

## ABSTRACT

The research studies regarding permanent deformations in the flexible pavement have been done worldwide to investigate the key causes and their effects on pavement life. Rutting and fatigue are major types of permanent deformations observed in Pakistan prevailing and recently constructed roads. In this study, performance of in place sample of flexible pavements of the M-9 motorway highway were evaluated with help of advance asphaltic concrete laboratory investigations. M-9 motorway as a flexible pavement facing a lot of distress regarding premature plastic deformations such as rutting and fatigue distress.

Previous studies showed that distress occurs in flexible pavements due to many reasons, some of the chief causes were improper job mix formula, faulty design of pavement, overloading and weak subgrade soil conditions. To investigate the root causes of M-9 premature distress, place sample of were inspected against rutting and fatigue performance and compared with standard rutting depth. Rutting and fatigue were inspected as per standard specification EN-12697-22 & AASHTO T321-07 respectively. For evaluation of the rutting life of asphaltic pavement, single wheel tracker device was used. Fatigue potential was inspected with the help of (four-point beam bending) apparatus.