PAVEMENT MAINTENANCE AND MANAGEMENT SYSTEM FOR LOW VOLUME ROADS

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ABSTRACT:

The general condition of the roads in India is poor. The costs borne by the road user for vehicle operation on account of poor road conditions are very high, past studies revealed that about 90% of the total transportation cost is attributed to the user cost, which is primary, depends on road condition. PMS is widely accepted as a modern day necessity by the agencies in charge of maintenance of roads. In the present work, nineteen Test Sections are identified to carry out the study. Data collection involved Road Inventory, Pavement Condition and Traffic Volume Surveys. With the data obtained detailed analysis has been conducted for doing prioritization, Index Ranking Method is employed. Pavements are ranked based on the composite index values obtained in the Index method. Also decision trees developed by the Oregon State University (2000) have been used to identify the type of maintenance measures based on the data collected from the field. For doing Prioritization and for determining Skid resistance, Unevenness Index, Pavement Serviceability Index of the Pavement sections a visual basic Programme has been used in the present study.

Key Words: Pavement management system, Present serviceability, Roughness, pavement condition.

1.0 INTRODUCTION

The share of the road transport, in the last four decades, has increased from 26% to 80% for passenger traffic and from 11% to 60% for goods traffic. The increase in vehicle population during the same period has been about 70 times. The pace of growth of road infrastructure has not been commensurate with the growth of traffic. The road length has increased from 4-lack km in 1951 to only about 33-lack km in 2001. Other District Roads and Villages roads Only 50 percent of habitations are provided with all-weather roads with the aim to connect all the habitations with 500 and above by the year 2007 with all-weather roads. Separate fund has been created by allocating 50 % of cess on diesel (Dedicated Fund) for rural roads in India.

It has been estimated that about 40% of Rural NH system and 60% of SH system is far from the satisfactory level. The highway profession is at the crossroads and there are challenges, threats and pressures from all directions. Efforts are currently underway in various parts of the country towards development of PMS for different categories of roads. A large volume of data collection is involved in development of PMS.The pavement performance data provides information on the present status of road network and serves many other benefits as follows.

1. Use of rational engineering and economic procedures in the Development of the maintenance rehabilitation.
2. Ability to forecast highway network conditions.
3. Ability to maximize the available funds.
4. Support decisions to the satisfaction of policy makers for budgetary grants.

1.1 PAVEMENT MANAGEMENT SYSTEMS (PMS) – AN OVERVIEW

Pavement management is concern with doing the right thing at right place, using the right type of material, with right thickness, with right design data and all for the lowest total cost.

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