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Traffic Count Studies along Nh-65 from Kaithal to Pehowa

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Abstract: ***In the present scenario, the traffic along in India is increasing at a very rapid rate and hence the number of accidents along the road stretches is increasing day by day. The increase in the number of accidents is a big problem along the major roads. There is a need of proper planning of the road network in the developing cities. Traffic count surveys are very important tool in planning the new road stretches and also these surveys help in the planning of upgradation of the existing road network. The present study is about the volume count of the different vehicle along NH 65 i.e. from Kaithal to Pehowa city in Haryana. The number of vehicles along the NH-65 is counted manually and the values are converted into PCUs. It is found that the traffic along NH-65 abruptly increases between 3:00pm to 5:00 pm. This kind of traffic studies proves helpful to the construction companies and the road administrators.***
Key Words: Traffic, Per Car Unit (PCU), Road Network, Accidents, Traffic Volume

I. INTRODUCTION

The traffic is increasing day by day at a very rapid rate in the developing countries like India. There is an abrupt increase in the number of vehicles during the last decade. Due to increase in the number of vehicles, the number of accidents has been increased also. According to Ministry of Road Transport and Highways (MORTH), the number of deaths from 8 deaths per 10000 populations to 11 deaths per 10000 populations from 2001 to 2010. The reason behind the increasing number of accidents along the highways is the poor planning and the management of the transportation system. So, the traffic count surveys and the traffic volume studies can prove a good preliminary tool in planning the road networks in the developing cities like Kaithal.

In this study, a traffic count study is presented for knowing the traffic conditions in the Kaithal city. A field survey is conducted to calculate the number of vehicles and their type. This kind of traffic volume studies prove very useful in planning the road width and the upgradation in future. The traffic count data is used by the construction companies and the road administrators for the better management of the transportation system in the city.

II. STUDY AREA

The study area selected for the present study is a road stretch of NH-65 from Kaithal to Pehowa. The selected road stretch is a very busy highway and it is about 30 Km long. The two lane highway faces mixed traffic including the commercial vehicles, loaded trucks, cars, two wheelers, three wheelers and buses. There is a large number of loaded trucks which passes the highway making the traffic situation more complicated to understand. The study area is shown in Fig-1. The traffic along NH-65 is growing at a rapid rate.

Fig-1. Study Area

III. LITERATURE REVIEW

A lot of studies have been done in the field of traffic volume studies and traffic volume. There are a number of traffic surveys which are conducted and published by different authors. In 2004, a traffic count study was conducted by the Queensland Department of Main Roads for the purpose of providing a bypass called Tugun Bypass. The study also observed the environmental effect of the construction of bypass also. According to Banik et al; 2006, the traffic increase leads to the congestion. In this study, the author represents the traffic volume by a numerical index i.e. roadway congestion index (RCI). In this study, it was found that there is maximum number of two wheelers along the road stretch and trucks are only 2 percent of the total traffic volume.

A.Padshala in 2013 did traffic count studies along the road stretch of Pragtinagar to Akhbar Nagar and found out the road traffic condition. The traffic survey was performed manually in this study. In this study, the solution for the increased traffic was suggested i.e. widening the road, construction of over-pass etc. Level of service of the road stretches is also found out in this study.

The traffic accident report presented by Ministry of Road Transport and Highways (MORTH) in 2009, showed that there is an abrupt increase in the number of deaths due to road accidents and emphasized on the requirement of proper road network planning in the country.

IV. METHODOLOGY

The traffic survey performed in the present study is based on the manual counts. The different vehicles are classified into different categories according to the data acquired from the traffic survey. The analysis is done during day to day and it is found that the peak hours are in the morning and the evening. The data collected by the traffic count is converted into per car unit (PCU). The vehicle categories and the average daily traffic are presented graphically.

V. RESULTS

The traffic count survey is conducted along the proposed study area and different results are found out. It is found that the maximum traffic along NH-65 moves during the morning time from 8:00 am to 10:00 am and in the evening from 4:00pm to 6:00 pm. The reason behind the huge traffic during evening and morning may be the office time of the public.

The two wheelers are maximum in numbers and the tractor trailer units are the least in percentage. There is a significant effect of trucks on the traffic volume and speed. The loaded trucks decrease the average speed of the traffic and sometimes are responsible for the formation of traffic waves.

VI. CONCLUSIONS AND RECOMMENDATIONS

The proposed study area faces the traffic more than its capacity. So, there is problem of less operating speed and the congestion along NH-65. The overloaded trucks and tractors are generally overturned and cause the jamming of the traffic.

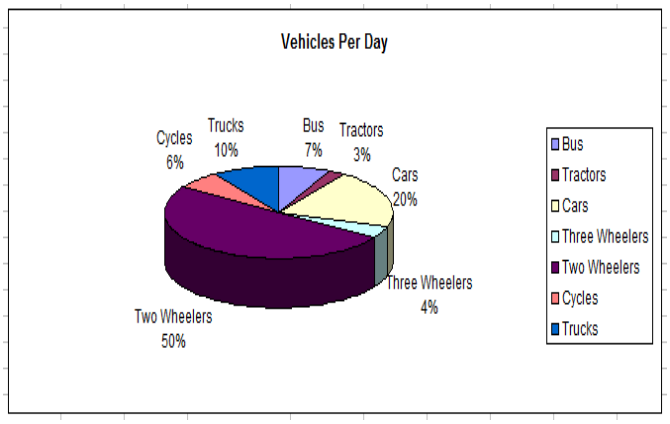

Fig-2.Pai Chart of Categories of Vehicles

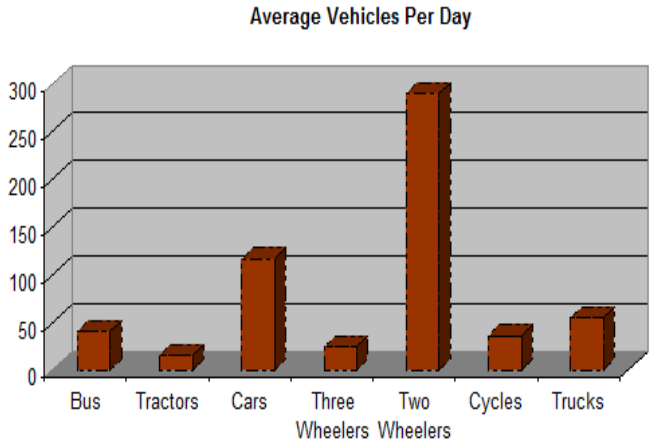

Fig-3. Average Daily Traffic

It is recommended that the width of the road is to be increased immediately. The road should be upgraded to four lanes or six lanes. There should be a separate lane for the commercial vehicles to maintain the good average speed.

VII.FUTURE SCOPE OF THE STUDY

The present study can be used by the road construction companies and the road administrators. The study can be extended to the origin and destination studies and it can be used for future forecasting of the traffic. The upgradation of the road can be planned by using the present data.

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BIOGRAPHIES

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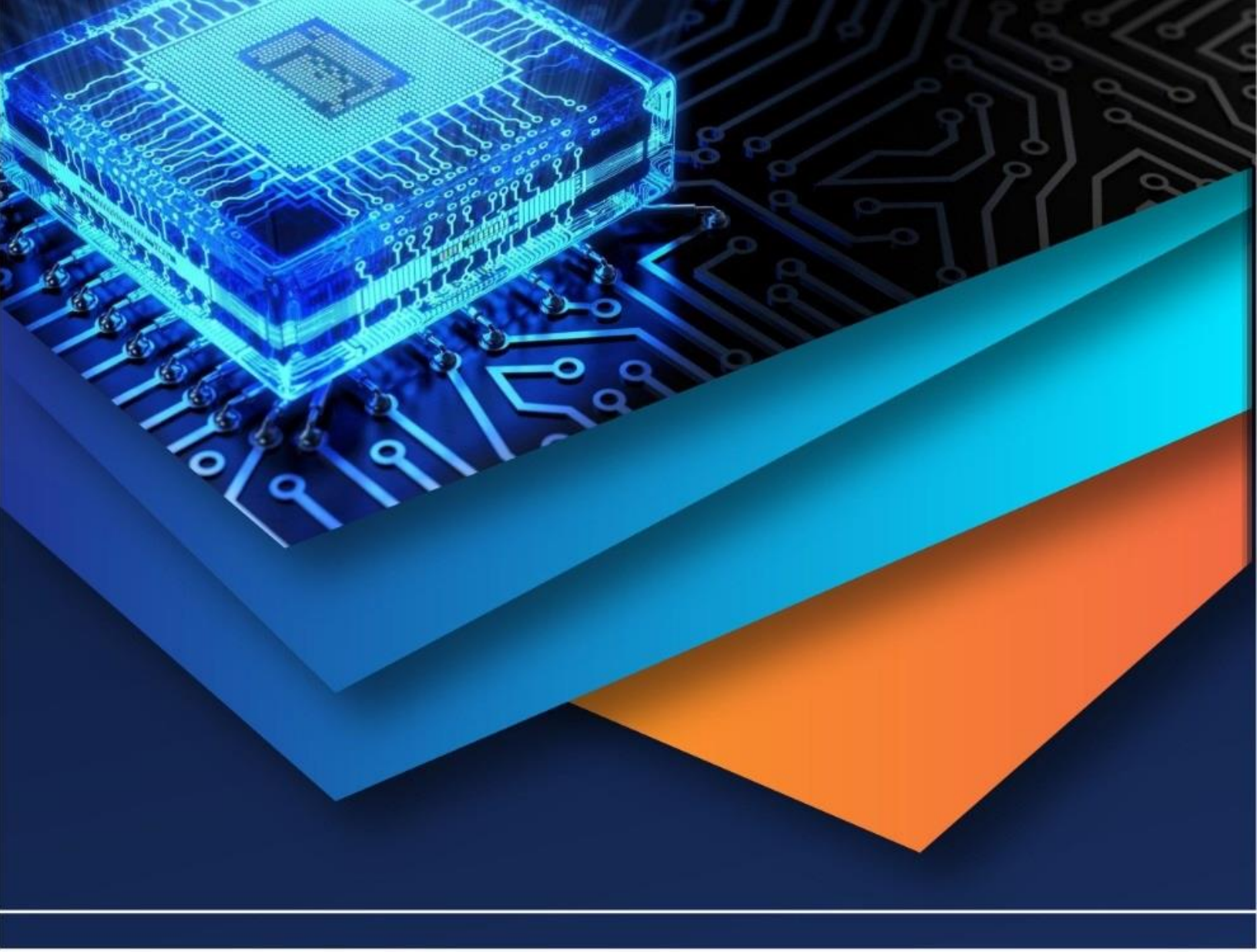

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