



# Evaluation of Main Land Facilities at the Kariangau Ferry Port, East Kalimantan Province

Febriyanti Himmatul Ulya<sup>1</sup>, Monica Amanda<sup>1\*</sup>, Nadia Maharani Chadiza<sup>2</sup>, and Nindya Ayufia Putri<sup>1</sup>

<sup>1</sup>Politeknik Transportasi Sungai Danau dan Penyeberangan Palembang  
Email: monicamanda86@gmail.com

**Abstract.** The existence of crossing transportation must be equipped with adequate facilities and infrastructure for service users. Land facilities that are adequate and can be utilized are an important element in providing services. This research aims to evaluate the level of feasibility of land facilities and the fulfillment of land facility needs at the Kariangau Ferry Port. This research method is quantitative using gap analysis and basic land facility needs in accordance with KM No. 52 of 2004 and PM 103 of 2017. Based on the results of the analysis, it was found that the basic land facilities at Kariangau Port were 66.66% and included in the feasible category, to fulfill the 33.33% required additional waiting room area, drop-off/pick-up parking area, field area Ready-to-load parking is sufficient, but it is necessary to add barriers between types of vehicles and also build weighbridges and portals to avoid overloaded and over-dimensional vehicles. Apart from that, it is also necessary to add chairs in the waiting room and signage around the Kariangau Ferry Port area which is an element in improving port operations to ensure smooth operation.

**Keywords:** Basic Port Facilities, Feasibility, Gap Analysis, Ferry Transport.

## 1 Introduction

Kariangau Ferry Port is located in Balikpapan City in East Kalimantan Province. Kariangau Port has an important role because it has 3 (three) commercial routes, 2 (two) of which are the short distance routes Kariangau – Mamuju and Kariangau – Taipa, and 1 (one) long distance route namely Kariangau – Penajam which can connect Balikpapan City with The new National Capital (IKN). This port operates 24 hours with a total of 4 piers, namely 2 plengsesngan piers and 2 movable bridge piers. The management of the Kariangau Ferry Port is organized and supervised by the East Kalimantan Class II Land Transportation Management Center. Ownership of Kariangau Port is owned by 3 related agencies, namely BPTD Class II East Kalimantan, Balikpapan City Transportation Service and East Kalimantan Provincial Transportation Service. Land facilities that are adequate and can be utilized are an important element in providing service to service users. Feasibility of implementation is regulated in the Decree of the Minister of Transportation number 52 of 2004 concerning the Implementation of Ferry Ports (Ministry of

Transportation, 2004). In the management of the Kariangau Crossing Port, problems often occur that hamper Port operational activities, one of which is the unavailability of signage, information boards and guard officers who can help maintain Port order, which is another aspect in improving land facilities at the Port. In the ready-to-load parking area there are no barriers between types of vehicles so that vehicles pile up on the trestle, and there are no weigh bridges and portals which are security aspects for jaja users in accordance with Minister of Transportation Regulation Number 103 of 2017 concerning Regulation and Control of Vehicles Using Ferry Transport Services (Ministry of Transportation, 2017). According to (Sihombing, 2022) that government activities at ports at least include the functions of (1) regulation and guidance (2) control and supervision (3) safety and security, in their implementation many ferry port operators do not pay maximum attention to the agreed rules relating to the fulfillment of facilities that must be fulfilled, whereas for To improve the services provided to service users, the carrier must have adequate facilities (Ilham et al., 2020). So it is necessary to evaluate the level of suitability of basic land facilities and fulfill the needs of basic land facilities in accordance with regulations, in order to create comfort and security of services at ports, especially at the Kariangau Ferry Port, East Kalimantan Province.

## 2 Research methods

This research method uses quantitative methods. Quantitative research is a scientific research method regarding phenomena that can be concrete, objective, rational, measurable and systematic (Sugiyono, 2019). This research uses tools to collect data, namely a meter to measure the area of a room to be calculated and a laser distance meter used to measure the height on the ship's deck as primary data. Secondary data in this research was obtained from agencies related to the research, namely the Class II Land Transportation Management Office of East Kalimantan Province in the form of ferry transport trajectory maps, the Kariangau Ferry Port Service Unit, namely productivity data for the last 5 years and specific ships in operation and the Central Statistics Agency (BPS) Balikpapan City, the data obtained is Balikpapan City data, the data obtained is Balikpapan City in figures for 2023. The method used to analyze the data uses gap analysis, which is a method used to determine the performance of a system that is currently running with a standard system. In this research, gaps occur in existing conditions with existing regulations regarding basic land facilities at ferry ports using a percentage formula and determining eligibility categories based on criteria. (Arikunto, 2019) can be seen at Table 1.

$$\text{Persentase} = \frac{\text{Nilai Bagian}}{\text{Nilai Keseluruhan}} \times 100\% \quad (1)$$

**Table1.**Eligibility Value Range

| Mark    | Information          |
|---------|----------------------|
| <21%    | Totally Not Worth It |
| 21-40%  | Not feasible         |
| 41-60%  | Decent Enough        |
| 61-80%  | Worthy               |
| 81-100% | Very Worth It        |

Fulfillment of basic land facility needs for the Kariangau Ferry Port in accordance with Decree of the Minister of Transportation Number 52 of 2004 and Regulation of the Minister of Transportation Number 103 of 2017.

### 3 Results and Discussion

There are gaps that occur after carrying out a gap analysis of existing basic land facilities with conditions in accordance with regulations, which can be seen in Table 2.

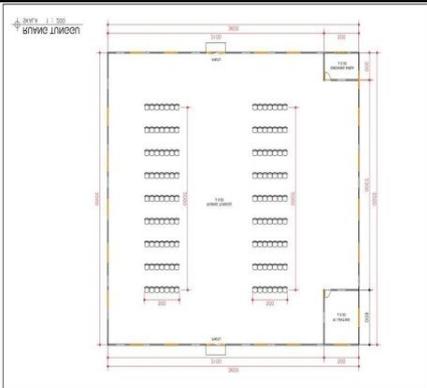
**Table2.**Gap Analysis of Basic Facilities at Kariangau Ferry Port

| Mainland Facilities                                     | Existing Conditions  | KM No. 52 of 2004 and PM 103 of 2017  |
|---|--|---|
| The waiting room  | The waiting room facility has an area of 251 m <sup>2</sup> and does not have chairs in it                         | Provision of a passenger terminal in the form of a waiting room <b>A1 = a. n. N. x. y</b>                           |
| Weigh Bridge and Portal                                 | Does not have a weighbridge or portal  | Each ferry port is required to provide portal and weighbridge facilities, adjusted to the height of the ship's deck |
| <i>Gangway</i>  | <i>Gangway</i> located from <i>trestle</i> towards the pier  | Providing a way for passengers to leave/enter the ship (gangway)  |
| Office  | There is a Korsatpel office and a ship management office   | Provision of offices for government activities and services   |
| <i>Bunker</i>   | Does not have fuel storage (bunker)  | Provision of fuel storage (bunker)  |
| Water, Electricity and Telecommunications Installations | Water, electricity and telecommunications installation facilities at this port are located next to the prayer room | Provision of water, electricity and telecommunications installations  |
| Road and/or railway access                              | There is adequate road access to get to the port   | Provision of road and/or railway access   |
| Firefighting facilities                                 | Qdoes not have fire extinguishing facilities   | Provision of fire fighting facilities   |

| Mainland Facilities  | Existing Conditions   | KM No. 52 of 2004 and PM 103 of 2017  |
|--|---|---|
| Drop-off/pick-up parking lots and ready-to-load parking lots | The drop-off/pick-up parking facility has an area of 749 m <sup>2</sup> and the ready-to-load parking facility has an area of 1,820 m <sup>2</sup> and has no separation between vehicle types. | Providing a waiting room for motorized vehicles before boarding the ship is in accordance with needs which can be calculated using a formula<br>drop-off / pick-up parking lot<br>$A = a \cdot n \cdot N \cdot x \cdot y \cdot z \cdot 1/n_2$ and the parking lot is ready to load<br>$A = a \cdot n \cdot N \cdot x \cdot Y$ |
| Road and/or rail-way access                                  | There is adequate road access to the port   | Provision of road and/or railway access at crossing ports   |

Of the 9 basic facilities that must be available, only 6 are available at the Kariangan Ferry Port with a percentage of 66.66%. From table 1 above, these results indicate that the provision of basic land facilities at the Kariangan Ferry Port is feasible. Fulfillment of basic land facility needs of 33.33% can be seen in Table 3.

**Table3.**Fulfillment of Basic Mainland Facilities

| Mainland Facilities | Condition          |                    | Plan Drawing  |
|---------------------|--------------------|--------------------|---|
|                     | Before             | After              |   |
| The waiting room    | 251 m <sup>2</sup> | 864 m <sup>2</sup> |  |

| Mainland Facilities           | Condition            |                       | Plan Drawing                         |
|-------------------------------|----------------------|-----------------------|--------------------------------------|
|                               | Before               | After                 |                                      |
| Weigh Bridge and Portal       | There isn't any      | There is              | <p>TAMPAK DEPAN JEMBATAN TIMBANG</p> |
|                               |                      |                       | <p>DENAH JEMBATAN TIMBANG</p>        |
| Drop-off/Pick-up Parking Lot  | 749.76m <sup>2</sup> | 1,875m <sup>2</sup>   | <p>TEMPAT PARKIR<br/>SKALA 1:100</p> |
| and Ready to Load Parking Lot | 1,820m <sup>2</sup>  | 618,762m <sup>2</sup> | <p>TEMPAT PARKIR<br/>SKALA 1:100</p> |

## 4 Conclusion

The Kariangau Ferry Port is included in the feasible category in terms of fulfilling basic land facilities, but there are still gaps so it is necessary to fulfill the need for basic land facilities to improve services to a very feasible category and in accordance with applicable regulations. Fulfillment of basic land facilities, especially the size of the waiting room, drop-off/pick-up parking area as well as the provision of weigh bridges and portals as well as adding guidance signs. Apart from basic land facilities, port supporting facilities are also an important factor in fulfilling ferry port facilities so that there is cooperation between the operator and related agencies, namely the Class II Land Transportation Management Center for East Kalimantan Province and the Balikpapan City Transportation Service and the East Kalimantan Province Transportation Service as Port owners can supervise, develop and maintain port facilities so that port services can be improved to service users of the Kariangau Ferry Port, East Kalimantan Province.

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