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Road Safety Audit of Ankleshwar-Burhanpur State Highway-04: A Review

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ABSTRACT: A Road Safety Audit is an evaluation of a highway project during design, at the end of construction and post-construction. The purpose of the audit is to identify road safety problems and to suggest measures to eliminate or mitigate any concerns. Road Safety Audits are undertaken by teams of specialists trained in the skills of accident investigation or road safety engineering. The purpose of the evaluation was to determine whether the objectives of the process have been achieved and to make an assessment of the quantifiable benefits which flow from the audit process. This paper reports on the findings of the Ankleshwar-Burhanpur State Highway-04. The research showcases the problems arising on SH-04 and Public is facing lives Risk by travelling through it.

KEYWORDS: SH-04, Roads, Repairs, Injury etc.

I. INTRODUCTION

The Ankleshwar-Burhanpur State Highway-04 is a highway which connects three states viz. Gujarat-Maharashtra-Madhya Pradesh (Total=378 Km). The State Highway is busiest highway of mainly Goods Traffic Heavily loaded Trucks travelling daily on it. This Highway is used by mainly heavily loaded Trucks to save Toll duties on Toll Plazas as this highway is Toll free Road. Due to this, the Bituminous Pavement Surface is deteriorated completely due to heavy wheel loads. This Pavement is not design to carry the loads of heavily loaded container Trucks which results bad roads for the local people living nearby and using it daily for their Bread and Butter. The share of NH and SH in the total road network is just 6 percent but these cater to 70 to 75% of total road traffic in India. However, the NH'S, which constitute less than 2% of the total road network, account for 20% of total road accidents and 25% of total road traffic fatalities occurring on Indian roads. The road safety situation in India is worsening. Accidents, fatalities and casualties have been increasing dramatically over last 20 years.

Road Safety Audit is required to show the risky dead spots occurred on this highway and remedial measures are required to minimise the risk. It has been proven internationally that the completion of Road Safety Audits on highway projects reduces the number of injury crashes therefore reducing social and economic costs. The completion of Road Safety Audits therefore has big benefits and yet their completion is low cost. The objective of the RSA is as follows:

1. The identification of potential safety hazards on new road projects, at the appropriate stage, so that they can be eliminated or otherwise treated to mitigate their adverse effects, at minimum cost.
2. The identification of hazardous features of an existing road so that they can be eliminated or otherwise treated before they become accident prone locations.
3. To ensure that the safety requirements of all road users are explicitly considered in the planning, design, construction and operation of road projects.
4. To reduce the overall through life costs of a road project to the community.

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II. RELATED WORK

The Researchers like (YuhaHuvarinen, 2016), (N. Naveen, 2017), (Hitesh kumar, 2017), (OmkarGholap, 2018), (Arun S Bagi, 2012), (Manish D. Katiyari, 2014), have studied different types of roads and assessed the road safety management and schemes for reducing Accidents. Generally, Road safety Audit improves the understanding of the safety performance of roads. But there is a lack of data like Pothole data collection of roads. Road traffic accidents increases due to potholes on the road causes the traumatic spinal injuries, bones injuries, etc. After studying various review papers we have found that the main aim of road safety audit is to assure promote the safety to all road users.

III. SITE SELECTION AND DATA COLLECTION

Road safety audit was conducted from place Ankleshwar (Guj.) to Burhanpur (MP) where the road conditions are known and safety measures to be reported.

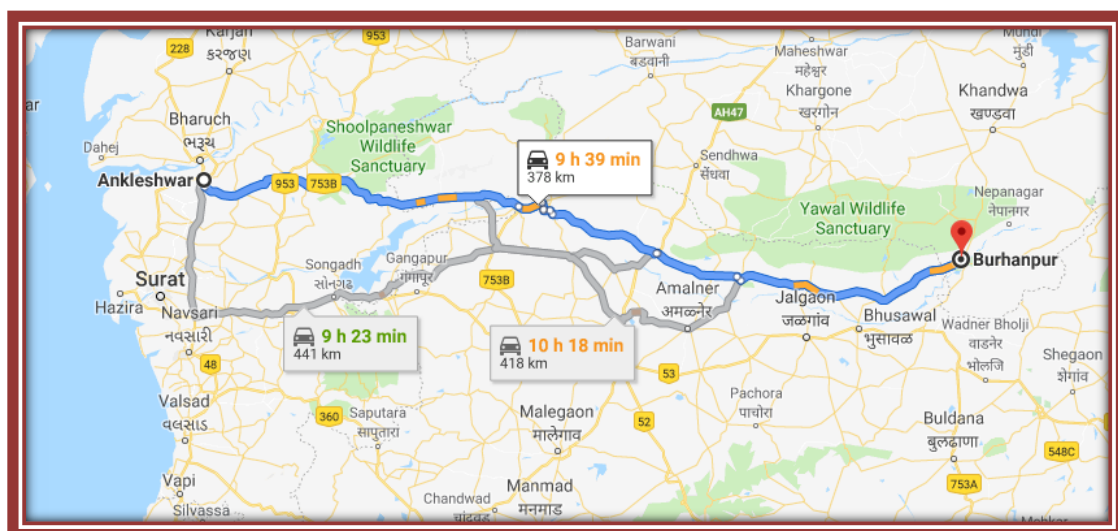


Fig.1: Road Map of Ankleshwar-Burhanpur SH-04 (Ref. Google maps)

IV. METHODOLOGY

Road Safety Audits go through the following key phases:-

Stage 0 - Completion of high level concept design review

Stage 1 - Completion of preliminary design

Stage 2 - Completion of detailed design, usually before the tender documents have been submitted

Stage 3 - Completion of construction prior to opening to traffic if possible

Stage 4 - Accident monitoring (12 & 36 months after opening of a highway project)

For smaller projects the Stage-0, Road Safety Audit may not be completed and also Stage 1 & 2 may be combined. Upon completion of the Road Safety Audit report, the Designer of the scheme is required to provide their response to the report stating whether they agree, disagree, or recommend an alternative solution to the road safety recommendations raised.

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V. DATA COLLECTION

Identification of Blackspots:

The procedure for identification of hazardous locations is called as black or dead spots.



Fig. 2: No Guard Railings Provided for Safety on Bridge near Akkalkuwa (M.S)



Fig. 3: Guard Railings Damaged on Bridge near Akkalkuwa (M.S)

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Potholes and Poor Road Condition:



Fig. 4: Potholes & Poor Road Condition near Torkheda Village. Tal. Shahada (M.S)

This Poor Road Condition is responsible for Accidents and lives Risks to the users using daily. The Whole Stretch of 378 Km is damaged and Concern PWDs are not paying attention on the Problems arising daily using this road. The Carelessness of Govt. is leading life threat to the people travelling through it. The Journey has increased due to this damaged road and Transportation System is delayed due to that.

VI. CONCLUSION

The Following conclusions are drawn & it should be repaired:

1. The Road Condition has become worst due to which large Potholes are developed resulting the major effects on the human health likeback pain, etc. No. of accidents are increasing day byday.
2. Guardrails are deficient or not in appropriate positions.
3. Shoulders are insufficient, narrow and are not paved at most locations.
4. Design parameters are not followed correctly. Pavement Design for the load carrying design volume and traffic characteristic are not suitable.
5. Speed-Breakers are inappropriately placed anywhere which disturbs the traffic and causes Accident prone condition. It should be given prime importance.
6. **Lastly, the conclusion other than RSA which should be taken into consideration for safety purpose is to impose strict rules and regulations for Drink & Drive Violators who are the main reason for Accidents during night time.**



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