

# UTRC-REGION II NEWSWIRE

## UTRC Press Release

Friday, January 31, 2014

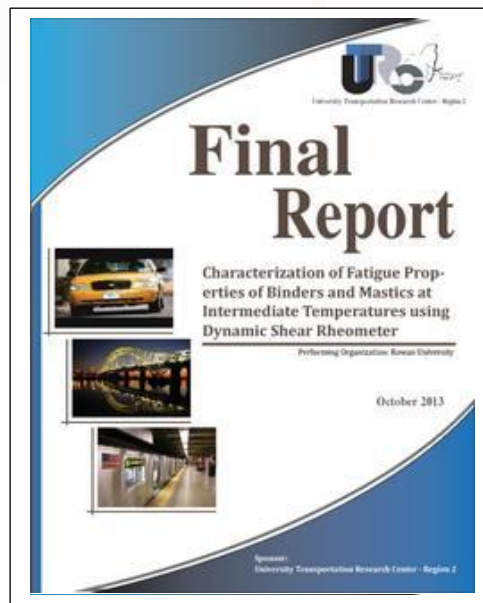
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### The University Transportation Research Center Publishes the Final Report for the Research Project Titled: "Characterization of Fatigue Properties of Binders and Mastics at Intermediate Temperatures using Dynamic Shear Rheometer"

UTRC has released a final report for the research titled: "**Characterization of Fatigue Properties of Binders and Mastics at Intermediate Temperatures using Dynamic Shear Rheometer**", funded by the Research and Innovative Technology Administration/USDOT (RITA). The principal investigator was **Dr. Yusuf Mehta**, an associate professor of Civil and Environmental Engineering at Rowan University.

The paper compares the fatigue life of neat and modified PAV-aged binders and mastics and determines the influence of dust on fatigue life using the Linear Amplitude Sweep (LAS) method. It will also compare these results with results from the DER and 50% Drop Methods as reported in previous research. The binders used were PG 58-28, PG 64-22, PG 70-22, PG 76-28 and PG 82- 22. The dust content for the mastic binder was 0%, 5%, and 15% dust to binder by mass. Using the fatigue life of the binder with 0% dust as a baseline, a range of temperature (based on the difference between high and low performance grade) of 86 may make the binder susceptible to fatigue however increasing the range to 92-104 may produce an increase in fatigue life for small amounts of dust (5%).

The full report is available for a free download at the UTRC website: <http://www.utrc2.org/publications/final-binder-fatigue>



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## About The University Transportation Research Center

The University Transportation Research Center (UTRC) is a USDOT Regional Transportation Center addressing surface transportation operations, management, design economics and planning. The Region 2 University Transportation Research Center is one of ten original National Centers, established in 1987, in recognition that transportation plays a key role in the nation's economy and in the quality of people's lives. Located at the City University of New York, the Center is a Consortium of 17 major Academic Institutions in New York, New Jersey, and Puerto Rico. Through the Grant supporting the Center, the mission incorporates research, education and the transfer of technology in the field of transportation. Academically based, the work of Faculty and Students – graduate and undergraduate provide a critical link in resolving our national and regional transportation problems while training the future and current professionals who address our transportation system and their customers on a daily basis. For more information, visit [www.utrc2.org](http://www.utrc2.org).