ABSTRACT

This research aims to implement an interactive dynamic route using the A* algorithm in Bandung City. Commuters often encounter challenges when using common routes, such as traffic jams or temporarily closed roads. Congestion can occur if commuters repeatedly pass through the same road beyond its maximum capacity.

The research results demonstrate that the A* algorithm can generate the shortest travel routes. Additionally, the analysis includes an evaluation of the A* algorithm's performance based on accuracy and dynamic routing capability. These analytical findings provide valuable insights for transportation authorities to enhance service and travel route efficiency.

The study concludes that the A* algorithm approach is an effective method for optimizing travel routes in Bandung City. Implementing dynamic routes using the A* algorithm allows the determination of alternative routes in Bandung City, utilizing optimal weights of 35% for road types, 30% for popularity, 30% for road segments, and 5% for road conditions. The average time required for this route system is approximately 15.75 seconds.

Keywords: Travel routes, A* algorithm, density.