Mechanistic Empirical Method of Pavement Design

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The objective of this research is to analyze the reason for the failure of A15 Trinco-Batticaloa rehabilitated road with the help of mechanistic tool, KENLAYER.

With the appearance of pot holes and cracks the attention was moved to this road section. Empirical methods failed to identify the reason behind this failure and therefore mechanistic tools such as KENLAYER became more useful of analyzing it.

Mechanistic approach to pavement design seeks to explain phenomena only by reference to physical causes. Thus it uses stresses, strains and deflections within a pavement structure to analyze the loads and material properties of the pavement. It is planned to obtain different deflections, stresses and strains for different axle loads and different sub grade and sub base CBR values.

For the analysis two type of data is required. These are CBR data obtained from the soil and the traffic data of the road section along with the material it carries. Axle load survey would be a better option but due to its expensiveness traffic load survey was selected. CBR data would be collected through DCP tests carried on site and laboratory CBR tests.

This study would prevent future failures of road pavements like this and would be a great use for future highway design Engineers. Through this study, the use of KENLAYER software would improve among highway Engineers in Sri Lanka and this would be a great advancement in the highway industry of the country.

Keywords:

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