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A Spatial Mapping for Profitability Consideration of Rental Houses in South Jakarta

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Abstract: The study aims to investigate the relationship between these spatial factors and the profitability of rent houses in the South Jakarta region. The population of South Jakarta reached 2.235.606 people as of 2023, with a percentage of occupying owned residential buildings of 51,36%. Estimates indicate that only approximately 1,148,207 people currently reside in private assets. Rental prices need to be considered based on the strategic location to minimize the risk of rental house business owners suffering losses. The imbalance in the supply and demand of the residential market will cause the availability of land in productive areas to be increasingly limited. The existence of an imbalance in market supply and demand can be an opportunity for prospective property entrepreneurs in the field of rental houses. This study is based on the rise in the price of houses, which leads to a lower level of community ownership of the houses. The analysis was carried out by calculating income predictions using multiple linear regression methods and spatial analysis between rental houses and the accessibility of public facilities in South Jakarta City. The results obtained indicate that the accessibility of public facilities in Setia Budi Sub-district provides an opportunity for high income.

Keywords: Boarding House, Income Rediction, Multiple Linear Regression, Spatial Analysis

INTRODUCTION

From 1980 to 2017, 2.4 million people lived in urban areas (United Nations World Urbanization Prospects, 2018 in Tong, 2024). In 2020, at least 56.7 percent of Indonesia's population lived in urban areas and is projected to increase to 66,6 percent by 2035 (BPS, 2021). With Jakarta being the first megacity in Indonesia, it will undoubtedly accommodate many people in it. According to BPS (2024), the population of DKI Jakarta province reached 10.684.946 people. Demographically, the population of South Jakarta is dominated by 666,108 workers (BPS, 2024). This high number of workers is supported by a statement issued by the DKI Jakarta Provincial Office, which noted that 151,752 residents came to Jakarta during 2022 (Prabowo, 2023). The population of South Jakarta reached 2.235.606 people as of 2023 (BPS, 2024) with a percentage of occupying owned residential buildings of 51,36% (BPS, 2022). This means that it is estimated that until now, only around 1,148,207

people live in private assets. While the rest will certainly need a place to live, because after all the need for housing is a basic need that must be met (Fauzi, 2022).

The high number of workers, and especially the seafarers with the purpose of working will need housing. Jakarta has the lowest home ownership rate of 48.33% compared to other cities (Abidoye et al., 2021).The increase in population is accompanied by housing and land constraints affecting housing market prices in Jakarta (Rahadi et al., 2015b). Currently, housing prices in Indonesia are considered too expensive (Rahadi et al., 2016). This will make it increasingly difficult for younger generations to have housing assets, especially for low-to-middle-income workers in Indonesia.

The price of such housing in Jakarta is influenced by a physical condition, concept, and location (Rahadi et al, 2013 in (Rahadi et al., 2015).These factors are supplemented by physical conditions, design concepts, marketing concepts, location accessibility, location uniqueness, infrastructure, specifications, and physical quality (Rahadi et al., 2015; Rahadi et al., 2013). Location with environmental factors related to access to toll roads, proximity to family homes such as parents, close to work (office), urban activities, malls, and educational facilities (Wen aet al., 2014; Brandt et al., 2013; Mulder, 2007; Gibbons & Machin, 2008; Waddell et al., 1993; Boarnet & Chalermpong, 2001; Vadali, 2008).

Housing affordability is rapidly becoming a crisis in most of the world's metropolitan areas. Housing in Jakarta is so expensive that 80% of respondents (out of 62 respondents) rent houses for the short term (Tafridj, 2021). Jakarta faces an imbalance between supply and demand for housing. One reason is the qualitative imbalance between the supply of houses by developers and the demand of the middle and upper sectors with low-income (Isa, 2021).

Spatial mapping is a visual representation involving coordinate information and geographic references in analyzing objects and phenomena on the earth's surface. Spatial mapping concerns the analysis of space in a region. Spatial analysis helps analyze the distribution of boarding house prices and understand demographics. In addition, it identifies trends and patterns regarding boarding house prices by linking accessibility and public facilities in the vicinity. In the demographic aspect, data collection will certainly be primary, which is then represented through mapping. Researchers have widely used spatial aspects to predict economic growth and profit. The World Bank said that the geographic location mapping of banking activities and asset distribution patterns produces spillover effects in surrounding areas (Patterson et al., 2020 in Supriyono, 2024). Banking deposit analysis has a positive relationship with spatial aspects, known as spatial aspects (Dhita, 2020). Other research reveals that geographic information systems can improve supply chain analysis by analyzing alternative locations and routes utilized in business variables, especially profit costs for effective business decisions (Wullur & Kumaat, 2020). Spatial analysis and mapping have been used in various studies that discuss

economic aspects, business decisions, and the advantages of a strategic location for doing business.

Rent houses in this study refer to boarding houses, which are synonymous with long rental periods and generally have shared facilities. In Indonesian, boarding houses are more commonly known as "Rumah Kost" due to their development. In Pasar Minggu Sub-district, the development of offices on Jalan TB Simatupang has resulted in changes in the function of buildings into rent houses, food stalls, and cafes driven by their strategic location (Prawira et al., 2020). Urbanization and population growth will further increase the need for housing, resulting in individuals choosing simple houses to reduce costs while still pay attention to safety and health (Perdamaian & Zhai, 2024).The existence of an imbalance of supply and demand in the market can be an opportunity for prospective commercial entrepreneurs or real estate in the rental housing sector. Entrepreneurs should start observing and providing products based on the preferences of targeted potential consumers (Rahadi et al., 2016). The study aims to investigate the relationship between these spatial factors and the profitability of rent houses in the South Jakarta region.

METHODS

The research was conducted in South Jakarta City, DKI Jakarta Province. This city consists of 10 districts. However, the data collection area for this research includes Cilandak, Jagakarsa, Kebayoran Baru, Kebayoran Lama, Mampang Prapatan, Pancoran, Pasar Minggu, Pesanggrahan, and Setia Budi. South Jakarta is located at the coordinates of 106°22’42” East to 106°58’18” and 5°19’12” South latitude. By the Decree of the Governor of KDKI No. 1815 of 1989, the area of South Jakarta reached 145.37 square kilometers with a range of 22.41% of the total area of DKI Jakarta. Figure 1 illustrates the growth of the rented house business in South Jakarta.

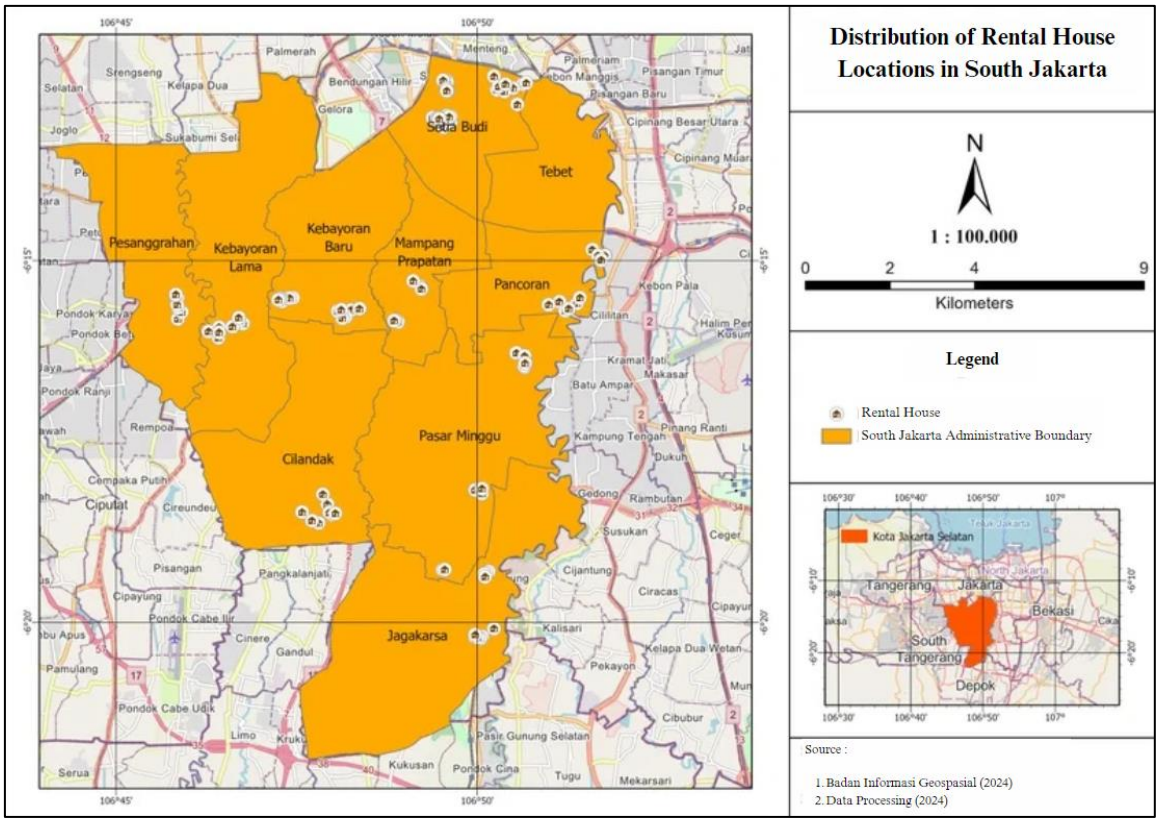


Figure 1. Spread Location of Rental Houses in South Jakarta
Source: Data Processing, 2024

This study is based on the rise in the price of houses, which leads to a lower level of community ownership of the houses. The low rate of such numbers results in people either living with relatives or renting a house. Every year, the demand for rental houses rises due to factors such as employment, education, and the inability to purchase houses in Jakarta. Prospective rental home entrepreneurs are increasingly needed to seize this opportunity. Calculating the income of the property business can be a matter of consideration for the prospective entrepreneur in calculating the return on the effort capital. In addition to the income calculation, supporting other spatial aspects, such as the affordability of facilities, can drive the success of rental houses in the area. Figure 2 illustrates the entire thought process.

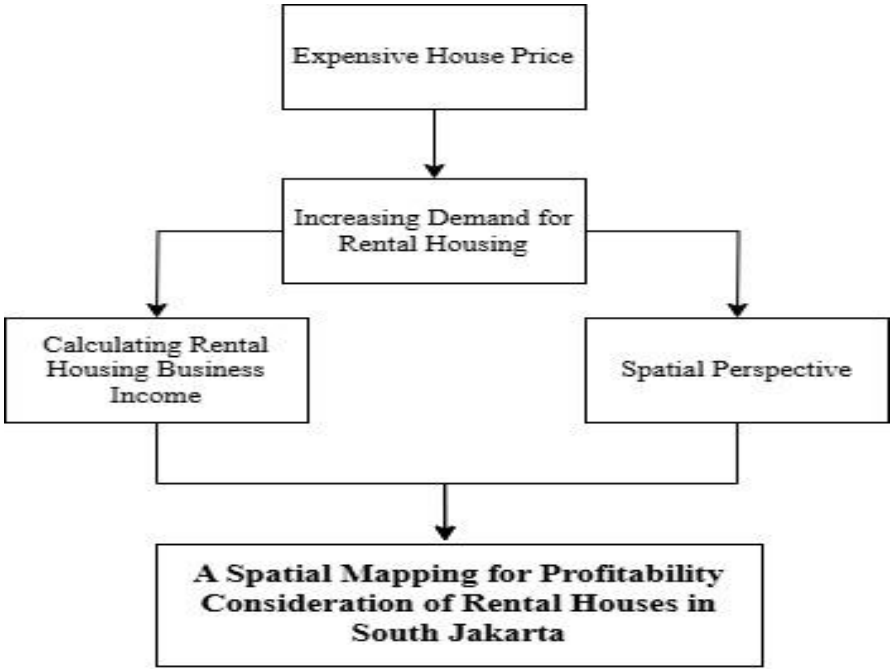


Figure 2. Research Flow Chart
Source: Data Processing, 2024

Secondary data is obtained from the Badan Informasi Geospasial, and additional information is obtained from Google Earth or Google Maps. Primary data was taken by going to the field directly and interviewing the owners and tenants of rented houses in South Jakarta. Data types and sources can be seen in Table 1.

Table 1. Data Types and Sources

Data Types	Sources
Administrative Boundaries of South Jakarta	Badan Informasi Geospasial (2024)
Location of the Rental House, Price, Number of Floors, Numbers of Rooms, Land Area, Tenant Data	Interview and Observation Purposively Sampling with RECEH G/ARING Team
Educational Facilities	*Google Maps*
Hospital	*Google Maps*
Public Transportation (Bus Stops and Stations)	*Google Maps*
Mall	*Google Maps*
Office	*Google Maps*
Streets	*Open Street Map*
Toll Gates	*Open Street Map*

The primary data resulting from the interview is processed with Excel and SPSS. Primary data is the size of the land, the number of floors of houses, the number of rooms rented, and the income earned by the owner of the rented house business within a month. The data will be further compiled and processed using the Statistical Package for the Social Sciences (SPSS) application.

Primary data analysis in SPSS applications using the Analyze with Regression tools feature. The SPSS calculation will obtain results from values A and B, which can then be used in calculating income prediction with the multiple linear regression method. Multiple Linear Regression is a dual linear regression model with more than one variable (free variable and bound variable) that can be used to predict a specific value (Labib Mu'tashim et al., 2021; Zhang, 2021; Azad, 2022; Sagala & Cendriawan, 2022). However, this study uses dual linear regression modeling to predict the owner's income from a rental house property. In predicting the income of a boarding house business, it is inseparable from the number of rooms, area, and number of floors. The number of rooms is related to income. The area and number of floors are additional factors for prospective boarding house business owners. As for the model of multiple linear regression:

$$Y = a + B1.X1 + B2.X2 + Bn.Xn + e$$

Description:
Y = Dependent variables
X = Independent variables
a = Constant
B = Estimate Cefficient
e = Error

The results of the calculation are made into the classes that determine the level of income. The classes are divided into three by method:

$$\frac{(X2 - X1)}{n}$$

Description:
X2 = The highest income figure
X1 = The lowest income figure
n = Number of class

Data analysis in ArcGIS Pro includes maps as an interpretation of income obtained from each district that is the area of research. Further in the map of accessibility between health facilities (hospital), education, and transportation with rent houses using tools network analysis.

RESULTS AND DISCUSSION

Price Distribution and Renters Profile in South Jakarta

Through the results of the primary data collection, a total of 373 respondents of tenants who are occupying a rental house. The ratio between male and female tenants was 52.3 percent female and 47.7 percent male. Diagram pie chart comparison between the sexes of the tenants can be seen in Figure 3.

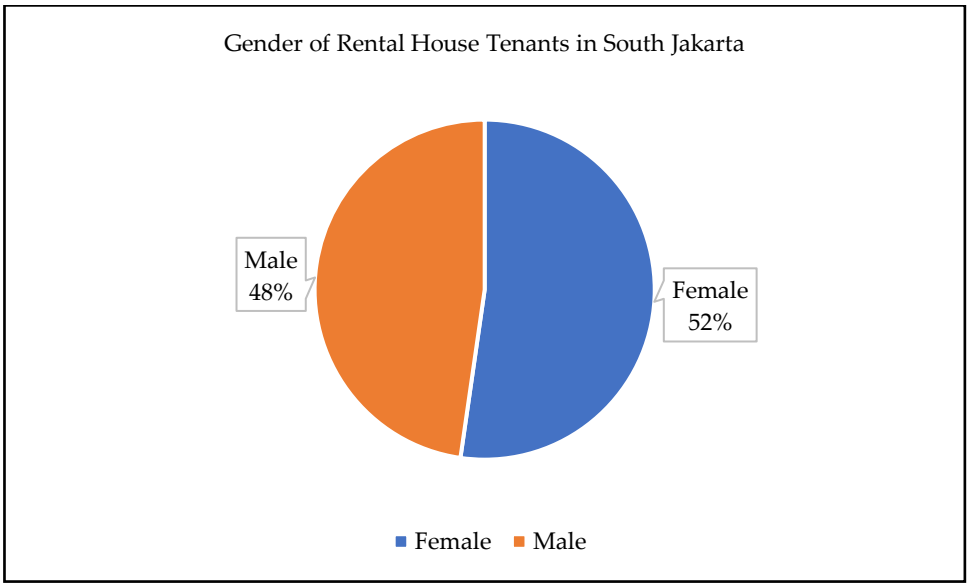


Figure 3. Comparison between the Sexes of Tenants
Source: Data Processing, 2024

From the above diagram, the number is almost equal between males and females; females are 195 tenants and males are 178. Further analysis of the main activities of rental house tenants in South Jakarta is working, organized with school or further education such as university, category of other kinds of needs, and as many as 10 respondents live in rented houses to find a job. The table can be seen in Figure 4.

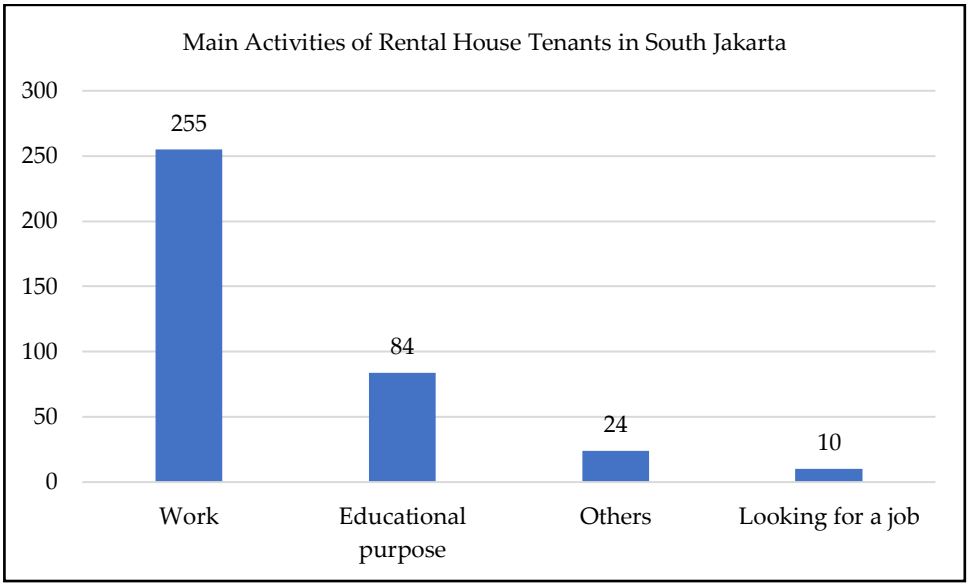


Figure 4. Main Activity of Tenants
Source: Data Processing, 2024

Next, the owner of the rental house is divided into four types. These four types are only managers, owners, family owners (usually in one large family running the business), and family ownership, at the same time, managers. The total number of respondents was 120.

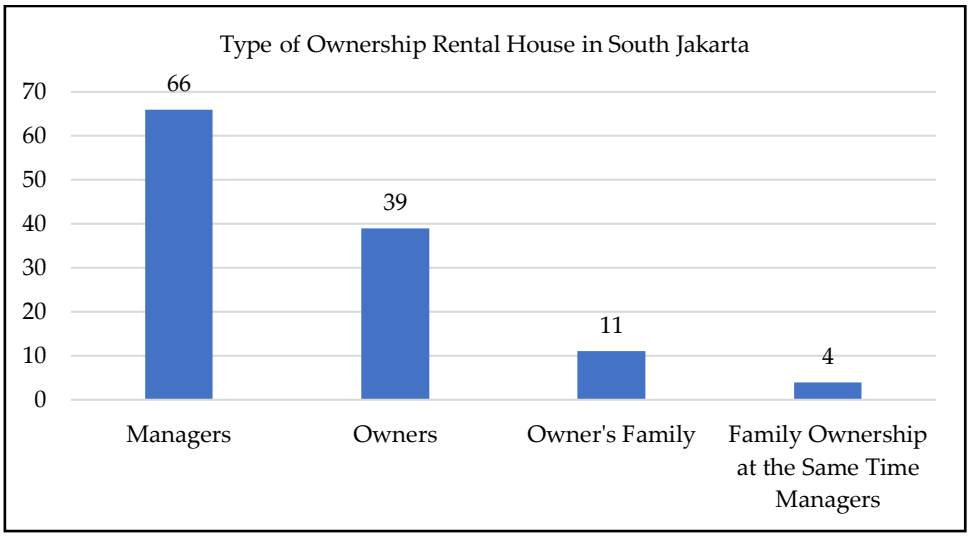


Figure 5. Number of Type Ownership Rental House
Source: Data Processing, 2024

Figure 5 shows that 66 respondents have the largest number of ownership statuses as managers, followed by 39 owners, 11 respondents' owners' families, and the last one, a family of owners and managers of 4 respondents. With a total of 373 rent house tenants attending, Table 2 shows each rent house price index and the amounts of rented houses included in the index.

Table 2. Rent House Price Index

Number	Subdistrict	Average Classification of Rental Huse Prices	Number of Rental Houses
1	Jagakarsa	< Rp1,000,000	47
		Rp1,000,000 - Rp2,000,000	9
		Rp2,000,000 - Rp3,000,000	0
		Rp3,000,000 - Rp10,000,000	0
2	Pasar Minggu	< Rp1,000,000	28
		Rp1,000,000 - Rp2,000,000	16
		Rp2,000,000 - Rp3,000,000	0
		Rp3,000,000 - Rp10,000,000	2
3	Cilandak	< Rp1,000,000	1
		Rp1,000,000 - Rp2,000,000	10
		Rp2,000,000 - Rp3,000,000	9
		Rp3,000,000 - Rp10,000,000	3
4	Pesanggrahan	< Rp1,000,000	1
		Rp1,000,000 - Rp2,000,000	22
		Rp2,000,000 - Rp3,000,000	0
		Rp3,000,000 - Rp10,000,000	0
5	Kebayoran Lama	< Rp1,000,000	9
		Rp1,000,000 - Rp2,000,000	12
		Rp2,000,000 - Rp3,000,000	1
		Rp3,000,000 - Rp10,000,000	1
6	Mampang Prapatan	< Rp1,000,000	5
		Rp1,000,000 - Rp2,000,000	8
		Rp2,000,000 - Rp3,000,000	7
		Rp3,000,000 - Rp10,000,000	3
7	Setia Budi	< Rp1,000,000	26
		Rp1,000,000 - Rp2,000,000	44
		Rp2,000,000 - Rp3,000,000	10
		Rp3,000,000 - Rp10,000,000	1
8	Kebayoran Baru	< Rp1,000,000	27
		Rp1,000,000 - Rp2,000,000	20
		Rp2,000,000 - Rp3,000,000	0
		Rp3,000,000 - Rp10,000,000	0
9	Pancoran	< Rp1,000,000	7
		Rp1,000,000 - Rp2,000,000	40
		Rp2,000,000 - Rp3,000,000	4
		Rp3,000,000 - Rp10,000,000	0
Total			373

Source: Data Processing, 2024

The Jagakarsa has shown that the houses with the highest rent are 47, with a price of less than one million rupiah. Based on the highest price classification of rental houses, namely at the price of six million to fifty million rupiah, there are 34 rental houses in Setia Budi Sub-district and 11 in Mampang Prapatan Sub-district. Based on the data analysis, it was found that rented houses that are near the campus or the university can be accessed on foot in a time of fewer than five minutes and more than ten minutes when reached by public/private transport. The income profile of tenants per subdistrict can be seen in the table below.

Table 3. Tenant's Data Income Index

Number	Sub-District	Income Index	Number of Tenants
1	Jagakarsa	< Rp354.000	1
		Rp354.000 - Rp532.000	4
		Rp532.000 - Rp1.200.000	3
		Rp1.200.000 - Rp6.000.000	47
		Rp6.000.000 - Rp50.000.000	1
2	Pasar Minggu	< Rp354.000	5
		Rp354.000 - Rp532.000	1
		Rp532.000 - Rp1.200.000	1
		Rp1.200.000 - Rp6.000.000	18
		Rp6.000.000 - Rp50.000.000	20
3	Cilandak	< Rp354.000	0
		Rp354.000 - Rp532.000	0
		Rp532.000 - Rp1.200.000	0
		Rp1.200.000 - Rp6.000.000	12
		Rp6.000.000 - Rp50.000.000	11
4	Pesanggrahan	< Rp354.000	2
		Rp354.000 - Rp532.000	0
		Rp532.000 - Rp1.200.000	4
		Rp1.200.000 - Rp6.000.000	15
		Rp6.000.000 - Rp50.000.000	2
5	Kebayoran Lama	< Rp354.000	0
		Rp354.000 - Rp532.000	0
		Rp532.000 - Rp1.200.000	3
		Rp1.200.000 - Rp6.000.000	12
		Rp6.000.000 - Rp50.000.000	8
6	Mampang Prapatan	< Rp354.000	1

		Rp354.000 - Rp532.000	0
		Rp532.000 - Rp1.200.000	0
		Rp1.200.000 - Rp6.000.000	11
		Rp6.000.000 - Rp50.000.000	11
7	Setia Budi	< Rp354.000	2
		Rp354.000 - Rp532.000	0
		Rp532.000 - Rp1.200.000	1
		Rp1.200.000 - Rp6.000.000	43
		Rp6.000.000 - Rp50.000.000	34
8	Kebayoran Baru	< Rp354.000	1
		Rp354.000 - Rp532.000	1
		Rp532.000 - Rp1.200.000	3
		Rp1.200.000 - Rp6.000.000	37
		Rp6.000.000 - Rp50.000.000	5
9	Pancoran	< Rp354.000	1
		Rp354.000 - Rp532.000	2
		Rp532.000 - Rp1.200.000	3
		Rp1.200.000 - Rp6.000.000	33
		Rp6.000.000 - Rp50.000.000	12
Total			373

Source: Data Processing, 2024

The most dominating tenant income figures are highest in Setia Budi sub-district and Pancoran sub-district. As is known, Setia Budi sub-district has several offices including embassy offices. So that the rental house there is classified as exclusive.

Accessibility of Rental Houses to Education Facilities

The educational facilities that are the material for analysis are the location points of the campus coordinates. Sub-districts with affordable access to educational facilities include the Jagakarsa Sub-district, Pasar Minggu Sub-district, and Pancoran Sub-district (Figure 6). The National University is one of the universities in Pasar Minggu Sub-district.

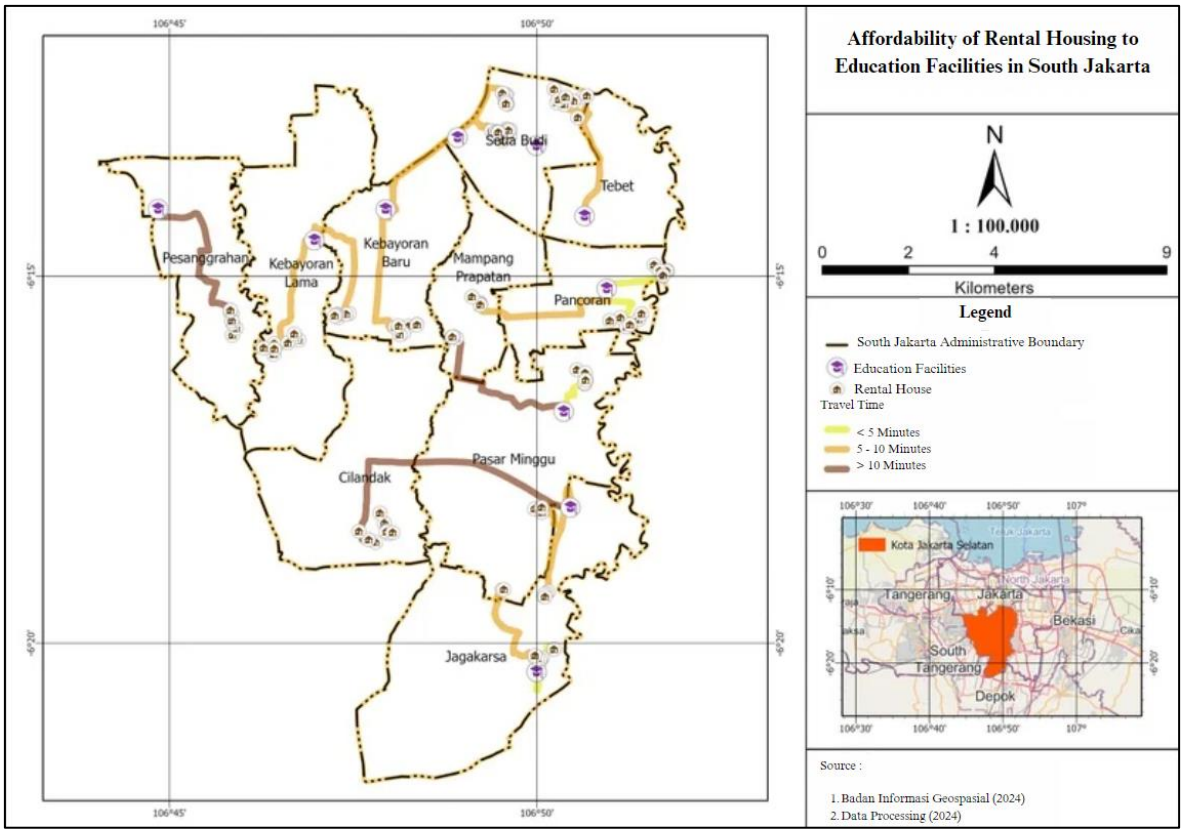


Figure 6. Accesibility Rent House and Educational Facilities
Source: Data Processing, 2024

Accessibility of Rental Houses to Health Facilities

While the analysis of affordability with health facilities obtained results in the central part to the north of South Jakarta region found many affordable houses with medical facilities because the distance is not up to 10 minutes, the accessibility of rental houses in the southern part of South Jakarta falls within the category of less affordable, as it takes more than 10 minutes to get to the hospital (Figure 7).

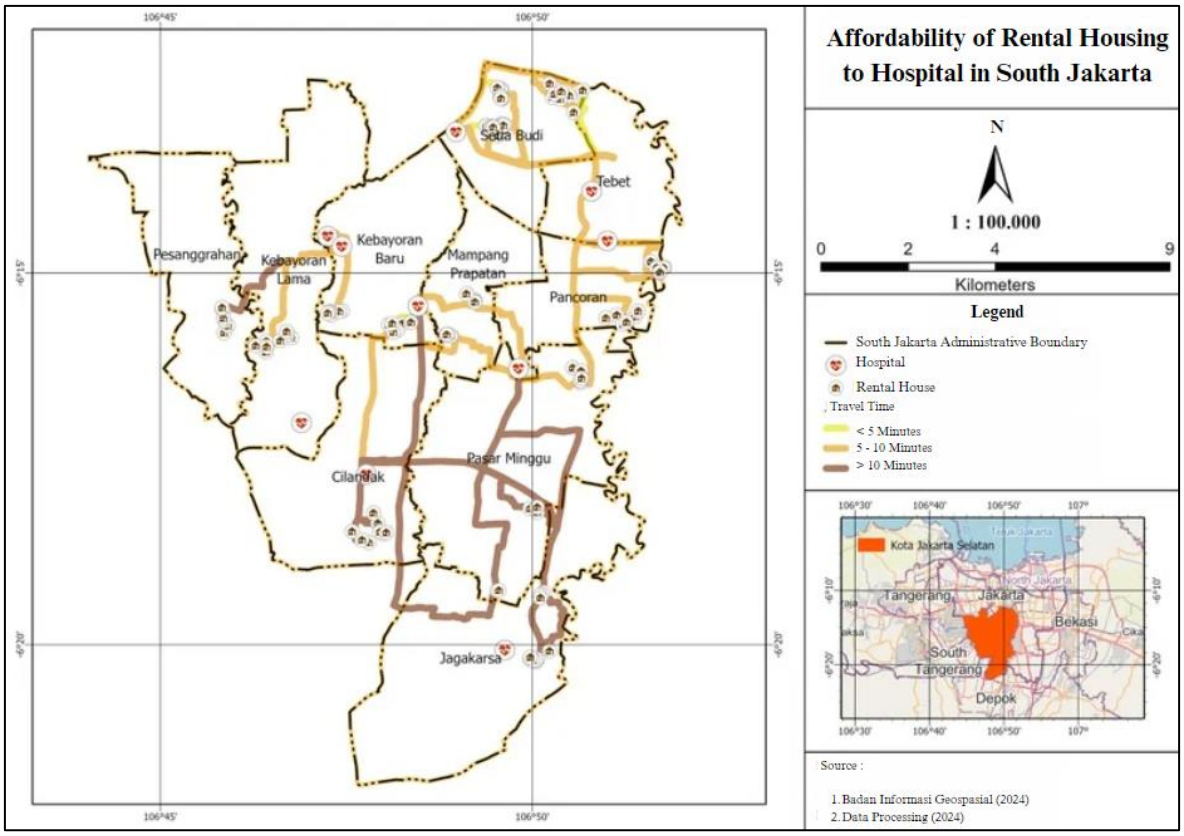


Figure 7. Accesibility Rent House and Health Facilities
Source: Data Processing, 2024

Accessibility of Rental Houses to Public Transportation

The affordability of transportation facilities and rental houses is based on the distance between the city and the nearest station/bus stop (Figure 8). In the northern part (Setia Budi sub-district), there is a rental house that is very affordable with public transportation because it is up to 10 minutes away from the closest access by public transport. The central part of South Jakarta, which stretches from the east to the west, is getting more vulnerable to the time it takes to reach public transportation access in the range of more than 10 minutes. There are also implications with high-income poor areas that mostly use private transportation so that they are within a sufficiently long duration of the nearest public transport access.

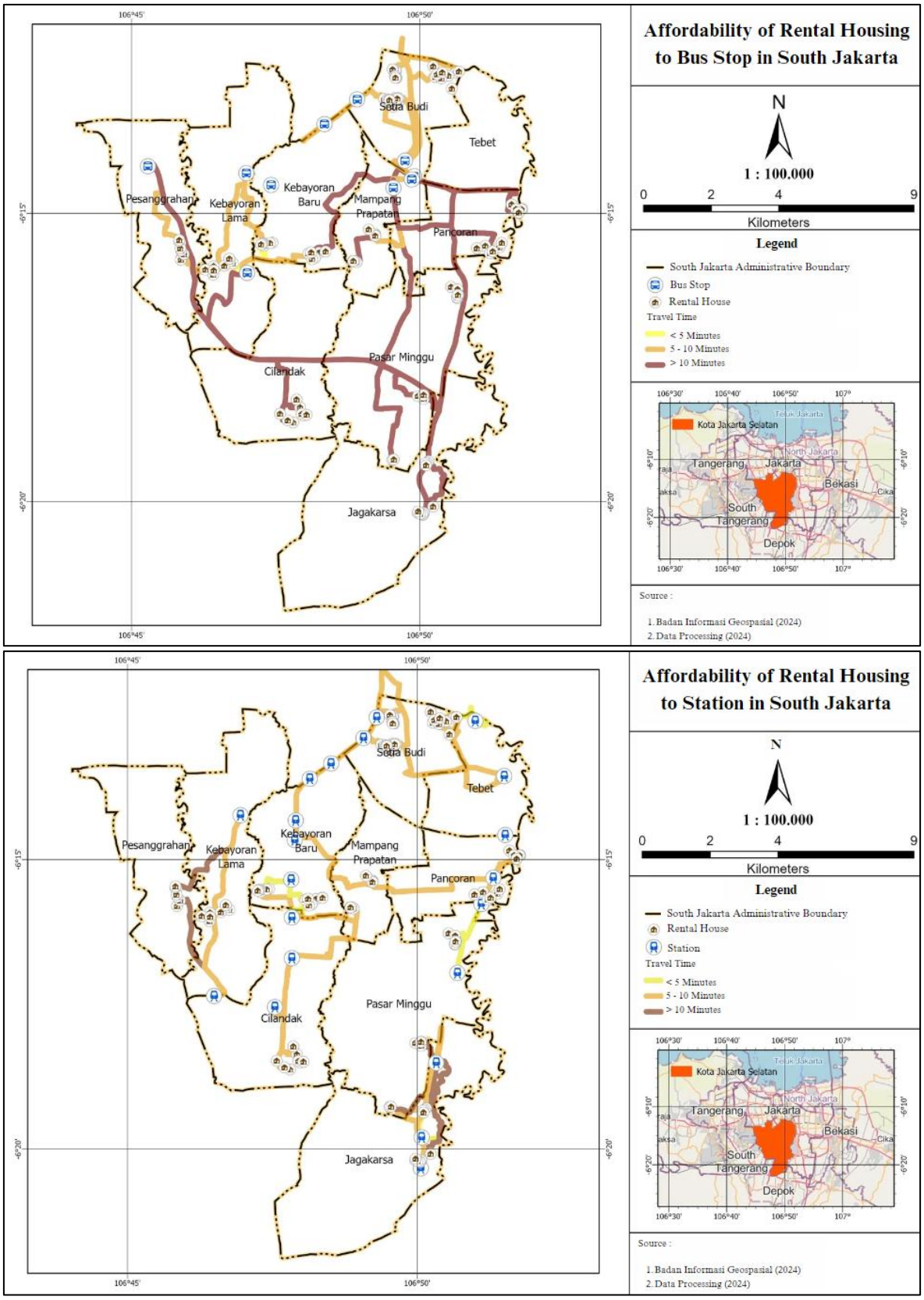


Figure 8. Accesibility Rent House and Public Transportation
Source: Data Processing, 2024

Accessibility of Rental Houses to Toll Gates

Another analysis in accessibility is the affordability of rental houses with toll gates. Based on the spatial analysis results, the Pesanggrahan Sub-district is the most affordable sub-district with toll gates because it requires a travel time of under 5 minutes. On the other hand, Mampang Prapatan Sub-district, Setia Budi Sub-district, Tebet Sub-district, and Pancoran Sub-district are pretty affordable with toll gate access with a travel time of approximately 10 minutes (Figure 9).

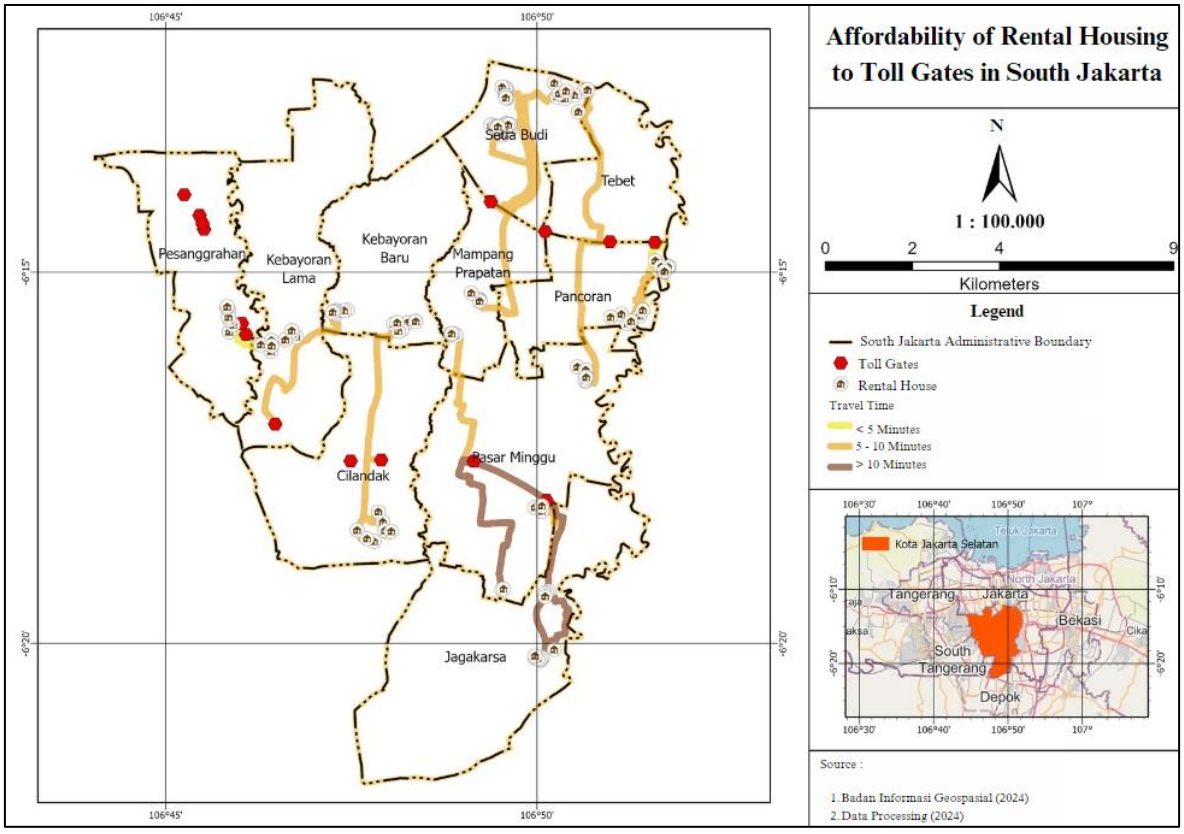


Figure 9. Accesibility Rent House and Toll Gates
Source: Data Processing, 2024

Accessibility of Rental Houses to Malls

The affordability of rental houses to shopping centers is spatially shown by Setia Budi sub-district, Cilandak sub-district, Pesanggrahan sub-district and Pancoran sub-district (Figure 10). Shopping centers in Setia Budi sub-district include Kuningan City, Lotte Mall Jakarta, Ambasador Mall, Plaza Festival Mall Kuningan, and ITC Kuningan.

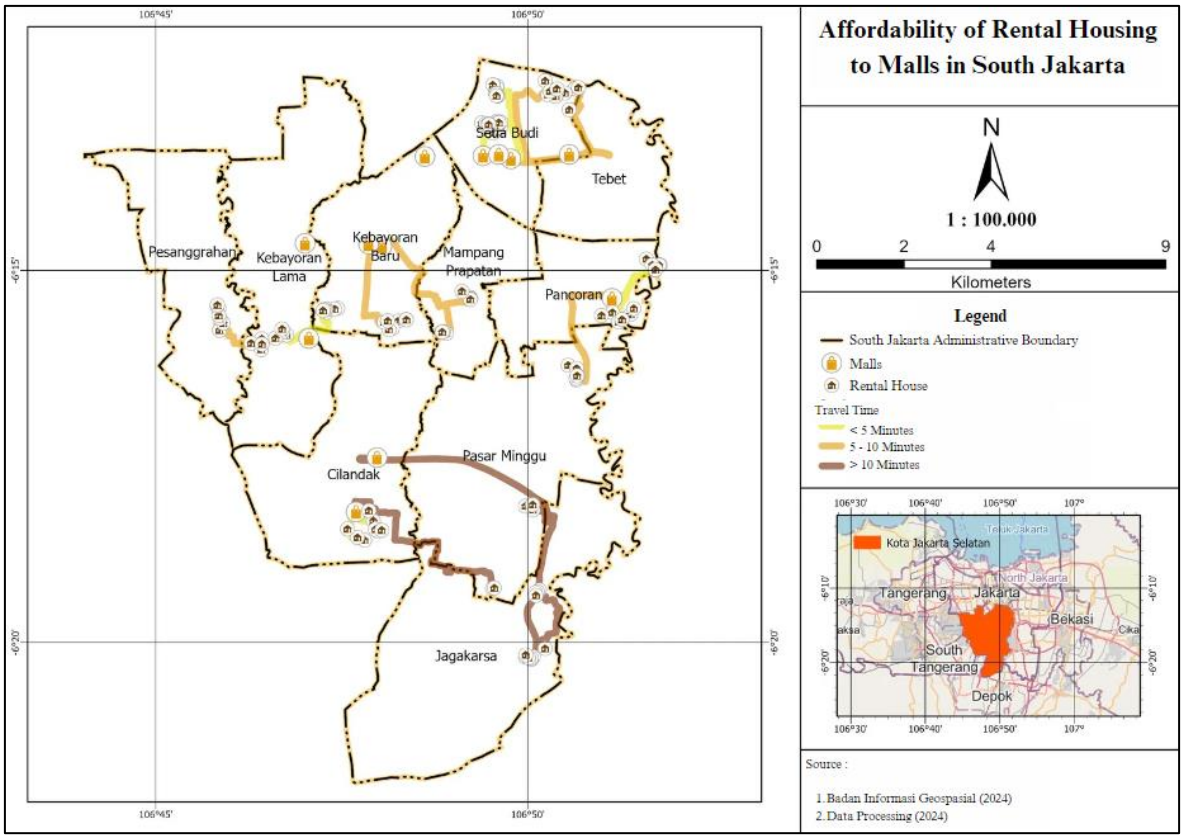


Figure 10. Accesibility Rent House and Malls
Source: Data Processing, 2024

Accessibility of Rental Houses to Offices

The Setia Budi sub-district shows the most affordable location of rental houses and offices, followed by the Kebayoran Lama, Kebayoran Baru, and Jagakarsa sub-districts (Figure 11). The distance from the rental house to the office in Setia Budi Sub-district is 5 minutes. Of course, renters who work in the Setia Budi office area will choose to live in the rental house closest to their office. Office buildings in Setia Budi include Menara Kuningan, Menara Duta, and Prudential Tower. One of the most famous elite office districts is the Sudirman Central Business District (SCBD), which is located in Jalan Sudirman, Kebayoran Baru District. This elite office complex is a target for those who want to apply for a job. Companies in SCBD include PT Electronic City Indonesia, Shopee, PT Abill Indonesia Jaya (AIJ), PT Hasnur Riung Sinergi (HRS), PT Eblo Teknologi Indonesia, and PT Pasifik Agro Sentosa (PAS). This area has hotels, shopping centers, entertainment centers, and, of course, hotels. So, it is natural that this sub-district is an affordable sub-district between rental houses and offices.

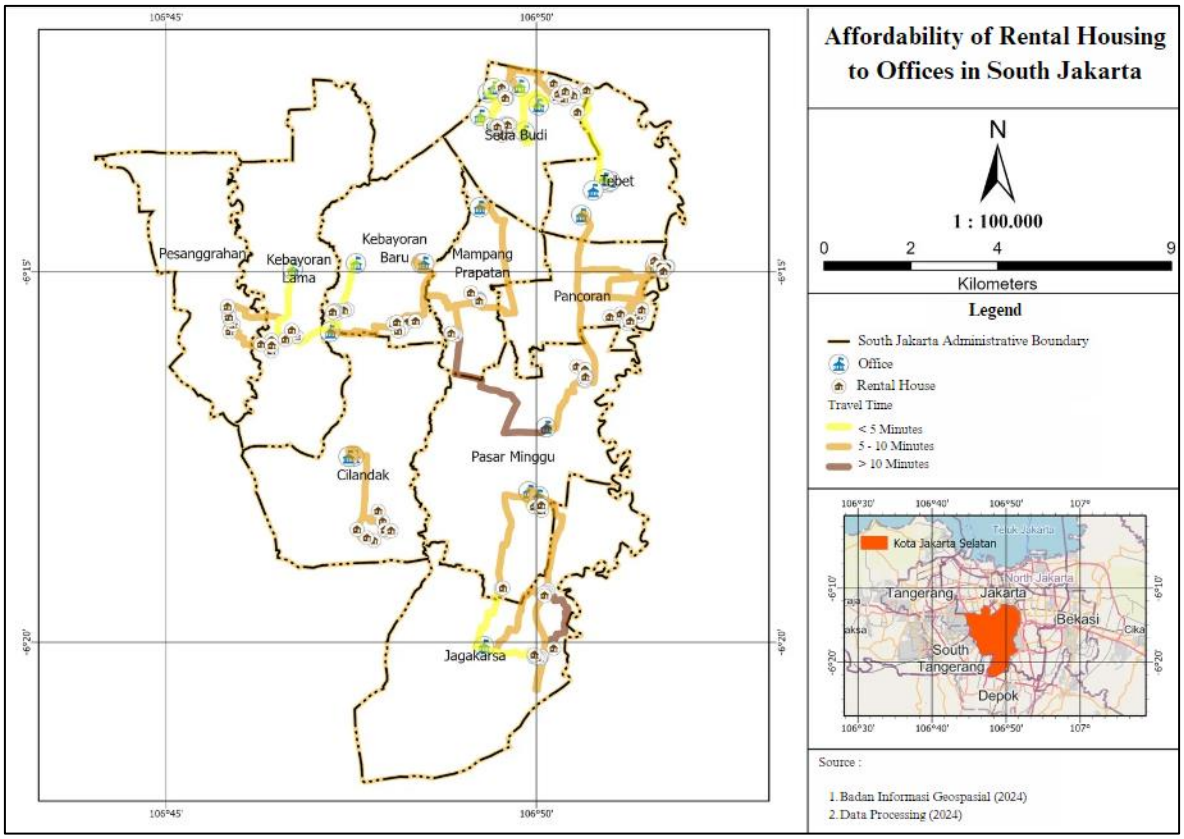


Figure 11. Accesibility Rent House and Offices
Source: Data Processing, 2024

Social and Economic Impact

From the results of data collection and processing, it is found that the average rented house was built in 2014. However, the mode number of rental houses in 2013 and 2021 is high. The rented house was likely built in 2021, during the COVID-19 pandemic, considering the need for housing for work and study after the pandemic ended in 2022. Meanwhile, in 2013, especially in Pasar Minggu Subdistrict, the construction of offices, hotels, and apartments was rampant (Alexander, 2013), encouraging rent house business actors to start building rent houses by targeting tenants who did not choose apartments.

Rent houses in South Jakarta are dominated by specialized rented house buildings, as evidenced by 66 respondents who were found to be managers. In contrast, 39 rented houses are attached to the owner's house. Rent houses that are attached to the owner's house show an indication of a change in the function of the building, which should be included in the commercial category if there are ten rooms for rent. However, according to the data collection results, owners often only rent out rooms below 10. Facing this, through DKI Jakarta Provincial Regulation Number 1 of 2024 has defined boarding houses as private residences that function as hotels without limiting the number of rooms. Meanwhile, the social problem often encountered is disrupting comfort between fellow tenants, such as noise.

Predict the Price of The Rent Houses Per Subdistrict

Double linear regression analysis using extensive data on land, house floors, room numbers, and prices (Owner's income within one month). The data column can be seen in Table 4, where the land area variable, the number of floors of houses, and the number of rooms become free variables while the price becomes a bound variable.

Table 4. Data Types

Land Area	Number of Floors	Number of Rooms	Prices
40	2	5	25.000.000
64	4	4	5.200.000
400	1	4	3.000.000
120	2	8	6.000.000
80	2	8	6.800.000

Source: Data Processing, 2024

Plot scatter analysis (Figure 12) to see the correlation between variable types.

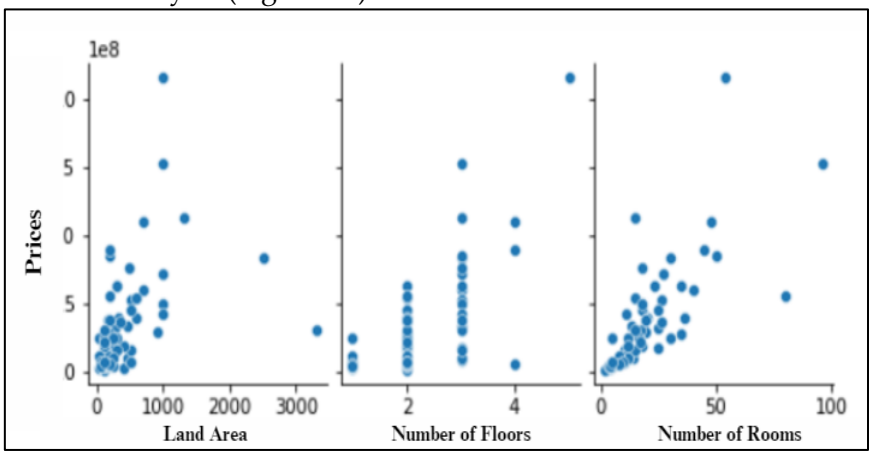
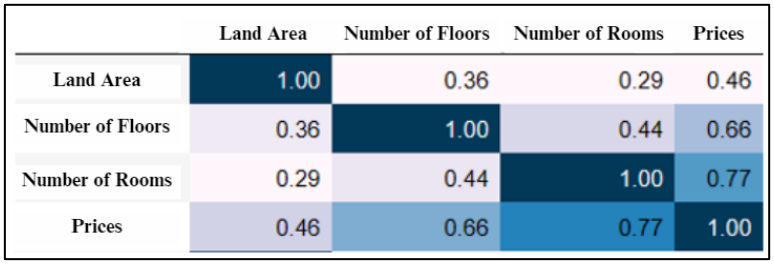


Figure 12. Plot Scatter Analysis
Source: Data Processing, 2024

The number of correlations between the variables can be seen in Figure 13. The variable that has the highest correlation between the price and the number of rooms which means that the more room number, the more income the owner earns in a month.



	Land Area	Number of Floors	Number of Rooms	Prices
Land Area	1.00	0.36	0.29	0.46
Number of Floors	0.36	1.00	0.44	0.66
Number of Rooms	0.29	0.44	1.00	0.77
Prices	0.46	0.66	0.77	1.00

Figure 13. Number of Correlation Between Variables
Source: Data Processing, 2024

The results of the calculation through the SPSS application can be seen in Figure 14. With the results of these calculations, then the formula of the prediction can be used is:

$$Y = -31.101.058 + 12.598\ (X1) + 16.016.331\ (X2) + 1.251.745\ (X3)$$

Descripstion:
Y = Income prediction
X1 = Land area
X2 = Number of floors
X3 = Number of rooms

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.633E+16	3	2.544E+16	69.200	.000[b]
	Residual	2.611E+16	71	3.677E+14		
	Total	1.024E+17	74			

a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-31101057.7	6513726.352		-4.775	.000
	X1	12597.703	4693.324	.174	2.684	.009
	X2	16016330.88	3164915.299	.351	5.061	.000
	X3	1251745.018	150183.591	.563	8.335	.000

a. Dependent Variable: Y

Figure 14. SPSS Calculation Results
Source: Data Processing, 2024

Then, calculate an average of the area of the land, the floor of the house, and the number of rooms per quarter to see the income of the owner. The lowest income was in the Pasar Minggu subdistrict while the highest income is in the Setia Budi subdistrict.

Table 5. Count Forecast Income with Variable Average

Subdistrict	Land Area (X1)	Number of Floors (X2)	Number of Rooms (X3)	Monthly Income Predictions (Rupiah) (Y)	Yearly Predictions (Rupiah) (Y)
Pasar Minggu	276	2	7	10.339.345	124.072.139
Kebayoran Baru	218	2	13	23.279.094	279.349.124
Pancoran	244	2	16	25.512.414	306.148.970
Jagakarsa	168	2	22	26.757.319	321.087.832
Kebayoran Lama	535	3	16	37.314.292	447.771.502
Cilandak	976	2	17	37.710.183	452.522.198
Setia Budi	521	3	26	51.214.585	614.575.016
Pesanggrahan	578	3	33	59.130.632	709.567.579
Mampang Prapatan	141	2	6	10.218.392	122.620.704

Source: Data Processing, 2024

The income is categorized into three levels of class according to the previous interval formula:

$$= \frac{709.567.579 - 122.620.704}{3}$$

$$= 195.648.958$$

The intervals based on the class can be seen as:

Table 6. Income Class Interval

Income Range (Rp)	Class Categories
122.620.704 – 318.269.662	Low
318.269.662 – 513.918.621	Medium
513.918.622 – 709.567.579	Hight

Source: Data Processing, 2024

With this analysis, it can only be seen that Pesanggrahan and Setia Budi Sub-district is in the highincome category, while Kebayoran Lama, Cilandak, Jagakarsa Sub-District is in the medium category (Figure 15).

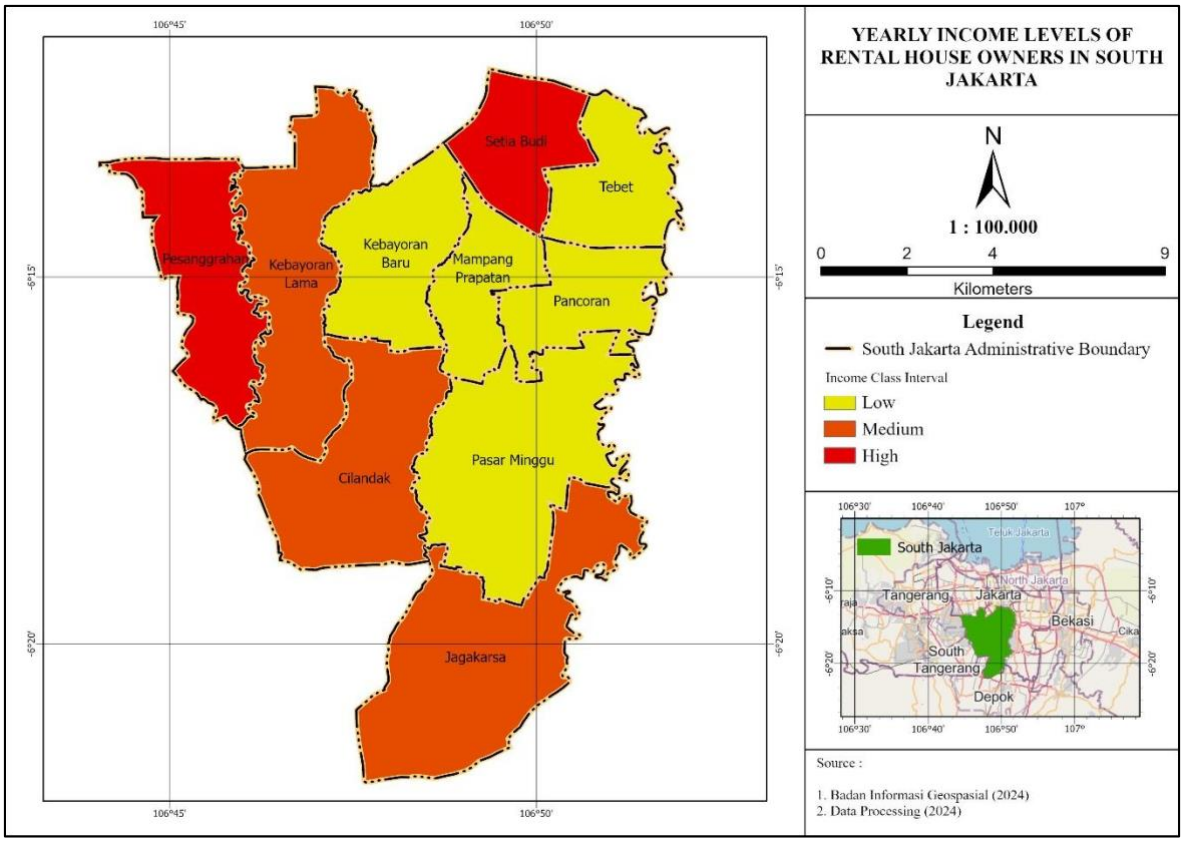


Figure 15. Rent House Owner Income Level Map
Source: Data Processing, 2024

Accessibility-Rich Location as a Price Determinant

From the overall analysis, Setia Budi Sub-district is the most prominent sub-district regarding accessibility and predicted income per year. A total of 44 rental houses have a price range of Rp1,000,000-Rp2,000,000, and 10 rental houses are in the Rp2,000,000-Rp3,000,000 price range. The data collection results show that at least 43 respondents have an income of Rp1,200,000-Rp6,000,000, and 34 respondents have an income of Rp6,000,000-Rp50,000,000. With this income, the rental house is relatively cheap.

The ability to pay the price of the boarding house, access to a close hospital, toll access in about 10 minutes, various malls, and many public transportation facilities (bus stops and stations) make this sub-district very strategic in the business of home property and rental houses. Sufficient transportation access will further develop an area's social and economic aspects (Alamri et al., 2023). Moreover, with so many offices, property entrepreneurs can target workers who need a place to live. This proves the theory mentioned earlier in the introduction section that the price of rental housing will depend on the strategic location. Strategic means accessibility to public facilities and the main activities of the tenants. The preference of prospective tenants for strategic housing needs will raise the demand, which will affect the price. This sub-district will be the main value for tenants who need a place to live close to the office and easy accessibility to other public facilities. The rental houses

available in this sub-district also adjust to the tenants' aesthetic value and comfort, as seen in Figure 16.

Figure 16. Boarding House at Setia Budi Sub-district
Source: Field Survey, 2023

The second district with the highest income figures is the Pesanggrahan sub-district. Rent house prices of Rp1,000,000-Rp2,000,000 and tenant incomes of Rp1,200,000-Rp6,000,000 dominate this sub-district. This sub-district is strategic regarding transportation facilities such as bus stops, toll gates, and malls, although it has yet to be fully competitive with the Setia Budi sub-district. Tenants who live in this sub-district will choose to use bus transportation or private vehicles that pass through the toll road to reach the Kebayoran Baru and Kebayoran Lama areas, which also have office areas. With the toll road, tenants who own a private car will have access to other sub-districts according to their destination. Toll roads help increase the effectiveness and efficiency of travel (Abuzwidah, 2014). So, this district will be suitable for tenants with private vehicles such as cars who want to save on housing costs.

Pasar Minggu sub-district is the sub-district with the smallest income figures. A total of 16 rental houses have prices of Rp1,000,000-Rp2,000,000, and 28 rental houses have prices below Rp1,000,000. In terms of accessibility, this sub-district has limited access to hospitals, public transportation, malls, and office areas. This sub-district excels in the area around TB Simatupang but still has low boarding house revenue. Two things that favor this sub-district are the access to the toll gate and the affordable educational facilities. The campus in this sub-district is National University, so overseas students studying there will need a place to live. For the price offered, the available rental houses are mostly on minor roads with poor aesthetic value (Figure 17).

Figure 17. Rent House Owner Income Level Map
Source: Field Survei, 2023

However, this sub-district is dominated by tenants with incomes of Rp1,200,000-Rp6,000,000 (18 respondents) and Rp6,000,000-Rp50,000,000 (20 respondents). This is similar to the phenomenon in Pesanggrahan Sub-district, where tenants are looking for affordable rental housing prices and mostly commute by private vehicle. In addition to convenience, one respondent who lives in a rental house in Kecamatan Pasar Minggu admitted that he chose to save on housing costs. The same phenomenon also occurs in Jagakarsa Sub-district, which has 47 rental houses with prices below Rp.1,000,000. Thus, the accessibility and affordability of education facilities are in Pasar Minggu and Jagakarsa sub-districts. Meanwhile, Setia Budi Sub-district emphasizes the strategic value of offices that are gradually experiencing economic development, which is also supported by adequate public facilities.

CONCLUSIONS

The research is expected to provide valuable insights for investors, property developers, and policymakers in optimizing their cost housing investment locations. The results of this research are expected to give a strong foundation in spatially and sustainably evidence-based decision-making in property development in South Jakarta. In addition, it is a severe consideration to the governor of the province of Jakarta in drafting the policy on the issue of the price of housing as a residence and the phenomenon of the low number of home ownership that continues to increase.

Further research can be conducted on the sociological and humanitarian aspects to analyze how a person chooses a place to live based on the environment and sense of comfort associated with a sense of place and place attachment, respectively. Indicators and

categorization of tenant types can be done to determine which sub-district boundaries the tenants live in because of the most strategic location or which types of tenants choose a residential location based on savings and choose to use private vehicles as the primary means of transportation. The reasons tenants choose rental housing in each sub-district begin to form a pattern, namely concentrating on the location of their main activities (work or school) and public transportation facilities.

With limited spatial information on the number of boarding houses, the analysis is limited to information obtained through primary data collection. In addition, the factor of facilities provided by the owner to the tenant can be added to improve the analysis. Tenants may choose other preferences besides location, such as shared parking facilities, Wi-Fi, or security guards. These additional factors can detail how tenant preferences can be considered when starting a boarding house business. Not only focusing on boarding houses, this research can be applied to similar phenomena that discuss rental properties such as apartments in other areas of Jakarta City and outside DKI Jakarta Province. Research with this method can also be conducted in cities experiencing urbanization and the lack of land to build houses, resulting in higher house prices that trigger individuals to live in rental houses that are by their economic capabilities.

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