Reducing Joint Spacing for HIGH PERFORMANCE CONCRETE PAVEMENT

INDOT initiated a study to assess the impact of joint spacing on premature concrete pavement deterioration. The results of the study recommended reducing joint spacing from 18 feet to 15 feet to increase the performance of jointed plain concrete pavement in Indiana. The recommendations have been implemented with a **3-YEAR $2,482,000 PROJECTED SAVINGS**.

IMPROVED
LIFE EXPECTANCY OF CONCRETE PAVEMENT

$1.28 M COST SAVINGS IN 2011

Implementation included in
Chapter 52 of the INDOT Design Manual,
"Pavement and Underdrain Design Elements," 2009

INDIANA DEPARTMENT OF TRANSPORTATION

PURDUE UNIVERSITY

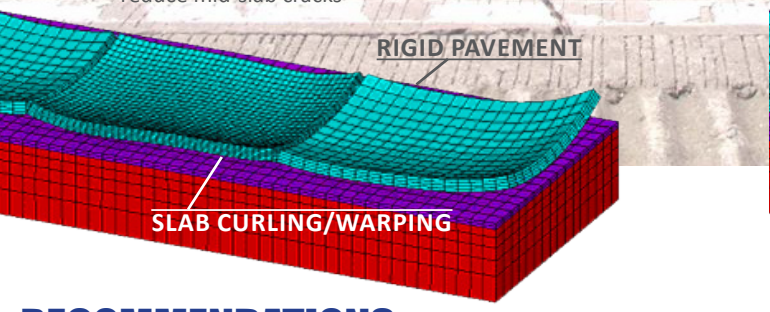
JTRP

CHALLENGES

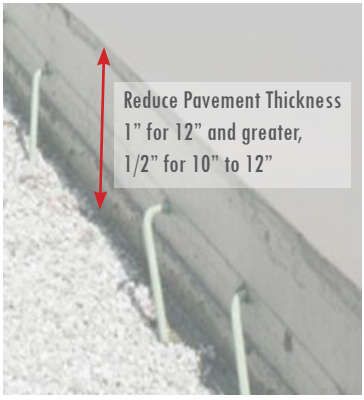
Slab curling and warping impact performance

Conventional pavement design requires **thicker pavement** to reduce mid-slab cracks

Premature mid-slab cracks *before opening to traffic*



RECOMMENDATIONS



IMPLEMENTATION

Modification of the pavement dimensions (L x W x H) to minimize curling stresses

Shorter joint spacing to minimize pavement curling

For more information, download
SPR-2642: High Performance Concrete Pavement in Indiana, 2011

JTRP-002.1