

STUDY AND ANALYSIS OF ACCIDENTS ON NH 71-A

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ABSTRACT

India is a developing country and safety of road is still in a premature stage. Accident severity is increasing in increasing order due to increasing in vehicle population. Accident leads to disablement, death, damage to health and property, social suffering and general degradation of environment. The road accident situation in India is alarming. Records show that there is one death at every 2.75 minutes because of road accidents. The high accident rate is largely attributed to the inadequacy of the highways and other main roads to meet the traffic demands, road user behavior, vehicle defects, poor road geometrics and visibility. Road accidents inflict heavy economic loss to the country. Road safety is necessary to reduce accident involving both human and vehicles there by making the road more safe and user friendly to traffic. NH-71A is one of the major connectivity from Panipat to Bawal which caters to the need of transportation of light goods to heavy goods and passengers. Study area was undertaken on road NH-71A from Panipat to Rohtak.

1. INTRODUCTION

Accident is an event, occurring suddenly, unexpectedly and inadvertently under unforeseen circumstances. Road traffic accidents can be defined as “An accident that occurred on a way or street open to public traffic; resulted in one or more persons being killed or injured, and at least one moving vehicle was involved. Road crashes take away the right to life of 3,000 people every day. This is a global humanitarian disaster, and it is man-made. (Global Road Safety Partnership Annual Report 2014) Road Safety is one of the most important problems in or society. Every year 1.2 million of people are killed and between 20 and 50 million people are injured in road

accidents. If current trends continue road traffic accidents are predicted to be third leading contributor to the global burden of Disease and injury by 2020. More than 10 lakh people in India have lost their lives to road accidents in the last 10 years. India has the dubious distinction of leading the world in road crash fatalities – 10% of total global road deaths occur here. In 2013 alone, almost 1,40,000 people were killed and close to 5,00,000 were seriously injured or permanently disabled. To minimize the number of crashes by any kind and severity expected to occur on the entity during a specific period is known as road safety

Various Causes Of Accident:

Road Traffic safety refers to methods and measures for reducing the risk of a person using the road network being killed or seriously injured. The users of a road include pedestrians, cyclists, motorists, their passengers, and passengers of non-road public transport, mainly buses and trams.

- Road Characteristics
- Weather Impacts
- Transportation-Related Factors
- Human-Related Factors

2. METHODOLOGY

Road Selected For Study:

National highway from Panipat to Jhajjar on NH-71A was chosen for study. The following stretches was selected for data collection. The study area is shown in Fig. 3.1

- i. Panipat to Naultha, Km 0-Km13.6
- ii. Israna to Gohana Km26
- iii. Rohtak to Jhajjar Km34

Data Collection

The only information available for accident studies is the FIR (First Information Report) lodged in the police stations and data from PWD. The data from these records of last ten years (2006-2015) were extracted from the FIR record field under IPCno.279/337/338/304(A).

➤ **Data Collected From Police Records:**

With the prior permission of the concerned S.P, the accident data were collected on two-lane highways from three police stations

Accident details during 2006-2015 on this road section are shown in Table 1.1. Accident data were collected year wise from each police station records then sorted out year wise.

Table 1.1 Details of Accidents

YEAR	FATAL	MAJOR INJURY	MINOR INJURY
2006	15	14	37
2007	16	32	50
2008	10	24	45
2009	25	30	39
2010	22	35	40
2011	17	45	84
2012	5	25	61
2013	14	33	81
2014	16	32	84
2015	18	28	58
Total	159	297	579

➤ **Data Collected From P.W.D Records:**

P.W.D (Public Works Department) records are the main source if details of road. The Performa used to record these details is shown in Table 1.2

Table 1.2 Performa for Details Of Road Section

Width Of Carriage Way in Mt.	7
Width Of Formation in Mt.	12
Width of Land in Mt.	45

3. ANALYSIS OF DATA AND DISCUSSION

Accident Investigation:

Accident Number: 1

Accident type: Head-on collision

Location: Govt. High School, Naultha (Panipat)

Date and Time: NOV.11, 2014; 05:00AM

Vehicle 1: Truck No. HR-13-GA-4916

Vehicle 2: Tata Indica car No. PB-29-E-1334

Fatalities/Injuries: 8 person died on the spot.

Description: On 11 nov. 8 persons were died in a road accident when an Indica car collided head on with a truck Govt. High school at Naultha, national highway-71 Haryana on Tuesday morning. There are three children and two women among the eight died on the spot. All eight occupants of the car, residents of Valtoha village near Patti in Tarn Taran district, died on the spot. The incident took place at around 5 am when the Indica Vist car no. PB-29-E-1334 were

traveling collided head on with a truck No. HR-13-GA-4916. The Indica car was badly damaged in the accident while the truck was also damaged partially. Police party headed by SHO Bhadaur rushed to the spot while villagers also called an ambulance but it was too late. The accident diagram is shown in Fig 1.1.



Fig. 1.1 Accident diagram and photos

Annual Variation In Accidents:

Fig. 1.3 shows the annual variations in accidents of total stretches during year 2006-2015. It is observed that percentage accidents are increasing relatively in the most of the year. In the year 2011 accident rate was high and low in year 2006. It may be due to increase in no. of vehicles, bad traffic environment, and increase in population.

Table 1.3 Annual Variation In Accidents Of Total Stretch

YEARS	FATAL	MAJOR	MINOR	TOTAL NO OF ACCIDENTS
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2004				
2006	18	18	38	48
	12	36	50	60
2008	15	23	45	52
	20	35	40	58
2010	20	36	40	63
	19	40	82	105
2012	3	22	60	60
	17	35	80	95
2014	19	36	83	85
	12	35	55	65
2016				

Vehicles Involved In Fatalities:

Vehicles users related to facilities during 2006-2015 are shown in pie chart in percent. The result indicate that 59 % of fatalities are due to truck drivers followed by 26% by unknown driver, 7% by motorcycles, 5% by car and jeep, 3% by bus respectively as shown in Fig. 1.4. They consume alcohol and drugs in long driving. As a result reaction time increases and loss of control occurs during speed driving leads to fatalities.

Table 1.4 Vehicle Involved In Fatalities

VEHICLES	VEHICLE INVOLVED
Truck	59
Bus	3
Jeep/Car	5
Bike	7
Others	16

Trends Of Accidents:

The trend of accidents per million vehicle- kilometer-year (MVKY) on the road is shown in Fig. 1.2 from the figure it is found that accidents rate per MVKY increases in each subsequent year. The increase trend in accident rate may be due to increase in population due to town growth, industry growth, poor maintenance of shoulder, electric poles on road, transformer station on the

shoulder, old girth trees on the shoulder, sight distraction obstruction due to trees, unsignalized intersection, on street parking of vehicles and lack of general awareness of road safety among road users.

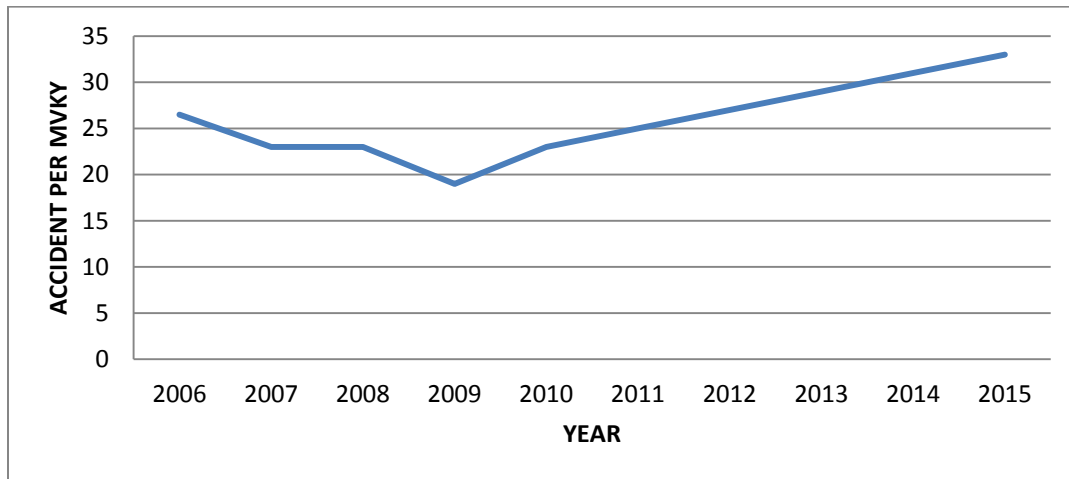


Fig.1.2 Trend Of Accidents (2006-2015)

CONCLUSION

(1) The available literatures on accidents analysis indicates that 77.5 percent of road accidents in India are caused due to driver's error.

(2) Heavy vehicles like truck are involved in maximum no of accident on two-lane roads. It is estimated that fatalities caused by truck is 59% followed by other (26%) and bike (7%) and jeep (5%) and bus (3%). Road safety awareness should be raised among road user.

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