**Investigation of Reflective Cracking Mitigation Techniques**

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In the state of Florida, an asphalt rubber membrane interlayer (ARMI) has been commonly used as a reflective cracking (RC) mitigation method, but inconsistent performance of an ARMI has been observed in the field. Moreover, the Heavy Vehicle Simulator (HVS) study illustrated that an ARMI contributes to instability rutting. Therefore, finding alternatives to mitigate RC, considering Florida’s climate and rehabilitation practices was inevitable. Considering Florida’s road conditions, the focus of this research was placed on the evaluation of RC mitigation methods for asphalt concrete (AC) overlays over flexible pavements. Two primary objectives of this research are: (1) to identify structurally suitable RC mitigation methods and (2) to determine top RC mitigation methods regarding cost, performance, and other design variables (e.g., recyclability, design and construction familiarity, proprietary product). The research methodology has included an extensive literature review, survey, personal interviews, numerical simulation (finite element analysis), life cycle cost analysis (LCCA), and multi-criteria decision making (MCDM) analysis. This research methodology was aimed at: (1) understanding the current practices of RC mitigation management across the nation; (2) finding the exact mechanism based on stress/strain analyses; (3) evaluating performance of existing RC mitigation methods; and (4) identifying the most “cost-performance” effective RC mitigation method. Based on the analyses, it is concluded that increasing the thickness of mill and inlay/overlay, followed by fabric, is the most effective method.