

# Effects of Kesawan District in West Medan Structure on Individual Behavior

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**Abstract.** This paper discusses the Influence of Kesawan Medan Barat Village Structure on Individual Behavior. Behavior can be interpreted as human actions or activities that have a very wide range. Behavior is also interpreted as a person's response or reaction to external stimuli, one of which is the environment. Humans have an individual personalities as well as social beings, living in a collectivity society. Humans are also the center of the environment and at the same time part of the environment. Every human activity, especially those in urban areas, usually inseparable from the use of space. In accordance with the characteristics of the problems studied, this paper is included in descriptive research. Descriptive research is research on a problem in the form of the latest facts from a population which includes activities to assess attitudes or opinions towards individuals which are carried out to determine the value of an independent variable, either one variable or more, without making comparisons or connecting with other variables. In this paper, information is collected related to the structure of the city which is the object of research, then analyzed to provide an overview of the relationship between the influence of urban structure on individual behavior.

**Keyword:** effects, individual behavior, structure

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## 1 Introduction

Humans have individual personalities as well as social beings living in a society of collectivity. Humans are also the center of the environment and at the same time part of the environment. According to J. Wiesman 1981 (in Jumratul Akbar, 2011), there are three components that influence the interaction between humans and their environment, the interaction framework is called the environmental behavior system model, and the model is a a. The physical setting is called the physical environment, where humans live. Settings can be seen in two ways, namely components and properties. b. The phenomenon of individual human behavior that uses a physical setting with a specific purpose. c. Organizations, organizations can be seen as

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institutions or owners who have a relationship with the setting. The quality of the relationship between the setting and the organization is called an attribute or "Behavioral Phenomenon" [1].

The existence of a process of fulfilling needs that cannot be met at their place of origin in the suburbs causes movement, such as the movement of residents in the suburbs to the city center as a center for services and activities. The difference in function between the center and the outskirts of the city causes people who live in the suburbs to travel to the city center to carry out all their activities and to fulfill their lives that are not available in the suburbs. This causes the pattern of urban development to become more complicated and burdensome to the city, resulting in an inefficient city system due to uncontrolled land use and movement patterns, a lot of traffic jams, and very long and long distances between activity locations. The urban environment, transportation systems, and land use patterns are interrelated, changing one part of it will result in changes in the other [2].

A fairly good understanding of these effects will make it easier for planners to plan the shape and location of future transportation and land use needs, by analyzing information about building structure, spatial planning, land use, and travel patterns [3]. Thus, all matters relating to traffic problems that may occur will be handled properly, so that an efficient city structure will be created. An efficient city structure that is able to reduce the dependence of the city area on only one area and can reduce problems related to transportation such as traffic jams. Problem Formulation From the existing theory, the basis for research is the structure of a city with a grid road network pattern like the city of Medan will form a pattern of spread movement [3]. Through the findings of the reality in the field, it will be known how the actual movement pattern of the city of Medan by looking at the structure of the city. Based on these problems, a discussion was carried out by understanding and the formulation of the problem was how the structure of the Kesawan sub-district in Medan Barat affected individual behavior.

## **2 Literature Review**

### **2.1 Behavioral And Environmental Approaches**

The pattern of human behavior in an environment is a process of interaction between humans and their environment which involves a motivation and individual and social needs. Because the emphasis is more on human interaction and space [1].

### **2.2 Setting Theory**

Based on the elements that form it Rapoport (1997) in Haryadi and B Setiawan (2010), Setting theory can be divided into three, namely fixed components, namely elements that basically occur quite slowly, rarely change and remain fixed, such as space, roads, for pedestrians, and others. the second is semi-fixed components, namely elements that can change quickly and

easily, such as trees, road attributes, and street vendors. and third, namely variable components which are elements related to the behavior of human space users [1].

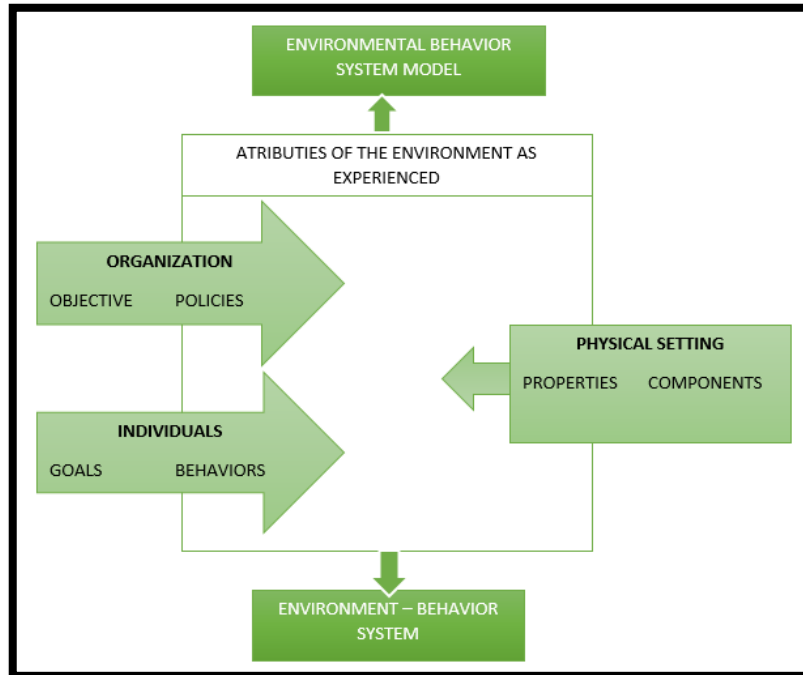
### **2.3 Environmental System Model Theory – Behavior**

According to J. Wiesman (1981), there are three components that affect the interaction between humans and their environment, the interaction framework is called the environmental behavior system model, and the model is: a) The physical setting is called the physical environment, where humans live. Settings can be seen in two ways, namely components and properties. b) The phenomenon of individual human behavior that uses physical settings with a specific purpose. c) Organization, the organization can be seen as an institution or an owner who has a relationship with the setting. The quality of the relationship between the setting and the organization is called an attribute or "Behavioral Phenomenon". According to J. Wiesman (1981), the interactions that arise are (Figure 1) [1].

The first In terms of comfort, the condition of the area that provides comfort according to the five senses and anthropometry is also accompanied by adequate facilities for activities. Anthropometry is the proportions and dimensions of the human body as well as physiological characteristics and the ability to relate to different human activities. Anthropometry is also known as one of the human factors that dimensionally influences architectural design. the second is in terms of sociality where the level of a person's ability to carry out social relations in a condition. This condition can be seen from the extent to which humans can express themselves in social behavior that is directly or indirectly related to public spaces, the third is in terms of visibility where the ability to be able to look around without being visually obstructed by the object to be addressed. Visibility relates to the distance that can be felt by humans. However, the distance that can be felt is not only dimensional/geometric distance but also involves visual perception where humans can feel obstacles to reach the intended object [4].

Then in terms of Accessibility where it's easy to move through and use the environment. The ease of movement referred to is related to road circulation and visual surroundings, in the case of Adaptation where the area's ability to accommodate different behaviors previously did not exist, in terms of sensory stimulation where the quality and intensity of the stimulus is an experience that can be felt by the five human senses, in terms of Mastery where the condition of the territory manifests the personality of the creation of boundaries and territorial space, in terms of activity where the intensity of feelings appears in the behavior that continuously occurs in an environment, in the case of Crowds where there is a feeling of density in an area, in terms of Privacy where the human ability to monitor by looking and hear information from within a region. Privacy is a person's desire not to be disturbed by the people around him, in terms of meaning where the area's ability to be able to present meaning in an individual or culture and finally in terms of Readability where it is easy for someone to be able to recognize or understand relationships in a field that can cause the person finds a way or direction [5].

The center of the model which represents the meeting point of the three sub-systems is the attribute of the surrounding environment, which arises from the interaction of individuals, organizations, and physical settings. Attributes So, the phenomenon of behavior is a form of interaction between humans and the physical environment (setting).



**Figure 1** Attribute Schematic or Behavioral Phenomenon

## 2.4 The Concept Of Behavior In Public Spaces

According to Jonce Marcella Laurens (in Moharromul Kirom, 2012), Humans have their own uniqueness, and the uniqueness of each individual can affect the surrounding environment and vice versa, the uniqueness of the environment can also affect individual behavior [1].

## 2.5 Environmental Perception (Environmental Perception)

Setiawan B. Haryadi (1995), states that environmental perception is an individual's interpretation of a setting, which is based on the cultural background, on reasoning, and on the experience of the individual. Therefore, individuals will have different perceptions of their environment, which lead to different cultural backgrounds, reasoning and experiences [1].

## 2.6 Behavior Settings (Behavior Settings)

Barker and Wright (1968) in Laurens (2004: 133) reveal that there are complete criteria that must be met by an entity, so that it can be said to be a behavior setting which is a stable combination of activities, places, with the following criteria: There is a repetitive activity, in the form of a pattern of behavior. Certain environmental arrangements, milieu related to patterns of behavior. Forming an equal relationship between the two. Performed at a certain time period.

Personal Space Proposed by anthropologist E. T. Hall (1963, 1966), the concept of personal space as a form of nonverbal communication. According to Hall, the distance between individuals determines the quality and quantity of stimuli exchanged (eg, tactile communication occurs only in close proximity) [1].

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## **2.8 Territory**

According to Altman 1975 (in Haryadi, 2010), the territory divides the territory into three area categories. the three categories of areas are: primary areas, secondary areas, and public areas. Primary territory is territory that is owned, used and exclusive which is recognized by other parties, is controlled permanently, and becomes the main part of the daily life of its inhabitants. Secondary area is an area that is not used too exclusively by a person or group of people that has a fairly wide area coverage, and is controlled periodically by the group that demands it. Public area is an area that can be used or entered by anyone, but must comply with the norms and rules that apply in that area [1].

## **2.9 Privacy**

The definition of privacy expressed by Altman (1975) there is 6 types, one of which is the desire not to get involved with neighbors/other people whose meaning is more or less the same as Sommer's opinion. The definition of privacy according to Rapoport privacy in terms of selective control is a person's ability to control the process of interaction in the environment where they are [1].

## **2.10 Public Area**

According to Carr (1992) in his book entitled Public Space, public space is a shared space where people can carry out various activities and are free of charge when entering the area [1].

## **2.11 Function of Public Open Space**

Stephen Carr 1992 states that public open spaces must be responsive, democratic and have meaning. Responsive, that is, public open spaces must be able to be utilized for a wide variety of activities and interests, democratic, namely public open spaces that must be utilized by the wider community from various social, economic and cultural backgrounds and accessible to persons with disabilities, the elderly, and various kinds of human physical conditions and meanings, namely public open spaces that must have a connection with humans, the wider

world, and social context and are a knot of social ties and a means of communication to create interaction between community groups [1].

### **3 Research Methodology**

#### **3.1 Types of research**

Types of research can be classified according to a particular point of view. One of them is the type of research based on its objectives [6]. Based on the research objectives, this final project is included in the type of exploratory research. According to F.C Dane (2000) [7], exploratory research is research that seeks to find the causes and effects of an event or event. Explorative research can also be interpreted as research for the purpose of finding new problems. This paper is to analyze the spatial structure of the West Medan sub-district and determine its influence on individual behavior that can occur in the Kesawan sub-district. To achieve the goal of this final project, the following steps are carried out.

The first is to identify the structure of the city by identifying the development of the city and the elements that make up the structure of the city, the second is to analyze the structure of the city by analyzing population factors, land use patterns and road networks, identifying modes of transportation by identifying modes of private vehicles and public transportation, analyzing movement patterns through analysis of motion generation, movement distribution, and movement interaction, and lastly Analyze the influence of urban structure on movement patterns by analyzing the influence of population, land use patterns, and road networks on movement generation, movement distribution, movement interactions, and movement modes then draw conclusions [8].

In accordance with the characteristics of the problems studied, this paper is included in descriptive research. descriptive research, namely the science that discusses the problem of the latest facts from a population which includes activities to assess attitudes or opinions towards organizations, individuals, situations, or procedures (William, 2008) [9]. Meanwhile, according to Cooper, H.M (2007) descriptive research is research conducted to determine the value of independent variables, either one or more variables without making comparisons or connecting with other variables and making research objects, then analyzed to find causal relationships, which will then provide description of the relationship between the influence of urban structure on movement patterns [10].

#### **3.2 Research Implementation Methods**

According to Babbie. E in Sangadji (2010) in research methods basically have a scientific way to obtain data with specific purposes and uses. The research method has rational, empirical, and systematic characteristics. Research methods begin by raising a problem, looking for answers to problems by analyzing literature to make hypotheses, collecting data from the field, analyzing

data with relevant techniques, and finally making a conclusion. Research can be said as a systematic and organized investigation effort. The reason is research is a process carried out through certain stages to achieve research objectives. The stages carried out in the research are:

The first is Selecting and determining the topic of the problem. Selection of the problem by paying attention to the factors that are useful and possible in its implementation, the second is Formulating the problem by determining the aims and objectives of the research, Formulating basic assumptions as the basis for the problem being studied, as a support for theoretical studies, Determining the type of research and its approach, Determining variables and subvariables, Determining the type of data and data sources needed based on variables, Determining and developing research instruments/tools, Data collection and analysis, and the last is Drawing conclusions Several main elements in the research method are used in this paper [11].

### **3.3 Data Needs**

Data are all facts and figures that can be used as material to compile information. Data can be divided into two, namely secondary data and primary data. Primary data is a source of research data obtained directly from the original source (not through intermediaries). While secondary data is data that is not collected alone but obtained from other related agencies or institutions, and additional data sources originate from books, and magazines. Scientific journals or archives (Sangadji, 2010:170) [12] . In writing this final project, the data source used is secondary data. According to its nature, the data used consists of qualitative and quantitative. Qualitative data is data in the form of individual judgments or opinions that are not in the form of numbers, but in the form of several words or sentences. While quantitative is data in the form of individual judgments or opinions in the form of numbers or tables of numbers.

### **3.4 Data Collection Techniques**

The data collection method is a technique or method of obtaining the required data according to the required variables. The data collection method in this paper is carried out by using documentation data collection by obtaining information sourced from data regarding matters in the form of books, newspapers, magazines, notes and others. Documentation data are documents or notes in the form of writing, numbers, or pictures (Sangadji, 2010: 176) [13] . The data collection method in this paper is carried out by conducting institutional surveys to obtain data from writings, such as report books, regulations, documents, and so on, according to the variables needed can be in the form of numbers, maps, and policies or statement from government agencies authorized to issue it. These various data were obtained from Bappeda, the Office of the Central Statistics Agency, the Department of Transportation, and others.

### **3.5 Research Analysis Methods and Tools**

Data analysis is the process of finding data and then organizing it systematically in a form : interview, transcripts, field notes, and other materials found in the field which are all collected

to increase understanding of a phenomenon and help to present research findings to others. In Sangadji (2010) Brannen distinguishes data analysis into two types, namely qualitative analysis, and quantitative analysis. This difference depends on the nature of the data that has been collected. If the data collected is only small, monographic, or in the form of cases, then the analysis is qualitative analysis. It is different if the data collected is large and easily classified into categories, then the quantitative analysis is needed. The purpose of this paper is to describe the shape and character of the structure of the Medan Barat sub-district and determine its influence on individual behavior that can occur in the Kesawan sub-district with this type of research method. is research descriptive. According to the purpose and type of research method, in this final project, the analytical technique used is the descriptive qualitative analysis technique which substantially contains the content of data collection and is then interpreted through findings about an event by looking at the cause. The qualitative descriptive analysis technique emphasizes the power of data analysis on documentation sources and The next theory is interpreted broadly, deeply, and sharply (Sangadji, 2010:210) [14]. In this final project analysis technique, a meaning and conclusion will be found from an object phenomenon under study, then the causal factors will be explained through fact-finding and using the right interpretation of things that occur in the study area.

## **4 Results And Analysis**

### **4.1 Location Description**

West Medan District is one of 21 sub-districts located in the central part of the Medan City region, which has an area of  $\pm 540.9$  Ha and is located at an altitude of 26 – 50 meters above sea level. West Medan District was formed based on Government Regulation Number 22 dated May 10, 1973. This West Medan District is the core District of Medan City. It is said to be the core sub-district because, at the beginning of the formation of Medan City, there were only 4 (four) sub-districts in Medan City, one of which was the West Medan District. The office has occupied a permanent building with a land area of  $\pm 1500$  m<sup>2</sup> and a building area of 812 m<sup>2</sup> and was previously named the Office of the Assistant Wedana which was inaugurated on April 1, 1971, which is located at Budi Development street No.1 Medan [15].

West Medan District has an area of 632.3594666 Ha, The Administrative Boundaries of West Medan District are as follows, in the north the location is bordered by Medan Deli District, in the south it is bordered by Medan Petisah District, in the east it is bordered by Medan Timur District and in the West it is bordered by Medan Helvetia District.

The natural and man-made boundaries that separate West Medan Regency from other regencies are as follows: natural boundaries are bounded on the north by the Deli River, on the south by the Red Cross Road, on the east by the Railway Line, and on the west by the Railway Line, H. Adam Malik Street, Gatot Subroto Street, and Deli River. The District of West Medan has 6



sub-districts, namely, Kesawan Village, Silalas Village, Kelurahan Glugur Kota, Pulo Brayan Kota Village, Sei Agul Kelurahan Village and Coral Village is choppy (Figure 2).

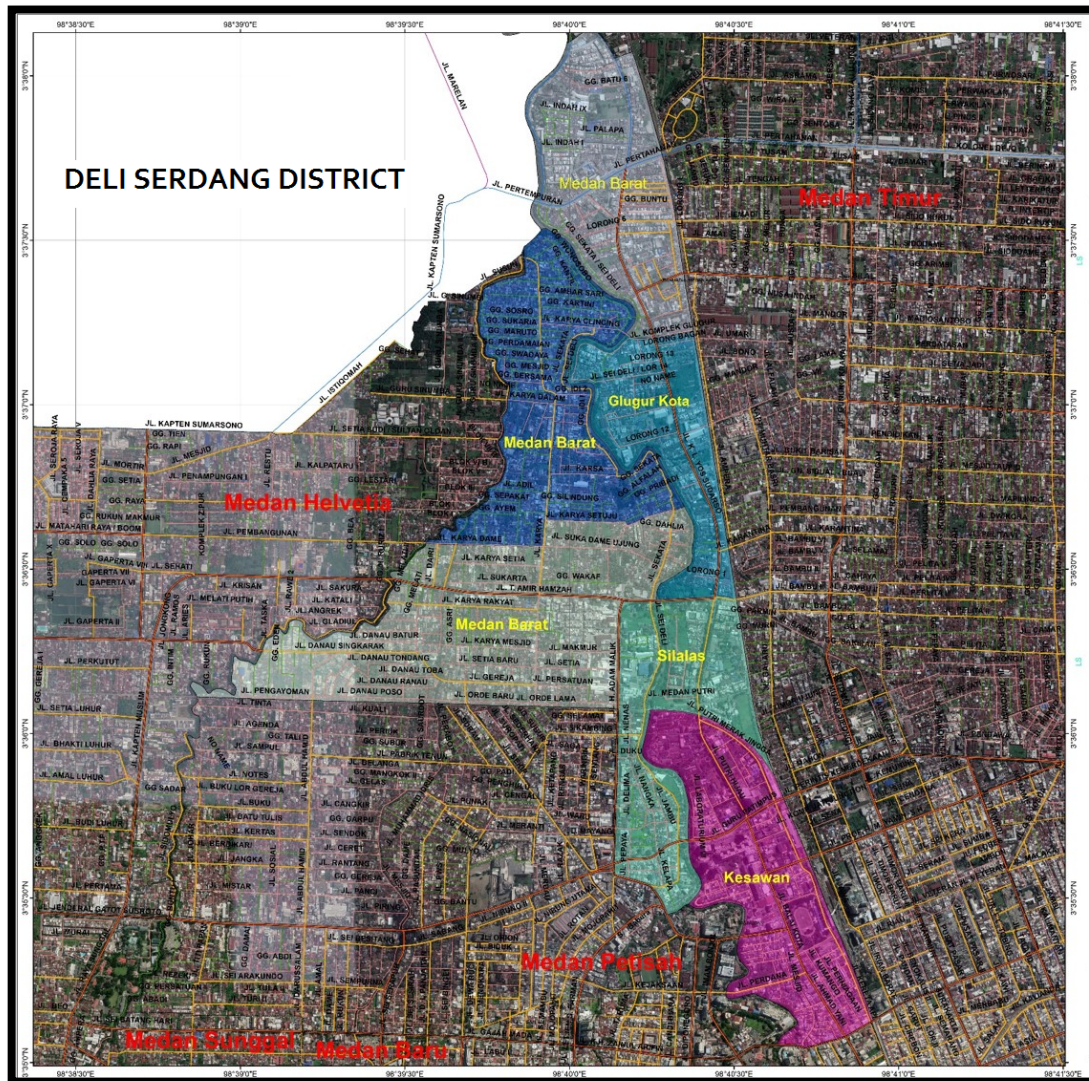


Figure 2 Map Source and History

#### 4.2 Kesawan

Kesawan Village has an area of 106,2274666 Ha. With administrative limits as follows: In the north it is bordered by Silalas Village, to the south, it is bordered by Aur Village, In the east, it is bordered by Gaharu Village, Pioneer Village, and Gang Buntu Village and In the west it is bordered by the Petisah Tengah Village. The natural and artificial boundaries that separate Kesawan Village from other Kelurahan are as follows: Northside is limited by Customs street, Southside is bordered by Red Cross street, East side is bordered by Train street and To the west it is bordered by the Deli. River (Figure 3).

Kesawan is one of the Chinatown areas in Medan City which is along Ahmad Yani street. The road that was formerly known as Kesawan street is the oldest street in Medan City which is

filled with historical buildings. This area is also the oldest street and is the center of ethnic Chinese settlements in Medan. In this area, there are many historic buildings that witness the development of the trade sector in the city of Medan such as Kesawan Square (a tourist name in Kesawan at weekends) revived by the mayor of Medan, namely M. Bobby Nasution to serve as a culinary center area to realize Medan The Kitchen of Asia.

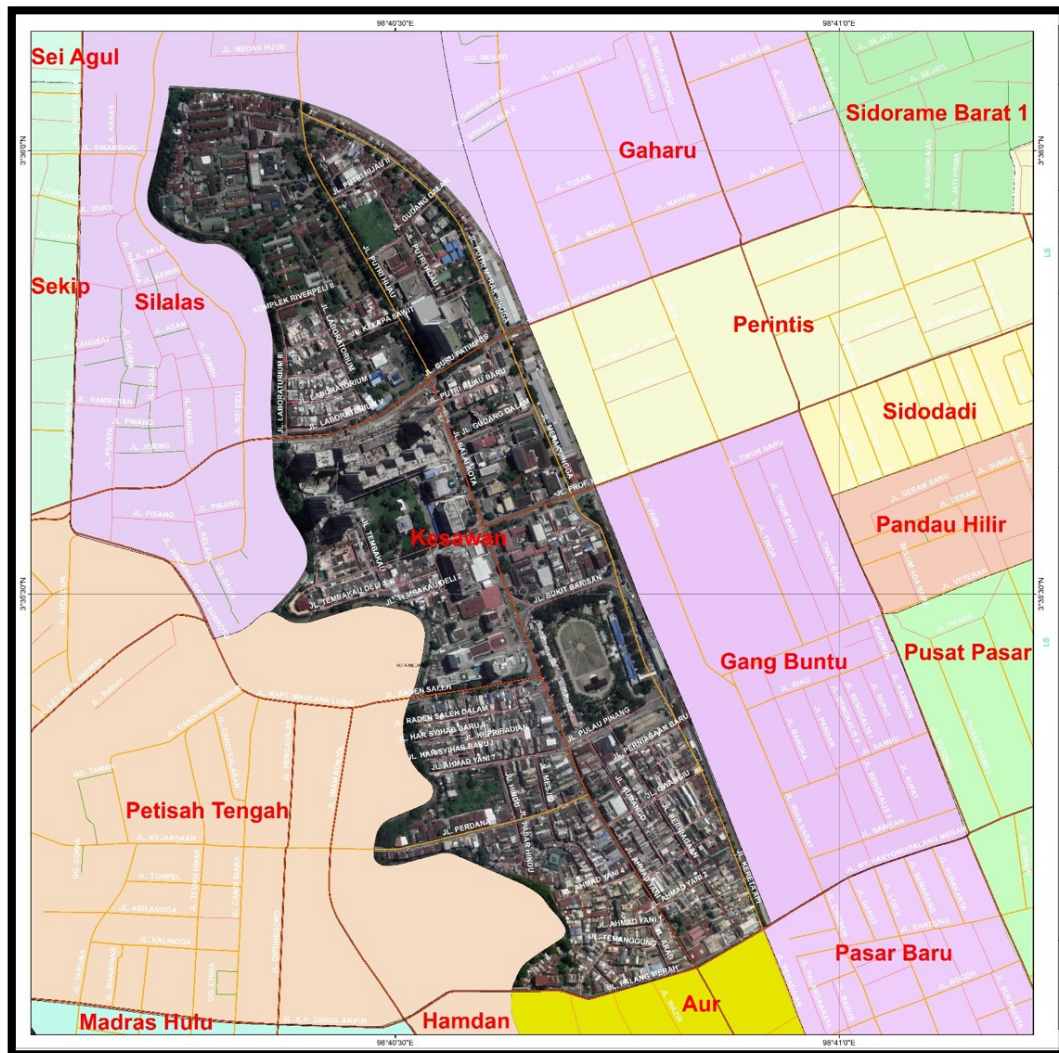


Figure 3 Map Source and History

## 5 Conclusions

From the search results, several conclusions were obtained, namely the layout of the West Medan District has a city structure that tends to form a multiple nuclei model, the Kesawan Area of the West Medan District is the largest derivative originating from the area closest to the three areas with the oldest historical center in Medan City and the Kesawan Region which has the largest movement in Medan City is the area that has the largest trading center, namely West Medan District.

Has an urban transportation network system and modes of transportation are influenced by the type of urban structure. The city of Medan has activity centers that are scattered with the basic

pattern of a grid road network that forms more evenly distributed service activities in various places. Short distances and lots of obstacles are not suitable for vehicles with large capital (big buses). The main urban structure factors that influence movement patterns in the West Medan District are trade factors and the realization of the structural forming factors of the West Medan sub-district have not been well integrated with the Spatial Plan and Territory owned by the city of Medan.

### Acknowledgments

From the search results, several Acknowledgments were obtained, namely, To reduce dependence on the city center, there is a distribution of components of city activities such as commercial, offices, and social services and facilities, especially suburban areas which have a fairly high population. such as the Kesawan Barat District of Medan, so that it is not dependent on the city center so that it can reduce movement to the downtown area while reducing the length of trips that must be taken by residents and traffic problems. To reduce traffic problems and the length of trips that must be taken, the concept of school zoning can used, centralized integrated offices in one area, and vertical buildings (flats/apartments) in the city center area, Provision of mass public transportation to serve suburban areas in the West Medan District area, Development of housing developments by developers must be included in the City Spatial Plan and supported by policies such as the provision of service facilities for housing to reduce dependence on the central area and the need to increase road area so that mass transportation modes can be implemented which can reduce traffic loads in Medan Barat District.

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