A Comprehensive Review of Flexible Pavement Failures, Improvement Methods and its Disadvantages

Abstract: Flexible pavement failure has been a major problem encountered in various countries. Some common distress which had been listed are cracking and rutting. The causes of this distress are due to moisture, weak sub-grades and poor construction quality. High amount of distress in the pavement however is likely to cause dis-comfort for the passengers, higher accident rate and heavy traffic. Study suggested that, flexible pavement failure can be reduce, through maintenance of the wearing course of the pavement, improving the base, sub-base layer or the sub-grade soil underneath of the pavement. However, high production or material cost, high construction cost, excessive settlement, or weak inter-molecular bonds in the flexible pavement are some of the common problem encountered with the current improvement techniques. This significance difference of this review paper compare to other is that, in this review paper it focuses on the flexible pavement failure, the different types of improvement method currently applied. Consequently, it further recommend flexible pavement improvement method through by reducing the sub-base layer thickness and inclusion of light weight material in the sub-base layer so that, the settlement of the pavement is reduced.