

Road Safety Issues in Muzaffarpur Region of Bihar: A Review

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Abstract—With growing population load on the transportation facilities is increasing. Number of vehicle and average speed of the vehicle is growing with the technology. Due to these reasons risk of accident on the road is also increasing. In this study a case study on the accidents on the NH-77 situated in the North Bihar is done. The different causes and the nature of the accidental data are carefully investigated. It was found that the most of the accident occurs due to the heavy vehicles. It was also found that there is need in the improvement in the Engineering and law enforcement to reduce the number of accidents. Also there is requirement of training and awareness among the drivers to reduce the chances of accidents.

Keywords: Road Safety, Accident, Heavy Vehicles.

Introduction

Gigantic development of population combined with expanded financial exercises has supported in fast development of both private and public vehicles. Road accidents, a very serious public health problem which is much more serious in India, over 5 lakh road accidents in happened in the year 2015. This is one of the essential components answerable for street mishaps. It is seen that couple of works have been completed on measurable investigation of accidents especially on two-path National Highways. For this paper stretch of NH-77 has been chosen from Hajipur to Muzaffarpur. The incidental information was gathered for most recent six years, 2009-2014 from the Police Stations where FIR was held up. The gathered information were examined to assess the impact of affecting parameters on accidental rate. Substantial vehicles like trucks, bus are associated with most extreme number of accidents on the chose stretch. The type of vehicles involved in accidents as recorded in the FIR was also noted down. The categories of vehicles include Truck, Bus, Tractor, Jeep, Car, Tempo, Motorcycle etc. Further, monthly-obtained data were sorted out year wise, represented in percentage over the study year. There was problem related to the information obtained from the police stations as the police data was inadequate as it gave only information about locations, types of vehicle involved in accident, types of injury (Minor injury, serious injury or death), property losses, Date of accident, IPC section (figure 3).

Road accident scenario in India

India leads the world in the road accident and it has highest death rate in the world. China is the second largest country in the world in the field of accident. In India, total number of accident 4.97 lakh per year & in every minute an accident occurs. During 2011, total number of fatal accident was 1, 21,618. Every year almost 1, 42,485 persons are killed which is equal to 390 persons per day which is a big concern of our country. During year 2011 5, 11,394 persons are injured. Trucks and two-wheeler contribute 40 % of these fatal accidents.

Study Area

Muzaffarpur is the district administrative headquarters of Muzaffarpur District as shown in fig.1 The total area under the jurisdiction of Muzaffarpur Municipal Corporation (MMC) is about 26.68 Sqkm (2668.44 Ha) and this town is divided into 49 wards. Muzaffarpur lies between the Burhi Gandak and Furdoo nallah. Future potential growth of the city is moving towards north, west and southwest directions. Despite this and its good transport connectivity, Only 19% units are functioning in the Industrial Area with 38 % units closed. Additionally, 23 % plots in the Bela Industrial Area and Estate Area have been allotted but not constructed yet and 17% plots are vacant. National Highways 57 comes from Gorakhpur, Chakia, Motihari and NH57 goes to Purnia, Darbhanga. Approximately 99% of the roads under the jurisdiction of the corporation are pucca roads. The town has two Inter-city bus stands one under BSRTC and the other for privately owned buses. The key issues affecting the sector are heavy congestion of the existing road network, parking problems especially in the market areas and along the main thoroughfare. A stretch of the busiest road NH-77 passing through two cities namely Hajipur and Muzaffarpur has been selected for data collection which also connects our neighboring country Nepal.

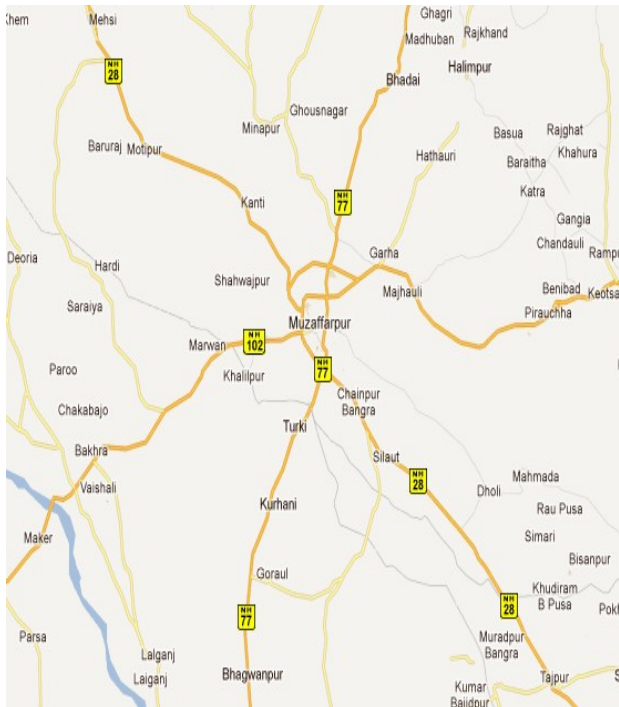


Fig. 1: Location of Muzaffarpur Site joining NH-77

Objective and scope of study

1. To identify various roads related accidents locations and factor causing accident.
2. To identify the Annual, Monthly and location wise variations of Accidents.

Data Collection

1. From Police Station :- The road accident data in the year between 2009 to 2014 was collected and identified in the city Muzaffarpur and Hajipur as shown in table 1.
2. Area of the locality:- The information's are gathered from the local area, shopkeeper, rickshaw puller, auto rickshaw drivers and local road users.

Data Analysis

The six years accidental data's are collected from the various police stations on NH 77 from the period 2009 to 2014. Accident data recorded in FIR was identified by case no. and clause of IPC section 279,337,338,304,304(A) and 427. Road accident Rash Driving & Negligence are recorded under IPC section 279. Minor injury, major injury and economic loss are recorded under IPC section 337, 338 and 427 respectively. Death recorded under the IPC section 304 and 304(A). FIR does also record all type of accidental information such as date, place, vehicle type, level of injury etc.

Year	No of Death	% Death	No. of Injury	% Injury	Total No. of Accidents	% Share of Accidents
2009	107	50.95	103	49.05	210	10.70
2010	106	52.47	96	47.52	202	10.30
2011	88	42.92	117	57.07	205	10.45
2012	98	54.44	82	45.55	180	9.17
2013	94	55.29	76	44.76	170	8.66
2014	88	49.16	91	50.84	179	9.12
Total	581	50.87	565	49.13	1146	58.4

Table 1 Source :- Local Police Stations

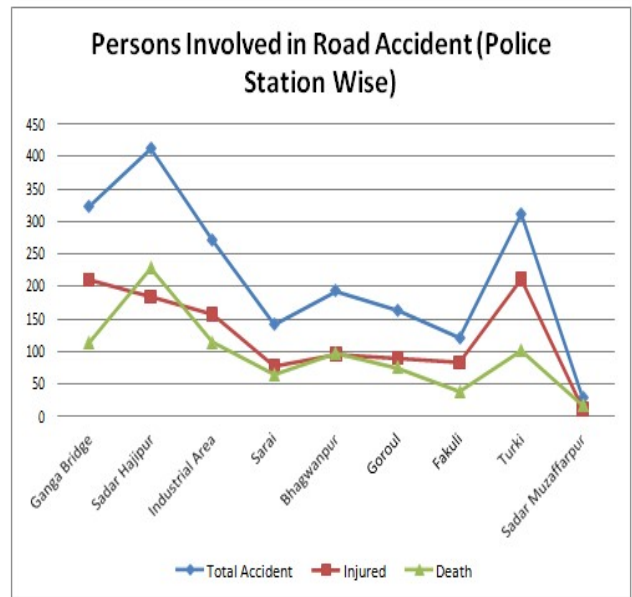


Fig. 2: Person involved in accidents as recorded in Police Station

The information were collected from eight police stations and near Sadar Hajipur no of accidents were maximum .this is due to high volume of traffic vehicles and bypass. That is only a highway which connects all the small districts of Bihar to Patna. This graph representation as recorded by the police stations.

Types of Accidents Involved in Road Accidents on NH-77

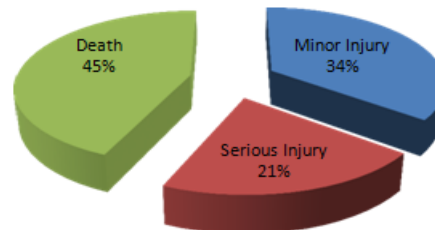


Fig. 3: Types of accidents involved in Road Accidents at NH-77

Nature of Accident

Total Accidents involved during these six years on NH 77 were Death which was recorded as 45%, Major injuries were Recorded as 34% and 21% were determined as Serious Injuries. Number of Persons involved in Road accidents were 225 which was in the month of June, December January was recorded as the least no of accidental month. The trend has been analyzed in the graphical form as Shown in Fig. 3 and Fig. 4. The Cause of Death was due to high Speed vehicles and the passenger did not follow the traffic rules and regulations. Further due to rain many Accidents happened as recorded in the police station.

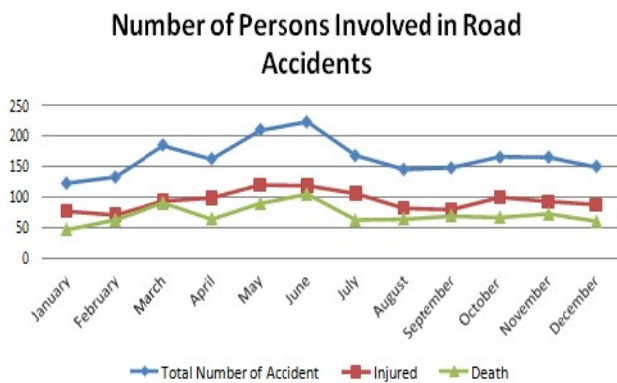


Fig. 4: No of Persons involved in Road Accidents

Conclusions

In this paper it is observed that most of the accident occurs in the month of May-June (11%), the traffic police have to take much care in this month rather than other month to reduce the accident on NH 77 as shown in figure 4. It is also reported that Mahatma Gandhi Setu Bridge is the most accident prone location in which 244 accidents occurs during 10 years followed by Paswan Chowk 72,, Dighi Kala 52, Fakuli Chowk 48 Ramashish Chowk43, Saidpur Pdera 39, Near Ganga Bridge P.S 37 and Bhagwanpur 36 on NH 77. In order to prevent them there needs to be close coordination and collaboration, across many sections and many disciplines.

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