

ABSTRAK

Dinas Perhubungan Kota Palembang masih menghadapi kendala dalam proses pemantauan kondisi lalu lintas yang dilakukan secara manual melalui laporan petugas lapangan. Kondisi tersebut menyebabkan data lalu lintas belum terdokumentasi secara terstruktur, sulit diakses kembali, serta memperlambat proses pengambilan keputusan dalam menentukan tindak lanjut terhadap permasalahan lalu lintas. Penelitian ini bertujuan untuk merancang dan membangun Sistem Informasi Pemantauan dan Penentuan Tindak Lanjut Lalu Lintas Jalan Berbasis Website dengan menerapkan metode Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) sebagai pendukung keputusan. Metode pengembangan sistem yang digunakan adalah Waterfall, yang meliputi tahapan analisis kebutuhan, perancangan, implementasi, pengujian, dan pemeliharaan. Pengumpulan data dilakukan melalui observasi, wawancara, studi pustaka, dan dokumentasi. Metode TOPSIS diterapkan untuk menentukan rekomendasi tindak lanjut berdasarkan lima kriteria, yaitu volume kendaraan, infrastruktur jalan, manajemen lalu lintas, kecelakaan lalu lintas, dan parkir sembarangan. Hasil penelitian menunjukkan bahwa sistem yang dibangun mampu membantu petugas dalam melakukan pencatatan, pengelolaan, dan penyajian data lalu lintas secara digital serta menghasilkan rekomendasi tindak lanjut berdasarkan nilai preferensi TOPSIS. Berdasarkan hasil perhitungan, ruas Jalan Basuki Rahmat memperoleh nilai preferensi tertinggi sebesar 0,6642, diikuti Jalan Angkatan 45 sebesar 0,5441, sehingga direkomendasikan sebagai prioritas tindak lanjut. Dengan adanya sistem ini, proses pemantauan lalu lintas menjadi lebih efektif, pengelolaan data lebih terstruktur, serta mendukung pengambilan keputusan yang lebih objektif dan efisien di Dinas Perhubungan Kota Palembang.

Kata Kunci: Sistem Informasi, Pemantauan Lalu Lintas, Website, Sistem Pendukung Keputusan, TOPSIS.

ABSTRACT

The Palembang City Transportation Agency still faces challenges in monitoring road traffic conditions due to the manual reporting process conducted by field officers. As a result, traffic data are not systematically documented, difficult to retrieve, and often delay the decision-making process in determining appropriate follow-up actions. This study aims to design and develop a Web-Based Road Traffic Monitoring and Follow-up Decision Information System by implementing the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method as a decision support tool. The system was developed using the Waterfall software development methodology, which consists of the stages of requirement analysis, system design, implementation, testing, and maintenance. Data were collected through observation, interviews, literature studies, and documentation. The TOPSIS method was applied to generate follow-up recommendations based on five criteria: traffic volume, road infrastructure, traffic management, traffic accidents, and illegal parking. The results indicate that the developed system is capable of assisting officers in recording, managing, and presenting traffic data digitally while providing follow-up recommendations based on TOPSIS preference values. Based on the calculation results, Basuki Rahmat Road obtained the highest preference value of 0.6642, followed by Angkatan 45 Road with a value of 0.5441, making them the highest-priority locations for follow-up actions. Therefore, the proposed system improves the effectiveness of traffic monitoring, enhances structured data management, and supports more objective and efficient decision-making within the Palembang City Transportation Agency.

Keywords: Information System, Traffic Monitoring, Website, Decision Support System, TOPSIS.