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Optimization Of Vehicle Flow Patterns In Sape Port, Bima Provinsi, West Nusa Tenggara Province

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ABSTRACTION

Sape Port is a port managed by PT. ASDP Indonesia Ferry (Persero) Sape Branch. At this time at the Sape Crossing Port there are still several shortcomings because there are still many people and unauthorized vehicles that can easily enter the port area, causing the port to become less orderly, there are still crossings between vehicles that will enter the ship and vehicles those who get out of the ship, and hawkers selling their goods in the area around the pier. This is due to the absence of a zoning system that is in accordance with the Minister of Transportation Regulation Number 29 of 2016 concerning the Sterilization of Ferry Ports. So that in the activity of getting on and off of passengers and loading and unloading vehicles, there are several obstacles, including the absence of zoning implementation at the port which causes unauthorized people to enter prohibited areas, and the mixing of passengers and vehicles when getting on or off the ship. To analyze this, refer to the Regulation of the Minister of Transportation Number 29 of 2016 concerning the Sterilization of Ferry Ports and SK.242 / HK.104 / DRJD / 2010 concerning Technical Guidelines for Ferry Traffic Management. The analysis used is zoning analysis, analysis of equipment that supports the zone system, and analysis of vehicle flow patterns.

In order to smoothen the flow of cargo traffic both entering the port area and cargo going out of the Ferry Port area, namely by implementing a zoning system based on the Minister of Transportation Regulation Number 29 of 2016 concerning Ferry Port Sterilization and regulation of traffic flow patterns in accordance with SK.242 /HK.104/DRJD/2010 concerning Technical Guidelines for Pedestrian Traffic Management and adding equipment that supports the zone system such as signs needed to support safety and comfort. The desired pattern of vehicle movement is to rearrange the lanes of vehicles that leave and enter the ship so that the delivery / pick-up does not enter the prohibited area and assign officers to regulate traffic so that it runs more orderly. To regulate passenger movement patterns so as not to mix with vehicles that would endanger the safety of passengers and vehicles.

Keywords: Port, Zone, Movement pattern, Vehicle.

1. Introduction

Bima Regency is located in the eastern part of Sumbawa Island West Nusa Tenggara Province, where in this regency there is one of the sub-districts that is located lowest above sea level, namely Sape District. Transportation is the movement of people or goods from one place to another by using a vehicle driven by humans or machines, transportation is used to make it easier for humans to carry out their daily activities. Transportation is a benchmark in the interaction between regions and its very important role in supporting the development process of an area, transportation has an example in the form of ferry transportation. Crossing transportation is transportation that functions as a bridge that connects the road network and / or railroad network separated by water to transport passengers and vehicles and their cargo. Therefore, the existence of ferry transportation must be equipped with adequate facilities and infrastructure for service users so that service users are well served. There are many ferry transportation ports in Indonesia that

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serve a variety of commercial and pioneer routes, one of these ferry ports is the Sape Ferry Port in Bima Regency, West Nusa Tenggara Province. The Sape Ferry Port is one of the commercial ferry ports managed by PT. ASDP Sape Branch located in Bima Regency, West Nusa Tenggara Province. Sape Port serves 2 routes, namely Sape - Labuan Bajo, and Sape - Waingapu. This port supports the transportation of agricultural products, the need for building materials, industry, tourism, and creates passenger, goods and vehicle transportation traffic. The Port of Sape serves a commercial route supported by 3 (three) ships, namely KMP. Cakalang for the Sape - Labuan Bajo route, KMP. Cucut for the Sape - Waingapu, KMP track. Komodo for tourism trajectory in Labuan Bajo. In the current condition, Sape Port is still not functioning optimally because the zoning system has not been implemented at the port, such as traders entering the dock area, deliverymen and / or pickers entering the loading field, passengers waiting for the ship to depart on the Movable Bridge pier and mixing passengers and vehicles. and the occurrence of a crossing between incoming and outgoing vehicles which disrupts traffic flow at the port. Meanwhile, currently the government has issued regulations related to the zoning system as outlined in the Minister of Transportation Regulation Number 29 of 2016 concerning the Sterilization of the Peyeberangan Port.

Based on the description of the results of the survey conducted and also seen from the existing conditions, in writing this Mandatory Working Paper the author takes the title: **"OPTIMIZATION OF VEHICLE FLOW PATTERNS IN SAPE PORT, BIMA PROVINSI, WEST NUSA TENGGARA PROVINCE."**

2. Research Method

In this compulsory working paper research, some data is needed as a reference in achieving the expected goals. The data collection methods used are as follows:

a. Primary Data (Direct Data) Primary data is data that is obtained directly from the source or based on direct observations in the field. The methods used in primary data collection are: 1. Calculation Method: In this method the surveyor counts the number of objects in a certain period of time using certain tools (such as counters, etc.). The data obtained is in the form of accurate quantitative data. In this case the author calculates the productivity of passengers and vehicles per day, this survey was conducted for 15 days.

b. Observation Method: In this method, the collection is carried out by observing, monitoring and direct observation carefully according to the conditions that occur in the field. This method is very simple but requires accuracy to observe objects carefully within a certain period of time.

Secondary Data Secondary Data The data is obtained based on observations of other parties in the form of written reports, in obtaining secondary data the authors use the following methods:

1). Literature Method Secondary data were obtained from literature or books in the Polytechnic of Transport SDP Palembang library and other books related to research as well as regulations that are related to this research.

2). Institutional Methods Done by collecting data from related agencies related to this research This secondary data was obtained from related agencies as follows:

a) Office of PT. ASDP Sape Branch

b) Central Bureau of Statistics (BPS) Bima Regency

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c. Method of Analysis 1) Zoning Analysis a. The formula used The zone system that should exist at a ferry port refers to the Regulation of the Minister of Transportation Number 29 of 2016 concerning the Sterilization of Ferry Ports b. Necessary data The data required in determining this zone are as follows:

1) Exsisting conditions

2) Lay out the port 2) Traffic Pattern Analysis a. Formula used The pattern of traffic flow at the ferry port refers to the Regulation of the Director General of Land Transportation Number: SK.242 / HK.104 / DRJD / 2010 concerning Technical Guidelines for Ferry Traffic Management. b. Required data 1) The condition of the current traffic pattern (existing) 2) Lay Out the Port

3. Results and Discussion

a. Existing Zoning System

Currently, the Sape Ferry Port has not implemented the applicable zoning system, namely the Minister of Transportation Regulation Number 29 of 2016 concerning the Sterilization of the Ferry Port. In the existing conditions at the Sape Crossing Port, crossing still occurs, namely vehicles leaving the ship with vehicles that will enter or between pick-up and passenger delivery vehicles, the state of passenger counters combined with vehicle counters, the presence of hawkers in the port area that is not in its place as in Movable Bridge home area. This causes the Sape Ferry Port to become irregular and can disrupt the smooth operation of the port.

Referring to the Minister of Transportation Regulation Number 29 of 2016 concerning the Sterilization of Ferry Ports at Ferry Ports that:

1. Article 3 paragraph 2

The zoning system includes:

a. A Zoning for People

b. Zoning B for Vehicles, and

c. Zoning C for Vital Facilities.

b. Article 3 paragraph 3 Zoning A as referred to in paragraph 2 letter a includes:

1). Zone A1 is for the placement of counters and vehicle parking and is only designated for delivering / picking up passengers (from the port gate to the counter)

2). Zone A2 is for the waiting room and is only for prospective passengers. c. Zone A3 is for checking passenger tickets and is only designated for people who will cross

c. Article 3 paragraph 4

Zoning B as referred to in paragraph 2 letter b includes

a. Zone B1 is the port area for placing weigh bridges and toll gates for vehicles

b. Zone B2 is the port area for queuing vehicles to cross (already have tickets)

c. Zone B3 is a vehicle loading area ready to enter the ship

d. Article 3 paragraph 5

Zone C as referred to in paragraph 2 letter c is a port area for the security and safety of important facilities, entry is prohibited from people except officers, among others:

a. Bunker

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b. MB house and Gang Way
c. Water hydrant
d. Electrical Substation / Generator Set
e. Bolder's Place

e. Analysis of Vehicle Traffic Flow Patterns

The mixing of delivery / pick-up vehicles in the parking area ready to load makes conditions at the port irregular, then at the MB jetty there are frequent crossings of vehicles leaving the ship with vehicles going to the ship so that the traffic flow pattern at the MB Jetty is not regular. (Movable Bridge)

By looking at the current field conditions at the Sape Ferry Port, it is necessary to implement a zoning system based on the Minister of Transportation Regulation Number 29 of 2016 concerning the Sterilization of the Ferry Port to control vehicles and passengers in order to create a safe, orderly and comfortable atmosphere

1. Planned pattern of movement of vehicles on board at the Sape Ferry Terminal:
   a). Motorbikes and cars enter from the port gate, directly buy tickets at the tollgate of the vehicle (zone B1)
   b). Buses and trucks that have cargo then weigh the cargo and the vehicle at the weighbridge, immediately buy tickets at the vehicle tollgate (zone B1)
   c) Vehicles that already have tickets then go to the queuing field ready to load (zone B2)
   d) The vehicle will be directed by officers to the area ready to enter the ship through the trestle and then enter through the ramp door (zone B3)

2. Planned pattern of movement of vehicles disembarking from ships at the Sape Ferry Terminal:
   a). Vehicles exit the ship via the ramp door through the trestle
   b). Vehicles exiting the port by means of the planned road

4. Conclusion

a. The zoning system has not been implemented and there is no zone signboard at the Sape ferry port resulting in no boundaries in the port area for service users, this can be seen from the presence of unauthorized people entering the port area and areas prohibited to the public, so that the port becomes less organized. Steps that can be taken are implementing a zoning system based on the Minister of Transportation Regulation Number 29 of 2016 concerning the Sterilization of the Ferry Port so that it can smooth the flow of cargo traffic both entering the port area and cargo that will leave the Sape Crossing Port area and in accordance with standard operating procedures in the Decree of the Director General of Land Transportation Number: SK.242 / HK.104 / DRJD / 2010 concerning Technical Guidelines for Cross-Traffic Management
b. The traffic pattern has not been implemented properly due to the lack of traffic support facilities at the Sape Crossing Port such as sign facilities.
c. Implement a zoning system and add zoning signboards in accordance with the Minister of Transportation Regulation Number 29 of 2016 concerning Sterilization of ferry ports so that the realization of a safe, comfortable, orderly, and smooth ferry port

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d. Socializing the implementation of the zoning system by providing information in the form of banners and ordering port officers to provide directions to service users regarding the zoning system.