonesia. The structural model reveals that Green Urbanism for Living exerts a strong and statistically significant influence on both Environmental Concern and Environmental Responsibility, whereas Environmental Concern does not demonstrate a significant effect on Environmental Responsibility. This configuration of relationships suggests that the formation of environmental responsibility in the TOD context is shaped more by structural and institutional mechanisms than by individual awareness alone.

Furthermore, the significant effect of green urbanism on environmental concern reinforces the theoretical proposition that the built environment functions as a normative instrument in cultivating ecological awareness. As articulated by Viviers et al., (2017), green urbanism operates not merely as a technical framework for urban planning but also as a medium for embedding sustainability values through everyday spatial practices. Within the context of Jakarta's TOD, the provision of green public spaces, the integration of mass transit systems, and the reduction of reliance on private vehicles act as environmental stimuli that heighten public awareness of urban ecological challenges.

The finding that green urbanism has a direct and powerful influence on environmental responsibility further confirms that policy interventions and spatial design have greater capacity to encourage responsible behavior than approaches based solely on awareness. This is in line with the governance-oriented sustainability perspective, which emphasizes the role of the state and public institutions in shaping collective behavior through regulation, infrastructure, and policy incentives. Within this framework, environmental responsibility does not arise individually, but rather as a rational response to urban structures that facilitate or limit people's behavioral choices.

On the other hand, the insignificant relationship between environmental concern and environmental responsibility indicates an attitude–behavior gap, which has long been discussed in environmental behavior literature. Although individuals care about the environment, this concern does not automatically translate into concrete actions or responsibilities, especially when the structural context is not fully supportive. In the case of TOD in Indonesia, limited access, convenience, and integration of transportation systems can be factors that hinder the transformation of awareness into action. These findings reinforce criticism of policy approaches that place too much emphasis on public education without accompanying structural transformation.

This study challenges the linear assumptions in environmental behavior theory that position environmental concern as the primary mediator toward environmental responsibility. Instead, this study shows that green urbanism functions as a direct determinant, cutting through psychological pathways and working through policy, infrastructure, and urban governance mechanisms. Thus, this research enriches the discourse on TOD by placing green urbanism as a strategic foundation in building public legitimacy and policy sustainability in transportation.

V. CONCLUSION

This study concludes that the effectiveness of TOD in Indonesia is fundamentally contingent upon the institutionalization of green urbanism within urban

transportation policy. The empirical findings demonstrate that green urbanism functions as a decisive structural driver that directly shapes environmental responsibility, while environmental concern alone is insufficient to translate into responsible environmental behavior. From a policy perspective, this implies that governments should move beyond awareness-based interventions and prioritize systemic reforms through integrated land-use planning, environmentally oriented transit infrastructure, and regulatory frameworks that actively enable sustainable mobility choices. Embedding green urbanism principles into TOD governance not only enhances public acceptance but also strengthens policy legitimacy and long-term sustainability outcomes. Accordingly, urban transport policies should be designed as behavioral infrastructures that align environmental objectives with everyday mobility practices, thereby ensuring that sustainability is operationalized through concrete institutional and spatial arrangements rather than relying solely on individual attitudes.

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VII. DISCLOSURE

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REFERENCES

1. Aarnio-Linnanvuori, E. (2019). How do teachers perceive environmental responsibility? Environmental Education Research, 25(1), 46–61. https://doi.org/10.1080/13504622.2018.1506910
2. Cain, B. E., Gerber, E. R., & Hui, I. (2021). Public Perceptions of Collaborative Governance in Transportation Policy. Political Research Quarterly, 74(4), 899–912. https://doi.org/10.1177/1065912920943954
3. El-Bastawisy, M. M. (2023). Applying green urbanism during spatial urban transformation: a schematic plan, Nasr City, Cairo, Egypt. Rendiconti Lincei. Scienze Fisiche e Naturali, 34(1), 93–110. https://doi.org/10.1007/s12210-023-01134-8
4. Fandeli, C. (2021). Pembangunan Kota Hijau. UGM PRESS.
5. Gogolova, M., Vartiak, L., & Kovalova, E. (2023). Identification of the Starting Points of the Environmental Responsibility of a Transport Company Based on Multi-criteria Analysis. International Journal of Energy Economics and Policy, 13(4), 120–129. https://doi.org/10.32479/ijeep.14345
6. Goman, I. V, & Oblova, I. S. (2018). Analysis of companies' corporate social responsibility as a way to develop environmental ethics for students specialising in oil and gas activity. International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, 18(5.4), 11–18. https://doi.org/10.5593/sgem2018/5.4/S22.002
7. Gooch, G. D. (1996). Environmental Concern and the Swedish Press: A Case Study of the Effects of Newspaper Reporting, Personal Experience and Social Interaction on the Public's Perception of Environmental Risks. European Journal of Communication, 11(1), 107–127. https://doi.org/10.1177/0267323196011001005
8. Goodale, T. A. (2021). Multivariate analysis of the impact of gender and college major on student levels of environmental concern and knowledge. International Electronic Journal of Environmental Education, 11(1), 1–12. https://doi.org/10.18497/iejeegreen.713165
9. Hannibal, B., Liu, X., & Vedlitz, A. (2016). Personal characteristics, local environmental conditions, and individual environmental concern: a multilevel analysis. Environmental Sociology, 2(3), 286–297. https://doi.org/10.1080/23251042.2016.1197355
10. Hasibuan, H. S., & Permana, C. T. (2022). Socio-cultural characteristics of people and the shape of transit-oriented development (TOD) in Indonesia: A mobility culture perspective. Journal of Transport and Land Use, 15(1), 295–314. https://doi.org/10.5198/jtlu.2022.1997
11. Hermansyah, A., Samudra, A. A., & Satispi, E. (2024). Policy dialogue: Key factors for the success of transit-oriented development infrastructure 3.0 in big cities in Indonesia. Journal of Infrastructure, Policy and Development, 8(5), 1–23. https://doi.org/10.24294/jipd.v8i5.3400
12. Huang, W., & Wey, W.-M. (2019). Green Urbanism Embedded in TOD for Urban Built Environment Planning and Design. In Sustainability (Vol. 11, Issue 19). https://doi.org/10.3390/su11195293
13. Irsal, R. M., Hasibuan, H. S., & Azwar, S. A. (2023). Spatial Modeling for Residential Optimization in Dukuh Atas Transit-Oriented Development (TOD) Area, Jakarta, Indonesia. In Sustainability (Vol. 15, Issue 1). https://doi.org/10.3390/su15010530
14. Jain, N. K., Kaushik, K., & Choudhary, P. (2021). Sustainable perspectives on transportation: Public perception towards odd-even restrictive driving policy in Delhi, India. Transport Policy, 106, 99–108.

https://doi.org/https://doi.org/10.1016/j.tranpol.2021.03.020
15. Joga, N. (2017). Gerakan Kota Hijau 2.0: Kota Cerdas Berkelanjutan. Gramedia Pustaka Utama.
16. Jovanovic, S., Miljkovic, O., Zivkovic, L., Sabic, D., Gataric, D., Djordjevic, I., & Dzinovic, M. (2017). Environmental knowledge as a factor of personal environmental responsibility: Implications for environmental education in Serbia. Journal of Environmental Protection and Ecology, 18(3), 1223–1230.
17. Kovac, I., Vuletic, A., & Mlinarić, D. (2020). Environmental responsibility of Croatian road freight transport enterprises. International Journal of Retail & Distribution Management, 48(9), 1023–1035. https://doi.org/10.1108/IJRDM-07-2019-0248
18. Park, J. Y., Mistur, E., Kim, D., Mo, Y., & Hoefer, R. (2022). Toward human-centric urban infrastructure: Text mining for social media data to identify the public perception of COVID-19 policy in transportation hubs. Sustainable Cities and Society, 76, 103524. https://doi.org/https://doi.org/10.1016/j.scs.2021.103524
19. Pow, C. P., & Neo, H. (2015). Modelling green urbanism in China. Area, 47(2), 132–140. https://doi.org/https://doi.org/10.1111/area.12128
20. Ramlan, N., & Rudiarto, I. (2015). Pengendalian urban sprawl di wilayah pinggiran (Studi kasus: Perkembangan kota di Indonesia dan Perancis). Jurnal Pembangunan Wilayah Dan Kota, 11(4), 444–454.
21. Rayan, M., Gruehn, D., & Khayyam, U. (2022). Planning for Sustainable Green Urbanism: An Empirical Bottom-Up (Community-Led) Perspective on Green Infrastructure (GI) Indicators in Khyber Pakhtunkhwa (KP), Pakistan. In International Journal of Environmental Research and Public Health (Vol. 19, Issue 19). https://doi.org/10.3390/ijerph191911844
22. Roslan, F., Kamarudin, M. K. A., Ghani, N. I. A., & Mohamed, N. (2024). Social Norm and Environmental Concern As the Predictors of Citizens' Actual Behaviour To Adopt Public Transport in Terengganu, Malaysia. Planning Malaysia, 22(1), 80–95. https://doi.org/10.21837/pm.v22i30.1425
23. Shadiqi, M. A., Anward, H. H., Hasan, K. F. A., Putri, N. W. A., Hermawan, D., & Rahayu, D. S. (2023). Public transportation and environmental concern: investigation intention to use bus rapid transit (BRT) banjarbakula on female students. AIP Conference Proceedings, 2594(1), 20006. https://doi.org/10.1063/5.0109101
24. Suryawan, I. W. K., Mulyana, R., Yenis Septiariva, I., Prayogo, W., Suhardono, S., Sari, M. M., & Ulhasanah, N. (2024). Smart urbanism, citizen-centric approaches and integrated environmental services in transit-oriented development in Jakarta, Indonesia. Research in Globalization, 8, 100181. https://doi.org/https://doi.org/10.1016/j.resglo.2023.100181
25. Syukri, A., & Purnomo, E. P. (2023). Analisis Perbandingan Green Urbanism Di Kota Jakarta Dan Surabaya. Jurnal Pengembangan Kota, 11(1), 37–48. https://doi.org/10.14710/jpk.11.1.37-48
26. Taufiqurokhman, T., Satispi, E., Andriansyah, A., Murod, M., & Sulastri, E. (2024). The impact of e-service quality on public trust and public satisfaction in e-government public services. International Journal of Data and Network Science, 8(2), 765–772. https://doi.org/10.5267/j.ijdns.2024.1.002
27. Tomoff, K., & Jüchter, A. (2018). GoGreen Technologies: Environmental Innovation at Deutsche Post DHL Group. In CSR, Sustainability, Ethics and Governance (pp. 213–229). Springer Nature. https://doi.org/10.1007/978-3-319-93629-1_12
28. Ueasin, N. (2020). Decision-making on public transportation services based on the socio-economic, psychological, and environmental concern factors. Open Transportation Journal, 14, 22–31. https://doi.org/10.2174/1874447802014010022
29. Viviers, J., Cornelius, S. G., & Cilliers, E. J. (2017). Considering new urbanism, new ruralism and Green Urbanism in response to multifunctionality: The case of Verkykerskop, South Africa. WIT Transactions on Ecology and the Environment, 223, 73–87. https://doi.org/10.2495/SC170071
30. White, M. J., & Hunter, L. M. (2009). Public Perception of Environmental Issues in a Developing Setting: Environmental Concern in Coastal Ghana*. Social Science Quarterly, 90(4), 960–982. https://doi.org/https://doi.org/10.1111/j.1540-6237.2009.00672.x