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A Study of Identifying Road Safety Aspects and Carried out Safety Audit of Four Lanned Road

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Abstract

The ultimate aim of this dissertation is to study and explore the effect of road safety aspects and safety audit of four lanned road. Road network of any country has a notable role to play for country's economy and growth. Transportation through road networks satisfies the basic needs of people. Many lives are lost and huge amount of property damage occurs due to accidents. This study is an attempt to analyze the traffic safety situation on Gurgaon Faridabad road (MDR 137), Ballabgarh Sohna road (MDR 133) and few other connecting roads in Gurgaon and Faridabad Districts of Haryana (India) and to identify counter measures for stretches in which the total harm caused by crashes can be substantially and readily reduced. The scope of this study is identifying road safety aspects and carrying out safety audit of four lanned road of Gurgaon – Faridabad road MDR 137 and Widening of Ballabgarh Sohna road MDR 133 and few other connecting roads in Gurgaon and Faridabad District of Haryana. The length of project road is 66.185 kms which was started in June 2009 and completed in June 2012. This was developed on BOT mode of delivery by M/S GF TOLL ROAD PRIVATE LIMITED a subsidiary (SPV) of M/S Reliance Infrastructure Ltd Mumbai. The necessity of this study arises from the fact that any project of this size should be examined at various stages to achieve the objective of safe operation of highway. It ensures safety for all road users and minimizes the risk and severity of accidents with minimal cost and high benefit-cost ratio.

Keywords: *Road Safety Aspects, Four Lanned Road, Safety Audit.*

1. Introduction

Up-gradation of Highways have provided, great mobility but with no added safety. The increase in number of vehicles coupled with higher speed and neglect of vulnerable road users at planning and design stage have enhanced the threat of exposure to road accidents. Road accidents are now one of the greatest hazards to human safety today and kill more people than most of the deadly diseases. Number of injuries and deaths due to road accidents has steadily increased globally and in India as well. Road fatalities have emerged as a serious threat to human life and are causing a serious challenge to highway planners, designers and construction agencies. This has placed the added responsibility on all the stakeholders in highway sector to think seriously in providing safe roads by all means.

Road network has expanded since last many years to cater to the increasing demand of transportation of people and goods but the safety aspects came to focus when the accident rate continued ascending trend. For the first time in two consecutive years, i.e. 2012 and 2013, there was a decline in the number of road accidents, the number of persons killed and the number of persons injured in road accidents. The total number of road accidents declined from 4,90,383 in 2012 to 4,86,476 in 2013. Not only was there a decline in the absolute number of road accidents in the country during 2013, as compared to 2012, there was also a decline in the number of accidents per lakh population from 39.9 in 2012 to 38.9 in 2013. The number of persons killed in road accidents too declined to 1,37,572 in 2013, in comparison to 1,38,258 in 2012.

In terms of total number of persons killed in road accidents per lakh population, there was a reduction from 11.2 in 2012 to 11.0 in 2013. The number of persons injured in road accidents reduced both in absolute as well as relative terms. In 2012, as many as 5, 09,667 had got injured in road accidents, in 2013, there were 4, 94,893 persons injured. The number of

persons injured in road accidents per lakh of population declined from 41.4 in 2012 to 39.6 in the number of persons injured in road accidents per lakh of population declined from 41.4 in 2012 to 39.6 in 2013.

2. Results and Discussions

During the development and construction phase of a Highway safety consultant has to carry out ANALYSIS OF ROAD ACCIDENT DATA on fatal and grievously injured accidents for evolving proactive and reactive measures which is called "Crash Analysis".

Most developing countries including India have a serious road accident problem. Fatality rates (defined as, road crash deaths per 10,000 vehicles) are quite high in comparison to developed countries. While in Europe and North America the situation is generally improving, many developing countries face a worsening situation. Apart from the humanitarian aspects of the problem, road accidents cost countries of developing world at least one percentage of their Gross National Product (GNP) each year – sums that those can ill afford to lose. Compared to cause of death more commonly associated with the developing world, deaths from road accidents are by no means insignificant. The nature of problem in developing countries is in many ways different from that in industrialized world. The proportion of commercial and public service vehicles involved in road accidents are often much greater. Pedestrians and cyclists are often the most vulnerable. Lack of medical facilities in these countries is considered to be an important factor leading to high death rates.

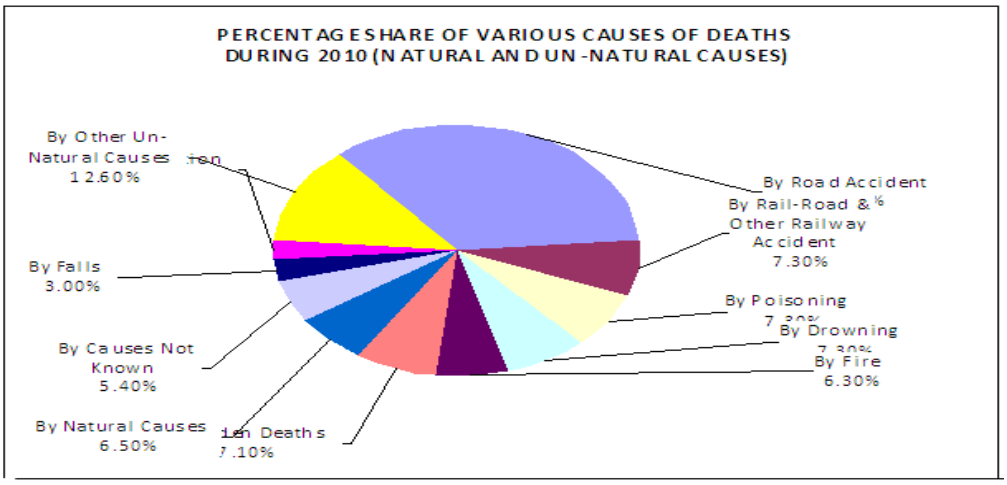

Figure 1: Percentage shares of various causes of death

From the reports of the National Crime Record Bureau, it is ascertained that the road accidents are the major causes of deaths in India, which shares 34.8 % of the total deaths {NCRB data'2010}.

3. Conclusions

This project being on BOT mode of delivery, detailed design was the responsibility of the Concessionaire which was to be audited by the Independent Consultant' appointed by Haryana PWD B&R as Employer. No safety Consultant was appointed, being no provision in the concession agreement. The feasibility study was carried out by Consultant which was not planned for any safety audit. The development of project was based on the feasibility study and report by Consultant and technical parameters were laid down leaving little room for changes at later stage. The RSA at various stages was not carried out.

4. Compliance to standards and specifications

It is found in this study that certain standards like design speed, curve radius and development of intersections have not been adhered to. No facility for pedestrians and the non motorized vehicles (VRU's) have been provided. The movement of cattles all along the corridor length has not been regulated by providing fencing.

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