Overview Of Land Facilities At Bahaur Ferry Port In Pulang Pisau Central Kalimantan Province

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Abstract

Bahaur Ferry Port is a port located in Pulang Pisau Regency, Central Kalimantan Province and then managed by the Central Kalimantan Provincial Transportation Service and supervised by the Land Transportation Management Center (BPTD) Region XVI Central Kalimantan Province. There are still some deviations in port operations in terms of the Minister of Transportation KM. 52 of 2004, such as waiting rooms, inadequate offices due to joining ticket sales, and ready-to-load parking spaces that join the delivery/pick-up vehicle parking lots make the delivery/pick-up vehicles park their vehicles in any place because the parking lot is filled with ready-to-eat vehicles. In addition, the Bahaur Ferry Port does not yet have a weighbridge and vehicle height limiter facilities. For this reason, it is necessary to review the fulfillment of the need for land facilities at the Bahaur Ferry Port.

The method used to analyze the existing problems is the analysis of the calculation of the area needs based on KM. 52 of 2004 concerning the Operation of Ferry Ports and PM. 103 of 2017 concerning Regulation and Control of Vehicles using Crossing Transportation Services.

Based on this analysis, it can be concluded that the land facilities at the Bahaur Ferry Port have not provided optimal services, so it is necessary to increase the area of the terminal building and the ready-to-load parking area as well as the parking area for delivery/pick-up vehicles and the procurement of a weighbridge and vehicle height limiter.

Keywords: Bahaur Ferry Port, land facilities

1. Introduction

Pulang Pisau Regency is one of the districts in Central Kalimantan province this region has a connecting facility in the form of a ferry port with Ro-Ro ships as a means of operating ferry transport which is an alternative for the community to go to Java island in Lamongan regency in carrying out displacement activities to support economic activity and regional growth. Bahaur crossing port is a crossing port that has one track, Bahaur-Paciran. Ships that carry passengers and vehicles and operate for 1 time every week with a fairly high productivity in
Pulang Pisau Regency.

In an effort to improve ferry transport services, adequate port facilities are needed to create security, comfort, safety and order for passengers, vehicles and ships so that improvements and additions to existing facilities on the mainland at Bahaur ferry port are needed. Bahaur ferry port has facilities on the land side in the form of offices, passenger waiting rooms, vehicle parking spaces, Trestles, and toilets.

However, the existing land-side facilities do not provide optimal service to service users such as waiting rooms, inadequate offices because they join ticket sales, and ready-to-load parking lots that are shared with regular parking so that many vehicles wait on the trestle road, the unavailability of health facilities that serve service users when they have an accident or illness while in the port environment. In addition, unkempt worship facilities and toilets that are not suitable for use. On the other hand, the government in this case the Ministry of Transportation regulates the facilities that must be available at ferry ports as stated in the Minister of Transportation Regulation No. 103 of 2017, Minister of Transportation Regulation No. KM 52 of 2004 where ports must have adequate facilities to provide good service for service users.

After seeing the condition of the facilities available today at the Port of Bahaur crossing, the author took the topic of discussion in the preparation of a mandatory working paper entitled “Overview Of Land Facilities At Bahaur Ferry Port In Pulang Pisau Central Kalimantan Province”

2. Research Methodology
The method used in this study is a quantitative research method. This research method uses quantitative methods because the data to be processed is the ratio data that is the focus of this study is to determine the magnitude of the influence between the variables studied. Quantitative research is the use of some data obtained from the internet, literature, journals and field observations with statistical procedures or other means of quantification (measurement) based on the decree of the Minister of Transportation No. 52 of 2004 on the implementation of the ferry port which is then analyzed for analysis.

a. Secondary Data
The method used is:
1) Library method
   In this study used literature or books in the library or other related to this study.
2) Institutional methods
   Institutional method is an effort to collect data obtained from various agencies related to this, namely :
   a) Office of Land Transportation Management Center region XVI Central Kalimantan province
   b) BPS Pulang Pisau Regency
   c) Bahaur Ferry Port Service Unit

b. Primary Data
The data collected include:
1) method of observation
   This method is done by conducting direct observations in place that serve as data that can be analyzed in accordance with existing problems. The Data that has been
obtained is then recorded and validated so that it can be used as data to analyze existing problems quickly, precisely and surely.

2) port inventory Data survey
In this survey surveyors see firsthand what the inventory at the Port of Bahaur crossing that already exists and does not exist, so it can be known what facilities should be improved or added. Collecting data is done by taking pictures of Objects research port facilities.

3) measurement
Measurement of the dimensions of port facilities in the form of Terminal buildings, parking lots and other facilities.

3. Results and Discussion
a. Presentation of data
1) Passenger Waiting Room
At the harbor crossing Bahaur passenger lounge has an area of 138 m².

![Figure 1. Waiting Room](image1.jpg)

2) Delivery/pickup vehicle parking lot and ready-to-load parking lot
Currently, the delivery/pickup vehicle parking lot is still one with a ready-to-fit parking lot with a total area of 765 m². This causes the mixture of vehicles ready to load and delivery/pickup vehicles to accumulate in the same area. This condition makes the flow of vehicles and vehicle zoning at the Bahaur crossing Port not well maintained.

![Figure 2. Delivery/pick-up parking lots in one with ready-to-load parking lots](image2.jpg)
3) Weighbridge and vehicle height limiter
For the current condition of the Bahaur crossing port does not have weighbridge facilities as a tool to determine the weight of the vehicle and its cargo and is not equipped with a vehicle height limiter. Weigh bridge facilities are very important because they are related to the strength of the ship's moveable bridge (MB) and the pattern of loading vehicles on board. No less important is the existence of a vehicle height limiter because it can be a tool that is able to limit the height of the vehicle entering the ship with the height of the ship's car deck so as to avoid the vehicle getting stuck when entering the ship. While currently the car deck on ships operating at the ferry port of Bahaur as high as 3.6 m.

![Figure 3. Vehicle in over-dimensional condition](image)

b. Analysis data
Analysis Of Passenger Terminal Building Needs
1) The Area Of The Waiting Room

\[ A_1 = a \cdot n \cdot N \cdot x \cdot y \]

Description :
A1 = waiting room area (m²)
a = required area for one person (1.2 m² / person)
n = number of passengers on a ship
N = number of ships arriving / departing at the same time
x = concentration ratio (1.0 – 1.6)
y = fluctuation ratio (1,2)

Analysis of ready-to-load parking lots and parking areas Kemdaraan introduction/pickup
1) Analysis Of Ready-To-Load Parking Lots
To calculate the parking area of vehicles ready to load can use the formula :

\[ A = a \cdot n \cdot N \cdot x \cdot y \]

Description :
A = total parking area for vehicles crossing (m²)
a = total area required for one vehicle unit
Goal VII = 60 m²
Goal VI = 45 m²
Goal V = 25 m²
Goal IV = 25 m²
n = number of vehicles on a ship
N = number of ships arriving/departing at the same time
x = average utilization (1.0)
y = concentration ratio (1.0 – 1.6)

2) Analysis of the parking area of the delivery and pickup vehicles
The need for a shuttle field is obtained based on calculations in the annex to the decree of the Minister of Transportation number KM.52 of 2004 on the implementation of Port crossings.
The following needs the area of the parking lot vehicle delivery/pickup:

\[
A = a \cdot n_1 \cdot N \cdot x \cdot y \cdot z \cdot 1/n_2
\]

Description:
- \( A \) = Total Parking Area For Shuttle Vehicles
- \( a \) = area required for one unit of vehicle (City and private transport = 25 m\(^2\))
- \( n_1 \) = number of passengers on a ship
- \( n_2 \) = number of passengers in a vehicle (average 8 People/vehicle)
- \( N \) = number of ships arriving / departing at the same time (1 ship)
- \( x \) = average utilization (1.0)
- \( y \) = concentration ratio (1.0 – 1.6)
- \( z \) = average utilization (1.0 : all passengers leaving the Terminal by vehicle)

Then, to determine the concentration ratio of the vehicle can use the following formula:
The ratio of the Concentration \( (y) \) = \[
\frac{18 \text{ vehicles}}{43 \text{ vehicles}} = 0.42 \sim 1
\]

So, the concentration ratio \( (y) \) is 1

To determine the number of passengers on a ship \((n)\), data on the characteristics of KMP ships are taken. Drajat Paciran which has a carrying capacity of 350 people.

\[
A = a \cdot n_1 \cdot N \cdot x \cdot y \cdot z \cdot 1/n_2
\]

\[
= 25 \text{ m}^2 \times 350 \times 1 \times 1 \times 1 \times 1/8
\]

\[
= 1093.75 \text{ m}^2
\]

So, the required area of the pickup delivery parking is 1093.75 m\(^2\). While currently at the Bahaur crossing Port, the pickup delivery field is still one with a parking lot ready to load or has not been allocated a special place for pickup delivery vehicles for passengers.

Analysis of Weighbridge and vehicle height limiter
In accordance with the regulation of the Minister of Transportation No. 103 of 2017 on the regulation and control of vehicles that will use ferry services, that each ferry port is required to provide weighbridge facilities and vehicle height limiters to determine the dimensions (height) and weight of vehicles that will cross.

At this time at the Bahaur crossing port does not have weighbridges and vehicle height limiters (portals) as restrictions on the weight and height of vehicles that will enter the port. This causes the load of vehicles entering the port area and boarding the ship cannot be monitored, this can cause damage to access roads, moveable bridges and make it difficult for officers on board to arrange vehicles so that the stability of the ship can be maintained.
To anticipate this, Bahaur port should provide a weigh bridge and be placed before the vehicle counter.
In addition, the vehicle height limiter used as a load height limiter on the vehicle must not exceed the height of the deck of the ship operating on the track. The height of the vehicle deck on ships operating at Bahaur port is 3.6 m, therefore it is necessary to provide a vehicle height barrier with a height of 3.3 m in the hope that all vehicles entering the ship are not stuck on the ship's deck.

c. **Discussion**
Comparison between the planned conditions can be seen in the table below:

<table>
<thead>
<tr>
<th>No</th>
<th>Facilities</th>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Existing</td>
<td>Analysis results</td>
</tr>
<tr>
<td>1</td>
<td>Terminal building</td>
<td>291 m²</td>
<td>302,84 m²</td>
</tr>
<tr>
<td>2</td>
<td>weighbridge and vehicle height limiter</td>
<td>Not available</td>
<td>Available</td>
</tr>
<tr>
<td>3</td>
<td>Parking Lot Delivery Vehicle Pickup</td>
<td>Combined 765 m²</td>
<td>1,093.75 m²</td>
</tr>
</tbody>
</table>
Parking Lot Ready To Load | 652.86 m² | to needs, so it can not accommodate vehicles

| Figure 4. Of The Existing Condition Of Bahaur Port Top View |
| Figure 5. Parking lot and Weighbridge plan and vehicle height limit |
4. Closing

a. Conclusions

Based on the analysis and discussion, it can be concluded that:

1) At the Bahaur ferry port the main facility of the terminal building has an area of 291 m². Based on KM. 52 of 2004 on the implementation of the ferry port calculation of the area of the Bahaur ferry port terminal building is equal to 302.84 m². So that the area of the terminal building at the bahaur crossing Port is not sufficient.

2) At the Bahaur ferry port, the parking lot is ready to load and the delivery/pickup parking lot is still one area with an area of 765 m² while based on KM. 52 of 2004 on the implementation of the ferry port calculation of the area of the need for ready-to-load parking is equal to 652.01 m² and the parking lot for the delivery vehicle/pickup is equal to 1093.75 m². So that the available parking space is not sufficient.

3) Bahaur crossing port is not yet equipped with weighbridge facilities and vehicle height limiters as restrictions on vehicle weight and height. Based on PM. 103 of 2017 concerning the regulation and control of vehicles using ferry transport services every crossing Port is obliged to provide weighbridges and vehicle height limiters. So that the existing facilities at the Bahaur crossing Port are not in accordance with applicable regulations.

b. Suggestion

The suggestions that the author can sampaikan especially to the manager of the ferry port Bahaur is:

1) It is necessary to repair and optimize the main facilities of the terminal building at Bahaur ferry port and increase the area of 11.84 m². In addition, it is also necessary to add supporting facilities such as the number of seats, utility rooms and public spaces so as to make service users feel comfortable with the facilities in the terminal building.

2) Parking area facilities are ready to load and the parking area of the delivery vehicle/pickup needs an additional area of 990.61 m² and facilities such as signs as information for service users at the Bahaur crossing Port.

3) The need to plan the placement of the weighbridge position at the Bahaur crossing port so that vehicles entering the port are known to be heavy. The height of the vehicle deck on ships operating in the Bahaur crossing Port is 3.6 m, so it is necessary to provide a
vehicle height barrier with a height of 3.3 m in the hope that all vehicles entering the ship are not stuck on the ship's deck.

5. References


