



California Office Activities Report for the 2nd Quarter of 2021

Robert P. Humer, PE

Here are some of the topics which had my involvement in this 2nd quarter. Please call me at 805-402-1211, if you want to discuss any of them in further detail.

Caltrans CalME Review for NCE (Consultant to Caltrans and UC Davis for this):

Pavement structural design is a key step in determining the pavement type of pavement projects. Whereas Caltrans past methods were Empirical (based on road tests and pilot projects), the advent of AASHTO's Mechanistic-Empirical (ME-PDG) design software, has enticed Caltrans starting in 2014, to develop its own calibrated version. The third version called CalME is in the last phase of development with significant complications included to improve accuracy. These include subroutines as CalBack (multi-layer back-calculations of past deflection data, E* corrections based on hourly changing temperature profiles, traffic patterns/load classifications (no longer based on Traffic Index, TI), and Monte Carlo simulations to include reliability of the calculated results.

I was included in a group of 14 international specialists, including university Professors, to review the functionality of the program and the reasonableness of the resulting designs (in essence "beta-testing"). A significant amount of time was dedicated to this with the same conclusion as others: that the program is very user-unfriendly. Together with the Life-Cycle-Cost-Analysis policy requirement, this CalME will be Caltrans future tool for pavement type selection. Its intended use is for all 12 Caltrans Districts and HQs to use CalME on a routine basis for the hundreds of Caltrans projects annually. My future involvement with Long-life/Perpetual Pavement projects in CA, should allow me to have the opportunity to review and witness its use.

I-10 Long-life/Perpetual Pavements effort with Caltrans District 8:

Since 2013 contacts have been ongoing with Caltrans District 8 for a next Long-life/Perpetual pavement candidate in CA. Alerted by a large CRCP project being advertised for the I-10 freeway, efforts intensified to request permission to review the alternate designs, Life-cycle cost analysis (LCCA), and pavement type selection process. After repeated requests, Caltrans admitted that no alternate designs were considered nor a LCCA performed. With assistance of FHWA in Sacramento, a virtual meeting with the District Director and key Caltrans personnel took place. As a result two other significant size projects on I-10 to the east of Indo were offered as L-L candidates. These will provide an excellent opportunity to obtain insight into the Caltrans pavement type selection process. This just shows how these projects take years of continuing effort and involvement to have them materialize.

Perpetual Pavement Awards (PPA):

Two additional Perpetual Pavement Awards programs will start in 2021, in order to recognize the Agencies that purposely design new or reconstructed perpetual pavements. These two additional awards are for perpetual pavements “by Design” and by “Conversion”. Caltrans has several Long-Life/Perpetual pavements which would qualify for the two new Perpetual Pavement Award categories. This however is a task for the State APA. In my region, AZ DOT’s I-40 pavement was approved for an award. This Award will be presented to the ADOT Director at the AZ Annual Materials and Pavements Conference (November 17-18). I am working with NV DOT to identify a suitable PPA candidate for 2021.

Caltrans I-5 Long-Life/Perpetual Pavement project progress:

The large Caltrans (CT) Long-life/Perpetual pavement project on I-5 south of Sacramento is on track for main-line paving with another 300,000 tons of various types of HMA this year. At the request of the Caltrans RE for the project a teleconference took place between CT, UC Davis, and myself to determine the allowable time for traffic to ride on the Cracked & Sealed concrete panels, until the paving fabric and HMA overlay placement had to be completed. The project specifications are clear and there was no justification to deviate. This project has performance mix design requirements, which allow the Contractor to select the binder PG grade which works with the up to 25% RAP. The project acceptance is based on the commonly used QC/QA tests and criteria. Completion of this 8th Caltrans Long-life project is expected this fall.

AI In-person and Virtual training:

In this 2nd Qtr. a “Best Practices for Longitudinal-Joints Construction” webinar was presented for CalAPA’s statewide tech meetings on 4/7.

Two in-person one-day “Construction of Quality Asphalt Pavement” (CQAP) have been planned (and event locations secured), for November 9th in Bakersfield CA and for November 12th in Phoenix AZ. A two-day virtual CQAP seminar is planned for September 8 and 9th. All AI’s educational training can be seen on AI’s website at: <http://www.asphaltinstitute.org/training/> Please inform your customers about these training opportunities.

Paving Inspector Training and Certification (PIC):

The push is on to get the word out to Agencies about AI’s newly developed automated on-line Paving Inspector training and Certification program (PIC). In-person visits were made to Agencies in the Bakersfield/Kern County and San Diego Areas, with positive responses. Already more than 130 registrants are working to get their AI PIC Certificate. It is our hope that this program will be embraced nationwide by the Cities and Counties as a requirement in their inspection departments. Phone contacts, emails, and PIC promotion visits with Agencies in AZ, NV and the Bay-area will be next.

Greetings to all. Stay safe and stay healthy!

Bob Humer