

## Scouting Services at Makassar New Port

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**Abstract:** The existence of the Container Terminal of Makassar New Port (MNP) strongly supports economic activities in Eastern Indonesia, especially in the South Sulawesi region. The need for scouting services is important for ship movement activities, to reduce ship dwelling time in port and ship queues. The availability of scouting services is related to the increase of ship activity arrival and departure of the ship at port. This study aims to find out how scouting services are related to the development of ship activities in MNP. This research uses qualitative and quantitative methods, it can be explained that the scouting service time from preparation, mooring and unmooring is still lower by about 25% of the operational service standards by the Directorate General of Sea Transportation. The need for scouting personnel in the next 10 years with optimal conditions for scouting services will allow them to be served with scouting facilities as they are now.

**Keywords:** Scouting, Ship call, Port Facilities, Sea Transportation

### I. INTRODUCTION

The development of ports in Eastern Indonesia serves as a distribution port for commodities for the community's needs as a connecting node between regions in supporting economic development [1,2,3]. Makassar Port as the main port has 4 (four) terminals, namely Soekarno, Hatta, Paotere and Makassar New Port (MNP). Makassar New Port Terminal is prepared to replace the function of the Hatta port to serve container activities on a large scale. The development of container flows in the last 5 (five) years increased by an average of about 4.38% and the capacity reached 610,819 TEU's in 2017 [4,5,6]. Makassar New Port Container Terminal is expected to become the center of container traffic in eastern Indonesia. Therefore, the presence of MNP strongly supports the presence of direct calls and direct exports from Makassar, so it is expected to be able to reduce the export time, for example to China, from 24 days to 16 days. Similarly, exports to Japan fell to 18 days from the original 28 days while to Korea to 17 days from the original 16 days. Thus, the dwelling time at Makassar Port is the lowest among the other three ports, namely Tanjung Priok, Tanjung Perak and Belawan (1,7,8).

The condition of the scouting service should be optimized, so that the quality and efficiency of the service can achieve better performance. Ship guiding service is a scout activity that helps the captain in providing information about the state of the surrounding sea waters so that the smooth and safe ship entering the shipping line to the dock is more efficient and effective (1,10). In the process of scouting ships, guide personnel are required to have navigational skills, ship control skills, know the procedures for guiding stages and be able to see relative signals in the aquatic environment at the port (11, 12, 13). This study aims to determine how the operational performance and the achievement of scouting service time on for arrival and departure ship for traffic activities at the Makassar New Port Container Terminal.

### II. METHODS AND DATA COLLECTION

This research was conducted at the Container Terminal of Makassar New Port (MNP) is a qualitative research, the primary data of the scouting process and the time required during ship scouting were obtained by direct observation, such as pilot ship scouting personnel, obtained from the movement of ships during the last 12 months at MNP. in TPM, as well as completeness of information sourced from scientific publications, books and documentation. Qualitative analysis is the process of data in determining the estimated ship call with regression analysis. The processed data used is data from the July 2019 until December 2020 ship call period, which is expected to be the answer to the research question. The data analysis process begins with a study of the data obtained from various sources, including direct field observations, interviews or literature review.



**Figure 1.** Cargo ship docked at the Dock of Makassar New Port (MNP)  
**Source:** Business/Paul Tandi Bone

### III. RESULTS AND DISCUSSION

Since officially operating on November 2, 2018 until now, there have been approximately 400 ships to arrival at the MNP and serve around 10,000 TEUs of containers. Based on data in 2019 - 2020, the arrival of ships at the Makassar New Port container terminal is an average of 25 ships per month or about 257 units per year, about 20% of ship visits from TPM have been transferred to MNP [14,15]. The pilot and tugboat owned by company of PT. Pelindo IV (Persero) as many as 7 units and scouting personnel totaling 8 people. Ship arrivals at the Makassar container terminal in 2019 amounted to 1,019 ships. Meanwhile, the ship guiding service is still considered sufficient to serve the arrival of ships in and out of terminals and ports sheltered by the company of PT. Pelindo IV in Makassar including Makassar New Port Container Terminal.

Scouting facilities in the form of scouts are 3 units of ships and are served by scouts of 8 (eight) people. Every ship that will enter or leave the port, must submit a request for guide services through Port Corporation of Indonesia IV Makassar Branch and forwarded to Syahbandar/ADPEL



**Figure 2.** The scouting ship waiting for the ship that will learning on the pier at Makassar Port  
**Source:** Bisnis.com/Paulus Tandi Bone

Guidance services at MNP ports are performed in accordance with SOPs, which are a series of activities related to operational systems and procedures for completing guidance. The scouting service procedure begins with the stages of preparation, implementation and administration of service data. Implementation consists of ship to arrival and departure [15].

Based on the traffic of ship call for the period July 2019 to December 2020 ships entering and leaving the port, it is clear that the average preparation time is about 5 minutes; the average mooring time is 55 minutes and the average unmooring time. The average is 31 minutes; the total piloting time of each ship on average is about 1 (one) hour 32 minutes. The average scouting time at MNP compared to the standard service time set by the Directorate General of Sea Transportation is still relatively low from the maximum time [16].

**The movement of the driving ship**

The average number of ship movements during 1 (one) month of implementation according to operational SOPs can be measured from the level of pilotage services. To find out the performance of scouts in the period July 2019 – December 2020, it is shown in Table 1.

**Table 1.** Number of ship movements and the ratio of the number of pilot ships/tugs

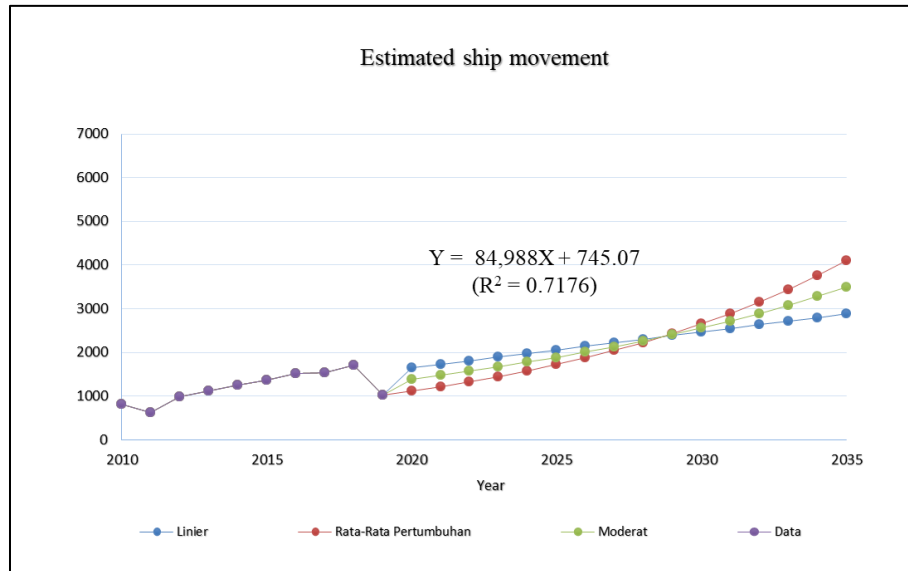
No.	Ship Traffic Period	Movement of ships in/out	Ship Arrival	Explanation
<b>A</b>	2019			<ul style="list-style-type: none"> <li>• The average number of ships going arrival and departure is one ship per day</li> <li>• Availability ratio of services between ships and guides 1:8</li> </ul>
1	July	46	23	
2	August	50	25	
3	September	44	22	
4	October	50	25	
5	November	62	31	
6	December	60	30	
<b>B</b>	2020			
1	January	56	28	
2	February	52	26	
3	March	54	27	
4	April	46	23	
5	Mei	32	16	
6	Juny	48	24	
7	July	46	23	
8	August	46	23	
9	September	50	25	
10	October	48	24	
11	November	52	26	
12	December	50	25	
	<b>Average</b>	<b>49</b>	<b>25</b>	

**Source:** Analysis results, 2020

The data facts in the table above show that the number of ships entering the Makassar New Port is relatively constant in the range of one (1) ship per day. The average ship arrivals per day did not experience an increase or decrease from July 2019 to December 2020, so the ratio of the number of ships to the availability of guides was 1 (one) ship per day with a total of 8 pilots. This ratio shows that the pilot boat and its pilot can still meet the needs of pilotage services to the number of ship movements in and out of the Makassar New Port Container Terminal.

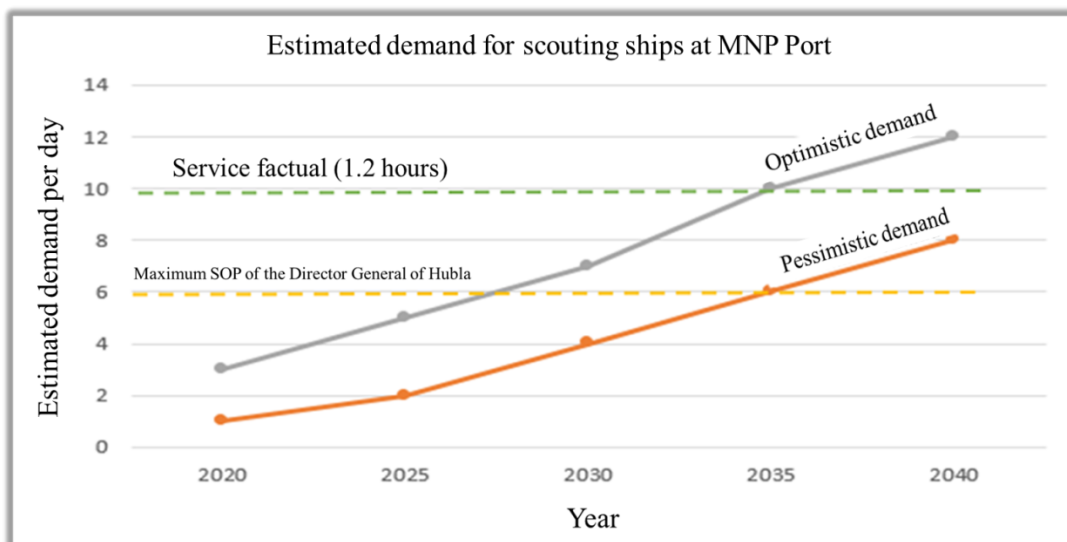
**Estimated number of ship movements**

Based on Makassar New Port Container Terminal data on the need for scouting services for ships entering and leaving from June 2020 to December 2020. For pilotage services belonging to Pot Corporation Pelindo IV (Persero) which handles ports or terminals in Makassar, the number of pilot ships serving as many as 3 units and guide personnel as many as 8 people. Estimates of the number of ship movements at Makassar Container Terminal are predicted using a linear regression model [15].



**Figure 3.** The movement of ships at Makassar Container Terminal  
**Source:** Results of data processing, 2020

The estimated number of ship movements at the Makassar Container Terminal is predicted using a linear regression model equation  $Y = 81.988X + 745.07$  with a value of  $R^2 = 0.7176$ . The estimate only uses the South Sulawesi GRDP growth rate model as the Makassar Container Terminal hinterland area of 9.33%. moderate estimate which is the average value of the projection results of the two models which is then used as a projection of the number of ship movements at the Makassar Container Terminal because it is the middle value of the two models. The results of the estimated movement of ships at the Makassar Container Terminal are shown in Figure 4.



**Figure 4.** Estimation of Ship Driving Demand at MNP Port

#### IV. CONCLUSION AND RECOMMENDATION

The scouting service time at the Container Terminal of Makassar New Port in 2019-2020 the average preparation time is about 5 minutes, the incoming vessel is 55 minutes and the unmooring vessel is 31 minutes, the fastest time is 78 minutes, the longest is 109 minutes and The average piloting time of 92 minutes is still lower than the standard port operational service time set by the Directorate General of Sea Transportation, which is 120 minutes. The need for scouting personnel for the number of ship movements in the coming year is still quite adequate compared to the available guiding facilities, where the number of available personnel.

Improvement of scouting and maintenance services to consider the addition of a tugboat fleet or the addition of scout personnel to support the increasing demand from scouting service users. Especially for the

Container Terminal of Makassar New Port, it can be given/specifically designated for separate ship piloting, seeing the development of the port every year it tends to grow.

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