

CHAPTER-1

INTRODUCTION

General Remarks: The rapid industrialisation and all round development of India during the last twenty years have resulted in a considerable increase in the number of heavy commercial vehicles. Asphalt concrete surfacing with proper quality control is being increasingly used on important roads to meet the requirement of the increased traffic. This leads to the necessity of understanding the behaviour of the surfacing materials properly. Some of the important modes of failure in asphalt concrete surfacing with various distress manifestations and the distress mechanisms are shown in Table-1(1)*. It may be seen that pavement failure is caused by several factors including creep and repeated loads.

Pavement Under Creep Loading: Highway or runway pavements are subjected to creep loading at various points like bus stops, parking places, traffic intersections, ramps of the airfield, etc. The stiffness of a bituminous mixture, as defined by Van der Poel (2), is dependent upon temperature.

* Numerals in parentheses refer to the corresponding items in the list of Literature cited in Appendix.