



Driving Indiana's Economic Growth

# Brief Overview Of MEDPG Sensitivity In Indiana HMA Pavements

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# Objectives

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- To assess impact and sensitivity of various design input on pavement response and distress
- To develop and optimize calibration, sensitivity study is necessary.

•Outline here



# Inputs and Variations

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- Constant (typical Indiana inputs): traffic, climate, and unbound layers
- HMA layer thickness: 1-4-8, 1.5-3.5-8, 2-4-7, 2-4-8
- Air voids: 3.5%-10%
- Asphalt binder: AC-20, AC-20G\*, PG 64-22, PG 76-28



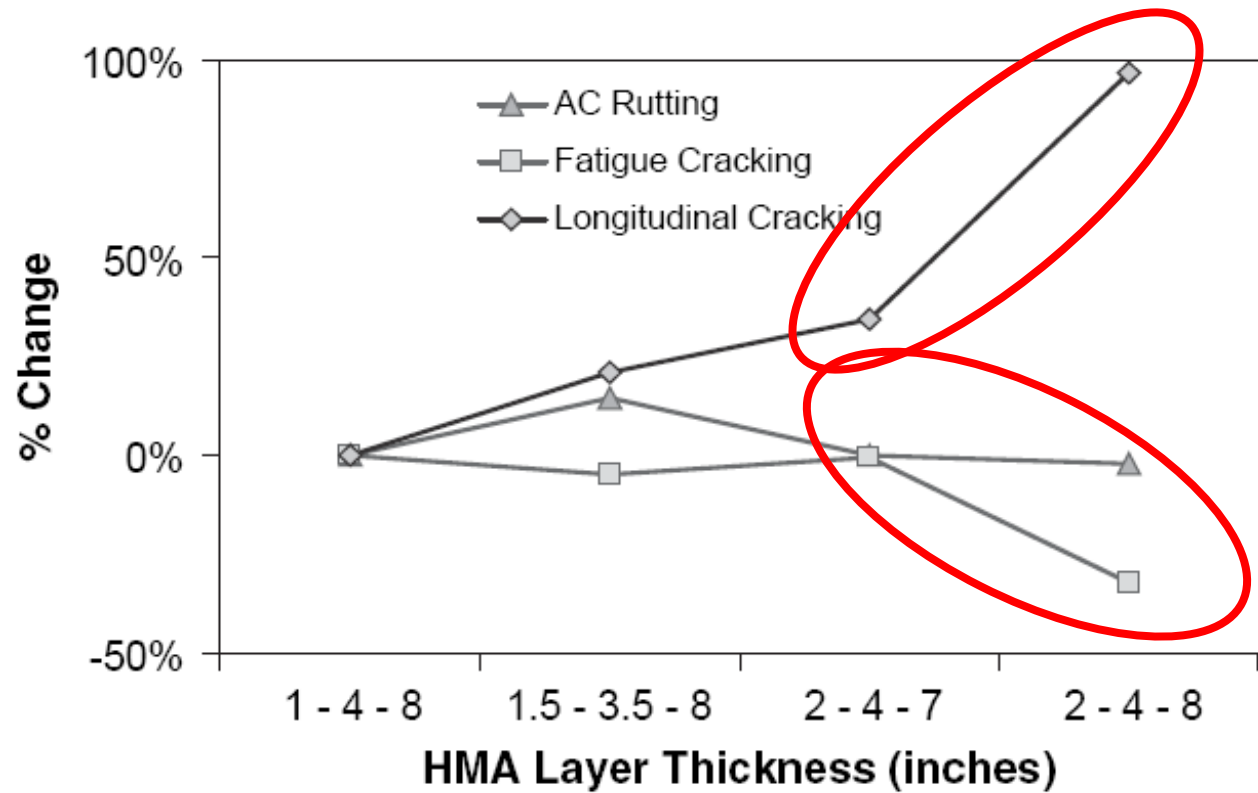
# Distresses

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- AC Rutting
- Fatigue Cracking
- Longitudinal Cracking
- Thermal Cracking

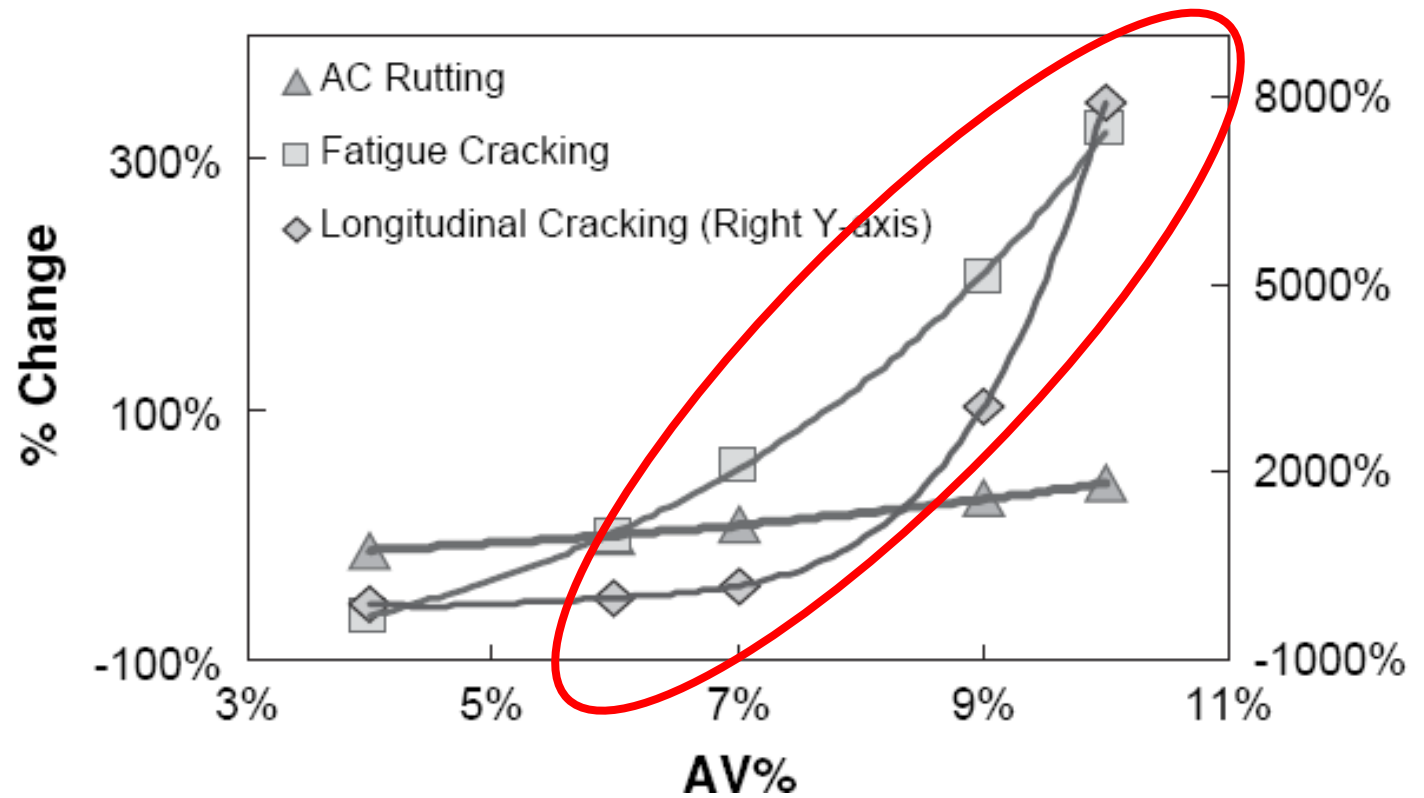


# HMA Layer Thickness



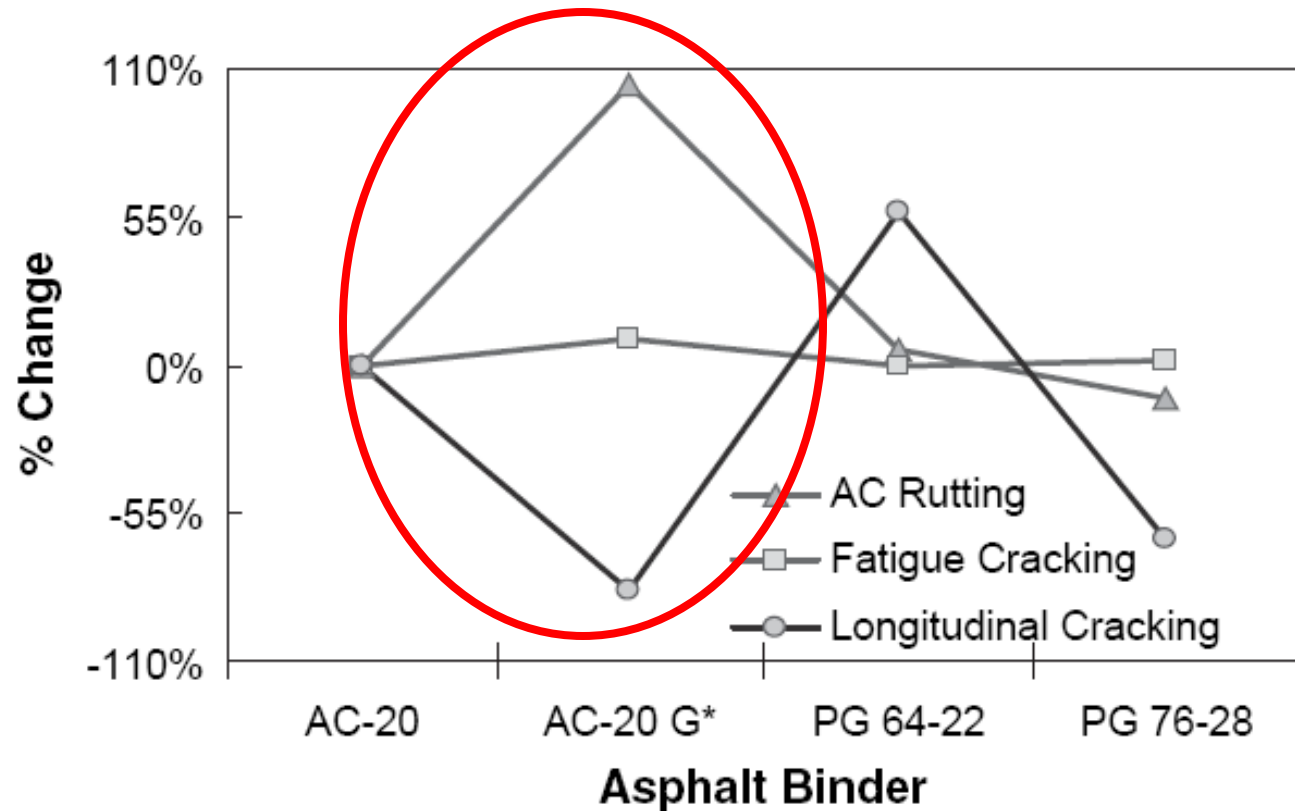


# Air Voids



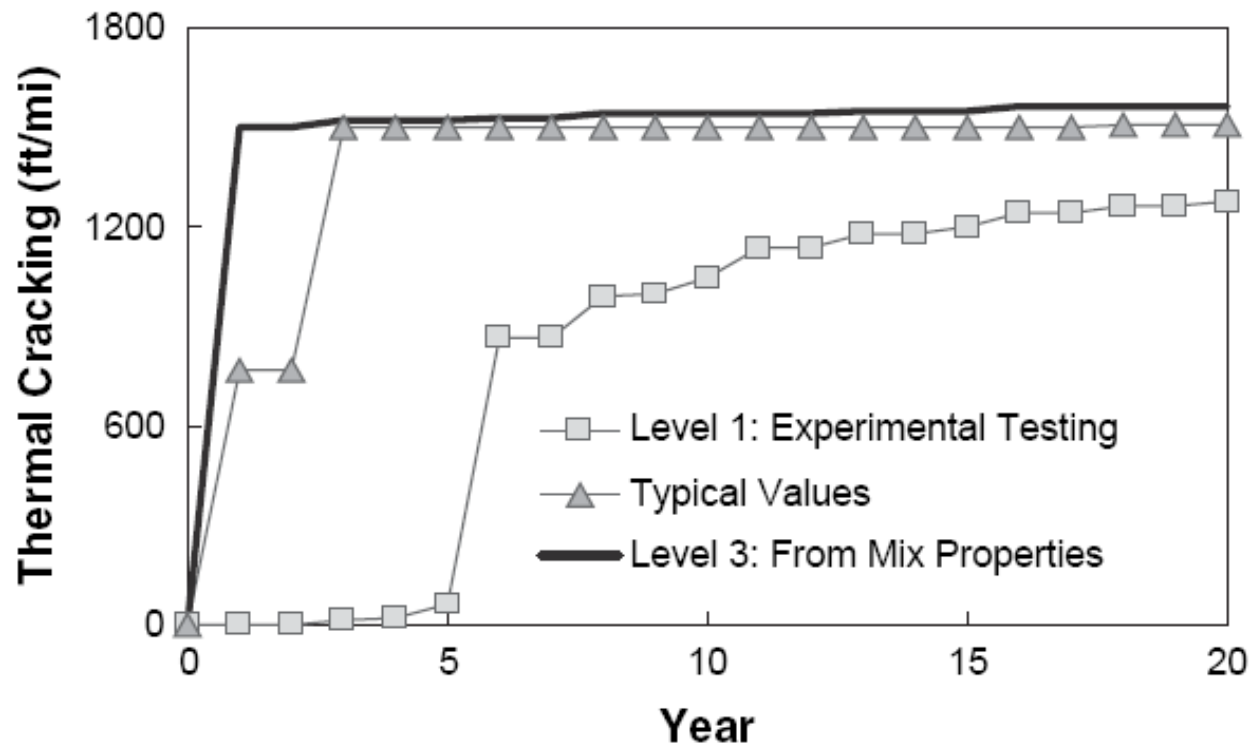


# Asphalt Binder





# Thermal Cracking







# Indiana HMA MEPDG Initiative

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- Generate a database for dynamic modulus, creep compliance, and IDT strength of common HMA mixtures.
- Redesign existing LTPP and other test sections using the M-E design guide, and compare predicted performance to the measured. Determine distress model calibration factors if necessary.
- Validate calibrated models using INDOT accelerated pavement testing and the future Indiana mini-LTPP sections.