



# CP2 CENTER NEWS

Newsletter of the California Pavement Preservation Center

No. 44

December 2017

## RMWPPP Annual Meeting Held in Seattle

By R. Gary Hicks, CP<sup>2</sup> Center

The western 13 states of the Rocky Mountain West Pavement Preservation Partnership (RMWPPP) held their annual meeting in Seattle on October 23-25, 2017.

The RMWPPP is a regional forum of pavement professionals working together to promote the benefits of Pavement Preservation through information sharing, education, and innovation. This is one of four pavement preservation partnerships throughout the United States, and includes some of the Canadian Provinces. The group also includes members from federal, state and local agencies, the construction industry, pavement consultants, and academia.



Keith Metcalf,  
WSDOT Chief  
Operating  
Officer

David Luhr of Washington State DOT (WSDOT) and Chair of the RMWPPP opened the meeting by welcoming the 150 participants and 30 vendors then introducing the opening speakers, Keith Metcalf of WSDOT and Mindy Roberson, Assistant Division Administrator for FHWA in Washington State, both of whom invited participants to visit the sites in Seattle during some sunny days. All the PowerPoint Presentations can be found at the AASHTO TSP2 shown in the following link: <https://tsp2pavement.pavementpreservation.org/rocky-mountain-west-rmwppp/annual-meetings/2017-2/>

Judith Corley-Lay, the new Director for the National Center for Pavement Preservation, gave the first technical presentation on the "Top

10" list of requirements for a world-class program. The list includes:

- Continuous funding
- Support from top to bottom
- Need a champion
- Project selection based on real pavement data
- Variety of treatments in the toolbox
- Knowledgeable agency/contractor personnel
- Use of pavement management systems to track performance
- Stakeholders are educated/informed on the benefits of pavement preservation
- Pavement preservation is part of an overall asset management plan
- Well documented specs for pavement preservation treatments



Judy Corley Lay,  
Director of NCPP

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If you don't have all these factors within your agency, you still have a ways to go.

**Jason Dietz** of FHWA provided an update on recent FHWA initiatives and policies including the following:

- EDC-4, which deals with the 'when' and 'where' and 'how' questions related to pavement preservation
- SHRP2 R-26 which deals with strategy selection
- Web-based training on pavement preservation for state and local agencies
- Tack coats best practices

FHWA continues to be a strong supporter of the pavement preservation efforts throughout the USA.

**Gonzalo Rada** of WOOD LLC gave an update on NCHRP project 14-33 dealing with identifying the pavement performance measures that consider the contributions of preservation treatments. Representatives of the CP<sup>2</sup> Center (Gary Hicks and Ding Cheng) were involved in this study, the results of which will be published as NCHRP report 858. Implementation Guides for the products developed as a part of this study were also developed.

Each state representative, three local agencies, and one Canadian province then presented an overview of their pavement preservation programs. During the first session, Alaska, Arizona, California, Montana and Oregon provided presentations, which can be found on the TSP2 website. The topics covered included:

- Description of the agency highway system
- Recent legislation related to roadway funding
- Agencies' pavement preservation tool box
- Triggers used for pavement preservation

The second session of the agency reports included those from Idaho, British Columbia, Nevada, Utah, and the City of Roseville. All of the reports clearly show the diversity of treatments, funding, and treatment selection. The last session of agency reports included ones from the City of Denver, the States of New



**RMWPPP Attendees**

Mexico and Washington, and the Regional Transportation Commission of Washoe County, in Nevada. Again, all these presentations can be found on the AASHTO TSP2 website.

**Scott Dmytrow** of Telfer Technologies, **Chris Lubbers** of Kraton, and **Jason Lampley** of Intermountain Slurry Seal (ISS) provided industry input on new technologies, and do-and-don'ts for chip seals. Scott discussed new generation emulsions, rubber in pavement preservation treatments and the use of recycled asphalt pavement (RAP), in preservation treatments, including chip seals and microsurfacing. Chris provided an update on the Emulsion Task Force (ETF). He reported on the accomplishments of the group in developing AASHTO specifications for several preservation treatments, two of which have already been published by AASHTO, emulsion chip seals and microsurfacing.

The ETF is also working on developing new performance graded specifications for emulsion use in surface treatments. This work is still in progress. Other treatments, including fog seals, slurry seals, and scrub seals, are in the review process. **Jason Lampley** of ISS provided insight on how to produce successful emulsions, and on hot-applied chip seals which meet the expectations of the owner agencies. **Larry Galehouse**, Director Emeritus of the NCPP, concluded this session

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**Larry Galehouse (NCPP) and Jason Dietz (FHWA)**

by discussing ongoing efforts for training and certification programs for pavement preservation.



**Karina Lynch (ISS) and Sri Balasubramanian (Caltrans)**

Both agency and contractor personnel will be highly encouraged to undergo this training and be certified in the treatments they are placing and inspecting.

The next session dealt with issues facing local agencies. **Nick Jones**, of the Utah LTAP, discussed resources available for agencies for pavement preservation in his state. **Sri Balasubramanian** of Caltrans discussed the state and local coordination for implementing MAP-21 in California. **John Ho** discussed the organization and programs for local program in Washington State, and **Ryan Miles** from the City Vancouver WA,

discussed his city's experience with the Pavement Preservation Toolbox. In the final technical session, **Jim Powell** of ACPA-Washington State discussed the rapid concrete repair of concrete pavements, particularly in urban areas. He discussed both partial depth and full depth repair of concrete pavements, identifying the benefits and the materials used to make the repairs. **Dr. Elie Hajj** of University of Nevada-Reno discussed the optimum timing of preservation treatments as well as work being done by Nevada DOT and FHWA on best practices for preservation treatments. The best practices, which will be included in tech briefs, also include example specifications and test methods. Key issues discussed will be the importance of calibration, verification of rates training, project selection, and the effects of climate and temperature. **Jeff Uhlmeyer** of WSDOT concluded the technical session with the state's experience on High Friction Surface Treatments.

In addition to the speakers, there were vendor displays (inside and out) during all breaks and meals, a business meeting including task group reports, and a wrap up including an invite to the 2018 meeting in Portland, Oregon. This program will be put together by the board of the partnership over the next several months. Newly elected members of the board include **Scott Metcalf** of Ergon, **Jerry Dankbar** of the City of Roseville, CA, and **Sri Balasubramanian** of Caltrans.

For information on the RMWPPP, please go to <https://tsp2pavement.pavementpreservation.org/rocky-mountain-west-rmwppp/>.



**Outdoor Demonstration of Preservation Equipment**



## CalAPA Fall Conference

The CalAPA Fall Conference and Equipment Show was held in Sacramento October 25 -26. These Fall and Spring events are always valued by California's asphalt pavement community, as evidenced by the over 200 attendees. Kudos to CalAPA Executive Director **Russell Snyder** and staff for putting together another high-value event!

Keynote speaker was **State Senator Jim Beall**, author of the SB1 "Road Repair & Accountability Act of 2017". Senator Beall pointed out that the last gas tax increase was back in 1994, and since then California's population and auto use has greatly increased, truck traffic has increased 5-fold, and inflation has taken a big toll on construction costs. He also noted the increased fuel efficiency of vehicles, but reminded everyone that "...even electric cars need good roads!" Citing that there will be \$5 billion in projects in the next 9 months, he jokingly told the asphalt-savvy audience, "Let's get ready to put down some of your 'goo'!"

**Tony Tavares**, Caltrans Chief, Division of Maintenance followed up with additional info on how SB1 would impact Caltrans. SB1 will double the usual Caltrans gas tax funding, and greatly help remedy the 16% of Caltrans pavements that are rated in 'poor' condition. The overall goal is to have 98% of Caltrans pavements in at least 'fair' or 'good' condition within 10 years. In addition to pavements, bridge and culvert work will also be funded. A list of proposed projects can be found at: [www.re-buildingca.gov](http://www.re-buildingca.gov). He noted that half the funding will be going to local agencies, and there will likely be a need for more hiring and workforce training.

**John Harvey, Ph.D.**, Director of the UC pavement Research Center provided an update on



By Roger Smith, CP<sup>2</sup> Center

their research into the cooling effects of different color pavement surfacings, and the need to consider life cycle costs /benefits in decisions to use various pavement coatings.

**Dr. Harvey** also gave a preview of the upcoming "Long-Life" pavement rehab project scheduled for I-5 in Sacramento (Fruitridge Rd. to

US-50). This will be the fifth such project by Caltrans. These special long-life designs use a thick "layered" design, involving an "rich" bottom layer (higher asphalt content) and a very rut-resistant top layer, sandwiching a structural intermediate layer.

The Conference also featured the following educational 'breakout' sessions:

- Sampling & Sample Prep – **Kevin McNeil**, Granite Rock
- Superpave Specs For Local Agencies – **Brandon Milar**, CalAPA
- Pavement Smoothness – **Don Mathews**, PRS
- VMA Discussion – **Pascal Mascarenhas**, Vulcan Materials
- Spec Limit Development – **Tony Limas**, Granite Construction
- HMA Laydown & Compaction – **Brandon Milar**, CalAPA

The Conference concluded with an informative and motivational message by special guest speaker, **Larry Bonine**, on partnering and successful relationship building and conflict resolution.

The 2018 CalAPA Spring Conference & Equipment Show will be in Ontario, April 25-26.

For more information go to: [www.calapa.net](http://www.calapa.net)

Electronic copies of the presentations are available for download from the website.



## Honda Test Track Demands Smoothness!

By Alan Heydorn\*

When Granite Construction West tackled the reconstruction of the Honda Proving Center of California (HPCC) testing facility near Cantil in Kern County, the contractor knew they were in for a challenging job. Location, weather concerns and a heightened degree of smoothness created challenges for the Granite team.

The HPCC is located in the Mojave Desert, which Paul Niglio, project engineer, says is not near

much. "Because it's in the middle of nowhere, it's difficult and expensive to haul things in and out so we wanted to minimize that," he says.

But not only did the contractor complete the job and surpass the smoothness rating, the project was recognized by the National Asphalt Pavement Association (NAPA) with a 2017 Quality in Construction Award. The HPCC testing track is a 7 1/2-mile, four *Continued, next page*



**New Honda Test Track**

-lane oval with 2.3 miles of turns. The original track, constructed by Granite Construction and opened in 1991, was essentially flat, with only a 1% slope. For the reconstruction American Honda Motor Co. tasked Granite Construction with constructing a 5% "super elevation" on the outside lane (Lane 1). Lane 4, the inside lane, would have a 1-2% slope and lanes 1-3 would slope to 5%.

Granite worked with Honda to develop a plan to "balance the dirt," in other words, to use the site's existing material to reconstruct the track so that little debris had to be hauled away and little fill material had to be brought in. "As it turned out we used all the material that was on site. We didn't have to haul any away," Niglio says.

One of the biggest challenges was stabilizing the subgrade, which is 5-6 feet. beneath the track is clay, "...that you can mold pottery out of, it's that malleable. The worst areas are literally like walking on a waterbed," Niglio says.

Instead of importing fill material, Honda decided to stabilize the clay by treating the subgrade with lime. Before they could stabilize the clay, they had to break up the existing track and transform it into base material. They used pulverizers to break up the asphalt track about 6 in. deep, then mixed the pulverized material with the original subgrade about 16 in. deep to create base material.

Then, working on half the track at a time, Granite's crews removed half the width of the track, 'flopping' the excess and excavated material onto the other half of the track. This gave the crew access to the subbase that required lime treatment. A subcontractor, PRS Construction & Restoration, Sacramento, CA, spread lime and mixed it 18 in. deep into the subgrade to stabilize it. Once the subbase was treated with lime, Granite reversed the process, flopping the material it had stacked on half the

track into the area it had just lime treated on the other half of the track, repeating the entire process on the other half of the track. Once both halves were pulverized, stabilized with lime and cement, and graded, the 5% supers were constructed around the turns and the track was ready for its first layer of hot mix asphalt.

The paved track was planned in two to three lifts totaling 5 ½ inches in lane 1: base lift, intermediate lift and surface course. Rudy Diaz, paving foreman of Granite Construction West, Bakersfield, CA, led the 9-person paving crew on the job.

For testing purposes Honda wanted a very smooth track, with a maximum of 60 inches/mile Mean Roughness Index (MRI), a derivative of the International Roughness Index (IRI). (Caltrans, by comparison, requires less than 75 MRI on its roads.)

"The Honda Test Track is not the first racetrack my crew has paved," Diaz says. "We have been successful on similar tracks for Hyundai and the Kern County Raceway, but this project was definitely a challenge due to the unstable native material. Consistent material in paver, paver speed, auger speed, automatics, proper rolling patterns, and rolling off the mat whenever possible all helped us achieve our goal."

Crews placed a windrow of mix down the center of each lane on the track and the MTV picked it up and kept the paving machine hopper filled. "While the MTV doesn't mix material like a shuttle buggy does, it enabled us to keep the material level in the hopper consistent," Niglio says. "It helps make sure the paver is consistently moving and increases the paving rate a little. That was a 'best practice'."

The Transtec Group's Robert Rasmussen, vice president and chief engineer, designed the HMA mix for the track, and the company brought two paving specialists on site to monitor progress and aid in best practices.

"The mix, as designed, will help Honda ensure a longer-lasting track," Rasmussen says. "For one thing, the binder is a polymer-modified PG 64-28M, which is superior in many aspects to the PG 70-10 that is commonly used in the region. Second, the mix is a ½-in. nominal maximum aggregate size (NMA) designed at 3% air voids. This has a net effect of increasing binder content to improve durability under the punishing environment the track faces. Balancing the richer mix was an aggregate blend that exceeded

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both VMA and Stabilometer requirements.”

Throughout the job, Granite and The Transtec Group monitored rolling patterns, made sure crews weren't throwing rock onto the mat, checked that roller operators weren't stopping rollers on the mat, and that operators rolled off the mat when they could, instead of stopping on the mat.

Niglio says Granite attained the 60 MRI (smoothness) rating on the base lift, but after brief testing, Honda decided they needed a smoother track. So Granite hired PRS Construction & Restoration to profile-grind the

base layer using a micro-mill head on a 6-ft. grinder with a 30-ft. ski. Granite crews and PRS marked the high locations on the track and PRS used the micro-mill to cut 0.05' off the top of the asphalt base.

By the time they were ready to construct the cap, the pavement smoothness was right where it needed to be. Granite Construction West was actually able to bring the MRI value down to 28, well below the initial target.

*\*This is an excerpt from an article which first appeared in "Pavement Maintenance & Reconstruction" magazine (October/November 2017) of which Allan Heydorn is the Editor. For the complete article, go to:*

[www.ForConstructionPros.com/Pavement](http://www.ForConstructionPros.com/Pavement)



## HMA Specification for Local Agencies - Update

By Roger Smith, CP<sup>2</sup> Center

Prior to Caltrans' implementation of Superpave via Section 39 of their 2015 Standard Specifications, the old 2010 Section 39 included an option of 'Type B' hot mix asphalt (HMA). The Type B HMA specification imposed a less stringent criteria for Hveem mix stability, percent crushed aggregate and Los Angeles rattler testing. The Type B mix was intended primarily for use on lighter traffic roads, or by local agencies (cities and counties) when they used the Caltrans specifications.

However, in their 2015 Standard Specifications Caltrans eliminated the Type B mix. So local agencies that historically referred to Caltrans Type B HMA were left without a 'go-to' HMA specification. Type A HMA, via the SuperPave mix design method, is now the only option via Caltrans. But this highway mix is often 'overkill' for local agency needs, and the specification includes a host of QC and QA testing requirements that local agencies often cannot accommodate.

Accordingly, task group was formed to create a special HMA specification that integrates the Superpave mix design concepts in a new, simpler HMA specification that addresses the needs of local agencies. It somewhat relaxes material quality requirements and the requirements for materials testing by both the contractor and the agency, streamlines the JMF approval process, allows the agency to choose density acceptance by gauges or cores

and allows the agency to determine smoothness with either straightedge, profilograph, or profiler. The end product of the task group effort will be a new HMA specification for low-volume roads -currently termed 'HMA-LV' (Low Volume) - designed especially for local agency use.

This new HMA-LV specification will only be for use on local routes (not Caltrans pavements) where design Traffic Index (TI) is less than 8.0. Currently, a 2-Level approach is being advanced. Level 1 would be for TI of 6.0 to 8.0, and Level 2 would be for TI of 5.5 or lower. Superpave mix designs involving a laboratory gyratory compactor and Hamburg Wheel Track tests are still a requirement.



Gyratory Compactor for HMA Mix Design

Of course agencies may opt to use the Type A specification in the 2015 Caltrans Section 39 for their more heavily trafficked roadways, but may elect to waive some elements of that 'high-end' specification. Until a new specification is available, some agencies are also opting

to still use the old (2010) Caltrans 'Section 39'. Many local agencies also use the 'Greenbook' specifications, especially in southern California.

The new HMA-LV specification has not been finalized, but anyone interested in receiving a draft copy should contact Brandon Milar with CalAPA at [BMilar@calapa.net](mailto:BMilar@calapa.net) or the task group Chair, Tim Denlay, of Knife River Construction at: [tim.denlay@kniferiver.com](mailto:tim.denlay@kniferiver.com)



## 'Insider' Newsletter - A Weekly Read

By Russell Snyder, CalAPA

For more than a decade, the "California Asphalt Insider" weekly electronic newsletter has provided timely information, insight and analysis about issues of interest to the asphalt pavement industry, public works agencies, academia and others interested in asphalt pavements.

The newsletter, which comes out every Monday morning, is produced by the California Asphalt Pavement Association (CalAPA), a non-profit trade association that has represented the industry since 1953. As part of CalAPA's educational mission, the newsletter is provided free to anyone, and currently boasts more than 2,600 regular subscribers across California, as well as in other states and countries. To sign-up for the newsletter, click on the "Newsletter sign-up" link at the top of the CalAPA website: [www.calapa.net](http://www.calapa.net). An archive of past issues of the newsletter can also be found. The association only sends the newsletter to those who wish to receive it, and each edition of the newsletter has an "unsubscribe" link at the bottom.

Topics covered in the newsletter include the latest updates on transportation funding,

technical research and specification changes, construction project updates, industry and agency news, educational opportunities and more. Story ideas are welcomed and may be submitted via the CalAPA website.

CalAPA also publishes a bi-monthly magazine, "California Asphalt" magazine, in partnership with Construction Marketing Services. The magazine carries more in-depth feature articles examining technical issues, industry trends, company and personality profiles, exclusive newsmaker interviews and association news. The magazine also is mailed free to subscribers, and past issues are available electronically on the CalAPA website. To be added to the magazine mailing list, post an inquiry to the CalAPA website with your complete contact information, including mailing address.

For more information about the California Asphalt Insider newsletter, contact CalAPA Executive Director Russell W. Snyder at (916) 791-5044. For inquiries about California Asphalt magazine, including advertising opportunities, contact Kerry Hoover of Construction Marketing Services at (909) 772-3121.



## CPR 'Best Practices' Report Available

By Michael Darter, ARA

Concrete pavement restoration (CPR) techniques have gained greater national significance as DOT agencies attempt to further extend infrastructure service lives prior to required major rehabilitation or reconstruction. Various publications have documented design procedures and materials for CPR techniques, but less has been written about best practices for their construction, based on information from contractor and DOT agency practitioners. This newer report consolidates best practice case studies for six CPR techniques: cross-stitching, dowel bar retrofit, diamond grinding, full depth repair, partial depth repair, and slab

stabilization. One unique aspect of this work is that the experience of 14 experts from States and contractors were interviewed regarding the six repair techniques. This brought the latest thinking and experience into the results. Technical briefs for each CPR case study have also been written to accompany the main report and have been separately published. The report and six Tech Briefs are available from <http://www.modot.org/services/or/byDate.htm>.

Just the report described above is available from <https://library.modot.mo.gov/RDT/reports/TR201618/cmr17-013.pdf>



## WRAPP Update

The Western Regional Association For Pavement Preservation (WRAPP) 2018 annual Workshop is fast approaching! Come share two fact-filled days on February 6-7, 2018 at the Concord Hilton Hotel in Concord, CA. We are excited about this new convenient meeting venue in northern California, which has an

By Sallie Houston (VSS), President

excellent layout, nice amenities and is very freeway accessible.

The new Transportation Funding Bill, SB-1, is the hot topic moving forward, and WRAPP is pleased to announce the Keynote Addresses will be given by Assemblyperson Jim Frazier

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(District 11), one of the main authors of the bill, and Randell Iwasaki, Executive Director of the

Contra Costa Transportation Authority. They will give their perspectives on this monumental influx of funding for our streets and roads.

As always, we strive to offer the best forum to update agency and industry on advancements and changes in the pavement preservation industry by bringing an agenda filled with experts from industry, academia and agencies. We provide some of the best technical experts in the field of pavement preservation and strive to help agencies utilize the very best techniques to maintain cost effective, long lasting roads.

In addition to discussion of SB-1, we also have 'breakout' sessions on various technical issues, materials, and equipment. There will be a forum to discuss the latest academic research at major universities in the west, as well as presentations on the latest in product innovation, how to produce a better engineer's estimate, and updates from other associations and national task groups.

Workshop registration is open now via the WRAPP website: [www.wrapp.org](http://www.wrapp.org). Special registration and room rates apply to government agency employees. This is also a great opportunity to set up a booth and reach numerous end users. We look forward to seeing you there!

For more information contact Sallie Houston at: [sallie.houston@slurry.com](mailto:sallie.houston@slurry.com)



## MTC Update: PCI from Weathering vs. Raveling

By Sui Tan, MTC

For about 70% of the local agencies in California, the most commonly used Pavement Condition Index (PCI) is based on the ASTM D6433-11 (Version 11) specification. The PCI is measured from 0-100, where 100 is newly paved road, while zero means a pavement needs reconstruction. For years, pavement rating professionals have complained that combining 'weathering' and 'raveling' as one single distress has exaggerated the degree of severity of the distress. Hence, the Version 11 update of the specification made a major change to split weathering from raveling to soften the blow.

The fourth edition of Metropolitan Transportation Commission's (MTC) "Distress Identification Manual" was updated in 2016 for use in the StreetSaver® software, and now defines 8 distress types for hot mix asphalt (HMA) pavements - with weathering separated from raveling. So the updated 2016 Manual now allows pavement raters to rate weathering separately from raveling. 'Weathering' is primary the deterioration of the fine asphalt matrix, whereas 'raveling' is the loss of coarse aggregate. With weathering separated from raveling, the 'low weathering' distress definition allows for the change in the asphalt color and the loss of fines. The 'medium weathering' looks at whether the coarse aggregate is starting to show signs of wear.

This technical brief is prepared for StreetSaver user agencies, to explain the expected differences in the PCI calculations using the updated MTC Manual versus the previous edition that

defined only 7 distress types, with weathering and raveling (W&R) defined as one single distress.

PCI distress data was collected following the updated 2016 MTC Distress Identification Manual (8 distress types for asphalt), and also the PCI based on distress definitions from the previous edition (7 distress types for asphalt). The expected differences between PCI calculated based on 7 distresses ( $PCI_7$ ) and PCI calculated based on 8 distresses ( $PCI_8$ ), are described below.

### PCI<sub>8</sub> Network Average

If $PCI_7$ Network Average Ranges	Then $PCI_8$ Network Average Increases
85-95	4 points
70-85	3 points
35-70	2 points
10-35	1 point

### PCI<sub>8</sub> for Individual Pavement Sections

PCI<sub>8</sub> should be:

- Higher than  $PCI_7$  in about 80% of the cases.
- Same as  $PCI_7$  in about 10% of the cases.
- Lower than  $PCI_7$  in about 10% of the cases.

For pavements in very good condition ( $PCI_7$  above 70) it is expected that:

- Low Weathering will result in higher  $PCI_8$  values than Low W&R
- Medium Weathering will result in higher  $PCI_8$  values to Low W&R
- High Weathering will result in higher  $PCI_8$  values to Medium W&R

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- $PCI_8$  will be  $\pm 5$   $PCI_7$  points in about 75% of the cases.

For pavements in very poor condition ( $PCI_7$  below 25) it is expected that:

- Medium Raveling will result in slightly higher  $PCI_8$  values than Medium W&R
- High Raveling will give the same  $PCI_8$  values as High W&R
- $PCI_8$  will be  $\pm 1$   $PCI_7$  points in about 75%

of the cases.

Pavement raters using the StreetSaver® system should refer to the MTC Manual for more details on how to define weathering and raveling distresses, identify their severities, and measure the extent of damage.

For more information, contact Sui Tan of MTC at:

[stan@bayareametro.gov](mailto:stan@bayareametro.gov)



## AASHTO Emulsion Task Force Update

By R. Gary Hicks, CP<sup>2</sup> Center, EFT Member

The AASHTO TP-2 Emulsion Task Force (ETF) met in Wilmington, MA, on November 29-30 to review progress on the development of national specifications for asphalt emulsions and for pavement preservation treatments. The group is chaired by Colin Franco (Rhode Island DOT) and Chris Lubbers (Kraton). Over 35 members participated in this meeting. The meeting was held at the Warner Babcock Institute (<http://www.warnerbabcock.com/>) known for several green chemistry initiatives.

The primary goal of the ETF is to improve the specifications for preservation treatments that involve asphalt emulsions, including the development of improved materials specifications, design practices, and construction guides in the AASHTO format. Since 2013, the group has accomplished the following:



- In 2016, AASHTO standards and practices for emulsions (M140-16, M208-16, and M316-16), chip seals and microsurfacings were published.
- Developed draft standards and practices for cold in-place recycling (CIR), slurry seal, fog seal, and tack coats, which will be published in 2017.
- Developed new specifications for scrub seals and sand seals. These were balloted on in 2017 and should be published in 2018.
- Recommended and submitted research problem statements to AASHTO/TRB for the NCHRP program to develop improved guides for the construction of chip seals

and microsurfacings. The submissions were selected resulting in project NCHRP 14-37. Also selected was project NCHRP 9-62 dealing with QA and specs for CIR using asphalt-based recycling agents. Both of these projects should be completed in 2018.

- Submitted a research project statement to AASHTO/TRB to develop and validate a performance related specification for emulsified asphalts. Prior projects done for Texas DOT and for NCHRP 9-50 form the basis for using 'PG' binder grading of this new performance specification. It is expected to have a draft of the first version of the specification for emulsions by the spring of 2018. The Asphalt Institute is evaluating the results of testing from several labs on a variety of emulsions to assist with the development of the first draft specification.
- Developing QA guides and training for chip seals that include a certification program for Contractor and Agency personnel responsible for these preservation treatments.
- Developing specifications for thin bonded wearing courses. This work is expected to be completed in 2018.



The next meeting of the group will likely be held in the spring of 2018 to continue the efforts on all fronts. For more information on this group, please contact either:

Colin Franco at [colin.franco@dot.ri.gov](mailto:colin.franco@dot.ri.gov) or Chris Lubbers at [Chris.Lubbers@kraton.com](mailto:Chris.Lubbers@kraton.com)



## FHWA Update

There is good news regarding your Federal Highway Trust Fund (HTF), at least for the next few years. The revenue stream which flows into the HTF is a combination of excise taxes on gasoline, diesel fuel, and retail taxes on tires and commercial trucks and trailers. For the federal fiscal year which ended Sept. 30, 2017, the revenue stream showed no net increase over the previous year. Still, your HTF is predicted to remain solvent through the 2020 fiscal year.



Since the California state fuel excise taxes in SB-1 took effect November 1, Californians are paying 12 cents more per gallon of gasoline and 20 cents more per gallon of diesel fuel. California is one of 25 states which have recently taken it



upon themselves to raise revenue specifically for preservation of highway pavements and bridges. The states were compelled to act because according to 2015 data, the federal share of pavement and bridge spending has declined to 20% of the total.

On the national level, once the current tax reform efforts are completed, the White House has vowed to take up infrastructure legislation. In fact, the White House is relying on savings and growth from tax reform to help fund infrastructure. Between the White House and Capitol Hill, there are numerous drafts of the next surface transportation legislation, but so far no conference committees. Look for Senator Sam Graves and White House economic advisor Gary Cohn to be key players.



Have you heard of e-Construction? It's a delivery process for construction management which relies on mobile digital devices

to accelerate the flow of information, reduce paperwork, provide quick access to documents, and integrate with other systems, e.g. accounting. For more information, including a complete list of benefits see: <https://www.fhwa.dot.gov/publications/publicroads/17julaug/02.cfm>

By Steve Healow, FHWA, Sacramento



The FHWA Office of Infrastructure is developing a series of technology transfer videos entitled "Concrete Clips". The first video in the series is entitled "Internal Curing". See <https://youtu.be/b6WREFmacaM>. Future topics will include cement manufacturing, blended cements, supplementary cementitious materials, aggregates for concrete, alkali-silica reactivity, mechanistic empirical design, and freeze-thaw durability tests.

If you are a public agency engineer who could benefit from a one-week educational development program in asphalt technology with emphasis on cost effectiveness and sustainability, the Asphalt Engineers Workshop at the National Center for Asphalt Technology at Auburn University was created for you. The course capacity is 24 students and will be offered every other year. There is no tuition or fees for the course and per diem for attendees is paid by their employer.



For more information, see: <http://eng.auburn.edu/research/centers/ncat/education/training/engineers.html>

Are you incorporating Canadian sand and gravel into your projects? According to a recent Los Angeles Times article, the volume of Canadian aggregate exported to California now exceeds 3 million tons. Canadian sand and gravel is conveyed from the source on Vancouver Island, British Columbia, by bulk cargo vessel to the Port of Long Beach, then to customers throughout southern California.

See also:

<http://www.latimes.com/business/la-fi-canadian-gravel-20171104-htmlstory.html>

For more info contact Steve Healow, FHWA, at: [steve.healow@dot.gov](mailto:steve.healow@dot.gov)



## CP<sup>2</sup> Patrons Program Update

By Roger Smith, CP<sup>2</sup>

The CP<sup>2</sup> Center's Patrons Program gives our partners from industry and other pavement oriented groups a way to provide more general sustaining support for the Center, and to help direct and even participate in the Center's activities.

The Center was established in 2006 at CSU, Chico, to provide assistance with the development and use of appropriate pavement preservation strategies, and it celebrated its 10th anniversary in August, 2016. The Center was originally funded by Caltrans and continues to work closely with them, as well as other agencies. We maintain a very experienced staff of pavement experts and a state-of-the-art laboratory facility which continues to improve each year.

But the Center is funded only by its contracts with agencies such as Caltrans, CalRecycle, Metropolitan Transportation Commission (MTC) and also some industry clients. In all cases, work under those contracts is narrowly defined, so that funding may only be used for specific contract tasks.

The Center, therefore, has no contingency funding to sustain "overhead" activities, such as maintaining lab equipment, preparing contract proposals, participation in events to promote pavement preservation, organizing meetings and conferences, and delivering training classes. This funding must come from non-contract sources such as our Patrons Program. Donation of used lab equipment is another way Patrons have supported the Center.

Co-Chairs for the Patrons group are currently Scott Metcalf (Ergon Asphalt and Emulsions) and Rene Vercruyssen (Knife River). The next Patrons meeting will be Spring, 2017, date and location to be determined.

For more information on joining or supporting our Patrons Program, please contact CP<sup>2</sup>C Director Ding Cheng [dxcheng@csuchico.edu](mailto:dxcheng@csuchico.edu) or Scott Metcalf [scott.metcalf@ergon.com](mailto:scott.metcalf@ergon.com) or Rene Vercruyssen [Rene.Vercruyssen@kniferiver.com](mailto:Rene.Vercruyssen@kniferiver.com).

More information on the Patrons Program can also be found on the Center's website at [www.cp2info.org/Center](http://www.cp2info.org/Center).

## Mark Your Calendar: Coming Events

By Roger Smith, CP<sup>2</sup> Center



COMING  
EVENTS

**"Asphalt Pavement 101" Classes**  
*January 9 (Watsonville), January 10 (San Luis Obispo), January 11 (Fresno)*

Four sessions of CalAPA's popular "Asphalt Pavement 101" class will be offered in northern California. This 4-hour class provides an overview of asphalt pavement design, materials, equipment, construction, and inspection basics. It's great introductory training for new hires and provides a solid refresher and update for more experienced personnel. For more information go to: [www.calapa.net](http://www.calapa.net).

**Transportation Research Board (TRB)**  
*January 7-11 (Washington, D.C.)*

The Transportation Research Board (TRB) 97th Annual Meeting will be held January 7-11, 2018, at the Walter E. Washington Convention Center, in Washington, D.C. The information-packed program is expected to attract more than 13,000 transportation professionals from around the world. The meeting program will cover all transportation modes, with more than 5,000 presentations in nearly 800 sessions and workshops, addressing topics of interest to policy makers, administrators, practitioners,

researchers, and representatives of government, industry, and academic institutions. For more information go to: <http://www.trb.org/AnnualMeeting/AnnualMeeting.aspx>

**World of Concrete**  
*January 23-26, 2018 (Las Vegas, NV)*

World of Concrete (WOC) is the largest annual international event dedicated to concrete and masonry professionals. WOC was introduced to the commercial construction industry in 1975. Now, 43 years later, World of Concrete now boasts more than 1,500 exhibiting companies and 55,000 registered industry professionals in more than 725,000 net square feet of exhibit space. WOC offers both 90-minute and 3-hour seminar sessions - more than 150 skill-building seminars with top industry experts. For more information go to: <https://www.worldofconcrete.com/>

**ISSA Slurry Systems Workshop**  
*January 22-25 (Las Vegas, NV)*

The International Slurry Surfacing Association (ISSA) "Slurry Systems Workshop" will offer a challenging and informative

*Continued, next page*

program on slurry seal, micro surfacing, chip seals and crack treatments with “hands-on” operation demonstrations and workshop-type discussions. Attendees will also be able to view state of the art equipment. Following the Workshop, the National Center for Pavement Preservation (NCP2) will again offer the AASHTO TSP2 Certification Exams for each of the following preservation treatments: chip seal, slurry systems, and crack treatment. For more information go to: [www.slurry.org](http://www.slurry.org)

**WRAPP Pavement Preservation Workshop  
February 6-7 (Concord, CA)**

The Western Regional Association for Pavement Preservation (WRAPP) will hold its annual 2-day pavement preservation learning experience for public works professionals, pavement engineering firms, and industry representatives, at the Concord Hilton. Get the latest in asphalt pavement preservation technology from presentations by experts. Vendor displays are also a popular part of the event. For more information go to: [www.wrapp.org](http://www.wrapp.org)

**AMAP Conference & Workshop  
February 6-8 (Phoenix, AZ)**

The Association of Modified Asphalt Producers (AMAP) is dedicated to the development, production, and use of modified asphalts. The Association promotes technical research, production, and planning assistance, and welcomes from research organizations, polymer production companies, asphalt production companies, contractors, and governmental agencies. For more information go to: <https://modifiedasphalt.org/>

**National Pavement Expo 2018  
February 7-10 (Cleveland, OH)**

The largest conference and trade show for pav-

ing and pavement maintenance professionals. Focus covers paving, sealcoating, pavement repair, striping, sweeping, and snow removal. For more information go to: [www.nationalpavementexpo.com](http://www.nationalpavementexpo.com)

**AEMA – ARRA – ISSA Annual Meeting  
February 20-23 (Indian Wells, CA)**

The Asphalt Emulsion Manufacturers Association (AEMA), the Asphalt Recycling & Reclaiming Association (ARRA) and the International Slurry Surfacing Association (ISSA) will meet together for the 15th consecutive year as the Pavement Preservation and Recycling Alliance (PPRA). For more information go to: <http://www.slurry.org/mpage/AMMain>

**Arizona Concrete Preservation Tech Day  
February 21st, 2018 (Phoenix, AZ)**

The Arizona Department of Transportation and the Concrete Industry invite you to participate in a Arizona SPS-2 Tech Day Event on Concrete Preservation. Celebrate this learning experience with us on: February 21st, 2018 from 9 AM-2 PM at 1130 North 22nd Ave. Phoenix, AZ. RSVP with Larry Scofield: [lscofield@pavement.com](mailto:lscofield@pavement.com)

**CalAPA Spring Asphalt Conference & Equipment Show  
April 25-26, 2018 (Ontario, CA)**

Hear from top policy-makers and respected experts from across the country on topics that will directly impact your business or your agency now and in the future. Topics will include: best practices in HMA design, specifications, testing, paving future trends, research projects, and updates on legislation and funding. In conjunction with the Conference, the popular class, “Asphalt Pavement 101”, will also be offered. For more information go to: [www.calapa.net](http://www.calapa.net)



**Disclaimer: Caltrans does not endorse any industry products or services, and the contents of newsletter articles reflect the views of the authors and do not necessarily reflect the official views or policies of Caltrans, the CP<sup>2</sup> Center, or the State of California.**

Caltrans established the California Pavement Preservation (CP<sup>2</sup> Center) at CSU, Chico in July 2006, and fully funded the Center in January 2007. Dr. DingXin Cheng is the current Director of the Center. Mr. Hector Romero is the current contract manager of Caltrans.

The purpose of the Center is to provide pavement preservation support services to Caltrans and other public agencies, and to industry. Unique services include developing educational programs in pavement preservation, providing training and staff development opportunities, providing needed technical assistance to public agencies and industry, and managing/conducting research and outreach services, such as this newsletter.

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