

A HOLISTIC CONCEPT TO ASSESS PAVEMENT DISTRESS

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ABSTRACT

Pavement distress identification is conditioned by specifications or directives defining the equitable and objective implementation of the recording process such as the Distress Identification Manual of the Federal Highway Administration. To this effect, there exist, nowadays, several methods to assess type, extend and severity of pavement distress. Nevertheless, the issue of the quintessence and the effectiveness of distress identification needs further and thorough examination. Is the current practice adequate to lead to the optimum choice of distress repair or rehabilitation? What additional information is absolutely required? Provided that the standardized data collection process does not provide the evaluation of distress cause, the current practice is hardly suitable to prescribe the method of rehabilitation. Classifying the causes of distress either as inherent or as external, there are multiple cases of pavements undergoing the same constraint and exhibiting different damage. On the other hand, completely different deterioration processes may lead to similar pavement distress, such as wheel rutting. Is there a reliable explanation for this phenomenon? This paper presents, analyses and explains why of major importance - for the most suitable choice of repair method - is not only the investigation of distress types via detailed collection of road data but furthermore, the mechanism and the evolution of pavement deterioration quite different in every case.

KEY WORDS: Pavement, distress, deterioration, identification, maintenance.