

Effectiveness of Inclusionary Zoning Policies in Transit-Oriented Development Areas: A Comparative Analysis of Kuala Lumpur and Selangor

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ABSTRACT

Transit-Oriented Development (TOD) has become a key urban planning strategy in Malaysian metropolitan areas, yet housing affordability remains a critical challenge as property values often rise beyond middle and lower-income households' reach. This study examines how inclusionary zoning (IZ) policies address this affordability gap by comparing Kuala Lumpur's voluntary Residensi Wilayah approach with Selangor's mandatory Rumah Selangorku 3.0 framework. Using a comparative case study methodology analysing secondary data from four TOD areas (MRT Titiwangsa, MRT Taman Tun Dr Ismail, MRT Jalan Reko, and MRT Bandar Tun Hussein Onn), the research evaluates policy effectiveness across three distinct analytical layers: policy design, implementation outcomes, and market context. Findings reveal that mandatory IZ policies create stronger foundations for affordable housing provision than voluntary approaches. Kuala Lumpur's voluntary policy resulted in affordable housing located 0.6 to 4.0 km from transit stations, while Selangor's mandatory approach achieved better integration of diverse price points within developments. However, both regions face implementation challenges including insufficient enforcement, lack of location requirements, and affordability thresholds that remain inaccessible to target households. The study recommends, in order of feasibility, strengthening mandatory requirements with robust monitoring, introducing maximum transit-distance rules, reducing reliance on alternative compliance, recalibrating affordability thresholds, and enhancing transparency in implementation reporting.

Keywords: Inclusionary Zoning, Transit-Oriented Development, Affordable Housing, Urban Planning, Land Administration and Development

INTRODUCTION

Transit-oriented development (TOD) has emerged as a cornerstone strategy for sustainable urban growth in rapidly developing regions, offering solutions to traffic congestion, carbon emissions, and urban sprawl (Fang et al., 2023; Ali et al., 2021). However, without appropriate policy interventions, TOD areas often experience gentrification and rising property values that exclude lower and middle-income residents from transit-accessible locations.

The Greater Kuala Lumpur and Klang Valley region, with approximately 7.2 million residents, exemplifies this challenge. Significant housing affordability pressures, particularly in high-value TOD areas, have intensified due to population growth and urban expansion (Yap et al., 2021). Migration from rural areas seeking better economic opportunities has further exacerbated demand for affordable housing in these transit-rich locations.

This study investigates how inclusionary zoning (IZ) policies in Kuala Lumpur and Selangor attempt to address housing affordability in TOD areas. The selection of these regions is grounded in several factors: both areas experience rapid urbanisation creating housing market pressure, have invested heavily in TOD infrastructure, face challenging housing affordability issues for low and middle-income households, present diverse socioeconomic contexts influencing housing needs, and employ contrasting policy approaches allowing meaningful comparative analysis.

The research examines how different policy approaches affect affordable housing provision in transit-rich locations, with particular attention to the effectiveness of voluntary versus mandatory inclusionary zoning frameworks. The analysis is structured around three distinct analytical layers: policy design (the rules as written), implementation outcomes (how policies operate in practice), and market context (the structural conditions in which policies function). This analytical separation, sustained throughout the results and discussion sections, contributes to understanding how Malaysian cities can develop more inclusive transit-oriented communities that advance both transportation efficiency and social equity objectives.

LITERATURE REVIEW

Transit-Oriented Development and Urban Affordability Challenges

Transit-oriented development has gained prominence as a strategy addressing environmental sustainability, traffic congestion, and compact urban growth. Calthorpe (1993) defines TOD as a neighbourhood design principle concentrating mixed-use development within walking distance of high-quality transit stations, creating vibrant, walkable communities. In Malaysia, TOD has become a national urban strategy, particularly for major metropolitan areas, aiming to curb urban sprawl and promote sustainable mobility (Zainal, 2019).

However, growing literature highlights a critical challenge: displacement of low and middle-income households from transit-accessible areas due to escalating property values. The Khazanah Research Institute (2015) notes that Malaysia's urban centres experience severe housing affordability problems, with median house price-to-income ratios far exceeding international benchmarks. Muhammad et al. (2024) and Yusof et al. (2021) observe that property values in Malaysian TOD zones appreciate faster than in non-transit areas, exacerbating affordability barriers. In Kuala Lumpur specifically, Tan (2020) identifies price-to-income ratios surpassing national averages, suggesting heightened affordability crises in TOD corridors.

This transit-induced gentrification undermines TOD's social equity potential. Without deliberate policy interventions, TOD risks producing exclusive enclaves accessible only to wealthier households, contradicting inclusive development principles that should ensure public transit investments benefit diverse income groups.

Inclusionary Zoning as a Policy Response

Inclusionary zoning has emerged internationally as a key policy tool counteracting affordability erosion in high-value urban areas. IZ refers to regulatory frameworks requiring or incentivising private developers to include affordable housing units within new residential developments, particularly in locations benefiting from public investments such as transit infrastructure (Stacy et al., 2021; Chava & Newman, 2016).

Global research indicates mandatory IZ policies produce significantly more affordable housing units than voluntary schemes, particularly when paired with robust enforcement and carefully designed incentives. Schuetz et al. (2007), Mukhija et al. (2010), Read (2009), and Fischer and Patton (2001) emphasise that program success depends not only on legal requirements but also on practical considerations such as density bonuses, reduced parking requirements, or expedited permitting to offset development costs.

Conversely, voluntary approaches, while politically easier to implement, often yield inconsistent and limited results heavily dependent on market dynamics and developer willingness (Schuetz et al., 2007; Stacy et al., 2021). Without adequate regulatory strength, voluntary IZ programs struggle to achieve meaningful affordable housing outcomes, particularly in high-demand areas like TOD zones.

The effectiveness of IZ policies also depends on implementation mechanisms including value capture strategies, cross-subsidisation approaches, and integration requirements. Recent literature emphasises the importance of spatial integration within developments rather than segregation of affordable units, as mixed-income communities provide better outcomes for affordable housing residents (Azlan et al., 2025; Li & Guo, 2020).

Malaysian Housing Context and Policy Fragmentation

The Malaysian housing context presents unique challenges for implementing effective IZ strategies. Studies by Osman et al. (2017) and Mohd Abdul Kadir et al. (2020) underscore persistent mismatches between housing supply and demand for affordable units, driven by rising construction costs, stagnant wage growth, and shifting demographic preferences. Housing affordability issues are particularly acute in Selangor and Kuala Lumpur, where urbanisation pressures are strongest.

Abd Aziz et al. (2018) and Nasir (2022) highlight that younger households in Kuala Lumpur face significant homeownership barriers, exacerbated by escalating prices in well-connected urban areas. These affordability challenges are compounded by policy fragmentation, with responsibilities for housing provision distributed across federal, state, and local governments, often resulting in inconsistent implementation and enforcement.

In transit-adjacent zones, the absence of dedicated affordability mandates has allowed market forces to drive prices upward unchecked. This situation highlights the urgent need for targeted IZ interventions ensuring that transit investment benefits are equitably shared across income groups, rather than captured primarily by higher-income property owners and developers.

METHODOLOGY

This study employs a comparative case study approach analysing secondary data to evaluate IZ policy effectiveness in TOD areas of Kuala Lumpur and Selangor. The comparative design allows in-depth examination of how different policy frameworks affect affordable housing outcomes in similar urban contexts within the same metropolitan region.

Research Design and Case Selection

Four TOD areas were selected as representative cases: MRT Titiwangsa and MRT Taman Tun Dr Ismail in Kuala Lumpur, and MRT Jalan Reko and MRT Bandar Tun Hussein Onn in Selangor. These areas represent different urban contexts, development stages, and policy implementation phases, providing comprehensive insight into how voluntary and mandatory IZ approaches function across varied conditions.

Transit-accessible influence (TAI) zones were defined as concentric circles around transit stations: Primary (0 to 400m), Core (400 to 800m), and Secondary (800 to 1500m). This spatial framework allows systematic analysis of housing development patterns relative to transit accessibility, which is crucial for evaluating TOD integration effectiveness.

Data Sources and Collection

The research utilises multiple secondary data sources to ensure a comprehensive analysis. These include official policy documents such as Kuala Lumpur's Residensi Wilayah and Selangor's Rumah Selangorku 3.0 policies, which were obtained from government websites, official gazettes, and planning authority archives. Market data were sourced from the National Property Information Centre (NAPIC), the Department of Statistics Malaysia (DOSM), and commercial property platforms such as iProperty and Property Guru, covering the years 2018 to 2023 to capture recent implementation patterns. Development records, consisting of publicly available project information, were used for spatial analysis of housing developments and their compliance with IZ requirements. In addition, publicly available geospatial (GIS) data were utilised to map and assess the proximity of affordable housing to transit infrastructure.

Analytical Framework

The analysis distinguishes three conceptually separate dimensions of policy effectiveness, sustained as distinct analytical layers throughout the results section. First, policy design refers to the rules as written, including binding versus discretionary requirements, pricing structures, size specifications, location criteria, and alternative compliance pathways. Second, implementation outcomes refer to observable patterns of compliance, unit production, pricing behaviour, and spatial placement that emerge once policies operate in practice. Third, market context refers to the structural conditions in which IZ policies function, including price segmentation, affordability thresholds, supply conditions, and absorption pressures.

This three-layer framework provides comprehensive evaluation of how different IZ approaches contribute to housing affordability in transit-rich locations while distinguishing what the policies require, what they have produced, and what market conditions shape both outcomes. The framework is applied consistently across the four case study areas to enable systematic comparison between the voluntary Kuala Lumpur framework and the mandatory Selangor framework.

Methodological Limitations

The reliance on secondary data shapes three specific limitations that should be acknowledged transparently. First, the analysis cannot capture enforcement behaviour. Published documents reveal the rules as written but not how planning authorities exercise discretion in approval, monitoring, or non-compliance proceedings. Whether minimum unit sizes are negotiated downward during the development order stage, or whether mandatory percentages are quietly adjusted through committee deliberation, remains outside the visible record.

Second, the analysis cannot reconstruct developer strategy. Public listings show sale prices and unit mixes but not the internal calculations that determine which compliance pathway a developer selects, whether through on-site provision, separate affordable development, or alternative payments. The strategic logic behind locating Residensi Wilayah units 0.6 to 4.0 kilometres from transit stations therefore remains inferred rather than observed.

Third, the analysis cannot speak to household affordability experience. Income-to-price ratios approximate affordability at the aggregate level, but they cannot indicate whether residents in these units sustain ownership, experience cost burden after mortgage and transport expenditure, or actually use transit at frequencies that justify the locational premium. These three gaps mean the findings should be read as a structural account of policy and outcome patterns rather than a complete evaluation of policy effectiveness. The recommendations section returns to these limitations by identifying where primary data collection would extend the analysis. Additional constraints include temporal variations in data availability, particularly for Selangor's recent policy implementation, and the inability to establish causal relationships between policy frameworks and housing outcomes due to multiple intervening variables in property markets.

RESULTS

The results section presents the empirical findings from the comparative analysis of IZ policies in Kuala Lumpur and Selangor TOD areas, organised along the three analytical layers established in Section 3.3. Section 4.1 examines the spatial context of the four case study areas to ground subsequent analysis. Section 4.2 analyses the policy design of the two frameworks as written. Section 4.3 then examines implementation outcomes observed in practice, and Section 4.4 situates these outcomes within the broader market context.

Spatial Analysis of Case Study Areas

The four case study areas illustrate how voluntary and mandatory frameworks produce different spatial outcomes around comparable transit infrastructure. Rather than describing each case in extensive detail, this section highlights the distinctive feature of each area and consolidates spatial and pricing information in Table 1.

Kuala Lumpur TOD Areas

LRT/MRT Titiwangsa demonstrates pronounced price stratification across TAI zones, providing valuable insights into long-term development patterns and property value appreciation trends. As illustrated in Figure 1, the station is surrounded by three distinct TAI zones with varied development approaches and price points.

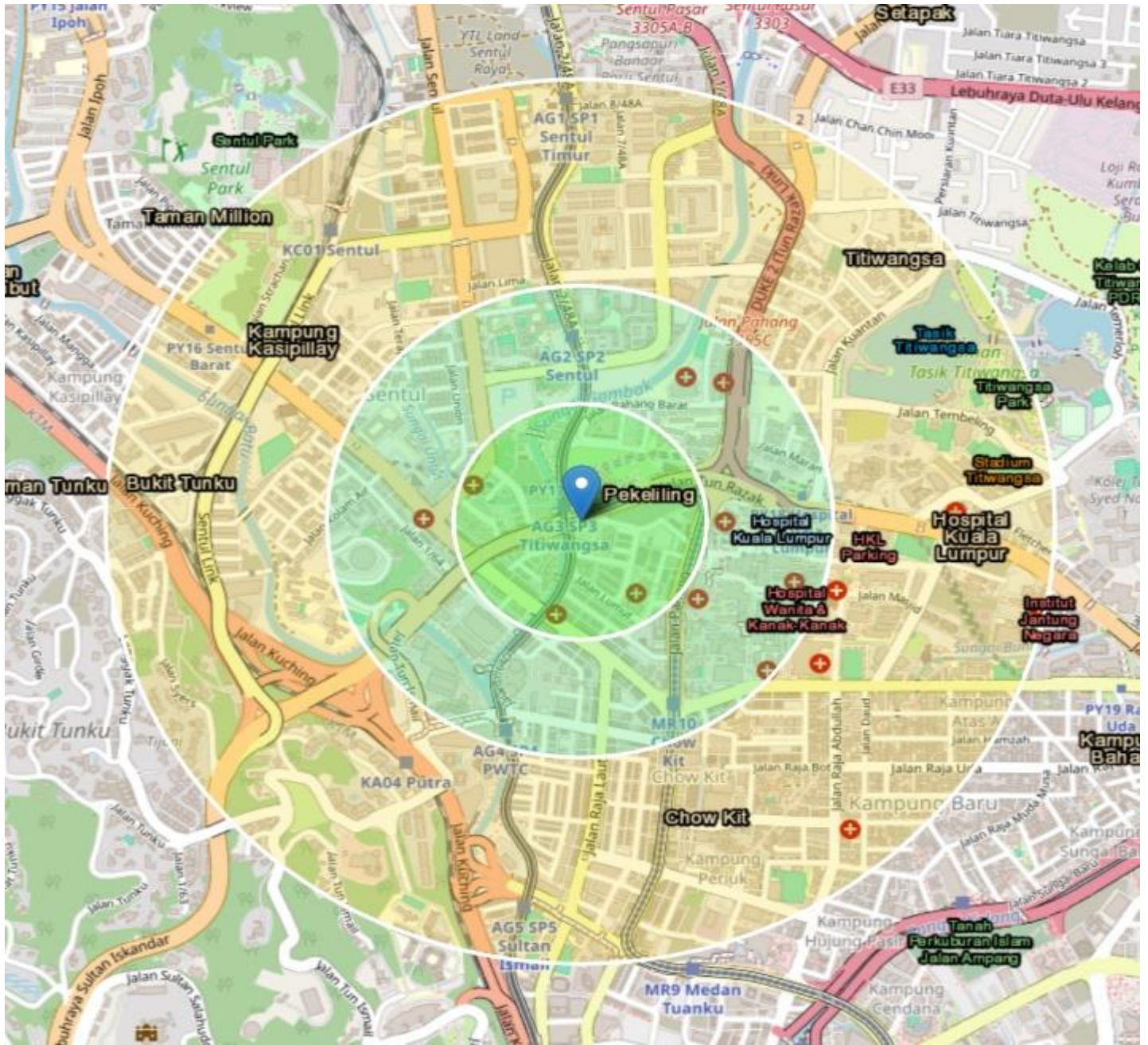


Figure 1: TOD Areas in LRT/MRT Titiwangsa

As shown in Figure 1, Titiwangsa Sentral in the Primary Zone appreciated 104 to 128 per cent over fourteen years, translating to an annualised growth rate of 5.2 to 6.1 per cent. The Core Zone contains both Residensi Sentulmas at RM300,000 under Residensi Wilayah and The Chambers Residence at RM429,000 to RM1,134,000, indicating that affordable provision coexists with luxury development within the same zone without spatial integration.

MRT Taman Tun Dr Ismail (TTDI) shows the most exclusionary pattern among the case studies, characterised by limited development activity within the most accessible zones and a concentration of luxury-oriented projects. Figure 2 illustrates the spatial distribution of development activity around this strategic transit node.

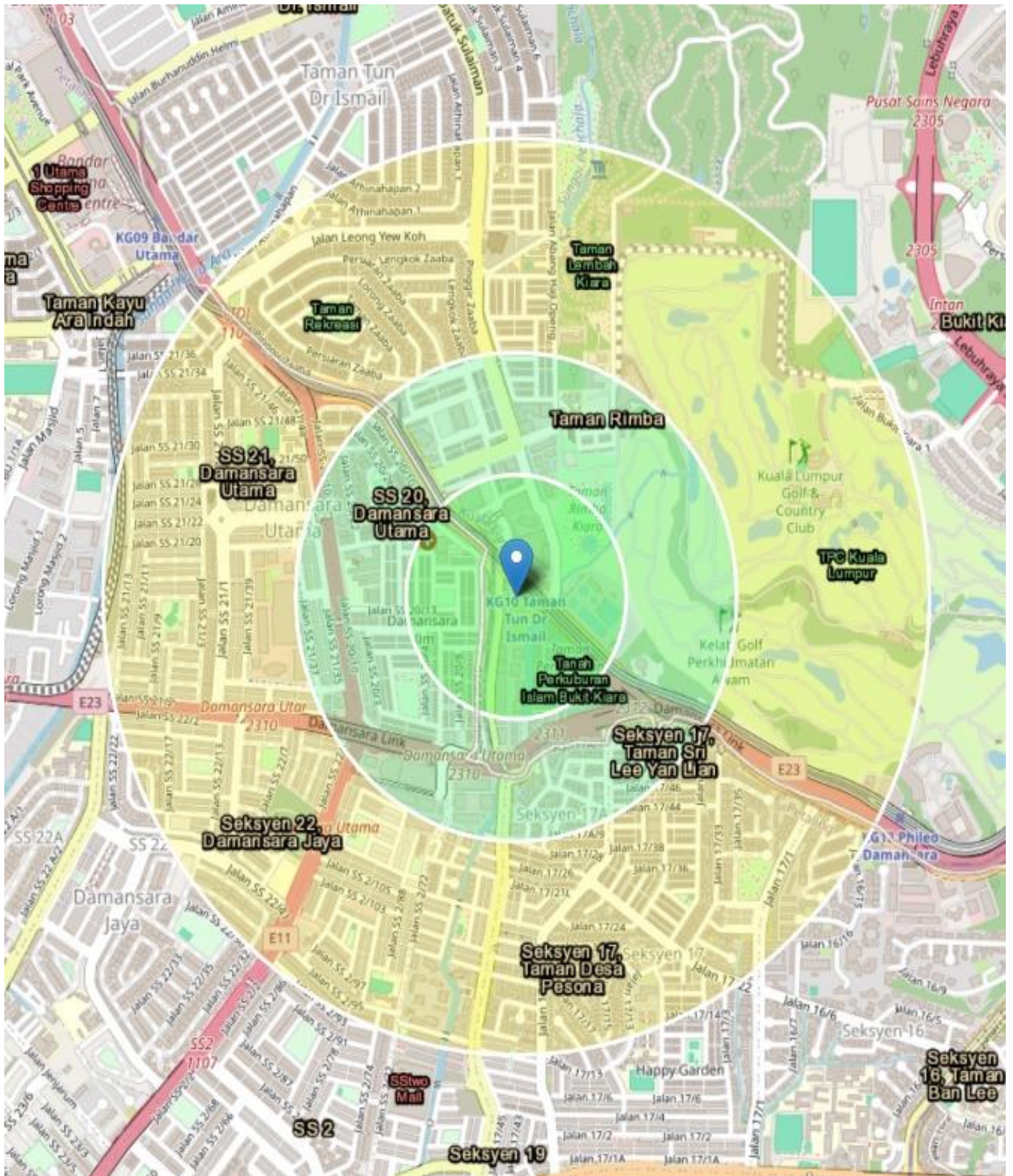


Figure 2: TOD Areas in MRT TTDI

As depicted in Figure 2, the Primary Zone contains no recent housing projects, representing a significant missed opportunity for transit-accessible affordable housing. The Core Zone is occupied by Sime Darby's Jendela Residences, scheduled for completion in 2026, with prices ranging from RM1,865,380 to RM3,857,640. The strategic location of MRT TTDI at the administrative boundary between Kuala Lumpur and Selangor has positioned most recent and ongoing housing developments in the Secondary Zone within Selangor's jurisdiction, producing a regulatory boundary effect that the voluntary framework does not address.

www.rsisinternational.org



As depicted in Figure 4, The Netizen in the Primary Zone, completed in 2022, places 1,198 units across a RM210,000 to RM700,000 price spectrum within a single development, representing one of the most successful examples of income mixing within immediate transit proximity. Naluri Residensi by MKH Berhad in the Core Zone, scheduled for completion in two phases (2027 and 2029), delivers Rumah Selangorku units starting at RM245,000 on Malay reserve land.

Table 1 consolidates the spatial and pricing information across all four case study areas, summarising the distinctive feature of each.

Table 1: Consolidated Spatial and Pricing Summary of Case Study Areas

Station	State	Primary Zone Development	Core Zone Development	Price Range (RM)	Distinctive Feature
Titivangsa	KL	Titivangsa Sentral (2011)	Residensi Sentulmas (2018); The Chambers (2022)	300,000 to 1,134,000	Coexisting stratification without integration
TTDI	KL	No recent projects	Jendela Residences (2026)	1,865,380 to 3,857,640	Exclusionary; boundary effect to Selangor
Jalan Reko	Selangor	Residensi Nexus Kajang (PPP)	MKH Boulevard II (2022)	250,000 to 678,000	Public-private partnership model
Bandar Tun Hussein Onn	Selangor	The Netizen (2022, 1,198 units)	Naluri Residensi (2027/2029)	210,000 to 700,000	Strongest in-development integration

Table 1 reveals a clear pattern across the four case studies. The two Kuala Lumpur cases show either coexisting stratification without integration (Titivangsa) or outright exclusion of affordable housing from transit-accessible zones (TTDI). The two Selangor cases, by contrast, demonstrate either institutional innovation through public-private partnership (Jalan Reko) or successful within-development income mixing (Bandar Tun Hussein Onn). This spatial contrast forms the empirical basis for the policy design analysis that follows.

Policy Design

This subsection describes the two policies as written, distinct from how they are implemented (Section 4.3) and the market environment in which they operate (Section 4.4). Maintaining this analytical separation is essential because design features, observed compliance behaviour, and market conditions exert independent influence on housing outcomes.

Kuala Lumpur: Voluntary Inclusionary Zoning through Residensi Wilayah

Kuala Lumpur adopted a voluntary IZ model through the Residensi Wilayah (RW) policy in 2019, replacing the earlier RUMAWIP program. The RW policy offers development incentives including exemptions from development charges and reductions in infrastructure contributions in exchange for voluntary provision of affordable housing units priced at or below RM300,000, with a minimum unit size of 900 square feet.

The policy features a flexible, market-driven approach in which incentive levels scale with the proportion of affordable units provided. However, RW does not impose binding requirements for affordable housing inclusion, leaving compliance largely at developers' discretion. Key policy elements include: maximum pricing of RM300,000 per unit, minimum unit size of 900 square feet, development charge exemptions proportionate to affordable unit provision, and no specific location requirements relative to transit infrastructure.

Selangor: Mandatory Inclusionary Zoning under Rumah Selangorku 3.0

Selangor implemented a mandatory IZ framework through Rumah Selangorku3.0, effective from January

2023, building on earlier iterations to strengthen affordable housing provision requirements. Under this policy, developers must include affordable housing units in new projects based on project size and development zone, with TOD areas (Zone 1) subject to the highest requirements (20 to 40 per cent affordable units depending on project acreage).

Rumah Selangorku 3.0 establishes detailed specifications for unit types and price ceilings ranging from RM114,750 for studio units to RM229,500 for larger family-sized apartments. By mandating affordability at multiple price points, the policy seeks to serve broader household needs while ensuring predictable affordable housing production. Key policy elements include: mandatory percentage requirements varying by development zone and project size, tiered pricing structure serving different income levels, specific unit type and size requirements, and provisions for alternative compliance through in-lieu fees or off-site development.

Comparative Policy Analysis

The two frameworks differ along four design axes: the binding versus discretionary nature of the requirement, the pricing structure (single ceiling versus tiered), the presence of location criteria, and the breadth of alternative compliance. Table 2 summarises the design contrasts between Residensi Wilayah and Rumah Selangorku 3.0.

Table 2: Comparative Analysis of Inclusionary Zoning Policies

Policy Element	Residensi Wilayah	Rumah Selangorku 3.0
Policy Type	Voluntary	Mandatory
Price Range	Maximum RM300,000	RM114,750 to RM229,500 (tiered)
Unit Size	Minimum 900 sqft	600 to 850 sqft (varies by type)
Percentage Requirement	Developer discretion	20 to 40 per cent (varies by zone/project size)
Location Requirements	None specified	Zone-based requirements
Incentives/Enforcement	Development exemptions charge	Mandatory compliance
Alternative Compliance	Limited options	In-lieu fees, off-site development
Implementation Period	Since 2019	Since January 2023
Target Income Groups	Middle-income households	Multiple income tiers

As shown in Table 2, while Kuala Lumpur's design prioritises market flexibility and developer participation, Selangor's design emphasises predictable outcomes and broader income targeting. These design differences set up the implementation patterns analysed in the next subsection. Whether the designs actually produce their intended outcomes is an empirical question addressed in Section 4.3.

Implementation Outcomes

Implementation outcomes refer to the observable patterns of compliance, unit production, and spatial placement that have emerged under each framework. These outcomes are conceptually distinct from policy design (the rules) and market context (the conditions in which the rules operate).

Kuala Lumpur Implementation Patterns

Under Residensi Wilayah, three implementation patterns are visible. First, price clustering at the ceiling: all current RW projects are priced at exactly RM300,000 rather than below, suggesting strategic pricing to the maximum permitted under the policy rather than below this threshold as might be expected for truly affordable housing.

Second, size compression below the minimum: while the RW policy stipulates a minimum unit size of 900 square feet, documented unit sizes range from 800 to 908 square feet, with Residensi Desa Timur, Residensi J Satin (both phases), and Residensi Max II all featuring units of approximately 800 square feet. This discrepancy raises questions about enforcement mechanisms and flexibility in interpretation of size requirements.

Third, and most consequentially, spatial detachment from transit: no RW project sits within a Core TAI Zone of any examined station. Distances range from 0.6 kilometres at Residensi Serina (from MRT Taman Naga Emas) to 4.0 kilometres at Residensi Desa Timur (from LRT Salak Selatan). This spatial distribution pattern undermines the fundamental goal of creating affordable housing within transit-accessible locations.

Selangor Implementation Patterns

Under Rumah Selangorku 3.0, implementation patterns are mixed and partially obscured by data availability. The Lembaga Perumahan dan Hartanah Selangor (LPHS) portal continues to display Selangorku 2.0 projects (approved under previous policy guidelines effective from April 2018 to January 2023), reflecting the early implementation stage of the 3.0 framework.

Within the available evidence, integrated mixed-income projects such as The Netizen demonstrate the design intent of socioeconomic mixing within a single development, with price points ranging from RM210,000 to RM700,000 within the same project. Other developments appear to satisfy obligations through separate affordable projects, and some show no visible affordable component, suggesting compliance through in-lieu mechanisms that are not transparently reported. The implementation record therefore shows greater spatial integration than Kuala Lumpur but inconsistent application across projects.

The implementation contrast is most clearly captured spatially. Voluntary provision in Kuala Lumpur sits outside transit-walkable distance, while mandatory provision in Selangor places affordable units within Primary and Core Zones, though with uneven internal integration. The lack of transparent, publicly available data regarding compliance with affordable housing requirements in both jurisdictions makes comprehensive assessment challenging and suggests a need for enhanced reporting and monitoring mechanisms.

Market Context

The market context is the structural environment in which IZ policies operate, and it is analytically distinct from the policy design and from observed implementation outcomes. Three features of this context shape what each policy can plausibly achieve: price segmentation, affordability thresholds, and supply conditions.

Property Pricing Patterns

The TOD property markets in Kuala Lumpur and Selangor demonstrate significant differences in price ranges and market segmentation. Table 3 presents a comprehensive overview of completed TOD properties in both regions, revealing the stark contrast in pricing structures and market orientation.

Table 3: Price Ranges of Completed Housing in TOD Areas (Malaysia Property Reviews, 2024; iProperty, 2024)

States	Properties	Prices
Kuala Lumpur	Aster Residence, Cheras	RM480,000 to RM756,800
	EkoCheras, Cheras	RM488,000 to RM798,950
	IBN Bukit Bintang	RM1,302,000 to RM3,346,000
	KL Gateway Residences, Bangsar South	RM490,000 to RM1,380,000
	The Netizen, Cheras	RM318,889 to RM670,000
	One Cochrane Residences, Maluri	RM834,704 to RM1,380,000
	B11 Parkland Residence, Cheras	RM400,000 to RM595,555
	Far East, Kuchai Lama	RM480,000 to RM781,750
	Saville, Cheras	RM473,000 to RM830,000
	The Sentral Suites, KL Sentral	RM650,000 to RM1,380,000
	The Pano, Jalan Ipoh	RM414,633 to RM1,450,000
	TTDI Ascencia, Taman Tun Dr Ismail	RM740,000 to RM1,800,000
	V Residence 2, Sunway Velocity	RM820,000 to RM1,400,000
	You City 3, Cheras	RM441,000 to RM659,000
Selangor	D'Sara Sentral, Sungai Buloh	RM277,419 to RM750,000
	MKH Boulevard, Kajang	RM281,111 to RM624,000
	Nexus Kajang	RM359,550 to RM499,750
	SqWhere, Sungai Buloh	RM335,000 to RM787,272
	The Zizz, Damansara Damai	RM342,000 to RM564,000

As shown in Table 3, Kuala Lumpur's TOD property market spans an extraordinary range from RM318,889 (The Netizen, Cheras) to RM3,346,000 (IBN Bukit Bintang), demonstrating significant market segmentation. At the upper end, developments such as IBN Bukit Bintang and TTDI Ascencia command prices exceeding RM1.3 to RM3.3 million, catering exclusively to high-income residents and investors. In contrast, Selangor's completed TOD properties exhibit a more compressed price range from RM277,419 (D'Sara Sentral) to RM787,272 (SqWhere), indicating a market predominantly oriented toward middle-income housing. The Kuala Lumpur market therefore accommodates a luxury segment that Selangor's does not, which raises the cost-of-compliance gap for developers operating in high-value Kuala Lumpur locations.

Affordability Assessment

Assessment of affordability requires contextualisation within local economic conditions. Analysis of household expenditure data from the Department of Statistics Malaysia (DOSM) reveals that housing costs (encompassing expenditure on housing, water, electricity, gas, and other fuels) account for 23.2 per cent of monthly household expenditure in both Kuala Lumpur and Selangor, despite differences in absolute spending. In Kuala Lumpur, this translates to approximately RM1,815 per month from an average household expenditure

of RM7,823, while in Selangor, the figure stands at approximately RM1,571 from an average household expenditure of RM6,770.

Calculating income-to-price ratios for TOD properties reveals a profound affordability gap. In Kuala Lumpur, these ratios range from 14.6 for the most affordable property to an extraordinary 153.7 for premium developments, when compared to annual housing expenditure. In Selangor, the ratios span from 14.7 to 41.7, indicating a slightly less extreme but still substantial affordability challenge. These ratios significantly exceed conventional benchmarks for housing affordability, which typically suggest that housing costs should not exceed 3 to 4 times annual household income. Table 4 summarises the affordability metrics across both regions.

Table 4: Affordability and Supply Metrics Summary

Metric	Kuala Lumpur	Selangor
TOD Property Price Range	RM318,889 to RM3,346,000	RM277,419 to RM787,272
Average Housing Expenditure	RM1,815/month (23.2% of income)	RM1,571/month (23.2% of income)
Income-to-Price Ratio Range	14.6 to 153.7 times annual housing expenditure	14.7 to 41.7 times annual housing expenditure
Existing High-Density Stock	305,833 units	208,117 units
Pipeline Supply	48,652 units (+15.91%)	22,635 units (+10.88%)
Current Overhang	3,194 units	3,011 units

The affordability metrics presented in Table 4 highlight the severe affordability challenges in both regions, with even the most affordable TOD properties requiring financial commitments far exceeding conventional affordability benchmarks. Even policy-defined affordable units therefore remain financially demanding for the income groups the policies nominally serve.

Supply-Demand Analysis

Analysis of residential property supply and projected demand reveals distinct market conditions in the two regions. As shown in Table 4, Kuala Lumpur maintains 305,833 existing condominium and apartment units, with an additional 48,652 units in the development pipeline. This incoming supply represents a substantial 15.91 per cent increase to the current stock, and could potentially satisfy over two and a half years of total housing demand across all property types in the capital, assuming all new demand were directed toward high-density housing.

Selangor presents a more balanced market profile, with 208,117 existing condominium and apartment units and 22,635 units under development. The incoming supply represents a more moderate 10.88 per cent increase to existing stock. Given Selangor's larger population and higher annual household formation rate (estimated at 40,895 new households annually compared to Kuala Lumpur's 18,600), this incoming high-density supply represents a smaller proportion of overall housing demand compared to Kuala Lumpur.

Both regions face challenges related to housing oversupply, as evidenced by current residential overhang figures of 3,194 units in Kuala Lumpur and 3,011 units in Selangor across all property types. These existing overhang conditions, coupled with substantial incoming supply, create market incentives for developers to differentiate through luxury positioning rather than affordable provision, which strengthens the case for binding rather than incentive-based IZ requirements.

DISCUSSION

The empirical findings presented in the previous section provide a comprehensive foundation for understanding how different IZ approaches perform in Malaysian TOD contexts. This discussion synthesises the findings across the three analytical layers (policy design, implementation outcomes, and market context) to draw broader insights about policy effectiveness.

Synthesis of Findings Across the Three Analytical Layers

The results reveal a complex picture of IZ implementation in Malaysian TOD areas. At the level of policy design, the mandatory framework in Selangor provides clear advantages over Kuala Lumpur's voluntary approach in producing predictable affordable housing outcomes. At the level of implementation, Selangor has achieved better integration of affordable housing within actual transit zones, while Kuala Lumpur's affordable housing remains largely disconnected from transit infrastructure. At the level of market context, both regions face profound affordability challenges, but Selangor's tiered pricing approach provides more accessible entry points for diverse income groups. The three layers interact: design choices shape implementation possibilities, and market conditions constrain how either design produces actual housing outcomes.

Comparative Effectiveness of Policy Design

The analysis reveals fundamental differences in how voluntary and mandatory IZ frameworks perform in Malaysian TOD contexts (see Table 2 for detailed comparison of design elements). Kuala Lumpur's voluntary approach through Residensi Wilayah has produced limited affordable housing integration in transit-accessible locations. The concentration of luxury developments near MRT TTDI and significant price disparities in Titiwangsa demonstrate how market forces drive development toward higher-value segments when affordability requirements remain optional.

This limitation manifests particularly in spatial distribution patterns. No examined RW projects are located within primary TOD zones, with developments situated 0.6 to 4.0 kilometres from transit stations. This spatial mismatch undermines fundamental IZ goals in TOD areas, namely ensuring lower and middle-income households access mobility benefits and reduced transportation costs associated with transit proximity. The voluntary approach fails to create socioeconomic integration within transit-accessible locations that would characterise truly inclusive TOD.

Conversely, Selangor's mandatory framework through Rumah Selangorku demonstrates more varied and generally positive outcomes. Developments like The Netizen show successful integration of diverse price points within single projects, creating genuine socioeconomic mixing opportunities in transit-adjacent locations. Mandatory percentage requirements across development zones, coupled with specific unit type and pricing guidelines, provide stronger structural frameworks ensuring affordable housing production regardless of market conditions or developer preferences.

Implementation Challenges and Policy Gaps

Both frameworks demonstrate significant implementation gaps requiring attention. Kuala Lumpur's voluntary approach suffers from insufficient incentives to overcome market forces favouring luxury development in high-value TOD areas. While RW offers development charge exemptions proportionate to affordable housing provision, these incentives prove insufficient for securing affordable housing within prime transit-accessible locations. This suggests voluntary approaches require substantially stronger incentives (Chang, 2009), potentially including density bonuses, expedited approvals, or other high-value concessions (Stacy et al., 2021; Mukhija et al., 2015).

Selangor's mandatory approach faces challenges centred on monitoring, enforcement, and alternative compliance options. Limited public data on compliance levels raises questions about consistent requirement enforcement. Cases like Naluri Residensi highlight how developers may satisfy mandatory requirements through separate affordable housing developments rather than integrated mixed-income projects. The apparent

absence of affordable components in some developments suggests developers utilise alternative compliance mechanisms such as in-lieu fees or off-site production rather than incorporating affordable units within premium developments (Stacy et al., 2021; Carvalho, 2021; Gold, 2016).

Both regions demonstrate common gaps related to location requirements. Neither policy framework includes specific provisions ensuring affordable housing location within genuine walking distance of transit stations. This spatial dimension proves particularly crucial for TOD objectives, as transportation cost savings represent significant benefits of transit-accessible housing. Future policy refinements should consider incorporating maximum distance requirements from transit stations for affordable housing components.

Market Context and Affordability Dynamics

The market context analysis reveals fundamental challenges where even designated "affordable" housing in TOD areas may remain financially inaccessible to target households. Income-to-price ratios exceeding 14 times annual housing expenditure in both regions require financial commitments substantially beyond conventional affordability benchmarks. This gap between policy-defined "affordability" and economic reality questions whether current IZ approaches adequately address lower and middle-income household needs.

This challenge appears particularly acute in Kuala Lumpur, where RM300,000 maximum pricing for RW units represents significant financial burdens for average households. Selangor's tiered pricing structure (RM114,750 to RM229,500 depending on unit type) provides more accessible entry points though still challenging for many households. These findings suggest IZ policies may need deeper affordability requirements for unit portions, potentially through cross-subsidisation mechanisms or public subsidies.

Property value appreciation patterns, particularly the 104 to 128 per cent appreciation of Titiwangsa Sentral units over fourteen years, demonstrate substantial financial benefits accruing to property owners in transit-accessible locations. This appreciation underscores the equity case for IZ in TOD areas, namely ensuring some portion of publicly-created value through transit investment benefits households across income spectrums rather than exclusively higher-income property owners.

The market analysis also reveals significant stratification within TOD areas, with dramatic price differences between affordable and market-rate units, particularly in Kuala Lumpur. Chava and Newman (2016) and Baker (2016) raise concerns that IZ in TOD contexts often results in token compliance, where a few affordable units are appended to luxury developments without achieving the socioeconomic diversity envisioned in inclusive urban planning frameworks. More effective policies might consider requiring a broader spectrum of price points, including "missing middle" housing that serves moderate-income households, to create genuinely diverse TOD communities.

Lessons for Policy Design

The comparative analysis yields several insights for enhancing IZ effectiveness in TOD areas. First, mandatory frameworks provide greater certainty in affordable housing production but require robust monitoring and enforcement mechanisms. Second, spatial integration requirements within policies are essential for ensuring transit accessibility benefits rather than merely satisfying numerical targets. Third, socioeconomic integration within individual developments requires careful policy design limiting alternative compliance options that may undermine mixed-income community goals.

The research also highlights the importance of calibrating affordability thresholds to local economic conditions and considering tiered income targeting to serve diverse household types. Finally, transparency and data accessibility regarding IZ implementation should be enhanced to support effective policy evaluation and accountability through public reporting requirements for developers and housing authorities.

CONCLUSION

Based on the comprehensive comparative analysis presented in this study, several key conclusions emerge

regarding the effectiveness of inclusionary zoning policies in transit-oriented development areas of Kuala Lumpur and Selangor. These findings have important implications for policymakers, urban planners, and housing advocates working to enhance housing affordability in rapidly developing Malaysian cities.

Summary of Research Outcomes

This comparative analysis demonstrates that mandatory inclusionary zoning policies create stronger foundations for affordable housing provision in transit-oriented development areas than voluntary approaches. However, policy effectiveness depends not merely on mandatory versus voluntary frameworks, but on specific design elements, implementation mechanisms, and enforcement strategies shaping how policies function in practice.

The research reveals several critical insights for policymakers working to enhance housing affordability in TOD areas. Mandatory IZ frameworks provide greater certainty in affordable housing production compared to voluntary approaches, with Selangor's experience demonstrating how clear percentage requirements and unit specifications create more predictable frameworks for developers and housing authorities. This predictability proves particularly valuable in transit-adjacent locations where market pressures often drive development toward higher-income segments without regulatory intervention.

Spatial integration of affordable housing within TOD areas requires specific location criteria within IZ policies. The substantial distances between Kuala Lumpur's affordable housing projects and transit stations illustrate how general affordability policies may fail to secure intended transit accessibility benefits. Socioeconomic integration within individual developments requires careful policy design that limits alternative compliance options, as flexibility mechanisms like in-lieu fees may increase total affordable unit production but undermine mixed-income community goals within TOD areas.

Prioritised Policy Recommendations

Based on these findings, this study recommends the following policy enhancements for Malaysian cities developing inclusive TOD strategies. The recommendations are ranked by feasibility, with reforms requiring the least institutional reconfiguration appearing first.

First, strengthen mandatory requirements with monitoring and reporting infrastructure. The most feasible immediate reform is to extend Selangor's mandatory model and equip it with public compliance reporting. This reform requires no new policy instrument, only the operationalisation of existing requirements through transparent data publication on per-project compliance, pricing adherence, and unit type delivery. Kuala Lumpur's voluntary framework should be reviewed for conversion to a mandatory basis given that incentive-only provision has failed to secure transit-accessible affordable units.

Second, introduce maximum transit-distance requirements for affordable units. This reform operates through existing planning approval channels and is therefore highly feasible. A binding rule requiring affordable units to sit within a defined distance from transit stations, for example 400 metres for the Primary share and 800 metres for the Core share, would close the spatial gap visible in the Kuala Lumpur cases without requiring new legislative instruments. The rule could be embedded in development order conditions for projects within designated TOD corridors.

Third, reduce reliance on alternative compliance in high-value transit zones. Restricting in-lieu payments and off-site provision within TOD areas would protect the socioeconomic mixing objective from being substituted by separate affordable developments. Permitting alternative compliance only outside TOD corridors, or only where a published shortage justifies it, would preserve the flexibility argument while preventing erosion of the on-site mixing goal.

Fourth, recalibrate affordability thresholds to local economic conditions. Both frameworks define affordability in absolute pricing terms (RM300,000 in Kuala Lumpur, tiered ceilings in Selangor) that exceed conventional household income benchmarks. A periodic recalibration tied to household income data, with tiered targeting

for lower-income groups, would address the gap between policy-defined and economically realistic affordability. This reform is ranked lower because it requires inter-agency coordination on income data and may face resistance from developers concerned about pricing constraints.

Fifth, enhance transparency in implementation reporting. Public reporting on compliance pathways, unit delivery, and resident demographics would support both evaluation and accountability. This reform is the longest-horizon item because it requires the development of standardised reporting templates and data infrastructure across federal, state, and local agencies. While important, it is ranked last because its benefits depend on prior implementation of the four reforms above.

Broader Implications and International Contribution

The Malaysian comparison contributes to three ongoing international debates on inclusionary zoning in transit-oriented development.

First, on the voluntary versus mandatory question, the Malaysian evidence aligns with North American and European findings that voluntary frameworks underdeliver in high-value markets (Schuetz et al., 2007; Mukhija et al., 2010; Stacy et al., 2021), but it extends those findings to a Southeast Asian context characterised by federal-state institutional fragmentation. The Kuala Lumpur and Selangor contrast within a single metropolitan region offers a natural experiment that is difficult to replicate in jurisdictions with more uniform housing governance.

Second, on the spatial integration question, the Malaysian cases sharpen an underexplored issue in the international literature. Most IZ research focuses on production quantity, with spatial placement treated as secondary (Li & Guo, 2020; Chava & Newman, 2016). The 0.6 to 4.0 kilometre detachment of Residensi Wilayah units demonstrates that production targets and spatial integration are separable outcomes, and that policy designs without explicit location criteria cannot be assumed to deliver transit-accessible affordable housing.

Third, on the alternative compliance question, the Malaysian record contributes a cautionary case to a debate that has been dominated by Anglo-American examples (Carvalho, 2021; Gold, 2016). The apparent use of separate-site provision in Selangor suggests that even mandatory frameworks erode toward token compliance when alternative pathways are available, and that the institutional question is not merely whether to mandate but how tightly to constrain the pathways through which the mandate is satisfied.

Beyond these three specific contributions, the Malaysian case suggests that inclusive TOD in rapidly urbanising Southeast Asian contexts requires attention not only to housing policy but to the integration of housing, transit, and land use governance across jurisdictional boundaries. The MRT TTDI case, where development displaces across the Kuala Lumpur and Selangor boundary, illustrates how regulatory asymmetry within a single transit corridor can undermine policy objectives in ways that single-jurisdiction studies cannot fully observe. As Malaysian cities continue developing transit networks and TOD strategies, these insights can inform more inclusive approaches ensuring transit-accessible locations benefit residents across income spectrums.

Future Research Directions

Future research should examine longer-term implementation outcomes as policies mature, particularly for Selangor's recently implemented Rumah Selangorku 3.0 framework. Longitudinal studies could assess whether early positive trends in socioeconomic integration continue over time and how property values in mixed-income TOD developments evolve compared to luxury-only projects.

Research incorporating stakeholder perspectives through primary data collection would provide valuable insights into the experiences of residents, developers, and planning officials with different IZ approaches. This would specifically address the three secondary data limitations identified in Section 3.4: enforcement behaviour through interviews with planning officials, developer strategy through interviews with industry

actors, and household affordability experience through resident surveys. Understanding implementation challenges from multiple perspectives could inform more effective policy design and enforcement strategies.

Comparative analysis extending to other Malaysian cities implementing TOD strategies, such as Penang and Johor Bahru, could assess the transferability of findings across different urban contexts and market conditions. Additionally, examining how Malaysian approaches compare with inclusive TOD strategies in other Southeast Asian cities could provide broader regional insights. Research should also investigate the fiscal impacts of different IZ approaches on local governments and the optimal balance between on-site affordable housing production and alternative compliance mechanisms that may generate revenue for affordable housing development elsewhere.

Final Reflections

This study demonstrates that creating truly inclusive transit-oriented development requires more than market-based approaches or minimal regulatory intervention. The comparative analysis of Kuala Lumpur and Selangor reveals that while mandatory inclusionary zoning frameworks provide stronger foundations for affordable housing provision, their success depends on comprehensive policy design addressing spatial integration, socioeconomic mixing, enforcement mechanisms, and affordability calibration.

The findings underscore the importance of viewing inclusionary zoning not merely as a housing policy tool, but as a mechanism for ensuring that public investments in transit infrastructure generate broadly shared benefits rather than contributing to exclusionary development patterns. As Malaysian cities continue to invest heavily in transit infrastructure, the lessons from this comparative analysis can help guide the development of more equitable and inclusive urban communities.

The challenge facing Malaysian policymakers is to learn from both the successes and limitations observed in Kuala Lumpur and Selangor to develop refined approaches that can achieve the promise of inclusive transit-oriented development. By strengthening policy frameworks, enhancing implementation mechanisms, and maintaining focus on spatial and socioeconomic integration, Malaysian cities can serve as models for other rapidly developing regions seeking to balance economic growth with social equity in their urban development strategies.

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REFERENCES

1. Abd Aziz, W. N. A. W., Hanif, N. R., Aini, A. M., & Yaacob, M. A. (2018). Housing policy in Malaysia: Bridging the affordability gap for medium-income households. In *Housing Policy, Wellbeing and Social Development in Asia* (pp. 123-138). Routledge.
2. 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.
3. Azlan, M. H., Zainudin, A. Z., Rahmat, N., Azmi, F. A. M., Berahim, N., Samsudin, S., ... & Harumain, Y. A. S. (2025). Inclusionary Zoning as a Tool for Social Sustainability: A Systematic Review of Urban Housing Policy Outcomes. *Sustainable Futures*, 100648.
4. Baker, D. M. (2016). Building inclusive neighborhoods: assessing the socio-spatial implications of transit-oriented development in St. Louis, Missouri (Doctoral dissertation, University of Illinois at Urbana-Champaign).
5. Calthorpe, P. (1993). *The next American metropolis: Ecology, community, and the American dream*. Princeton Architectural Press.
6. Carvalho, N. (2021). Private Market Solutions to Private Market-Induced Problems: The Limits of Inclusionary Zoning in Toronto.

7. Chang, N. (2009). Inclusionary zoning for the provision of affordable housing: A comparative analysis of Vancouver and San Francisco. School of Urban & Regional Planning, Queen's University.
8. Chava, J., & Newman, P. (2016). Stakeholder deliberation on developing affordable housing strategies: Towards inclusive and sustainable transit-oriented developments. *Sustainability*, 8(10), 1024.
9. Fang, Q., Inoue, T., Li, D., Liu, Q., & Ma, J. (2023). Transit-oriented development and sustainable cities: a visual analysis of the literature based on CiteSpace and VOSviewer. *Sustainability*, 15(10), 8223.
10. Fischer, P., & Patton, J. (2001). Expanding Housing Options through Inclusionary Zoning. *Ideas at Work*, 3, 1-8.
11. Gold, A. R. (2016). Inclusionary Housing: The Impact of Program Flexibility on Program Success (Doctoral dissertation, Georgetown University).
12. Khazanah Research Institute. (2015). Making Housing Affordable. Kuala Lumpur: Khazanah Research Institute.
[https://www.krinstitute.org/assets/contentMS/img/template/editor/_FINAL_Full_Draft_KRI_-_Making_Housing_Affordable__with_hyperlink__220815%20\(1\).pdf](https://www.krinstitute.org/assets/contentMS/img/template/editor/_FINAL_Full_Draft_KRI_-_Making_Housing_Affordable__with_hyperlink__220815%20(1).pdf)
13. Li, F., & Guo, Z. (2020). Will mandatory inclusionary housing create mixed-income communities? Evidence from London, UK. *Housing Policy Debate*, 30(6), 972-993.
14. Mohd Abdul Kadir, J., Subramaniam, G., & Ghazali, I. (2020). Housing affordability among middle-income earners in Selangor, Malaysia. *Environment-Behaviour Proceedings Journal*, 5(15), 289-293.
<https://doi.org/10.21834/ebpj.v5i15.2514>
15. Muhammad, A. A., Burhan, B. B. H., & Safian, E. E. B. M. (2024). Price Model for Transit-Oriented Developments in Kuala Lumpur, Malaysia. *Real Estate Management and Valuation*, 32(3), 20-30.
16. Mukhija, V., Das, A., Regus, L., & Tsay, S. S. (2015). The tradeoffs of inclusionary zoning: what do we know and what do we need to know?. *Planning Practice and Research*, 30(2), 222-235.
17. Mukhija, V., Regus, L., Slovin, S., & Das, A. (2010). Can inclusionary zoning be an effective and efficient housing policy? Evidence from Los Angeles and Orange Counties. *Journal of Urban Affairs*, 32(2), 229-252.
18. Nasir, Z. A. (2022). The effects of macroeconomics policies on housing affordability in Malaysia (Doctoral dissertation, Thesis. Universiti Utara Malaysia, Sintok).
19. Osman, M.M., Shuid, S., Bachok, S., & Khalid, N. (2017). Factors influencing housing prices among local people: a study in Perak, Malaysia. *Advanced Science Letters*, 23(1), 165-168.
20. Read, D. C. (2009). The structure and potential economic effects of inclusionary zoning ordinances. *Real Estate Issues*, 34(2), 1.
21. Schuetz, J., Meltzer, R., & Been, V. (2007). The Effects of Inclusionary Zoning on Local Housing Markets: Lessons from the San Francisco, Washington, DC, and Suburban Boston Areas. Furman Center for Real Estate and Urban Policy (New York University): Working Paper, 07-05.
22. Stacy, C. P., Morales-Burnett, J., Noble, O., Hodge, T., & Komarek, T. (2021). Inclusionary Zoning: How Different IZ Policies Affect Tenant, Landlord, and Developer Behaviors. Urban Institute.
23. Tan, T. H. (2020). Housing Affordability in Kuala Lumpur: A Critical Review. *Journal of Urban Development*, 32(1), 14-28.
24. Yap, J. B. H., Chua, C. Y., & Skitmore, M. (2021). Towards sustainable mobility with transit-oriented development (TOD): understanding greater Kuala Lumpur. *Planning Practice & Research*, 36(3), 314-336.
25. 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.
26. Zainal, A. (2019). Transit-Oriented Development in Malaysia: An Assessment of the Current State and Future Potential. *International Journal of Urban Planning*, 45(3), 33-45.