ABSTRACT

ANALYSIS OF PERFORMANCE IMPROVEMENT AT NON-SIGNALED INTERCEPTIONS USING PTV VISSIM SOFTWARE (CASE STUDY: SIMPANG KOMPAS, CIPUTAT TIMUR)

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Simpang Kompas is an alternative route for drivers who want to travel to Ciputat, Lebak Bulus or Jakarta, but do not want to pass through Ciputat Market. This causes an increase in the volume of traffic passing through the intersection, so that traffic jams often occur at the intersection, especially during rush hours. This research aims to evaluate the performance of Simpang Kompas using PKJI 2023 and simulations using PTV Vissim Student Version 8.0 Software. Then the right solution will be provided to improve the performance of Simpang Kompas. Based on the analysis that has been carried out using PKJI 2023, in existing conditions the capacity value (C) is 2621 PCU/hour, the degree of saturation (D_J) is 0.864, and the intersection delay is 16.48 seconds/pcu with the intersection service level being C. In addition, Therefore, using the PTV Visssim Student Version 8.0 software, the average queue length was 104.21 m, and the maximum queue length was 154.89 m. With a degree of saturation value of 0.864, the performance of the intersection needs to be improved so that it can work more optimally. Based on the scenario analysis that has been carried out, using PKJI 2023, it was found that the most effective scenario is widening the road by 2 m for each arm and implementing a 2-phase signal APILL. Meanwhile, by using the PTV Visssim software modeling, it was found that the most effective scenario was to widen the road by 1 m for each arm. With these two results, other factors are still needed to make the right decision.

Keywords: *Simpang Kompas, PKJI 2023, PTV Vissim Software, Degree of Saturation*

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