ABSTRAK

Perjalanan kereta api pada perlintasan sebidang diprioritaskan lebih dulu, demikian juga di Jln. Jenderal Ahmad Yani, Kota Tasikmalaya. Kondisi ini sering mengakibatkan kendaraan-kendaraan yang melintas tertunda sehingga BBM terkonsumsi saat kondisi *idle*. BBM yang terkonsumsi saat kereta melintas menjadi salah satu kerugian yang dihasilkan akibat kereta melintas.

Metode regresi linear berganda digunakan untuk menghitung korelasi hubungan panjang antrian dan durasi penutupan terhadap kerugian konsumsi BBM. Metode LAPI ITB dan CSIR digunakan untuk menghitung jumlah konsumsi BBM kendaraan saat *idle*. Data tundaan selama 16 hari penelitian dihitung menjadi konsumsi BBM lalu dikonversi ke dalam rupiah untuk mengetahui kerugian.

Hasil penelitian menunjukkan bahwa potensi kerugian konsumsi BBM rata-rata yang dihasilkan berdasarkan dua metode tersebut berbeda. Kerugian konsumsi BBM harian rata-rata menurut metode CSIR sebesar Rp 19.491,77. Aplikasi modelnya untuk kerugian konsumsi BBM pada Jln. Jenderal Ahmad Yani, Kota Tasikmalaya adalah $\mathbf{Y = -4458{,}485 + 37{,}414\ X_1 + 39{,}571\ X_2}$. Dan, kerugian konsumsi BBM harian rata-rata menurut metode LAPI ITB sebesar Rp 41.179,08. Aplikasi modelnya untuk kerugian konsumsi BBM metode LAPI ITB pada Jln. Jenderal Ahmad Yani, Kota Tasikmalaya adalah $\mathbf{Y = -9163{,}894 + 80{,}220\ X_1 + 80{,}863\ X_2}$. Panjang antrian($X_1$) dan durasi penutupan($X_2$) memiliki hubungan positif yang mana semakin besar panjang antrian dan durasi penutupannya maka semakin besar kerugian konsumsi BBMnya (Y).

Kata Kunci: *Konsumsi BBM, Tundaan, Kerugian*

ABSTRACT

Train travel on level crossings is prioritized first, as well as on St. General Ahmad Yani, City of Tasikmalaya. This condition often causes passing vehicles to be delayed so that fuel is consumed when idle. The fuel consumed when the train passes is one of the losses caused by the passing train.

Multiple linear regression method was used to calculate the correlation between queue length and closing duration to fuel consumption losses. The LAPI ITB and CSIR methods are used to calculate the amount of vehicle fuel consumption at idle. The delay data for 16 days of research is calculated as fuel consumption and then converted into rupiah to determine the loss.

The results showed that the potential loss of average fuel consumption generated by the two methods is different. The average daily fuel consumption loss according to the CSIR method is Rp. 19,491.77. Model application for the loss of fuel consumption on Jln. General Ahmad Yani, City of Tasikmalaya, the CSIR method is $\mathbf{Y = -4458{,}485 + 37{,}414\ X_1 + 39{,}571\ X_2}$. And, The results showed that the potential loss of average fuel consumption generated by the two methods was obtained during the 16 days of the study. The average daily fuel consumption loss according to the LAPI ITB method is Rp 41.179,08. The model application for the loss of fuel consumption using the LAPI ITB method on Jln. General Ahmad Yani, City of Tasikmalaya is $\mathbf{Y = -9163.894 + 80.220\ X_1 + 80.863\ X_2}$. Queue length($X_1$) and closing gate duration(X_2) have a positive value where the greater the queue length and the closing duration, the greater the loss of fuel consumption (Y).

Keywords: *Fuel Consumption, Idling delay, Fuel Loss*