

**ANALISA KINERJA PERSIMPANGAN BERSINYAL PADA PERSIMPANGAN  
EMPAT LENGAN  
( SIMPANG EMPAT *BY PASS* - KOTO PANJANG, KOTA PADANG)**

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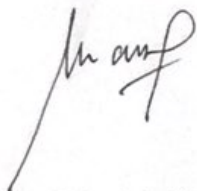
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**Abstrak**

Jalan merupakan elemen yang sangat penting bagi transportasi untuk memenuhi kebutuhan sosial masyarakat. Salah satu permasalahan yang terjadi terkhusus dibagian transportasi adalah masalah persimpangan, karena persimpangan merupakan tempat yang sangat rentan akan terjadinya masalah kemacetan dan rawan kecelakaan akibat terjadinya konflik antar pengendara dengan pengendara yang lainnya, ataupun antara pengendara dengan pejalan kaki. Simpang merupakan titik pertemuan dari berbagai jalan raya. Pada titik ini sering menimbulkan berbagai hambatan-hambatan lalu lintas karena persimpangan merupakan tempat kendaraan dari berbagai arah bertemu dan merubah arah. Kawasan simpang empat *By Pass* merupakan salah satu kawasan dengan volume lalu lintas yang cukup padat dikarenakan berada pada kawasan industri, pusat perkantoran, kawasan perumahan. Dari hasil survei didapat dan perhitungan : volume arus lalu lintas puncak berada pada hari senin 22 Juni 2020 jam puncak siang (12.00-14.00 WIB) Jalan *By Pass* Bandara (2743 skr/jam). Kapasitas jalan tertinggi ruas jalan *By Pass* dari Bandara sebesar 6427 skr/jam, derajat kejenuhan tertinggi jalan Koto Panjang dari Tabing sebesar 0,91, panjang antrian terbesar ruas jalan Koto Panjang dari Tabing sepanjang 30 meter dan tundaan terbesar ruas jalan *By Pass* dari Bandara sebesar 1389 det/skr. Nilai tingkat pelayanan jalan terburuk Jalan Koto Panjang Lubuk Minturun dan Jalan Koto panjang Tabing dengan nilai tingkat pelayanan E. Penyelesaian Permasalahan yang penulis lakukan dengan 2 cara alternatif yaitu pelebaran jalan dan penambahan durasi waktu hijau.

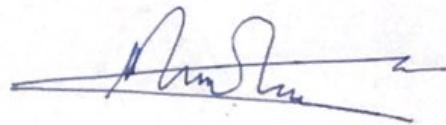
**Kata Kunci : Jalan , simpang , kapasitas , lalu lintas.**

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**Pembimbing II**



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**PERFORMANCE ANALYSIS OF SIGNAL INTERSECTION IN FOUR  
ARRESTS**

**(FOUR ARRANGEMENT BY PASS - KOTO PANJANG,  
KOTA PADANG)**

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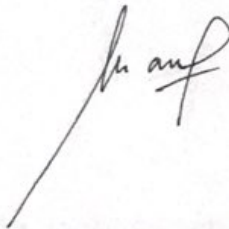
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**Abstract**

Road is a very important element for transportation to meet the social needs of society. One of the problems that occur especially in the transportation sector is the problem of intersections, because intersections are places that are very vulnerable to congestion problems and are prone to accidents due to conflicts between drivers and other drivers, or between drivers and pedestrians. The intersection is the meeting point of various highways. At this point, it often causes various traffic obstacles because the intersection is a place where vehicles from different directions meet and change direction. The intersection area *By Pass* is one of the areas with a fairly dense traffic volume because it is located in an industrial area, office center, residential area. From the survey results obtained and the calculation: the volume of peak traffic flow is on Monday 22 June 2020 at noon peak hours (12.00-14.00 WIB) Jalan By Pass Airport (2743 cur / hour). The highest road capacity of the By Pass road from the airport is 6427 skr / hour, the highest degree of saturation of the Koto Panjang road from Tabing is 0.91, the largest queue length of the Koto Panjang road section from Tabing is 30 meters long and the biggest delay of the By Pass road from the airport is 1389 sec / cur. The value of the worst road service level at Jalan Koto Panjang Lubuk Minturun and Jalan Koto Panjang Tabing with a service level value of E. Solution to the problem that the author did in 2 alternative ways, namely road widening and additional green time duration.

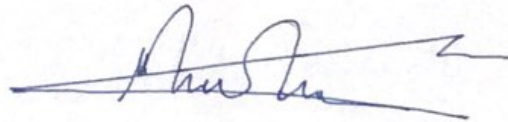
**Keywords:** road, intersection, capacity, traffic.

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