

## **ABSTRAK**

### **ANALISIS KINERJA SIMPANG TUGU PENA KOTA METRO LAMPUNG**

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Simpang Tugu Pena merupakan persimpangan empat lengan tak bersinyal yang terletak di Kecamatan Metro Pusat, Kota Metro, Provinsi Lampung, yang menghubungkan Jalan AH. Nasution, Jalan Jenderal Sudirman, Jalan Ade Irma Suryani, dan Jalan Imam Bonjol. Kawasan sekitar simpang didominasi oleh fungsi komersial dan perkantoran yang menghasilkan bangkitan dan tarikan perjalanan yang cukup tinggi, sehingga berpotensi menurunkan kinerja simpang terutama pada jam puncak. Penelitian ini bertujuan untuk menganalisis kinerja Simpang Tugu Pena berdasarkan Pedoman Kapasitas Jalan Indonesia (PKJI) 2023. Parameter kinerja yang ditinjau meliputi kapasitas simpang, derajat kejenuhan, tundaan, dan peluang antrian. Data dikumpulkan melalui survei lapangan pada hari Senin (weekday) selama jam puncak pagi hari pukul 07.00–09.00 WIB. Hasil survei menunjukkan bahwa volume lalu lintas tertinggi terjadi pada pukul 07.00–08.00 WIB sebesar 1.714 smp/jam, yang ditetapkan sebagai jam puncak analisis. Berdasarkan hasil perhitungan menggunakan PKJI 2023, diperoleh kapasitas simpang sebesar 4.014 smp/jam dengan nilai derajat kejenuhan (Dj) sebesar 0,427. Nilai tundaan rata-rata simpang diperoleh sebesar 9,362 detik/kendaraan, sedangkan peluang antrian berkisar antara 8,435% hingga 20,269%. Mengacu pada Peraturan Menteri Perhubungan Nomor 96 Tahun 2015, Simpang Tugu Pena berada pada Tingkat Pelayanan B (Baik), yang mengindikasikan bahwa arus lalu lintas masih dalam kondisi stabil dan kapasitas simpang masih memadai untuk melayani volume kendaraan yang ada pada kondisi eksisting.

**Kata kunci:** Simpang Tak Bersinyal, Kinerja Simpang, PKJI 2023, Derajat Kejenuhan, Tundaan, Peluang Antrian, Tingkat Pelayanan

## **ABSTRACT**

### **PERFORMANCE ANALYSIS OF TUGU PENA INTERSECTION IN METRO CITY LAMPUNG**

**By**

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*Tugu Pena Intersection is an unsignalized four-arm intersection located in Metro Pusat District, Metro City, Lampung Province, connecting AH. Nasution Street, Jenderal Sudirman Street, Ade Irma Suryani Street, and Imam Bonjol Street. The surrounding area is predominantly characterized by commercial and office land use, generating a relatively high volume of trip generation and attraction that may potentially reduce intersection performance, particularly during peak hours. This study aims to analyze the performance of Tugu Pena Intersection based on the Indonesian Road Capacity Manual (PKJI) 2023. The performance parameters examined include intersection capacity, degree of saturation, delay, and queue probability. Data were collected through field surveys conducted on a Monday (weekday) during the morning peak hour period from 07:00 to 09:00 local time. Survey results indicated that the highest traffic volume occurred between 07:00 and 08:00, reaching 1.714 pcu/hour, which was subsequently designated as the analysis peak hour. Based on calculations using the PKJI 2023 method, the intersection capacity was determined to be 4,014 pcu/hour with a degree of saturation ( $D_j$ ) of 0.427. The average intersection delay was found to be 9.362 seconds/vehicle, while the queue probability ranged from 8.435% to 20.269%. Based on the Indonesian Minister of Transportation Regulation No. 96 of 2015, Tugu Pena Intersection is classified under Level of Service B (Good), indicating that traffic flow remains stable and the intersection capacity is still adequate to accommodate the existing traffic volume.*

*Keywords: Unsignalized Intersection, Intersection Performance, PKJI 2023, Degree of Saturation, Delay, Queue Probability, Level of Service*