

## **ABSTRACT**

### **ENGINEERING COORDINATION OF SIGNAL JUNCTION WITH NON SIGNAL JUNCTION (Case Study: Intersection Boulevard with Simpang Setia Darma 2, Bekasi)**

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Bekasi City has a fairly high population of 2,543,676 people in 2020 (BPS 2020). Therefore, congestion is something that often occurs in the city of Bekasi, especially at the intersection. One example is the Setia Darma 2 intersection and the Boulevard intersection. This intersection is located quite close at a distance of 650 meters.

In traffic engineering, it is necessary to coordinate between intersections for the conditions of intersections that are located close together so that congestion can be broken down. In this study, the analysis of intersection performance was carried out based on the 1997 MKJI and carried out at peak hour conditions. After the analysis is done, the saturated hours are searched by comparing the values of DS, queue length (QL), and delay (D). The saturated peak hours are used for planning new cycle times. The new cycle time with the best performance is selected based on the DS, QL, and D values.

In this study, intersection coordination was carried out by changing the cycle time in Peak Hour conditions. In peak hour conditions, the cycle time becomes 200 seconds for both intersections. From the results of the calculation of the performance of the intersection after being coordinated, it is found that the average delay reduction on the coordinated roads, in peak hour conditions the average degree of saturation value is equal to 0.28 and the average delay is 3.9 seconds.

**Keywords:** Intersection Coordination, Setia Darma 2 Intersection, Boulevard Intersection, MKJI 1997, Delay

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