

Abstract

The aim of this research is to develop a Pavement Condition Index (PCI) based on the ASTM method of the collected pavement distress data. The PCI is selected as the performance indicator ranging from 0 to 100, (0 being the worst condition and 100 representing the best pavement condition) being derived from distresses data. GIS mapping of the selected pavement surface is the primary goal of this project. The goal is also to develop a Excel Tool to use imported distress data and directly calculate the PCI for various test sections of the selected roads.

The focus is to develop PCI for the asphalt pavement sections. In this study PCI results are carried out in Excel Tool and pavement sections are rated on the basis of the calculated PCI value. ASTM method involves long calculation steps so we develop the excel sheet to save our time. This excel sheet will also help the users in future to develop the PCI value.

On the basis of calculated PCI value, GIS based maps are developed representing pavement conditions with different colours. In this way pavement condition is visible on map whether the pavement section is poor, fair, satisfactory. These maps helps in the strategy to be followed for pavement management.

The purpose of this study is also to relate the PCI value with the speed i.e. to observe effects of distresses on traffic speed and to obtain a relationship representing the effect of pavement condition on Speed of vehicles.