



STRUCTURAL AND FUNCTIONAL EVALUATION OF STATE HIGHWAY

Mr. Arun V.

Assistant Professor ,
Dept. of Civil Engg., JNNCE, Shimoga.
E-mail: arun.v@jnnce.ac.in

Mr. Anirudh N.

Faculty of Engineering and Technology,
M.S. Ramaiah University of Applied Sciences,
Bengaluru.
E-mail: anirudh.n@jnnce.ac.in

Mr. B. Pavan Kumar Megalamani

Faculty of Engineering and Technology,
M.S. Ramaiah University of Applied Sciences,
Bengaluru.
E-mail: bpavankumar.m@gmail.com

Abstract

To make the pavement ready to serve the traffic safely, comfortably and efficiently at reasonable cost, there is need to maintain the pavements periodically. Here, the question arises of when and where the improvements are needed to extend to serve life of the pavement. This will be known only after conducting different types of pavement evaluation studies and suitable decisions can be taken. Pavements are subjected to environmental actions and repetitive type of loading due to traffic. These actions lead to the degradation of pavement and affect the pavement performance. The assessment of pavement performance is important not only for selecting pavement design parameters but also for choosing pavement maintenance and rehabilitation strategies.

In the present study, structural and functional evaluation was carried out for the selected road stretch. The pavement distress parameters such as rutting, cracking, ravelling and potholes were measured. The functional evaluation of the pavement were carried out by using visual inspection and MERLIN studies. The structural evaluation of the pavement was carried out by using Benkelman Beam deflection studies.

The pavement evaluation study for the selected stretch has indicated poor maintenance of roads, drains and shoulders. Hence, periodic maintenance has to be given due importance to enhance the life of the pavement.

Keywords: Pavement Evaluation, MERLIN, Benkelman Beam Deflection Studies, International Roughness Index (IRI) and Uneven Index (UI) .

Introduction

General

Pavement evaluation is a technique of assessing the condition of pavement, both structurally and from the point of view of surface characteristics. It is also known as pavement condition survey and rating of pavement. Evaluation is the means by which the quantity and quality of the work are measured and is the basis on which management can exercise control actions. Pavement evaluation provides information as outputs of a pavement to the planning group for assessing deficiencies on network basis and to the design group for a detailed project analysis. Taking into account the increase in road traffic due to rapid economic development and the pavement maintenance procedures adopted in the country,