

Transportation Planning Strategy in Land Development for Untia Village

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Abstract: *Transportation and land use have a close and inseparable relationship. Without transportation, the land development is not possible, a transportation system is provided to serve economic interests or community activities. Untia village is a strategic area in the northern part of Makassar city, it can be seen from the various activities of the ministry that have been built. But this area seemed isolated so that there was an imbalance between the development of regional functions and facilities and infrastructure. This study analyzes the condition of infrastructure and means of transportation, and strategies for developing regional functions. Data collection is done through observation with interviews regarding the condition of infrastructure and means of transportation. Secondary data as a reference are the Makassar City Spatial Plan for 2010 to 2030 and 2015 to 2034. The analytical method used is the SWOT analysis. It can be explained that public complaints are public transportation services, and fishermen's activities are still active in the port of Paotere so that the Untia village is empty of visitors. While the transportation development strategy is the construction of a local road network as a way to pass and divert activities in the port of Paotere to the Untia fishing port, need to provide public transportation or buses for tourists and provide a good utility network in the village fishermen, activate bus transportation to make connectivity in integrated education, and synchronization with road network engineering planning.*

Keywords: *Transportation, Land Use, Infrastructure*

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I. Introduction

Transportation and land use are very closely related, thus forming one land use transport system. Land use can be realized if transportation needs are met properly. Transportation systems that are jammed or stagnated will certainly hinder land use activities. Conversely, transportation that does not serve a land use will be beneficial. Land use is the end result of the activities and dynamics of human activities on the surface of the earth, but that does not mean stopping but still running dynamically.

The problem of urban transportation is influenced by the related factors of various aspects including; 1) unstructured urban space development to suburban areas, 2) economic development of urban communities that need houses, investors need industrial land and warehousing, and other infrastructure facilities, 3) limited road network systems and public transport patterns that are not yet integrated with the system land use plan, (Shirly Wunas, 2011)

Land use is very closely related to generation and attraction of movements, especially in residential land use, trade and services, education and public facilities, (Irawan, 2007).

Between the space of activity and transportation there is a relationship called the cycle of use of transportation space. If transportation access to an activity space is improved, the space for the activity will become more attractive and usually becomes more developed. Land development will not occur without a transportation system, while the transportation system cannot be provided if it does not serve economic interests or development activities (Adisasmia, 2011). This is the basic assumption of this research. As happened in Untia Village, Biringkanaya District, Makassar City.

Makassar City develops into suburban areas horizontally, not centralized, and does not fit the hierarchy of roads, (Ummu, 2016). In terms of land use in Untia, various kinds of ministry programs have been built there, such as the port of Fish Auction Place (FAP) by the Ministry of Fisheries and Maritime Affairs, Shipping and Flight Campus by the Ministry of Transportation, Marsudi Putra Social Institution (MPSI) Toddopuli Makassar. The Untia tourist attractions have been declared by the Makassar City government. The BKKBN is a village of

the National Population and Family Planning Agency launched by the central government, (Regional Regulation of Makassar City in the 2015 to 2034 Regional Spatial Plan) . There are also kindergartens, elementary schools, and Makassar 9th Vocational Middle School. There is also industry in the Untia region, including a factory engaged in the manufacture of cartons and plastic. There is also PT. Multiguna Elpindo which is a workshop for maintenance and repair of Pertamina LPG tubes.

In terms of the transportation system, the large amount of infrastructure built is not balanced with the facilities and infrastructure of a complete transportation system. This can be seen in the condition of the bus stop facilities that are spread along the Salodong road; the condition of the bus stop is not passed by the bus as it should so that the bus stop is only a means of not functioning. In the condition of road infrastructure the accessibility is very far from the arterial road and the primary collector road, this makes the Untia village as isolated from other regions, resulting in the Untia village rather quiet visitors. In accordance with the Makassar City Regional Regulation concerning the Regional Spatial Planning 2010 to 2030, a new local road network is planned as a connecting road.

As for the transportation planning process to achieve the interaction of land use well, it must consider three systems, including the activity system, network system and movement system, (Adisasmita, 2011). That is the theoretical basis and the problems that form the basis of this research with the aim to analyze the condition of infrastructure and means of transportation in the Untia village and to analyze the strategies used for transportation planning in the development of Untia's urban area functions.

II. Research Method

Research Location

This research is located in Untia Village, Biringkanaya District, Makassar City. The city itself is the northernmost of Makassar city. To the north, the Untia village is directly adjacent to Marusu sub-district, Maros regency, bordering the Bulurokeng sub-district, south bordering Bira sub-district, and west bordering the Makassar Strait.

Population and Samples

The population used in this study is the activities of the built area including the fishing industry area, maritime tourism area, and integrated education area in Untia Village. The sample technique used in this study is sample random sampling with random interview methods.

Data collection technique

This type of research is qualitative research, namely research on research according to facts in the field that are descriptive. The method of data collection is divided into two, namely primary data collection and secondary data, primary data used are observation and interviews. Observations included the condition of the infrastructure and facilities and the condition of the area built in the Untia village, while the interviews were conducted with local residents. While the secondary data used is the Makassar City Spatial plans 2015 to 2034 and other written sources.

Data analysis technique

To answer the first goal, which is about analyzing the condition of infrastructure and transportation facilities in the Untia village, it will be carried out by using Data Analysis of Observation Results. The steps are conducting a site survey then observing the condition of infrastructure and means of transportation by taking or documenting existing images, then the last step is analyze observational data.

To answer the second purpose of the strategy used for transportation planning in developing the Untia area function, the analysis used is the SWOT analysis. The steps are as follows, the results of the analysis of observations or results from the formulation of the first problem are analyzed using SWOT. Strengths are the fishing industry area (S1), maritime mixed area (S2), and education area (S3). Then see weaknesses, opportunities, and overcome weaknesses that can be threats so that they can determine the strategies of all variables.

III. Results And Discussion

Analysis of the Condition of Infrastructure and Facilities



Figure 1. Existing Road Infrastructure

Salodong Road stretches two villages namely Bulurokeng and Untia. Salodong Road is the only road in Untia Village. The hierarchy of this road is secondary collector roads, average speed of 20 km/hour, road length of two kilometers, road width of seven meters, road texture in the form of concrete. Having problem identification as follows; low accessibility, there are shock markers, lack of street lights, no pedestrian lane, and there is a bottle neck.

Daengta Qalia Street is located in the Bira sub-district, has an important role as an alternative route in and out of the Untia village. The hierarchy of this road is the secondary collector road, the average speed is 20 km/hour, the road length is three kilometers, the road width is six meters, and the road texture is concrete. Having problem identification as follows; Low accessibility, there are shock markers (sleeping police), lack of street lights, and no pedestrian lanes.

Ir. Sutami Road, this road has a significant impact if it comes out of the Untia village via Daengta Qalia road so that it can turn around through tunnel seventh to get to the Perintis road. This road is often passed by a container truck and there is a narrowing of the road (bottle neck) near tunnel seventh, resulting in congestion often occurring on the road. As a result, the people who left the Untia village were affected by congestion. Here are the results of the traffic jam analysis on Ir. Sutami Road.

1. The intensity or volume of vehicles greatly increases when the time to go home from work between 16.00-18.00 WITA
2. Road widening problem
3. Bottle neck near the tunnel seventh.
4. Many container truck vehicles are passed



Figure 2. Existing Bus Stop Facilities

The total bus stops along Salodong Road are six stops, three stops each in the Bulurokeng village and 3 stops in the Untia village. But all bus stops are functioning as they should. There are no buses that pass this route other than buses from PIP and ATKP schools to transport cadets. There is identification of bus stop problems including; do not have a bus bay, do not have a bus stop identity, do not have a route information board, there are no lights, there are two stops that do not match the standard distance with land use.

SWOT Analysis

This analysis is used to analyze land use in the Untia village. If it is synchronized with the conditions that occur in the Untia village, the internal factors which are the strengths in this case are (S1) Fisheries industry areas, (S2) Maritime areas, and (S3) education zones. Whereas weaknesses are (W1) the fishing industry has not functioned properly, (W2) does not have a good housing utility network, and (W3) Bus transportation is not yet available. For external factors which are opportunities (O1) Increase fisheries production in the northern city of Makassar, (O2) Create tourism based on a mixture of maritime (Nelayan villages and mangrove forests), and (O3) Make integrated higher education areas. While the threats are (T1) The distance between the port of Paotere and Untia which is still close to the sea, (T2) There is no accessibility of public transport, and (T3) Isolated area.

SWOT strategy

- S1O1; construction of a local road network that functions as a passageway, and diverts activities in the port of Paotere to the Untia fishing port
- S2O2; activate the use of bus stops as a means of supporting tourist mobility to maritime mixed tourism sites.
- S3O3; activating bus transportation to enable connectivity in the integrated education area that accommodates Makassar Vocational nine students and Makassar PIP and ATKP cadets.
- W1O1; transferring activities from the port of Paotere to the port of Untia so that there is a system of activities and movements, especially in the north of Makassar.
- W2O2; There needs to be a good utility network in the fishermen's village settlements as a support for maritime mixed tourism
- W3O3; need to provide bus transportation to create an integrated education area.
- S1T1; divert activities in the port of Paotere to the Untia fishing port.
- S2T2; need to provide public transportation or buses for tourists visiting mixed maritime tourism (Nelayan and mangrove villages).
- S3T3; need to provide bus transportation that is directly connected with other public transportation for the purposes of integrated education areas.
- T1W1; transferring activities from the port of Paotere to the port of Untia so that there is a system of activities and movements, especially in the north of Makassar.
- T2W2; need to provide public transportation or buses for tourists and adequate accommodation.
- T3W3; activate bus transportation so that connectivity occurs in the integrated education area that accommodates students and cadets.

Road Network Planning Engineering is a Conventional Tree Pattern



Figure 3. Road Network Planning

IV. Conclusion And Recommendation

Based on the analysis of observation of infrastructure and facilities as well as SWOT analysis, there are some of the most dominant strategies for transportation planning for the development of Untia's urban area functions, namely; 1) Related to the fishing industry area, the strategy is the construction of a local road network as a passageway and transferring activities in the port of Paotere to the Untia fishing port. 2) Related to maritime mixed areas, the strategy is to provide public transportation or buses for tourists and provide a good utility network in the fishermen's village, 3) related to integrated education areas, the strategy is to enable bus transportation to create connectivity in integrated education areas that accommodate State Vocational High School 9th of Makassar, PIP and ATKP Makassar cadets.

Network planning engineering in the form of conventional tree pattern aims to realize a good land-use interaction in the Untia village. The following is a description of road network planning engineering, 1) Making a new carbon copy for the needs of the fishing industry that connects Untia directly with Bira settlement, this road can be an alternative for residents who want to Untia village. 2) Daengta Qalia Road is prioritized for container truck lanes for industrial needs because through Daengta Qalia road, container trucks can directly rotate the direction through tunnel 7 on Ir. Sami Road to go to the port. 3) Salodong Road is prioritized for bus and city transportation lines for the needs of education areas and maritime mixed tourism areas.

The role and decision of the Makassar City government as a regulator is very important in realizing the land use interaction in the Untia village according to the direction of the Makassar City Spatial Plan for 2015 to 2034. There are several strategies from the results of the SWOT analysis and the results of road network engineering analysis can be taken into consideration.

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