This topic is "practice ready." ☒ **Yes** ☐ **No**

Evaluation of Lower Quality Recycled PCCP for Portland Cement Treated Base

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Abstract

Recycled concrete aggregate (RCA) is obtained from recycling Portland cement concrete Pavements (PCCP). Use of RCA as coarse or fine aggregates on large concrete paving projects or projects where virgin quality aggregates are hard to find results in economic benefits. Nevertheless, higher water demand of fine aggregates incorporated from RCA results in lower quality concrete for a certain slump. Several highway agencies have accepted RCA application by conventional aggregate specifications. However, the suitability of lower quality recycled PCCP aggregates like those from the pavements with "D" cracking is questionable. There has been no work to evaluate the effect of RCA from D-cracked pavements and there are different opinions regarding use of those materials for new concrete pavements. In this study Portland cement treated base (PCTB) mix designs, incorporating RCA from D-cracked pavements will be developed based on the requirements of the Kansas Department of Transportation (KDOT). The suitability of these materials for PCTB will be investigated through a battery of tests including standard compression test, freeze-thaw durability, and vacuum saturation tests. Results will be used to set guidelines for use of these materials in concrete pavements.

Keywords: RCA—D-Cracked concrete pavements—PCTB

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