
Correlation of Accident with Traffic Volume of NH-1

Navdeep Mor, Dr. Hemant Sood

NITTTR, Chandigarh

ABSTRACT

The accidents cost approximately about 3% of India GDP. To bring down this huge burden on Indian economy, it is imperative to find out accident potential of an existing road network and to plan safety measures accordingly. The strong trend is for these alarming figures to continuously increase in low-income countries and these countries now account for about 85% of the world annual road deaths. Among these countries India is one contributing one death in every four minutes due to road accidents. An improvement in socio-economic conditions of the people along with industrial and infrastructural development is bound to create an additional burden on roads by means of an increased number of vehicles and associated modes using the roads. Along with the enormous advantages caused by this magnitude of progress, roadway accidents have also become one of the main causes of concerns due to both individual (persons) and economic losses. We need to see the relation between Accident and Traffic volume.

Keywords: Accident, Traffic Volume

INTRODUCTION

The highway network is accelerated at a fast rate and the safety of vehicular movements becomes a concern for everybody due to reporting of loss of lives and properties along with fatal injuries and periodical obstruction of traffic flow. National highways provide the efficient mobility and accessibility function. The increasing road accidents have created social problems due to loss of lives and human miseries. Road accidents are essentially caused by interactions of the vehicles, road users and roadway conditions. The trauma caused by road accidents is unimaginable - physical, mental, financial and many a time irrevocable. India has the highest road traffic accident rates worldwide with over 140,000 deaths annually. Every hour, nearly 14 lives are lost due to road accidents in India. There is consensus forming among the general public due in part to emphatic reinforcement of the accident statistics by traffic authorities that the human element is the key causal factor of road accidents occurrence.

DATA COLLECTION

TRAFFIC VOLUME

Traffic volume studies are conducted to obtain information about the number and movement of vehicles within or through an area or at selected points within an area. Current and historical volume counts provide vital information that used in operation evaluation, traffic modelling and in the selection and design of road network improvement. Traffic volume Data Collect from Toll Plaza

ACCIDENT DATA

Information on accident is received from the police station as FIR (First Information Report) . It was found that data collected is in from of hand written and by means of computer printed from.

These cover the period of 4 year (2010-2013). It is found that no work has been carried out on this expressway. It is believed that not all accident are reported the police for records to be made Accident is collected from two police stations

RESULT

From the below graph it is observed that with the increase in the numerical figures of AADT there is also an increase in the number of accidents but up to a certain limit of AADT. After that the number of accidents decreased with increased in the numerical value of AADT. On plotting the data we got a curve similar to parabola which is open downwards.

Correlation between accident and AADT in six month of NH-1 Stretch of Panipat is given by

$$y = -3E-06x^2 + 0.348x - 11691$$

FIGURES

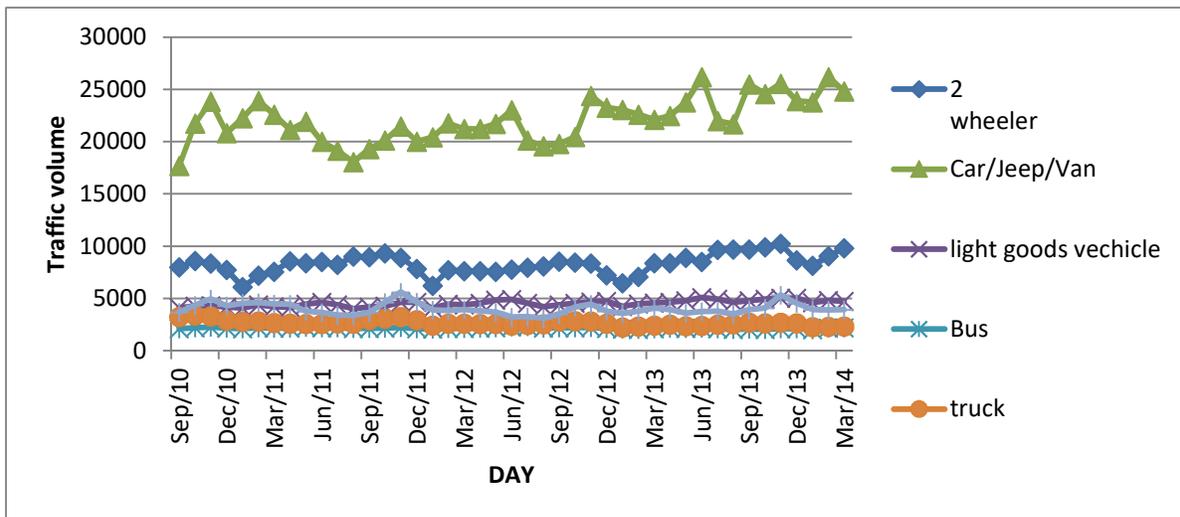


Fig 1 Variation in traffic volume in road user

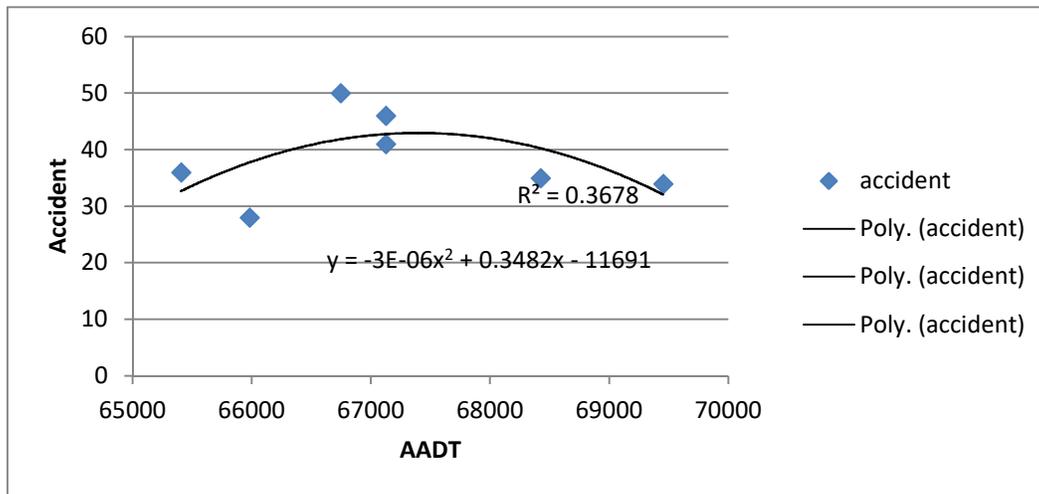


Fig 2 Correlation between accident and AADT in six month

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