

# CHAPTER I

## PRELIMINARY

### **1.1. Background**

Kupang City is the capital and the center of growth and development of the province of East Nusa Tenggara. From year to year the development and population growth in Kupang city is getting faster, this can be seen by the development of activities in the trade, industry and transportation facilities and infrastructure. A good land transportation must be supported by the construction of road infrastructure that will support the economic development of a region. In addition to the benefits obtained, some problems must be faced such as deterioration in the quality of roads, placement of signs, street lighting functions that can cause accidents that interfere with the safety of road users.

According to Law No. 22 of 2009 on Traffic and Road Transportation, traffic accident is an event in the way of unexpected and unintentional involving vehicles with or without other road users which resulted in human casualties or property losses.. Based on data from the National Police, 107,500 traffic accidents occurred in 2019. Increased by 3 percent from 2018, which was 103,672 accidents. However, the number of victims killed in 2019 decreased by 6 percent, to as many as 23,530 people. Rather than in 2018, there were 27,910 people. This is like what happened on Kupang City, where there were 280 cases of traffic accidents in 2015, then increased to 385 cases of traffic accidents in 2016 and 2017 to 356 cases of traffic accidents like traffic as shown in table 1.1 ( Kupang Police Station, 2019).

As a result of the accident, the country suffered a material loss of 2.374.700.000 rupiah from damaged road conditions and supporting facilities of the road.

Table 1.1 Accident Data on Jalan Jendral Sudirman, Kupang City

No	Years	Amount				Material Loss (Rp)
		Accident	MD	LB	LR	
1	2015	280	60	28	405	876.150.000
2	2016	385	51	10	592	514.600.000
3	2017	365	58	7	611	548.800.000
4	2018	448	59	82	715	435.150.000

(Source: East Nusa Tenggara Regional Police, Kupang Resort)

A traffic accident is an unexpected and unintentional road event involving a vehicle with or without other road users resulting in human casualties and/or property loss. With the number of accidents and losses that can occur, there are several related factors such as humans, vehicles, roads and or the environment. The combination of the four factors can occur between humans and vehicles, for example, driving exceeds the speed limit set, then the brakes do not function which causes the vehicle to crash. In addition, there are still environmental and weather factors that can contribute to accidents. The human factor is the most dominant factor in an accident. Almost all accidents are preceded by traffic violations. Violations can occur because of deliberately violating, ignorance of the meaning of the rules that apply or do not see the provisions in force or do not know.

The most common vehicle factor is a broken tire, the brakes do not function as they should and various other causes. The overall factor of the vehicle is related to the technology used and the care that is taken of the vehicle. Then the vehicle maintenance and repair needs to be done.

Road factors are related to the geometric of the road, the age of the road, the condition of the mesh surface, the speed of the road plan, the presence or absence of the road median, the placement of signs, street lighting, and markers and the traffic signaling devices that are not functioning properly and the objects on the side of the road. Increased road age can cause a decrease in the quality of the road so that the road will be easily damaged due to repeated loading and can endanger road users. Placement of signs that can interfere with the view of road users, so that the purpose of the delivery of existing signs cannot be captured properly by road users. Street lighting that is not functioning properly, can reduce lighting on the road at night so that the view of road users becomes limited. Reduced traffic markers and traffic signals can adversely affect the flow of traffic and can confuse and endanger road users. Therefore, it is necessary to evaluate road safety by conducting routine and periodic inspections to maintain the comfort and safety of road users when driving on the highway.

### **1.2.Statement of the problem**

Based on the background above, it is formulated in this study, the problems to be examined are problems in the quality of roads, placement of signs, non-functioning street lighting, road drainage, road markings as well as traffic signaling tools by conducting road safety inspections regularly or periodically and whether road safety measures need to be undertaken.

### **1.3. Research Scope**

Limitation of problems in this study include:

1. The study was conducted along Jalan Sudirman, starting from Sta 0 + 000 (Intersection with the signal of NTT Regional Police) to Sta 1 + 500 (in front of Prof. W.Z. Johannes Kupang Regional General Hospital)
2. The study is conducted at each station that has been determined from the starting point to the planned endpoint.

### **1.4. Research Objective and Advantage**

#### 1.4.1. Purpose

1. Identifying problems with the quality of the road, placement of signs, street lighting functions, markers, and traffic signaling tools and objects on the side of the road on the road that has been built.
2. Know and determine the right way to deal with problems of road quality, placement of signs, street lighting functions, markers, and traffic signaling tools and objects that are on the side of the road on the road that has been built.

#### 1.4.2. Advantage

1. The benefit of this research is that it can provide information to the government of Kupang City, East Nusa Tenggara province in handling infrastructure improvements in Jalan Jendral Sudirman, Kupang City.

### 1.5. Research Location

The research location is on Jalan Jendral Sudirman, Kota Raja, Kabupaten Kupang City, East Nusa Tenggara Province which has a provincial road status and functions as a secondary collector road. The study began in front of the intersection of four signaled NTT Regional Police and ended at the Prof. Hospital W.Z. Johannes Kupang.



Figure 1.1 Map of East Nusa Tenggara Province



Figure 1.2 Jendral Sudirman road, Kupang City



Figure 1.3 Research location on Jendral sudirman road, Kupang City (1)



Figure 1.4 Research location on Jendral sudirman road, Kupang City (2)