ABSTRAK

Ruas Jalan Kadungora Kabupaten Garut merupakan jalan dengan aktivitas lalu lintas yang tinggi sehingga sering mengalami kemacetan pada jam puncak. Penelitian ini bertujuan untuk mengetahui kapasitas dan tingkat pelayanan ruas jalan berdasarkan Pedoman Kapasitas Jalan Indonesia (PKJI) 2023 dan Regresi Linear Berganda. Rumusan masalah penelitian meliputi bagaimana kapasitas dan tingkat pelayanan Ruas Jalan Kadungora Kabupaten Garut . Penelitian ini diharapkan dapat menambah pengetahuan di bidang teknik sipil, khususnya transportasi, serta menjadi bahan pertimbangan bagi instansi terkait dalam perencanaan dan peningkatan kinerja ruas jalan.

Penelitian dilakukan melalui survei lapangan selama tujuh hari dengan mengumpulkan data geometrik jalan, volume lalu lintas, hambatan samping, kecepatan kendaraan dan prilaku pengemudi. Hasil penelitian menunjukkan kapasitas ruas jalan sebesar 3.057 smp/jam dengan derajat kejenuhan (DJ) 1,37 atau Tingkat Pelayanan F, yang menunjukkan kondisi arus lalu lintas sangat jenuh. Analisis regresi linear berganda menunjukkan bahwa variabel perilaku pengemudi (menyerobot lajur, berhenti mendadak, kecepatan rendah, dan putar balik) tidak berpengaruh signifikan secara simultan (Sig. F > 0,05). Penurunan kinerja lebih dipengaruhi oleh tingginya volume lalu lintas dan hambatan samping. Alternatif perbaikan berupa penerapan sistem satu arah dan penataan hambatan samping mampu meningkatkan tingkat pelayanan menjadi C.

Kata Kunci: Kapasitas Jalan, PKJI 2023, Tingkat Pelayanan (LOS), Regresi Linear Berganda.

ABSTRACT

Kadungora Road in Garut Regency is an urban road with high traffic activity that frequently experiences congestion during peak hours. This study aims to determine the road capacity and level of service based on the 2023 Indonesian Road Capacity Guidelines (PKJI 2023) and Multiple Linear Regression. The research questions focus on the road capacity and level of service of Kadungora Road, Garut Regency. This study is expected to contribute to the development of knowledge in civil engineering, particularly in transportation engineering, and to serve as a reference for relevant agencies in planning and improving road performance.

The study was conducted through a seven-day field survey by collecting data on road geometry, traffic volume, roadside friction, vehicle speed, and driver behavior. The results show that the road capacity is 3,057 passenger car units per hour (pcu/h) with a degree of saturation (DS) of 1.37, corresponding to Level of Service (LOS) F, indicating heavily congested traffic conditions. Multiple linear regression analysis revealed that the driver behavior variables (lane encroachment, sudden stopping, low speed, and U-turns) did not have a significant simultaneous effect on the degree of saturation (Sig. F > 0.05). The decline in road performance was primarily influenced by high traffic volume and roadside friction. As an improvement alternative, the implementation of a one-way traffic system and the management of roadside friction were found to improve the road performance to Level of Service C.

Keywords: *Road Capacity, PKJI 2023, Level of Service (LOS), Multiple Linear Regression.*