

# CHAPTER I

## INTRODUCTION

This chapter discusses the initial design or idea of the formation of this thesis.

### 1.1 Background

The importance of transportation in the development of a country's is we need to give attention about transportation problems need special attention by this country (Indonesia). As a result of increasing population, it can cause transportation problems, that is an increase in the need for transportation vehicles. The condition of public transportation in Indonesia that has not been able to meet the needs of the community and makes people prefer to use private transportation vehicles such as motorbikes or cars. Increasing the number of motorized vehicles will be directly proportional to the risk of accidents and motor vehicle violations. Accidents and violations of motorized vehicles do not only occur when the motorbike moves, but accidents also occur when the vehicle go in and out on the sidewalk.

Regarding on (PUPR Minister RI, 2014) declaration that Pedestrian Network is a pedestrian section, both integrated and separate from the road, which is intended for pedestrian infrastructure and facilities and connects activity centers and / or modal change facilities[1]. One of the motor vehicle violations that occurred in Indonesia is due to, the motorbike is a means of transportation that has a slim body so it can pass through small streets. therefore many motorists often commit violations by passing side walks that pedestrians should pass. This is a violation that always occurs every day in Indonesia and needs to be fixed.

Amans is a name of a program that can solve this problem. Amans is one of the technologies of IoT precisely in the aspect of which has the main goal of minimizing the occurrence of motor vehicle violations that occur on the sidewalk . Amans also help to fight pedestrian rights to using the sidewalk safely. The local security officer or police will not always be on guard at a traffic light because it requires a technology that can minimize the violation.

## **1.2 Problem Formulation**

The sidewalk is a place for pedestrians to carry out mobility activities to move from a place to another place that using sidewalk. But nowadays the use of sidewalks is often used by motorists. This problem of course has a very dangerous impact on pedestrians who use the sidewalk. Therefore, there is a need a technology that can work to overcome this problem. Amans used a mini computer that is Raspberry PI 3, it programmed can be used to detect the plate motorcycle that passes through the sidewalk.

## **1.3 Objective and Benefits**

The benefits and objectives of making Amans are;

1. Minimize violate motor vehicle allow sidewalk.
2. Helps work security officers to monitoring the sidewalk in full day time.
3. Manage data on motorized riders who use sidewalk in the database.
4. Prioritizing the right of pedestrians to cross to use the sidewalk.
5. Make the safe sidewalk for the pedestrian.

## **1.4 Limitation of Problem**

1. Record violations through vehicle number plate detection.
2. Only detects violations for motorcycle that use sidewalk.
3. Analyze the violations that occurred only on sidewalk.

4. Only sending text and image to database for the violence.

## **1.5 Methods of Research**

In the preparation of this thesis we use design and implementation, qualitative and quantitative methods. Amans is designed according to the requirements that are needed and then implemented, After the implemented tool the writer will analyse the result based on qualitative and quantitative methods.

## **1.6 Writing systematic**

The systematics of writing this thesis is divided into 3 main parts as follows;

- Chapter 2 LITERATURE REVIEW This chapter describe the theories, tools and equipment related in this re- search.
- Chapter 3 SYSTEM DESIGN AND EXPERIMENTAL SETUP This chapters describes system design and experimental setup
- Chapter 4 RESULT AND ANALYSIS This chapters describe the result and analysis of the proposed post-processing method
- Chapter 5 CONCLUSION AND SUGGESTION This chapters describe suggestion on how to improve the proposed post- processing method