IMPLEMENTASI *INTELLIGENT TRANSPORTATION SYSTEM* (ITS) DI KOTA PADANG, SUMATERA BARAT.

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ABSTRAK

Intelligent Transportation System (ITS) merupakan solusi manajemen transportasi menggunakan teknologi intelijen untuk integrasi antar jaringan jalan, moda sistem transportasi, dan pengguna. Implementasi ITS dimulai pada tahun 2010 di DKI Jakarta untuk mengatasi masalah kemacetan. Sistem ini mengelola dan menggunakan sumber data yang dibagi antara berbagai sistem manajemen informasi yang mengintegrasikan beberapa alat, yaitu CCTV, *Auto Traffic Control System* (ATCS), dan *Camera Counting*.

Meskipun Pemerintah Padang telah berkinerja baik dalam hal perencanaan dan implementasi, sayangnya, beberapa masalah masih menghambat keberhasilan pembangunan ITS, mengikuti dasar perencanaan dan regulasi, kohesifitas pemangku kepentingan, kesadaran masyarakat, dan pembangunan infrastruktur. Tindakan kohesif harus diambil untuk mendorong partisipasi dari seluruh pemangku kepentingan. Kampanye publik yang mendorong masyarakat untuk beralih dari kendaraan pribadi ke angkutan umum harus diprioritaskan untuk mengurangi beban pelayanan di jalan raya dan kemacetan lalu lintas, sekaligus meningkatkan pengembalian investasi transportasi umum.

Berdasarkan hasil pengelohan data, pengetahuan masyarakat tentang ITS di Kota Padang tergolong baik. Implementasi ITS di kota ini mencakup beberapa fitur utama: *Area Traffic Control System* (ATCS) yang terpasang di 27 simpang jalan dan 6 simpang jalan nasional, sistem manajemen *Bus Rapid Transit* (BRT) dengan enam koridor, serta

pembayaran non-tunai menggunakan kartu Brizzi sejak 2017. Meskipun pengembangan sistem smart card telah dilakukan, manfaatnya belum dirasakan secara signifikan oleh masyarakat. Hasil uji statistik menunjukkan bahwa ITS memberikan pengaruh positif dan signifikan terhadap manfaat ekonomi dan dampak lingkungan. Adanya ITS mempermudah akses informasi lalu lintas, mengurangi waktu tempuh, dan menghemat konsumsi bahan bakar, yang pada gilirannya berkontribusi pada perbaikan ekonomi dan lingkungan di Kota Padang. Penelitian ini menyarankan perlunya peningkatan pemanfaatan sistem smart card dan sosialisasi lebih lanjut untuk memaksimalkan keuntungan dari ITS.

Kata Kunci – Intelligent Transport System, Padang, transportasi umum, sistem manajemen lalu lintas canggih, infrastruktur transportasi.

IMPLEMENTATION OF INTELLIGENT TRANSPORTATION SYSTEM (ITS) IN PADANG CITY, WEST SUMATRA.

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ABSTRACT

Intelligent Transportation System (ITS) is a transportation management solution using intelligence technology for integration between road networks, modes of transportation systems, and users. The implementation of ITS was started in 2010 in DKI Jakarta to overcome congestion problems. This system manages and uses data sources that are shared between various information management systems that integrate several tools, namely CCTV, Auto Traffic Control System (ATCS), and Camera Counting.

Though the Government of Padang has performed well in terms of planning and implementation, unfortunately, several problems are still hindering the success of ITS development, following planning and regulation basis, stakeholder cohesiveness, public awareness, and infrastructure development. A cohesive action should be taken in order to encourage participation from the whole stakeholders. A public campaign that encourages people to shift from private vehicles to public transport should be given priority to reduce the service burden on the highway and traffic congestion, at the same time increasing the return on public transportation investment.

Based on the results of data mining, public knowledge of ITS in Padang City is good. ITS implementation in the city includes several key features: Area Traffic Control System (ATCS) installed at 27 road intersections and 6 national road intersections, Bus Rapid Transit (BRT) management system with six corridors, and cashless payments using

Brizzi cards since 2017. Despite the development of the smart card system, the benefits have not been significantly felt by the community. Statistical test results show that ITS has a positive and significant influence on economic benefits and environmental impacts. The ITS makes it easier to access traffic information, reduces travel time, and saves fuel consumption, which in turn contributes to economic and environmental improvements in Padang City. This study suggests the need for increased utilization of the smart card system and further socialization to maximize the benefits of ITS.

Keywords – Intelligent Transport System, Padang, public transport, advanced traffic management system, transport infrastructure.