

urban enviro

by herika 3

Submission date: 27-Mar-2025 03:56PM (UTC+0700)

Submission ID: 2424119329

File name: 7_2_6_FINAL_DOI.pdf (371.36K)

Word count: 5462

Character count: 29420



3
**IMPLEMENTATION OF TRANSIT ORIENTED DEVELOPMENT (TOD) IN
THE JAKARTA SUB-URBAN AREA**

**Herika Muhamad Taki^{1*}, Anita Sitawati Wartaman¹, Marselinus Nirwan Luru¹,
Hanny Wahidin Wiranegara¹, Apri Zulmi Hardi²**

¹Urban and Regional Planning Department, Faculty of Architecture Landscape and Environmental Technology,
Universitas Trisakti, Jakarta, 11440, Indonesia

²Urban and Regional Planning Department, Faculty of Architecture and Planning, King Abdul Aziz University,
Jeddah, Saudi Arabia

*Corresponding author: herika@trisakti.ac.id

ABSTRACT

The high mobility of sub-urban communities has become the focus of the government to create an effective transportation system by creating a Transit-Oriented Development concept at several stations in sub-urban or supporting cities of DKI Jakarta. **Aims:** The purpose of this research is to find out whether the Bekasi and Plawad stations which are located in the suburbs are effective for making transit oriented development. **Methodology and results:** The type of research to be carried out is quantitative and qualitative research, in which the variables in this study will cover the area, the distance between points, the number of trips from each region to the types of transportation modes used by the community. Then, these variables will be analyzed spatially using maps created in the ArcGIS application and compared to be given a score (scoring) in accordance with the provisions of the indicators of the variables that have been determined in this study. **Conclusion, significance and impact study:** Plawad and Bekasi Stations are considered not feasible to be used as TOD due to inadequate facilities, the train itself is not yet the main transportation and needs to be increased to meet the commuter mobility needs of the people of Bekasi City.

MANUSCRIPT HISTORY

- Received
January 2024
- Revised
July 2024
- Accepted
July 2024
- Available online
October 2024

KEYWORDS

- Mobility
- Mod integration
- Public transportation
- Railways
- Transit oriented
development (TOD)

1. INTRODUCTION

7
Transit-oriented development or TOD for short is one of the most popular interventions to lower the mobility footprint, making it an important component of smart growth and new urbanism. TOD, which is based on dense and 5 transit-oriented growth patterns around train, light rail, or metro stations, aims to promote modal shifts and reduce car dependency while increasing the livability of the environment, which is a 5 multidimensional and rather vague concept that includes health, a safe and comfortable environment, the quality and aesthetics of public space, and the expansion of social and economic opportunities (Padeiro, 2019). Development of public transportation systems and policies that benefit the environment is one way to reduce the use of private vehicles. In addition, people's comfort and health are the main concerns. Green transportation is an important part of any community development, and transit-oriented development (TOD) has grown in popularity in recent years. Transit-oriented development seeks to create practical, versatile, pedestrian-friendly cities that include travel, accommodation, schools, parks, and other social and monetary improvements, thereby benefiting many elements of society (Ali, 2021). With this TOD, it is hoped that it can reduce the problem of urban sprawl that often occurs in suburban areas and can make public transportation modes such as trains and buses the main choice of people when traveling.

Peter Calthorpe defines it as a multi-purpose community located at an average distance of 2,000 feet on foot from transit stations and major commercial districts. TOD combines residential, retail, public and office uses and open spaces in walkable neighborhoods, 8 making it convenient and comfortable for residents and employees to travel by transit, bicycle, foot, or car. Thus the basic principle of TOD is to provide multi-use development that is close to transit and serves it well (Calthorpe in Alrobaee, 2021). TOD works to develop cities for the better, by contributing to land use to reduce congestion and pollution, as well as supporting urban agglomeration economies by creating new employment and housing opportunities that can be accessed through public transport, while providing many choices from other modes of transportation, reducing the need to use private cars, and achieving integration between transportation and land use, this is what helps cities become attractive places to work and live (Al-Jabeeri, 2019). TOD is defined as urban development with relatively high intensity with a healthy mix of land use and urban environment that is walkable, cycling or using public transportation instead of branded cars, so the concept of TOD is an approach to sustainable development that relies on integration between

land use and transportation (Singh, 2015).

Rodrigue in his writings argues that the effectiveness of a TOD area can be judged by the amount of density of activities around the TOD area and how much the TOD area can accommodate the mobility of people who carry out their daily activities (Rodrigue, 2020). Hale argues that the term TOD should be reserved for developments with a sustainable level of travel behavior. He stated that many so-called TODs had failed to deliver transit-oriented outcomes, saying that 'true' TODs should be able to stimulate transit-oriented behavior among residents. It should provide a livable environment where transit and facilities are within walking distance and thereby minimize the need for automotive use. Research has revealed that the development of the built environment, especially TOD, influences travel behavior (Hale, 2015).

Berawi *et al* (2020), in his research provided several variables that have been taken from books and also previous literature, namely the existence of housing where the large and dense population in a TOD area can lead to high movement and the presence of TOD can be said to be right on target for community mobilization. Offices as well as commercial areas, these places are the targets of movement of urban communities for their daily lives, namely economic activities or simply work, work that is done daily if it can be accommodated properly with TOD in this area will add to economic movement. Papa and Bertolini (2015), think that the most important thing in TOD is the relationship between the goal (to work) and the homes of these workers where TOD is better in areas with residents who need transportation for work activities or in areas that have a lot of economic activity as the goal of these workers.

The TOD concept as implemented in Beijing City which we can see in Lyu *et al*'s research, the focus of TOD is to connect the downtown area where this place has many economic activities such as work or trade, and also the suburban area which is a place for employees or economic actors who work in the city center (Lyu, 2020). Rail access does little to reduce car ownership or use of an area, while other factors such as housing type and ownership, local and sub-regional density, bus services, and in particular the availability of off- and on-street parking play an even more important role in the context of discussions on TOD (Padeiro, 2019).

The Indonesia Transportation Master Plan covering the cities of Jakarta, Bogor, Depok, Tangerang, Bekasi 2018-2029 stipulates several indicators used in station selection as TOD. The movement of an area must reach 60% using public transportation of the total available transportation, the average travel time from a transportation to its destination is 1 hour 30

minutes, walking access to transportation is a maximum of 500 meters, each area must have its own city transportation to support inter-city transportation activities, each station must have a park and ride system, and in one trip a maximum of three transportation vehicles.

Bekasi Station and Poris Plawad Station in Tangerang City in the Jakarta, Bogor, Depok, Tangerang, Bekasi Transportation Master Plan for 2018-2029 are planned to be developed into TOD stations that serve the people of Bekasi and Tangerang City for traveling to and from Jakarta. The existence of a relationship between the two regions between Bekasi and Tangerang with Jakarta or other areas will form a linkage in the area with a complementary relationship between the two or more regions, transferability, and opportunities for mutual intervention (Pinanigas, 2021). This opportunity is owned by Bekasi Station and Poris Plawad Station which are capable of becoming hubs/centers in moving people from Bekasi and Tangerang City to be developed into intermodal TOD stations. The potential for Bekasi station to serve long-distance trains, KRL trains that can reach all of Greater Jakarta, as well as airport trains, makes Bekasi station a dense transit point which is connected to Bekasi City area public transportation, shuttle buses, and online motorcycle taxis (Pangestu, 2021). Meanwhile, the potential of the Poris Plawad Station area was chosen as the biggest transit node in Tangerang City. This area has a type A terminal (Poris Plawad Terminal) which accommodates Bus Rapid Transit services, city and online transportation as well as a passenger station (Batu Ceper Station) which is the only station in Tangerang City that is visited by the Airport Train and Commuter line (Ardini, 2022).

From several sources and previous studies that have been included in the previous explanation, this research takes several related variables and indicators. Tangerang City and Bekasi City are buffer cities for Jakarta, so the number of people moving from these cities to Jakarta is used and also the choice of mode they use along with the percentage. because there are so few stations in these two cities, it is certain that all people will use these stations if they want to use the train or KRL mode of transportation. An analysis was carried out on the existence of other modes in the city to support people's needs to travel from their homes to this station, as well as an analysis of the existence of integration of modes of transportation in implementing the park and ride function for train passengers.

2. RESEARCH METHODOLOGY

This research is a quantitative research where research uses various spatial variables such as the area and also the distance between one point to another. The attribute variables used in this study are the number of trips from each region and the type of mode used in the movement. From a spatial perspective, the author will examine integrated modes of transportation at stations in the Bekasi City and Tangerang City areas.

The data needed in this study is the number of people's movements from the outskirts of Jakarta, which in this study are the City of Bekasi and the City of Tangerang. Other transportation data is the mode of transportation used with the percentage with stations as TOD points, namely Bekasi and Plawad stations.

Data collection was carried out using secondary data from government and private sources with less than 5 (five) years. These data were collected by directly contacting the agency, then collecting literature study data, as well as measuring spatial data with the help of GIS.

The analytical method used in this study is a spatial analysis method using GIS techniques. Existing variables are visualized with maps created in the ArcGIS application and comparative analysis to provide values according to applicable regulations. The final results are discussed qualitatively and identified with real conditions which can be used as a specific assessment of existing indicators.

3. RESULTS AND DISCUSSION

3.1 Movement of Bekasi Station

The movement of suburban or hinterland communities, namely Bekasi City towards the urban center of Jakarta, can be seen in the commuter data on Table 1, it shows that the people of Bekasi City are active in Jakarta with a total of 277,234 people who carry out commuter activities for work, college, or other daily activities. The second most activity was heading to Bekasi Regency with a total of 58,921 people.

The people who go to Bekasi City itself are relatively small compared to the people of Bekasi City who go out of Bekasi City every day. The highest number of trips is Bekasi Regency with 94,227 and the second is DKI Jakarta with 37,190.

9
Table 1 People from Bekasi City go to and do activities in other cities

| Commuter Activities | Activity Destination City | Amount |
|--------------------------------|---------------------------|----------------|
| Activities outside Bekasi City | DKI Jakarta | 277.234 |
| | Bogor City | 3.031 |
| | Bogor Regency | 8.651 |
| | Depok | 12.129 |
| | Tangerang Regency | - |
| | Tangerang Selatan City | 722 |
| | Tangerang City | 7.933 |
| | Bekasi Regency | 58.921 |
| | Other city | 4.522 |
| Total | | 373.125 |

Table 2 Community Movement From other cities to and do activities in Bekasi City
 (Source: Commuter Survey 2019, BPS)

| Commuter Activities | Activity Destination City | Amount |
|--------------------------------|---------------------------|----------------|
| Activities outside Bekasi City | DKI Jakarta | 37.190 |
| | Bogor City | 27.087 |
| | Bogor Regency | 785 |
| | Depok | 6.481 |
| | Tangerang Regency | - |
| | Tangerang Selatan City | - |
| | Tangerang City | 427 |
| | Bekasi Regency | 94.227 |
| | Other city | - |
| Total | | 166.197 |

The majority of trips home from work are still mostly using private vehicles, namely motorbikes with 218,744 people and vehicle trips generally still using trains with 35,043 people.

The data explains that the train is still the main choice of main mode of transportation for the people of Bekasi City to carry out their daily activities, especially going to work. Even though the use of private vehicles such as motorbikes is still the main choice because of the convenience for high mobility, for public transportation, trains are still the most preferred choice compared to ordinary buses and BRT. Therefore, the findings from this study are that the choice of Bekasi Station to be one of the TOD expansion projects is very appropriate because for now the level of train use is already high in Bekasi City, with the TOD expansion project and several facility updates

it can increase people's interest in switching to using vehicles or public transportation, especially trains.

Table 3 The mode of transportation people use to go to work

| Type of Main Mode of Transportation Used | Amount |
|--|---------|
| Walk | 722 |
| Bicycle | - |
| Motorcycle | 223.636 |
| Motorcycle Ojek Online | 8.080 |
| Car | 48.849 |
| Online Rental Cars | - |
| Invitation Vehicle | 15.229 |
| Public transport | 18.716 |
| Public bus | 13.825 |
| Train (KRL) | 36.583 |
| Trans-Jakarta Buses | 7.485 |
| Other | - |
| Total | 373.125 |

Table 4 The mode of transportation used by the community to return from work

| Type of Main Mode of Transportation Used | Amount |
|--|---------|
| Walk | 1.444 |
| Bicycle | - |
| Motorcycle | 218.744 |
| Motorcycle Ojek Online | 11.674 |
| Car | 46.488 |
| Online Rental Cars | 1.547 |
| Invitation Vehicle | 15.962 |
| Public transport | 19.916 |
| Public bus | 13.173 |
| Train (KRL) | 35.043 |
| Trans-Jakarta Buses | 9.134 |
| Other | - |
| Total | 373.125 |

2.1 Characteristics of Bekasi Station and Bekasi City

The availability of parking locations at Bekasi station in the north is usually used for parking motorized vehicles, around the station at the north and south exits there are stopping facilities

for public and online transportation which are also supported by road infrastructure around the station which can be traversed by public and private vehicles. As for 2-wheeled and 4-wheeled vehicles, there are many car parks (Park and Ride) provided by the station and there is also an individual day care that is used by local people who have a large parking lot or land to rent it out as a Park and Ride parking lot for KRL users. Completeness of other supporting facilities is also available around Bekasi Station which can be seen on Figure 1.

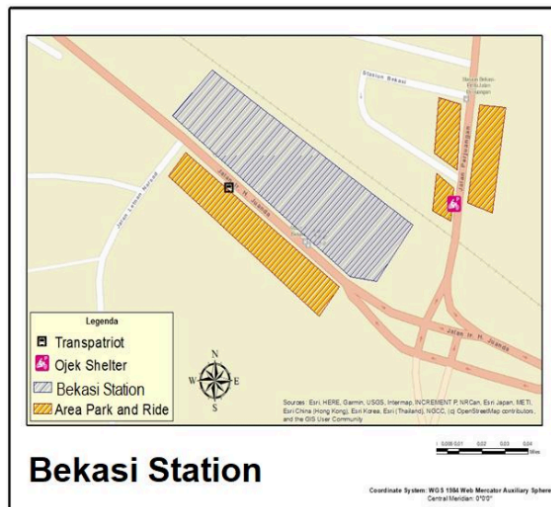


Figure 1 Map of spatial characteristics of Bekasi station

Bekasi Station already has adequate facilities for commuting needs such as the availability of public transportation such as public transportation and Transpatriot Buses, then there are several online motorcycle taxi shelters that can be used so that online motorcycle taxis do not stop carelessly and create traffic jams in the station area. There are many park and ride areas that motorbike users can use to leave their vehicles. Its strategic location, having access from the primary road has made this station the majority of the people of Bekasi City to choose as a mode of public transportation for commuting activities, namely work.

2.2 Movements of Tangerang Station

Number of Community Movements

From the City of Tangerang itself, it is the same as the City of Bekasi in that the most destinations for people who commute from this city are DKI Jakarta with 172,410 people and the second most is to the City of South Tangerang with 28,693 people.

Table 5 Number of community movements from Tangerang City to and activities in other cities

| Commuter Activities | Activity Destination City | Amount |
|--|---------------------------|---------|
| Activities outside the City of Tangerang | DKI Jakarta | 172.410 |
| | Bogor City | - |
| | Bogor Regency | - |
| | Depok | 619 |
| | Tangerang Regency | 25.742 |
| | Tangerang Selatan City | 28.693 |
| | Tangerang City | 427 |
| | Bekasi Regency | 3.113 |
| | Other cities | 3.113 |
| Total | | 234.137 |

Meanwhile for the people who came to Tangerang City the most were from Tangerang Regency with 113,269 people and the second was DKI Jakarta with 54,644 people.

Table 6 Number of movements from other cities to and activities in the city of Tangerang

| Commuter Activities | Activity Destination City | Amount |
|-------------------------------------|---------------------------|---------|
| Activities in the City of Tangerang | DKI Jakarta | 54.644 |
| | Bogor City | 1.055 |
| | Bogor Regency | 11.303 |
| | Depok | 4.583 |
| | Tangerang Regency | 113.269 |
| | Tangerang Selatan City | 19.032 |
| | Tangerang City | 7.933 |
| | Bekasi Regency | - |
| | Other cities | - |
| Total | | 211.819 |

The choice of going to work alone is the same as Bekasi City using private vehicles, namely motorbikes with 175,907 people and for public vehicles, namely KRL or trains with 12,021 people, but the difference is with other public transportation with 11,202 people.

Table 7 The mode of transportation used by the community

| Type of Main Mode of Transportation Used | Amount |
|--|---------|
| Walk | - |
| Bicycle | - |
| Motorcycle | 175.907 |
| Motorcycle Ojek Online | 8.333 |
| Car | 11.787 |
| Online Rental Cars | - |
| Invitation Vehicle | 4.827 |
| Public transport | 11.202 |
| Public bus | 2.809 |
| Train (KRL) | 12.021 |
| Trans-Jakarta Buses | 7.251 |
| Other | - |
| Total | 234.137 |

Table 8 The mode of transportation that people use to go home from work

| Type of Main Mode of Transportation Used | Amount |
|--|---------|
| Walk | - |
| Bicycle | - |
| Motorcycle | 173.166 |
| Motorcycle Ojek Online | 9.166 |
| Car | 10.121 |
| Online Rental Cars | - |
| Invitation Vehicle | 4.827 |
| Public transport | 13.324 |
| Public bus | 4.116 |
| Train (KRL) | 12.854 |
| Trans-Jakarta Buses | 6.563 |
| Other | - |
| Total | 234.137 |

To go home from work, the majority still use private vehicles, namely motorbikes with 173,166 people and for general vehicles themselves there is a shift in the majority of the use of other modes of transportation using other public vehicles with 13,324 people and KRL occupying second place with 12,854 people.

From the tables above it can be seen that the movement from the City of Tangerang in the context of this research is that there is little disagreement between trains or KRL and other public vehicles, for one reason or another it can be seen that there is an assumption or possibility that using other public transportation is felt to be easier or cheaper and also efficient than using KRL so that people switch from KRL especially when they come home from work. This needs to be a concern if the government plans to expand the TOD area at Poris Plawad Station where the KRL itself has not become the main choice for the people of Tangerang City for the choice of mode in carrying out their daily commute activities.

2.3 Spatial Characteristics of the Station and the City of Bekasi

Tangerang Station does not have a vehicle storage location or adequate parking space where the exit and entry doors from the station itself are only available to the west of the station, besides that, supporting facilities around the station for changing modes are still lacking where the station location is surrounded by commercial sectors such as shophouses causing the need for other transportation facilities to be able to take passengers to their destination is reduced. An overview of the facilities at Poris Plawad Tangerang Station can be seen on Figure 2.

With this, further development is needed, especially in terms of an attractive design and also increased access by Poris Plawad Station because for now the station itself has not been able to attract the public's interest in using KRL as a commuter mode option because the station's conditions are unattractive and still difficult in terms of access and the large area of the station cannot accommodate various facilities to accommodate large numbers of KRL users, some facilities such as park and ride are only available for motorcycles or 2-wheeled vehicles and the availability of other public transportation to and from the station only has city transportation and does not even have an online motorcycle taxi shelter.

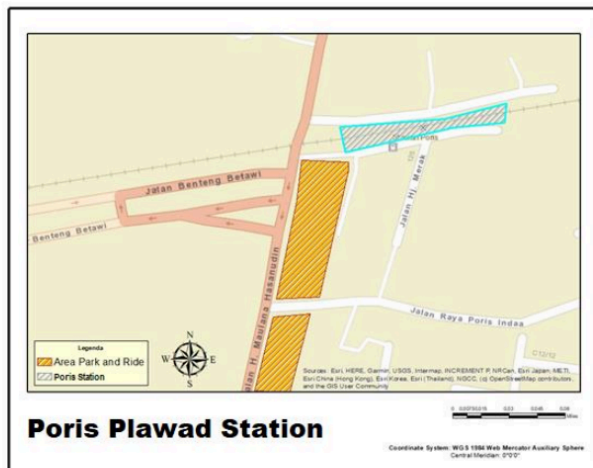


Figure 2 Spatial characteristics map of Poris Plawad station

4. CONCLUSION

Plawad and Bekasi Stations are considered not suitable to be used as TOD due to inadequate facilities and the train itself is not the main transportation used by the people of Tangerang to carry out their daily activities or to commute to work from and to their homes. Bekasi Station with new facilities that have been built but needs to be increased in meeting the commuter mobility needs of the people of Bekasi City.

5. CONFLICT OF INTEREST

Thank you to all the lecturers in the Urban and Regional Planning Department of Universitas Trisakti who have helped with this research.

REFERENCES

Al-Jaberi, A. A., Al-Khafaji, A. S., Ivankina, N. A., & Al-Sawafi, M. H. (2019). The Idea of Pedestrian Pockets as a Key for Successful Transit-Oriented Development for Najaf city-Republic of Iraq. *IOP Conference Series: Materials Science and Engineering*. 698(3): 033029. IOP Publishing.

- Ardini, C. P., Handayani, K. N., & Sumaryoto, S. 2022. Integrasi Antarmoda di Kawasan Poris Plawad Kota Tangerang dengan Prinsip Perancangan Transit Oriented Development (TOD). *Senthong*. 5(2).
- Berawi, M. A., Saroji, G., Iskandar, F. A., Ibrahim, B. E., Miraj, P., & Sari, M. (2020). Optimizing Land Use Allocation of Transit-Oriented Development (TOD) to Generate Maximum Ridership. *Sustainability*. 12(9): 3798.
- Calthorpe, P. dalam Alrobaee, T., Al-Khafaji, A., & Al-Jawari, S. 2021. Measurement of Physical Environment Characteristics for Supporting Transit-Oriented Development Areas for the Kufa City/Iraq. *International Journal of Scientific & Engineering Research*. 12(1): 635-42.
- Guowei Lyu, Luca Bertolini & Karin Pfeffer 2020. How does transit-oriented development contribute to station area accessibility? A study in Beijing. *International Journal of Sustainable Transportation*. 14:7: 533-543.
- Hale, C. (2014). TOD versus TAD: The great debate resolved...(?). *Planning Practice & Research*. 29(5): 492-507.
- Oyugi, M. O. 2020. Trends in Urban Morphological Data Capture: A Review of Theoretical Perspectives on Utility of Geospatial Technology. *Indonesian Journal of Urban and Environmental Technology*. 3(2): 177-208.
<https://doi.org/10.25105/urbanenvirotech.v3i2.5237>.
- Padeiro, M., Louro, A., & da Costa, N. M. 2019. Transit-Oriented Development and gentrification: a Systematic Review. *Transport Reviews*. 39(6): 733-754.
- Papa, E., & Bertolini, L. 2015. Accessibility and Transit-Oriented Development in European Metropolitan Areas. *Journal of Transport Geography*. 47: 70-83.
- Pinanigas, A. J., Fatimah, E., & Ramadhani, A. 2021. Linkages between Solo-Selo-Borobudur as the Jawa Tengah Provincial tourism strategic area. *IOP Conference Series: Earth and Environmental Science*. 737(1): 012028. April 2021. IOP Publishing.
- Pangestu, R. R., Taki, H. M., Situmorang, R., & Supriyatna, Y. 2021. Optimal location for online motorcycle taxi shelter at Bekasi Train Station. *IOP Conference Series: Earth and Environmental Science*. 737(1): 012054. April 2021. IOP Publishing.
- Perpres Nomor 55 Tahun 2018 mengenai Rencana Induk Transportasi Jakarta, Bogor, Depok, Tangerang, Bekasi 2018-2029.
- Prasetyo, O. S. A., Sholihah, Q., Osawa, T., Jaya, N. M. P., & Arbani, I. M. D. 2023. Determination of Battery Waste Management Strategy in the Implementation of Electric Motorcycles in Denpasar City. *Indonesian Journal of Urban and Environmental Technology*. 6(2): 180-202, October 2023, p-ISSN 2579-9150; e-ISSN 2579-9207. Doi: <https://doi.org/10.25105/urbanenvirotech.v6i2.16834>.

- Pribadi, I. O. S., Kesuma, M., & Irawati, M. 2022. Commercial Property Development Program of Highest and Best Use Study in Industrial Area Sier Surabaya. *Indonesian Journal of Urban and Environmental Technology*. 5(2): 160-180. April 2022, p-ISSN 2579-9150; e-ISSN 2579-9207. Doi : <https://doi.org/10.25105/urbanenvirotech.v5i2.13537>.
- Ranreng, R., Wiranegara, H. W., & Supriatna, Y. 2017. Relevance of Social Capital in Kampung Arrangement in Kampung Pisang, Makassar, Indonesia. *Indonesian Journal of Urban and Environmental Technology*. 1(1): 37-52. October 2017. p-ISSN 2579-9150; e-ISSN 2579-9207. Doi: <https://dx.doi.org/10.25105/urbanenvirotech.v1i1.2403>.
- Rodrigue, J. P. 2020. The geography of transport systems. Routledge.
- Singh, Y. J. 2015 Measuring Transit Oriented Development (TOD) at Regional and Local Scales—a Planning Support Tool, University of Twente, Faculty of Geo Information Science and Earth Observation (ITC).
- Taki, H. M., Maatouk, M. M. H., Qurnfulah, E. M., & Aljoufie, M. O. 2017. Planning TOD with land use and transport integration: a review. *Journal of Geoscience, Engineering, Environment, and Technology*. 2(1): 84-94.
- Taki, H. M., Maatouk, M. M. H., & Mohammed, E. 2017. Re-Assessing TOD index in Jakarta metropolitan region (JMR). *Geospatial Information*. 1(1).
- Taki, H. M., & Maatouk, M. M. H. 2018. Promoting Transit Oriented Development Typology in the Transportation Planning. *Communications in Science and Technology*. 3(2): 64-70.
- Taki, H. M., & Maatouk, M. M. H. 2018. Spatial statistical analysis for potential transit oriented development (TOD) in Jakarta Metropolitan Region. *Journal of Geoscience, Engineering, Environment, and Technology*. 3(1): 47-56.
- Taki, H. M., Maatouk, M. M. H., Qurnfulah, E. M., & Antoni, S. 2018. Land Suitability Assessment for the Potential Location of Transit Oriented Development (TOD). *Smart Societies, Infrastructure, Technologies and Applications: First International Conference, SCITA 2017, Jeddah, Saudi Arabia, November 27-29, 2017, Proceedings 1* (pp. 357-359). Springer International Publishing.
- Taki, H. M., Maatouk, M. M. H., & Lubis, M. Z. 2018. Spatial Model of TOD in JMR's Master Plan. *2018 International Conference on Applied Engineering (ICAE)*. 1-6. October 2018. IEEE.
- Taki, H. M., Wartaman, A. S., Fatimah, E., Adriana, M. C., & Setyawan, E. A. 2024. Penyuluhan Pemanfaatan TOD (Transit Oriented Development) pada Kawasan Sub-Urban di SMKN 5 Jakarta. *JUARA: Jurnal Wahana Abdimas Sejahtera*. 5(1): 68-77. Januari 2024. e-ISSN 2715-4998, DOI: <https://doi.org/10.25105/juara.v5i1.17447>.
- Taki, H. M., Wicaksono, R., & Badawi, M. A. 2023. Transit Oriented Development (TOD) network arrangement system in the City of Jakarta. *IOP Conference Series: Earth and Environmental Science*. 1263(1): 012032. IOP Publishing.

2
Implementation of Transit Oriented Development (TOD) in the Jakarta Sub-Urban Area

1
Taki, Wartaman, Luru, Wiranegara, Hardi
p-ISSN 2579-9150; e-ISSN 2579-9207, Volume 7, Number 2, page 201-215, October 2024
3
Accredited SINTA 2 by Ministry of Research, Technology, and
Higher Education of The Republic of Indonesia No. 230/E/KPT/2022 on December 30th, 2022
from October 1st, 2022 to September 30th, 2027

Taki, H. M., Pratiwi, C. A., & Marasabessy, M. A. 2024. Analysis of Application and Characteristics of TOD Fatmawati Area. *Journal of Synergy Landscape*. 3(2). February 2024. ISSN 2807-1077 (ONLINE). Doi: <https://doi.org/10.25105/tjsl.v1i2.19449>.

Warouw, F. F., Pusung, P. H., Herdiawanto, H., & Luthfi, R. M. 2024. Branding Sustainable Forest City at Ibu Kota Negara (IKN) Nusantara Viewed from the Perception of Pentahelix Stakeholders in Manado City. *Indonesian Journal of Urban and Environmental Technology*. 7(1): 42-55. Doi: <https://doi.org/10.25105/urbanenvirotech.v7i1.19317>.

urban enviro

ORIGINALITY REPORT

| | | | |
|------------------|------------------|--------------|----------------|
| 14% | 12% | 8% | 12% |
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

PRIMARY SOURCES

| | | |
|---|---|-----|
| 1 | docslib.org Internet Source | 4% |
| 2 | www.ceocongress.org Internet Source | 3% |
| 3 | Submitted to President University Student Paper | 3% |
| 4 | Submitted to University of Leeds Student Paper | 1% |
| 5 | Submitted to University of New South Wales Student Paper | 1% |
| 6 | www.tandfonline.com Internet Source | 1% |
| 7 | Romi Bramantyo Margono, Siswanti Zuraida, Agustinus Adib Abadi. " Transit-induced Gentrification in Bangkok, Thailand: ", IOP Conference Series: Earth and Environmental Science, 2020 Publication | 1% |
| 8 | Submitted to Hong Kong Baptist University Student Paper | <1% |
| 9 | Nunu Noviandi, P. Pradono, Muhammad Tasrif, Iwan P Kusumantoro. "Modeling of dynamics complexity of land use and transport in megapolitan urban fringe (case of | <1% |

Bekasi city)", Transportation Research
Procedia, 2017

Publication

10

eimj.org
Internet Source

<1%

Exclude quotes On

Exclude matches < 15 words

Exclude bibliography On

FINAL GRADE

GENERAL COMMENTS

/100

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15