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Temporal Analysis of Property Values Before and After the Revitalization of Depok City Square, 2015–2025

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Abstract

Public space revitalization aims to improve environmental quality and drive regional economic growth. Depok City Square, revitalized in 2020, has undergone significant physical and social changes. This research analyzes property value changes around the square from 2015 to 2025, identifies spatial patterns of value increases, and evaluates the influencing factors. This quantitative study used secondary data (NJOP and property portals) and primary data from field surveys at 120 points within 0–2 km of the square. Analysis employed multiple linear regression (five variables: revitalization dummy, distance to square, distance to main road, commercial intensity, observation year) and GIS-based spatial mapping. The results showed that average property value increases ranged from 48.4% to 87.9% depending on the distance zone, with the highest increase occurring within a radius of 0–500 meters from the square. The regression model yielded an R^2 of 0.782, with the revitalization dummy variable as the largest determinant (β = Rp1,924,300/m²). Spatial patterns revealed an uneven distribution of increases, with commercial corridors on the west and north sides benefiting more than residential areas on the east and south sides. The study concludes that town square revitalization had a positive and significant impact on property values, but also triggered commercial gentrification pressures that displaced local MSMEs. Therefore, future revitalization policies need to integrate social protection dimensions and land value capture mechanisms to ensure equitable distribution of benefits.

INTRODUCTION

The impact of infrastructure development does not always appear immediately after project completion (Van Doorn & Vijay, 2024). The economic effect is only felt when residents are more active and people reassess the value of the area. This is what I saw in the Depok City Square. Since the alumnalun reopened in 2020, the place has become a magnet for new economic activities. Slowly the property market responded to that growth. The authors argue that theoretically, public facilities are closely related to land prices. Locations with high accessibility and proximity to crowded centers typically result in higher economic value (O'Sullivan, 2018). In addition, the development of public facilities also increases the attractiveness of the area and encourages an increase in land value (Todaro & Smith, 2020).

According to observations, the reality on the ground shows that the distribution of price increases is uneven. Spatial planning policies usually cause inequality in value growth between one area and another (Manahampi & Yudhistira, 2026). Therefore, this study wants to explore the amount of property price increases. This study also examines spatial patterns and the determinants behind them.

The revitalization of the town square as the city's primary public space is part of a major urban spatial planning agenda promoted by the Indonesian government since the issuance of Law Number 26 of 2007 concerning Spatial Planning. This policy requires every city to provide green open space (RTH) covering at least 30% of its total area, with 20% of that being public green space. In Depok City, the City Square is one of the few public open spaces located at the heart of the administrative and commercial districts. Its existence is not merely an urban ornament, but rather a social node that connects various urban functions of commerce, government, and settlements in one integrated area (Ministry of Public Works and Housing, 2021). In this context, the Depok City Government's decision to revitalize the town square in 2019–2020 was not merely an aesthetic measure but also a strategic investment in the city's social and economic infrastructure.

The relationship between public infrastructure development and property values has been extensively researched in urban economics literature. Luttik (2000) found that the presence of green open spaces and water around residential areas in the Netherlands significantly increased house values. Fischel (2015) argued that zoning regulations and investment in public facilities are the two strongest factors determining land price fluctuations in urban areas. In Indonesia, Pangestu and Hendrata (2023) documented an average land value increase of 35–60% around revitalized areas in Bandung City within five years of the intervention. Wardhana and Rahayu (2022) also noted significant land-use transformation around revitalized town squares, where land previously occupied by modest residential areas gradually transitioned to high-value commercial areas. These studies consistently demonstrate that the capital effects of public spaces on property values are real and measurable, although their magnitude varies depending on the local context, design quality, and accessibility of the area.

Depok City has unique characteristics as a buffer city (hinterland city) directly bordering DKI Jakarta. Based on data from the Central Statistics Agency (BPS) of Depok City (2024), the city's population reached more than 2.5 million people with an average growth rate of 2.1% per year during the 2015–2024 period. This high urbanization pressure has led to a continued increase in demand for residential and commercial property in Depok, even before the revitalization of the town square was implemented. On the other hand, this rapid economic growth is not always matched by adequate quality of public spaces. Prior to revitalization, Depok City Square was often complained about as being poorly maintained, lacking facilities, and unsafe conditions, which in turn reduced the attractiveness of the surrounding area to property investors. The revitalization, which touched on the physical aspects, landscaping, public facilities, and lighting of the area in 2020, triggered a significant change in market perception. This context makes Depok City Square a relevant case study for understanding the dynamics of property values in a rapidly growing urban environment.

Previous studies have consistently shown that public infrastructure investments capitalize into nearby property values. Luttik (2000) found green spaces increase house values by 8–28% in the Netherlands. Fischel (2015) identified public facilities as a primary determinant of land price fluctuations. In Indonesia, Pangestu and Hendrata (2023) documented land value increases of 35–60% around revitalized areas in Bandung, while Wardhana and Rahayu (2022) found land-use transformation from residential to commercial uses around town squares. Putranto (2026) confirmed that accessibility directly influences property values in Depok, and Putri et al. (2025) noted that large infrastructure projects generally raise

surrounding land prices. However, revitalization also has social consequences. Elbl (2026) and Wicaksono (2025) found that public space improvements often trigger commercial gentrification, displacing small-scale economic actors due to rising rental costs.

Although numerous studies on the impact of infrastructure development on property values have been conducted in the context of large cities such as Jakarta, Surabaya, and Bandung, research specifically examining the temporal dynamics of property values around public spaces in mid-sized cities like Depok remains very limited. Most previous studies have used only a single data source (generally the NJOP alone) without combining it with actual market data from digital property portals and field observations. Furthermore, spatial analysis that differentiates patterns of value increase between zones within a graduated radius has not been widely conducted in the context of town square revitalization in Indonesia. This study attempts to fill this gap by combining a temporal approach (comparing two different periods), a spatial approach (mapping per radius zone), and an econometric approach (multiple linear regression) within a single integrated analytical framework. Thus, the results of this study are expected to not only contribute to the development of science but also serve as a useful empirical reference for spatial policy planning and urban property management in Depok and similar cities.

Based on the background and research gaps outlined above, this study has three main objectives. First, to measure the magnitude and trend of property value changes around Depok City Square in two periods: before revitalization (2015–2019) and after revitalization (2020–2025). Second, to identify spatial distribution patterns of property value increases based on distance from the center of the square and analyze the factors that determine these differences. Third, to evaluate the social implications of post-revitalization property value increases, particularly in relation to the potential for commercial gentrification and the displacement of small-scale local economic actors. The research findings are expected to enrich the Indonesian urban economic literature and provide evidence-based policy recommendations to the Depok City Government.

RESEARCH METHOD

This research used a quantitative approach to see changes in property values over time. The research is divided into two periods: before revitalization (2015–2019) and after revitalization (2020–2025). The researcher collected primary and secondary data from NJOP records, online property portals, and field surveys within a radius of 0–2 km from the central *alumnalon*. The analysis also looked at other factors such as road networks and levels of commercial activity. To test the relationship between factors, researchers used multiple linear regression and spatial mapping to display price distributions.

Research Variables

Y = Property value (Rp/m²)
X1 = Revitalization dummy
X2 = Distance to square
X3 = Distance to main road
X4 = Commercial intensity
X5 = Year of observation

Research Design and Approach

This study uses a descriptive-explanatory research design with a quantitative approach. The descriptive design is used to describe the temporal trend of property value changes, while the explanatory design is used to identify and test the influence of independent variables on property values (Creswell & Creswell, 2018). The research location is the area around Depok City Square, which covers an area within a radius of 0–2 km, including parts of Depok, Depok Jaya, Pancoran Mas, and Cipayung. The research period covers two periods, namely the pre-revitalization period (2015–2019) and the post-revitalization period (2020–2025).

Data Collection Sources and Techniques

The data in this study come from two main categories. Secondary data were obtained from: (1) NJOP records per sample point for 2015, 2017, 2019, 2021, 2023, and 2025 obtained from the Depok City Regional Revenue Service; (2) property offer price and transaction data from digital property portals (Rumah123, OLX Properti, and Lamudi) collected for the period 2015–2025; and (3) road network and land use data from the Depok City Regional Spatial Plan (RTRW) 2012–2032. Primary data were collected through field observations of 120 sample points to measure the level of commercial intensity and physical condition of the area, which were carried out in March–July 2025. Measurements of the distance from each sample point to the center of the town square and to the nearest main road were carried out using GIS software (ArcGIS 10.8).

Operational Definition of Variables

Property value (Y) is measured as the average of the NJOP (Valuable Property Value) and the property market price for the year in question, expressed in units of Rp/m². Combining these two sources is done to reduce bias that arises when relying on only one source, considering that NJOP in Indonesia has historically tended to be lower than the actual market price (Nazwar, 2021). The revitalization dummy variable (X1) is 0 for 2015, 2017, and 2019, and 1 for 2021, 2023, and 2025. Distance to the town square (X2) and distance to the main road (X3) are measured in meters based on the Euclidean distance calculated using GIS. Commercial intensity (X4) is measured using an index calculated from the density of active business units per hectare within a 100-meter radius of each sample point based on field observations. The observation year (X5) is a control variable to capture property price trends influenced by inflation and general market conditions.

Data Analysis Techniques

Data analysis was conducted in three stages. First, descriptive analysis to calculate summary statistics of property values per zone and per period, and to compile a comparison table. Second, multiple linear regression analysis using the Ordinary Least Squares (OLS) method to test the simultaneous influence of five independent variables on property values. Prior to the regression, classical assumption tests were conducted, including the residual normality test (Kolmogorov-Smirnov), multicollinearity test (VIF), heteroscedasticity test (Breusch-Pagan), and autocorrelation test (Durbin-Watson). Third, spatial analysis using ArcGIS tools to create property value distribution maps and price increase hotspot cluster maps using the kernel density estimation method. All statistical analyses were conducted using SPSS

27 and R software version 4.3.

RESULTS AND DISCUSSION

1. Overview of Property Value Trends Before and After Revitalization

A temporal analysis revealed significant changes in property values around Depok City Square between 2015 and 2025. In the pre-revitalization period (2015–2019), the average property value, based on the NJOP (Value-Price-Based Property) data and market prices within a 0–500 meter radius of the town square, ranged between IDR 4,500,000 and IDR 6,200,000 per m². This figure remained relatively stable and did not show a significant increase, reflecting the area's lack of attractiveness, which during that period was still perceived as a poorly maintained public space (Putra et al., 2022). A similar finding was found in a study by Putranto (2026), which confirmed that the physical characteristics of the location and accessibility directly influence the market value of residential properties in Depok City.

Entering 2020, a temporary stagnation occurred due to the pressure of the COVID-19 pandemic, which shook all economic sectors, including the property market. Land prices in the area experienced a slight correction of 3–5% at the start of the pandemic. However, this situation did not last long. Since the end of 2021, as social restrictions were relaxed and public spaces reopened, property values have begun to climb again. This trend aligns with the findings of Putri et al. (2025), who noted that large urban infrastructure projects in Indonesia, including the revitalization of public areas, generally contribute to rising land prices in the surrounding areas, despite being delayed due to the pandemic.

Between 2022 and 2025, property values within a 0–500 meter radius increased to an average of Rp8,700,000–Rp11,400,000 per m², representing an increase of approximately 40–84% compared to the pre-revitalization average. Table 1 below summarizes the comparison of property values based on distance from the town square in both study periods.

Table 1. Comparison of Average Property Values Based on Distance Zone from Depok City Square

Distance Zone	Average 2015–2019 (Rp/m²)	Average 2022–2025 (Rp/m²)	Increase (%)
0–500 m	5.350.000	10.050.000	+87,9%
500 m–1 km	4.100.000	6.850.000	+67,1%
1–2 km	3.200.000	4.750.000	+48,4%

Source: Depok City NJOP Data and Digital Property Portal, processed (2025)

The data in Table 1 confirms the distance-decay pattern common in urban economic theory, where property value increases weaken with increasing distance from the revitalization center (O'Sullivan, 2018). The largest increase occurred in the closest zone (0–500 m), reaching 87.9%, while the furthest zone (1–2 km) recorded only a 48.4% increase. Nevertheless, the increase figures across all zones remained significant, indicating that the impact of revitalization is spillover to a wider area (Mansour, 2026; Tarigan, 2015).

2. Results of Multiple Linear Regression Analysis

To identify the determinants of property value in a more structured manner, this study uses multiple linear regression analysis with property value (Y in units of Rp/m²) as the

dependent variable and five independent variables. The regression results are presented in Table 2 below.

Table 2. Results of Multiple Linear Regression of Property Values Around Depok City Square

Variable	Coefficient (β)	Std. Error	t-count	Sig.
Constant	2.841.500	312.400	9,10	0,000***
X1 – Revitalization Dummy	1.924.300	214.600	8,97	0,000***
X2 – Distance to the town square (m)	−2.145	318	−6,74	0,000***
X3 – Distance to Main Road (m)	−1.380	245	−5,63	0,000***
X4 – Commercial Intensity	876.400	198.200	4,42	0,000***
X5 – Observation Year	214.700	62.100	3,46	0,001**
R^2	0.782 (F-statistic = 47.63; $p < 0.001$)			

Description: *** $p < 0.001$; ** $p < 0.01$

Source: Primary and secondary data from 120 sample points around Depok City Square, processed using SPSS 27 (2025)

The regression results indicate that the overall model is significant ($F = 47.63$; $p < 0.001$) with a coefficient of determination (R^2) of 0.782, meaning that 78.2% of the variation in property values can be explained by the five independent variables in the model. The revitalization dummy variable (X1) has the largest coefficient, at IDR 1,924,300 per m², indicating that the post-revitalization status independently increases property values by an average of almost IDR 2 million per square meter, beyond the influence of other variables. This finding aligns with research by Shimizutani et al. (2026), which found that urban transportation investment in Jakarta significantly contributed to property value increases in affected areas.

The distance to the town square variable (X2) shows a negative coefficient of -IDR 2,145 per meter, meaning that every 1-meter increase in distance from the town square center results in a decrease in property value of IDR 2,145/m². Similarly, distance to main roads (X3) has a negative effect with a coefficient of -Rp1,380 per meter. These two findings support the argument of Hasyim and Fauzi (2026) who developed a geographic information system-based land price pattern model and found that road connectivity and proximity to public facilities are the main determinants of land value in urban areas. Commercial intensity (X4) has a positive and significant effect, with a coefficient of Rp876,400, indicating that areas with higher business activity density tend to have higher property values (Mansour, 2026).

3. Spatial Patterns of Property Value Increase

Spatial mapping of 120 sample points within a 2-km radius of Depok City Square revealed an uneven price distribution pattern. At least three main clusters experienced the most significant property value increases. The first cluster is located in the Jalan Arief Rahman Hakim – Jalan Margonda Raya corridor, which is the commercial zone with the highest intensity. In this area, land value increases reached 90–105% over a decade. The second cluster is located around the intersection of Jalan Nusantara and Jalan Pemuda, both of which provide the main access to the town square. The third cluster is located in the densely populated

residential area behind the commercial area, which, although not directly adjacent to the town square, still experienced increases of 42–55%.

Conversely, relatively stagnant zones are generally located in areas obstructed by physical infrastructure such as railways, irrigation canals, or narrow roads not directly connected to the main road network. This inequality reflects a more fundamental spatial planning issue: the unequal distribution of revitalization benefits to all residents (Manahampi & Yudhistira, 2026). This condition also confirms the findings of Artiani and Jin (2026), who stated that infrastructure development in developing urban areas often creates spatial disparities in the distribution of economic benefits. To better visualize this pattern, the researchers divided the study area into four quadrants based on the cardinal directions from the central town square. The northern and western quadrants (which directly border shopping centers and commercial corridors) experienced an average increase of 73%, while the eastern and southern quadrants (which are predominantly residential) recorded an average increase of only 51%.

4. Revitalization, Property Values, and Gentrification

The significant increase in property values after revitalization aligns with the land value capture theory, which states that improving the quality of public spaces will increase people's willingness to pay for surrounding properties (O'Sullivan, 2018; Todaro & Smith, 2020). The revitalization of Depok City Square has proven to have transformed the community's collective perception of the area from a neglected space to a vibrant hub of social and economic activity. This reinforces the argument that investment in urban green spaces has positive economic externalities that are not always directly reflected in government budgets (Elbl, 2026; Chen & Su, 2026).

However, the rapid increase in property values also brings social consequences that require serious attention. Field survey data indicates that at least 23% of micro-businesses previously operating within a 500-meter radius of the town square were forced to relocate their businesses farther away due to rising rental prices. This phenomenon is known in the literature as commercial displacement, the forced displacement of lower-income economic actors due to rising business premises costs that are disproportionate to their increased incomes (Wicaksono, 2025). This finding is in line with research by Elbl (2026) which found that the revitalization of urban green spaces in several European cities actually triggered the gentrification process which shifted low-income populations from city centers.

In the context of property value incentives, Nazwar (2021) cautions that increasing the NJOP (Value-Sold Property) following rising market values could result in a higher tax burden for small-scale landowners. If not accompanied by adequate exemption policies or fiscal incentives, this property tax increase could encourage the sale of assets by lower-middle-income groups to large investors, ultimately accelerating the uneven socioeconomic transformation of the region. This phenomenon needs to be addressed through spatial planning policy instruments that favor local communities, as recommended by Arsyad (2022) within the framework of inclusive economic development.

On the other hand, Bourdieu's perspective, used by Wicaksono (2025) in analyzing the relocation of Malioboro street vendors, is also relevant in the Depok context. Street vendors and micro-entrepreneurs around the town square face a clash between their old habitus (business practices accustomed to a particular location) and the changing landscape (the post-

revitalization socio-economic environment that demands greater economic capital). This creates a structural imbalance that cannot be resolved through physical intervention alone.

5. Policy Implications

Based on the findings of this study, there are several policy implications that the Depok City Government needs to consider. First, given the uneven increase in property values across different zones, affirmative spatial planning policies are needed for underdeveloped areas. Developing supporting infrastructure such as road widening, adding public transportation routes, and constructing secondary public facilities in stagnant zones could be a solution to reducing spatial inequality (Tarigan, 2015; Manahampi & Yudhistira, 2026).

Second, the government needs to develop a protection scheme for micro, small, and medium enterprises (MSMEs) operating around revitalization areas. This scheme could include providing priority rental rights at affordable rates in government-built kiosks, rent subsidies for affected businesses, or establishing special MSME zones protected from free market price increases. Without such interventions, the commercial gentrification process that has already begun is feared to continue and threaten the region's economic diversity (Wicaksono, 2025; Chen & Su, 2026).

Third, land value capture mechanisms can be explored as an alternative funding source for social and infrastructure programs. A portion of the property value increases generated by government investment in town square revitalization could be "recaptured" through targeted tax instruments and then used to finance welfare improvement programs for affected residents. This approach is not only distributively just but also aligns with the principles of sustainable development emphasized by Todaro and Smith (2020) and Arsyad (2022).

CONCLUSION

The revitalization of Depok City Square, completed in 2020, has been shown to have a significant positive impact on property values in the surrounding area. Property value increases ranged from 48.4% to 87.9%, with the largest increases occurring in the zone closest to the center of the square (0–500 m). Multiple linear regression analysis confirmed that the revitalization dummy variable, distance to the square, distance to the main road, and commercial intensity collectively explained 78.2% of the variation in property values in the study sample. Spatial patterns showed an uneven distribution of increases, with commercial corridors on the west and north sides benefiting more than residential areas on the east and south sides. In addition to the positive economic impacts, this study also found social pressure in the form of displacement of MSMEs from the area around the square due to rising rental prices. Therefore, future public space revitalization policies need to integrate dimensions of social protection, spatial equity, and land value capture mechanisms so that the benefits can be felt fairly by all levels of society.

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