

**REDUCING THE RISK OF TRAFFIC ACCIDENTS THROUGH A ROAD SAFETY
AUDIT
(Case Study of Jalan Jogja-Solo km 10-12 Sleman Regency)**

Harefa, S.¹⁾, Yasin, I.²⁾, Widaryanto, L.H.³⁾

¹ Mahasiswa Prodi Teknik Sipil Fakultas Teknik

² Dosen Prodi Teknik Sipil Fakultas Teknik

³ Dosen Teknik Sipil Fakultas Teknik Universitas Sarjanawiyata Tamansiswa

ABSTRACT

Road Jogja-Solo Sleman Regency is ranked second in the case of traffic accidents. Based on these conditions, a road safety audit is needed to determine the indications of the causes of the accident. The audit was carried out based on the method of filling out the checklist sourced from the Department of Public Works about the 2005 road safety audit. The filling of the checklist was based on road geometric surveys and measurements. From the Sleman Police data from 2017-2018 the most accidents occurred in 2016, namely 51 accidents. From the analysis of the geometry of the road speed plan for Jalan Jogja Solo, Sleman Regency amounts to 60 km / h, 2 lane 4 lane road type and 2 lane with 12 meter width, 2 meters wide road shoulder. From the results of the survey the operational speed of the jogja-solo direction is 66.16 km / hr while the plan speed is 60 km / h so it has passed the planned speed. From the results of the road safety audit analysis found several causes of road accidents that were used for selling, there were no lane bikes, some roads were not repaired, added lighting at night.

Keywords: *audit, safety, road*

BACKGROUND

Sleman Regency, Yogyakarta Special Region Province is one of the centers of economic development and the level of transportation. is an activity that is always carried out in daily activities. Transportation activities are needed for various purposes, to support the smooth running of adequate transportation facilities, it is necessary to develop road infrastructure to facilitate and accelerate economic growth, trade, business and other activities. So we need to know how the characteristics of traffic accidents on the roads of Jogja-Solo km 10-12 Kalasan, the geometric conditions and the factors that cause traffic accidents by using the road safety audit checklist.

OBJECTIVES

The purpose of this study was to conduct a road safety audit and determine the traffic accident factors on the Jogja-Solo km 10-12 Kalasan and to determine the geometric condition of the road.

LITERATURE REVIEW

According to Law Article 1 No. 22 of 2009 Paragraph 24 Regarding Traffic and Road Transportation, a traffic accident is an incident on the road which is unexpected and accidentally involving a vehicle with or without other road users which results in human casualties and property loss. Research and assessment in the field can conclude that traffic accidents can be influenced by human factors, vehicles and the road environment, as well as the interaction and combination of two or more of these factors (Warpani et al. 2002).

A safety audit is a formal road / traffic project inspection in which an independent team of experts reports potential collisions and safety aspects of the project. According to the Department of Public Works (2005) road safety audits are efforts to find the causes of accidents or problems that occur on accident-prone roads in order to provide safety for road users. Road safety audits are part of a traffic accident prevention strategy with an improved approach to geometric design conditions, road complementary buildings, road support facilities that have the potential to cause traffic conflicts with a comprehensive, systematic and independent road inspection concept.

Visibility is the distance required by a driver when the driver sees a dangerous obstacle, the driver can do something to avoid the danger safely. The stop sight consists of two elements. The first is the distance traveled after the driver sees the obstacle until the driver applies the brakes until the vehicle stops (Hendarsin, 2000).

According to Mulyono et al, (2009) the basic principle of auditing is to compare recorded field events with agreed technical standards. In relation to road infrastructure, the audit will focus on how much the infrastructure performance deviates from its technical standards, which includes (1) auditing the road geometry, such as visibility, width of vehicle traffic, road shoulder width, (2) audit of pavement damage performance. , road equipment facilities for road functions, such as speed limit signs and directions, markers, lighting, signals, and medians.

METODOLOGY

The road safety audit research was carried out on Jalan Jogja - Solo km 10-12 Kalasan. Data collection for road geometry and road facilities and checklist data collection was carried out on Saturdays and Sundays on February 16 and 17, 2019. Spot speed surveys and sampling for each lane of the straight line length of 60 meters and 60 meters of cornering trails in the morning and in the afternoon from 07.30 and 16.00 on February 25, 2019. data collection was carried out at night to see the state of lighting at the survey location. The data obtained from filling out the road safety audit checklist will be grouped based on the audit checklist checklist. From the results of the yes and no answers, it will be recapitulated in the form of a percentage indicating the feasibility of the road.

RESULT AND DISCUSSION

This research was conducted on Jogja-Solo km 10-12 Kalasan which is one of the locations where traffic accidents often occur according to data obtained from the Polres Sleman. To examine the condition of the road geometry, a survey and direct measurement of the road was carried out in the field on the jogja-solo km 10-12 Kalasan. Then the data that has been taken in the field will be used to calculate the stopping visibility and the visibility to prepare with the instantaneous speed survey for the operation of the Jogja-Solo km 10-12 Kalasan road at the straight and cornering road locations. In knowing the operational conditions of the road, a survey will be carried out in the form of filling out a road safety audit checklist that contains 11 (eleven) inspection items, namely, the general condition of the Jogja-Solo km 10-12 Kalasan road, road alignments, intersections, additional lanes / lanes for direction rotation, non-motorized traffic, bus / vehicle stops, railroad crossings, lighting conditions, road signs and markings, road complementary buildings and road surface conditions as indicators to determine the causes of accidents on the Jogja-Solo km 10-12 Kalasan.

The viewpoint of the plan stop is calculated based on the required design speed data on the Jogja-Solo km 10-12 Kalasan road. From the results of the geometric analysis of the jogja-solo road km 10-12, it has a design speed of 60 km / hour. By using equation 3.2, the calculation of the stopping visibility can be seen in appendix 10. The results of the calculation are that the visibility to stop the plan is 84.65 meters. The visibility calculation for preparing plans on the

jogja-solo road is based on the planned speed of 60 km / hour with the visibility for the plan being 342.98 meters.

The calculation of the operational speed is 66.16 km / hour from the direction of Jogja-Solo km 10-12. The calculation of visibility for operational preparation is 396.73 meters and visibility for operational preparation is 388.93 meters. The high number of traffic accidents on Jalan Jogja-Solo km 10-12 Kalasan is one of the efforts made to reduce the accident rate by conducting road safety audits to determine indicators or causes of traffic accidents. One of the efforts to prevent traffic accidents is by using a road safety audit approach to the geometric design conditions of roads, road complementary buildings and other road support facilities that have the potential to cause conflict in the occurrence of traffic accidents on Jalan Jogja-Solo km 10-12 Kalasan.

CONCLUSIONS

From 2016-2018 the highest accidents on the Jogja-Solo km 10-12 Kalasan occurred in 2016, amounting to 51 accidents. Most of the deaths occurred in 2016, namely 4 people. Jalan Jogja-Solo km 10-12 Kalasan is included in class II with a design speed of 60 km / hour. The average operating speed of the Jogja-Solo km 10-12 Kalasan road is 66.16 km / hour with a straight road condition of 60 meters in the morning. The average operational speed of the Solo-Jogja km 12-10 Kalasan road is 59.93, the road conditions are 60 meters long cornering in the morning. The width of the road is 12 meters, the median width is 1 meter and the shoulder width is 2 meters.

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