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FACTORS CAUSING TRAFFIC ACCIDENTS BASED ON THE TRIP MAKER PERCEPTION: COMPARISON BETWEEN URBAN AND RURAL ROADS

基於出行者認知的交通事故原因：城鄉道路比較

Iphan Fitriana Radam ^{a,*}, Dedy Harianto ^b, Rio Irakama Narang ^c^a Magister Program of Civil Engineering, Lambung Mangkurat University
Banjarmasin, Indonesia, ifradam@ulm.ac.id^b Department of Transportation, Regency of Balangan, South Kalimantan, Indonesia, dedira2013@gmail.com^c Department of Housing and Settlement Area, Regency of Barito Utara, Centre Kalimantan, Indonesia,
rioranggarawa@yahoo.com*Received: May 1, 2022* ▪ *Reviewed: June 4, 2022*▪ *Accepted: June 17, 2022* ▪ *Published: June 30, 2022*

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Abstract

Traffic accidents can occur due to drivers, vehicles, infrastructure, and the environment. Of the three factors that cause it is necessary to know what attributes have a strong correlation as part of the factors that can cause the accident. This study aims to obtain and compare what factors cause traffic accidents on urban and rural roads. The data used in this study is not based on accident data but trip makers' perception data by conducting interviews. The target respondents are trip makers who have been involved in traffic accidents. The perception data is used to obtain the factors that cause other traffic accidents that are not recorded in conventional accident data. In this research, the causative factors are grouped into two conditions: factors causing accidents on urban roads and rural roads. Identification of these causes is by sorting out which attributes directly affect the likelihood of a traffic accident based on the perception of the trip makers. The analysis uses the Partial Least Square statistical approach to get the intended results. The results show that the dominant cause of accidents based on human factors on urban roads is fatigue, while on rural roads is due to high speed (aggressive). From the vehicle factors, a flat tire is a cause that may cause an accident. Brake failure is one of the causative factors for rural roads not found on urban roads. Side friction such as the buildup of material on the roadside, on-street parking, street vendors, and indiscriminate pedestrians have great potential to cause accidents on urban roads. Sharp curve conditions are the dominant cause on rural roads.

Keywords: Traffic Accidents, Trip Maker Perception, Partial Least Square, Urban Road, Rural Road
