

# Urban Space Transformation in Medan Johor District: The Influence of Elite Housing Development on Spatial Patterns

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## ABSTRACT

Urban space transformation in settlements can be influenced by population factors and changes in land function that trigger land development, especially in elite housing which has recently developed in Medan City. This study aims to determine the transformation of urban space in elite housing in Medan Johor District using descriptive-qualitative research methods with spatial data collection techniques through Google Earth and Google Maps. The results of the conclusion of this study indicate that the development of elite housing in several housing estates studied shows a lot of development in residential areas and trade areas which are currently increasing due to the population growth that continues to occur in Medan Johor District.

**Keywords:** housing, spatial pattern, transformation, urban



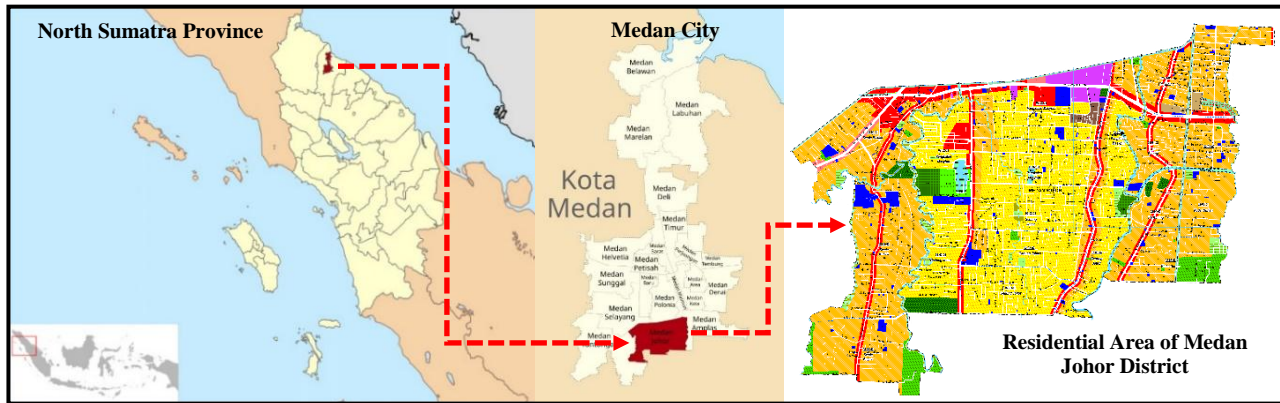
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## 1. Introduction

Urban transformation itself is a process of change in physical, social, economic and cultural forms in an urban area. Urban transformation arises due to phenomena, issues and problems that affect urban areas. Urban transformation can be seen in the form of building renovations, construction of new buildings, improvement of public facilities, changes in spatial patterns, and changes in community habits or activities [1]. Urban transformation can also be associated with sustainable urban development so that policy makers must understand the implications of urban change for the welfare of city dwellers. The form of urban transformation often appears with a combination of low-rise, medium-rise or high-rise buildings and various forms of spatial change patterns that form points or centers and form blocks in urban areas [2]. The trend of urbanization in 'post-industrial' societies gives rise to urban change and the development of new spatial structures so that people fill many coastal spaces [3]. These changes eventually lead to gentrification, which refers to a process of transforming urban areas that are generally inhabited by poor people, into elite areas consisting of residential properties for middle-class workers and/or also properties for commercial purposes (shopping complexes, offices, or accommodation facilities). In general, land conversion in locations that experience gentrification will occur gradually along with the progress of the surrounding commercial areas, such as the pattern of upper-middle-class housing that is developed in urban areas [4].

The city is a dynamic settlement and changes over time along with its form and physicality [5]. Basically, the growth and development of a city is influenced by various factors, including population factors. The development of population factors is a trigger for the growth and development of regions that have an impact on physical changes and land use that are easily visible physically [6]. Rapid population growth and urbanization have put great pressure on cities to accommodate the need for infrastructure, housing, and public services [7]. Medan City has a variety of infrastructure developments, one of which is development in the housing sector ranging from simple housing to luxury housing in an area.



**Figure 1** Research Location in Medan Johor District, Medan City, North Sumatra

As in Figure 1, this research was conducted in Medan City, seeing the rapid development of economic and residential activities so that there is one sub-district that has a very large number of housing complexes that have grown over the past 10 years, namely in Medan Johor District. The number of housing in this sub-district exceeds the number of private housing in other sub-districts that have similar conditions, namely located on the outskirts of Medan City [8]. Based on population data from the Medan City Population and Civil Registration Service, the population of Medan Johor District in 2024 is 159,652 people compared to the population in the last 9 years which was 132,012 people. The percentage of the population in Medan Johor District increased from 30% in 2015 to 54% in 2024 [9]. With a population growth of 210%, Medan Johor District is considered very potential for investors engaged in real estate, especially in elite housing. One of the most famous elite housing in Medan Johor District today is J City Residence. J City is a residence designed with a modern minimalist architectural design that emphasizes aesthetic and functional values and has complete facilities such as playgrounds, business areas and one of the attractions for the people of Medan Johor District and other districts is its famous culinary center.

The high increase in the city's population, both natural and migration, must be balanced with the development and dynamic growth of the city, which is usually always followed by changes in urban spatial patterns [10]. Based on the BPS of Medan Johor District in 2015-2024, the growth in population is inseparable from changes in existing spatial patterns. One example of the social factor is the shift in community activities from work in the agricultural sector to the trade sector. As a result, it has an impact on changes in spatial patterns that encourage the conversion of land from agricultural land to trade and residential land. From the changes in spatial patterns that occur, the study aims to examine in depth the transformation of urban space that occurs in the development of spatial patterns for housing in Medan Johor District.

## 2. Method

Administratively, Medan City is divided into 21 sub-districts and includes 151 villages [11]. This research is located in one of the sub-districts in the southern part of Medan City, namely Medan Johor District, North Sumatra Province. The selection of the research location in the sub-district was based on the level of development of housing complexes that are very numerous in Medan Johor District. There are at least 20 housing complexes that have been built in the sub-district [12]. The research location is in several housing complexes that are considered to have changed the spatial pattern from a certain time frame to the present. The

housing selected as the object of research is Milala Mas Housing, J City Residence and Citra Wisata Complex which are administratively located in Pangkalan Mashyur Village.

This research uses a descriptive approach by presenting existing phenomena descriptively in detail and also paying attention to their quality, characteristics, and relevance. Conducting an in-depth study of the changes in spatial patterns that occurred in Medan Johor District using a sample collection technique in the form of secondary data obtained through related agency data and through data from journals, scientific papers, websites, and mass media reports that are related to the research. This research technique is to analyze the spatial transformation of Medan Johor District seen from the development of elite housing, namely using remote sensing and remote sensing. Remote sensing is a skill to obtain information about objects, areas, or phenomena through data analysis obtained by a tool without direct contact with the object, area, or phenomenon being studied. [13] The basis for determining the variables that are used as references in this study is through research that has been previously conducted on changes in spatial patterns such as in Table 1.

**Table 1** Research Variables

No	Objective	Variables	Sub Variables	Relevant agencies
1	Knowing Changes in Space Use in Elite Residential Areas in Medan Johor District	Changes in Spatial Patterns	<ul style="list-style-type: none"> <li>• Green Open Space Area</li> <li>• Residential Area</li> <li>• Trade and Service Area</li> <li>• Transportation Area</li> </ul>	Based on the Medan City RTRW 2022-2042
2	Identifying the Characteristics of Space Use in Elite Housing Areas in Medan Johor District	Public Service Facilities	<ul style="list-style-type: none"> <li>• Health Facilities</li> <li>• Educational Facilities</li> <li>• Worship Facilities</li> <li>• Trade and Service Facilities</li> </ul>	Based on the RP3KP of Medan City

### 3. Result and Discussion

Based on population data from the Medan City Population and Civil Registration Service, the population of Medan Johor District in 2024 is 159,652 people compared to the population in the last 9 years which was 132,012 people. [14] The increasing population in Medan Johor District has an impact on the development of spatial patterns in Medan Johor District, especially in community settlements, which can be seen from the time series map in the last 9 years, namely in 2015-2024 there was growth in settlements, especially in elite housing. To see the development of spatial patterns in Medan Johor District, characteristics were identified, especially in elite housing areas in several facilities in Medan Johor District, so that changes in spatial patterns in the district can be identified.

#### 3.1 Identification of Characteristics of Spatial Patterns in Elite Housing Areas in Medan Johor District

To identify the characteristics of spatial patterns in Medan Johor District, it can be seen through the development of the number of existing facilities. The observation period was carried out from 2015-2024 which is considered to have shown developments in facilities in this district. The following is the development of facilities in Medan Johor District as in Table 2-5.

**Table 2** Educational Facilities

No	Year	Housing	Kinder garten	Elemen tary School	Middle School	High School	Total
1	2015	Milala Mas Housing/J City Residence/Citra Wisata Complex	12	11	7	1	31
2	2024	Milala Mas Housing/J City Residence/Citra Wisata Complex	-	10	5	3	18

Source: *BPS Kecamatan Medan Johor*, 2015 & 2024**Table 3** Health Facilities

No	Year	Housing	Health Center	Pharma cy	General Hospital	Clinic	Total
1	2015	Milala Mas Housing/J City Residence/Citra Wisata Complex	5	2	24	31	62
2	2024	Milala Mas Housing/J City Residence/Citra Wisata Complex	3	2	26	31	62

Source: *BPS Kecamatan Medan Johor*, 2015 & 2024**Table 4** Worship Facilities

No	Year	Housing	Mosque	Player Room	Church	Total
1	2015	Milala Mas Housing/J City Residence/Citra Wisata Complex	22	8	2	32
2	2024	Milala Mas Housing/J City Residence/Citra Wisata Complex Citra Wisata	25	1	1	27

Source: *BPS Kecamatan Medan Johor*, 2015 & 2024

**Table 5** Trade and Services Facilities

No	Year	Housing	Market	Mini Market	Shop	Restaurant /Cafe	Total
1	2015	Milala Mas Housing/J City Residence/Citra Wisata Complex	7	45	141	65	258
2	2024	Milala Mas Housing/J City Residence/Citra Wisata Complex	7	33	67	51	156

Source: *BPS Kecamatan Medan Johor, 2015 & 2024*

It can be seen from the table above that there has been a decrease in the number of facilities that should support community life in Medan Johor District. The decrease in the number of educational, worship and trade facilities will cause changes in the spatial pattern that will occur in Medan Johor District by looking at the time span taken. However, based on the recapitulation data from the Medan City Cooperative and UMKM Service in 2018-2022 below, it can be seen that the development of the number of UMKM in Medan City continues to increase every year. In 2017, 42 the number of UMKM recorded was 3,572 units, increasing in 2018 to 3,598 units. In the post-COVID-19 pandemic, the development of the number of UMKM experienced a fairly high increase, namely the number of UMKM 27,763 units in 2021 increased drastically to 77,000 in 2022 as in Table 6 [15].

**Table 6** Recapitulation Data on the Number of MSMEs in Medan City 2018-2022

No	Year	Number of UMKM (Units)
1	2017	3572
2	2018	3598
3	2019	3861
4	2020	4125
5	2021	27.763
6	2022	77.000

Source: *Cooperatives and SMEs Service of Medan City*

### 3.2 Identification of Changes in Spatial Patterns in Elite Housing Areas in Medan Johor District

Based on the development of facilities and the number of MSMEs in Medan Johor District that have been carried out so that they can be compared from data from related agencies with existing conditions in the field through spatial data from Google Earth and Google Maps. By making this comparison, changes in spatial patterns that occur in the three housing estates will be identified based on 2015-2024. Medan Johor District consists of 6 districts, namely Kwala Bekala Village, Gedung Johor Village, Kedai Durian Village, Suka Maju Village, Titi Kuning Village, and Pangkalan Masyhur Village (BPS Medan Johor District, 2024). These three research areas are located in Pangkalan Masyhur Village.



**Figure 2** J City Residence Development Map in Medan Johor District in 2015-2024

Currently, J City Residence is the largest elite housing complex in Medan Johor District. There are many facilities that have just been developed or renovated, including entertainment venues in the housing complex. As seen in the photo above, J City Residence has experienced significant changes in spatial patterns such as developments in residential cluster areas and the development of the number of trade and service facilities. Based on the identification of changes in spatial patterns as in Figure 2 above, the result of the growth in the number of residential areas has encouraged this housing complex to build more houses on empty land that was seen in 2015. The development of trade and service facilities can also be seen in 2024 which is quite famous in Medan City today, namely J-Walk or entertainment venues and MSMEs which are culinary centers in Medan City. The development of these trade and service facilities has encouraged this housing complex to renovate several other facilities such as the main gate located on Jalan Karya Wisata in Medan Johor District.



**Figure 3** Milala Mas Housing in Medan Johor District in 2015-2024

Based on Figure 3 above, there is a slight change in the spatial pattern in the Milala Mas Housing area located on Jalan A.H Nasution which is one of the arterial roads in Medan City. Milala Mas Housing is one of the elite housing complexes in Medan Johor District at this time. The change in spatial pattern is only seen in the increase in the number of houses on empty land which was seen in 2015. Due to limited land, Milala Mas Housing does not have many supporting facilities in its housing complex. However, Milala Mas Housing has quite good trade and service facilities at the front of the housing complex, precisely in the Ruko (Shop House) section of the housing complex. There are several well-known MSMEs and banking facilities located in the Ruko in this housing complex such as Miniso, Domino Pizza, Fore Coffee, Aufar Kids Shop, PT. Patra Jaya Humairah and BTN bank.



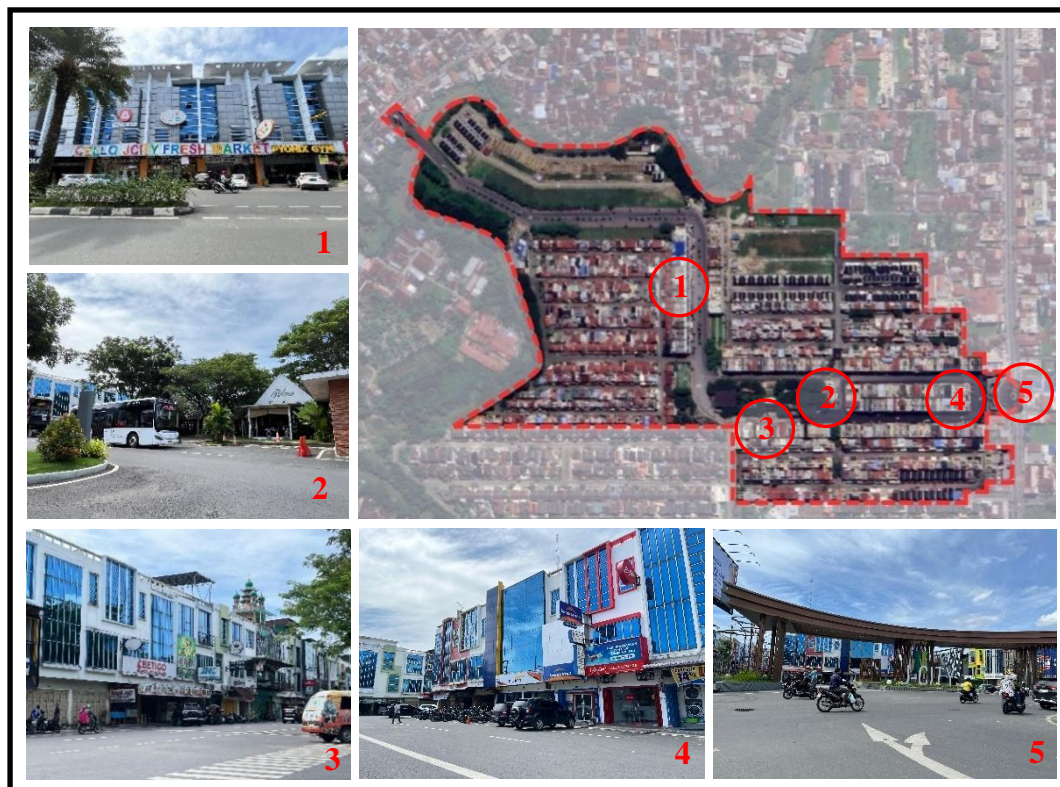


**Figure 4** Citra Wisata Complex in Medan Johor District in 2015-2024

Citra Wisata Complex is the second largest elite housing complex after J City Residence. Similar to Milala Mas Housing, there are no significant changes in the spatial pattern of the complex as in Figure 4. The only changes that occur are in the trading facilities located at the front, such as changes in the function of buildings for trading and service facilities, UMKM and banking.

#### 4. Conclusion

From the results of the analysis and discussion, it can be concluded that housing development follows the available space in the housing. Reviewed from the time specified in 2015-2024, the development of spatial transformation in housing can be seen in the closure of land into residential buildings and trade and service facilities. As in Figure 6, the housing that has quite significant development is J City Residence which is currently one of the famous elite housing in Medan City. As seen in the picture below, there are several trade and UMKM facilities that are still being developed into public spaces for the community in the housing and the outside community by J City Residence.



**Figure 8** Facilities at J City Residence 2024

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## 6. Conflict of Interest

The authors whose names are listed below certify that the manuscript does not have a conflict of interest.

Disha Anindya Sofira

This statement is signed by all the authors to indicate agreement that the above information is true and correct (a photocopy of this form may be used if there are more than 10 authors):

Author's name (typed)

Author's Signature

Disha Anindya Sofira



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