

## **ABSTRACT**

### **ANALYSIS OF THE EFFECT OF U-TURN PERFORMANCE ON TEUKU UMAR ROAD, KEDATON BANDAR LAMPUNG**

**By**

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*Traffic problems in Bandar Lampung have become increasingly complex due to the growing volume of vehicles and community activities. One significant congestion point is located on Jalan Teuku Umar, Kedaton, caused by high vehicle activity, the presence of a U-turn, and roadside obstacles such as markets, shops, and hospitals. The U-turn often becomes a conflict point that slows traffic flow, increases travel time, and reduces the level of service on the road.*

*This study aims to examine the impact of the U-turn facility on traffic performance on Jalan Teuku Umar and the contributing factors. Data were collected through direct surveys during peak hours in the morning and evening, both on weekdays (Monday) and weekends (Sunday), including vehicle volume, travel speed, roadside obstacles, queue length, and vehicle delay time.*

*The results show that the U-turn significantly increases the degree of saturation, reduces travel speed, and extends vehicle queues and delay times. Roadside obstacles exacerbate these conditions, causing the road's level of service to decrease from category C to D or E during peak hours.*

*In conclusion, the presence of the U-turn on Jalan Teuku Umar reduces traffic performance. Planning of U-turn facilities should consider road geometry, vehicle maneuvers, and potential roadside obstacles to improve traffic flow and safety.*

**Keywords:** *U-turn, traffic performance, side friction, service level, Teuku Umar Road*

## ABSTRAK

### ANALISIS PENGARUH KINERJA *U-TURN* TERHADAP RUAS JALAN TEUKU UMAR KEDATON, BANDAR LAMPUNG

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Permasalahan lalu lintas di Bandar Lampung semakin kompleks seiring meningkatnya volume kendaraan dan aktivitas masyarakat. Salah satu titik kemacetan signifikan terdapat di Jalan Teuku Umar, Kedaton, akibat tingginya aktivitas kendaraan, keberadaan U-turn, dan hambatan samping seperti pasar, pertokoan, dan rumah sakit. U-turn sering menjadi titik konflik yang memperlambat arus lalu lintas, meningkatkan waktu tempuh, dan menurunkan tingkat pelayanan jalan.

Penelitian ini bertujuan untuk mengetahui pengaruh fasilitas U-turn terhadap kinerja lalu lintas di Jalan Teuku Umar serta faktor-faktor yang berperan. Data dikumpulkan melalui survei langsung pada jam sibuk pagi dan sore, baik pada hari kerja (Senin) maupun akhir pekan (Minggu), meliputi volume kendaraan, kecepatan, hambatan samping, panjang antrean, dan waktu tundaan kendaraan.

Hasil penelitian menunjukkan bahwa U-turn secara signifikan meningkatkan derajat kejenuhan, menurunkan kecepatan tempuh, serta memperpanjang antrean dan waktu tundaan kendaraan. Hambatan samping memperburuk kondisi ini, sehingga tingkat pelayanan jalan menurun dari kategori C menjadi D atau E saat jam sibuk.

Kesimpulannya, keberadaan U-turn pada ruas Jalan Teuku Umar menurunkan kinerja lalu lintas. Perencanaan fasilitas U-turn perlu mempertimbangkan geometrik jalan, manuver kendaraan, dan potensi hambatan samping untuk meningkatkan kelancaran dan keselamatan lalu lintas.

**Kata Kunci:** U-Turn, kinerja lalu lintas, hambatan samping, tingkat pelayanan, Jalan Teuku Umar