

A SENSITIVITY ANALYSIS ON THE EFFECT OF DIFFERENT PAVEMENT MATERIALS AND CONSTRUCTION PARAMETERS ON CONTRACTOR PAYMENT SCHEDULE

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Abstract

The primary difference between performance-related specifications (PRS) and other specifications is the payment schedule. The PRS include a payment schedule that is related to the anticipated performance of the pavement. But, in order for performance-related specifications to be adopted and successfully implemented, the models that predict pavement performance must be well understood and must provide reasonable results. An excellent methodology for measuring and evaluating the effects of independent parameters upon their associated response variables is a sensitivity analysis. The objective of this study is to evaluate the effects of materials and construction parameters (independent variables) upon pavement performance as well as payment schedule (dependent variables). This process involved selecting ranges of values for independent variables, then using the models to determine the values of the dependent (response) variables. The results of this sensitivity analysis, are carried out from a computer program that was developed specially for this reason and was designed to obtain the payment schedule of performance-related specifications. This program has the flexibility to choose between different models to predict pavement performance or uses a user-defined option to utilize the users values. Another sensitivity analysis was made in this study to evaluate the effect of using different models that used in predicting fundamental mixture response variable (FMRV) on the pavement performance and payment schedules results