ABSTRAK

Perkembangan sarana transportasi yang tidak seimbang dibandingkan dengan laju pertambahan kepemilikan kendaraan bermotor merupakan faktor penyebab menurunnya kinerja suatu ruas jalan dan simpang. Simpang yang mengalami permasalahan kinerjanya adalah simpang tak bersinyal Jalan Williem Iskandar. Oleh karena itu dilakukan penelitian dengan tujuan untuk mendapatkan gambaran kondisi simpang tiga tak bersinyal, terutama yang berkaitan dengan kondisi operasional simpang tiga tak bersinyal. Penelitian pada simpang tiga Williem Iskandar tak bersinyal ini dilakukan selama 3 hari, yaitu hari rabu 09 september 2020, hari kamis 10 september 2020, hari sabtu 12 september 2020. Dalam pengumpulan data lalu lintas dilakukan dalam 3 priode yaitu pada pagi jam (07.00 – 09.00), siang jam (11.00 – 13.00), dan sore jam (16.00 – 18.00). Pengambilan data lalu lintas dilakukan dengan mencatat jumlah kendaraan yang melewati simpang tiga Williem Iskandar tak bersinyal tiap 15 menit selama 2 jam. Hasil pengumpulan data primer berupa arus lalu lintas pada jam jam puncak, geometrik ruas jalan dan persimpangan tiga Williem Iskandar tak bersinyal, kecepatan sesaat, dan hambatan samping. Data sekunder berupa data jumlah penduduk. Analisis dilakukan berdasarkan Manual Kapasitas Jalan Indonesia (MKJI) 1997. Berdasarkan perhitungan kinerja untuk kondisi simpang tiga Williem Iskandar tak bersinyal pada keadaan sekarang, didapat waktu sibuk pada simpang tiga tak bersinyal diambil pada hari senin 09 september 2020 dan jam puncak pukul 16.00-18.00. Hasil perhitungan didapat jumlah arus total (Q) 6069 smp/jam, nilai kapasitas (C) 7344 smp/jam dan derajat kejenuhan (DS) 0,83 melebihi batas kejenuhan yang disarankan oleh MKJI yaitu >0,75. Untuk meningkatkan kondisi operasional dari simpang tiga dapat dilakukan beberapa alternative penanganan yaitu pelebaran jalan dan pemasangan lampu lalu lintas pada setiap jaringan jalan di persimpangan, pemberian belok kiri langsung, larangan menurunkan penumpang.

Kata kunci : MKJI 1997, **Kapasitas, Analisa Simpang Tiga Williem Iskandar tak bersinyal**

ABSTRACT

The development of transportation facilities that is not balanced compared to the rate of increase in motorized vehicle ownership is one of the causes of the declining performance of a road section and intersection. One of the intersections experiencing performance problems is the unsignalized Jalana Williem Iskandar intersection. Therefore, a study was conducted with the aim of getting a description of the condition of the unsignalized Williem Iskandar intersection, especially with regard to the operational conditions of the unsignaled Williem Iskandar intersection. This research was conducted at the Williem Iskandar intersection with no signal at Jl. Rumah Sakit Haji km 9.5, jl. Williem Iskandar in the village of Mabar, District of Medan Deli. The research at the Williem Iskandar intersection with no signal was carried out for 3 days, namely Wednesday 09 September 2020, Thursday 10 September 2020, Saturday 12 September 2020. Traffic data collection was carried out in 3 periods, namely in the morning (07.00 - 09.00), afternoon hours (11.00 – 13.00), and afternoon hours (16.00 – 18.00). Traffic data collection was carried out by recording the number of vehicles passing through the Williem Iskandar intersection without a signal every 15 minutes for 2 hours. The results of primary data collection in the form of traffic flow at peak hours, geometric roads and intersections of three Williem Iskandar no signal, speed at any time, and side barriers. Secondary data in the form of population data. The analysis was carried out based on the 1997 Indonesian Road Capacity Manual (MKJI). Based on the calculations for the condition of the unsignalized Williem Iskandar intersection at the current state, it was found that the busy time at the unsignaled Williem Iskandar intersection was taken on Monday 09 September 2020 and peak hours at 16.00-18.00 . The results of the calculation of the total current (Q) 6069 pcu/hour, the capacity value (C) 7344 pcu/hour and the degree of saturation (DS) 0.83 exceeding the saturation limit suggested by MKJI, which is >0.75. To improve the operational conditions of the Williem Iskandar intersection, several alternative treatments can be carried out, namely road widening and installing traffic lights on each road network at intersections, giving direct left turns, prohibiting passengers from dropping off.

Keywords : MKJI 1997, Capacity, Analysis of Williem Iskandar Triangular Unsignaled