

عنوان مقاله:

Correlation between Deflection and Unevenness Index for Evaluation of Flexible Pavements

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نویسنده:

Shabana Thabassum - Associate Professor, Department of Civil Engineering, St. Martin's Engineering College, JNTU, Hyderabad, India

خلاصه مقاله:

Evaluating existing flexible pavement condition is a pre-requisite to choose improvement technique that has to be adopted to enhance its quality. To evaluate existing pavements, non-destructive testing methods are desirable. Benkelman Beam and 5th Wheel Bump Integrator are used to conduct non-destructive tests like deflection and roughness surveys on the existing pavement of 4 lane divided carriageway of Nandigama – Ibrahimpatnam section of NH-9 in the state of Andhra Pradesh (India). In this paper, an attempt has been made to develop and validate linear and logarithmic models between deflection and unevenness index for pavement under study and the correlation between these two parameters. The section selected for model validation is Naidupet – Sullurpet section of NH-5 in the state of Andhra Pradesh. It is found that validated unevenness index (UI) values from the model are 90% similar with the UI values obtained from roughness survey at second location. Conducting deflection and roughness surveys cost around 2,00,000 per Km and is time consuming. The objective of the study is to develop a relation between deflection and unevenness index, such that, if one parameter is known, the second parameter can be calculated and hence, the survey time and cost can be minimized.

کلمات کلیدی:

Flexible pavement, Benkelman Beam, 5th wheel bump integrator, unevenness index, correlation, roughness survey

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