

## Washington State DOT Report:

### State Report Questions on MEPDG Implementation

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

We haven't decided to move forward with the MEPDG (Darwin ME) for flexible pavements at this time for the following reasons:

- Most of our pavement designs are for overlays, not new pavement. Darwin ME does not have this capability.
- Limited resources to train and update Region Personnel.
- Additional materials characterization and calibration will be necessary.
- Based on historical performance WSDOT's pavement designs are lean, we will see very minimal change with layer depths by moving to the MEPDG.
- We are not confident that the models in MEPDG portray the type of cracking we see in Washington.

For rigid pavements:

- Longitudinal cracking is observed in WSDOT rigid pavements (especially in Western Washington on Interstate 5) but not modeled in the MEPDG. However, longitudinal cracking alone rarely triggers rehabilitation because (1) multiple cracks on the same panel are required to do so, and (2) it is rare to see multiple longitudinal cracks on the same panel without at least one transverse crack. Therefore, prediction of transverse cracking is likely more critical for design of slab.
- WSDOT allows studded tires from November to April which causes surface wear. A WSDOT test showed that PCC pavements with an IRI of 145-155 inches/mile in the wheelpath (where studded tire wear would have the greatest effect) only had IRIs of 80-100 inches/mile outside of the wheelpaths. This type of roughness is not modeled in MEPDG for rigid pavements, but can be estimated according to WSPMS historical data. Even so, since only slab cracking is used to define failure, this issue is not critical.

The major task of WSDOT pavement group is the maintenance and rehabilitation of the existing pavements, but not new pavement design.

2. What efforts have been made toward local calibration?  
WSDOT calibrated the rigid portion for version 0.6 and the flexible portion for version 1.0.
3. What additional information/support would assist your state with implementation?  
Top down cracking models for HMA and longitudinal models for PCC. Please see the answer to the first question.