UTC Project Information	
Project Title	MPC-496 – Prevention of Low Temperature Cracking of Pavement
University	University of Utah
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Funding Agencies	USDOT, Research and Innovation Technology Administration
Agency ID or Contract Number	DTRT13-G-UTC38
Project Cost	$67,500
Start and End Dates	September 30, 2013 to September 30, 2018
Project Duration	September 30, 2013 to September 30, 2018
Brief Description of Research Project	Cracking of asphalt pavements is the primary distress affecting highways in the Mountain Plains States. This results in increased maintenance costs and premature deterioration of the pavement structure. Just in the state of Utah, over $20 million dollars are spend in rehabilitation of the highways; controlling cracking in pavements can potentially extend the life of the highway by 3-5 years resulting in 20% reduction of maintenance for a savings of $4 million per year. The overall objectives for this project are as follows: 1. Verify actual test limits for modulus and m-value of asphalt mixtures to prevent premature failures based on field laydown conditions (cores) 2. Verify if the same limits apply to field mix laboratory compacted samples 3. Establish relation between field mix and laboratory samples, including the effect of RAP 4. Investigate the effect of aging on laboratory samples 5. Determine if the proposes limits for modulus and m-value can results in increased binder content. MPC funding will be used to develop a testing protocol to be submitted to the AASHTO Subcommittee of Materials (SOM) to be included as a provisional standard. At the conclusion of the project, a provisional AASHTO specification will be developed.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	It is recommended that the BBR modulus and m-value be used as parameters to evaluate low temperature properties of asphalt mixtures. Using these parameters, a true performance-based specification can be developed at the mix design stage. A proposed specification was drafted.
Impacts/Benefits of Implementation (actual, not anticipated)	Adoption of low temperature tests for asphalt mixtures will results in pavements that are less susceptible to thermal cracking, thus increasing the life of the pavement and reducing the maintenance needs.
Web Links • Reports • Project Website	• https://www.ugpti.org/resources/reports/details.php?id=973 • https://www.udot.utah.gov/main/uconowner.gf?n=38759512976096400