

Analysis and Treatment Selection

Developing the pavement management system begins by reviewing an inventory and survey of all town roads and parking lots provided by a third-party consultant who specializes in pavement management. They capture surface distress, rut depth, roughness measurements, and other factors. The data is analyzed and each road is assigned a Cost Benefit Ratio (CBR) and Pavement Condition Index (PCI) rating from 0-100, with 100 being the best. As ratings are recorded by smaller sections of road, the overall PCI for the road is a weighted average for the entire length. The PCI ratings are categorized into repair “bandings” and provide the unbiased scientific information used to set our paving program (Figure 1).

As pavement conditions are ever changing, this data is updated every 3-4 years. Data was traditionally performed by individuals using the Federal Highway Administrations (FHWA) Pavement Distress Manual as its guide. In recent years, technology has been developed to take the “human” element out of the process and is now performed by video and other scanning technologies. A secondary benefit of this technology is that photos are taken of the pavement every 10’ to be used as analysis. These photos also provide the town images to protect against claims.

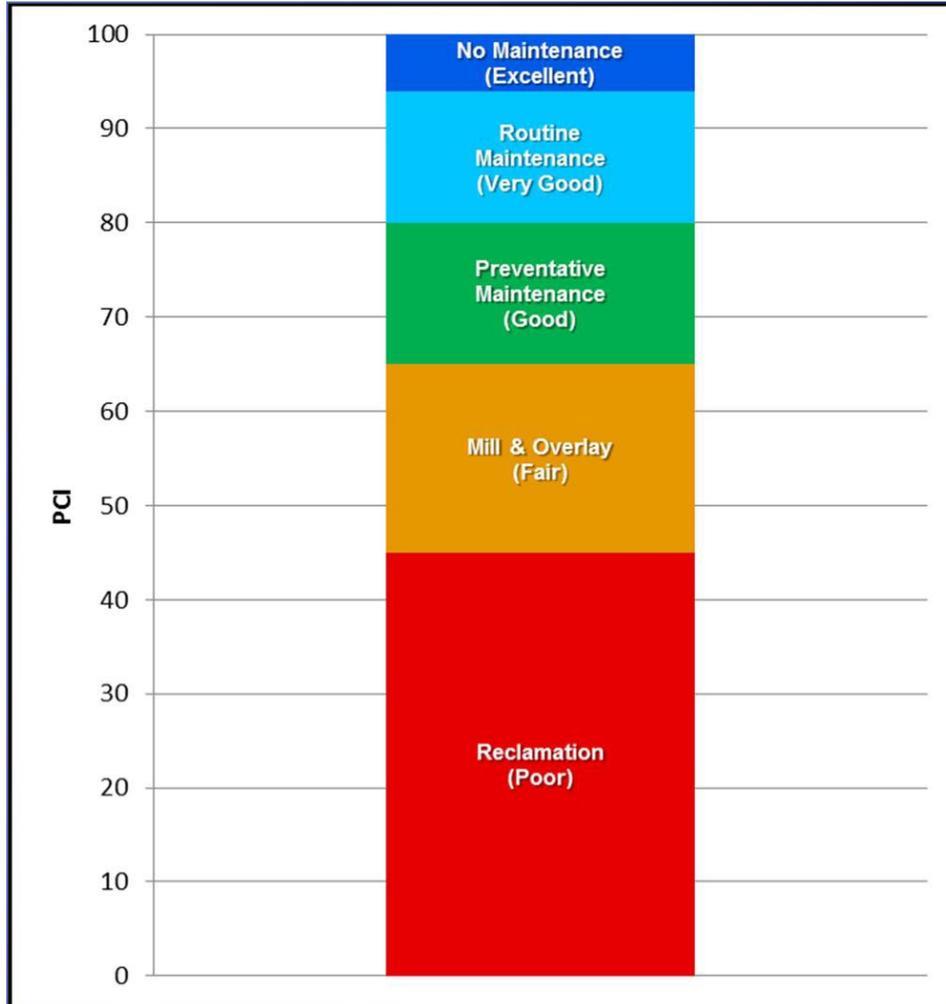


Figure 1

Asphalt pavement starts to deteriorate as soon as it is placed. To combat this deterioration two major groups of pavement repair techniques, pavement preservation (PP) and pavement rehabilitation (PR), are used. Pavement preservation is a nonstructural application that slows down the deterioration process using low cost treatments such as crack sealing, micro surfacing, and bonded wearing courses. Pavement rehabilitation is a structural application that uses more costly methods such as hot or cold in-place recycling, mill and pave, or full depth reclamation to repair the pavement, which “resets” the deterioration process.

Pavement tends to deteriorate very slowly at first, typically within the first 10 years, and then very rapidly as shown in Figure 2. Studies show that spending \$1 on pavement preservation before that point eliminates or delays spending \$6 to \$10 dollars on future rehabilitation or reconstruction costs. Pragmatically, pavement preservation (PP) can mean maintenance of a pavement even when there is nothing apparently wrong with it. Successful pavement preservation requires that pavement be in good condition to begin. With good pavement, water can be kept out of the pavement, prevent oxidation of the asphalt, and maintain good skid resistance.

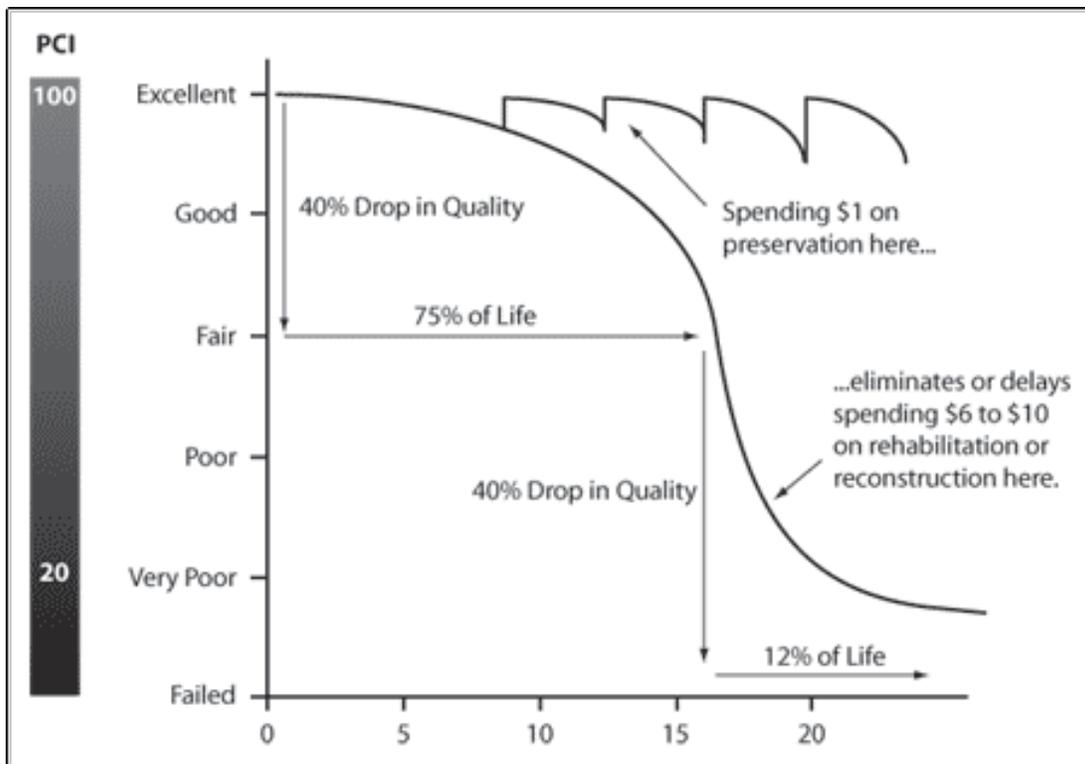


Figure 2