

PMPC Sponsors/Steering Committee/ Executive Committee Meeting Minutes

Date: April 15, 2021
Time: 8:30 am-10:00 am
Location: Webex Meeting

Attendees: Shaila Chowdhury, Charley Rea, Sergio Aceves, Cory Binns, Ramon Hopkins, Nick Burmas, Raymond Tritt, Tom Ostrom, Kevin Keady, Brandon Milar, Tim Greutert, Douglas Mason

1. Introduction

- I. Meeting started with introductions and Shaila welcoming everyone to the Quarterly meeting.

2. Opening Comments (PMPC Sponsors, Steering Committee):

- I. Cory: Just have two items for the group, first is that the group always continues to push for opportunities for improvement or innovation in the specifications, construction practices and materials to help Caltrans meet their Strategic Plan, we may fail at times but that is why we do test sections. Second item is about Caltrans Strategic Plan, recommend taking time to review it and you will see climate action and equity are big areas of focus for the department and should be modeled in the PMPC. We need to acknowledge that we may not always agree on everything but having this partnership is a great way of communication both to Caltrans and Industry regarding what directions or possibilities exist where we can discuss openly concerns and risks.
- II. Tom: The Strategic Management Plan's vision is "A brighter future for all through a world-class transportation network. The world-class transportation for all sounds like futuristic stuff of high-speed trains, integrated multi-modal transportation network but in reality, what the public sees is the pavement they are driving/riding on. Project Delivery is moving to virtual design and construction in 3-D. We need to be in sync with industry to be able to pave by virtual design, so it is a clean handoff from Caltrans to contractor to construct without any issues.
- III. Sergio: Have just a few things, my experience with the PMPC from the Executive Committee was a great partnership group in the PMPC, yes, we had some internal hiccups, but everyone sees it as transparent and open partnership with industry. This group exemplifies efforts for improving pavement quality and sustainability with good frank and honest discussions when developing a work product. Last item: wanted to let you know we started incentivizing the HM1 program. By setting aside \$8 million from the HM1 program, we hope to encourage districts to take on PMPC pilot sections, innovations, or specifications more readily by helping offset additional districts costs when taking on the pilot processes. Encourage the offices to continue to fully staff all the groups and working groups for participation and communication.
- IV. Ramon: Wanted to let the group know that the Caltrans and Industry partnering in the PMPC is starting to get national recognition for our efforts in specification design and working with industry.
- V. Nick: I wanted you to know I have been with Research for the last 16 years working with pavement. This committee is the strongest committee that I have seen in that time. I applaud the group for their efforts

3. Action Items:

Action item from 01/21/2021 meeting:

- I. Add agenda item to April quarterly meeting to have a briefing or presentation on all sustainability items in the PMPC. Look at good work products that meet the Strategic Management Plan. (Doug) [Completed at April's meeting](#).
- II. Develop a briefing on the development of eLCAP to the Executive Committee and Sponsors. (Doug) [Completed at April's meeting](#).

4. PMPC and Sustainability Presentation (Brandon and Charlie)

- I. Brandon and Charley went over the PMPC and the sustainable efforts they have been working on. The PMPC provides a platform for engaging with Industry to create a better understanding for all parties of construction practices and emerging technologies. Partial depth recycling, Portland Limestone Cement, reclaimed asphalt pavement with up to 40% in HMA and 10% in RHMA mixes, recycled crushed concrete aggregate in cast in-place concrete pavements, utilizing recycled asphalt shingles up to 3%, and pavement smoothness were all efforts that diverts materials from landfills, decreases the amount of virgin aggregate and binder needed for replacement, and reduces GHGs. Upcoming efforts will be looking at cold central plant recycling, mix design for balanced mix design and OGFC, fog seals, blended supplementary cementitious materials (SCMs) and performance-based alkali silica reactivity (ASR) mitigation for long lasting concrete.
- II. Tom: Is industry predicting fly ash sources will disappear again or in the future?
 - a. Industry is looking at different sources for fly ash such as old landfills, not sure if it will disappear. Also looking at natural pozzolans as an option and slag is already an option. Some companies started importing it to meet demand.
 - b. Tom: Gets more expensive and generates more GHG when we have to move materials from other countries to meet demand. What is the small business/material contractors doing with the additional charges?
 - c. For some of the business/plants, State contract work may not be their market, others just say give me the recipe. Performance based mix design will allow the locals to be able to use their material. Nimble design with parameters will allow the smaller companies an opportunity to compete.
 - d. Sergio: With industry importing fly ash, has industry started to explore the potential to expand/develop markets for the other SCMs currently approved instead of importing fly ash?
 - e. Natural pozzolans are an option, industry is looking to develop solutions to process additional SCMs.
 - f. Nick: The number 1 research item for Pavement is alternative SCM research, looking at SCM such pozzolans, volcanic ash, etc. #1 priority for both Pavement and METS.

5. Bridge Program Update (Presentation by Kevin)

- I. Kevin went through his presentation on the Bridge Program covering details of the technical committees such as Accelerated Bridge Construction, Bridge Preservation, and Concrete Design that develop policy and guidance material relevant to the PMPC.
- II. One of the products being reviewed is ultra high-performance concrete, an emerging material that has potential to revolutionize the way the Department designs, constructs and maintains bridges and structures. Looking to use the material as an overlay material on bridge decks.
- III. Other products/issues being investigated are rapid setting concrete patch materials, chain resistant polyester concrete, heat of hydration in bridges, approach slab shrinkage pilots, and polyester concrete patch size limitations.

- IV. Charley: SCM allowance in mass concrete. Has the technical group worked on changing the SCM? Heard about the corrosion specification, can you tell us more?
 - a. There was a movement to develop a corrosion specification, but it was put on hold. Not sure of the current status but will look into.
 - b. **Action Item: Kevin to look into current status of corrosion specification and workplan.**
6. eLCAP Presentation (Presentation by Shaila)
- I. Shaila went through her presentation on Environmental Life Cycle Assessment (LCA) for Pavements. Life cycle assessment is different from life cycle cost analysis in that life cycle assessment focuses on environmental impacts where as life cycle cost analysis focuses on the life cycle cost of a product or a process.
 - II. The pavement program has embarked on an effort to quantify environmental impacts from pavement related activities. LCA is a technique that allows industry and public and private agencies to quantify environmental impacts of a product over its life cycle. In the context of pavement, LCA quantifies emissions from materials as well as pavement operational activities over its life cycle. The material production includes all processes used in the acquisition and processing.
 - III. Informs how environmental outcomes may vary with different materials and processes. LCA not only calculates environmental impacts but also helps us understand environmental benefits of sustainable products and processes. LCA in conjunction with Life Cycle Cost can help identify balanced solutions that are cost effective and sustainable. Comparison of alternatives can guide industry and public agencies to make choices that protect the environment without compromising pavement quality and performance.
 - IV. Caltrans has partnered with UCPRC to develop eLCAP a web based interactive LCA tool. It utilizes California and Caltrans specific inventories and processes. eLCAP utilizes a variety of information and has embedded models to calculate total life cycle emission. It provides an option for the user to adjust project input or use embedded default data.
 - V. Benefits allow the department to quantify environmental benefits of recycled materials and sustainable products and processes, , evaluate benefits of alternative designs and longer life pavement strategies, and evaluate how timing of pavement rehabilitation to extend life of pavements and optimize smoothness can cause CO2 emissions to vary.
 - VI. The eLCAP tool is expected to be ready for testing by June 2021. UCPRC has engaged with industry to review the tool. Our next step is to test the tool in pilots and regular projects that include a variety of pavement strategies, quantify benefits of sustainable materials and design strategies, and assess how life cycle cost analysis and eLCAP can identify balanced, economical, and sustainable solutions.
7. Value of PMPC
- I. Charley: The funding for the incentivized pilot strategies, is the funding starting this coming FY on the HM1 program.
 - a. Yes, may be savings to insert some funding this fiscal year in a CCO if construction and contractor willing to do.
 - II. Cory: Great meeting! Topics are hitting the mark and Industry partners keep sharing information and topics.
 - III. Charley: I brought this up before with asset management and how it is affecting the ability to identify pilot projects in district, what is the status of the presentation.
 - a. **Action Item: Shaila and Doug to contact asset management to see if they can provide a presentation to the PMPC executive committee.**

- IV. Brandon: As someone who has seen Caltrans in numerous committees in the past, a lot of items are finally coming to fruition under the PMPC that languished previously. Great improvement.
- V. **Action Item: Cory recommended the EC have a conversation about the Strategic Plan.**

8. Open Discussion (ALL)

9. Decisions Made

- I. None

10. Action Items.

- I. Look into current status of corrosion specification and workplan and provide update (Kevin)
- II. Shaila and Doug to contact asset management regarding a presentation to the PMPC executive committee. (Doug/Shaila)
- III. Cory recommended the EC have a conversation about the Strategic Plan. (All)

Next Meeting scheduled for July 15, 2021