ABSTRACT

Road is a land transportation infrastructure intended for traffic, the road is used as a liaison flow of motor vehicle and non-motorized traffic. If there is a damaged road or road repair will result in delays and queues on damaged or repaired roads. These conditions resulted in a decrease in road capacity resulting in a decrease in the speed of traffic, extending the queue of vehicles that prolonged the delay. The purpose of this study is to determine the losses resulting from traffic delays due to road improvement projects.

The research was conducted by field survey method which includes traffic volume, geometry data, queue length, and duration of traffic flow closure. The survey was conducted on the Bantar bridge at km 13 of Wates highway in 2017. Data were analyzed using ATIS India and LAPI ITB method to calculate the fuel consumption for vehicles affected by the traffic delay.

From the shockwave analysis obtained a delay of 96325.519 seconds, while for fuel consumption there are differences in the results of calculations using the Indian ATIS method and the LAPI ITB method. From both methods, the Indian ATIS method is more accurate because for each type of vehicle, the fuel consumption is differentiated. Calculations using the Indian ATIS method show that the total fuel consumption for two days was a road improvement project of 47.3601 liters, while LAPI ITB was 36,804 liters.

Keyword : *Delay, ATIS India, LAPI ITB, Fuel*