Office of Asphalt Pavement

CalME Decision Document

Decision No.: CalME-V3-DD001

Date Prepared: March 3, 2020

Changes made in CalME:

Internal changes:

- New set of standard materials. These are the statewide average materials selected from the materials sampled over the past five years.
- Updated damage to cracking transfer function based on calibration using Caltrans pavement management system (PMS) data from 1978 to 2015.
- Updated approach to account for between project variability (i.e. the uncertainty from not knowing which material will be delivered by which contractor).
- Updated minimum aggregate base thickness required for constructability based on soil classification.

User interface changes:

- All materials now start with "2020 Standard".
- Live performance plots during simulation changed from showing minimum and maximum of Monte Carlo simulations to average.
- Reports now include some additional fields such as volume of material and cost estimate
- Inputs for reflective cracking are changed to provide a better estimate of crack spacing, some menu items have moved.

Reasons for change in CalME:

The CalME 3 version released in January 2019 used materials representing 5th percentile performance to account for between project variability. This was used as an interim solution for between projects variability while CalME was being calibrated with field performance data from the PMS. CalME models have now been calibrated with field performance data and the materials as well as calibration factors to more explicitly account for 95 percent between project variability have now been incorporated into the code. Along with the calibration, the user interface was changed to reflect the internal changes.

Expected effects on design decisions:

In general, the 2020 version will result in slightly thicker designs than the January 2019 version. The simulated performance is also somewhat more sensitive to unbound layer thicknesses.
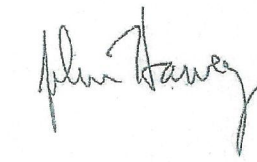
Results on development server checked by:

Rongzong Wu, Mohammed Rahman, John Harvey

Results on development server reviewed by:

_____ 3/3/2020
Rongzong Wu   Date

_____March 3, 2020_
John Harvey   Date

Decision Document Approved by:

_____ March 3, 2020
Raghubar Shrestha   Date

_____ 3-3-2020
Tom Pyle   Date

Communication by Caltrans

Date decision document sent to all CalME users:

Sent by:

Implementation on production server by UCPRC

CalME version number: V3-DD001

Date updated version loaded to production server: 3/5/2020

Loaded by: Jon Lea, Rongzong Wu

Date updated version on production server checked: 3/5/2020

Loaded version on production server checked by: Rongzong Wu