

COMMERCIAL VEHICLES FLEET ANALYSIS CONSIDERING AXLE LOADS DISTRIBUTION

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ABSTRACT

The commercial vehicles fleet has substantial influence on country's development. In Brazil most of goods are transported by trucks, the agricultural crops or livestock products and industrialized issues. The data analysis from weigh stations along the highways can assess how these products and goods are being transported. Vehicles with new axle configurations are in circulation, such as large and wide trucks with more than six axles. However vehicles with traditional axle configuration still used in a huge number of the national truck fleet. In this paper it is presented the frequencies of various types of commercial vehicles observed at the weigh-in-motion station near Guararema (SP) town, localized at km 179+400 of Presidente Dutra Highway and about 50 km from São Paulo City - Brazil. The vehicles were analyzed according to their values of total weight and also checked the overloads in relation to maximum legal axle loads, whose limits come from the Brazilian Law of Balance. It was also analyzed load data of each axle of different vehicles and thus it was possible to observe the loading conditions of vehicles. Histograms illustrate means and modes of frequencies observed in weighing the trucks, enabling the characterization of the load values. Similar axle loads in different vehicles are also evaluated and compared in order to check possible influence of truck type.

KEY WORDS: Load, commercial vehicles, axle configuration, traffic.