

EFFECT OF LAND UER ON PROVINCIAL ROAD PERFORMANCE THE CITY OF PALU

Rinal Maulana¹, J. Paturangi² & S. Arifin³

¹Master of Civil Engineering, Tadulako University, Palu, Indonesia

^{2,3}Associate Professor, Department of Civil Engineering, Tadulako University, Palu, Indonesia

ABSTRACT

Land use that is not integrated with the transportation system has a significant impact on the performance of roads in the province. Trade and service activities such as shopping centers, restaurants, workshops, and educational and religious facilities that are not supported by supporting infrastructure such as pedestrians or road shoulders, cause disruption to traffic flow. This study aims to analyze fluctuations in traffic volume and the impact of land use on road performance, using the Indonesian road capacity guidelines (PKJI) 2023 approach. The results showed that Jl. I Gusti Ngurah Rai experienced the highest traffic fluctuation at the end of the month at 3750 kend/hour, Jl. Sis Aljufri at the beginning of the month amounted to 3492 kend / hour, and Jl. Towua in the middle of the month amounted to 4621 kend / hour. The highest degree of saturation is found on Jl. Towua (0.69, 69-0.78), while the lowest on Jl. Sis Aljufri (0.25-0.27). The highest free flow speed is recorded on Jl. Sis Aljufri (57.94, 94 km / h), while the highest level of Service (LOS B) is also located on this road. Instead, Jl. Towua shows the lowest level of service with LOS D. The findings underscore the need for land-use realignment and improvements in supporting infrastructure to improve overall road performance.

KEYWORDS: Land Use, Traffic Volume, Road Performance, CLA 2023, Degree of Saturation, Servant Level

Article History

Received: 21 Jun 2025 | Revised: 26 Jun 2025 | Accepted: 30 Jun 2025
