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THE CHANGE OF LAND USE IN JENDERAL A.H NASUTION STREET MEDAN

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ABSTRACT

One of the factors causing changes in land use is the increasing population. Also, the increasing number of people causes the need for land to increase. In regulating and planning the land use of an area, the government establishes a technical reference in the form of legislation regarding the use of space in an area. Regulation is developed according to the characteristics and needs of the government in the area. Thereby, regional development can be managed and directed according to the use and utilization of the land. Regulations on spatial use are then outlined in a map, i.e., the Regional Spatial Plan Map, making it easier for the government to control, supervise, and plan regional the management and use of regional land properly. This study aims to map land-use changes on Jalan Jenderal A.H Nasution Medan in 2006, 2013, and 2020. Primary data is a mapping of land-use changes obtained from field observations and aerial photos in 2006, 2013 and 2020 obtained from the Dinas Housing, Settlement Areas and Spatial Planning of Medan City. Also, secondary data in the form of Regional Head Regulations were then analyzed using descriptive analysis techniques. The findings of this study serve as an evaluation for the government in making land-use regulations so that these regulations can be targeted and meet the community's needs.

KEYWORDS: change, use, land, A.H Nasution

INTRODUCTION

Currently, the development of a city in the economic, social and cultural fields is unavoidable. This is indicated by population growth and increasing community activities [1]. Changes in land use in an area are caused by the need for land for the community for settlement as well as facilities and infrastructure supporting activities [2].

The construction of new facilities and infrastructure can affect land use and land value [3]. Land use has a reciprocal relationship with transportation network systems such as roads, underpasses, flyovers, railroads, and others [4].

According to [5] their research on land use in Pati District. Changes in land use according to this study, namely the increase and decrease in the area of land use in Pati District from 2009 to 2017,

which consisted of (a) An increase in land use for urban settlements by 60.09 ha or 1.33% in Pati District from 2009 until 2017; (b) The increase in land use for rural settlements by 0.82 ha or 0.02%; (c) An increase in the area of industrial land use by 19.73 ha or 0.44%; (d) A decrease in the use of wet agricultural land by 78.68 ha or 1.74 A decrease in the use of horticultural agricultural land by 1.96 ha or 0.04%.

According to [6], in their research on the analysis of land-use change in Pekanbaru City District in 2007 and 2014 that land use in Pekanbaru City District within a period of 7 years (2007 and 2014) is a change that is not too significant, e.i., (a) Changes in the land-use area in Pekanbaru Kota District in 2007 and 2014 were 79.37 ha of the total area; (b) The use of yardland has changed at most by 32.5 ha; (c) Addition of 8.41 ha of shop land use; (d) Addition of 3.9 ha of office land use; (e) Addition of hotel land use by 0.24 ha. These subtle changes could be affected because developments in the Pekanbaru Kota sub-district had been planned by the spatial planning of Pekanbaru City from 1994-to 2004. The factors that cause land use in Pekanbaru Kota District are the city's economic growth which increased by more than 8% in 2015, and planned urban design factors. Land change is currently leading to the development of trade and hospitality.

According to [7] in his research on the study of the development of the city of Medan seen from land use that the city of Medan is a city with quite rapid regional growth and development. The rapid population growth in the city of Medan causes the need for land to be higher. The city's development is directly proportional to population growth, which affects the city's development. In 1989 the development pattern of Medan City, the concentration of settlements was on the main road, especially in the sub-districts far from the capital.

The development of cities to the north, such as the sub-districts of Medan Labuhan, Medan Marelan and Medan Belawan, shows a leapfrog development pattern. The city's physical appearance pattern is sporadic in the suburbs that pass through the undeveloped part of the area (a lot of vacant land and agricultural land). In the centre of Medan City, in 1989, the concentration of settlements was already compact. In 2002 the development of Medan city showed a truly compact pattern. The city's development forms a concentric development pattern resulting in the physical appearance of the city that occurs on the outside. The appearance of the built city is spread relatively evenly.

Jenderal A. H Nasution Street Medan serves as the primary arterial road. Also, Jenderal A. H Nasution Street Medan is an alternative road that does not go through the city centre. Based on Government Regulation No. 26/1985, article 7 describes the criteria for arterial roads, i.e. (1) a minimum design speed of 60 km/hour and a road width of not less than 9 meters; (2) Has a capacity greater than the average traffic volume; (3) Traffic should not be disturbed by return traffic, local traffic or local activities [8].

In 1979, According to the Sub-Regional Plan, Jenderal A.H Nasution Street Medan's physical condition was still a footpath that was a green line with the existence of a train route from Medan to Pancur Batu. Medan city is growing, including the land around Jenderal A.H Nasution street Medan, which has been widely used for office and residential buildings. So, in 1996, the government changed land use starting from Brigjend. Zein Hamid street to the Babura River from the land allotment for housing and offices was converted into public buildings. Also, in 2011 the government changed the land use starting from Brigjend. Zein Hamid street – Karya Jaya street, originally a public building, was converted into shops/trade. Karya Budi street to Jalan Luku street, originally a green line and public buildings were converted into shops/trade and public buildings (mixed-use).

In 2015 the government changed the overall urban planning plan, originally Sub-Area Plan to Detail Spatial Plan. The land allotment around Jenderal A. H Nasution street Medan became shops, offices and public infrastructure. The physical condition of Jenderal A. H Nasution street Medan has been built currently has a road width of 40 meters with a building boundary line of 8,5 for Brigjend. Zein Hamid street to Karya Jaya street, 11,5 for Karya Jaya street to the Babura River and 4,5 for the Babura River to Letjend. Jamin Ginting Street (Medan City Regional Regulation Number 2 of 2015).

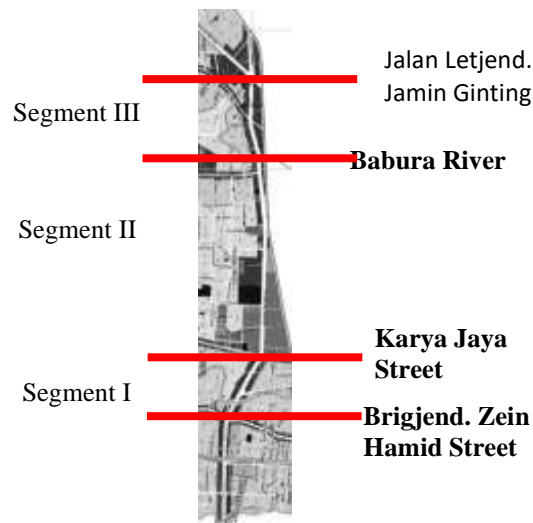
This study aims to map the land-use changes on Jenderal A.H Nasution Street Medan in 2006, 2013, and 2020 to find the suitability of these land-use changes with applicable regulations.

METHODOLOGY

This study uses quantitative methods and analyzes data using descriptive qualitative methods. A case study approach focused on a case that aims to get a detailed description of the case, such as the background to describe the suitability of land use changes at Jenderal AH Nasution Street Medan with government regulations applicable. Data were obtained from the Department of Housing and Settlement Areas of Medan City and direct observations at the research location (Figure 1).



The Map of A.H Nasution Street Medan



Description:

Segment I (Brigjend. Zein Hamid Street - Karya Jaya Street)

Segment II (Jalan Karya Jaya – Babura River)

Segment III (Babura River – Letjend. Jamin Ginting Street)

Figure 1: Map of Research Area Boundaries at General A. H Nasution Street Medan

FINDINGS AND DISCUSSION

The Process of Changes Land Use Segment I in 2006, 2013, and 2020

With the approval of the Level II Regional Municipal DPRD, the change in land use around Jenderal A. H Nasution Street Medan in 2006 is regulated in the [9] dated January 10, 1996. This Mayor's Decree contains changes to the land use and building boundary lines on Setia Budi Street, Sunggal Street, and Karya Jasa Street (Outer Ring Road). On Karya Jasa Street (Outer Ringroad) from Sei Babura to Sisingamangaraja Street is regulated that: (1) The current land use (before this Decree is published) is Housing and Offices; (2) Land allotment according to City Master Plan/Sub-Sub-Territory Plan is housing and offices with a planned road width of 48 meters and a line building borderline of 15 meters; (3) The land allotment is changed to a public building. Figures 2-5 will explain the suitability of the applicable regulations for implementing land-use change in the field.



Figure 2: Map of Land Use for Segment I of 2006 in accordance with the Regulations

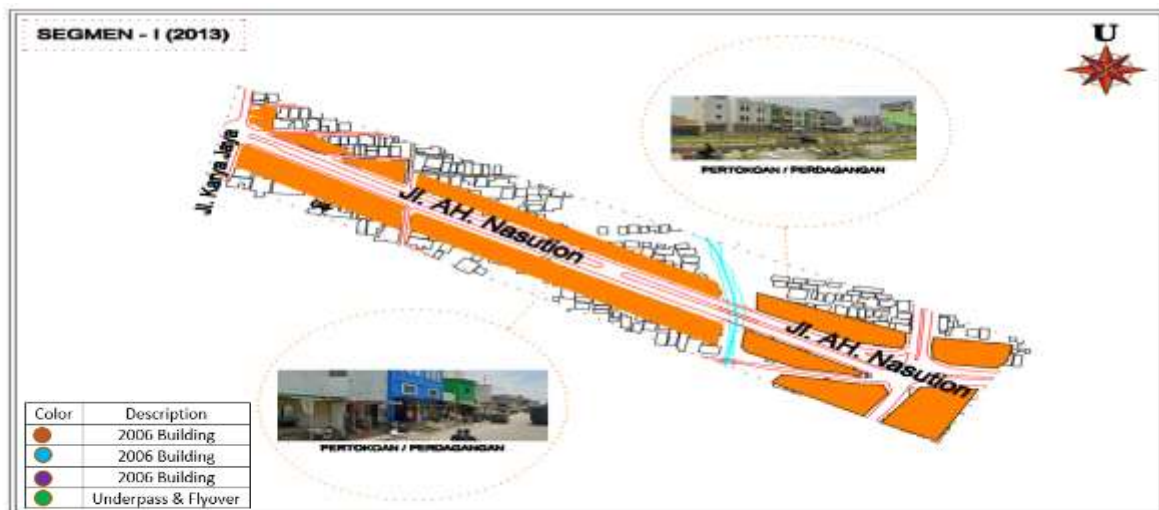


Figure 3: Map of Land Use for Segment I of 2013 in accordance with Regulations

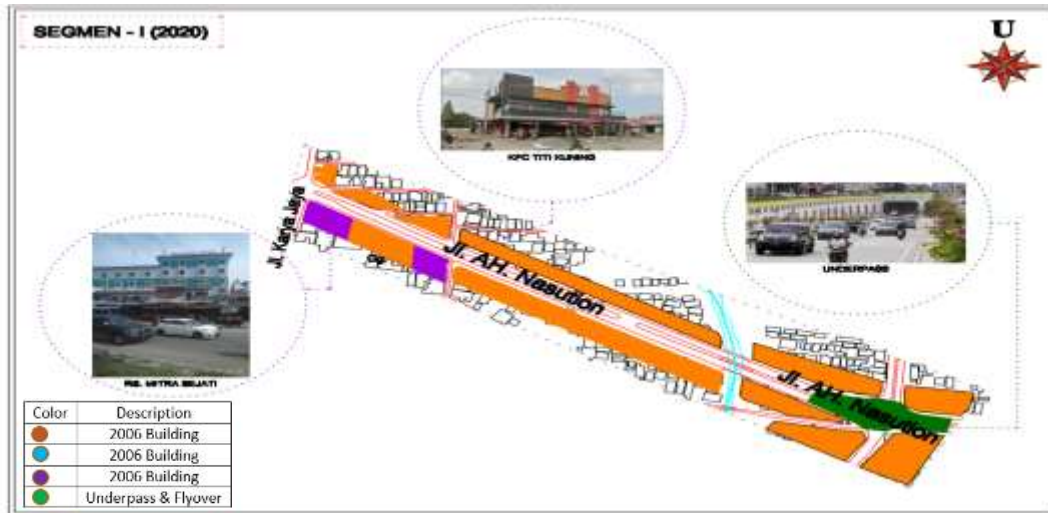


Figure 4: Map of Land Use for Segment I of 2020 in accordance with Regulations

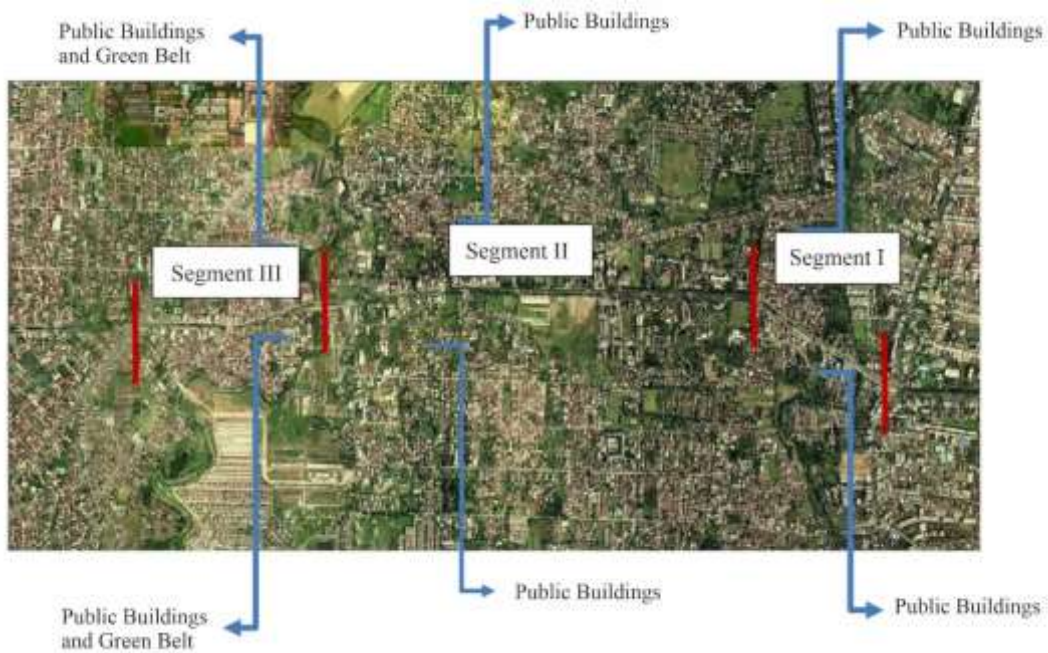


Figure 5: Aerial Photo of Land Use Jenderal A. H. Nasution's Street In 2006

The Process of Changes Land Use Segment II in 2006, 2013, and 2020

The Regional Spatial Planning Coordinating Board of the Medan City Government held a discussion meeting on October 11, 2011, which relevant agencies attended. They recommended road sections be evaluated for land use and then seek approval from the DPRD for the Level II Regional Municipality of Medan. On November 28, 2011, the DPRD for the Medan City Regional Level II, through [10] concerning the approval of the evaluation of 98 (Ninety-eight) road corridors in Medan City to change

globally. So, to realize the evaluation of this land-use change, the Mayor of Medan publish a Mayor's Decree of [10] concerning approval for the evaluation of 98 (Ninety-Eight) Corridors/ Roads in the Medan City for Global Change of Designation, including the Jenderal A.H Nasution Street Medan (Table 1).

Table 1: The Changes of A.H Nasution Street Designation in accordance with the [10]

No	Street	Previous Designated	Change of Designation
1	Brigjend. Zein Hamid Street– Karya JayaStreet	Public Buildings	Shops/Trade
2	Karya Budi Street– Luku Street	Public Buildings and Green Belt	Shops/Trade/Public Buildings (Mix Use)

Figures 6–9 will explain the suitability of the applicable regulations for their implementation in the field.

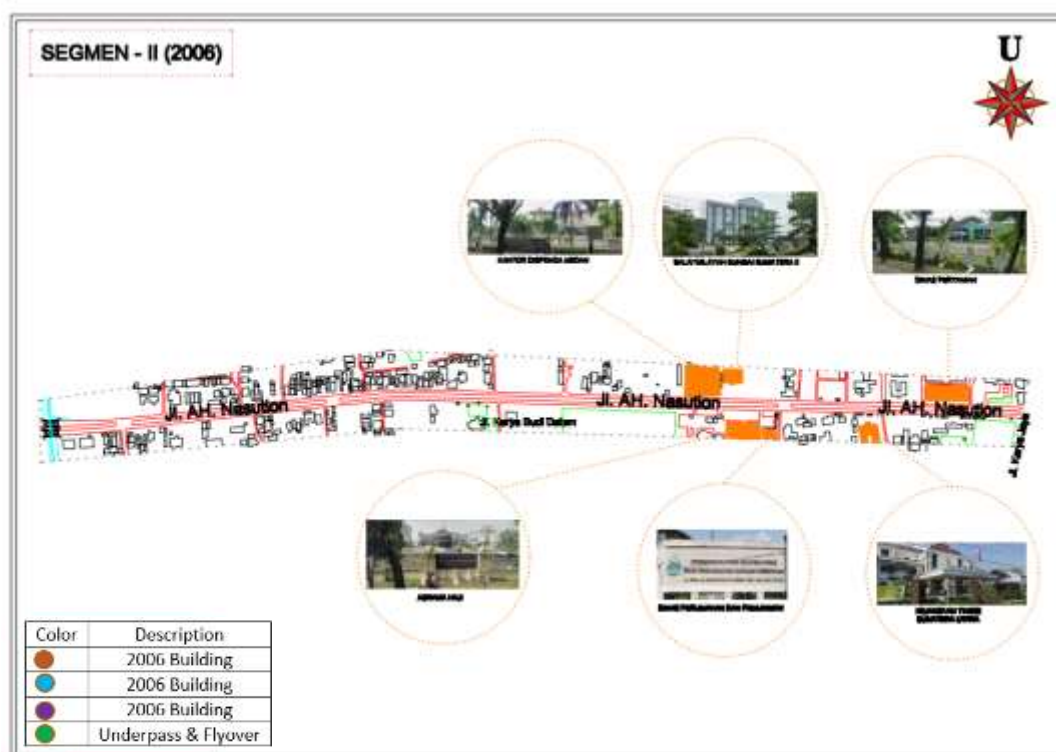


Figure 6: Map of Land Use Segment II in 2006 according to regulations

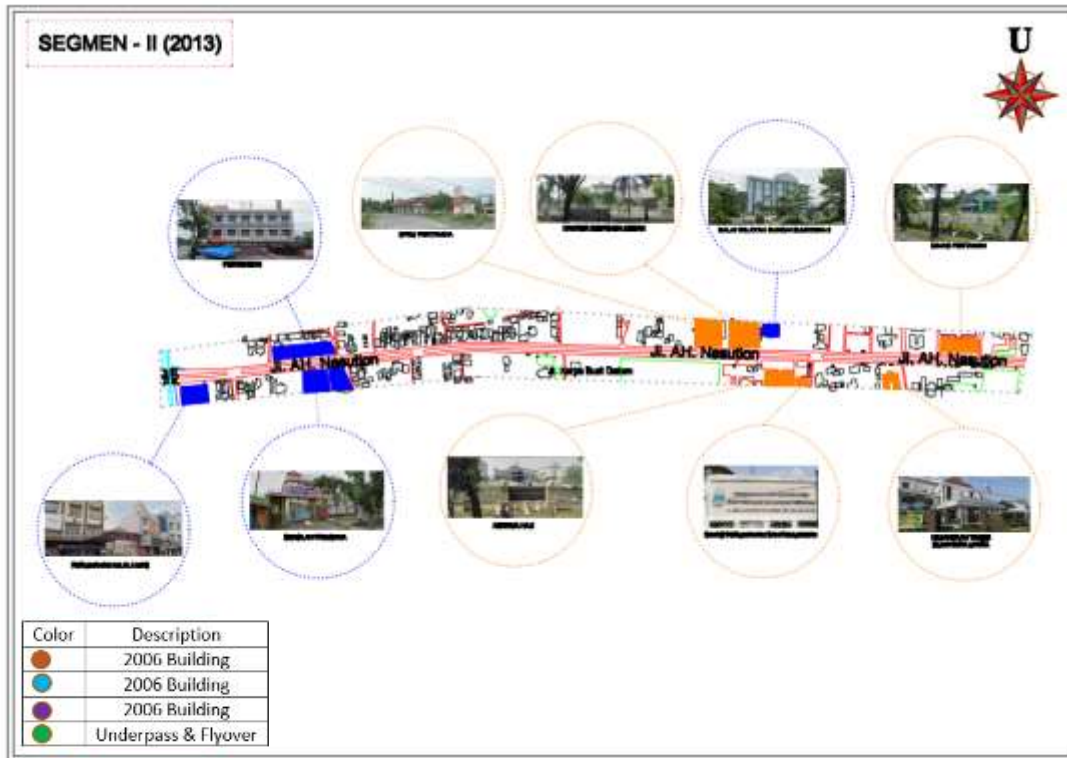


Figure 7: Map of Land Use Segment II in 2013 according to regulations

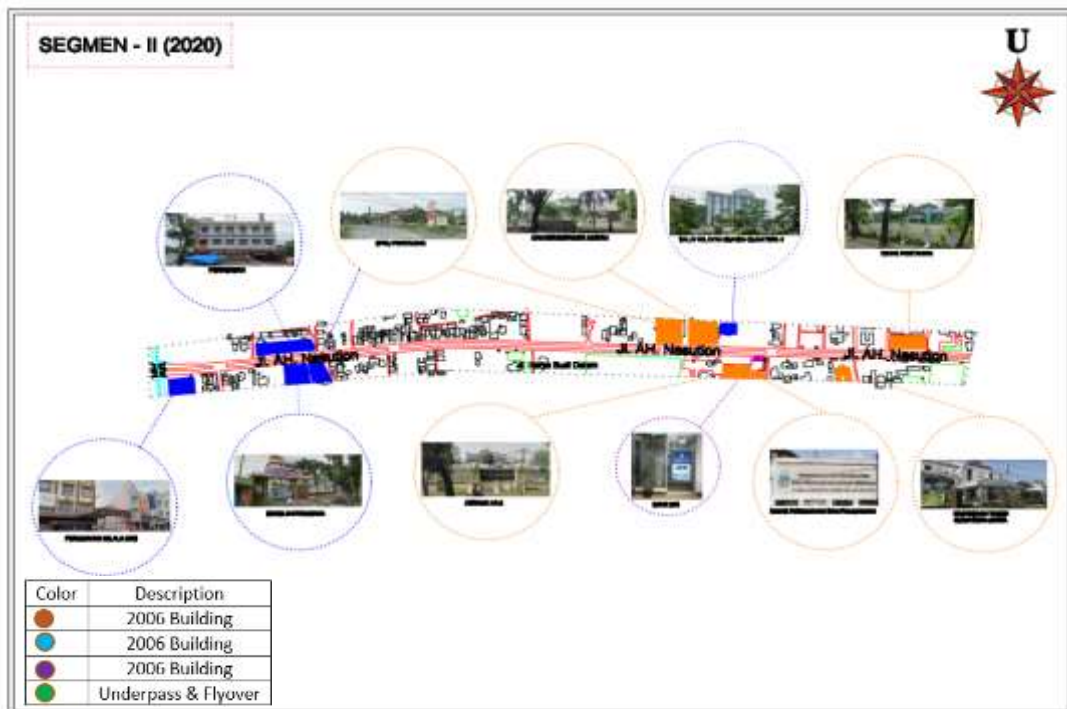


Figure 8: Map of Land Use Segment II in 2020 according to regulations

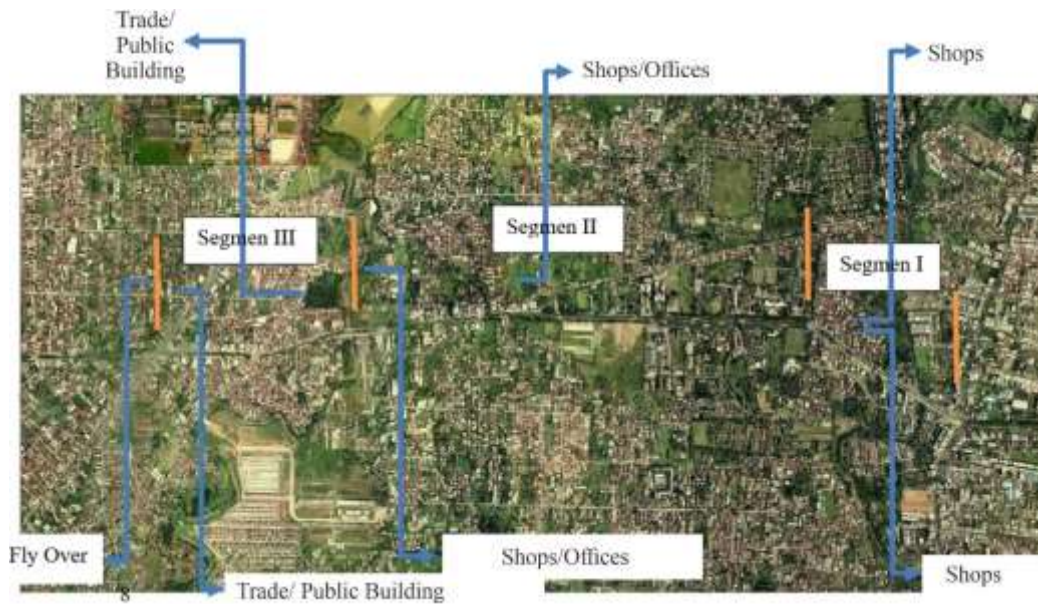


Figure 9: Aerial Photo of Land Use Jendral A. H. Nasution's Street in 2013

The Process of Changes Land Use Segment III in 2006, 2013, and 2020

[11] concerning Detailed Spatial Planning and Medan City Zoning Regulations 2015-2035 stipulates the Road Function Plan in Medan City and the permitted Building Border Line. General A. H Nasution Street is divided into 3 segments. However, this regulation does not include changes to the land use of General A. H Nasution Street Medan and still follows the previous Mayor's Regulation. Figure 10-13 describes the suitability of the applicable regulations for their application in the field.

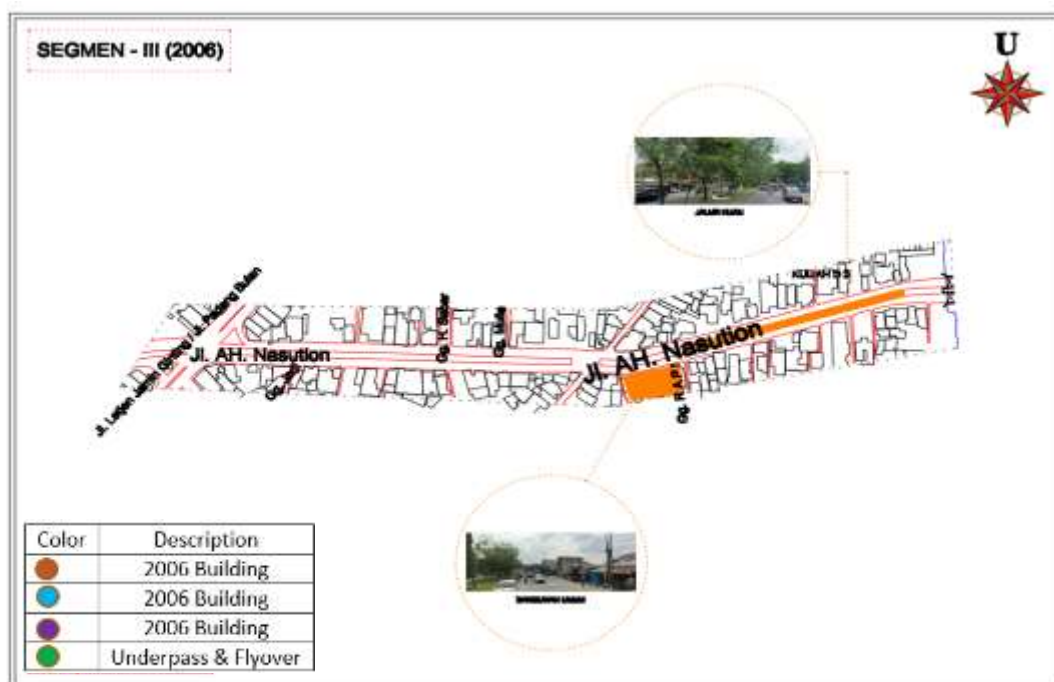


Figure 10: Map of Land Use Segment III in 2006 according to regulations

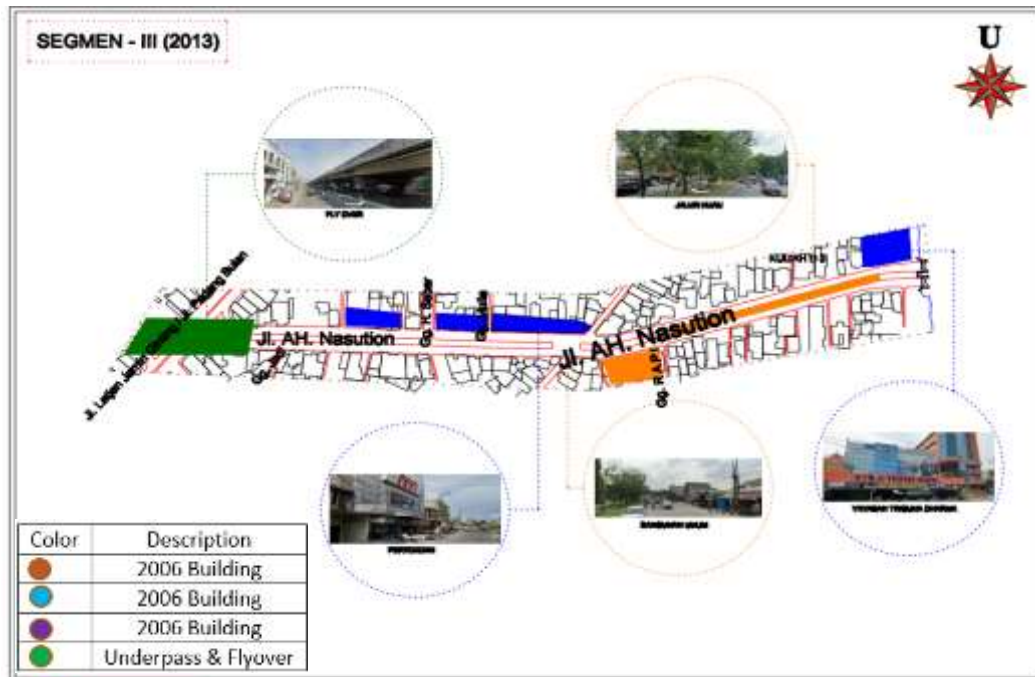


Figure 11: Map of Land Use Segment III in 2013 according to regulations

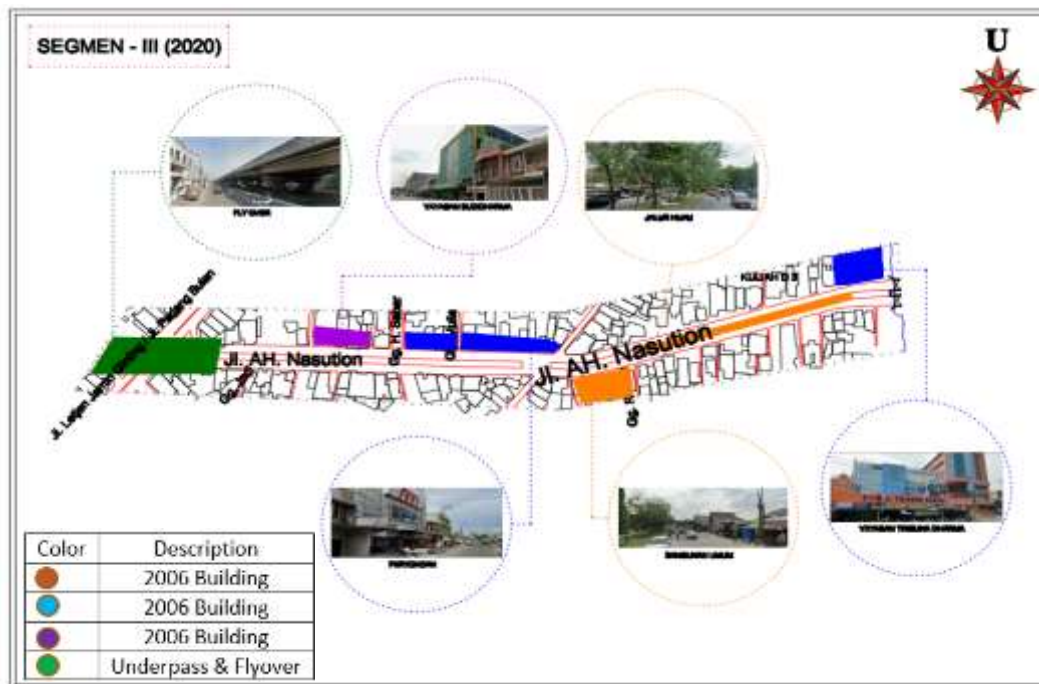


Figure 12: Map of Land Use for Segment III in 2020 according to regulations

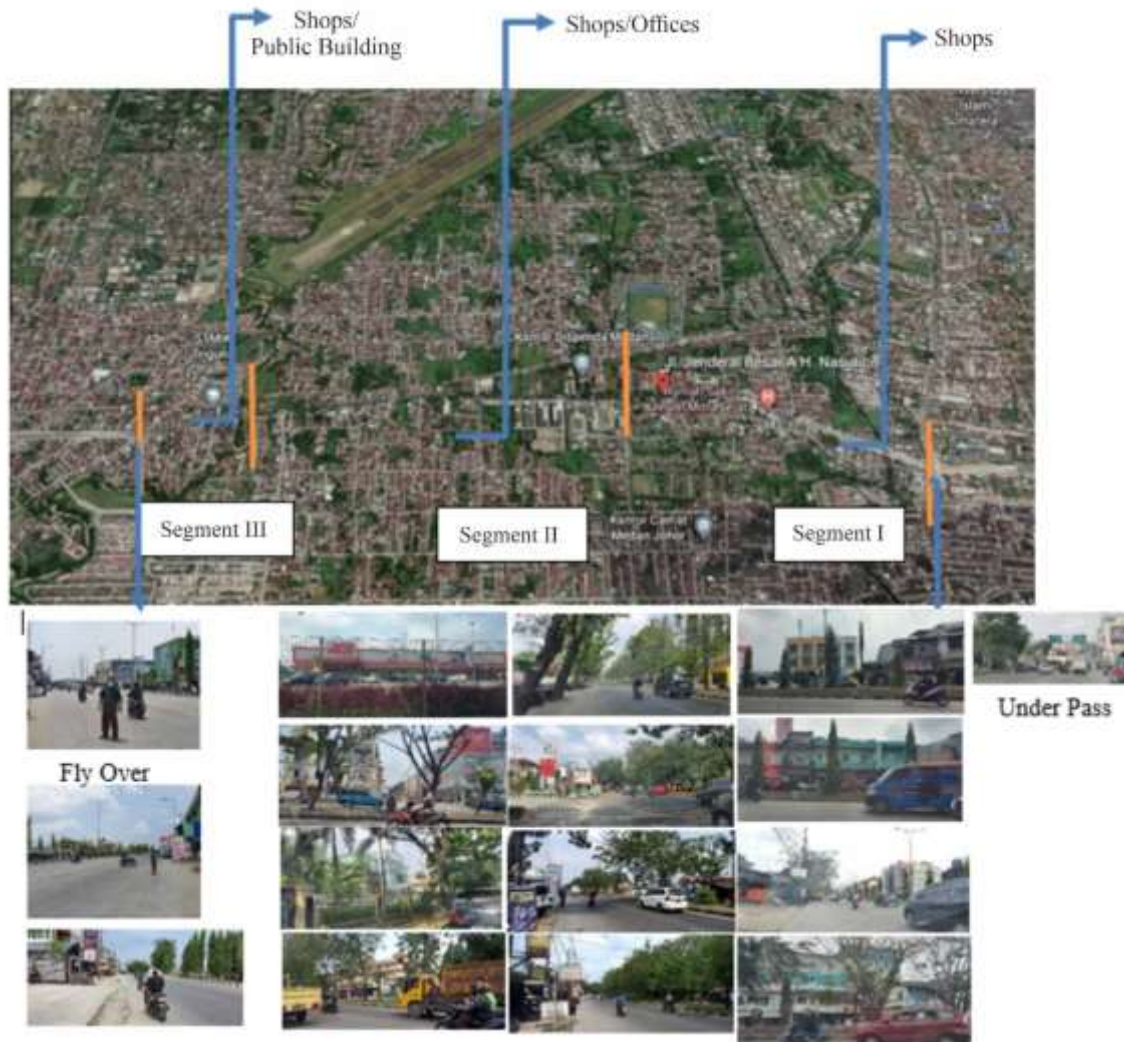


Figure 13: Aerial and Situation Photo of Land Use Jenderal A. H. Nasution's Street in 2020

In [11] concerning Detailed Spatial Planning and Medan City Zoning Regulations 2015-2035 Article 29 paragraph 2 c that A. H Nasution Street starts from Brig. Zein Hamid Street to Lt. Gen. Jamin Ginting Street is a primary arterial street. Also, there is an additional underpass construction in 2020. This is in accordance with [11] concerning Detailed Spatial Planning and Medan City Zoning Regulations 2015-2035 article 29 paragraph 10b that the intersection underpass road network includes: the intersection of Brigjend Katamso Street with Tritura Street at SBWP Titi Kuning BWP Medan Johor. The 1600-meter-long underpass was built in September 2017.

The results of the analysis of land-use change in 2006, 2013 and 2020 are shown in table 2.

Table 2: Analysis of Land Use Change in 2006, 2013 and 2020

Segment	2006	2013	2020
I	<ul style="list-style-type: none"> • Shops. 	<ul style="list-style-type: none"> • Shops/Trade. 	<ul style="list-style-type: none"> • Shops/Trade; • Mitra Sejati Hospital; • KFC Titi Kuning; • Underpass.
II	<ul style="list-style-type: none"> • Department of Agriculture • North Sumatra High Court; • Sumatra river Office Region II; • Department of Regional Revenue Medan; • Department of Housing and Settlements; • Hajj Dormitory. 	<ul style="list-style-type: none"> • Department of Agriculture • North Sumatra High Court; • Sumatra river Office Region II; • Department of Regional Revenue Medan; • Department of Housing and Settlements; • Hajj Dormitory; • Primbana School; • Shops; • Pertamina gas station 1 unit • Housing of Milala Mas . 	<ul style="list-style-type: none"> • Department of Agriculture • North Sumatra High Court; • Sumatra river Office Region II; • Medan Revenue Service; • Department of Housing and Settlements; • Hajj Dormitory; • Shops; • Primbana School; • Bank BRI; • Pertamina gas station 2 units; • Housing of Milala Mas.
III	<ul style="list-style-type: none"> Public Buildings and Green Belt. 	<ul style="list-style-type: none"> • Shops • Triguna Dharma Foundation • Fly Over. 	<ul style="list-style-type: none"> • Shops • STMIK Triguna Dharma • Triguna Dharma Foundation • Fly Over.

CONCLUSION

From the research results obtained conclusions, i.e. (1) Changes in land use in 2006, 2013 and 2020 occurred in accordance with applicable regulations. (2) In 2013, there were additional road transportation facilities such as Fly Over due to the high level of land traffic services on arterial roads at the intersection of four Simpang Pos Street between Jamin Ginting Street and Jenderal A.H Nasution Street along 625 meters which were built in 2012 and put into use in 2015. (3) In 2013, there were additional road transportation facilities such as an Underpass with a length of 1600 meters to overcome traffic jams at the Brigjend. Zein Hamid intersection. It was built in September 2017 and started to be used in 2019. (4) Changes in land use from year to year on Jenderal A.H Nasution Street Medan due to the intervention of the Government and the Company (private); (5) Changes in land use on Jenderal A.H Nasution Street Medan are affected by (a) Road growth development (Fly Over and Underpass; (b) An increase in basic human needs; (6) The process of land-use change in 2013 occurred due to changes in land use regulations; (7) With the existence of changes in land use regulations to support the development process that has occurred in the area around Jenderal A.H Nasution Street to obtain

local revenue from the description of the building situation and building permit levies which can increase regional income, there will be a change in land use in the area; (8) In 2020, the Government Regulation does not contain changes to land use on Jenderal A. H Nasution Street Medan and still follows the previous Mayor Regulation.

REFERENCE

- [1] Dwiyanto, T.A., & Sariffuddin, S. 2013. Karakteristik Belanja Warga Pinggiran Kota (Studi Kasus: Kecamatan Banyumanik Kota Semarang). *Jurnal Pengembangan Kota*. Vol. 1, no. 2, pp. 118-127.
- [2] Putra, R.D., & Wisnu, P. 2016. Pola Dan Faktor Perkembangan Pemanfaatan Lahan Di Kecamatan Maranggen, Kabupaten Demak. *Jurnal Pengembangan Kota*. Vol. 4, no. 1, pp. 67-75.
- [3] Ihsannudin, A. Z. 2013. Dampak Keberadaan Jembatan Suramadu Terhadap Nilai Tanah di Wilayah Kaki Jembatan Sisi Madura. *Agriekonomika* 2 (1) : 2
- [4] Tamin, M. D., dan Frazila, I. R. 1997. Penerapan Konsep Interaksi Tata Guna Lahan - S i s t e m Transportasi dalam Perencanaan Sistem Jaringan Transportasi. *Jurnal Perencanaan Wilayah dan Kota* 8(3):34.
- [5] Luthfina, Sudarsono, dan Suprayogi. 2019. 'Analisis Kesesuaian Penggunaan Lahan Terhadap Rencana Tata Ruang Wilayah Tahun 2010-2030 Menggunakan Sistem Informasi Geografis DI Kecamatan Pati'. *Jurnal Geodesi Undip*. Januari 2019. VOL 8 NO 1 (2019), (ISSN :2337-845X). Hal. 74-82.
- [6] Lusiana Anjulian, Ali Nurman 2017. 'Analisis Perubahan Penggunaan Lahan di Kecamatan Pekan Baru Kota Tahun 2007 dan Tahun 2014'. *Tunas Geografi* Vol. 6 No. 2 2017 (174-187). Universitas Negeri Medan
- [7] Walbiden Lumbantoruan. 2010. 'STUDI PERKEMBANGAN KOTA MEDAN MENGGUNAKAN DATA PENGINDERAAN JAUH DAN SIG'. *Jurnal Geografi* Vo.1 2 No. 2 Agustus 2010. Hal. 93-105.
- [8] Aisyah, Siti, dkk. 2012. *Perencanaan Pembangunan Jalan Lingkar Luar Barat di Kota Surabaya*. Wacana. Vol.15/No.3. Hal.42-50.
- [9] Surat Keputusan Walikota Medan Nomor 593.221/SK/1996 tanggal 10 Januari 1996 tentang perubahan peruntukan tanah dan garis sempadan bangunan di Jalan Setia Budi, Jalan Sunggal, dan Jalan Karya Jasa (Outer Ring Road).
- [10] Surat Keputusan Walikota Medan Nomor 593/2190k/2011 tentang Persetujuan Evaluasi 98 (Sembilan Puluh Delapan) Koridor/Ruas Jalan di Kota Medan Untuk Dirubah Peruntukannya Secara Global.
- [11] Peraturan Daerah Kota Medan Nomor 2 Tahun 2015 tentang Rencana Detail Tata Ruang dan Peraturan Zonasi Kota Medan Tahun 2015-2035.