

Seal coat is the most commonly used asphalt pavement type due to its low initial construction cost and ease of application in countries such as Turkey, Australia, South Africa and New Zealand. Seal coat deterioration occurs over time because of the effect of various factors such as weather, traffic, etc. The determination and assessment of deterioration is an important components of pavement management systems (PMS). This article presents, digital image processing (DIP) techniques as effective and reliable measurement techniques for the determination of bleeding deterioration in seal coats. The developed technique was applied to a total of 140 images, taken from four survey sites in four different Highway Districts. These images were obtained with an image acquisition device that was developed to take images for this study. Each image was classified in one of two categories, namely, bleeding or satisfactory. One hundred seal coat images were classified as bleeding surfaces and the others were satisfactory surfaces. The edge detection algorithm was developed using the image processing toolbox of Matlab software. Aggregate edge patterns of bleeding or satisfactory seal coat surfaces differ significantly. Therefore, in this study was examined the edges of aggregate particles using seal coat images. The results show that bleeding deterioration on seal coat was determined accurately using the developed algorithm in the scope of study. The results also indicate that this system is a promising tool in seal coat surface condition evaluation, potentially aiding pavement engineers in prioritizing seal coat projects in a quantitative rather than qualitative manner.