

**James E. Clyburn
University Transportation Center
Faculty Research Forum Series**

September 14, 2004 – 12:00pm to 1:00pm

Crawford-Zimmerman

TRAINING ROOM – 180

PRESENTERS

Professor Cynthia Davis, Math & Computer Science Dept.,
South Carolina State University

Dr. Vereda King, Economic Transportation and Logistics
Department, North Carolina A&T University

Ms. Wanda Moses, Math & Computer Science Dept.
South Carolina State University

RESEARCH TOPIC

**"Isolating and Managing the Urban Island Effects for Selected
Southeastern Cities"**

ABSTRACT

It has been known for some time that cities are generally warmer than the surrounding, more rural areas. Because of this relative warmth, a city may be referred to as an urban heat island. Journal and newspaper articles have highlighted the interaction between air quality, energy, toxic issues and transportation infrastructures. Heat islands are formed when pavement, buildings, transportation infrastructure and other structure necessary to accommodate growing populations replace vegetation. These surfaces absorb, rather than reflect, the sun's heat, causing surface temperatures and overall ambient temperatures rise. By implementing heat island reduction measures, we efficient and sustainable highway management as well as a reduction in the electricity demand and climate-altering emissions.

The specific objectives of this study are to: (1) analyze the highway infrastructure in selected urban southeastern states; (2) isolate the role of the highway infrastructure in the heat island effect; (3) create proactive solutions for these urban areas, which will lead to improved management for new and existing highways; and (4) use the findings of this study as the foundation for an interdisciplinary senior seminar course for related majors including transportation, economics, and engineering.

The Faculty Research Forum is an ongoing effort to increase SCSU's faculty involvement in basic and applied transportation research through the University transportation Center. These forums will be held every second Tuesday of the month through June 2005 in the UTC Training Room. For more information, contact Lamar Tisdale (Technology Transfer and Training Coordinator) at ext. 6-8863 or email ltisdale@scsu.edu