

## **ABSTRACT**

*In Indonesia, the density of traffic flow occurs at the time of leaving and returning to work, long holidays or national holidays such as the end of the year (New Year). This annual routine activity is mostly carried out especially in big cities in Indonesia such as Bandung. Because Bandung is a city that has a lot of tourism, Bandung is therefore always the center of visitors to enjoy weekends or long holidays. So from this problem, we want to create a traffic prediction application that can help to solve congestion problems that have become an annual routine. The several types of vehicles used in the prediction are private cars, motorcycles, taxis, public transportation, large buses, mini buses, and mini trucks. Research conducted using the K-Nearest Neighbor method is a prediction of short-term traffic flow on Jl. Riau Bandung. The input used in making predictions is historical data on the number of vehicles going on Jl. Riau Bandung. The output generated from the use of the K-Nearest Neighbor method is the level of the jam class that runs on Jl. Riau Bandung in 2018 used a simulation on the SUMO (Simulation of Urban Mobility) application. The resulting performance of KNN with  $k = 3$  has an accuracy of 99.21%,  $k = 5$  has an accuracy of 99.60%, and  $k = 7$  has an accuracy rate of 99.21% on 90% training data and 10% testing data.*

**Keywords:** *Prediction, Traffic, K-Nearest Neighbor (KNN), Simulation of Urban Mobility (SUMO).*