

NATIONAL ROAD PERFORMANCE ANALYSIS BASED ON LAND USE UTILIZATION (A CASE STUDY OF THE NATIONAL ROAD IN PALU CITY)

Hildayanti¹, J. Patunrangi² & S. Arifin³

¹Research Scholar, Department of Civil Engineering, Tadulako University, Palu, Indonesia

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

ABSTRACT

The level of traffic density in Palu city is increasing, especially on Jalan Diponegoro, Basuki Rahmat and Jalan Yos Sudarso which is a trade and service area, considering the status of these three roads is a national road. This study aims to determine the fluctuation of traffic volume and performance of Diponegoro, Basuki Rahmat and Yos Sudarso roads. The result of traffic volume fluctuation analysis on diponegoro road is 2181.75 smp/hour, with road capacity of 5179.97 smp/hour, degree of saturation (DJ) 0.42, travel speed (VT) of 46.00 km / hour with service level B. Volume fluctuation of Basuki Rahmat road is 1533.25 smp/hour, road capacity (C) is 5630.40 smp / hour, degree of saturation (DJ) is 0.27, travel speed (VT) is 51.75, service level B. And for yosSudarso road traffic volume of 2004.80 smp/hour, road capacity 2729.16 smp/hour, degree of saturation 0.73, travel speed (VT) 32.00 km / hour, with service level B. From the calculation of the degree of saturation (DJ) obtained DS value < 0.75 for all roads, which means that all national roads above can still serve vehicles passing through well.

KEYWORDS: Capacity, Volume, Degree of Saturation, Speed, Level of Service

Article History

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