PERFORMANCE EVALUATION OF SIGNAL INTERSECTION HR. MUHAMMAD – DUKUH KUPANG INDAH STREET IN THE SATELIT ROUNDABOUT DUE TO SURABAYA TIMES SQUARE CONSTRUCTION.

Abstract
Congestion are common problem in Surabaya, including the intersection area. Intersection is the meeting point of conflict points due to the traffic flow at intersections. For the issues discussed is the performance evaluation of signal intersection HR. Muhammad – Dukuh Kupang Indah street confronted surabaya times square construction. That it can be determined the capacity at intersection due to the construction of shopping center and the hospital.

This method to evaluation of signal intersection according by Highway Capacity Manual Project (HCM) and KAJI 2001 program. Stages of studies began from survey vehicle volume at the peak hour and projected volume growth from year 2013 up to 5 years, until the year 2018. Data generations from Surabaya Times Square (STS) were obtained from comparison buildings consisting of 4 shopping center (malls) in Surabaya, there are the Royal Plaza, Surabaya Town Square (Sutos), BG Junction, and Galaxy Mall for comparison STS mall and 4 hospitals, there are RS. Graha Amerta, RS. Husada Utama, RS. Graha Family, and RS. Siloam as comparison the hospitals. Data
generation of malls and hospitals are added to the volume of vehicles that have been projected until 2018 to evaluate the performance of signal intersection in the satelit roundabout.

The existing result in 2012, volume vehicles at satelit roundabout is already very dense, which appear in all peak hour. The most peak is morning peak hour. At HR. Muhammad intersection, indicated level of service (LOS) D with degree of saturation (DS) more than 0.75 in every section and average intersection delay of 32.42 sec/smp. At Dukuh Kupang Indah intersection, indicated level of service (LOS) C with degree of saturation (DS) more than 0.75 in every section and average intersection delay of 26.22 sec/smp. It’s necessary to improve the performance of the signal intersection HR. Muhammad – Dukuh Kupang Indah street. The analysis cycle time result in 2013 due to operation STS, changes in cycle time only survive until next 3 years in 2015 with LOS value D in afternoon peak at both intersections. In 2016, changes in geometric is needed at Dukuh Kupang intersection, which change entry wide (Wentry) become 9m and 9.7m in 2018. With the geometric and cycle time changes, in 2018, at all peak hour, it gets result degree of saturation less than 0.85 in all section, LOS C in HR. Muhammad intersection and LOS B in Dukuh Kupang Indah intersection.

Keywords: shopping center (malls), hospitals, generation, HCM, KAJI 2001 program, signal intersection, Surabaya Times Square, Surabaya.