

Arthit Srijumpa 2007: Traffic Model for Greater Bangkok Expressway System.

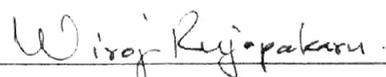
Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Professor Wiroj Rujopakarn, Dr.Eng. 185 pages.

The purpose of this study is to develop traffic model for Greater Bangkok Expressway System using a micro simulation software. The procedures include the development of traffic model network and calibration. Testing potential options of changed incident location and duration of the incident on the expressway are also parts of the simulation. The location and duration of the incident are varied to test the sensitivity in term of changes in the total travel time or delay on the expressway network: for both traffic and economic impact determination.

The results of this study show that the incident on the expressway for the period of time 15, 30 and 45 minutes will affect directly the expressway network. When the traffic interruption occurs on the mainline, the average travel speed will decrease 4 to 14 % and the average travel time will increase 9 to 49 % from the normal expressway traffic condition. When the traffic interruption occurs at the interchange, the average travel speed will decrease 6 to 16 % and average travel time will increase 21 to 42 %. Moreover, the average travel speed will decrease 3 to 6 % and the average travel time will increase 13 to 34 % in case of the off-ramp traffic interruption. In the economic aspect, each traffic interruption on the mainline costs approximately 28,000 to 140,000 baht, approximately 30,000 to 150,000 baht at the interchange and approximately 25,000 to 111,000 baht at the off-ramp.



Student's signature

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Thesis Advisor's signature