

The Effect of Concrete Rigid Construction for development Of Rural Road Transport on Land Values

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Abstract:- This study was conducted to clarify the effect of the development of concrete road to the land values, as a case study in Moncongloe District of Maros Regency, Province South Sulawesi, Indonesia, using the technique of cluster sampling survey, the location of the study consisted of three segments based on concrete road construction time. The increase in land values from 2009 to 2013 before and after the development of a concrete road, the distance from the city center and road development costs are measured variables. The analysis showed that the ratio of the value of land and development costs in 2010 road segment I of 0.93, in 2011 the segment II and segment III at 1.14.

Keywords:- Concrete Roads, land values, construction costs.

I. INTRODUCTION

The community activities in most parts of Indonesia are still very dependent on highways transport. The role of adequate and durable highways becomes very important to support the movement of people's daily activities. The road damage is generally caused by overload, the volume of flow passing vehicles (load repetitions) as a result of an increase in the rapid growth in the number of vehicles, especially commercial vehicles, environmental changes, or function of poor drainage, Bachnas [1].

The construction of concrete roads in Indonesia is growing since 1970, Sutrisno [2]. It has several advantages that can reduce road damage, can withstand greater loads, have resistance to water logging and flooding, can be used on weak soil structure without first soil structure improvement, procurement of material is more easily obtained, Herliansyah [3].

The transportation development aims to facilitate the flow of people and goods transports. Simply, transportation as a system includes infrastructure such as roads or paths, and movement node. The facilities such as vehicles and management controls to set which enables the movement to run smoothly, safely, and regularly. The construction of new roads infrastructure or improving the quality of roads in an area is important in supporting and moving the dynamics of development. The road influence directly the smooth of transportation, served as a catalyst in supporting economic growth and region development, Munawar [4].

The system of road network has two main roles, Tamin [5]. As an auxiliary tool to direct urban development, this role is often used in planning the development of area to be developed in accordance with the existing layout, for example the area of new town Mamminasata that will be developed as a satellite town in the city of Makassar. Another role is as an infrastructure for the movement of people and goods that arise as a result of activities in urban areas as in areas already built will not be able to thrive in the absence of a road network.

The transport is one of the distribution chain of goods and passenger mobility is growing very dynamically, as well as play a role in supporting, encouraging and supporting all aspects of life both in the economic, political, social, cultural and land security, Aria [6]. Construction of road transport system is the main requirement of economic development, because a remote area potentially linked to the domestic market at an affordable cost. The better condition of road network, the lower of transportation cost, and the greater contribution to the economic growth. Thus, the development of transportation sector has a high correlation to the development of a local area that has an impact on changes in the value of land, Tamin [5].

Another point stated by Simarta [7] that the growth and development of an area as a result of transport improvements will be consequential to the growing need for space or land to accommodate all the activities in a region. Limited land supply and the potential for different land led to competition for land, and tend to result in increases in land values that led to land speculation.

All this time, development of road infrastructure constrained by the value of the investment to be prepared by an interested party either government or private parties. The road investment needs a long time to benefit directly, while most of roads are funded by the government did not obtain direct payback from road operational.

The previous work by Hardiman [8], discusses the people's socio-economic conditions of Mataelo subdistrict, Bombana district related to the construction of causeway Lora. The study shows the changes in socio-economic conditions after the construction of causeway Lora.

The objective of study was to analyze the benefit-cost ration for development of concrete road construction relation to the increase in land values with the case of Moncongloe subdistrict, Maros district held since 2012 until now. According to Prasetya [9], the benefit-cost ratio is the ratio between the costs incurred related to the activities (projects) with the positive benefits derived from activities (projects).

II. METHODS OF STUDY

The population of study is land located on roads that have been developed with the construction of concrete roads, the location of study can be seen in figure 2 and 3. The sampling was done by *cluster sampling*; the sampling unit is a group of elements, where the elements (observation units) of each group (cluster) can be the same or different numbers. Sampling was based on the construction of concrete roads each different for each cluster.

The data collection was conducted in accordance with the objective of study. In addition to the direct observation of object studied (population), also conducted by distributing questionnaires using questionnaires or checklists to the object studied. Also, conducted interviews with the stakeholders of Department of Public Works Highways in Maros district, Statistical Maros, Subdistrict Head of Moncongloe.

III. RESULTS

All activity centers are concentrated in the center of Makassar. This, affect the purpose of traveling public and impact on transportation costs. On the table is based on data obtained in the field, it can be seen the average mileage of each region segment has been developed with the construction of concrete roads in Moncongloe Subdistrict toward the center of Makassar. The segment I is the area segment within 16.374 km² from the city center. Segment II is 17.560 km², and Segment III is 20.288 km².

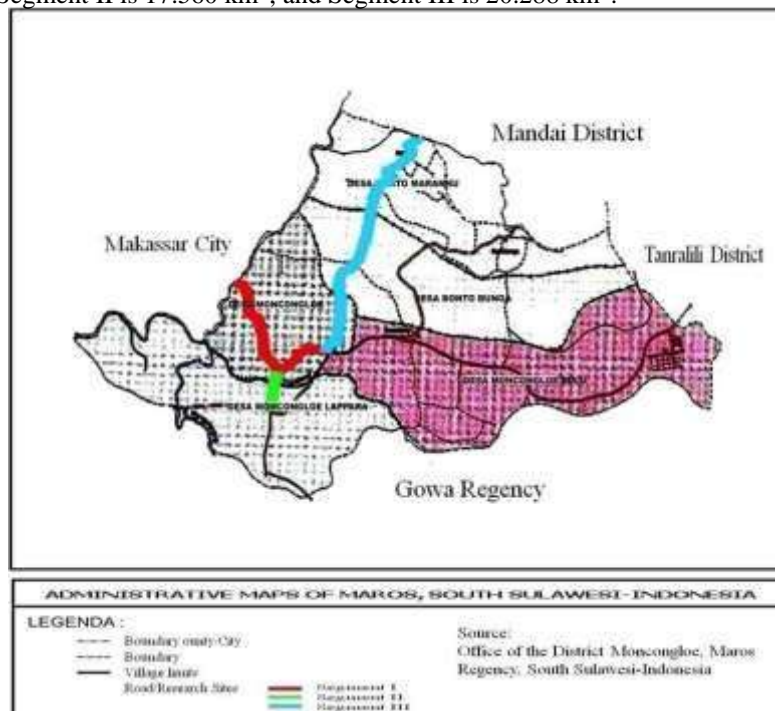


Figure 1. Administrative Maps of Maros Regency

The sale value of land

In the table shows the land value based on market value in 2006 on the first segment of Rp. 124.000/m², in 2007 the land value increased to Rp. 136.000/m² with an increase of 9.63%, in 2008 the land value increased to Rp. 152.000/m² with an increase of 10.98%, in 2009 the land value increased to Rp. 191.000/m² with an increase of 26.38%, in 2010 the land value increased when the construction of concrete road begin to work of Rp. 243.000/m² with an increase of 27.148%. In 2011 when the work of concrete road construction has been completed and the land values increased by Rp. 496.000/m² with an increase of 103.86%,

in 2012 the land value of Rp. 781.000/m² with an increase of 57.39% and in 2013 the land value of Rp. 1.086.000/m² with an increase of 39.02%.

At the time before the development of concrete road construction segment II in 2006 the land value as much as Rp. 74.000/m², it has increased in 2007 to Rp. 83.000/m² with an increase of 12.15%, in 2008 the land value increased to Rp. 98.000/m² with an increase of 18.05%, in 2009 the land value increased to Rp. 124.000/m² with an increase of 26.50%, in 2010 the land value increased to Rp. 182.000/m² with an increase of 46.74%. In 2011, when the concrete road development was carried out the land values increased to Rp. 327.000/m² with an increase of 79.63%. Land values continue to rise in 2012 reached Rp. 678.000/m² with an increase of 107.31%, and in 2013 the land value of Rp. 966.000/m² with an increase of 42.47%.

In the third segment, the land value in 2006 was Rp. 121.000/m², in 2007 the land value increased to Rp. 134.000/m² with an increase of 10.45%, in 2008 the land value increased to Rp. 149.000/m² with an increase of 11.62%, in 2009 the land value increased to Rp. 169.000/m² with an increase of 13.36%, in 2010 the land value increased to Rp. 224.000/m² with an increase of 32.40%. Land value in 2011 when the construction of concrete roads is Rp. 309.000/m² with an increase of 37.82% in 2012 the land value is Rp. 621.000/m² with an increase of 100.73% in 2013 the land value of Rp. 861.000/m² with an increase of 38.64%.

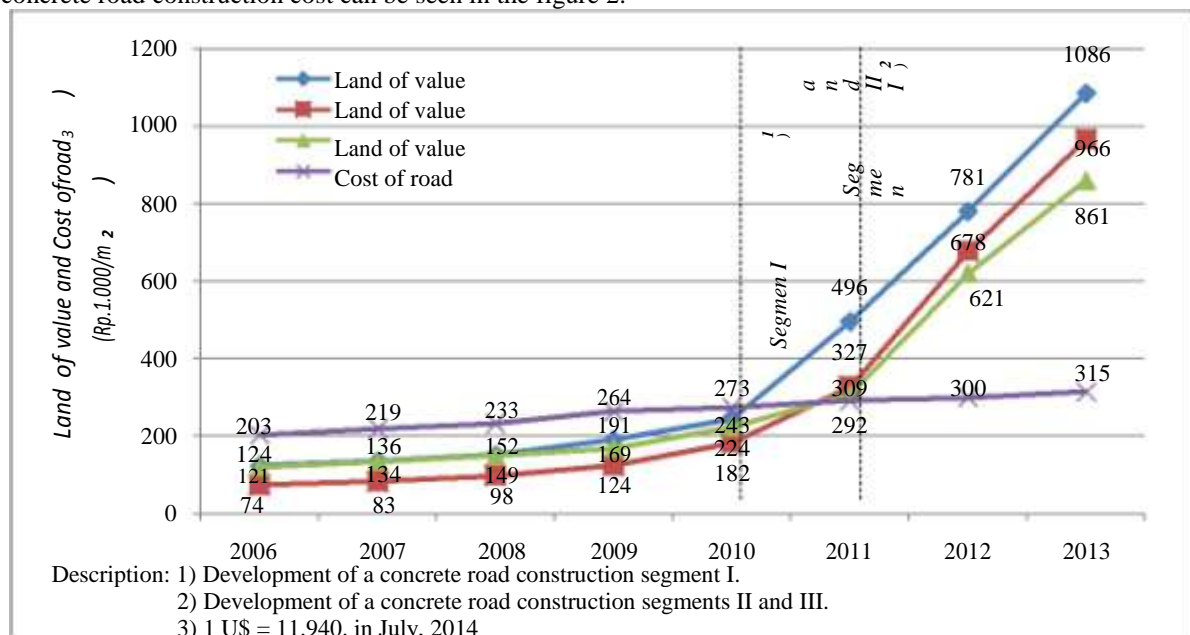
Cost

The concrete road construction development costs with the quality of K 350 with a thickness of 30 cm, according to the Department of Public Works Highways Maros in 2006 was Rp. 203,000/m², in 2007 was Rp. 219,000/m², in 2008 was Rp. 233,000/m², in 2009 was Rp. 264,000/m², in 2010 was Rp. 273,000/m², in 2011 was Rp. 292,000/m², in 2012 was Rp. 300,000/m² and in 2013 was Rp. 315,000/m².

The construction of concrete roads in the first segment that conducted in 2010, the road 3 km² length and 5 m wide the road concrete road construction development costs amounting to Rp. 4.095 billion, for the second segment with the road 1 km² length and 4 m wide that conducted in 2011 the concrete road construction development costs amounting to Rp. 1.168 billion and for the third segment that conducted in 2011 with road 7 km length and 4 m wide the concrete road construction development costs amounting to Rp. 8.176 billion. The overall cost of the development of concrete road construction in this study of Rp. 13.439 billion.

IV. DISCUSSION

The distance to the city center is very influential on the increase in land values, associated with accessibility is a measure of the ease of interaction between regions each other and the accessibility of location is achieved through network of transportation, Ediyansyah (2008). The average value of land in 2013 that the first segment is the segment closest distance to the city center of Rp. 1.086.000/m². In the second segment of Rp. 966 000/m² and the third segment of Rp. 861 000/m². Chart comparison between the land value and concrete road construction cost can be seen in the figure 2.



Source: Results of data processing, 2014

Figure 2. Graph the land value and concrete roads construction cost

Figure 1 shows that in the first segment between 2006 until 2009, the time before the development of concrete road construction, land value is less than the cost of the development of concrete road construction. In 2010, when the implementation of the development of concrete road construction percentage, land value is still less than the cost of the development of concrete road construction. In 2011 until 2013 after the implementation of the development of concrete road construction, land value is greater than the cost of the development of concrete road construction.

In segment II and segment III, the land value is less than the cost of the development of concrete road construction before the development of concrete road construction between 2006 and 2010. In 2011, when the implementation of the development and construction of concrete roads in 2012 to 2013 after the implementation of the development of concrete road construction, land value is greater than the cost of the development of concrete road construction.

The results of questionnaire and interviews revealed that the first segment of the current implementation of the development of concrete road construction, land values rise an average in 2010 of Rp. 243.000/m², concrete road construction costs Rp. 273.000/m², the ratio of the land value and cost of construction of concrete roads = 1.12. In the second segment, the increase in the average value of land in 2011 when the implementation of the development of concrete road construction is Rp. 327.000/m², concrete road construction costs Rp. 292.000/m², the ratio of the land value and concrete road construction cost = 0.89. In the third segment, the increase in the average value of land in 2011 when the implementation of the development of concrete road construction is Rp. 309.000/m², concrete road construction costs Rp. 292.000/m², the ratio of the land value and concrete roads construction cost = 0.94.

V. CONCLUSION

The impact of the development of concrete road construction on land values concluded that the distance from the city center associated to the accessibility and ease in transport activity, influential on the increase of land value. The development of concrete road construction is a significant impact on the increase in land value. In the first segment, the time before and during the implementation of the development of concrete road construction, land value is less than the concrete roads construction cost, after the implementation of the development of concrete road construction, land value is greater than the concrete roads construction cost. In segment II and III, before the development of concrete road construction, land value is less than the concrete roads construction cost, while the implementation and after of the development of concrete road construction, land value is greater than the concrete roads construction cost.

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