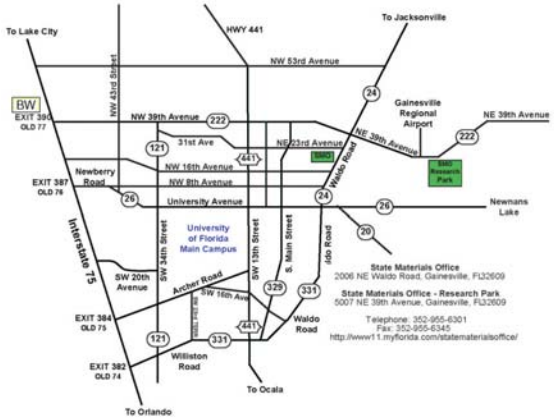
Venue

The workshop will be held at the State Materials Research Park in Gainesville, Florida.



Accommodations

A block of rooms has been reserved at the Best Western Gateway Grand Hotel. Reservations may be made by calling (352)-331-3336 or toll free (877)-464-2378. Please indicate that you are with the "Florida Department of Transportation Group" to obtain the reduced rate of $65.00 per night.

Accelerated Pavement Testing & Instrumentation Workshop

April 7 - 10, 2003
Gainesville, FL

Finding future solutions… today

State Materials Research Park
5007 NE 39th Avenue
Gainesville, FL 32609

Scope

The evaluation and validation of new/emerging pavement technologies and innovative concepts require assessing their in-service long-term performance. In-service assessment requires the consideration of the interaction between traffic loading, materials properties, and environmental effects. The primary disadvantage of such an evaluation approach is the extensive time period required to obtain potentially meaningful results. Additionally, it is often difficult, impractical, and/or expensive to obtain or account for all the data and information required from in-service experimental set ups.

The need for faster and more practical evaluation methods under closely simulated in-service conditions prompted the consideration of accelerated pavement testing (APT). APT is generally defined as a controlled application of a realistic wheel loading to a pavement system simulating long-term, in-service loading conditions. This allows the monitoring of a pavement system's performance and response to accumulation of damage within a much shorter time frame.

With several full scale and accelerated loading facilities being constructed, different sensors have become available to allow for such a monitoring. However, the reliability, accuracy, and cost of these instruments/sensors vary significantly. As instruments used in pavements have no standards, their performance must be identified and formulated to accurately evaluate the pavement performance. Hence, a transducer must be subjected to selected environment conditions similar to those in the field, but under controlled conditions and in a measurable way. In addition, several errors are usually inherent in pavement instrument-measured data. These include intrusive errors (due to the instrument embedment in pavement and disturbance to materials); combination error (due to the instrument response to input other than what it is designed for, such as bending of a strain gage); dynamic error (due to the calibration of some instruments under static loading and exposure to dynamic loading in the field); signal conditioning error (due to signal acquiring and conditioning); and repeatability. Therefore, there is a concern as to the reliability, accuracy, and survivability of instruments used in full scale and accelerated loading facilities.

This workshop is intended to provide a forum for:

- The exchange of technologies related to the testing and monitoring of APT test tracks;
- The sharing of findings and experiences including those related to the processing and interpretation of as-collected APT data as well as to the planning, management and successful combination of APT and laboratory testing to maximize the benefit of APT programs;
- Gain insight regarding trends in APT testing and instrumentation.

Agenda

Day 1:

8:00 - 8:30	Welcoming / Opening Remarks	T. Malerk
8:30 - 9:15	Introduction	J. Mahoney
Session 1	Role of APT in Research, Development and Implementation	H. Theyse
	Break	
Session 2	Behaviour of Different Pavement Materials and Appropriate Instrumentation for Capturing this Behaviour	H. Theyse
	Lunch	
Session 3	South African HVS Associated Instrumentation	N. Coetzee
	Break	
Session 4	Using 3-D Contact Stresses to Model Asphalt Concrete Rutting and Its Validation Using APT	F. Long
	General Discussions	

Day 2:

Session 1	South African M-E Pavement Design Method	H. Theyse
Session 2	Use of Depth Deflection Data to Develop Design Models for Stabilised Materials	F. Long
	Break	
Session 3	Use of Depth Deflection and Permanent Deformation Data to Investigate Subgrade Rutting	H. Theyse
Session 4	Density, Temperature And Moisture Content Measurement	F. Long
	Lunch	
Session 5	Use of Depth Deflection and Permanent Deformation Data to Investigate Resilient and Plastic Behaviour of Unbound Granular Materials	H. Theyse
	Break	
Session 6	Overview of Florida APT Program	B. Choubane
	General Discussions	

Day 3:

Session 1	Florida APT Findings	M. Tia
Session 2	Using APT Data to Verify Response Models	P. Ullidtz
	Break	
Session 3	Using APT Results to Develop Performance Relationships	P. Ullidtz
Session 4	Overview of HVS Development and Current Worldwide Efforts	N. Coetzee
	Lunch	
Session 5	Instrumentation on the NCAT Test Track	B. Powell
	Break	
Session 6	Instrumentation and Data Collection at the Louisiana Pavement Research Facility	B. King
	General Discussions	

Day 4: Closing Session