ABSTRACT

Analysis and Optimization of Motorcycle Parking Space Units on the Campus of Universitas Pembangunan Jaya

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Universitas Pembangunan Jaya (UPJ) is one of the universities in South Tangerang City. UPJ needs to prepare the need for adequate parking space because based on 2022 statistics, the number of motorcycle users in South Tangerang City is around 48%. UPJ does not have an adequate parking space unit (SRP) for motorcycles, so analysis and optimization of SRP are needed. The research was carried out by analyzing the performance of existing SRPs, calculating parking characteristics, predicting SRP needs, and designing optimal SRPs for motorcycles in accordance with the Guidelines of the Ministry of Transportation. The research was conducted by surveying the volume of vehicles entering and exiting and the existing parking lot of UPJ. Based on the survey data, the parking characteristics of motorcycle vehicles with a parking capacity of 688 vehicles, an average parking volume of 1019 vehicles, the highest cumulative parking of 685 vehicles, a parking index of 99,56%, and a Turn Over of 1,688 were obtained. With the results of the calculation, it was found that the need for parking space was 652.5 m^2 - 900 m^2. Through regression analysis, the factor that affects the accumulation of parking is the number of lectures and student growth is predicted based on the growth trend of 1137 m^2 - 2057 m^2. The design of the parking pattern was carried out using the 30°, 45°, 60°, and 90° patterns to obtain the results of 786 motorcycle vehicles that could be accommodated at UPJ.