

Balancing Act: Promoting Affordable Housing in Jakarta's Transit-Oriented Development through Public-Private Partnership

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Abstract: Jakarta, Indonesia, is in crisis due to the need for affordable housing. Transit-oriented developments (TODs) could effectively address the country's housing shortage as TODs emerge as promising solutions for integrating public transport and residential functions. Furthermore, public-private partnerships (PPPs) could be the key to bridging the funding gap and providing the necessary expertise for large-scale developments. However, the following question remains: How can PPPs provide affordable housing, which is a critical component of Jakarta's TOD areas, when land prices are so high? The present study used a particular method to explore the potential benefits and constraints of PPPs in promoting affordable housing in Jakarta's TOD areas and examining key stakeholders' perspectives. This study employed a mixed-methods approach, including a survey of the young mid-lower group, in-depth interviews with private developers and focused group discussions (FGDs) on the possibility of utilising PPPs. The study also reviewed housing policy documents and reports related to TODs and PPPs in Jakarta and successful PPPs for affordable housing projects in other countries. The study findings highlighted the challenges of utilising PPPs to establish affordable housing in TOD areas and revealed possible ways to address those issues, such as by taking advantage of reasonably priced land in the suburbs, balancing PPP profitability with affordability goals and fostering accountable partnerships. These insights are highlighted for understanding the complexities of PPP-driven affordable housing in TOD areas. The findings also indicated that effective PPPs in Jakarta's TOD areas should prioritise affordable housing for the upper-middle class. Meanwhile, to support the lower classes in the city, PPPs must use state-owned land or a conversion strategy through housing development in periphery TOD areas.

Keywords: Affordable housing, Transit-oriented development (TOD), Public-private partnership (PPP), Urban development, Indonesia

INTRODUCTION

Transit-oriented development (TOD) is a beacon in urban planning because it offers a strategic approach that benefits cities worldwide. TOD reduces reliance on private vehicles, alleviates traffic congestion and significantly lowers pollution levels. It also fosters sustainable societies and promotes healthier lifestyles. Moreover, it increases accessibility and creates job opportunities, thereby improving economic conditions in cities. The success of TOD in many countries has inspired and instilled a sense of optimism in urban planners and policymakers, about the future of urban development as TOD increases property values and profits from transit ticket sales and expanding the movement options in urban areas (Taki, 2023). Woo (2021)

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shows that TOD supports the efficient use of public transport and contributes to a city's sustainability. Furthermore, Apriansyah (2019) finds TOD aligned with the principles of sustainable urban development through the promotion of compact growth, mixed-use zoning and pedestrian-friendly neighbourhood designs.

To reduce local transport problems, the Jakarta government issued an innovative policy to promote TOD around mass rapid transit (MRT) stations in 2015. Efforts to increase the use of public transport and reduce road capacity problems create a dynamic, sustainable and inclusive urban environment that caters to a growing population. However, the problem is more complex than just public transport because population growth creates the problem of providing affordable housing in urban areas (Abidoye et al., 2020). A TOD strategy can make the problem of housing insufficiency more manageable because housing is a required component of a TOD area. TOD-related housing development presents unique challenges in meeting Jakarta's housing demands. These challenges include high land costs, gentrification, segregation and compliance with development requirements (Ischak, 2023). Other aspects of the provision of affordable housing increase the complexity of these challenges. For example, a clear target group is needed because affordability can cover a diverse range of populations depending on specific objectives and the socioeconomic context (Ezebilo, 2017; Uwayezu and Vries, 2020; Zainon et al., 2017; Zhang and Hashim, 2011). One option for dealing with these issues is through public-private partnerships (PPPs) (Rahadi et al., 2015).

PPPs involve potential strategies between public and private sector entities in the development and financing of public infrastructure projects, including the development of affordable housing projects (Babatunde et al., 2015). The possibility of PPPs in providing sustainable and inclusive housing cannot be overstated, as they identify critical success factors, enhance transparency and manage risks. For example, PPPs in developing countries, such as Thailand (Trangkanont and Charoenngam, 2014), Nigeria (Ahmed, 2019; Ibem, Onyemaechi and Ayo-Vaughan, 2018) and Tanzania (Kavishe and Chileshe, 2019), have employed collaborative approaches to effectively address challenges by leveraging the strengths of the public and private sectors.

The risks of private sector involvement in the provision of housing through PPPs are multifaceted and necessitate a comprehensive understanding of locational conditions. Each location presents unique risks and opportunities and requires tailored strategies for success. The risks include low-profit margins, limited demand and social and political risks. However, with adequate government guarantees, capacity-building efforts, proper risk allocation and the private ability to address challenges in perception and execution, these risks can be mitigated so that potential benefits can be realised (Ng, Lo and Huai, 2017; Sengupta, 2006; Temitope, Emmanuel and Olaniyi, 2023). Furthermore, public incentives and long-term projects can ensure successful outcomes in housing projects. The present study aimed to determine the extent to which location influences the PPP strategy for the provision of affordable housing in Jakarta's TOD areas and explore how the PPP model can effectively address the affordable housing problem.

LITERATURE REVIEW

The Transit-Oriented Development Concept

TOD is an essential urban planning strategy that supports sustainable urban development by incorporating land use and transport planning (Singh, 2015). It typically involves the development of high-density, mixed-use areas around a transit station to increase the use of public transport and decrease reliance on private cars (Zhang, 2007). TODs often include residential, retail, commercial and community spaces and prioritise pedestrians and cyclists over automobiles (Wood, 2021; Park et al., 2018). Moreover, TOD is a dynamic concept that positively follows urban socioeconomic developments. From the mid-19th century to the late 20th century, TOD grew and incorporated various transport approaches (Knowles, Ferbrache and Nikitas, 2020) in the creation of compact neighbourhoods (Park et al., 2018).

The success of TOD is often assessed through various frameworks and methodologies that rate its levels of effectiveness and impact on sustainable urban development (Ibrahim, Ayad and Saadallah, 2021). It is crucial to consider factors that influence the effectiveness of TOD, such as the alignment of private sector interests with public and community views on what constitutes a successful TOD (Searle, Darchen and Huston, 2014). Additionally, the accessibility and design of TODs play significant roles in transportation mode choice and travel behaviour, emphasising the importance of transit accessibility and land use attributes (Nasri and Zhang, 2019). Other factors that influence the success of TOD include the presence of urban rail transit systems (Zhang, Zong, and Zhang, 2018) and pedestrian-friendly environments (Wenjin and Halabi, 2023), the perceptions of public transport users (Prayogi and Satwikasari, 2019), density, diversity and design planning factors (Ye et al., 2018), regulatory frameworks (Renne, 2008) and the integration of alternative transport modes into the TOD (Dow, 2024; Lee, Choi and Leem, 2015). Given the complex and comprehensive nature of planning, it is crucial to understand and address these factors in order to promote effective, sustainable TOD projects.

In addition, the successful implementation of TODs hinges on the establishment of creative and effective PPPs (Nibbs, 2024). Governments need PPP to develop infrastructure while reducing debt profiles (Sanni, 2016). The cooperative goal is to meet public needs by appropriately allocating resources, risks and rewards (Xu, 2017). In developing countries, the success of PPP hinges on stable legal and political atmospheres, reliable governmental counterparts and a fair partnership that includes an optimal division of risks between them (Amović, Maksimović and Bunčić, 2020).

Transit-Oriented Development and the Affordable Housing Context

TOD is a planning approach for generating sustainable, vibrant and inclusive societies by integrating high-density, mixed-use developments around transit stations. The approach reduces reliance on cars, improves transit accessibility, stimulates social unity and upgrades housing (Duncan, 2010; Wan, 2023). Meanwhile, affordable housing ensures inclusivity and accessibility of a TOD area (Derakhti and Baeten, 2020). Studies revealed that well-designed TODs can increase the willingness to move those who live in a radius of 2.5 miles to pay for nearby real

estate properties (Shen, Xu and Lin, 2017). However, higher housing costs and rental values can render locations unaffordable for low-income people, leading to issues of gentrification (Chava and Newman, 2016). Therefore, the location of a TOD can impact the associated development risks and the need for a unique collaboration between the public and private sectors to incorporate affordable housing into the TOD (Chava and Newman, 2016).

Incorporating affordable housing into TODs in developing cities presents a complex challenge. The proximity of a transit station, mixed-use development and the demand for affordable housing will attract private investment, while high costs and safety concerns can discourage ventures (Cervero et al., 2004). Although it is challenging to involve private investment in the provision of inexpensive housing in a TOD zone, previous studies have shown that PPPs are crucial for successful affordable housing development (Chava and Newman, 2016; Kavishe and Chileshe, 2019; Moon et al., 2021).

The Public-Private Partnerships Approach and the Provision of Affordable Housing

PPPs have become a prevalent model for global infrastructure development and social projects. PPPs enable the sharing of obligations and risks between the public and private sectors to enhance the efficiency of the provision of public services (Osei-Kyei and Chan, 2018). Their widespread application indicates a shift from traditional government-funded projects to collaborative models involving private investments (Yuan et al., 2009). Furthermore, PPPs have enabled the execution of massive-scale infrastructure developments previously funded solely by governments (Akomea-Frimpong, Jin and Osei-Kyei, 2020). Moreover, PPPs have gained popularity because they can provide projects with additional expertise and resources (Tang, Shen and Cheng, 2010).

Studies have shown that partnerships aim and approach to achieve value for money by selecting performance goals and strategic performance indicators that align with project goals (Yuan et al., 2009). Moreover, the success of a PPP is closely tied to demand forecasting and effective risk management throughout the project lifecycle (Alasad, Motawa and Ogunlana, 2013). The effectiveness of a PPP depends on various factors, including governance models that address conflicts of interest between public and private entities (Levitt and Eriksson, 2016). Furthermore, lifecycle risk management frameworks are needed to balance the concerns of the collaborators involved in PPP projects (Zou, Wang and Fang, 2008).

Many countries have recognised PPPs as a mechanism for promoting affordable housing. Likewise, case studies have highlighted the effectiveness of PPPs in addressing housing challenges and promoting affordable housing. For instance, Alteneiji, Alkass and Dabous (2019) found that the essential aspects of PPP success in the United Arab Emirates involved emphasising the importance of stakeholder collaboration and risk management. Kwofie, Afram and Botchway (2016) identified positive outcomes in the provision of affordable housing units through PPP in Ghana. Meanwhile, Abdul-Aziz and Kassim (2011) found that the effectiveness of PPPs in Malaysia depended on economic, political and cultural circumstances.

Transit-Oriented Development Locations and Private Sector Involvement in Affordable Housing

TOD locations can significantly affect the private sector's willingness to take part in the provision of affordable housing through PPPs. A significant factor that contributes to the challenges associated with private sector involvement is the increased land value due to infrastructure investments associated with TOD (Moon et al., 2021). According to Zakaria and Danyi (2020), high costs of land acquisition and development can make it less financially feasible to engage the private sector in the provision of affordable housing. As a result, significant public subsidies or incentives may be needed to make it financially viable for the private sector to be involved in building affordable housing in locations with high land value (Hale, 2008; Ibem, 2011).

The local authorities can utilise value capture mechanisms, such as tax breaks or increased development rights, on other parts of a project to offset the price of affordable housing and encourage private sector participation (Pettit et al., 2020; Rolon, 2008). This captured value comes from the increased property values generated by the development (Lee and Locke, 2020). In addition, the government may implement a mixed-use development approach, which can lead to higher land values and housing prices, positively affecting affordability despite the promotion of sustainable urban construction practices (Tamayo, 2019). This mixed-use approach also aligns with PPP objectives in housing projects by enhancing social integration, creating environmentally friendly buildings and boosting the local economy through job creation (Batra, 2022). Moreover, governments can offer targeted incentives for affordable housing development in TOD inner areas. In high-cost neighbourhoods, incentives such as in-lieu costs and the offsite production of affordable housing units are practical tools for producing affordable housing in appropriate value-rate locations (Garde, 2015). In addition, the provision of adequate incentives, such as inclusionary zoning, land banking, tax credits, streamlining plan approvals, reduced material costs and financial incentives, can facilitate the effective implementation of affordable housing programmes (Chava and Newman, 2016; Harrison et al., 2019; Irungu, Diang'a and Gwaya, 2022).

RESEARCH METHODOLOGY

The present study addressed the following key research questions:

1. How does location influence the PPP strategy for affordable housing provision in Jakarta's TOD areas?
2. What are the potential schemes to become a sustainable PPP model?

This study utilised a comprehensive qualitative approach that included a literature review, case studies and contextual insights. The literature review served as the study foundation by providing a comprehensive understanding of the existing knowledge on the topics of research. This approach enabled an in-depth exploration of complex phenomena within a real-life context, which was essential for understanding the influences of location attributes on PPPs and the development

of potential and benefit strategies for affordable housing. The multiple case study approach used to gather comprehensive insights into the factors influencing PPPs for affordable housing in Jakarta's TOD areas was considered suitable because it enabled a detailed examination of each case within its unique context, facilitating a deeper understanding of the interplay between location attributes and strategies (Yin, 2018).

Additionally, this study collected primary and secondary data. Surveys, interviews and focused group discussions (FGDs) were used for primary data collection. For example, a real needs survey was conducted to understand the estimated needs, demands, interests and expected service levels of affordable housing provision in the Lebak Bulus TOD area. Most of the 634 respondents were commuters living in South Jakarta, South Tangerang and Depok who used public transport, including the Lebak Bulus Station. In total, 36% of the respondents completed the survey online, and 64% answered it offline. Out of that 64%, 23% were rental housing residents and the rest (41%) were commuters. Most of the respondents were employed aged between 26 years old and 35 years old.

Semi-structured interviews with four representatives from private developers provided diverse perspectives on the challenges and opportunities of implementing PPPs in Jakarta's TOD areas. Material on the experiences, expectations and concerns regarding the idea of affordable housing projects and PPP schemes were also gathered through FGD by the housing development office. The diversity of the perspectives gathered ensured that the study was comprehensive and inclusive.

Secondary data were collected by reviewing policy documents, project reports, planning documents and other relevant literature to gather background information and data related to TODs in metropolitan Jakarta, affordable housing development, as well as PPP schemes in Indonesia. This comprehensive approach to data collection enhanced the credibility of the research and ensured a thorough understanding of the topic (Bowen, 2009). In addition, this study employed thematic analysis, a well-suited method for identifying patterns and themes related to the influence of location attributes on PPP strategies for affordable housing in Jakarta's TOD areas (Sutton and Austin, 2015). Using this approach, meaningful insights were extracted from the data gathered through interviews, observations and document reviews (Polkinghorne, 2005) and organised into several themes, such as affordable housing demand, TODs in Jakarta, the balanced housing policy and the correlation with the PPPs. By enabling a detailed account of the data, the thematic analysis enhanced this study's ability to uncover the complex dynamics of PPPs for affordable housing.

The current study aimed to positively illuminate the interplay between location attributes, PPP strategies and affordable housing in Jakarta's TOD areas (Merriam, 2009; Yin, 2018). This was because the strategic selection of these cases ensured that the study was focused on locality and relevance. Accordingly, Lebak Bulus and Blok M TOD areas in Jakarta were chosen as the study's case studies because of their unique characteristics and challenges in providing affordable housing.

ANALYSIS AND DISCUSSION

Balancing Affordability and Profit

Jakarta had a population of 10.67 million, equalling 2.79 million households (Badan Pusat Statistik Jakarta, 2023). Most of the population (99.7%) resided in the central city, a mere 650 km² area with a density of 16,362 people/km². Based on National Statistical Bureau data, the percentage of habitable houses in DKI Jakarta Province was 33.18% in 2020 (BPS - Statistics Indonesia, 2020). This percentage ranked the province in the bottom third of all provinces in Indonesia. The problem was further complicated because 42.73% of its households lived in slums, highlighting the severity of the housing crisis. These data points underscore the urgent need for affordable housing solutions in Jakarta.

The government has addressed the deficiencies in appropriate housing by developing vertical public housing. However, the current number of public housing units—28,766 in 42 locations in the capital city—must be increased to meet the existing demand. As of August 2022, 2,095 households were on the waiting list for public housing unit requests (Badan Pusat Statistik Jakarta, 2023). Therefore, the government must take strategic steps to address this crisis by providing affordable housing.

The demand for affordable housing is high, as indicated by the study's survey results. Of the 634 respondents, 63.7% wanted to move to housing in the TOD zone because they were living in rental rooms or houses far from their workplaces. Of those who wanted to move, 60.4% expressed an interest in buying, while the rest (39.6%) wanted to rent. Furthermore, the higher the respondents' income, the stronger their willingness to live in owned houses. However, Jakarta's minimum salary of IDR4.4 million and housing expenses of around IDR1.3 million make it difficult for low-income people to afford to buy or rent decent-sized houses. This situation was evident in the study results because the income of 59.9% of the respondents was between IDR0.5 million to IDR1.5 million per month. These circumstances illustrate the importance of providing more affordable housing in Jakarta despite the associated challenges.

Furthermore, this survey finding on the income level of the programme targeted group was the topic of the study's FGD for cooperation in the provision of affordable housing in TOD held in September 2022. The discussion revealed that the housing affordability segmentation used in Jakarta's TOD areas could not be used as a national pattern. The target of the segmentation in the PPP in Jakarta was the upper-middle class, particularly those earning between IDR7 million and IDR20 million per month, in order to maintain the sustainability of the private developers in developing housing in the TOD area.

One significant cause of this change of target segment concerned land resource issues. In Jakarta, there is almost no new landed housing development except for the redevelopment of existing residential areas. It is very complex due to the high costs of freeing up land. For example, land prices in Jakarta are between IDR20 million/m² and IDR60 million/m², depending on the location. The closer the location to the centre and city services and facilities, the higher the price. The prices of most strategic locations exceed IDR60 million/m². (ATRBPB [Kementerian Agraria dan Tata Ruang - Badan Pertanahan Nasional], 2023). The FGD revealed that TOD would significantly increase land prices in its location and the surroundings. It is almost impossible for private developers to build affordable housing for the low-

middle class without government assistance in providing land either by subsidising private developers in land acquisition or using state land for housing development.

Meanwhile, transportation problems exacerbated the housing problem in Jakarta. Population mobility is a daily issue in the capital, which is also the centre of economic activity in the capital and for its surrounding area. According to the Traffic Index (*tomtom.com*, 2024), Jakarta ranked 30th among the most congested cities in the world in 2023, with a congestion level of 53%. At this level, the average travel time in Jakarta was about 26 km/h. However, in 2017 and 2018, Jakarta was ranked fourth and seventh, respectively, with congestion levels in 2017 reaching 61%; in 2019, it was ranked 10th at 53%. These changes suggest that the introduction of TODs can solve urban transport and housing problems.

Transit-Oriented Development in Greater Jakarta

Public transport stations have been at the core of Indonesia's urban areas, even before Calthorpe (1993) introduced the TOD concept. In Jakarta, the Kebayoran Baru area's Blok M Bus Terminal served as the core in the 1950s, and the Planet Senen area centred on the Senen Bus and Train Station served as the core in the 1970s. Urbanisation has caused Jakarta's development to become more complex, requiring a comprehensive strategy to solve the public transportation and other urban development problems.

TOD was introduced in Indonesia when the MRT was first developed in Jakarta in 2015 using land around the stations. A TOD operator developed the plan for the first phase of the MRT station with the Lebak Bulus-Dukuh Atas routes, which included 13 TOD areas in the first phase (as shown in Figure 1).

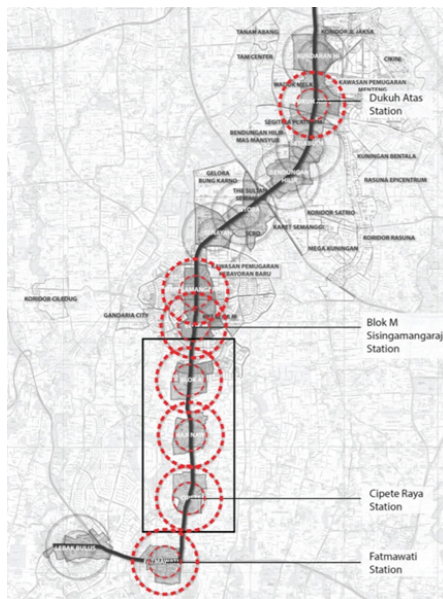


Figure 1. Phase 1 of the TOD plan in Jakarta
Source: Portal Aspirasi Tata Ruang Jakarta (2024)

Table 1. TOD typology criteria

Element	Urban TOD	Sub-Urban TOD	Neighbourhood TOD
Function	City service centre	Sub-city service centre	Neighbourhood service centre
Development characteristics	As an economic centre with primary functions and regional culture	As an economic centre with secondary function and regional culture	As a centre of economic activity and local communities with the scale of neighbourhood services
Scale of service	Regional	City sector to city	Space for housing is more dominant with both regional and subregional access
Basic requirement	A transit mode system of at least one each, both short and long distance	A transit mode system of at least one each, both short and long distance	A transit mode system of at least one each, both short and long distance
Density	> 750 people/ha and > 200 workers/ha	450 to 1,500 people/ha and 40 to 200 workers/ha	350 to 1,000 people/ha and 12 to 40 workers/ha
Housing target	8,000 to 30,000 units	5,000 to 15,000 units	2,500 to 10,000 units
Type of activity	Minimum five types: A mixture of residential, commercial, office, cultural or entertainment centres, and other public facilities either in one building or a separate building within the TOD area	Minimum four types: A mix of residential, commercial, office, cultural either in one building or a separate building in the TOD area	Minimum two types: Mainly housing with supporting facilities both for residents and user of public transportation modes
	FAR > 5, BCR 80%; to the max highest but not exceeding the carrying capacity of the area; with building height of 11 to 40 floors or more	FAR 3 to 5, BCR 70% with a building height of 3 to 15 floors	FAR 2 to 3, BCR 70% with a building height of 3 to 8 floors
Parking area	For vehicles and bicycles	For vehicles and bicycles	For vehicles and bicycles
Proportion space and function mix	20% to 60% residential and 40% to 80% non-residential	30% to 60% residential and 40% to 70% non-residential	60% to 80% residential and 20% to 40% non-residential

Source: ATRBPN (2017)

The guideline of the TOD area classifies TODs in Jakarta as urban ones with an obligation to provide residential spaces in their areas (ATRBP, 2017). It also states that TODs must have various functions that are 20% to 60% residential and 40% to 80% non-residential. Moreover, TODs must adopt inclusionary housing principles, which means that they must accommodate housing for low-income people. TOD is a strategy to support the social and economic diversity of the region. While this development plan is a positive step towards addressing the housing crisis, it poses challenges for developers, including financial risks due to land scarcity and the need for careful planning and design to balance residential and non-residential functions. However, with appropriate approaches, TOD can play a significant role in providing affordable housing and improving urban living conditions in Jakarta.

The FGD in 2022 raised another viewpoint concerning the provision of affordable housing in Jakarta's TOD areas, which can solve the land price issue. In the study's FGD, it was suggested that TOD should not be seen as a single location but as part of the transport network. In this point of view, the TOD classification should be integrated with the portfolio of places—strategic management of diverse locations, assets, or experiences to achieve specific goals—because Jakarta is the centre of the surrounding areas. Furthermore, it is crucial to categorise TOD in more detail to account for the implementations of varied development programmes and their impacts to meet its local context. By developing context-based typologies, TOD can effectively contribute to sustainable urban development and liveable, vibrant communities. Based on the portfolio of places, Jakarta is the centre of a multidistrict metro area of Jabodetabek (Park and Roberts, 2019) with a labour market that covers several cities and regencies, as shown by the commuter travel flow. This metro area is composed of subareas of the metro core, which has the highest population density in the metro area, and the periphery. Figure 2 shows the typology of the TOD areas in Jakarta, including the classification of Dukuh Atas, Blok M and Lebak Bulus as regional urban core TOD areas.

The metro periphery comprises urban and rural areas connected to the core through massive commuting flows. An urban periphery is a city or regency with a dominant urban character where at least 50% of the population lives in urban settlements. Examples of urban periphery included Bogor City, Tangerang City, South Tangerang City, Depok City and Bekasi City. Meanwhile, the rural periphery is a district with a dominant rural character, with more than 50% of the population living in rural areas. In the Jabodetabek Region, this category included the Tangerang, Bogor and Bekasi regencies. Given the Jabodetabek Region's strong connection to Jakarta, the government has been planning to promote better transport services by including some station zones in the region in Phase 2 of the TOD Plan (as shown in Figure 3).

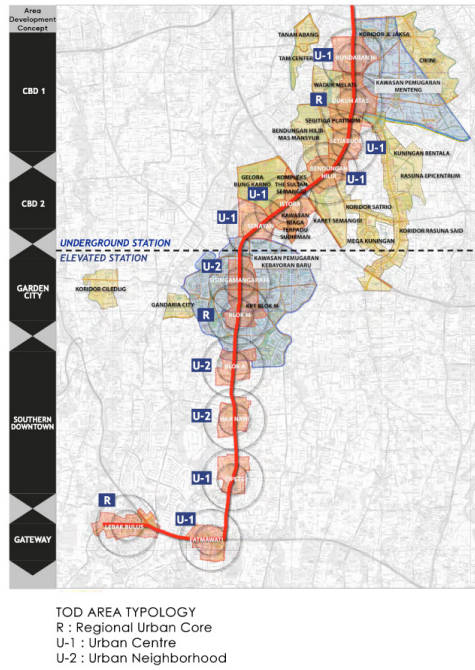


Figure 2. TOD area typology in the metro core of Jakarta and its surrounding area
 Source: Portal Aspirasi Tata Ruang Jakarta (2024)

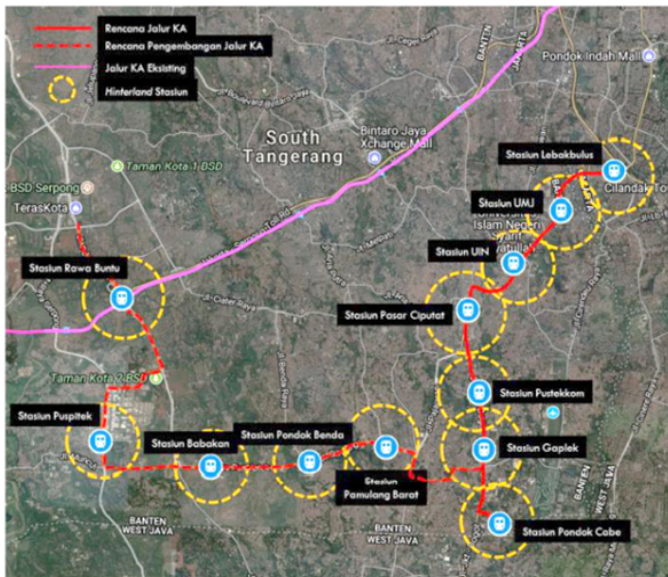


Figure 3. TOD category in the metro core Jakarta
 Source: Portal Aspirasi Tata Ruang Jakarta (2024)

The TOD in the agglomeration area of Jakarta generated central business districts in the TOD at the Bodetabek area. Naturally, development increases land prices around the TOD areas; however, price patterns tend to follow their respective TOD classifications (as shown in Table 2). For example, according to bid-rent theory, the closer to the centre, the higher the price.

Table 2. General land price pattern in the TOD area

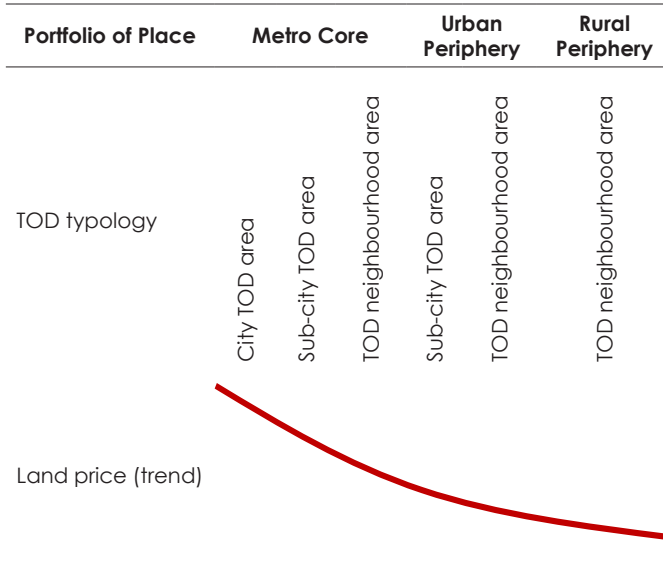


Table 2 and Figure 4 illustrate the land prices in the metro core area and the urban and rural peripheries. The price of this land was necessary, especially to find alternative conversion strategies in terms of balanced residential development in the TODs in the Jabodetabek area. However, the land prices in the similar TOD category were unequal and varied contextually, as they varied from one category to another.

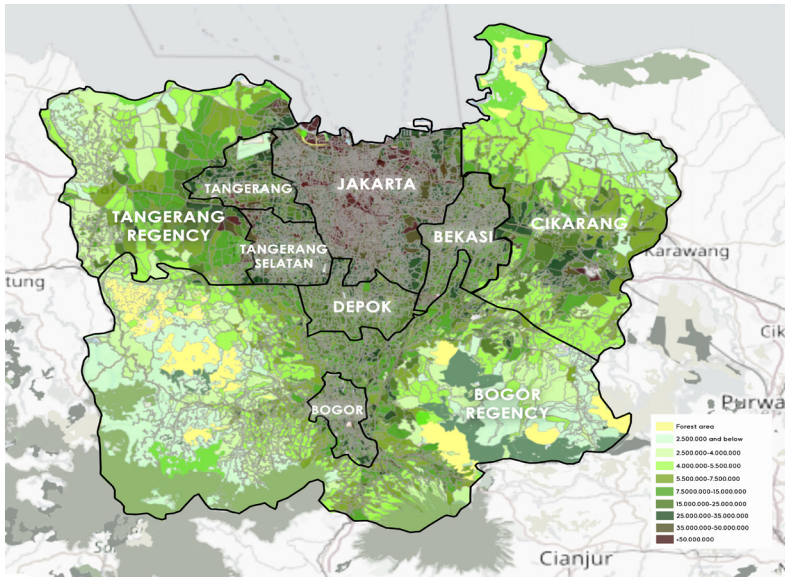


Figure 4. The land price patterns in the Jabodetabek area
Source: BhumiATR/BPN (2024)

The land price patterns were likely to cause developers to be reluctant to build affordable houses in the TOD area in Jakarta. The developers could be more concerned with building luxury or medium-sized housing. According to the prevailing laws in Indonesia, luxury and medium-sized housing developers can fulfil the balanced housing obligations in a TOD area in one of four ways: building affordable housing in the TOD area (Method A), building affordable housing outside the TOD area but in the same city or regency (Method B), building affordable housing outside TOD in adjacent cities or districts (Method C) and submitting a conversion fund to the government through the Housing Implementation Acceleration Agency (Badan Percepatan Penyelenggaraan Perumahan, BP3) to fund the provision of affordable housing (Method D). Considering the different land values in each TOD area typology in Jakarta and its surroundings, as underlined in the FGD, the conversion approach seems to be the most rational strategy to involve developers in the affordable housing provision in TOD areas.

In principle, there were four ways to fulfil balanced housing obligations. Figure 5 maps the possible use of these methods in the Jabodetabek area using the TOD area typology.

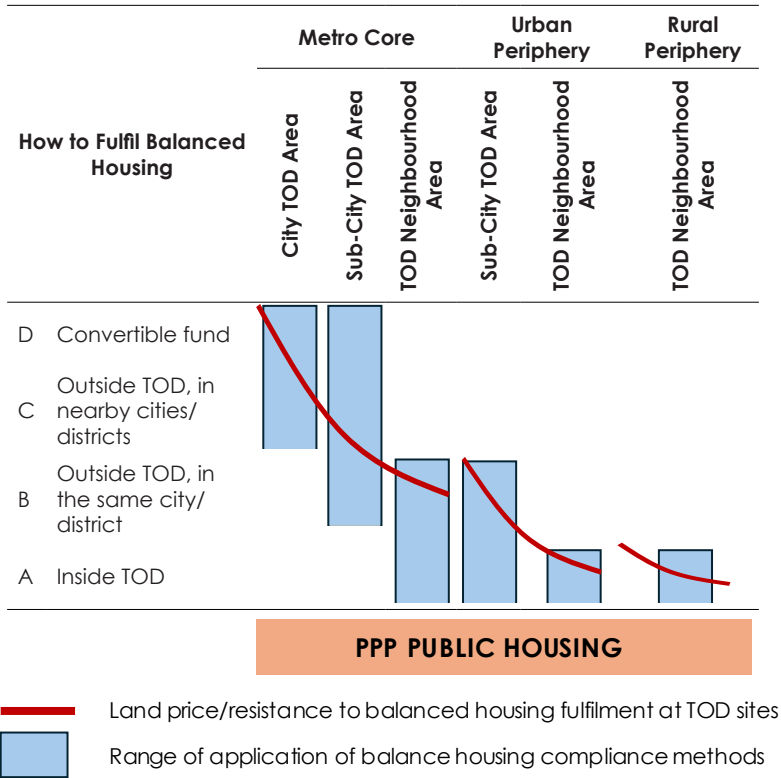
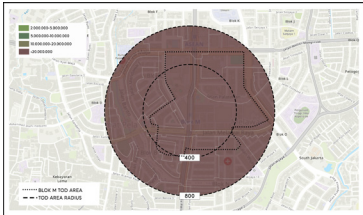

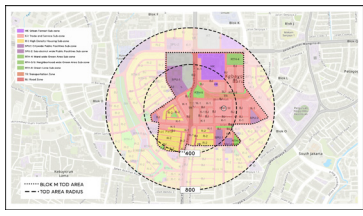
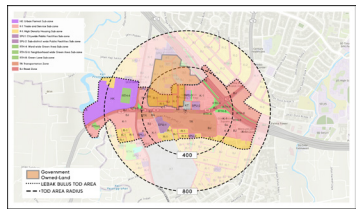


Figure 5. Matrix of the methods for fulfilling balanced housing requirements and the TOD area typology in Jabodetabek

Method A was relatively easier to use in the four neighbourhood TOD areas in the rural and urban peripheries of Jabodetabek and the metro cores with specific development facilities. In addition, to ensure the availability of affordable housing in sufficient quantities in the Jabodetabek urban area, Method B should be limited to sub-city TOD areas in the metro core and the urban periphery as well as the neighbourhood TOD areas in the metro core. Meanwhile, since land prices were already relatively high, developers of luxury and medium-sized apartments in the city and sub-city TOD areas in the metro core were likely to choose Methods C or D. However, in this position, it would be better to only use Method C (building affordable housing in adjacent cities and districts) and Method D (the conversion fund) for the city and sub-city TOD areas in the metro core.

TODs in a similar category would have different conditions that result in different development strategies. Such differences were apparent when comparing the locational attributes of the TODs of Lebak Bulus and Blok M. Although these TODs were in the same category and city, their geographical positions in Jakarta and the corridor of the MRT lane affected the land prices and diversity of functions in their development areas, as evident in their TOD index scores (as shown in Table 3).

Table 3. TOD location attribute comparison

Attributes	Blok M	Lebak Bulus
Position	In the mid of the North-South Lane	In the south end of the North-South Lane
Land price		
Planning area		
TOD index	0.52	0.31

Source: Portal Aspirasi Tata Ruang Jakarta (2024); BhumiATR/BPN (2024); Siburian, Sumadio and Shidiq (2020)

Blok M was a business district that existed since the 1980s. In contrast, the Lebak Bulus area has been rapidly developing after merging with the Jakarta city area in 1975. These attributes indicated that affordable housing development in the TOD area in Lebak Bulus was different and less challenging than in the TOD area in Blok M.

Balanced Housing Development in Transit-Oriented Development Areas

According to the Agraria dan Tata Ruang (ATR, Agrarian and Spatial Planning) Minister Regulation No. 16/2017 concerning guidelines for the development of TOD areas, local governments can establish instruments such as incentive zoning, transfer development rights (TDR), fiscal zoning, which involves the allocation of specific tax rates to encourage certain types of development and land consolidation. In Jakarta, the instrument selection process must consider factors such as local legal frameworks, fiscal capacity, macroenvironmental factors, fiscal management strategies and the timing of the implementation to ensure the success and sustainability of the projects.

The utilisation of the instruments may not be uniform across all TOD areas because instrument selection also depends heavily on the TOD location, the financial and technical ability of private developers, national economic conditions and the provisions of the local regulations in force in Jakarta. The TOD location, in particular, is the decisive factor given its connection to the availability of land in Jakarta for constructing decent housing, especially affordable housing.

For example, Blok M and Lebak Bulus are both in the South Jakarta area, but their environmental settings are very different. Land is twice as expensive in Blok M than in Lebak Bulus, and this has a financial impact on the provision of affordable housing by private developers. This issue is becoming more difficult because the TOD area in Blok M does not have any government land that can be used to build houses for underprivileged groups. The situation is relatively easier in Lebak Bulus because of its comparatively lower land prices as well as the existence of 1.59 ha of state-owned land in the northern area, which currently contains offices for the Ministry of Public Works and Public Housing and official flats for its employees. Although the office and residential activities on the land are ongoing, the government can collaborate with private developers to provide affordable housing in this location. It is not easy to classify the land as a compensation or government contribution within the public-private cooperation framework, and it would take time to accomplish this change and transfer the residents and state assets. Nonetheless, the land could be a critical part of supporting inclusive TOD area development.

The Government Regulation Substituting Law (PERPU, Peraturan Pemerintah Pengganti UU) No. 2/2022 (afterwards will be mentioned as PERPU 2/2022), on job creation addresses the problem of limited land, the difficulty in obtaining land and the high price of land obtained throughout conversion. The regulation aims to facilitate business development activities while maintaining the essence of balanced housing. These affordable housing provisions can convert the obligation of developers to build modest houses into flats or funds for the construction of public houses. Article 50 of PERPU 2/2022 contains the following stipulations:

If developers cannot build a modest house in the form of a single house or [a] row house, they can convert it into (a) the form of a general apartment built in the same expanse; or (b) the form of funds for the construction of public houses.

The regulation also states that location requirements must accommodate the construction of balanced houses. Article 21 D of PERPU 2/2022 concerning housing and residential areas states:

1. The location as intended in Article 21C letter a is the site where the public house is built.
2. Location as intended in paragraph (1) on:
 - i. the construction of large-scale housing with balanced housing must be carried out in 1 (one) area; or
 - ii. the construction of housing other than large-scale with balanced housing is carried out in 1 (one) area or not in 1 (one) area.
3. Housing development other than large-scale with balanced housing not in 1 (one) area as intended in paragraph (21 letter b) must be carried out in 1 (one) district/city.

The articles clearly declare that the balanced housing location must meet the zoning regulations, with large-scale housing developments must be in one area, and other developments do not have to be in one area but must be in one district or city.

Based on the aforementioned provisions, the government land in Lebak Bulus could be considered as a resource to implement the conversion process or the TDR of the balanced housing obligation in the TOD area in Blok M by transferring private developers' financial risk in providing affordable housing in the South Jakarta area. Based on the matrix in Diagram 2, the balanced housing obligation could be fulfilled by following strategy paths D and C, which embrace conversion through the transfer of funds to develop houses in another location within the same city. However, each public and private party would need to agree on this transfer. The conversion can also include fiscal zoning to support this effort; however, caution is warranted because this strategy often leads to exclusionary practices.

Public-Private Partnerships and Balanced Affordable Housing

Although PPPs have been underway in Indonesia for several years, most are related to public infrastructure development. The PPP implementation procedure is described in the provisions and guidelines issued by the Ministry of Finance of the Republic of Indonesia based on Presidential Regulation 38/2015 concerning government cooperation with business entities in infrastructure provision. This regulation states:

PPP is a collaboration between the Government and Business Entities in providing their infrastructure and/or services for the public interest referring to specifications that have been previously set by the government, which partially or fully use the resources of business entities by considering the sharing of risks among the parties.

Meanwhile, the guideline describes that cooperation is an effort to mobilise private funds to meet funding needs sustainably in the provision of infrastructure. The Ministry of Finance involves relevant departments or local governments in the implementation to manage the development according to the type of infrastructure.

The guideline also states that there are several PPP schemes in Indonesia: operation and maintenance (OM), build-finance (BF), design, build, finance and maintain (DBFM), design, build, finance, maintain and operation (DBFMO) and concession. Each scheme has advantages and disadvantages, and their utilisation depends on the type of infrastructure, time, responsibility and scale of infrastructure development and services built and managed. Within these schemes, responsibilities and risks are developed based on the partnership agreement.

According to the guidelines, there are various regulations directing the framework of reference for the implementation of PPPs for the construction of affordable housing (as shown in Table 4). These regulations address aspects of the construction procedures for affordable housing related to the building system, development financing and subsidies for low-income people. However, they do not cover the utilisation of PPP schemes for affordable housing development in TOD areas. For example, they do not reference regulations on distributing responsibilities under a PPP scheme, which is critical to the cooperation process.

Table 4. Regulation framework for PPPs on affordable housing development

No.	Regulation	Subject	Content
1	Law 20/2011	Vertical housing	Low-income housing/ non-PPP
2	Law 4/2016	Public housing fund	Housing fund/non-PPP
3	Government Regulation 64/2016	Development of low-income community housing	Low-income housing/ non-PPP
4	Ministry of Public Work and Public Housing Regulation 2/2021	Implementation procedures for the cooperation between government and business entities in provision of infrastructure within Ministry of Public Works and Public Housing	Infrastructure/non-PPP
5	Ministry of Public Work and Public Housing Regulation 21/2018	Facility and/or aid of housing procurement for low-income community	Housing subsidy/non-PPP
6	Ministry of Home Affairs Regulation 55/2017	Implementation of licensing and non-licensing on construction for low-income community housing	Permit/non-PPP
7	Ministry of Public Work and Public Housing Regulation 1/2018	Vertical housing construction and management aid	Low-income housing/ non-PPP

Source: Kerja Sama Pemerintah dengan Badan Usaha (2024)

The regulation frameworks did not explicitly show their relationship to risk sharing in PPPs. In addition, the government-proposed risk distribution did not expressly consider the nature of private businesses. Private entities, like any business, had to bear more risks than public entities (as shown in Table 5). In addition, affordable housing projects, by definition, have lower profit margins than luxury developments. Accordingly, the partnership frameworks discourage private developers from getting involved in such projects.

Table 5. Suggested risk distribution

No.	Risk Category	Public	Share	Private
1	Site risk, financial risk, operating risk, revenue risk, interface risk and political risk (6)	√		√
2	Network connectivity risk (1)	√		
3	Sponsor risk (1)			√
4	Design, construction and commissioning risk (1)			√
5	Force majeure risk (1)		√	
6	Asset ownership risk (1)			√

Source: Kerja Sama Pemerintah dengan Badan Usaha (2024)

A preliminary study internally conducted in 2022 by the Ministry of Public Works and Public Housing revealed some of the limitations and insufficiencies of existing regulations regarding PPPs for affordable housing. To achieve smooth PPP implementation, these regulations must be improved or new laws and regulations should be enacted. These improvements are related to strategic points for risks and benefits distribution for implementing accountable PPPs (as shown in Table 6).

Table 6. Regulatory insufficiency

No.	Related Legal Products
1	Determine a specification of minimum service standards of flats
2	Conditions on apartment rental rates
3	Conditions on apartment selling price
4	Delegation of person in charge of cooperation projects authority to the state organisational unit
5	Composition and role of the executing business entity PPP procurement team
6	Composition and role of the team in quality assurance on PPP flats in the input and output-process
7	Rights and obligations of private business in PPP flats as a legal basis for cooperation

Source: DJPI DPPP (Direktorat Jenderal Pembiayaan Infrastruktur and Direktorat Pelaksanaan Pembiayaan Perumahan, 2022)

The need for fair risk distribution illustrated the importance of enhancing the regulatory basis for PPPs so that they can run smoothly and become sustainable. Furthermore, this uninteresting partnership indication aligns with the data collected from the in-depth interviews with representatives of private housing developer associations (as shown in Table 7).

Table 7. Private developers concerning affordable housing and PPPs

Subject	HIMPERRA	APERSI	PI	REI
Sales trends	Decline significantly due to pandemic	Affordable housing remains in high demand	Not to be disrupted by pandemic	Decline due to pandemic, but confident it will raise again
Experience constructing high rise buildings/flats	520 units of rental apartment, the change of ownership and rights on flats that supposedly for low-income people	Unexperienced	Flats in Cibinong and Karawang	In Indonesia, not many developers build rental apartments, rather owned ones

(Continued on next page)

Table 7. Continued

Subject	HIMPERRA	APERSI	PI	REI
Knowledge of PPP	Not too familiar with PPP, it seems that many things have the potential to be a problem	Already know about PPP schemes but have never studied and are inexperienced	Have no knowledge, but PI has established a good partnership with the bank	PPP in housing sector is more difficult than other ones as there is not enough regulatory supports
Interest in partnership	It still needs a lot of consideration	Has no experienced for high rise building, it may collaborate in maintenance and operations only	Currently it can contribute in terms of capturing the market/ market for flats	Interested, if there is clear risk sharing, especially the risk of arrears in the rental apartments
Factors to consider in investing in the provision of flats	<ol style="list-style-type: none"> 1. Land status is a problem, because with the title of the apartment, it will be difficult to sell to a market 2. No experience for rental flats yet 3. Commercial housing is preferred 4. There must be certainty of legality 5. It must be profitable even with a subsidy scheme where it only gains low margins 	There must be an adjustment to the selling price of flats, which is currently still too low	Looking at the location of flats in Lebak Bulus, it will certainly be expensive, so it is rather difficult for subsidised flats	<ol style="list-style-type: none"> 1. The rental price of an apartment is usually around 4% to 6% per year of the selling price 2. Need further agreement for the construction of flats on state land 3. The resident of REI's flats are only two groups: (a) young people who work in around apartments and (b) retired couple because the flats have only studio and two room types

Notes: HIMPERRA = Himpunan Pengembang Permukiman dan Perumahan Rakyat; APERSI = Asosiasi Pengembang Perumahan dan Permukiman Seluruh Indonesia; PI = Pengembang Indonesia (Indonesia Developers); REI = Real Estate Indonesia.

Source: DJPI DPPP (2022)

The interview data summary in Table 7 includes suggestions regarding affordable housing development, particularly in the TOD area in Lebak Bulus. The private developers expressed a preference for building affordable housing on state-owned land. The private developers also underlined their preference for building commercial housing rather than affordable housing due to the very high value of the land at the TOD location and the difficulties associated with managing rental housing. In the case of developers' preference, the Ministry of Housing's study noted the need for regulatory improvement. In addition, the private developers proposed the implementation of a substitution or conversion scheme to fulfil the balanced housing obligation. This proposal is in line with some points in PERPU 2/2022 that would allow a PPP scheme to provide affordable housing outside the project area by considering the type and location of other TODs in the Jabodetabek area.

The relevant regulations on conversion funds did not regulate the utilisation of a fund for the provision of affordable housing based on the location of that fund. Thus, it is essential to associate the location where funds are utilised with the location of origin of the funds. For example, funds from Jabodetabek should be used to provide affordable urban housing in Jabodetabek. In addition, the existing regulations did not limit the components of affordable housing project costs that can take advantage of a fund. Therefore, in addition to physical development, the fund can also be used to address the low availability of land for affordable urban housing.

Regarding the development of urban affordable housing in TOD areas in Jabodetabek through PPP schemes, most of the conversion funds collected from the metro core should be used to provide land for affordable housing in four TOD Jabodetabek areas: the neighbourhood TOD areas in the metro core and three other TOD area typologies: TOD sub-city and neighbourhood in the urban periphery and TOD neighbourhood in the rural one (as shown in Figure 5). This strategy would address the problem of the limited land owned by the government/local government in Jabodetabek.

PPPs in urban housing projects require the provision of land by the government/local government. To support the provision of affordable housing in Jakarta, the government can focus on implementing the urban housing PPP schemes in the urban and rural peripheries. The implementation of the urban affordable housing PPP schemes in the city and sub-city TOD areas should be optional. Meanwhile, in the neighbourhood TOD areas in the metro core, PPP schemes can be encouraged, but additional incentives for private developers must accompany them.

Instead of using state-owned land in the neighbouring TOD in metro Jakarta, the integration-related policies for balanced housing and the TOD location characteristics indicate that PPPs could be implemented in locations that are more appropriate for the public and private sectors. The strategy draws balanced alternatives to the scheme to promote PPP in affordable housing development for Jakarta residents and the entire multidistrict metro area of Jabodetabek.

CONCLUSIONS

The multidimensional problem of meeting the housing needs in Jakarta requires innovative solutions. In addition, handling transport problems in Jakarta through TOD in the MRT zone provides hope for reducing the burden of housing problems. The obligation of TOD developers to provide balanced housing is a potential approach

that must be optimised. However, careful planning regarding affordable housing is required because each TOD location has its potential benefits and challenges. In addition, the scheme needs to involve other parties, especially private developers, to cover the government's financial and technical deficiencies.

The present study found that the provision of affordable housing in TOD areas is less attractive than of commercial ones for the private sector because of complicated risks due to the high land prices in TOD locations and the insufficiently attractive subsidies, policies, regulations and circumstances for PPP. The study findings suggest that affordable housing development must define a clear target group because housing affordability has a broad target range. Rationally, private developers will likely only be eager to be involved in Jakarta's TOD areas if they fit their sustainable interests, which means that it would not comply with the development provision in the TOD areas. Alternatively, it may encourage different PPP schemes that optimise the potential provisions of conversion in PERPU 2/2022 with existing housing and TOD rules to support the fulfilment of the balanced occupancy obligations. The study findings indicate that PPPs for developing affordable housing should focus on the middle-upper class unless government land is used. Alternatively, a conversion scheme can be used to develop affordable housing in TOD areas around Jabodetabek. The approach is a means of balancing PPPs to support the provision of affordable housing by private housing developers that more access to efficient and friendly public transport.

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