Study dan model emisi gas buang kendaraan bermotor dari sektor transportasi jalan di Jakarta = The study and modeling of exhaust gas emissions from france the road transport sector in Jakarta

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Abstrak

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Faktor emisi dan konsumsi bahan bakar tergantung pada berbagai faktor. Driving cycle merupakan perilaku lalu lintas dan merupakan reprsentasi berkendara dari suatu wilayah. Ada banyak standar driving cycle seperti metode Eropa driving cycle, Jepang Cycle, US-EPA, dll. Namun, driving cycle tersebut tidak dapat mewakili kondisi aktual Jakarta. Penelitian ini menjelaskan driving cycle yang diperoleh di Jakarta. Jakarta driving cycle adalah langkah pertama untuk menentukan emisi nyata untuk mengurangi polusi dan untuk mempengaruhi pilihan kendaraan di Jakarta. Faktor emisidigunakan untuk menentukan emisi gas buang di persimpangan Semanggi. Studi kasus persimpangan Semanggi dibahas. Aspek psikologis berkontribusi pada pemahaman tentang perilaku pemilik mobil untuk menggunakan bus rapid transit di Jakarta. Diskusi tentang The theory of planned behaviour (TPB) dan aspek psikologis dibuat untuk studi kasus ini. Penelitian ini juga menjelaskan model dinamis dari pengurangan emisi di sektor transportasi darat, studi kasus perempatan Semanggi di Jakarta. Sistem transportasi perkotaan adalah sistem yang kompleks dengan beberapa variabel, loop umpan balik, dan dipengaruhi oleh faktor sosial, ekonomi, dan lingkungan. Model system dinamis yang diusulkan terdiri dari dua submodel: "Vehicle Fleet" dan "Perhitungan Emisi". Model ini berjalan dalam perangkat lunak Powersim Studio menggunakan data dari Indonesia Japan Economic Agreement Partenership (IJ-EPA) dan Kepolisian Republik Indonesia.;

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ABSTRACT

Emission factors and fuel consumption depend on various factors. The driving cycle represents traffic behaviour and is representative of a given region. There are many standards of driving cycles such as the method of European Driving Cycle, Japan Cycle, US-EPA, India Cycle, etc. However, these driving cycles cannot represent the actual condition in Jakarta. This paper describes the driving cycle obtained in Jakarta. Jakarta?s Driving Cycle is the first step for determining real emissions in order to decrease pollution and to influence vehicle choice in Jakarta. Emissions factors are deduced and used to determine exhaust emissions in the Semanggi intersection. The case study of the Semanggi intersection is discussed. Psychological aspects contribute to the understanding of the behaviour of car owners to use bus rapid transit (BRT) in Jakarta. Discussion about TPB theory and psychological aspects are made for this case study. This paper describes a dynamic system model of emissions reduction in the land transport sector with the case study of the Semanggi intersection in Jakarta. The urban transportation system is a complex system with multiple variables, feedback loops, and is influenced by social, economic, and environmental factors. The proposed DS model consists of two submodels: ?Vehicle Fleet? and ?Emissions Calculation?. The model runs in Powersim Studio software using data from Indonesia Japan Economic Agreement Partenership (IJ-EPA) and the Traffic Management Centre of the Indonesia National Police Headquarters.

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