EFFECT OF THE SHAPED MARKET ON THE ROAD SHOULDER ON THE PERFORMANCE OF ROAD SEGMENTS SUNGGUMINASA–BONTONOMPO

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ABSTRACT

With the increasing demand for meeting the necessities of life, the shock market, which is located on the Sungguminasa - Bontonompo road section, is also developing slowly. The number of traders and buyers is increasing, the place to trade is wider and the transaction time is getting longer. Pasar Shock on the Sungguminasa - Bontonompo axis road is the only traditional market nearby and offers a relatively complete range of trading commodities within a 1 km radius of the settlement. With a relatively short distance and the attractiveness that the market is able to provide on the Sungguminasa - Bontonompo axis road. Apart from its very strategic location and high level of demand, the shock market on the Sungguminasa - Bontonompo axis road is also relatively easy to reach. This study aims to analyze the performance of the road on the capacity of traffic volume and the degree of saturation caused. The method used in this study is the Observation Method with data collection through direct observation in the field of the research object including data on the number of vehicles passing and one observation point is taken with different traffic flow directions. The results showed that the Sungguminasa-Bontonompo road network was still able to serve traffic transportation, the road capacity was = 2449 pcu/hour; volume of vehicle traffic = 3994 pcu/hour. The value of the degree of saturation DS = 1.63 so that it can be defined that the service level of the Sungguminasa-Bontonompo axis road belongs to category F or traffic jams, the speed is very low.

Keywords: market shock; roadside; road performance; DS; traffic jams.

INTRODUCTION

The market is a place where buyers and sellers meet to conduct buying and selling transactions of goods or services. According to economics, the market is related to its activities, not its place. The hallmark of a market is the existence of transactions or buying and selling activities. Consumers come to the market to shop with money to pay the price. A market is one of the various systems, institutions, procedures, social relations and infrastructure by which businesses sell goods, services and labor to people in exchange for money. Goods and services are sold using legal means of payment such as money (Sukirni, 2000 in Zayinul Fata, 2010)

So big is the role of a market to improve the economic fundamentals of a country (Mursid, M. 1997) can be distinguished as follows:

a. The Role of the Market for Producers The market has a very important role for producers, namely helping to facilitate the sale of their products and can also be used as a place to promote or introduce goods and services produced.

b. The Role of the Market for Consumers The market has a very important role for consumers, because consumers are easy to obtain the goods or services needed. The wider the market, the easier it is for consumers to obtain the goods or services they need.

c. The Role of the Market for Development The role of the market for development is to support the smooth running of ongoing development. In an effort to increase development, the market plays a role in helping to provide all kinds of goods and services that are beneficial to builders.

d. The Role of Markets for Human Resources Trading activities in a market require a large number of workers. The wider the market, the larger the workforce needed. With a large number of workers in the market, it means the market helps reduce unemployment.

The "shocked" market or the spilled market is a market that suddenly comes at a certain time and does not last long. "shocked" markets or spilled markets are increasingly being found in various places. There are many reasons why people like to shop at the surprise market. Among other things, the price is very low, especially when compared to shopping at supermarkets or malls. Besides that, vegetables, fish and other items are still fresh. The existence of the shock market is often a source of congestion, the traders who are mostly small businessmen storm and spread their wares on the shoulder of the road. Safety considerations must be taken into account in the arrangement of on-street parking, and this factor is closely related to the volume and speed of traffic on the road concerned (C. Jotin Khisty and B. Kent Lall, 2003).

Over time, with the increasing demand for meeting the necessities of life, the shock market, which is located on the Sungguminasa - Bontonompo road section, is also slowly developing. The number of traders and buyers is increasing, the place to trade is wider and the transaction time is getting longer. Meanwhile, if it is drawn back to the theory of determining the location of a market, several factors are needed that must be met in order to create a good and well-organized environment. According to (Oglesby. CH and Hicks. RG, 1998) there are 9 factors that need to be considered, namely land use (zoning), physical features (physical features), utilities, transportation, parking, environmental impacts (social and natural), public services, community acceptance/response (including behavior change) as well as demand and supply (population growth, employment and income distribution).

Shock Market Location This shocked market is located on the Sungguminasa-Bontonompo axis road, starting from the front of the Kalegowa Stadium to the crossroads leading to Barombong. When the shock market operates, the shocked market is located at several points on the Sungguminasa - Bontonompo road section starting at certain hours where in the morning it operates from 05.30 to 10.00 am and in the afternoon from 16.00 to 18.00 pm. The characteristics and conditions of the shocked market as an illustration, the shock market on the road section of Sungguminasa - Bontonompo is on the outskirts of an informal settlement using a space of 750 square meters that forms the letter T where some markets use tarpaulins or mats to spread their wares on the shoulder of the main neighborhood road for trading. by using a wheelbarrow, or housing that has been converted into a shop. Occupied by approximately 120 traders who sell various commodities including vegetables, meat, household appliances, food, clothing and so on, the market is always crowded with visitors, considering that the shock market on the Sungguminasa - Bontonompo axis road is the only one the nearest traditional market and offers relatively complete trading commodities within a 1 km radius of the settlement. With a relatively close distance and the attractiveness that the market is able to provide on the axis road section Sungguminasa - Bontonompo.

Apart from its very strategic location and high level of demand, the shock market on the Sungguminasa - Bontonompo axis road is also relatively easy to reach. This greatly facilitates the distribution of goods from producers to the market, so that they can provide quite competitive prices because they have reduced transportation costs. If it is related between the existence of the shock market on the Sungguminasa - Bontonompo axis road with the location theory that has been described previously, it can be seen that several factors that determine the feasibility of the market location are not fulfilled properly. The impact of this is the decline in the quality of settlements around the shocked market due to the increased use of public facilities and infrastructure. By using the existing public space in the settlement as a space for market activity, it results in an increase in the burden that must be served by the existing infrastructure. The problems that can be seen visually are the problems of waste and drainage. And because most markets are shocked at the Sungguminasa - Bontonompo axis road, they use the shoulder of the road at the end of the main residential road which has a road width of only 10 meters, resulting in frequent traffic jams, especially during rush hours where people start their activities to work. However, the impact given by the shock market development on the Sungguminasa - Bontonompo axis road segment is certainly not only that. Meanwhile, on the other hand, the elements of demand (demand) and supply (supply) that occurred have developed to balance each other and fulfill each other. From the increasing population, strategic market locations to the absence of government supervision and management, all of these factors will trigger the development of the shock market to become wider and it is feared that it will become

increasingly out of control. For this reason, it is felt that it is necessary to study more deeply regarding the existence and management of a shock market and its influence, both physical aspects, economic aspects and socio-cultural aspects on the surrounding settlements. Surprise market as a form of traditional market that grows naturally and is not managed by a business entity or government, cannot be regulated by existing laws and regulations, because it is stated in Presidential Regulation of the Republic of Indonesia Number: 112 of 2007 concerning Market Arrangement and Development. Traditional, Shopping Centers and Modern Stores in article 1 paragraph 2; "Traditional markets are markets that are built and managed by the Government, Regional Government, Private, State-Owned Enterprises and Regional-Owned Enterprises including cooperation with the private sector with business places in the form of shops, kiosks, booths and tents owned/managed by small, medium-sized traders. , non-governmental organizations or cooperatives with small-scale businesses, small capital and with the process of buying and selling merchandise through bargaining; ".

Thus, without the intervention of the government or a business entity, the management and control of the market will not be optimal (Sadono, 1994 in Dirlanudin, 2008). The shock market in a settlement has had a positive impact, including being able to provide services for the needs of the residents; provide daily needs, provide business opportunities, employment opportunities and encourage the development of an area, which in the end if the welfare and economic income increases, more or less also affects the quality of housing and settlements. But on the other hand, because it is not or has not been managed properly, Pasar Shock also causes many problems such as roads becoming jammed, garbage piling up, clogged sewers, dirty, unpleasant odors and the appearance of raised beds where sales are made in public places. Even social problems arise with the existence of illegal levies and thuggery. The above will greatly affect the quality of the settlements around the shocked market, including causing a tendency for the appearance of an environment that visually looks bad, dirty and slum. From the start, the location of the shock market on the Sungguminasa - Bontonompo axis was indeed not suitable to be used as a market based on the factors previously stated in the background. But even though the above happened, old traders still survive and new traders keep popping up. There seems to be a pull factor, both for traders and consumers, which makes the market location on the Sungguminasa - Bontonompo axis a favorite place for trading activities.

The purpose of this research is to analyze the performance of the road on the capacity of traffic volume and the degree of saturation that is caused.

The formulation of the research problem is to identify how the shock market influences traffic activities and especially on the Sungguminasa - Bontonompo Kab. Gowa.

Syaiful S (2017), Syaiful S et al, (2022) say that in engineering traffic always pay attention to various factors including: type of motorized vehicle, road conditions, location and land use as well as population density in an area. It is important to take into account everything so that the road planned in the future becomes the main solution in launching land transportation.

Traffic engineering and transportation systems need special handling, considering the number of vehicles is increasing every year. Population growth has the potential to increase, economic growth is not accompanied by an increase in the number of vehicles. The number of motorized vehicles is increasing every year. Meanwhile, vehicles that are more than 10 years old cannot be destroyed and are still operating. This phenomenon is a challenge for the government to pay attention to the development of this type of transportation. Motorized vehicles are a means of connecting from one destination to another by relying on plans and conditions that require travel. The transfer of people and goods must use a motorized vehicle as a mode of transportation (Syaiful S et al, 2021; Sulaeman U et al, 2015; Thamrin T et al, 2016; Mubarak M, 2020; Triyanto T et al, 2020).

Akbardin J et al (2020) describe that transportation is an inseparable part of people's journeys. Road planning is the main solution in adding a form of calculation for people who will carry out trips according to their goals.

RESEARCH METHODS
Place and time of research

The research location is in Gowa Regency, one of the regencies in South Sulawesi and geographically located at 12°38.16' East Longitude from Jakarta and 5°33.6' East Longitude from the North Pole. Meanwhile, the administrative area is located between 12°33.19' to 13°15.17' East Longitude and 5°5' to 5°34.7' South Latitude from Jakarta. This regency which is located in the southern part of South Sulawesi Province is bordered by 7 other regencies/cities with the following regional boundaries:

-In the north, it is bordered by Makassar City.

-In the south, it is bordered by Takalar and Jeneponto Regencies

-In the east it is bordered by the Regencies of Sinjai, Bulukumba and Bantaeng

-In the west, it is bordered by Makassar City and Takalar. The area of Gowa Regency is 1,883.33 km2 or equal to 3.01% of the total area of South Sulawesi Province.

The study was conducted for seven days on Jalan Poros Palangga on Monday July 25 2016, Sunday July 31 2016. The data were taken from two directions, namely from the north (Makassar City - Gowa Regency) and the South (Takalar - Jeneponto) direction for seven days. 12 hours.
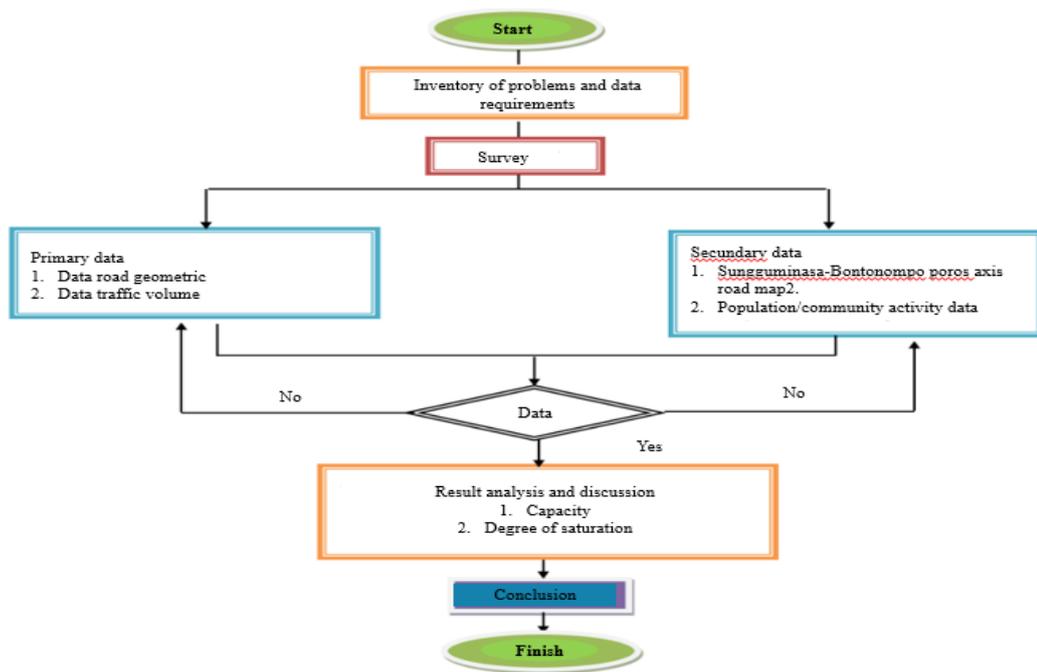
Research flow chart

Figure 1. Research flow chart

RESULTS AND DISCUSSION
Traffic volume

Traffic volume calculation data was carried out for seven days based on the results of a survey conducted at one point on the Poros Sungguminasa-Bontonompo road (in front of Kalegowa Stadium to Front of the Bitul Rahman Gowa Mosque) precisely in Tamalate Village on Monday, July 25 2016, Sunday 31 July 2016 Data was taken from two directions, namely from the north (Kab. Gowa) and the south (Kab. Takalar) for 13 hours, namely: 06.00 - 18.00 WITA are as follows. Traffic volume is the number of vehicles that pass a point per unit time at a certain location. To measure the amount of traffic flow, it is usually expressed in vehicles per day, SMP per hour, and vehicles per minute.

Table 1. Volume calculation results

Day	Direction	Type of	Motorized	vehicle	Volume	Average volume
		MC	LV	HV		
Monday	Gowa-Takalar	29695	8294	406	38395	3185
	Takalar-Gowa	28108	9594	342	38044	
Tuesday	Gowa-Takalar	21625	14794	397	36816	3092
	Takalar-Gowa	27108	9974	315	37397	
Wednesday	Gowa-Takalar	26500	9694	483	36677	3073
	Takalar-Gowa	26108	10624	335	37067	
Thursday	Gowa-Takalar	26295	10034	405	36734	3123
	Takalar-Gowa	27408	10514	298	38220	
Friday	Gowa-Takalar	26326	10024	388	36738	3119
	Takalar-Gowa	27808	9994	325	38127	
Saturday	Gowa-Takalar	24736	9524	381	34641	3000
	Takalar-Gowa	26232	10804	325	37361	
Sunday	Gowa-Takalar	30819	6114	395	37328	3105
	Takalar-Gowa	25912	10971	311	37194	
	Volume of	Traffic	capacity	For one	week	3100

Degree of saturation

The performance of the road segment can be determined by looking at the value of the degree of saturation (DS). The degree of saturation is commonly known as the V/C ratio, which is the ratio between Volume (V) and capacity (C).

DS = Q/C ....(1)

where:

Q = Traffic Flow Volume (pcu/hour)

C = road segment capacity (pcu/hour)

Table 2. Value of degree of saturation

No	Day	Capacity (smp/hours) Market 1	Vehicle volume (smp/hours) Market 2	Degree of Market 1	Saturation Market 2	Average Degree saturation
1	Monday	2449	3581	1462	1454	1458
2	Tuesday	2449	4922	2010	1708	1859
3	Wednesday	2449	4192	1712	1712	1712
4	Thursday	2449	4025	1644	1666	1655
5	Friday	2449	4129	1686	1767	1726
6	Saturday	2449	3475	1419	1659	1539
7	Sunday	2449	3631	1483	1469	1476
	Average	Degree	saturation	1631	1633	1632

The performance measure of a deviation is determined by the determination of signal timing, capacity, queue length, vehicle stop ratio and average delay and the degree of saturation (MKJI 1996)

DS is used as the main factor in determining the performance level of the road segment. The DS value indicates whether the road segment has a capacity problem or not. Through the value of the degree of saturation, it can be seen the level of service of a road. The DS value with a range of 1.63 is at the service level F.

CONCLUSION

Based on the results of the research and discussion described in the previous chapter, a final conclusion can be drawn to answer the formulation of the problem and the purpose of this research, the Sungguminasa-Bontonompo road network is still capable of serving traffic transportation, the road capacity is 2449 pcu/hour; Traffic volume of vehicles = 3994 pcu/hour with a value of Degree of Saturation DS = 1.63 so that the service level of the Sungguminasa-Bontonompo axis road based on table 2. belongs to category F or traffic jams, very low speed

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