

The scenarios, which are given ranging from scenario 1, scenario 2, and scenario 3, have the positive impact on the performance of the travel time and delay that occurs on Transjogja, and the best scenario occurs in scenario 3.

Transjogja performance and the performance of signalized intersection is inversely, on the one side the application of scenario busway and busway + ATCS gives the positive impact of Transjogja operation. On the other hand, it gives bad effect for signalized intersection performance.

The lowest travel time occurs in scenario 3 with 10.74 minutes, decrease travel time on scenario 3 by 41.23%, followed by scenario 1 at 22.86 %, and 14.15% in scenario 2, the shortest delay also occurs in scenario 3 with an average delay of 5.63 minutes, reduced delay in scenario 3 by 57.45%, followed by 32.13% for scenario 1, and 19,90% in scenario 2. It can be concluded that the provision of special busway lane and traffic signal prioritization at signalized intersections, providing a positive impact on significantly reduction of travel time and delays.

7. REFERENCES

- Ceder, A, 2007, *Public Transit Planning and Operation : Theory, Modelling, and Practice*, Elsevier, Oxford.
- Gardner, K, dkk, 2009, *UITP Working Group: Interaction of buses and signals at road crossings*, FINAL REPORT V2.0-April 2009, UK.
- Hendarsyah (2002), *Analisis Antri dan Tunda dan simpang yang Terkoordinasi Dalam ATCS*, Thesis, Magister Sistem dan teknik Transportasi, Universitas Gadjah Mada, Yogyakarta.
- Hidayati (2011), *Modelling and Analysis of Bus Priority Implementation Using Aimsun 6.1*, Tesis, Magister Sistem dan teknik Transportasi, Universitas Gadjah Mada, Yogyakarta.
- Jain S, 2012, *Simulating Median Bus Lanes In Indian Traffic Conditions*, Civil Engineering department, IIT Bombay, Mumbai.
- J.Barcelo, J.L.Ferrer, D.Garcia, dan R.Grau (1998), *Microscopic Traffic ATC Systems Analysis A Parallel Computing Version*, Contribution to the 25th Anniversary Of CRT/8/13/98, Universite de Montreal.
- J.Barcelo dan J.Casas, *Dynamic Network Simulation With AIMSUN*, Barcelona.
- Papageorgiou, G, dkk, 2009, *Modelling and Simulation Of Transportation System: Planning For A Bus Priority System*, Department of Mathematics, university of Cyprus. Cyprus.
- Rajasakran, R.A, 2008, *Aimsun Microsimulation - A Practical Application: Microsimulation of NI Freeway*, Southern African Transport Conference, Pretoria.
- Roger P. Roess, dkk, 2004, *Traffic Engineering 3rd Edition*, Pearson Education, New Jersey.
- Torday Alexandre, dkk (2003), *Indicator for Microsimulation Safety Evaluation*, 3rd Swiss transport Research Conference, Swiss.
- Transport Simulation System (TSS), 2010, *Microsimulator and Mesosimulator Aimsun 6.1*, Barcelona.
- Transport Simulation System (TSS), 2010, *Users Manual Aimsun 6.1*, Barcelona.