

The Effect of Traffic Engineering Toward Traffic Accidents: An Effort to Control the Spread of the Covid-19

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ABSTRACT

Keywords

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Various efforts have been made by the central and regional governments to reduce the spread of the Covid-19, starting from Large-Scale Social Restrictions, social distancing, wearing masks, working from home and learning from home. This study aims to determine the effect of the Magelang City Police strategy in controlling the spread of the Covid-19 by imposing traffic engineering, closing two main roads entering the City of Magelang (Jl. Jendral Sudirman and Jl. A. Yani) on the number of traffic accidents. The purpose of this traffic engineering is to reduce interaction between residents outside the City of Magelang and residents of the City of Magelang. The data on the number of traffic accidents were obtained using empirical methods. The results show that the reduced volume of vehicles passing by in the City of Magelang should have a positive impact on reducing the number of traffic accidents, but it isn't. The graph of the number of traffic accidents does not differ drastically, this is due to the factors that cause accidents originating from the driver (careless, sleepy, not concentrating), vehicle condition factors (brakes not functioning) and road conditions (slippery roads due to rain).



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Introduction

The massive movement of the Corona virus in many countries has prompted WHO to establish this condition as an epidemic that needs serious handling (Name, 2020). Then, the Indonesian government declared the Covid-19 outbreak a national disaster since April 13, 2020, through Presidential Decree No. 12 of 2020 concerning the Determination of Non-Natural Disasters for the Spread of Corona Virus Disease 2019 (COVID-19). This decision was taken because of the numbers sufferers tend to increase (Arifin, 2020).

Strategic steps are immediately taken by the government to slow the spread of the virus, such as the Decree of the Minister of Health through KMK No. HK.01.07-MENKES-382-

2020 concerning Public Health Protocols in Public Places and Facilities in the Context of Prevention of COVID-19 (Poli et al., 2021). Public places and facilities are areas where people carry out social life activities and activities in fulfilling their life needs. Discipline in applying the principles of a cleaner and healthier lifestyle is key in suppressing transmission of COVID-19 to the community. When carrying out activities, it is necessary to maintain a safe distance from being exposed to droplets (Wahyunik & Rohmah, 2021), wearing mask and face shields, always keep hand hygiene by washing hands or using a hand sanitizer (Laila et al., 2020), keep body and clothes clean (Alia, 2020), keep the environment where you live or work or worship clean by spraying disinfectants (Hasibuan et al., 2021). Control and Supervision in the Application of Health Protocols need to involve ministries or agencies or local governments in accordance with their respective duties and functions. If needed, security forces can control and monitor the implementation of health protocols in public places and facilities (Punamasari, 2021). For this reason, the National Police Chief issued an announcement so that people would not create crowds and crowds that could potentially become a source of the spread of Covid-19 (Mardliya, 2020). The Ministry of Law and Human Rights also issued a decision for prisoners who had met the assimilation requirements to prevent the spread of Covid-19 in prisons. (Rahmawati, 2020).

A traffic accident is an incident on the road that is unexpected and accidentally involving a vehicle with or without other road users which results in human casualties and or property loss (Article 1 number 24 of Law Number 22 Year 2009 concerning Road Traffic and Transportation). Various factors caused traffic accidents such as driver error due to the influence of narcotics (Arbi, 2021), due to alcoholic beverages (Name, 2021), the vehicle brakes do not work (Darmawan, 2021), the driver is sleepy (Suhendi, 2013), breaking through traffic signs (Hartik, 2021). During the Corona or Covid-19 Pandemic, the number of accidents should have decreased due to the Large-Scale Social Restrictions policy, so that people are encouraged to do activities from home unless there are no urgent interests.

This study aims to determine the relationship between the closure of two protocol roads in Magelang City and the number of accidents that occur during the implementation of this policy. The first primary data needed is the number of traffic accidents in the Magelang City Police Station for the period January-August 2021, which is collected from interviews with officers from the Traffic Unit of the Magelang City Police. This then sorted based on the month of occurrence and then compiled in the form of a bar table, making it easier to observe the number of traffic accidents in the month before, during and after the implementation of the policy for closing 2 (two) protocol roads, namely Jl. A.Yani and Jl. Jend. Sudirman. The second primary data is the factors that cause traffic accidents during the implementation of the policy, which is collected from the results of interviews with officers from the Traffic Unit of the Magelang City Police. Those data analyzed descriptively and using inductive thinking logic. This analysis model was chosen because researchers only observed data in one area, which could be different conditions in other cities because it depends on the level of community compliance with regulations made by local governments and what policies are implemented.

Methodology

The research location is in the Magelang City Police Office. The primary data required collected by interviews a officer from the Magelang City Police Traffic Unit to know the number of traffic accidents in the Magelang City Police area for the period January to August 2020, and an explanation of the factors causing traffic accidents during the implementation of the road closure policy. The secondary data required was collected from a literature study on theses, articles from online journals and newspapers on the topic of traffic accidents and the Covid-19 pandemic. This data then analyzed by descriptive method and using inductive thinking logic. This data analysis technique was chosen because the location of the study is only in one area, so conditions can be different in other cities because it depends on what policies are implemented by the local government and the level of community compliance.

Results and Discussion

Environmental Funding Arrangements in Effort to Materialize Sustainable Development in Current Situation

Various perspectives research on the theme of traffic accidents have been carried out by people such as the characteristics of accidents on Jalan Raya Ungaran Bawen (Wicaksono et al., 2014), Analysis of the level of traffic accidents using the Association Rules Method with the Apriori Algorithm (Hakim & Fauzy, 2015), Traffic accident risk analysis based on knowledge, lane use, and driving speed (Hidayati & Hendrati, 2016), The Implementation of Driving Safety in Adolescents as an Effort to Reduce the Number of Traffic Accidents (Sukmandari & Subekti, 2020), Criminal Liability of Children Due to Traffic Accidents That Kills Someone's Life (Mavinda Galuh Prabandari, 2019). For this reason, researchers are encouraged to take a different point of view, namely the number of traffic accidents during the establishment of large-scale social policies through the closure of protocol roads in Magelang City to reduce the rate of spread Covid-19.

1. Number of Traffic Accidents in Magelang City During the Implementation of Protocol Road Closure Policy

Data on traffic accidents were taken from Traffic Unit the Magelang City from January to August 2020, while the closure of two protocol roads was carried out for four months, starting from March to June 2020. Data collection included the months before and after the month of implementation of the protocol road closure policy aimed at in order to obtain an overview of the number of traffic accidents before, during and after the closure of the protocol roads. Data regarding the number of traffic accidents is presented in the Figure 1 below:

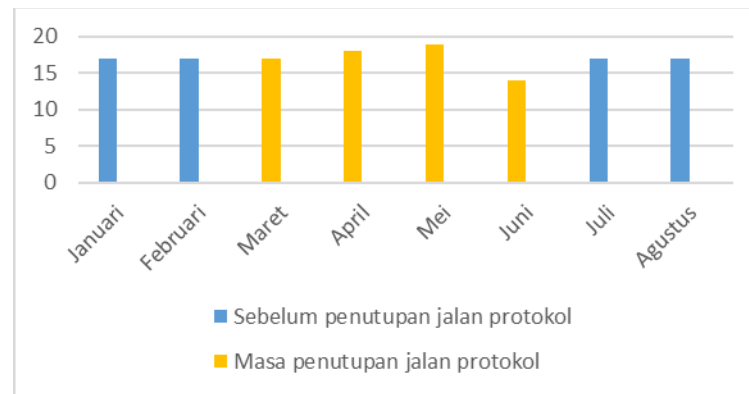


Figure 1. Traffic Accident Figures in Magelang City from Januari-Augustus 2020

Source: Unit Traffic Accident Police Magelang City

The implementation of the protocol road closure policy with the aim of reducing the interaction of residents from outside the city of Magelang with the city of Magelang in order to prevent the spread of Covid-19, did not have a significant impact on reducing the number of traffic accidents. In the first 3 (three) months of the implementation of this policy, the number of traffic accidents increased by 1 (one) incident per month (increased by only 1%). Meanwhile, in the fourth month the implementation of this policy decreased by 4 (four) incidents (decreased by 7 %).

After the protocol road closure policy was revoked, the accident rate graph returned to the position it was before the implementation of this policy, namely back to 17 incidents (up 17% from the incidents in June 2020). This means there are no spikes that require serious handling.

2. Factors That Cause Traffic Accidents During the Implementation of the Protocol Road Closure Policy Protokol

The mode of transportation is just a set of machines that require a human role to move it. Human negligence in operating it and the presence of vehicle components that are not functioning properly can result in harm. Based on the results of interviews from sources, the factors that cause traffic accidents come from three elements, they are humans, vehicles and roads. Human factors cause accidents due to being careless, not concentrating because talking with other passengers, smoking or using cell phones while driving, tired and sleepy, not maintaining a safe distance from nearby vehicles, vehicle speed above the safe driving limit. The vehicle factor as the cause of the accident is due to the failure of the brakes. Road factors cause accidents due to slippery road conditions due to rain, potholes / bumpy roads.

People who experience this traffic accident are those who are carrying out their work (government employees, traders, employees, entrepreneurs) even though there is a protocol road closure policy as one of the implementations of Large-Scale Social Restrictions regulations. Meanwhile, residents who have no interest prefer to stay at home. What the community and police officers have done is an effort to reduce the spread of Covid-19 in the City of Magelang.

Conclusion

The closure of two protocol roads in Magelang City is one of the efforts of the local government to reduce the spread of Covid-19 in its region. Public obedience not to break through roadblocks is one of the main keys, be it city residents who break out of town or out-of-town residents who break into the city of Magelang. Another supporting factor is the compliance of the community to keep activities at home only if there are no urgent interests such as working, buying basic food needs, taking medication / buying medicine.

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