

Single Fly Over as a Solution to Congestion of Intersection Junction: Case Study of Jalan Jatingaleh Semarang

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Abstract : In the next few years, traffic will happen most of the time. This was triggered by the growing rate of vehicles against the road capacity which is not balance. All the time the congestion in the city of Semarang has been occurred at peak hours. Congestion also occurred in between Teuku Umar and Setia Budi road Jatingaleh because of a plot intersection (Kesatrian intersection, PLN intersection and Jatingaleh intersection) with the Toll Road. Jatingaleh is located in the southern city of Semarang which is a central meeting point between the upper and lower Semarang where the vehicle flows in through a combination of local current and regional traffic, and the flow of vehicles coming in and out from highway. The main cause of the problems that occurred in the area of Jatingaleh is due to the numbers of vehicles movement that occurs at the intersections. With the above issues, it is necessary to analyse the existing conditions and look into some solutions. Before carrying out an analysis of field surveys at peak hours for example morning (06:00 to 08:00 am) and for the afternoon (04:00 to 06:00 pm) should be conducted, then the number of vehicles is counted manually with "short-breakcounting" according to types of vehicles. From the analysis we found that the degree of saturation (DS) is 1.61 between Teuku Umar and Setia Budi road during the morning peak hours and 1.56 during the afternoon peak hours. This means that the capacity of the existing road is no longer able to accommodate the traffic flow. One of the solutions for the congestion that occurs at the intersection of Jatingaleh is to apply the efficiency of the intersection that is not in a plot with a Fly over, Underpass and the combination of Fly Over-Underpass. Base on the flow reduction calculation with 3 comparative modeling it shows that the Fly Over is the most technically efficient to be applied in this research.

Keywords : single fly over, congestion, intersection, interchange

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