ABSTRACT

Bandung City is one of the most densely populated areas in the West Answer region. With the increase in population in Bandung City in 2023, the number of human activities is also increasing. Thus, the number of fires in 2023 will also increase sharply. There is hope from the DISKAR PB Bandung City to reduce the travel time limit to 13.5 minutes if socialization and public awareness increase. In this study, researchers focused on one of the fires on Jl. Bijaksana Dalam, which had a total travel time of 14 minutes. Based on expectations of reducing the desired total travel time. Based on the GAP in the expected and actual travel time, it is necessary to determine the fastest route strategy using Fuzzy logic and the Dijkstra algorithm to minimize the expected travel time of firefighting vehicles.

These methods determine the weight on each edge using fuzzy logic based on road length, width, and density parameters. Meanwhile, Dijkstra's algorithm is used to determine the fastest route with the Fuzzy result weight parameter and the average travel time of the extinguishing vehicle. Based on the results of calculations using these two methods, the fastest path is obtained with a total travel time of 13.3 minutes and a total distance of 6.4 Km from the location point of Central Mako. These results show a decrease from the actual travel time to the proposed travel time. There is a GAP in total travel time between the proposed and expected reduction in travel time of 0.2 minutes.

Due to the decrease between actual and proposed travel times, Fuzzy logic and the Dijkstra algorithm can minimize vehicle travel time and achieve results under expectations.

Keywords: *Fuzzy Logic, Route, Dijkstra, firefighter*