INTISARI

PERBANDINGAN KINERJA SIMPANG TAK BERSINYAL JL. PERSATUAN DAN JL. BHINNEKA TUNGGAL IKA MENGGUNAKAN *SOFTWARE* PTV VISSIM 9.0.0 DAN MKJI 1997

YOGA PRATAMA PUTRA

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Simpang tiga tak bersinyal Jl. Persatuan dan Jl. Bhinneka Tunggal Ika merupakan simpang yang berada pada daerah kampus Universitas Gadjah Mada, Yogyakarta. Kebutuhan fasilitas transportasi yang optimal dapat dilakukan dengan melakukan evaluasi kinerja pada simpang tersebut.

Survei pengamatan dan pencacahan dilakukan pada tanggal 2 Mei 2018 didapatkan hasil data berupa volume kendaraan, geometri simpang, kondisi lingkungan dan hambatan samping. Data hasil pengamatan akan dianalisis dan hasil kinerja simpang akan dibandingkan menggunakan metode Manual Kapasitas Jalan Indonesia (MKJI) 1997 atau *software* KAJI dan *software* simulator lalu lintas PTV VISSIM.

Analisis menggunakan MKJI 1997 didapatkan kapasitas simpang 4458 smp/jam, derajat kejenuhan 0,886, tundaan rata-rata simpang sebesar 12,418 det/smp, tundaan simpang sebesar 15,05 det/smp, dan peluang antrian 32-62%. Analisis kinerja menggunakan VISSIM didapatkan hasil tundaan simpang sebesar 1,68 detik, panjang antrian 17,75 m dengan LOS A pada lengan utara. Tundaan simpang 1,06 detik, panjang antrian 12,01 m dengan LOS A pada lengan selatan. Sedangkan, tundaan simpang 16,78 detik, panjang antrian 18,22 meter dan LOS B pada lengan barat.

Kata Kunci: Simpang Tak Bersinyal, MKJI 1997, PTV VISSIM 9, Kinerja Simpang

ABSTRACT

COMPARISON PERFORMANCE OF UNSIGNALIZED INTERSECTION AT JL. PERSATUAN AND JL. BHINNEKA TUNGGAL IKA BY SOFTWARE PTV VISSIM AND ICHM 1997

YOGA PRATAMA PUTRA

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Three-leg unsignalized intersection between Jl. Persatuan and Jl. Bhinneka Tunggal Ika is located in Gadjah Mada University area, Yogyakarta. The functioned transport facilities can be optimally by a performance evaluation of intersection.

The survey of observation and enumeration did on 2 May 2018 and the result are vehicles volume, intersection geometry, environtment condition and side friction. The result of survey would be analyze and the intersection performance would be comparing by using unsignalized intersection by Indonesia Highway Capacity Manual 1997 or KAJI as software and traffic simulator software PTV VISSIM.

As result of this research, analysis by IHCM 1997 shows intersection capacity 4458 pcu/h, degree of saturation 0,886, intersection average delay 12.418 s/pcu, intersection delay 15,05 s/pcu, and queue probability 32-62%. Performance analysis by VISSIM shows the result of intersection delay 1,68 second, length of queue 17,75 meters and level of service "A" in north approach. Intersection delay 1,06 second, length of queue 12,01 meters and level of service "A" in south approach. While, intersection delay 16,78 second, length of queue 18,22 meters and level of service "B" in west approach.

Keyword: Unsignalized Intersection, IHCM 1997, PTV VISSIM 9, Intersection Performance