

# HMAAT

**Hot Mix  
Asphalt  
Technology**

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## Research Breakthroughs

**NCAT Retests Asphalt's Strength**

**Alabama Achieves Same  
Performance with Thinner Pavements**

**How A Porous Friction  
Course Improves Runoff Water**

## World of Asphalt Made Easy



# How Alabama



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A field-tested refinement of the asphalt layer coefficient allows Alabama DOT to achieve the same structural requirements with thinner pavements.

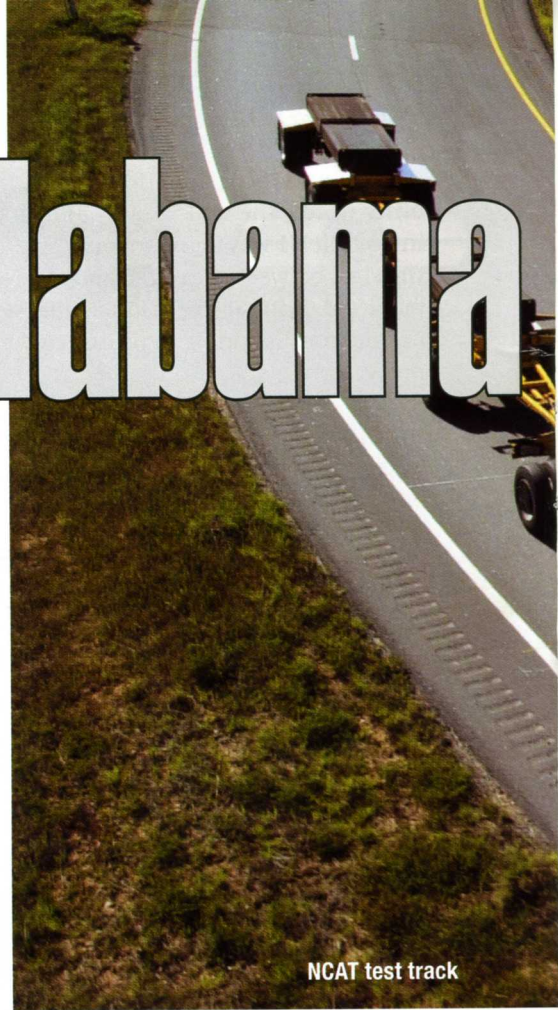
By Tom Kuennen

Former Alabama DOT asphalt layer structural coefficient of 0.44 was based on AASHO Road Test held from 1958-1960 at Ottawa, Ill.

New research refining or “recalibrating” the structural coefficient of asphalt layers is letting the Alabama Department of Transportation decrease its hot-mix asphalt pavement thicknesses by nearly 19 percent.

The new data enable the DOT to meet structural requirements with thinner asphalt pavements, allowing more square yards of asphalt pavement to be placed within the same budget beginning in 2010.

The new research from the National Center for Asphalt Technology (NCAT) at Auburn University in Alabama, *Recalibration of the Asphalt Layer Coefficient*, by Kendra Peters-Davis and Dr. David H. Timm, P.E., was published in August and establishes that in the age of Superpave and other advanced pavement designs, today’s asphalt layers are stronger structurally than layers used during



NCAT test track

the AASHO Road Tests of 1958-1960.

One of the main parameters in an asphalt pavement design system is the asphalt layer structural coefficient. The structural coefficient is an index that expresses the structural contribution of the asphalt layer(s) relative to all the other layers.

Based on research from the 1956 AASHO Road Tests, the existing asphalt layer structural layer coefficient value used by Alabama and many other states has been 0.44. The new research incorporates actual performance of modern materials and designs at the NCAT Test Track at Auburn University, and has resulted in a new structural layer coefficient value of 0.54.

From a practical standpoint, this permits a thinning of a pavement by about 18.5 percent while still getting the same load-bearing performance as before. Beginning next year, the resulting savings will

