

## **NYSDOT Report on MEPDG Implementation:**

1. Summarize your state's status as far as MEPDG Implementation.

*Accomplishments to date:*

- A thorough review of the calibration work conducted in other states (OH, UT, MO, MI, NC, and TX) has been performed.
- An extensive database of material properties has been assembled. New data will be added once more soil, base and sub-base, asphalt concrete and Portland Cement Concrete samples are received.
- Traffic data has been analyzed for six consecutive years (2005 to 2010).
- Calibration of the MEPDG models for rutting, cracking and IRI was performed with data collected on 17 LTPP sections in the North East of the United States. The errors are smaller than if nationally calibrated models are used.
- Training materials have been prepared and presentations have been conducted on several regional offices.
- Data collected at the experimental sections have been analyzed and papers have been published and presentations have been conducted.

2. What efforts have been made toward local calibration?

. Local calibration - aims to develop calibration factors for the distress models (e.g. rutting, cracking, faulting, IRI), for new flexible and rigid pavements.

The traffic data that was collected by the classification and WIM stations in NYSDOT from 2005 to 2010 have been analyzed and converted in the input format required by the MEPDG software.

Flexible Pavements: To accomplish this objective, it is being performed the calibration using the data collected for the SPS1 and GPS1 sections of the LTPP program in the North East states. The assumption made here is that the pavement configuration, material, traffic and climatic conditions are similar for the states in the region and, therefore, the distress models should be the same.

So far, construction, materials, traffic and performance data has been assembled for 27 LTPP sites in North East states. The current efforts focus on assembling the climatic data for the period between 1988 and 1996; the data is available in the LTPP database only starting in 1996.

Performance data from the two experimental sections in I-86 will be collected; the data will also be used in the calibration of the distress models.

Rigid Pavements: accomplish this objective, it is being performed the calibration using new pavement sections in NY and OH. In NY I-490, I-86, I-90 and NY-9A were instrumented during construction with sensors that provide some of the input parameters for the MEPDG program, as well as provide information regarding the material properties. The new experimental pavement sections have been monitored between 2 and 11 years from the initial design phase through the construction process to provide additional input values for the MEPDG.

To consider the effects of climate, on-site weather stations and pavement temperature monitoring sensors were installed on the experimental sites to enhance the inputs for the MEPDG. The Enhanced Integrated Climatic Model (EICM) included as a part of the AASHTO Pavement Design Guide will be calibrated with this data. The EICM is capable of predicting temperature gradients in the pavement and moisture distributions within the subgrade utilizing locally available climatic information. Periodic distress surveys and NDT testing have been collected and will be used to monitor the performance of all experimental pavement sections over time. These data are essential for the calibration of ME pavement design procedure.

3. What additional information/support would assist your state with implementation?

None