EVALUASI KINERJA SIMPANG LIMA BERSINYAL MENGGUNAKAN SOFTWARE VISSIM (STUDI KASUS: SIMPANG LIMA KECAMATAN SRUWENG, KABUPATEN KEBUMEN)

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ABSTRAK

Kota Kebumen yang berada pada jalur lintas penghubung transportasi antar kota, keberagaman tempat wisata, kerajinan tangan, kuliner dan pusat industri yang dapat mengakibatkan banyaknya pergerakan manusia, barang dan jasa. Hal ini akan mempengaruhi tundaan, antrian, kemacetan dan meningkatnya volume lalu lintas pada simpang. Meningkatnya pertumbuhan dan mobilitas masyarakat akan mempengaruhi keadaan lalu lintas suatu wilayah, lalu lintas yang terus bertambah apabila tidak diimbangi dengan sarana prasarana yang memadai dan tepat akan memperburuk keadaaan arus lalu lintas pada simpang karena merupakan pusat konflik lalu lintas.

Penanganan masalah yang terjadi pada simpang dilakukan dengan memanajemen sistem lalu lintas. Perilaku tertib lalu lintas fasilitas jalan yang baik akan membantu meningkatkan keamanan dan kenyamanan lalu lintas serta dapat mengatasi masalah yang timbul apabila terjadi peningkatan pengguna jalan. Penanganan masalah ini dilakukan dengan cara mengevaluasi kinerja simpang dengan simulasi menggunakan analisis Manual Kapasitas Jalan Indonesia (MKJI 1997) lalu memvisualisasikan dengan *software* VISSIM.

Studi ini dilakukan di Simpang Lima Kecamatan Sruweng Kabupaten Kebumen. Hasil analisis menujukan bahwa nilai derajat kejenuhan pada lengan A, B, C secara berturut-turut 1,10 ; 1,35 ;0,71 dimana data kejenuhan >0,75 sedangkan pada lengan D bernilai 0,34 dan pada lengan E tidak menggunakan sinyal. Penilaian tingkat pelayanan seluruhnya bernilai F karena memiliki nilai tundaan kendaraan >80 detik, hal ini disebabkan oleh kejenuhan pada simpang akhibat arus yang melalui simpang melampaui kapasitas simpang dan waktu siklus yang terlalu panjang.

***Kata kunci** : kinerja simpang, mikrosimulasi,vissim*

EVALUATION OF INTERSECTION PERFORMANCES USING SOFTWARE VISSIM (A CASE STUDY: SIMPANG LIMA SRUWENG, KEBUMEN)

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ABSTRACT

Kebumen City is located at a cross-intercity route of inter-city transportation, the diversity of tourist attractions, handicrafts, culinary and industrial centers that can lead to a lot of human movement, goods and services. This will affect delays, queues, congestion and increased traffic volume at intersections. Increasing the growth and mobility of the community will affect the traffic condition of a region, the increasing traffic if not balanced with adequate and appropriate infrastructure will worsen the condition of traffic flow in the interconnection because it is the center of traffic conflict.

Handling problems that occur at the intersection is done by managing the traffic system. Good road traffic orderliness will help improve the security and comfort of traffic and can solve the problems that arise if there is an increase in road users. Handling this problem is done by evaluating the performance of intersection with simulation using Manual Capacity Analysis of Indonesia (MKJI 1997) and then visualize with VISSIM software.

This study was conducted at Simpang Lima Sruweng Subdistrict, Kebumen Regency. The results of the analysis indicate that the saturation grade values in arms A, B, C respectively 1.10; 1.35; 0.71 where the saturation data is > 0.75 whereas in arm D is 0.34 and on arm E does not use signal. The service level rating is entirely F value because it has a vehicle delay value > 80 seconds, this is caused by the saturation at the intersection due to the traffic flow at the intersection that exceeds the intersection capacity and the cycle time turn is too long.

Keywords : intersection performance, microsimulation, vissim

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ABSTRACT

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