A Review of Transit-Oriented Development for the Improvement of Public Amenities in Malaysia

Saifful Nazmi, Mohd Zain[1], Wan Ibrisam Fikry Wan Ismail[2], Abd Halim, Hamzah[3]

[1]Strata Title Department, Johor Land and Mines Office, 79576, Kota Iskandar, Johor, Malaysia.

[2,3]Real Estate Department, Faculty of Built Environment & Surveying, University Technology Malaysia, 81310, Sukadi, Johor, Malaysia.

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ABSTRACT

The purpose of this paper is to explore the implementation and impact of Transit-Oriented Development (TOD) on public amenities in Malaysia. TOD known as an urban design approach aimed to enhanced public spaces and amenities through sustainable development around transportation hubs. This study aims to examines specifically the situation in Malaysia and analyse the effectiveness of TOD in improving urban public facilities. This paper focus to determine the main goals of TOD development in Malaysia, such as land use efficiency, minimize traffic congestion, improving access to public transport, and creating liveable communities. This paper also examines the role of mixed-use development, pedestrian-friendly infrastructure, and densification in the design of public facilities in the TOD area. Furthermore, this study explores the specific benefits of TOD for public amenities in Malaysia. TOD are developed not only to benefit and improve the welfare of resident, but it creates the integrated public spaces such as parks, religious facilities and recreational areas to promote community participation. Besides that, proximity to essential services such as schools, medical facilities and shopping malls was also examined focusing on the convenience and accessibility TOD provides. There are several challenges faced in the TOD implementation in Malaysia and proposes strategies to be highlight in this research paper. Key factors for the success of TOD projects determined by the effective cooperation between the public and private sectors, government support policies, and community involvement. The research method used for this paper is qualitative research. A comprehensive analysis of related statutes, rules and regulations, research papers, journals, articles, thesis and electronic materials will be conducted. This research paper will highlight the importance of sustainable urban development, reduced environmental impact and improved quality of life for Malaysians.

Keywords: Transit-Oriented Development (TOD), public amenities, sustainable development

INTRODUCTION

As urban facilities in Malaysia confront the demanding situations of fast urbanization and the need for sustainable development, progressive techniques are pursued to enhance public services and improve residents' overall quality of life (Saadatian et al., 2012). Transit-Oriented Development (TOD) is a potential urban layout idea that combines land use and transit planning to create active, accessible, and environmentally-friendly communities. TOD promotes efficient and sustainable transportation, reduces congestion, and improves public spaces and facilities through growing mixed-use neighbourhoods around transportation hubs. This study analyses how TOD influences Malaysian public services. It examines how TOD public facilities shape mixed-use development, pedestrian-friendly infrastructure, and densification. By critically analysing the effectiveness of TOD in improving urban public facilities, this research aims to provide valuable insights into the benefits and challenges of implementing TOD in Malaysia. The findings of this study will contribute to the knowledge base of urban and environmental planning, offering recommendations to policymakers and stakeholders on strategies to enhance public amenities and foster sustainable urban development. Ultimately, this research underscores the significance of TOD as a catalyst for reduced environmental impact and improved quality of life for Malaysians.

METHODOLOGY

The methodology employed in this research paper adopts a qualitative research method to discover the

implementation and effect of Transit-Oriented Development (TOD) on public services in Malaysia (Tenny et al., 2017). The qualitative approach allows for intense analysis and understanding of the complex social, financial, and environmental factors related to TOD.

Data collection techniques involve a comprehensive review of relevant sources, which include statutes, guidelines and regulations, research papers, journals, articles, theses, and electronic materials (J. Yap et al., 2017). These sources offer valuable insights into the current state of TOD and its impact on public services in Malaysia. The accrued information is then analyzed using qualitative analysis strategies to identify relationships associated with the effectiveness of TOD in improving public amenities. This analysis helps to find the strengths and weaknesses of TOD implementation and its impact on the quality and accessibility of public facilities in Malaysia.

All these materials provide valuable knowledge about the current condition of TOD (transit-oriented development) and its influence on public services in Malaysia. After accumulating this information and connections linked to how effective TOD is at enhancing public facilities. This analysis helps to find the strengths and weaknesses of TOD implementation and its impact on the quality and accessibility of public facilities in Malaysia.

LITERATURE REVIEW

Role Of Mixed-Use Development in TOD Areas

Mixed-use development integrates various land uses within a single improvement, promoting convenience and accessibility for residents. It combines residential, industrial, and leisure additives, creating vibrant communities where humans can live, work, and play close to them (Abdul Latip et al., 2023). In TOD areas, combined-use improvement undoubtedly impacts public facilities by incorporating amenities that cater to the community's needs. This integration includes public spaces, parks, libraries, and network centres, improving citizens' ordinary quality of life. By reducing the need for long commutes, combined-use improvement fosters a sustainable and walkable environment (Czarnetzki et al., 2022).

Successful examples of mixed-use development in Malaysia encompass the Kuala Lumpur Sentral location, a mixture of residential, commercial, and leisure facilities integrated around a transportation hub (Azian et al., 2023). Similarly, the Bandar Utama township in Petaling Jaya gives a well-designed combo of residential, industrial, and recreational factors, which include a vibrant shopping centre and a central park (Ju et al., 2011). These examples exhibit the benefits of blended-use improvement in TOD regions, developing dynamic and sustainable communities.

Importance Of Pedestrian-Friendly Infrastructure in Tod Areas

Pedestrian-friendly infrastructure plays an essential function in TOD areas by promoting walking as a sustainable mode of transportation and enhancing the pedestrian experience. It offers improved safety, increased walkability, and enhanced connectivity (Alawadi et al., 2021). Pedestrian-friendly infrastructure influences the design of public facilities within TOD regions, ensuring their accessibility by foot (Ali et al., 2021). Sidewalks, pedestrian bridges, and services like seating and colour are strategically deliberate to connect public facilities to transit nodes and different locations. Examples of successful implementation of pedestrian-pleasant infrastructure in Malaysia consist of widened sidewalks, pedestrian bridges, and devoted crossings inside the Bukit Bintang region, and well-designed pedestrian pathways and crossings inside the Ara Damansara TOD mission (Hamidun et al., 2013). These examples demonstrate how pedestrian-friendly infrastructure improves the accessibility and usability of public facilities, contributing to a more vibrant and sustainable TOD environment.

Densification And Its Impact on Public Amenities in TOD Areas

Densification in Transit-Oriented Development (TOD) regions entails increasing population and building density to create colourful communities focused around transit hubs (Samant, 2021). Densification maximizes the usage of public facilities and transportation infrastructure, selling efficient land use and lowering vehicle dependency.

By growing populace density, TOD areas can support various public centres within walking distance, including parks, colleges, healthcare facilities, and leisure spaces (Yu et al., 2022). This enhances the accessibility and viability of public services, reducing travel distances and promoting a sustainable lifestyle.

One notable case study demonstrating the impact of densification on public amenities in a TOD area is the Bandar Sunway improvement in Selangor, Malaysia (Xi et al., 2016). This location has enormous skilled densification with the development of high-upward push residential buildings, industrial complexes, and educational establishments across the Sunway-Setia Jaya BRT (Bus et al.) station. The densification has resulted in the provision of numerous public services, such as Sunway Pyramid shopping centre, Sunway Lagoon theme park, and Sunway Medical Centre, all within strolling distance of the transit station.

The accelerated population density has additionally supported the development of parks, pedestrian-friendly walkways, and community spaces, growing a vibrant and accessible environment for residents and visitors (Speirs, 2019).

Specific Benefits of TOD For Public Amenities in Malaysia

Transit-Oriented Development (TOD) in Malaysia brings specific benefits to public amenities, improving citizens' overall quality of life. In TOD regions, integrated public areas play a crucial role in fostering a sense of community and promoting social interaction. This includes the provision of parks and recreational areas that provide green spaces for leisure activities and promote a healthy lifestyle (Rahmat et al., 2016). Additionally, TOD areas frequently incorporate religious spaces, which include mosques or temples, providing accessible places of worship for citizens. Malaysian TOD benefits from proximity to critical services. TOD residents have convenient access to schools and educational institutions, decreasing travel and fostering a sustainable lifestyle (Pojani et al., 2015). Clinics and hospitals in TOD zones provide convenient healthcare services. TOD areas also have shopping malls and commercial centres with many retail, dining, and entertainment options within walking distance. TOD also encourages community involvement. The design of TOD regions encourages social interaction, creating opportunities for residents to interact with one another and build a strong sense of community (Abdul Aziz, 2017). Public services and areas within TOD areas often host community activities, fostering community cohesion and participation.

Importance Of TOD For Essential Service in Malaysia

The convenience and accessibility offered by Transit-Oriented Development (TOD) in Malaysia extend to the provision of essential services. TOD areas are planned to guarantee that residents can easily reach imperative facilities like schools, medical centres, and shopping malls. As a result, the community's overall well-being is improved, enhancing their quality of life. A case study that exemplifies the convenience and accessibility of essential services in a TOD area is the KL Eco City development in Kuala Lumpur. This mixed-use development features residential, commercial, and office spaces integrated around the Abdullah Hukum LRT (Light et al.) station. The TOD area includes educational institutions such as The University of Malaya, hospitals like University Malaya Medical Centre, and the Mid Valley Megamall, a popular shopping destination. TOD creates a dynamic, accessible community by connecting the transport station to these critical services.

TOD areas in Malaysia also regularly function as medical facilities and clinics near residential neighbourhoods (Rahmat et al., 2016). This ensures citizens have a handy get right of entry to healthcare services, decreasing the need for long commutes and improving essential well-being. Shopping malls and business centres are also commonly incorporated into TOD developments, supplying a wide range of retail, dining, and enjoyment alternatives within taking walks distance. This enhances convenience, supports neighbourhood organizations, and stimulates economic activity.

Challenges In the Implementation of TOD In Malaysia

The implementation of TOD in Malaysia faces various challenges. These include issues associated with land availability, infrastructure improvement, and financing. Successful implementation requires identifying and analysing these challenges. Public-private cooperation is essential to tackle these difficulties (Ramlan et al.,

2021). Collaboration between developers, local authorities, and transportation agencies can cause integrated planning and coordinated efforts. Supportive government policies, such as incentives for TOD initiatives and streamlining regulatory processes, can facilitate implementation (Ho et al., 2011).

Community involvement and engagement are vital components of successful TOD projects. Encouraging public participation through community consultations and workshops fosters a sense of possession and guarantees that the improvement meets the wishes of the local people (Slotterback, 2010). Additionally, raising public cognizance about the advantages of TOD and promoting sustainable transportation alternatives can assist in triumph over resistance and garner aid for implementation. Strategies and recommendations for successful TOD implementation in Malaysia include adopting a long-term attitude, conducting comprehensive feasibility studies, and integrating TOD into broader urban planning frameworks (Yusoff et al., 2021). By addressing those challenges and implementing appropriate strategies, Malaysia can unlock the full potential of TOD and create sustainable and livable communities.

Land Availability

One of the widespread challenges in enforcing TOD in Malaysia is providing suitable land for improvement. Finding appropriate sites strategically located near present or planned transportation hubs may be a complex undertaking. The shortage of to-be-had land and the need for efficient land use planning pose demanding situations to enforce TOD initiatives successfully. Furthermore, Azmi et al. (2021) pointed up that a crucial element in meeting the policymakers' gaps in Malaysia's TOD policy formulation related to incompatible zoning and land use laws.

Infrastructure Improvement

Another challenge is the need for significant infrastructure improvements to support TOD initiatives. Integrating transportation structures, including rail networks and bus services, with land development calls for enormous investments in infrastructure. Upgrading current transportation structures and developing seamless connections between distinct modes of transportation can be a complicated and costly challenge.

Financing

Financing TOD projects is another critical challenge. High amount of cost and regular maintenance requirement had been identified as part of the issues and challenges (Khaderi et al., 2021). The initial investment required for infrastructure improvement and land acquisition may be sizeable. Securing investment from public and private assets and ensuring the financial viability of TOD initiatives can pose challenges. Innovative financing mechanisms, including public-personal partnerships and value capture, must be explored to attract funding and triumph over monetary barriers.

Policy

To address these demanding situations and ensure successful TOD implementation in Malaysia, it is recommended to undertake a long-term perspective, conduct complete feasibility studies, and combine TOD into broader urban planning frameworks. Furthermore, supportive authorities' policies, incentives for TOD tasks, and streamlining regulatory approaches can facilitate implementation and inspire personal quarter participation (Ho et al., 2011). By addressing these challenges and implementing suitable strategies, Malaysia can unencumber the total ability of TOD and create sustainable, livable communities.

CONCEPTUAL FRAMEWORK OF TRANSIT-ORIENTED DEVELOPMENT (TOD)

Definition and principles of TOD

Transit-Oriented Development (TOD) is an urban planning approach that aims to create sustainable and vibrant communities by integrating land use and transportation systems (Liang et al., 2020). Peter Calthorpe codified the concept of Transit-Oriented Development (TOD) in the late 1980's while others had promoted similar concepts and contributed to the design. TOD became a fixture of modern planning when Calthorpe published

"The New American Metropolis" in 1993 (Carlton, 2009). Calthorpe wrote that TOD was "a mixed-use community within an average 2,000-foot walking distance of a transit stop and a core commercial area" (Calthorpe, 1993) (Figure 1).

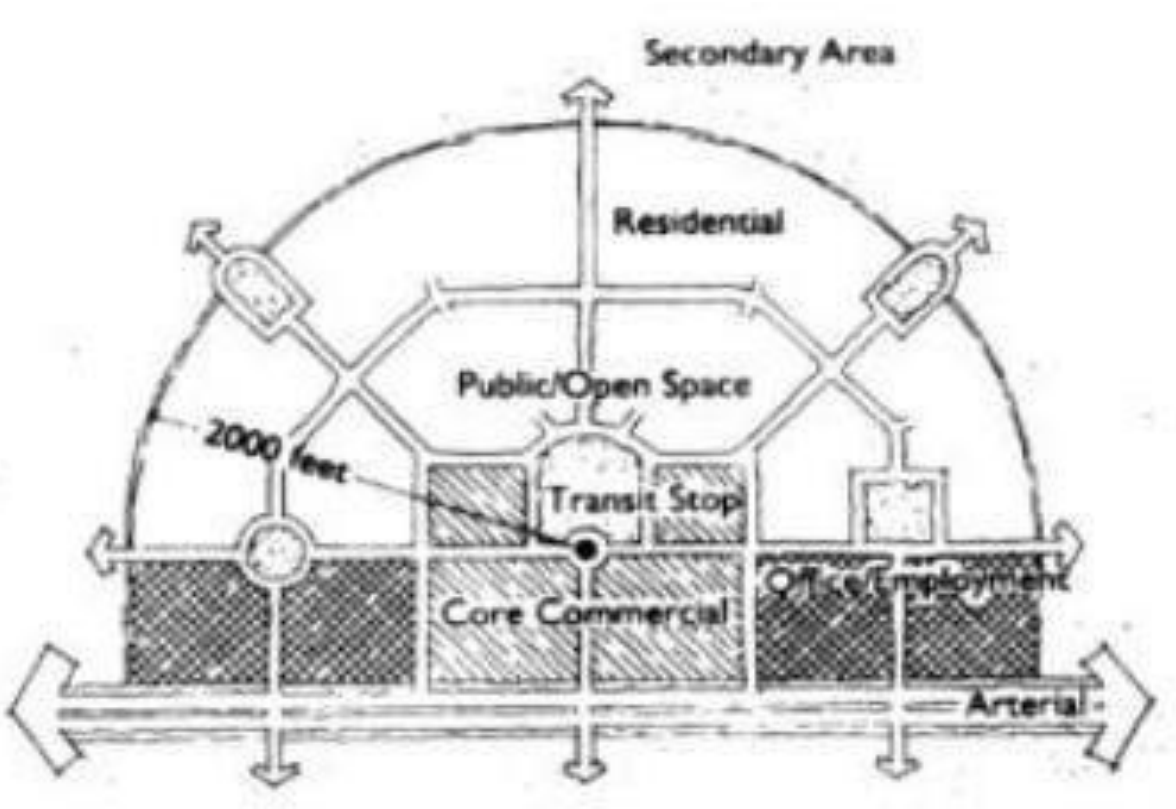

Figure 1 Transit Oriented Development (Calthorpe 1993, 56)

TOD is characterized by compact, mixed-use improvement focused on outstanding public transportation hubs, including train or bus stations. It seeks to reduce dependence on private cars, promote lively modes of transportation like walking and cycling, and enhance accessibility to public transit alternatives. TOD follows numerous concepts to achieve its goals (Noland et al., 2017). The core of TOD is the integration of land use and transportation systems, which leads to the compact development of urban spaces around transit nodes. This compactness promotes walkability, as various amenities and facilities are within a short distance from one another (Zhang et al., 2011). These encompass promoting a mixture of land uses, such as residential, commercial, and recreational, to create diverse and dynamic neighbourhoods. The layout of TOD areas specializes in developing pedestrian-pleasant environments with walkable streets, enough sidewalks, and well-linked pathways.

In Malaysia, the concept of TOD was first initiated in 2005 (Azmi et al., 2021). The potential of TOD in Malaysia is supported by the increasing preference for LRT travel over private vehicles among city dwellers (J. Yap et al., 2017). The implementation of TODs in Malaysia has been discussed in various studies (Abdullah et al., 2020; Azmi et al., 2021; Khaderi et al., 2021; Kidokoro, 2020; Ramlan et al., 2021; Sabri et al., 2013; Shah et al., 2020; Sidek et al., 2020). Factor includes residential developments, transit stations, land use, economic activities, and ridership numbers had been considered

MAIN GOALS OF TOD DEVELOPMENT IN MALAYSIA

Land use efficiency

TOD in Malaysia aims to optimize land use by promoting higher-density improvement around transit nodes. By concentrating on improvement near transportation hubs, TOD reduces urban sprawl, which preserves precious inexperienced areas and agricultural land (Azmi et al., 2021). The compact and green land use patterns in TOD regions bring about shorter tour distances, decreased journey times, and more efficient use of infrastructure. This

intention aligns with the targets of the National Physical Plan and State Structure Plans in Malaysia, which emphasize sustainable land use-making plans and efficient, helpful resource usage (Jafarpour Ghalehteimouri, 2020). This approach not only maximizes the utility of available land but also supports the efficient functioning of public transport systems (Abdullah, 2023; Abdullah et al., 2020). The integration of residential, commercial, and recreational spaces within close proximity to transit stations is critical for fostering vibrant communities (Yap & Goh, 2017).

Minimizing traffic congestion

One of the critical goals of TOD in Malaysia is to decrease traffic congestion by providing convenient and accessible public transportation options. TOD encourages a modal shift from personal vehicles to public transport, lowering the number of cars on the street (J. B. H. Yap et al., 2017). TOD makes public transportation for daily commutes easier by placing schools, workplaces, and commercial areas near transit nodes. Traffic, carbon gas emissions, and urban air quality improve.

Improving access to public transport

TOD development in Malaysia strongly emphasizes enhancing access to public transportation centres. This entails designing TOD regions to offer seamless and handy connections between residential and business areas and public transit options. Walkability is a crucial precept of TOD, which emphasizes creating pedestrian-friendly environments that facilitate access to transit stations (Gomez et al., 2019). Integrated transport hubs and well-designed pedestrian networks ensure that citizens have convenient and efficient access to public transport services, encouraging greater use of sustainable modes of transportation.

Creating livable groups

TOD aims to create livable groups that enhance the exceptional of life for citizens. By promoting a mixture of land use within proximity, TOD guarantees that residents can access a wide range of amenities, offerings, and leisure possibilities (Iuchi et al., 2013). Integrating residential, business, and leisure areas creates colourful and dynamic neighbourhoods. TOD areas prioritize the advent of public spaces, consisting of parks, plazas, and community facilities, which serve as gathering places and promote social interaction among citizens (Altoon et al., 2011). The design of TOD regions also considers elements inclusive of safety, aesthetics, and a feel of the area, contributing to creating inclusive and livable communities.

Public-Private Partnerships (PPP)

The framework recognizes the importance of collaboration between public and private sectors in the successful implementation of TOD. Effective PPPs can facilitate investment in infrastructure and public amenities, ensuring that TOD projects are financially viable and sustainable (Ismail & Haris, 2014; Sapri et al., 2016). The framework encourages the establishment of clear guidelines and incentives for private developers to participate in TOD initiatives, thereby leveraging their expertise and resources.

Environmental Considerations

The integration of green spaces and environmentally friendly infrastructure is essential for enhancing the livability of TOD areas. This integration not only contributes to the aesthetic appeal of urban environments but also plays a crucial role in promoting ecological sustainability and improving the quality of life for residents. This includes parks, green roofs, and community gardens that contribute to urban biodiversity and provide recreational opportunities for residents (Redzuan et al., 2022). Incorporating water-sensitive design principles is critical for managing stormwater effectively and enhancing the resilience of urban areas to climate change impacts. This approach involves the use of techniques such as permeable pavements, rain gardens, and bioswales, which facilitate the natural absorption and filtration of rainwater. By reducing surface runoff, these designs help mitigate urban flooding—a significant concern in Malaysia, where heavy rainfall can lead to severe flooding events. This approach is particularly relevant in Malaysia, where urban flooding is a concern (Meulen et al., 2023).

CONCLUSION

The study specializes in the essential elements for the success of TOD projects in Malaysia. It highlights the significance of practical cooperation between the public and private sectors, supportive government policies, and community involvement. These factors significantly shape the results and sustainability of TOD projects, ensuring long-term advantages for each citizen and the wider community.

Improving Public Services in Malaysia

This research paper's finding suggest that TOD positively affects improving public services in Malaysia. The analysis reveals that TOD contributes to creating incorporated public areas, parks, recreational areas, and religious spaces, which enhance community participation and well-being. The proximity of essential services, which include schools, medical facilities, and shopping malls, also improves convenience and accessibility for residents.

Enhance Urban Development & Sustainability

Transit-Oriented Development (TOD) has the potential to significantly enhance public services and urban development in Malaysia, focusing on three major areas: sustainable urban development, reduced environmental impact, and improved quality of life. By integrating land use and transportation, TOD promotes sustainable communities with improved access to essential services and incorporated public areas. The analysis of TOD's effectiveness in Malaysia highlights its positive impact on public services and the significance of factors which include mixed-use development and pedestrian-friendly infrastructure.

RECOMMENDATIONS

TOD implementation requires cooperation among sectors, supportive policies, and community involvement. Embracing TOD principles can cause sustainable urban improvement, decreased environmental impact, and advanced quality of life for Malaysians. Therefore, continued research and collaboration are essential to further optimize the implementation and advantages of TOD within the Malaysian context. Successful implementation requires careful planning, coordination, and community engagement to ensure that TOD projects align with the needs and aspirations of local residents. The multifaceted approach that prioritizes pedestrian accessibility, fosters collaboration among stakeholders, addresses traffic congestion, utilizes land value capture mechanisms, and emphasizes continuous evaluation. By adopting these recommendations, Malaysia can enhance public amenities and promote sustainable urban development through effective TOD strategies. Furthermore, it is recommended that Malaysian authorities establish monitoring frameworks to evaluate the effectiveness of TOD initiatives, allowing for adjustments based on community feedback and changing urban conditions.

In conclusion, Transit-Oriented Development (TOD) can enhance public services in Malaysia and represents a promising approach to creating sustainable, accessible, and vibrant urban environments. TOD can reduce reliance on private vehicles, enhance mobility, promote social equity, and stimulate economic growth. By integrating land use and transportation, TOD promotes sustainable communities with improved access to essential services and incorporated public areas. The analysis of TOD's effectiveness in Malaysia highlights its positive impact on public services and the significance of factors which include mixed-use development and pedestrian-friendly infrastructure.

REFERENCES

1. Abdul Aziz, A. (2017). Malaysia's 2030 Agenda Accessible and Sustainable Public Transport. PRASARANA Malaysia Berhad, 1–41. In.
2. Abdul Latip, N. S., Zulnaidi, N. Z., Redzuan, N., Mohamed Osman, M., & Harun, N. Z. (2023). PLACE MAKING OF PUBLIC SPACES WITHIN TRANSIT-ORIENTED DEVELOPMENT (TOD): A REVIEW. PLANNING MALAYSIA, 21(25). doi:10.21837/pm. v21i25.1254
3. Abdullah, J., Rashid, K. A., Shah, M. I. B., Ling, O. H. L., Majid, R. A., & Ngah, R. (2020). Land use development and ridership at Kelana Jaya lrt line, Malaysia. PLANNING MALAYSIA, 18.

4. Abdullah, Y. A., Zanudin, K., Marzukhi, M. A., Nawawi, F. N., & Jamaluddin, N. B. (2023). Transit oriented development (tod) for early-built rail-based transit stations: possible or plausible? Planning Malaysia, 21. https://doi.org/10.21837/pm.v21i30.1416
5. Alawadi, K., Khanal, A., Doudin, A., & Abdelghani, R. (2021). Revisiting transit-oriented development: Alleys as critical walking infrastructure. Transport Policy, 100, 187-202. doi:https://doi.org/10.1016/j.tranpol.2020.11.007
6. Ali, L., Nawaz, A., Iqbal, S., Aamir Basheer, M., Hameed, J., Albasher, G., . . . Bai, Y. (2021). Dynamics of Transit Oriented Development, Role of Greenhouse Gases and Urban Environment: A Study for Management and Policy. Sustainability, 13(5), 2536. Retrieved from https://www.mdpi.com/2071-1050/13/5/2536
7. Altoon, R. A., & Auld, J. C. (2011). Urban Transformations: Transit Oriented Development and the Sustainable City: Images Publishing.
8. Azian, F. U. M., Khair, N., Yoong, T. C., Ismail, S., & Tambi, N. (2023). The Relationship Between Service Quality and Occupants' Satisfaction: A Mixed-Use Building. Real Estate Management and Valuation, 31(1), 78-87. doi: doi:10.2478/remav-2023-0008
9. Azmi, N. A., Osman, M. M., Rabe, N. S., Ramlan, N. H., Azizan, A., & Amiruddin, S. (2021). A COMPARATIVE ANALYSIS OF LAND USE AND COMPACT CITY PRINCIPLES AND GUIDELINES ON RAIL PUBLIC TRANSIT STATIONS IN MALAYSIA. PLANNING MALAYSIA, 19(15). doi:10.21837/pm.v19i15.935
10. Calthorpe, P. (1993). The Next American Metropolis: Ecology, Community, and the American Dream: Princeton Architectural Press.
11. Carlton, I. (2009). Histories of transit-oriented development: Perspectives on the development of the TOD concept. Retrieved from
12. Czarnetzki, F., & Siek, F. (2022). Decentralized mobility hubs in urban residential neighbourhoods improve the contribution of carsharing to sustainable mobility: findings from a quasi-experimental study. Transportation. doi:10.1007/s11116-022-10305-9
13. Gomez, C. P., Omar, M., & Nallusamy, R. (2019). A Study on the Benefits of Transit Oriented Development in Malaysia and Incorporation of Those Benefits in Planning. MATEC Web Conf., 266, 06016. Retrieved from https://doi.org/10.1051/matecconf/201926606016
14. Hamidun, R., Ishak, S., & Endut, I. (2013). The utilization rates of pedestrian bridges in Malaysia.
15. Ho, C.-S., & Fong, W.-K. (2011). Towards a sustainable regional development in Malaysia: The case of Iskandar Malaysia. Eco-city Planning: Policies, Practice and Design, 199-219.
16. Ismail, S. and Haris, F. A. (2014). Rationales for public private partnership (ppp) implementation in Malaysia. Journal of Financial Management of Property and Construction, 19(3), 188-201. https://doi.org/10.1108/jfmpc-04-2014-0006
17. Iuchi, K., Suzuki, H., & Cervero, R. (2013). Transforming Cities with Transit.
18. Jafarpour Ghalehteimouri, K. (2020). The spatial turn in the National Physical Plan (NPP) Malaysia in compare to Germany for better criteria identification on climate change and environmental hazards issues Climate Change. 2020.
19. Ju, S. R., Ahmad Zaki, S., & Choi, Y. (2011). Contextual Modernization; New Town Planning in Petaling Jaya, of Malaysia. Journal of Asian Architecture and Building Engineering, 10, 93-100. doi:10.3130/jaabe.10.93
20. Khaderi, S. S., Bakeri, N. N., & Abd Shukor, A. S. (2021). The Transit-Oriented Development (TOD) Improvement Towards a Sustainable Development. International Journal of Sustainable Construction Engineering and Technology, 12(3), 333-341.
21. Kidokoro, T. (2020). Transit oriented development (TOD) policies and station area development in Asian cities. Paper presented at the IOP Conference Series: Earth and Environmental Science.
22. Liang, Y., Du, M., Wang, X., & Xu, X. (2020). Planning for urban life: A new approach of sustainable land use plan based on transit-oriented development. Evaluation and Program Planning, 80, 101811. doi:https://doi.org/10.1016/j.evalprogplan.2020.101811
23. Meulen, G. J. v. d., Mishra, G., Dorst, M. v., Iyer, M., & Bacchin, T. K. (2023). Reviewing historic urban water transitions to advance water-sensitive urban design for bhuj, India. Land, 12(10), 1938. https://doi.org/10.3390/land12101938
24. Noland, R., Weiner, M., Dipetrillo, S., & Kay, A. (2017). Attitudes towards transit-oriented development:

Resident experiences and professional perspectives. Journal of Transport Geography, 60, 130-140. doi:10.1016/j.jtrangeo.2017.02.015

25. Pojani, D., & Stead, D. (2015). Sustainable Urban Transport in the Developing World: Beyond Megacities. Sustainability, 7(6), 7784-7805. Retrieved from https://www.mdpi.com/2071-1050/7/6/7784
26. Rahmat, A., Endot, I., Ishak, S., ahmad, z., & Che Ibrahim, C. K. I. (2016). Development of Transit Oriented Development (TOD) Model for Malaysia.
27. Ramlan, N. H., Osman, M. M., Rabe, N. S., Azizan, A., Azmi, N. A., & Amiruddin, S. (2021). Assessing the current implementation of compact and mixed-use development within public rail transit stations in Malaysia. PLANNING MALAYSIA, 19.
28. Redzuan, N., Latip, N. S. A., Ismail, N., & Ujang, N. (2022). Identifying urban design principles and its attributes for waterfront transit-oriented development (wtod). Planning Malaysia, 20. https://doi.org/10.21837/pm.v20i21.1098
29. Saadatian, O., Lim, C. H., Ch, Sohif, M., & Sopian, K. (2012). Perspective of Sustainable Development in Malaysia" International Journal of Energy and Environment. International Journal of Energy and Environment.
30. Sabri, S., Ludin, A. N. M., & Johar, F. (2013). Assessment of neighbourhood affordability based on housing and transportation costs in Kuala Lumpur, Malaysia. PLANNING MALAYSIA (2).
31. Samant, S. R. (2021). Transit-Oriented Developments and Stratified Public Space Networks. In R. C. Brears (Ed.), The Palgrave Handbook of Climate Resilient Societies (pp. 1105-1145). Cham: Springer International Publishing.
32. Sapri, M., Hariati, A., Ting, L. S., & Sipan, I. (2016). Public private partnership benefits in delivering public facilities in Malaysia. MATEC Web of Conferences, 66, 00014. https://doi.org/10.1051/matecconf/20166600014
33. Shah, M. I. B., Abdullah, J., & Rashid, K. (2020). Transit Oriented Development and Ridership at Kelana Jaya Line LRT Stations. Environment-Behaviour Proceedings Journal, 5(14), 293-300.
34. Sidek, M. F. J., Bakri, F. A., Hamsa, A. A. K., Othman, N. N. A. N., Noor, N. M., & Ibrahim, M. (2020). Socio-economic and Travel Characteristics of transit users at Transit-oriented Development (TOD) Stations. Transportation Research Procedia, 48, 1931-1955.
35. Slotterback, C. S. (2010). Public involvement in transportation project planning and design. Journal of Architectural and Planning Research, 144-162.
36. Speirs, J. (2019). Safe, Attractive, and Sustainable Cities: A mobility-oriented approach. IGLUS (Innovative Governance of Large Urban Systems).
37. Tenny, S., Brannan, J., & Brannan, G. (2017). Qualitative study.
38. Xi, W., Jian, L., & Hanif, N. (2016). Neighbourhood Cohesion of Medium-Low Commodity Housing in Bandar Sunway, Selangor, Malaysia: A Case Study of Mentari Court Apartment.
39. Yap, J., & Goh, S. (2017). Determining potential and requirements of transit-oriented development (TOD): the case of Malaysia. Property Management, 35, 00-00. doi:10.1108/PM-06-2016-0030
40. Yap, J. B. H., & Goh, S. V. (2017). Determining the potential and requirements of transit-oriented development (TOD). Property Management, 35(4), 394-413. doi:10.1108/PM-06-2016-0030
41. Yu, B., Cui, X., Liu, R., Luo, P., Tian, F., & Yang, T. (2022). Intergenerational differences in the urban vibrancy of TOD: Impacts of the built environment on the activities of different age groups. Frontiers in Public Health, 10. doi:10.3389/fpubh.2022.994835
42. Yusoff, I., Ng, B.-K., & Azizan, S. A. (2021). Towards sustainable transport policy framework: A rail-based transit system in Klang Valley, Malaysia. PLOS ONE, 16(3), e0248519. doi:10.1371/journal.pone.0248519
43. Zhang, M., & Li, W. (2011). Analysis on the mechanism and optimization method of urban traffic structure. Paper presented at the 7th Advanced Forum on Transportation of China (AFTC 2011).