Factors Affecting Increased Traffic Accidents in Yogyakarta

Eka Wahyuningrum1*, Eni Setyowati2, Tri Cahyono Bintang Pramujo3, Nugroho Arif Sudibyo4

1 Student, UDM Fikom Surakarta, Indonesia, Email: ekapolokarto@gmail.com
2 Student, UDM FikomSurakarta, Indonesia, Email: ennysetyowati970@gmail.com
3 Student, UDM Fikom Surakarta, Indonesia, Email: tricahyobintangpramujo14@gmail.com
4 Lecturer, UDM Fikom Surakarta, Indonesia, Email: Nugroho_arifs@stmikdb.ac.id

Abstract
Traffic accidents are one of the most frequent incidents, causing various losses to fall victim, such as in Yogyakarta in 2019 which experienced an increase in accidents compared to the previous year. In 2018 until 2019 there was an increase in accidents as much as 106.32%, 79.79% fatalities, 96.53% minor injuries, 34.78% serious injuries, 0.66% material losses, 0 violations, 04% and a fine of 1793.60%. The number of cases that occur due to various factors such as nature, vehicles with bad conditions, road conditions and what often happens is in terms of human factors underestimate traffic safety regulations such as the use of helmets that are not in accordance with SNI (Indonesian National Standard). As a result of negligence caused losses to other road users. To maintain the safety of fellow road users, they must comply with regulations and implement traffic rules, and increase awareness of the importance of maintaining joint safety when driving from the human aspect to transportation conditions. Law enforcers of traffic regulations have further increased raids for violators of traffic rules, this is one form to minimize the number of accidents and can be done by supervising minors not to drive vehicles and providing education on the importance of maintaining safety while driving.

Keyword: accidents and traffic

I. Introduction

Yogyakarta Special Region is located in the southern part of Java Island. Which borders directly with Central Java. This area has an area of 3185.80 km consisting of one city and four districts. Over time the population is increasing and also causes the need for transportation to increase. Unwittingly also increases the risk of increasing problems with transportation. An era that makes transportation more sophisticated indirectly worsens the risk of increasing traffic problems. Traffic accidents according to the Law of the Republic of Indonesia No. 22 of 2009 is an unexpected and unintentional event on a road involving vehicles with or without other road users resulting in human casualties and / or property losses. Accidents on the road usually have several separate factors, such as violating driving rules in traffic or road users are not careful when driving, road situations are traversed, factors inadequate vehicle conditions, weather and eyesight are blocked.

*Corresponding Author
Road accidents are said to be one of the biggest causes of death in the world. *World Health Organization* (WHO) nearly 3,400 people die on the road every day. In general, the Indonesian National Police (POLRI) recorded 2 people per hour or 80 people per day died as a result of violations, namely the traffic in 2013. Based on data from the Yogyakarta Special District Police that the number of traffic accidents is still high. In 2015-2019 the Yogyakarta Special District Police documented 5,381.00 accident cases which caused 387.00 deaths, 6,564.00 people suffered minor injuries, 8,00 people suffered serious injuries, and 2,700,461,000.00 rupiah losses Theory. The accident rate is only data that is flawed, there are still many incidents that have not been damaged because most people are reluctant to report to the authorities. From the data that has been flawed it needs an effort to reduce the level of traffic accidents that occur. Here is a graph series of data on the number of DIY accidents in 2015 to 2019.1

II. Method

According to Kadiyali (1983) in Imelda et al (2001) classify the criteria for accidents as follows: Accidents consist of fatal injuries which resulted in death, and minor injuries such as abrasions, serious injuries such as broken bones and others. Based on the location

---

of the accident that consists of straight roads, Jalan Bendungan, road intersections, and slopes, as well as derivatives, which occur outside the city or inside the city and in the plains or mountainous regions. Based on the occurrence of accidents consists of the type of day work, and time. Based on the position of the accident consists of front collisions, front-to-back collisions, front-to-side collisions, loss of driver control, corner-to-corner collisions, accidents when overtaking, and collisions with pedestrian users.

Based on the number of vehicle accidents consisting of:

1. A single accident that is an accident alone which can be caused by lack of focus driving or personal negligence such as crashing potholes that are not visible from a distance of several meters but still using high speed.

2. Accidents involving two people with minor injuries such as blisters, bruises to fatal fractures or death are called multiple accidents. These events often occur such as bumping the motor with the motor until one or both of them fall and cause minor injuries to fatal.

3. Successive accidents occur in more than 2 people which cause harm to other motorists as well. Events like this are no longer uncommon but we often see that every trip often encounters a series of accidents that result in many casualties. Examples of container trucks with descent and then brake failure.

III. Factors - Increasing Traffic Accidents

1. Factors From Humans As Motorbike Riders

   Human factors are the most dominant factor in supporting accidents. Almost all events are experienced by productive ages between 17-35 years old such as students, students, and private and public employees. Accidents often occur between 06.00-09.00 WIB due to violating traffic rules. This can result in traffic accidents on the highway and things that are done accidentally.

   a. In Drowsiness

---

2 Fajar, MS (2015). *In Semarang City Using the K-Means Clustering Method.*
Factors Affecting Increased Traffic Accidents in Yogyakarta

123 | Eka Wahyuningrum, Eni Setyowati, Tri Cahyono Bintang Pramujo, Nugroho Arif Sudibyo.

Drowsiness is a condition where a person’s condition loses reaction power and concentration due to lack of sleep. Sleepy riders are usually caused by lack of rest when they are about to travel. The sleepy factor is also caused by having been riding a motorcycle for too long so that too much carbon inhalation can affect brain performance and can infer sleepiness.³

b. Drunk

Riders who are intoxicated are among the biggest factors in traffic accidents resulting in death. The drunker who is in a state of being intoxicated will experience a loss of concentration, blurred vision, the language of speech is unclear and loss of power or ability to drive to cause an accident. In Article 106 paragraph (1), while driving, it is required to concentrate and not to do things that interfere with driving in terms of calling while driving, watching movies, smoking and drinking alcoholic beverages that can disturb the concentration level.

c. Fatigue

Drivers who experience fatigue usually do not realize that they are in a state of fatigue. This feeling reflects that the lack of concern for yourself, because this fatigue can not be predicted by yourself usually this fatigue can be felt when it is too late.

d. Not Proficient

In this factor the driver is not fully able to operate his vehicle and result in a traffic accident. Besides that the road factor is also influential in whether or not the driver is proficient, such as a winding road up and down or signs on the road being passed. Therefore, before going to travel, the driver first needs training to have experience in driving.

e. Violating the Code of

Violation that usually occurs is that the driver goes at a speed that exceeds the limit, against the direction of traffic or even breaks through red light so that it is very dangerous for the driver and other riders themselves. It is often heard that many people violate this order because of the rush of time.

f. Driving at High Speed

Speeding is an opportunity for increased traffic accidents. Driving at high speed will produce a very strong force when colliding so that the impact of it will be more severe.

2. Vehicle Factors Used

Vehicle factors also participate in accidents, this is due to when traveling away the driver does not first check the vehicle, whether the vehicle is ready to use or not. For that reason, before traveling long distances, motorists should check their vehicles first, so that accidents do not occur that can be detrimental to the driver himself or other riders.4

a. Vehicles with Blong

Brakes Can not cause a person’s life to be lost due to accidents experienced. Brakes are one of the most important components in a motorized vehicle because they function to stop or reduce the speed when driving. The faster the speed of the vehicle, the role of the brake is also increasingly needed, so if the brake fails, it will be very beneficial for motorists.

b. Rupture of Vehicle Tires

Breaking a tire when driving is very dangerous, especially during high speed conditions. Motorbikes that are in fast-moving conditions and have broken tires, resulting in a motorbike being boarded is difficult to control and at risk of causing a single accident. In addition, tire bursts during fast-moving

---

4 Ibid
conditions also result in successive accidents, because the vehicle stops suddenly without warning the other vehicles.

The things that must be considered on the tire when you want to travel near or far is the condition of the tire is still suitable for use or not, if it is smooth you should replace it with a new one. In addition to tire conditions, pressure on tires must also be considered, because if the tire pressure is too high / hard it can be at risk of tire bursts, conversely if the flat tire is also at risk of an accident because it is difficult to control.

c. Death of Vehicle Lights

Accidents caused by vehicle lights that are not lit, usually occur at night. This is because at night there is minimal light, relying only on street lights and vehicle lights. But now the main lights must be turned on during the day, this is to signal the vehicle in front of him. The use of vehicle lights during the day has been regulated in Law No. 22 of 2009 'the obligation to use vehicle lights during the day for motorcycles (article 107, paragraph 2).

A. Physical Environmental Factors Around

a. Perforated Roads Perforated

Road conditions can cause traffic accidents resulting in death. This incident was caused by the driver who was not careful or daydreaming while driving, because of daydreaming conditions and did not pay attention if there were holes in the road, because he was shocked and could not avoid the pothole that had been an accident.

b. Roads That Have Been Damaged Damaged

Roads are paved with potholes, damaged roads are conditions where the road conditions that are not feasible to pass, this is because it has not been paved, the road is full of rocks or gravel on the surface of the road. If driving on a damaged road and not careful can cause accidents, due to slipping gravel or other material that is on the surface of the

c. Road in a slippery condition.
Roads in a ring are usually caused by rain, but there are also other factors such as vehicle oil spills. In high-speed driving conditions and slippery road conditions can cause the driver to lose control and cause accidents due to slipping on slippery roads.

d. A winding road

A road is also dangerous for motorists who are speeding and want to overtake the vehicle in front of it because it affects the visibility of the driver, this often happens when he wants to overtake the driver's corner not knowing that from the riders there are already riders another, and resulted in an accident.

e. Lack of Road Lighting

At night the road lighting also affects the level of alertness of the driver, what if minimal street lighting can cause accidents because the visibility of the driver is disturbed because there is no street lighting.

B. Government Efforts To Minimize Traffic

1. Conduct orderly outreach

This extension is aimed at all members of the community, so that the public understands traffic rules and does not underestimate existing regulations, due to personal and collective security. In doing this you can use various media or interact directly.

2. Adding public transportation

This effort aims to make people use public transportation to reduce congestion that can result in accidents caused by motorists who rush. Including to reduce personal vehicles, which until now has been increasing and as a result traffic has become increasingly congested, thus increasing the risk of accidents and loss of life.

IV. Conclusion

Assigning traffic police to the highway, This traffic police assignment aims to regulate traffic conditions that are on the road, if anyone who violates traffic rules can be
immediately reprimanded or prosecuted so that motorists are deterrent and do not violate traffic rules, because it involves personal safety and other motorists.

The impact arising from traffic accidents is

1. **Congestion**

   As a result of road accidents resulted in total congestion, in addition it also resulted in other drivers becoming restless due to the congestion.

2. **Increased accident victims**

   Traffic occur almost every day, these events result in increased casualties to accidents, and even bias also results in high mortality rates caused by traffic accidents.

3. **Discomfort**

   As a result of an accident can cause discomfort for other drivers or residents who live around the highway.

**References**


Fajar, MS (2015). *In Semarang City Using the K-Means Clustering Method*.