

## ***ABSTRACT***

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*At the APILL intersection located on Jalan Raya Cifor, Jalan KH. R Abdullah bin Nuh, and Jalan Raya Cibadak-Ciampea, there is a discrepancy in the number of lanes from the direction of Jalan Raya Cifor, which is one lane, while Jalan KH. Conversely, Jalan KH. R Abdullah bin Nuh and Jalan Raya Cibadak-Ciampea feature two lanes in each direction. Consequently, when the APILL signals a red light for right-hand turns, vehicles attempting to turn left face impediments due to the presence of vehicles in front that are also turning right. The objective of this study is to enhance the performance of the intersection by exploring various alternatives. The research is grounded in the Indonesian Road Capacity Guidelines (2023). The results of the analysis of scenarios 1 and 2, namely by resetting the cycle time at the intersection, indicate that scenario 2 was chosen because the value of the degree of saturation is the largest  $\leq 0.85$ , with the highest results at 10:00. The results also indicate that the intersection needs to be improved, as evidenced by the following data:  $C = 511$  smp / hour,  $DJ = 0.83$ ,  $PA = 20$  meters,  $NKH = 465.43$  smp / hour, and  $T = 36.25$  seconds. To improve the performance of the traffic signal intersection, the light cycle at the intersection will be changed.*

*Keywords: Improvement, Signalized Intersection, Capacity, Degree of Saturation, PKJI 2023*

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