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ACCIDENT ANALYSIS AND SUGGESTING IMPROVEMENTS FOR THE ROAD LINK UNJHA TO MEHSANA (SH-41)

JAIMIN M. PATEL[1], JAY S. PATEL[1], BHAVYA S. PATEL[1], PRIT B. PATEL[1]

1. Civil Engineering Department, Tatva Institute of Technological Studies, Modasa Gujarat – 383315

Abstract: In an era of continuous growth in mobility and demand for Traffic safety are an issue of major social concern and an area of extensive research and work. The rate of accident in developing countries like India increases year by year. To reduce this adverse effect of transportation the work toward road safety is become necessary now a day. Study of the road network and geometric feature are essentially to tackle problem of accident in a city. The occurrence of accident not only causes immediate loss in term of property and life but may also cause a long term pain or grief. It may have occurred for a variety of reasons, such as a sharp drop or corner in a straight road, so oncoming traffic is concealed, a hidden junction on a fast road, poor or concealed warning signs at cross-roads. Transportation contributes to the economic, industrial, social and cultural development of any country. Transportation by road is the only mode which could give maximum service to one and all. Due to the increase in population, number of vehicles is increasing day by day which leads to the increase in road network. The present work intended to analyse a black spot (accident prone location) in Unjha to Mehsana (30km) the causes of accidents are studied and suggested different remedial measures to reduce number of accidents.

Keywords: Black spot, Traffic safety

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Corresponding Author: JAIMIN M. PATEL

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INTRODUCTION

Roadways Are The Backbone Of Any Country, Acting As Indicator For The Economic Development Of The Country. Such that, the Transportation Plays a Very Prominent Role in Developing Countries like India. More The Length of Roadways, The prosperity is more of the nation. But these facilities of roadways is increasing the population of vehicles and there by resulting in increasing number of traffic congestion and accidental casualties. Accidents, tragically, are not often due to ignorance, but are due to carelessness, thoughtlessness and over confidence. Accidents were associated with numerous problems each of which needed to be addressed separately. Human, vehicle and environmental factors play roles before, during and after a trauma event. Accidents, therefore, can be studied in terms of agent, host and environmental factors and epidemiologically classified into time, place and person distribution. This paper lays emphasis on accident studies on Unjha to Mehsana highway. It is a major state highway for Ahmedabad to Banaskantha people. The open side drains exist for some part of the study stretch. For the purpose of the study, took place on the road between two or more objects, one of which must be any kind of a moving vehicle.

OBJECTIVES
• Identify Black spot on study area.
SCOPE OF THE STUDY
• Identification of the Black spot by using an accident data.

RESEARCH AND METHODOLOGY

Maru et al (2016) in an era of continuous growth in mobility and demand for transportation, safety is an issue of major social concern and an area of extensive research and work. The rate of accident in developing countries like India increases year by year. The occurrence of accident not only causes immediate loss in term of property and life but may also cause a long term pain or grief. This study presents accident scenario and lack of road safety provisions. For that purpose various types of surveys related to work has been carried out. The results of this analysis give the scenario of accident and road safety provided. Black spot are identified and ranking of hazardous locations is done by Accident severity per kilometre. By the study of accident scenario this study gives the road safety measures to prevent the accidents on entire stretch

Based on the study of road safety audit SH 24 The conclusion have been drawn
1. The black spots are identified based on police record & Accident severity per km

2. Madhapar Chowkdi there is no facility for pedestrian to crossing the road, so it's create the black spot. Channelization is required.

3. Based on the accident data majority of accident occurred is between chainage 1, 4 & 7 (Madhapar Chowkdi, Jamnagar Bypass & Marketing yard).

4. There are absences of foot-path at Bridge crossing Lal Pari River.

ACCIDENT DATA COLLECTION

The data collection of the accidents is primarily done by the police. Motorist accident reports are secondary data which are filed by motorists themselves. Table 1 shows the format of accident detail obtained from the Police department.

Table. 1, Accident Data collection Format

Sr. No.	Date	Time	Place	Collision	Type of Vehicle involved	No. of death	No. of injured person

STUDY AREA
1. Mahesana to Unjha

ROUGH ROAD SURFACE

POTHOLE ON ROADS

RUTTED ROAD SURFACE

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Data collection and analysis

Year	Dead	Injured	Fatal	Total
2010	9	17	14	40
2011	9	18	10	37
2012	10	20	9	39
2013	9	15	18	42
2014	16	22	9	47

Where,
Dead-No longer alive (On the spot)
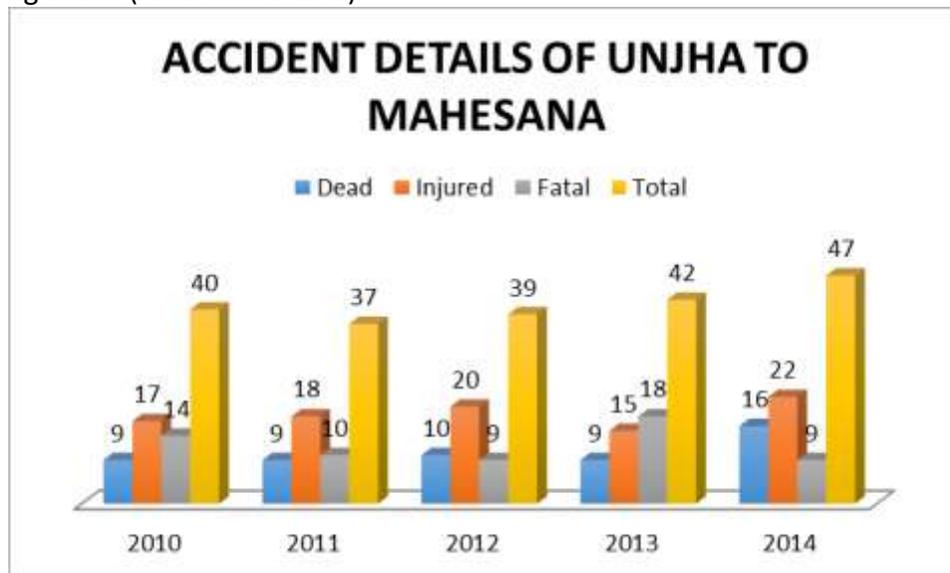Injured-To wound or cause physical harm.
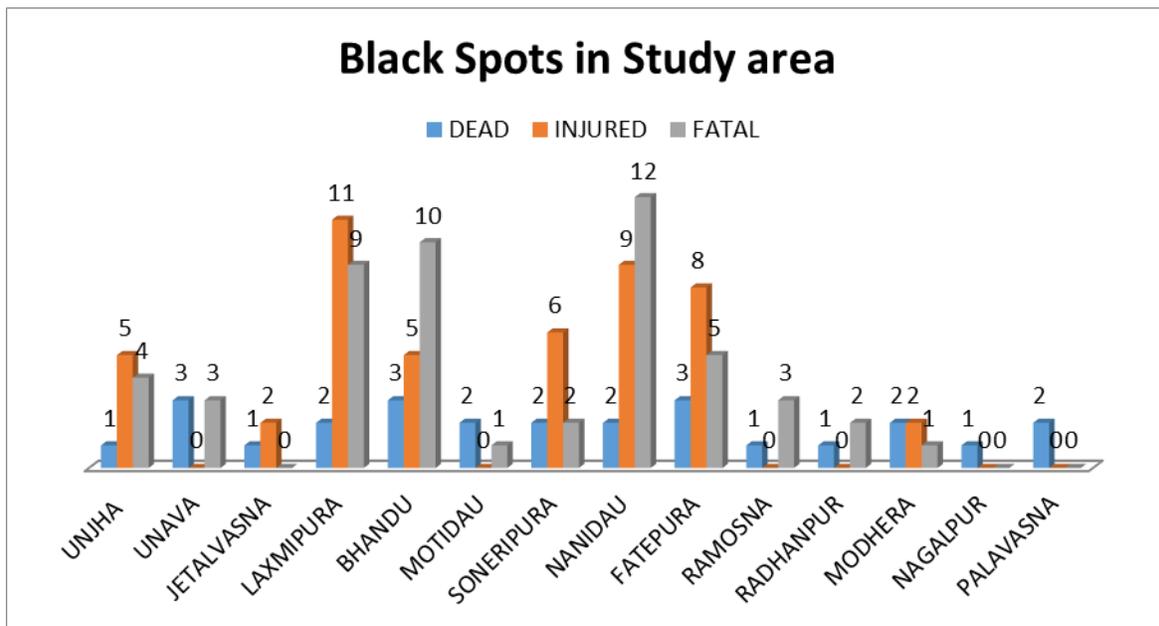Fatal-Causing death (After some time)

Table No: 02 all black spot belong to Unjha to Mahesana

Black spot	Dead	Injured	Fatal
Unjha	1	5	4
Unava	3	0	3
Jetalvasna	1	2	0
Laxmipura	2	11	9
Bhandu	3	5	10
Motidau	2	0	1
Soneripura	2	6	2
Nanidau	2	9	12
Fatepura	3	8	5

Ramosna	1	0	3
Radhanpur	1	0	2
Modhera	2	2	1
Nagalpur	1	0	0
Palavasna	2	0	0

Black Spots in Study area

❖ **Preventive measures:**
- Change in geometric design of road is required as the required super elevation is not there.
- Provide divider on specific location for reducing Accidents.
- To provide proper surface of road for safe and smooth riding.
- Provide proper informatory sign such that all kind of people can understand it easily.
- Provide Road widening from single lane to double lane.
- Required Speed breakers.
- Repairs of cracked surface and filling up of pot holes to reduce the accidents.
- Installation of cat eyes and road reflectors in the junctions and also near the road humps.

CONCLUSION
❖ The black spots are identified based on police record.
❖ Accident Analysis & Prevention provides wide coverage of the general areas relating to accidental injury and damage, including the pre-injury and immediate post-injury phases.
❖ Based on the accident data majority of accident occurred as per data collection the accident rate at Laxmipura and Nanidau are more as compare to other spots.

ACKNOWLEDGMENT

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