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RESEARCH ARTICLE

Assessing the Impact of Setback Enforcement on Commercial Property Values in Ilorin Metropolis, Nigeria

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Abstract

Setbacks are critical urban planning tools aimed at promoting safety, accessibility, and environmental quality. This study explores the economic impact of setback compliance on commercial property values in Ilorin Metropolis, Nigeria. A quantitative approach was employed using structured questionnaires administered to 53 purposively selected commercial properties across major districts affected by setback enforcement. Key variables included property size and rental values before and after setback clearance. The analysis used a simple linear regression model, with rental value change as the dependent variable and property area as the independent variable. Results showed a modest R^2 value of 0.149, suggesting limited explanatory power, though the Durbin-Watson statistic (2.567) indicated no autocorrelation. Despite the low R^2, the model's ANOVA significance level (0.004) affirmed its reliability. Findings revealed a significant positive relationship between setback compliance and commercial property value. Properties that complied with setback regulations tended to have higher market values, attributed to improved aesthetics, accessibility, and increased customer patronage. The study concludes that enforcing setback regulations not only promotes urban orderliness but also enhances the economic value of commercial properties. It recommends increased enforcement and public awareness to support compliance, contributing to sustainable urban development and economic growth.

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1.0 INTRODUCTION

Urban development in Nigeria is at a critical juncture (Fatusin, 2015; Obianyo *et al.*, 2021), where the enforcement of planning regulations intersects with the dynamics of property markets. Among these regulations, building setbacks are the mandated distances between structures and property boundaries. It can be seen as part of urban design qualities; this, according to Hamidi *et al.* (2020), has the potential to contribute to comfort, engagement, sense of safety, and overall neighbourhood satisfaction.

Setbacks are integral to urban planning, serving to provide light, air, privacy, and safety while also facilitating infrastructure development and environmental management. In the Nigerian context, the enforcement of setback regulations has been inconsistent (Odunola *et al.*, 2020), leading to varied urban landscapes and property valuations. Ilorin, the capital of Kwara State, exemplifies this scenario, where rapid urbanization and economic activities have intensified the demand for commercial spaces, often at the expense of regulatory compliance.

Despite the existence of planning regulations, non-compliance with setback requirements is prevalent in Ilorin Metropolis (Kwara State Government, 2024). This non-compliance not only undermines urban aesthetics and functionality but also poses questions about its impact on commercial property values. While some property developers may perceive regulatory adherence as a cost (Wong, Chan & Yu, 2011), others argue that compliance enhances property value and marketability (Sharmaapril, 2025). The lack of

empirical studies examining this relationship in Ilorin creates a knowledge gap that this research seeks to fill.

Previous studies have explored the effects of urban planning regulations on property values in various Nigerian cities. For instance, Ekemode (2020) analyzed the impact of urban regeneration on commercial property values in Osogbo. The study established that the urban regeneration programme had significant impact on the rental values of commercial properties in Osogbo. Similarly, Muoneke (2024) explores the dynamics of housing demand preferences in Ilorin, Nigeria, which reflects the importance of government policies related to land tenure, housing finance, and urban planning in shaping housing demand. However, specific investigations into how setback compliance influences commercial property values are scarce, necessitating focused research in this area.

Ilorin Metropolis, comprising Ilorin East, Ilorin West, and Ilorin South Local Government Areas, has experienced significant urban growth, leading to increased commercial activities and property development. This growth has often occurred without strict adherence to planning regulations, resulting in challenges such as congestion, inadequate infrastructure, and environmental degradation.

The primary aim of this research is to analyze the effect of setback compliance on commercial property values in Ilorin Metropolis, thereby contributing to the discourse on sustainable urban development and effective land use regulation. Understanding the relationship between setback compliance and commercial property values is crucial for policymakers, urban planners, and real estate stakeholders. This study seeks to provide empirical evidence on this relationship in Ilorin Metropolis, offering insights that could inform better enforcement of planning regulations and promote sustainable urban growth.

2.0 LITERATURE REVIEW

2.1 Concept of Setback on Property

The concept of setback emerged as a significant urban planning strategy with the enactment of the 1916 New York Zoning Resolution, marking its historical importance (Barr, 2023). According to Kim and Cho (2019), a setback refers to the legally mandated distance between a building or site and adjacent features such as roads, fire lanes, property boundaries, neighboring plots, open yards, or residential areas. This spatial regulation, typically enforced by state or local authorities, is designed to create a buffer between potentially hazardous or pollution-generating sites and residential zones. The specific parameters for setbacks are usually codified within local or state regulations.

Fenster (2005) expands this understanding by describing setback as regulatory measures that mandate construction projects to maintain a specified landward distance from a predefined coastal reference point. This approach aims to establish a safety buffer between potentially vulnerable coastal developments and natural hazard zones, thereby mitigating the risk of damage during environmental events.

Setbacks are also characterized as building restrictions imposed on property owners, with the primary goal of maintaining adequate open space around structures to enhance safety, privacy, and aesthetics (Land Central, 2018). As part of broader urban planning efforts, setbacks help manage spatial organization and improve the visual appeal of urban landscapes (Zeeshan, 2024).

In Nigeria, setbacks form a critical component of urban planning regulations. For instance, the Federal Housing Authority (2024) prescribes specific setback distances according to land use types to ensure orderly development and enhance safety within urban settings. This regulatory framework reflects the role of setbacks in maintaining urban functionality and aesthetic coherence.

2.2 Setback Regulations on Commercial Properties

Recent studies have examined the implications of setback non-compliance and its impact on urban development in various Nigerian cities. Ikpahwore, Galadima, and Bello (2023) investigated building setbacks in the Bayan Dutse Neighborhood, Kaduna Metropolis, observing widespread violations of setback standards. Similarly, a study by Akingbade *et al.* (2022) in Ile-Ife using remotely sensed data identified 6,284 buildings that contravened road setback regulations along federal and state roads. Of these, 3,975 were permanent structures (63.3%), while 2,309 (36.7%) were temporary. These contraventions

predominantly followed linear patterns along major roads, reflecting urban congestion and planning inefficiencies.

Okafor (2020) explored the environmental implications of non-compliance with road setback standards in Awka Capital Territory. His findings revealed significant social, physical, economic, and health challenges, including increased crime rates, urban sprawl, traffic congestion, pollution, business setbacks, and health risks like accidents and psychological trauma. This underscores the critical need for stricter enforcement to mitigate environmental hazards and enhance community well-being.

Adejumo and Badiru (2024) found that setback compliance varied by demographics, with males more likely to adhere to standards. In low-density areas, setback spaces were often converted into security posts, while medium- and high-density zones saw these spaces repurposed for shops.

In Ilorin, Otunola and Adebayo (2021) analyzed land-use regulations, highlighting that poor enforcement and low public awareness led to chaotic urban development. They advocated that effective setback regulations could boost property values and urban order. Abdulmalik and Udoekanem (2022) further observed that rental values of commercial complexes increased over time, influenced by location safety, building visibility, and lease terms. However, there is yet to be a study that assesses the impact of setback compliance on commercial property values in Ilorin metropolis.

2.3 Relationship between Setback Clearance and Commercial Property Value

The relationship between setback compliance and commercial property value is complex, involving both direct and indirect impacts on market appeal and financial performance. Adherence to setback regulations improves property accessibility, safety, and aesthetic quality, all of which are key drivers of value appreciation (Adejumo *et al*., 2024; Jimoh & Olagunju, 2022; Adebara et al., 2023). Compliant properties benefit from better infrastructure planning, reduced congestion, and enhanced visual harmony, making them more attractive to investors and tenants. This results in higher rental yields and long-term value retention, particularly in urban commercial zones.

Conversely, non-compliance with setback standards leads to various infrastructural and environmental challenges that undermine property values. According to Raji and Attah (2017), issues such as poorly lit and ventilated interiors, limited access roads, inadequate parking spaces, and safety risks are prevalent in non-compliant areas. These deficiencies contribute to urban disorder and discourage sustainable growth, diminishing property values and investor confidence.

Additionally, Obinna *et al.* (2018) found a weak but positive correlation between road infrastructure improvements and rental values, emphasizing that the benefits of urban development are maximized when properties adhere to setback standards. Thus, setback compliance is crucial for maximizing the economic gains of infrastructure investments and ensuring sustainable urban development.

2.4 Effect of Setback Clearance on Commercial Property Value

The impact of setback clearance on commercial property values is well-documented in literature, reflecting its importance for accessibility, safety, and aesthetic quality. Compliance with setback regulations enhances infrastructure planning, reduces congestion, and improves visual appeal, making commercial properties more attractive to investors and tenants. In Akure, Afolami *et al.* (2021) found that only 37% of buildings met setback requirements, resulting in inadequate parking and poor landscape quality, which deterred investors and reduced rental income. Similarly, Adedeji and Fadamiro (2011) observed that non-compliance in Ogbomoso led to disorganized development patterns, affecting urban aesthetics and property values. Compliant properties, by contrast, benefited from better functionality and higher market values.

The positive effects of proper setback clearance extend to broader urban contexts. Jaeger (2006) asserts that land-use regulations often boost property values through "amenity effects" and "scarcity effects," as well-regulated spaces are more organized and appealing. Matthews (2006) found that access to commercial centers and universities correlates with higher sales prices, highlighting how strategic setbacks enhance property desirability. Ping et al. (2019) also noted that factors like transportation, quality design,

and land-use policies significantly influence commercial property values. In a related study, Yusuf *et al.* (2021) demonstrated that proximity to market hubs affects rental values, with properties closer to commercial zones commanding higher rents.

In Ilorin Metropolis, anecdotal evidence suggests that setback-compliant properties experience better accessibility and infrastructure, boosting their market performance. Conversely, non-compliance often results in legal issues, restricted access, and decreased tenant interest, underscoring the importance of effective setback enforcement for urban property value optimization.

3.0 THE STUDY AREA

Ilorin Metropolis, the capital of Kwara State in North-Central Nigeria, serves as the administrative, economic, and cultural hub of the state. Strategically located between the densely populated Southwest and the vast hinterlands of Northern Nigeria, Ilorin enjoys a unique position as a transitional city with growing commercial significance. The metropolis comprises three Local Government Areas: Ilorin West, Ilorin East, and Ilorin South. Each contributing to the city's spatial and economic expansion, with an estimated population exceeding one million, the city continues to experience rapid urbanization and real estate development, driven by its strategic location along major transportation corridors such as the Lagos–Abuja highway.

Historically a confluence of Yoruba, Hausa, Fulani, and Nupe cultures, Ilorin presents a vibrant urban mosaic, reflected in its architecture, land use patterns, and commercial activity. In recent years, the city has witnessed significant transformations in its urban fabric, spurred by increased demand for commercial spaces, particularly in areas such as Tanke, GRA, Challenge, Unity Road, and Fate. These zones have become hotspots for real estate investment, often characterized by informal developments and planning violations.

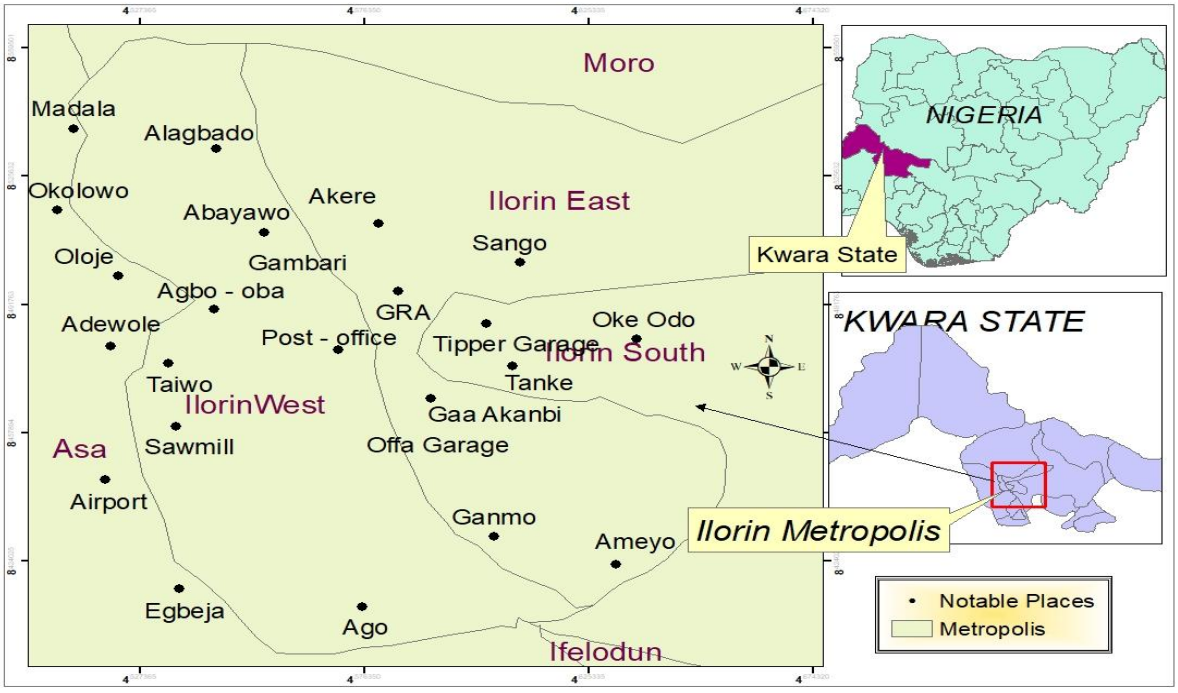

Figure 1. Map showing the Study Area
Source: ESRI Sharpfile, 2025.

4.0 METHODOLOGY

This study employed a cross-sectional survey research design, drawing data primarily from field surveys conducted across selected commercial districts within Ilorin Metropolis. The main instrument of data collection was a structured questionnaire, which was administered to commercial property owners and occupants in areas notably affected by building setback clearances. These areas -Tanke, Pipeline Road,

Gambari-Ojaoba, Murtala-Sango, Alfa Yahaya, and Al-Hikmah University axis, fifty-three (53) properties were selected through purposive sampling based on their visibility and experience with setback enforcement by urban planning authorities. The data collected from the field survey were subjected to quantitative analysis to assess the impacts of road setback clearance on commercial property value within Ilorin Metropolis.

The key variables considered in the study include the size of the properties before and after setback clearance as well as the annual rental values of these commercial properties before and after the clearance. The primary objective was to evaluate whether setback compliance has a statistically significant effect on commercial property values, with emphasis on rental incomes as a proxy for market value. To analyze the relationship between setback clearance and rental values, the study adopted a simple linear regression model**,** using the Ordinary Least Squares (OLS) estimation technique. In this context, the area of property affected by setback clearance served as the independent variable, while the change in annual rental value due to the clearance was modeled as the dependent variable. The theoretical framework of the model is presented as follows:

$$y = \beta_0 + \beta x + \boldsymbol{\varepsilon} \text{ ---------- (1)}$$

Where:

- y= Change in rental value (dependent variable)
- x = Area of property taken due to setback clearance (independent variable)
- β_0= Intercept term
- βx = Regression coefficient
- $\boldsymbol{\varepsilon}$ = Error term

To align with the semi-logarithmic nature of property valuation models, the empirical model was specified as:

$$LnCPV = \beta_0 + \beta APT + \boldsymbol{\varepsilon} \text{ ---------- (2)}$$

Where:

- LnCPV = Natural logarithm of the change in property value due to setback clearance
- APT = Area of Property Taken as a result of setback clearance
- β_0= Intercept
- β= Coefficient of the independent variable
- ε = Error term

The regression analysis was complemented by diagnostic tests to validate model adequacy. Specifically, the R-squared statistic was used to assess the goodness-of-fit, indicating the proportion of variance in property value changes explained by setback-related property loss. Furthermore, the Durbin-Watson (D-W) statistic was applied to evaluate the presence of autocorrelation among residuals, which could affect the reliability of parameter estimates. This methodological approach enables a robust assessment of the economic impact of urban planning enforcement mechanisms, particularly setback regulations, on the commercial real estate market in Ilorin Metropolis.

5.0 RESULTS AND DISCUSSION

Table 1. Changes in property sizes and rental value after setback clearance

	N	Minimum	Maximum	Mean
Change in property value as a result of setback clearance (₦)	53	-80,000.00	60,000.00	-5,102
Area of property taken through setback clearance (square metre)	53	0.02	8.71	1.28
Valid N (listwise)	53			

Source: Author's Analysis, 2025

Table 2.Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.386[a]	0.149	0.132	0.73681	2.567

a. Predictors: (Constant), Log of area of property taken through setback clearance (square metre)
b. Dependent Variable: Log of change in property value as a result of setback clearance (₦)
Source: Author's Analysis, 2025

Table 3.ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.833	1	4.833	8.903	0.004
	Residual	27.687	51	.543		
	Total	32.520	52			

Source: Author's Analysis, 2025

Table 4. Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.918	0.123		80.500	0.000
	Log of area of property taken through setback clearance (square metre)	-0.130	0.044	-0.386	-2.984	0.004

Source: Author's Analysis, 2025

Specifically, the study evaluated changes in both property sizes (measured in square metres) and corresponding variations in annual rental values of the affected commercial properties, which were primarily retail shops and small business premises.

To satisfy the assumptions underpinning regression analysis most notably the assumption of normality, the data were transformed using the natural logarithm (ln) function. This transformation ensured that the distributions of the variables were approximately normal and suitable for parametric statistical inference. The results of the descriptive analysis are presented in Table 1, while the regression outputs are detailed in Tables 2 to 4.

The descriptive statistics (Table 1) reveal the average effects of setback clearance on rental values and property sizes. The mean change in rental value was estimated at –₦5,102, indicating a general decline in commercial property income following enforcement of setback regulations. However, the data also demonstrated a dual impact: while many commercial properties experienced reductions in rental income due to decreased usable floor area, some properties recorded increased values post-clearance. This positive effect was largely attributed to improvements in physical infrastructure or aesthetic enhancements resulting from compliance with urban planning standards.

For instance, rental values declined by as much as ₦80,000 per annum in some locations, while others witnessed increments of up to ₦60,000 per annum. Such contrasting outcomes highlight the complexity of property market responses to planning interventions and underscore the necessity of location-specific assessments.

In terms of land area, the study found that setback clearance resulted in an average reduction of 1.28 m^2 per property. To determine the statistical relationship between the extent of property affected (Area of Property Taken – APT) and the change in rental value (CPV), a simple linear regression model was employed. The model summary is provided in Table 2.

The coefficient of determination (R^2) was calculated at 0.149, suggesting that approximately 14.9% of the variation in commercial rental values can be explained by reductions in property size caused by setback clearance. The remaining 85.1% is likely attributable to other structural, locational, or market-based variables not explicitly included in the model. Moreover, the Durbin-Watson statistic was estimated at 2.567,

indicating the absence of first-order autocorrelation in the residuals and confirming the validity of the model's estimates.

The overall significance of the regression model was evaluated using the F-statistic, which was reported in Table 3. The calculated F-value of 8.903 with a corresponding p-value of 0.004 suggests that the model is statistically significant at the 5% level of significance ($\alpha = 0.05$). This confirms that the model explains a statistically meaningful portion of the variation in rental values as influenced by setback clearance.

Table 4 provides the regression coefficient for the independent variable (APT). The result shows that the coefficient is statistically significant ($p = 0.004$), reinforcing the finding that changes in property size due to setback compliance have a measurable effect on rental income. Specifically, the regression coefficient indicates that a 1% reduction in property size leads to an estimated 0.13% decline in rental value, all other factors held constant. The empirical model derived from the analysis is expressed in Equation (3):

$$LnCPV = 9.918 - 0.13APT \quad \text{----------(3)}$$

This result affirms the centrality of spatial dimensions in property valuation and investment outcomes. The findings suggest that enforcement of urban planning regulations, particularly those related to setback clearance, can significantly influence the economic performance of commercial real estate assets.

The study found that a 1% reduction in property size due to setback clearance leads to a 0.13% decline in rental value. This finding is consistent with the economic theory of land rent, which posits that property value is a function of its utility, size, location, and accessibility (Alonso, 1964). A reduction in physical area typically reduces the functionality of commercial premises, thereby diminishing their rental appeal and value. This is particularly true in densely built urban areas like Ilorin, where commercial properties often operate under high demand for limited space. Though a study by Raji et al. (2017) noted that several problems do arise from non-compliance with building setback regulations. Similarly, Bassey, Eteng, and Agwu (2023), in a study conducted in Cross River State, found that property and land values tend to increase in areas with expanding transportation networks. This connotes the importance of compliance with setbacks.

The heterogeneous outcomes observed, ranging from rental reductions of up to ₦80,000 per annum to gains of ₦60,000 per annum, highlight the context-specific nature of urban planning impacts. These variations can be attributed to differences in location desirability, tenant type, and subsequent improvements made by property owners after setback enforcement. In contrast to uniformly negative portrayals of planning compliance often found in popular discourse, this study aligns with Oyalowo (2022), which emphasizes that official, institutional planning processes tend to facilitate the growth of upscale or luxury real estate.

Moreover, the mean reduction of 1.28 m² due to setback clearance might seem marginal in absolute terms, yet it exerts a statistically significant impact on value. This supports the assertion of Abdulla, Ibrahim, and Al-Hinkawi (2023) that commercial zones with good integration and wider roads tend to command higher prices, while narrow local roads generally have lower prices.

In the context of Ilorin, which has experienced rapid growth across different sectors (Idrees *et al.*, 2020); the implementation of planning regulations like setback enforcement remains contentious. While urban planning authorities aim to sanitize development patterns, ensure safety, and preserve right-of-way corridors, such actions are often perceived by property owners as punitive, especially when they result in demolition or structural adjustments. The negative perception persists partly due to inadequate sensitization and inconsistent enforcement.

The present study brings empirical clarity to this debate. It shows that while some property owners may suffer economic losses, others may benefit, depending on the post-clearance response, either through upgrading the structure or capitalizing on improved visibility and accessibility. More so, this study contributes to the relatively sparse empirical literature examining the intersection of land use regulation, urban planning, and commercial property valuation in secondary Nigerian cities. While several studies have

focused on metropolitan areas like Lagos, Abuja, and Ibadan, there remains limited quantitative evidence from Ilorin. The results, therefore, fill a notable gap and offer a locally grounded perspective on the valuation effects of spatial planning enforcement.

The study's findings have practical implications for urban planners and policy-makers. First, it highlights the need for impact assessments before implementing setback clearance, particularly in commercial corridors where loss of space directly affects income. Second, it suggests that compensatory frameworks or redevelopment incentives could mitigate adverse effects and foster greater stakeholder cooperation. Third, the divergent effects observed across the sample signal a need for context-sensitive enforcement rather than blanket regulations.

6.0 CONCLUSION AND RECOMMENDATIONS

This study examined the impact of setback compliance on commercial property values in Ilorin Metropolis, with particular attention to how reductions in property size due to regulatory enforcement influence rental income. The findings revealed a statistically significant negative relationship between the size of property lost through setback clearance and subsequent changes in rental value. Specifically, a 1% reduction in property size corresponded to a 0.13% decrease in annual rental value, underscoring the economic implications of land use regulation in commercial corridors.

Despite the average rental value loss of ₦5,102, the results were not uniformly negative. Some property owners experienced rental increases following setback clearance, primarily due to enhancements in building quality or improved visibility and accessibility. This mixed outcome highlights the complexity of urban planning impacts, shaped by contextual factors such as property location, tenant type, and post-clearance adaptation strategies.

By situating these results within the broader scholarly discourse, the study offers fresh empirical evidence from a secondary Nigerian city. The findings pointed out the need for urban planners, policymakers, and real estate stakeholders to adopt more inclusive, context-sensitive approaches to land use regulation and compliance enforcement.

Based on the study's findings, urban planning authorities should conduct socio-economic impact assessments before implementing setback clearances, especially in commercial zones. Compensatory incentives like tax reliefs or grants can ease compliance and mitigate losses. Stakeholder sensitization is crucial to foster cooperation and understanding. Setback enforcement should align with urban renewal initiatives to enable property redevelopment and value recovery. Robust land use and property data systems are needed to support evidence-based decisions. Future research should adopt multivariate models to explore broader determinants of rental value. A participatory, balanced approach will ensure spatial order while safeguarding livelihoods and promoting inclusive urban development.

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Appendix A: Changes in property sizes and rental values after setback clearance

Property ID	Area/size of property taken (m^2)	%APT	Change in Rent (₦)	%CPV
1	0.02	0.40	-80,000	40.00
2	1	11.11	-50,000	14.29
3	0.02	0.40	-50,000	20.00
4	0.02	0.40	-50,000	25.00
5	1	11.11	-50,000	14.29
6	0.02	0.40	-50,000	25.00
7	0.02	0.40	-50,000	25.00
8	0.02	0.40	-50,000	25.00
9	1	11.11	-30,000	8.57
10	1	11.11	-30,000	8.57
11	0.02	0.40	-50,000	25.00
12	1	11.11	-50,000	20.00
13	0.02	0.40	-50,000	25.00
14	0.02	0.40	-50,000	25.00
15	1	11.11	50,000	25.00
16	0.02	0.40	-50,000	25.00
17	1	11.11	-20,000	8.00
18	0.02	0.40	-50,000	25.00
19	0.02	0.40	-30,000	16.67
20	0.02	0.40	-80,000	40.00
21	0.02	0.40	20,000	33.33
22	1	11.11	-10,000	6.67
23	0.02	0.40	20,000	33.33

24	0.02	0.40	20,000	33.33
25	4.02	44.67	10,000	16.67
26	0.02	0.40	10,000	16.67
27	0.02	0.40	10,000	16.67
28	0.02	0.40	-10,000	16.67
29	0.02	0.40	-10,000	16.67
30	1	11.11	-10,000	6.67
31	0.02	0.40	20,000	33.33
32	1	11.11	30,000	20.00
33	1	11.11	30,000	20.00
34	1	11.11	50,000	33.33
35	4.02	44.67	40,000	66.67
36	0.02	0.40	40,000	66.67
37	0.02	0.40	60,000	100.00
38	0.02	0.40	20,000	33.33
39	0.02	0.40	60,000	100.00
40	0.02	0.40	60,000	100.00
41	1.9	31.67	16,800	87.50
42	1.9	31.67	16,800	87.50
43	1.9	31.67	16,800	87.50
44	1.9	31.67	16,800	87.50
45	1.9	31.67	16,800	87.50
46	4.2	46.67	6,000	25.00
47	1.9	31.67	4,800	25.00
48	1.9	31.67	4,800	25.00
49	1.9	31.67	5,000	26.32
50	1.9	31.67	5,000	26.32
51	8.71	54.44	30,000	25.00
52	8.71	54.44	-30,000	25.00
53	8.71	54.44	30,000	25.00

Key: *APT = Area of property taken, CPV = Change in property rental value after setback clearance.*
Source: Authors' Analysis, 2025