

Road Safety Audit: A Case Study Navsari to Chikhli National Highway 48

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Abstract: I found that over 1.3million people dead by road accident but there is no safety for them in our country. The accidents are linearly increasing. Because of this accidents, peoples loss there life and also it will affect the economically. Due to this accidents people have to suffer by hospital cost or treatment. These accidents can be reduce by road safety audit with involved better safety measure, good serviceability, proper geometric design of a location, traffic signs, signals, markings, street lighting, bridges, culverts, proper parking management, removing side obstacles from the road ,etc. Road safety audit will reduce the road accident and increase the life of people. I have collected data of from Navsari CH 00.00km (NH-48) to Chikhli CH 38.00km (NH-48) from police home office for my paper. I have been observed the road accident, condition of road, condition of signal of this road and also I have counted the numbers of different types of vehicle and made the graph regarding to that data. According to that data I have also taken the remedial measurement. On NH-48 where 721 accident in the duration of 2011 to 2015. So measure to reduce road accidents and road audit at the stretch has been shown.

Keywords: Too many road accidents, providing greater safety, Road safety audit

I. INTRODUCTION

A road safety audit is the continuous monitoring of the safety factor of new and existing highway and traffic management scheme, which involve improvement of existing layout. The fundamental goal of road safety audit is to insure that there is less future problems on highway. A accidents are occurs due to collision of two or more vehicles, cyclist and vehicle, pedestrian and vehicle, fixed object and vehicle, overturned vehicle near public road, etc. in our routine life as the transportation is increasing it will also increase safety issue in this area of extensive research and work. In developing countries like India, the road accidents increasing year by year. So it is necessary to reduce road accident and work towards the road safety. To apply the road safety audit in real life, the first thing is to know the geometric features of highways.

This accidents will effect of people for a long time. The Gujarat State Road Transport Corporation provides facility of transportation to approximately 24 lakh people every day. Road safety audit provides to assess the road accident and will give the better safety. Safety audit follows the principle of “prevention is better than cure”. For improving the road safety, the road safety audit will work on new roads, existing roads and for the maintenance of the existing road. Road safety audit contained the internal part of designing, planning, construction maintenance of road, this will become the compulsory rule for newly road.

In past, there is no priority to road safety audit but now a days India also started believing in the importance of road safety audit .because of this Ministry of Road Transport and Highway sponsored the project on “Development of Safety Audit Methodology for Existing Roadway Sections” to Central Road Research Institute (CRRI) in April, 2002. Under this project, Manual for Road Safety Audit has been prepared. First Road Safety Audit was carried again by CRRI IN 2000 on Indore Bypass.

II. CRITICAL LITERATURE REVIEW

I have referred following literature reviews related to identification of black spot area, Development of accident models, causes of road accidents, based on Road Safety Audit.

1. Identification of Black spot

Chakarborty et. al. (1995) have used a scientific approach for identification of accident black Spot sections including nodes and links based on the data relating to terrain, number of lanes, traffic volume and number as well as severity of accidents.

Sarkar and Malleswari (1995) have presented a case study of the city of Visakhapatnam (India), which has experienced a tremendous increase in road traffic accidents in recent times.

Shaheem et. al. have selected a stretch of National Highway-47, Thiruvananthapuram district for identification and evaluation of accident prone locations.

Deepthi Jayan K, B.Ganeshkumar (2008) (PSNA College of Engineering & Technology, Dindigul and Tamilnadu, India) have make research work on Identification of Black Spots: A GIS Based Implementation for Kannur District, Kerala. In this study, an effort has been made to identify the accident prone zones within Kannur district, Kerala using GIS.

2. Identification of Development of Accident Models

Vashi and Damodariya (2003) have studied accident scenario in Vadodara city. They have analysed yearly variation of accidents. They have identified top twelve accident prone locations of Vadodara city.

Rastogi (2006) has studied a macro level analysis of accidents occurred on different categories of roads in and around Kota city.

Chand (2004) has attempted to measure the accident risk statistically for metropolitan cities in India.

Chand and Alex (2005) have analysed accident causative factors using time dependent accident data. They have analysed accident frequency for Thiruvananthapuram city traffic limit and Kozhikode city traffic limit areas of Kerala state.

3. Identification of Road Accidents

Kumar et al (2008), Jha and Agrawal (2004): identified November as the month with the highest number of fatal accidents in Delhi, 11.04% of all fatal accidents in Delhi occurred in November.

Mehta (1968) and Ghosh (1992): In a research conducted in Delhi by Mehta (1968) and Ghosh (1992) found that most people were killed in road accidents which occurred in January but National Crime Record Bureau (2005) reported higher incidence of road accidents with much victims in May and March in India.

4. Identification of Road Safety Audit

Jain et al. (2011) have studied the study aims to evaluate road safety audit of a section of four-lane national highway (NH)-58 and will focus on evaluating the benefits of the proposed actions that have emanated from deficiencies identified through the audit process.

Mishra et al. (2013) have carried out RSA of Selected Stretch From Umreth Junction To Vasad Junction , their study area consists of cities and villages such as Umreth, ode, Khambolaj, Sarsa, Vehrakhadi and Vasad is located in Anand district of Gujarat state. The whole stretch is located in Anand and Umreth Talukas of Anand district.

Dinesh Mohan (2012) has shown that, Road traffic fatalities have been increasing at about 8% annually for the last ten years and show no signs of decreasing. Two modelling exercises have attempted to predict the time period when we might expect fatality rates to start to decline in a range of countries.

Deshpande (2014) has shown in the study that, Road accidents are a human tragedy. They involve high human suffering and monetary costs in terms of untimely deaths, injuries and loss of potential income.

Arun S. Bagi has investigated identification of accident prone areas on the road from FIR, to study the effect of roadway geometrics and traffic conditions on the road stretch and development of statistical relationship between accident rates and various factors causing accidents.

B. Srinivas Rao has undertaken a study on NH-5 between Anakapalli to Visakhapatnam during the year 2003 and it runs through urban, semi urban and rural areas. The accident data for the last five years was collected from the concerned police station and analyzed thereafter.

Dr.S.S.Jain evaluate Road Safety Audit of a section of four-lane National Highway (NH)-58 and will focus on evaluating the benefits of the proposed actions that have emanated from deficiencies identified through the audit process.

Juregan Gerlach focuses on the four procedures of a Road safety impact assessment, Road safety audits, Network safety management and Safety inspections.

G. Kondala Rao study the increasing frequency and severity of recent Road Traffic Accidents (RTAs) in India involving modern vehicles have caused grave concern for road safety, posing serious challenge to transport policy makers, planners, regulators, police, engineers and civil society alike.

Pawan Deshpande Many a countries have curbed the menace of road accidents by adopting a multipronged approach to road safety that encompasses broad range of measures, such as, traffic management, design and quality of road infrastructure, application of intelligent transport system, safer vehicles, law enforcement, effective and quick accident response and care etc.

Parikh Vaidehi Ashokbhai has investigate black spot study area selected is corridor of Narol to Naroda national highway- Ahmadabad city of Gujarat state.

Ravishankar Rajaraman has conducted detailed investigations of accidents occurring on the National Highway 45 over a 60 km stretch.

T.Sivakumar has conducted road traffic accidents due to drunken driving in India challenges in prevention.

III. CONCLUSION

After referring this literature papers, I have got the idea about, verification of black spot, different statically model for road accidents, different technique for reducing road accidents and road safety audit for various stretch in India. Identified the different black spot location and gives suitable solution to reduce the road accident at those locations. I have counted the road accident, analyses them and make a data sheet, regarding to that data sheet I have given the possible solutions. Road safety audit is better option to reduce road accident and save the peoples life. Is also provides better safety, better serviceability, good comfort and consumption of less time.

IV. ACKNOWLEDGEMENT

This review paper has made possible through help of my parents as well as professors, HOD and principle. I would like to express sincerely thanks to Dr. Indrajit N. Patel, Principal, Birla Vishvakarma Mahavidyalaya Engineering College, Vallabh Vidyanagar, Dr. L. B. Zala, Professor and Head of Department, Civil Engineering Department, Birla Vishvakarma Mahavidyalaya Engineering College, Vallabh Vidyanagar, Prof. N.F. Umrigar , assistant professor, Civil Engineering Department, Birla Vishvakarma Mahavidyalaya Engineering College, Vallabh Vidyanagar , kaushik chauhan surveyor at reliance industries, navsari.

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