

Accident Analysis of Chanasma-Panchot Circle (28.5km)

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Abstract

Safety is today's main issue in transportation. The rate to accident increases year by year in the developing countries like India. An accident is unplanned & uncontrolled event, which occurs on road resulting in personal injury, loss of life or damage to property. In accident at least one moving vehicle is included. The main objective to this paper is to analyze the accident data along the stretch from chanasma (CH:00) to Panchot circle (CH:28.5). The accident Data were collected from different police station from 2011-2016. Total Number of accident occurred along the stretch from 2011-2016 are 372.

Keywords: Road Accident, Analysis, Fatal, Injuries, Road Safety, Transportation, etc.

I. INTRODUCTION

The road accidents deaths and injuries are global phenomena but more sever situation in mixed traffic condition as prevailing on Indian multilane highways. According National Crime Records Bureau, Ministry of Road Transport & Highway, Law commission of India, Global status report on road safety 2015, total number of accident in 2014 & 2015 were 4,89,400 & 5,01,423 respectively. Total number of Casualties occurred in 2014 & 2015 were 1,39,671 & 1,46,133. This accounts about 10% of total world's fatal accident. There is one death at every 4 min due to road accident in India. Number of People injured in road accident were 4,93,474 & 5,00,279 in 2014 & 2015 respectively. One serious road accident in the country occurs every minute. 57 accident & 17 people die on Indian roads every hour. 1214 road crashes occur every day in India. 377 people die every day, equivalent to a jumbo jet crashing every day. About 23.6 Percent, 80.6 Percent, 23.4 Percent increase in total number accident, fatal accident & injuries accident from 2001 to 2015.

II. OBJECTIVE OF STUDY

Accident Analysis According to different aspects from year 2011 to 2016 on the stretch Chansama- Panchot circle (28.5km).

III. STUDY AREA

The state of Gujarat is located in the Western part of India. The State capital Gandhinagar is located near Ahmedabad. It is situated between 20° 06'N and 24° 42' N latitudes and 68° 10' and 74° 28'E longitudes. It has an area of about 196024 Sq.km. The NH-68 Connects Jaisalmer in Rajathan and Prantij in Gujarat with a total distance of 591 km. The long route passes through important places like Barmer, Sanchor, Tharad, Bhabhar in Rajasthan (307 km), Radhanpur, Patan, Chanasma, Mehasana, Gozaria in Gujarat (280 km). The selected stretch starts at Chanasma & ends at Panchot Circle. Approximately the total actual length of the Project road stretch is 28.500 km. The longitude & latitude of Chanasma is 23.7192° N, 72.1090° E while that of Mehsana is 23.5880° N, 72.3693° E. The project road passes through plain terrain. The project road passes through Ziliya, Pimpla, Lanva, Dhinoj. The Right Of Way (ROW) according to R & BD is 30m while ROW observed during inventory survey was 26.59m. There is median facility available on the road. Drainage facility is also not available. There are about 16 curves on the project road. There are four main junction & 21 minor junction on the road. There is 22 culverts (21 pipe culvert & 1 box culvert), 11 minor bridges, 2 major bridges & 1 railway crossing on the project road. There are 19 bus stop & passenger shelter on project road.



Fig. 1: Chanasma-Panchot Circle, Gujarat

IV. DATA COLLECTION & ANALYSIS

A. General

The Accident Data of selected stretch were collected from Chansama police station & Mehsana Police Station from the year 2011-2016. The Accident data were recorded in FIR format. Total number of accident occurred on the selected stretch from 2011-2016 were 372. The Data analyzed according to the following format:

1. Classification of accident According to year.
2. Classification of accident According to month.
3. Classification of accident According to day
4. Classification of accident According to time.
5. Classification of accident According to Vehicle
6. Classification of accident According to alcohol/ Drugs
7. Classification of accident According to Weather.

1) Classification of accident According to year:-

There are total 372 accidents from 2011-2016. The most of accident occurs due to over-speeding & carelessness.

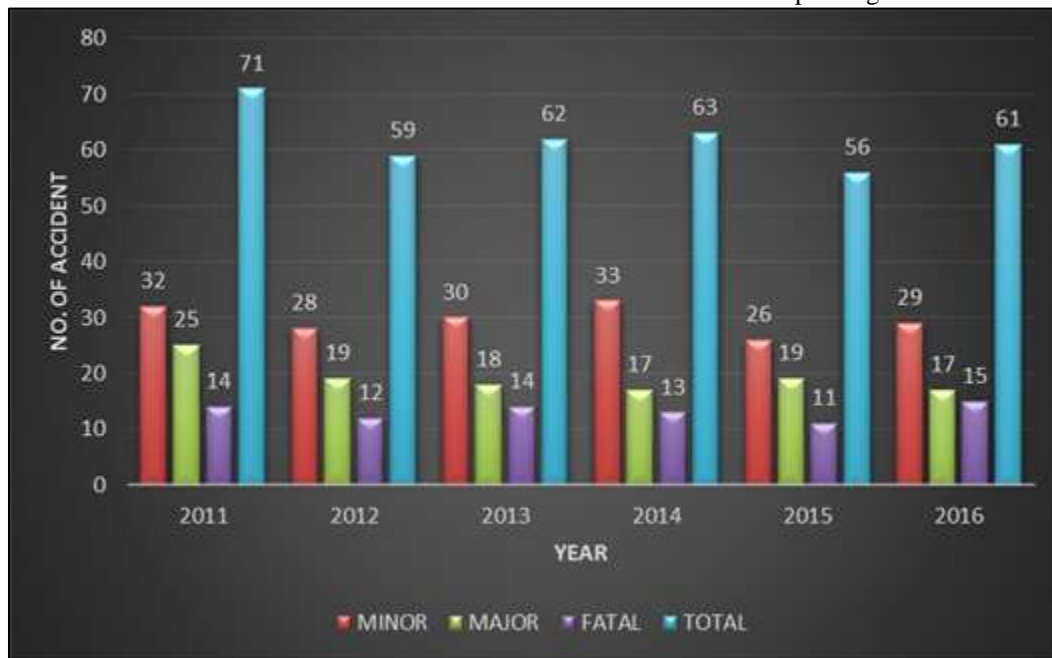


Chart 1: Graphical Representation of Year Wise Accidents

2) Classification of accident According to Month:-

The number of accident is more during the month of July i.e. the monsoon season. About 11% accident occurs during the month of July.

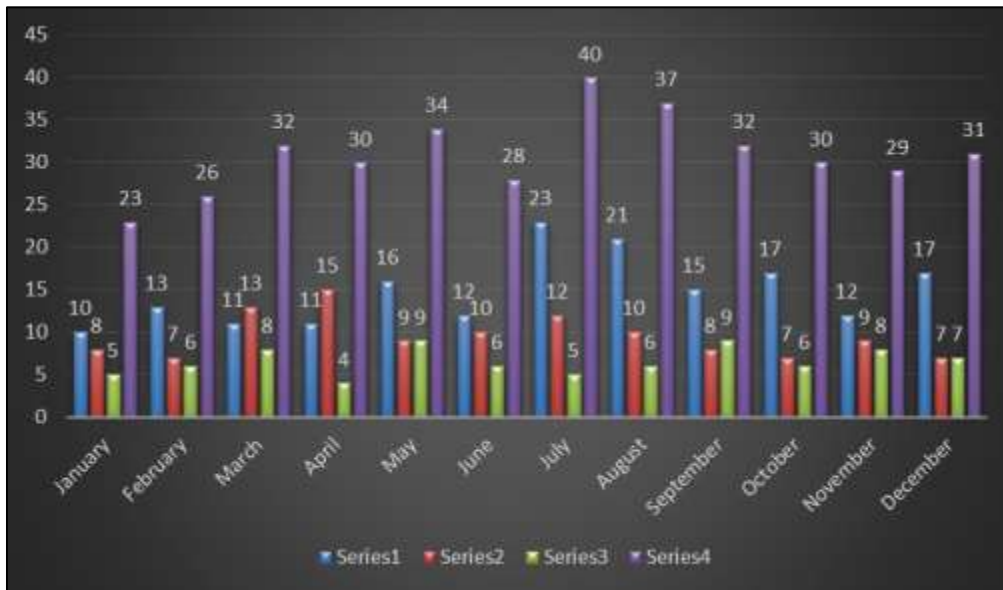


Chart 2: Graphical Representation of Monthly classification of accident data

3) Classification of accident According to year:-

The most of accident occurs during Sunday & Saturday i.e. weekend. The traffic during weekend is more because the visitor travels to nearby religious places & other places.

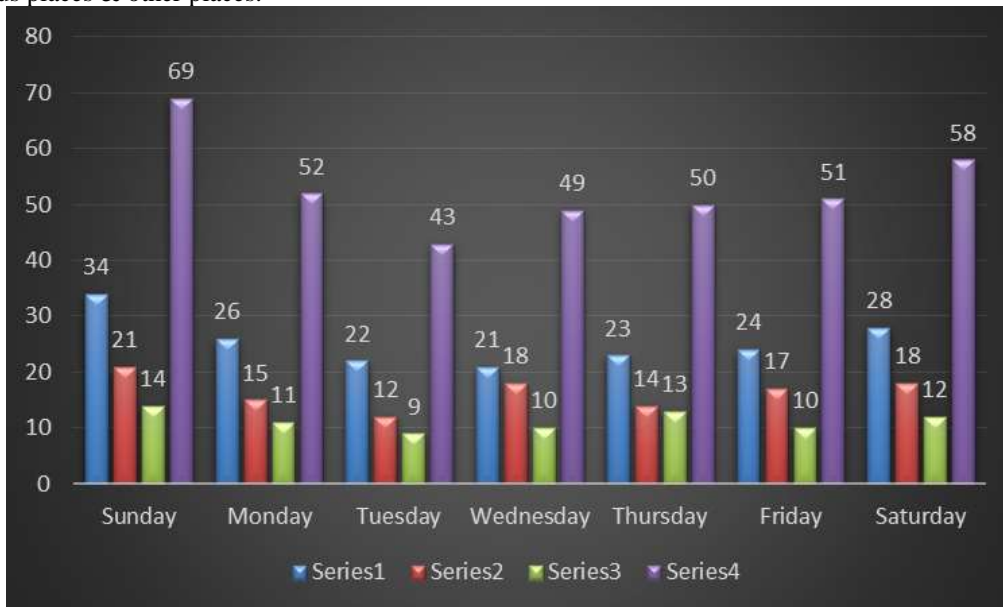


Chart 3: Graphical Representation of Day Wise Accidents

4) Classification of accident According to time:-

The accident occurs more during the evening time i.e. 19:00 – 20:00 & 18:00 – 19:00. About 36% of accident occurs during 18:00-24:00. 34% accident occurs during 12:00-18:00. 20% occurs during 6:00-12:00.

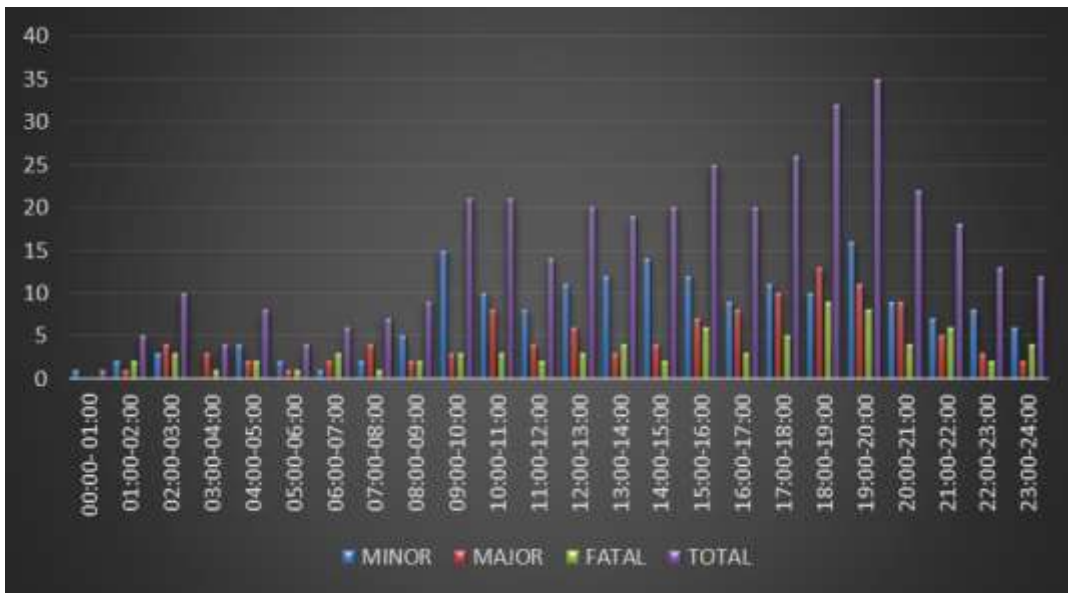


Chart 4:- Graphical Representation of time Wise Accidents

5) Classification of accident According to Vehicle Type:-

About 27% of accident occurs due to the car/jeep/van. & 15% due to 2-wheeler.

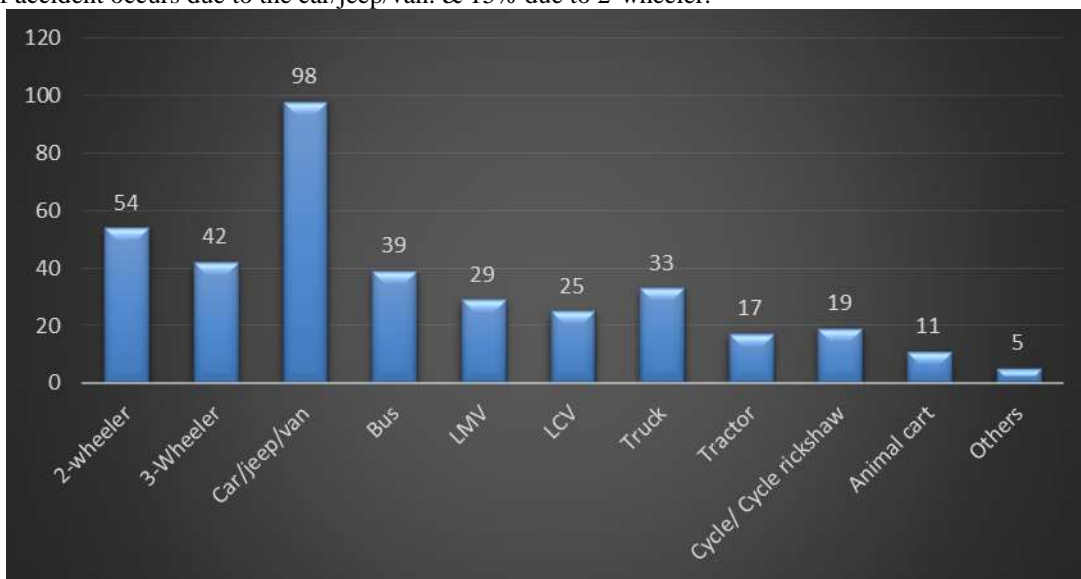


Chart 5: Graphical Representation of vehicle Wise Accidents

6) Classification of accident According to Alcohol/drugs consumption:-

About 33.33% of accident occurs due to Alcohol consumption.

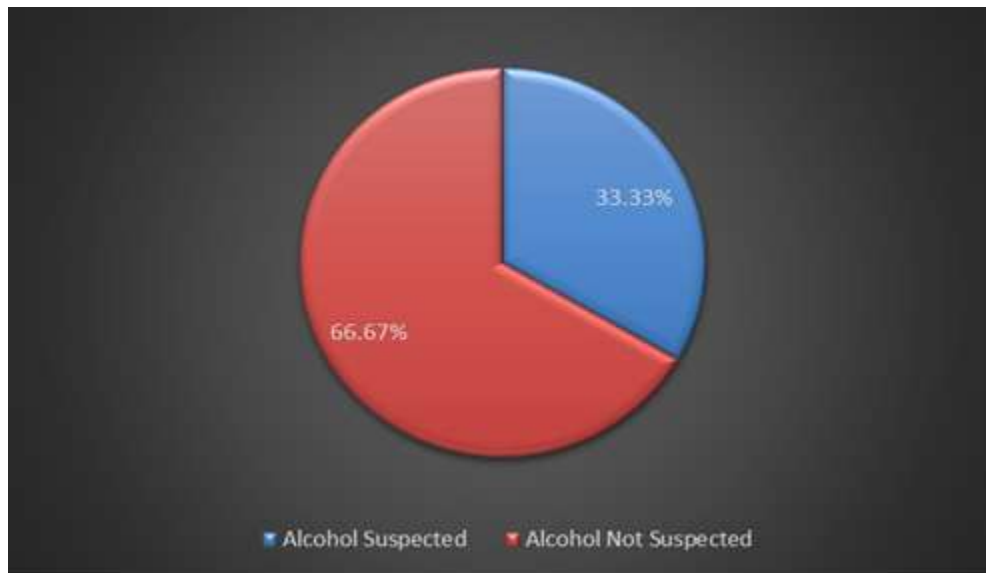


Chart 6: Graphical Representation of Alcohol/Drugs consumption Wise Accidents

7) Classification of accident According to Weather:-

About 49.19% of accident occurs in clear atmosphere. 15.86% of accident occur due to fog. 18.54% due to rain.

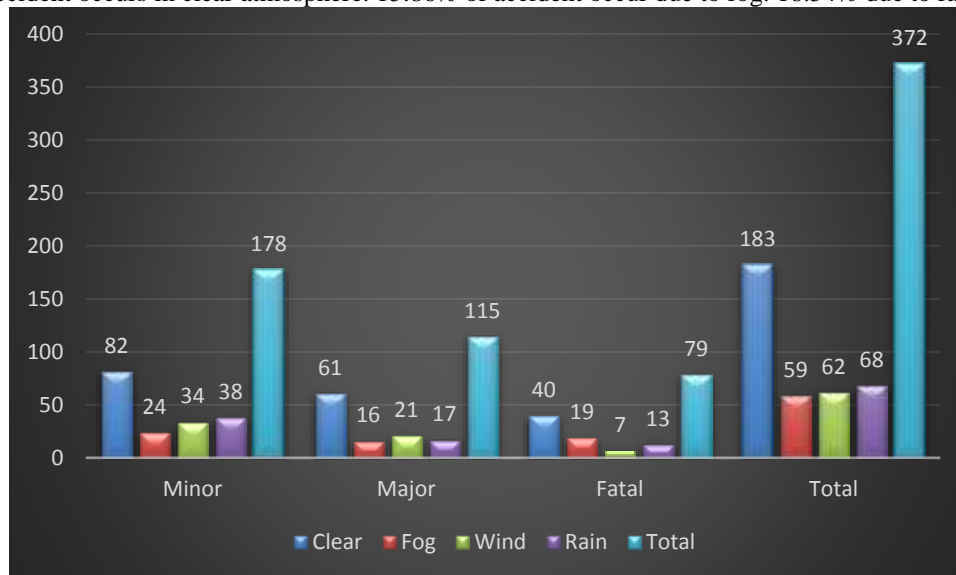


Chart 7: Graphical Representation of Weather Wise Accidents

V. CONCLUSION

To decrease the Accident rate, safety measures should be taken. Proper Traffic signs should be placed. Traffic rules & regulations should be obeyed. The speed of vehicle should be within the design speed.

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