

# **Kajian Karakteristik Pergerakan Arus Lalu Lintas Dan Kinerja Simpang Bersinyal (Studi Kasus Jl. Basuki Rahmat – Jl. Sungai Maruni Kota Sorong Papua Barat)**

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## **ABSTRAK**

Simpang Tiga Bersinyal Jl. Basuki Rahmat-Jl. Sungai Maruni KM.10 adalah salah satu titik persimpangan yang mempunyai peranan besar dikota sorong. Keberadaaan persimpangan harus dikelola dengan cermat sehingga didapatkan suatu simpang yang baik. Adapun metode yang digunakan dalam penelitian ini adalah metode Manual Kapasitas Jalan Indonesia (MKJI-1997). Berdasarkan hasil survey lapangan dan perhitungan waktu siklus yang ada pada saat ini sudah tidak memenuhi syarat yang ditentukan sehingga perlu dilakukan rekayasa perbaikan waktu siklus untuk mendapatkan kinerja simpang yang maksimal. Untuk perhitungan kinerja simpang untuk kondisi simpang pada keadaan eksisting, Hasil perhitungan di dapat jumlah arus total pada jam puncak 3214 smp/jam dan nilai tundaan simpang (D) = 38,90 dengan tingkat pelayanan D. Pada pendekat Timur (Jl. Basuki Rahmat) dengan jumlah arus kendaraan 1035 smp/jam memperoleh nilai tundaan (D) = 51,24 dtk/smp dengan tingkat pelayanan E. Pada pendekat Barat (Jl. Basuki Rahmat) dengan jumlah arus total 1328 smp/jam memperoleh nilai tundaan (D) = 40,26 dtk/smp. Dengan tingkat pelayanan dengan nilai E. Pada pendekat Utara (Jl. Sungai Maruni) dengan jumlah arus total 851 smp/jam memperoleh nilai tundaan (D) = 21,77 dtk/smp. Sehingga didapatkan tingkat pelayanan dengan nilai E.

Kunci: Kinerja, Simpang Bersinyal, Kinerja, Kapasitas, Tundaan.

**Analyzing Characteristics of Traffic Flow Movements and  
Performance of Signalized Intersections (Case Study on Jl. Basuki  
Rahmat – Jl. Sungai Maruni, Sorong City, West Papua)**

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**ABSTRACT**

Three Signalized Intersection Jl. Basuki Rahmat-Jl. Maruni River KM.10 is one of the crossing points that have a big role in the city of Sorong. The existence of intersections must be managed carefully so that a good intersection is obtained. The method used in this research is the Indonesian Road Capacity Manual (MKJI-1997). Based on the results of the field survey and the current cycle time calculation, it does not meet the specified requirements, so it is necessary to engineer cycle time improvements to get maximum intersection performance. For the calculation of the performance of the intersection for the condition of the intersection in the existing state, the result of the calculation is that the total current at peak hours is 3214 smp/hour and the value of the intersection delay (D) = 38.90 with a service level of D. In the East approach (Jl. Basuki Rahmat) with a total vehicle flow of 1035 smp/hour, the delay value (D) = 51.24 sec/smp with a service level of E. On the western approach (Jl. Basuki Rahmat) with a total current of 1328 smp/hour, the delay value (D) = 40.26 sec/smp. With the level of service with the value of E. In the North approach (Jl. Sungai Maruni) with a total current of 851 smp/hour, the delay value (D) = 21.77 s/pcu. So that the level of service obtained with a value of E.

Keyword: Performance, Signalized Intersection, Performance, Capacity, Delay.

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**ABSTRACT**

The Three-Way Signalized Intersection of Jl. Basuki Rahmat-Jl. Maruni River KM.10 is one of the major intersections in Sorong. The existence of intersections must be regulated properly in order to provide a functional intersection. This study makes use of the Indonesian Road Capacity Manual as its methodology (MKJI-1997). According to the results of the field survey and the existing cycle time calculation, the intersection does not satisfy the stipulated standards; thus, cycle time enhancements must be engineered to achieve optimal intersection performance. For the computation of the intersection's performance in its existing state, the total peak hour current was calculated to be 3,214 smp/hour, and the intersection delay (D) was calculated to be 38.90 with a service level of D. With a total vehicle flow of 1035 smp/hour on the East approach (Jl. Basuki Rahmat), the delay value (D) = 51.24 sec/smp at a service level of E. Meanwhile, on the western approach (Jl. Basuki Rahmat) with a total current of 1328 smp/hour, the delay value was (D) = 40.26 sec/smp resulting in the level of service E. In the North approach (Jl. Sungai Maruni) with a total current of 851 smp/hour, the delay value was (D) = 21.77 s/pcu. Therefore, the level of service obtained was E.

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