Identification of Accident Black Spots: Jalgaon to Bhusawal

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Abstract - *The location of road where the maximum number of accidents occur is known as Black Spot. This paper deals with the study and analyzes the traffic safety situations in the section from Jalgaon to Bhusawal city on NH-6 in the state of Maharashtra. The stretch of 21 km is taken for study, the identification of road accidents and its causes. We have identified seven accident black spots and suggested the remedial measures on it.*

*Key Words***:** Road Accidents, Fatalities, NH6, Black Spots, Jalgaon to Bhusawal, Remedial Measures.

1. INTRODUCTION

India is a developing country it has 5.4 million Km road network till September 2018. There is increase in use of Roads due to growth in industrialization and population so there is also increase in the number of motor vehicles and heavy load vehicles for the transport of goods and people with this the number of accidents are increasing. Road accidents are increasing day by day in India due to road users, vehicles, road condition, road geometric design, environmental conditions. Maximum accidents cause due to deficiency in providing road elements such as super elevation, sight distance, road markings and signs. There are so many Black Spots on national highways in India. In road safety management and accident black spot is a place where road traffic accidents have historically been concentrated or black spot is the location where number of accidents repeatedly occurs.

As we have selected highway segment on National highway 6 from Jalgaon to Bhusawal (21Km) and by the collecting accidents data from police stations. On this route there are three police stations MIDC Police station Jalgaon, Nashirabad Police station And Bhusawal Police Station.

Accident data then we will identify the black spots on selected segment of National Highway 6. By analyzing accident data we will give remedial measures to the accident black spots.

1.1 STUDY AREA

Location: National Highway 6 from Jalgaon to Bhusawal as Shown in Fig No.1 and having length 21 km.

We selected National Highway 6, was a National Highway in India that has been separately designated under the new nation highway numbering system. It was officially listed as running over 1949 Km (1211mi) from Surat to Kolkata. The route was also known as Asian Highway 46 (AH46). This National highway passing through six states named as Gujarat, Maharashtra, Chhattisgarh, Odisha, Jharkhand, and West Bengal. The highway passed through the cities of Surat, Dhule, Jalgaon, Bhusawal, Akola, Amravati, Nagpur, Bhandara, Rajnandgao, Durg, Raipur, Mahasamund, Sambalpur, Kharagpur, and Kolkata.

Fig No.1: Asian Highway 46 (NH 6) : Google Image

1.2 OBJECTIVES

1. To collect the accident data for the selected highway segment.

2. To analyze the data collected in order to rank the severity.

3. To identify the accident black spots on the highway.

4. To suggest remedial measures for reducing the number of accident.

2. PROBLEM STATEMENT

Now a days, illegal possession on the roads is highly increasing due to which the roads are getting narrow and becoming a reason behind accidents. There are some other factors other than the above mentioned factor viz., human error, visibility, vehicular condition, geometric design of road, over speeding, education factor, time of day, provision

of traffic calming devices, weather factor. Illegal parking on pedestrian way and movement of heavy weight vehicles on roads etc. Pedestrians use main road for walking as the pedestrian way is occupying illegal parking. Because of these factors accidents are increased.

3. METHODOLOGY

3.1 Route Selection: From Jalgaon to Bhusawal having length 21 km on National Highway 6 which is pass through jalgaon and bhuswal.

3.2 Data Collection: on selected stretch there are three police stations namely MIDC Police Station, Nashirabad Police Station and Bhusawal Police Station. Collect Accident data from respected police stations.

3.3 Data Analysis: from 2014 to 2017 analyzed accident data by various calculations like fatal and injury, causes of accidents, police station wise and year wise.

3.4 Identification of accident black spots: By analyzing data accident black spots on selected stretch will be identified.

3.5 Remedial Measures: After identifying causes of accidents on those black spots remedial measures will be suggested.

4. RESULT AND CONCLUSION

From this chart no.1 we can see the maximum number of fatal accidents happens at Godavari college of Engineering, and minimum at Tarsod phata. Maximum number of accidents occurred on Jakat naka. The maximum number of injuries happened at Jakat naka and minimum at Doordarshan tower. This bar chart shows maximum and minimum fatal and injuries on Selected black spots.
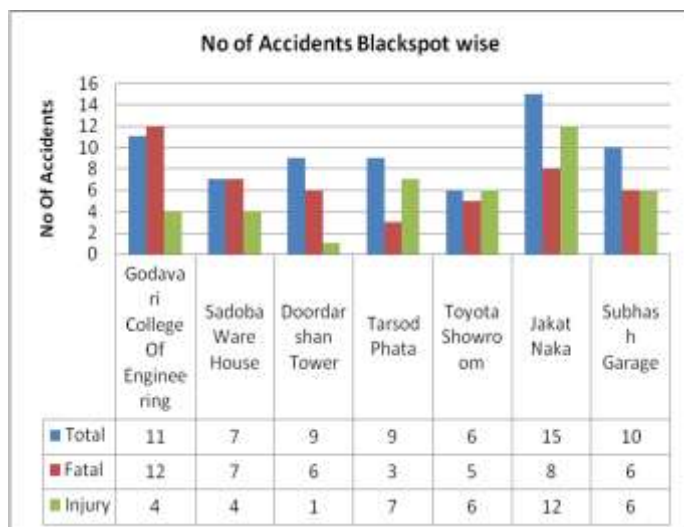

	Godavari College Of Engineering	Sadoba Ware House	Doordarshan Tower	Tarsod Phata	Toyota Showroom	Jakat Naka	Subhash Garage
■ Total	11	7	9	9	6	15	10
■ Fatal	12	7	6	3	5	8	6
■ Injury	4	4	1	7	6	12	6

Chart-1: Classification of accidents

4.1 Remedial Measures

From above study, seven accident black spots were identified and then on the basis of accident causes suggestion of remedial measures can be given as;

1. Provision of speed limit.

2. Widening of roads.

3. Provide speed breakers.

4. Maintain traffic signals.

5. Provide reflectors.

6. Provide guard rails.

7. Provide traffic markings.

8. Provide shoulders on both side of road

9. Maintain street lights.

10. Provide road dividers.

11. Provide traffic signs and boards.

12. Fix potholes.

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