

**National Center for Asphalt Technology
Research in Progress
December 2010**

SPONSOR	TITLE	PRINCIPAL INVESTIGATOR	FUNDING	TARGET DATE	OBJECTIVE
Multiple sponsors	Construction and Performance of High RAP Content Mixes at the Test Track	Randy West Nam Tran	\$ 250,000	Sep 2012 Extended	Document the construction and performance of two 20% RAP sections and four 45% RAP sections to determine what grade of virgin binder is needed for high RAP mixes
FHWA	RAP ETG Support (AU 7-A-1)	Randy West	\$ 219,175	Oct 2010 completed	Coordinate and provide summary reports of RAP ETG meetings
TRB	Improved Mix Design, Evaluation, and Materials Management Practices for HMA with High RAP (NCHRP 9-46)	Randy West Richard Willis	\$ 400,000	Dec 2010 Extended	Develop a mix design and analysis procedure for HMA containing high-RAP contents that provide satisfactory performance, and (2) propose changes to existing specifications
TRB	Properties and Performance of Warm Mix Asphalt Technologies (NCHRP 09-47A)	Randy West	\$1,108,300	Oct 2011	Evaluate techniques for characterizing RAP and RAS mixes without the use of solvents, evaluate the performance of WMA and emissions benefits, and monitor performance
Shell	Evaluation of Thiopave in Georgia	Randy West	\$ 86,500	Aug 2010	Document the construction and evaluate the material properties of a WMA demonstration using Thiopave.
Iterchimica	Evaluation of Hypertherm Plant Produced Mix	Randy West	\$ 18,700	Mar 2010	Evaluate the material properties of a WMA using Hypertherm.
FHWA	Performance Testing of Warm Mix Asphalt From Field Trials (AU 7-A-2)	Randy West	\$ 530,000	Oct 2010	Support large field projects and test material from projects
Iowa DOT	Investigation of Warm-Mix Asphalt Using Iowa Aggregate	Randy West	\$ 30,000	June 2010	Subcontract with Iowa State University. Evaluate the feasibility of using WMA technologies in Iowa
Multiple sponsors	Accelerated Performance Testing on the 2009 NCAT Pavement Test Track	R. Buzz Powell	\$9,501,000	Feb 2012	Meeting sponsor research needs to identify pavement structures and materials with superior field performance and lower life cycle costs; and provide information for the calibration and validation of the MEPDG
AL DOT	Development of a Ride Quality Smoothness Specification and Technology Evaluation Program at the NCAT Pavement Test Track	R. Buzz Powell	\$349,821	May 2011	Provide ALDOT with a methodology to transition from the current profile index specification framework to a ride-based system that incorporates proven measurement technologies.
sponsors	National Warm Mix Asphalt Certification	R Buzz Powell	\$ 200,000	Jun 2011	Evaluate and document the design, construction, and performance of a WMA test track sections for acceptable use in asphalt mixes.

Pooled fund	Refinement and Validation of Mix Design Criteria for 4.75 mm Superpave Mixtures (AL DOT 930-615P)	Randy West Michael Heitzman	\$ 240,000	July 2009 In final review	Refine the mix design criteria (Phase I) and multiple field validation projects to assess the value of the constructibility of the mixtures.
FHWA	Refining A Laboratory Procedure To Characterize Change In Hot Mix Asphalt Surface Friction (AU 4-C-3)	Michael Heitzman	\$ 194,000	Oct 2010 Preparing report	Establish a correlation between laboratory TWPD conditioned surface friction and the actual change in field traffic friction.
FHWA	Development of a HMA Plant Production Process Control System (AU 8-D-3)	Michael Heitzman	\$ 465,548	Oct 2010 Preparing report	Develop a production control program using measurement technologies and control software.
SHRP 2	NDT to Identify Delaminations between HMA Layers (SHRP R06(D))	Michael Heitzman	\$ 800,000	Aug 2011	To identify and develop rapid NDT techniques to identify and determine the extent and depth of delamination in HMA pavements
Mississippi DOT	Development of Climate Input Files for MEPDG	Michael Heitzman	\$ 46,900	Dec 2010 extended	Coordinate and validate research by ISU for building historical and future virtual climate files
Cargill	Evaluation of Cargill SafeLane Overlay – Phase II Test Track Performance Evaluation	Michael Heitzman	\$TestTrack	Feb 2012	Examine the long-term friction characteristics of mix designs
TRB	NCHRP 1-46 Development of a Pavement Manual	Michael Heitzman	\$ 10,000	Dec 2011	Subcontract to Applied Pavement Technologies – consultant on the asphalt related content of the manual
MD DOT	Design and Evaluation of Foamed Asphalt Base Material	Michael Heitzman	\$ 14,000	Feb 2011	Subcontract to U of Maryland – consultant on application of foamed asphalt for pavement rehab
FAA	AAPTP Webinars	Michael Heitzman	\$32,800	May 2011	Coordinate and manage webinars to present completed projects
Private Sponsor	DFT / CTM Field Measurements	Michael Heitzman	\$193,000	June 2011	Perform friction measurements at designated locations in the US
Shell	Evaluation of Mixture Performance and Structural Capacity of Pavement Utilizing Sulphur Extended Asphalt Modifier (SEAM) – Phase I	David Timm Nam Tran	\$ 280,000	Sep 2009 Preparing report	Evaluate the performance of a SEAM asphalt mixture and structural capacity of a pavement test section constructed with SEAM mix layers.
Alabama DOT	Pavement Condition Model Based On Automated Pavement Distress Surveys	David Timm	\$ 60,000	Sep 2010 extended	produce a tool for evaluating pavement condition based on the information retrieved from automated pavement distress surveys
Alabama DOT	Evaluation of Thermal Segregation	Don Watson	\$ 230,700	Dec 2012	investigate the causes of the temperature differential over the pavement surface during construction and the effects on physical properties of the asphalt mixture
Georgia DOT	Study of Anti-Strip Agents (GDOT Project 06-23)	Don Watson	\$ 198,000	Dec 2011 extended	Examine improvements in materials and technology in recent years and re-evaluate GDOT's position on use of hydrated lime
Alabama DOT	Refinement of Strength Procedure and Investigation of a Specification the Bond	Nam Tran	\$ 310,000	Jun 2010	Development of a preliminary specification and test procedure for bond strength

FHWA	Evaluation of Laboratory Performance-Related Tests for Hot Mix Asphalt (AU 7-A-3)	Nam Tran	\$ 411,500	Oct 2010	evaluate the potential application of performance-related tests and/or models for evaluating HMA permanent deformation, fatigue cracking, and low temperature cracking
TRB	Improved Test Methods for Specific Gravity and Absorption of Coarse and Fine Aggregate (NCHRP 4-35)	Randy West Nam Tran	\$ 350,000	Apr 2010	develop improved test methods for determining the specific gravity and absorption of coarse and fine aggregates
Shell	Moisture Susceptibility Experiment for Sulfur-Modified Warm Mix	Nam Tran	\$ 193,100	Dec 2011	Evaluate the moisture susceptibility of WMA mixtures using three antistripping additives and a polymer.
Pooled fund	Comparison of Asphalt Mixtures Utilizing Polymer and Ground Tire Rubber Modified Asphalt Binder	Nam Tran	\$ 34,300	Mar 2011	Four mix designs blended with the "wet" terminal-blend GTR modified binder and tested to determine resistance to moisture damage, rutting and cracking.
Private sponsor	Effect of GlasPave™ in RAP on Asphalt Mixture Performance	Nam Tran	\$ 31,700	Dec 2010 extended	evaluate the effect of GlasPave present in RAP on the RAP-blended asphalt mixture properties, including moisture susceptibility, stiffness, rutting, and cracking.
Old Castle	Development of Relationships between Laboratory Performance Test Results and Field Performance at the 2009 NCAT Test Track	Richard Willis	\$ 300,000	Aug 2012	Develop or refine relationships between field performance data and laboratory performance tests
Alabama DOT	Investigation of Recycled Asphalt Pavement and Recycled Shingle Pavement Characterization Procedure & Development of Specifications	Richard Willis	\$ 320,000	April 2010	Evaluating and identifying techniques for characterizing RAP and RAS mixes without the use of solvents
AL DOT	Field Control and Performance of Asphalt Mixtures Containing Greater Than 25 Percent Reclaimed Asphalt Pavement	Randy West Richard Willis	\$ 304,500	Jun 2014	Identify an alternative method and criteria for evaluating the stiffness of the effective binder from plant produced high RAP-WMA mixtures and monitor the field performance of selected high RAP-WMA mixtures
AL DOT	Evaluation of Alabama Department of Transportation's Quality Assurance Testing Program and Pay Assessment Schedules for Asphalt Mixtures	Richard Willis	\$ 57,500	Aug 2011	Review the tolerances for test comparisons and pay factor tables and conduct a statistical review of the contractor's test results in comparison to the State's
AL DOT	Evaluation of an Asphalt Rubber Mixture in Alabama	Richard Willis	\$ 112,800	Aug 2015	Monitor the field performance for five years and verify the field performance by laboratory performance tests.
FHWA	The Development of High Content Reclaimed Asphalt Pavement Mix Guidelines and Informational Documents (AU 7-A-4)	Richard Willis	\$ 500,000	Oct 2010	Support large field projects and test material from projects