ABSTRACT

Transportation problem has an effect in many aspect of live in metropolitan city. Surabaya as the second metropolitan city in Indonesia, have same kind of problem in transportation as well. In September 2010 the ratio between road length and vehicle length show that 1 meter road is for 5 meter vehicle. It mean, the road in Surabaya is crowded. In this research, a departure interval of Busways was designed and modeled, then the model is using max-plus algebra with the case study in Surabaya. Furthermore from the modeling, a scheduling design for Busway departure was analysed with the given of busways so that give certain schedule for bus users in Surabaya. The possible eigen value $(\lambda)$ is obtained around $5.495 \leq \lambda(\lambda) \leq 6.87$, the interpretation of the eigen value is the interval of departure of bus in each roadway point is every 5 to 7 minutes.

**Key Word:** Interval of Max-Plus Algebra, Modeling, Scheduling and Busways.