



CP2 CENTER NEWS

Newsletter of the California Pavement Preservation Center

No. 65

March 2023

2023 WRAPP Workshop A Success

By Roger Smith, CP2 Center

The Western Region Association for Pavement Preservation (WRAPP) hit another home run with their 2023 Workshop, held in Long Beach. Over 200 people from public agencies & Industry enjoyed 2 days of educational presentations and interacting with industry reps at over 20 vendor booths.



Mathew Conarroe with Tim Schmid (2023 WRAPP President)

Matthew Conarroe (Western Emulsions), 2022 WRAPP President, welcomed the group, with a reminder that there were a lot of very knowledgeable people in attendance, so everyone should take the opportunity to learn from each other, as well as from the expert presenters.



Sergio Aceves (Caltrans)

Keynote speaker for the Workshop was Sergio Aceves, Chief of Caltrans' Maintenance Division, with an overview of Caltrans' pavement maintenance efforts and funding, noting that in 2022 Caltrans' pavement preservation (P2) work included 362 In-mi of chip seal, 190 In-mi of slurry seal and 109 In-mi of microsurfacing. Section 37 of Caltrans standard Specs was updated in 2022, including a revised specification for fog seals.

He cited the work of the joint Caltrans-Industry PMPC Committee in dealing with specifications development and generating pilot projects and the work of our CP2 Center in helping evaluate the field performance of their pilot projects. He also noted that training for Caltrans personnel has involved assistance from WRAPP, and that the Caltrans Maintenance Technical Advisory Guide (MTAG) will soon be updated, with help from CP2 Center. (See a related article on the MTAG in this Newsletter.)

Aceves also spoke about Caltrans' Climate Action Plan, which favors projects that do not increase vehicle miles travelled (VMT) and air pollution. This, in effect, should focus increased interest in pavement

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maintenance projects.

The WRAPP Workshop agenda included numerous other speakers providing valuable information on various aspects of pavement preservation. A sampling of the presentations is included below. The full agenda and presentation will be posted on the WRAPP website: www.wrapp.org

Cathrina Barros, Chief of Office of Asphalt Pavement of Caltrans Pavement Program, delivered the keynote speaking on the women of asphalt and collaborations on pavement preservation with CP2 Center and industry.



Cathrina Barros (Caltrans)

L.A. County representatives reported on their P2 effort, which since 2009 has relied on pavement condition Index (PCI) and includes the use of rubberized HMA and the use of RAP in both HMA and P2 treatments, such as chip seals and slurry surfacing. They also make extensive use of micromilling as a preparation for their surface treatments.

A focused look at the use of **RAP aggregate in P2 treatments** was given by Doug Ford (Pavement Coatings Co.). RAP aggregate can work very well in emulsion chip seals and slurry seals - and scrub seals, which involve rejuvenating emulsion. RAP use in slurry seals requires more advanced mix design work, including extraction tests on the RAP to determine its asphalt content and gradation. Proper rolling of the slurry seal also becomes critical. Because of moisture in RAP, it's use in asphalt rubber chip seals is not advised.

Jason Dietz (FHWA) discussed highlights of the

recent **webinars on pavement preservation**, which have been ongoing as a joint venture of FHWA and the Pavement Preservation and Recycling Alliance (PPRA). These webinars are recorded and are available to view at: www.roadresource.org, a valuable resources for P2 technologies. (See article on 2023 Webinars planned.)

Erik Updyke (CCPIC, Los Angeles County-retired), presented on **specifications and the other contract documents**. Fundamentals of the relationship among the various contract documents, specification types and formats, and guidelines for the preparation of specifications and special provisions was discussed.

The finer points of **slurry seal inspection and testing** were covered by Evan Folk (Union Materials Testing). He stressed the need for proper calibration of slurry equipment, and advised the placing of a test section prior to starting a big slurry seal project. The field preparation of wet-track abrasion test specimens was also covered.

The benefits and cost effectiveness of **rejuvenating fog seals** was presented by Kevin Donnelly (Western Emulsions). By restoring chemical elements lost due to oxidation of asphalt binders, these treatments can extend the life of a pavement while restoring its new black look. These products can also be applied on pavements containing asphalt rubber.

The City of Roseville's experience and practices with **P2 strategies** was outlined by Jerry Dankbar, retired). Their program leans heavily on rubberized chips seals and Cape seals, sometimes with pre-leveling via microsurfacing or 3/8" HMA. The service life of these surface treatments has exceeded 20 years.

The use of **highly modified (HiMod) slurry seal and microsurfacing** in cold climates was reported on by Gary Hicks of our CP2 Center. A project in the Lake Almanor area (4400' elevation; heavy snow plowing) was highlighted. Hi-mod polymer modification (6%) produced better resistance to scuffing by snowplows, and better resistance to hot summer deformation and raveling. (See full article in this Newsletter.)

The use of **multi-layered surface treatments** was overviewed by Mustafa Mahmood (VSSI), including the simple use of Type1 over Type3 slurry and micro surfacing, and a more sophisticated 3-layer system involving pre-leveling with microsurfacing, followed

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by a chip seal and slurry seal. The enhancement of using a fiber additive in slurry seals was also discussed.

Annual **WRAPP awards** were given to the following projects:

- City of Exeter / Tally Oil
- Marin County / American Pavement Systems
- Placer County / Pavement Coatings Company
- City of San Diego / VSSI

Outgoing WRAPP President, Matthew Conarroe (Western Emulsions), acknowledged the successes of WRAPP in passing the gavel to 2023 President, Tim Schmid (Pavement Coatings Company).

Among the numerous vendor booths at the Workshop was our **CP2C display** and information table.



Left to Right: Erik Updyke, Ding Cheng, Sergio Aceves, and Godson Okereke at CP2 Center Display

Information on the Workshop and copies of all the presentations will be posted on the WRAPP website: www.wrapp.org



Spring Pavement Maintenance

By Roger Smith, CP2 Center



In many parts of California, the arrival of Spring means shifting into high gear on pavement maintenance and repairs. The winter months and spring rains always take their toll on pavements, so it good to review a few timely strategies for bringing our pavements back to life and serviceability. These and other maintenance practices are covered in the Manuals developed by the CP2 Center for our Pavement Preservation Academy, being offered April 3-7 online. Find information at: <https://www.csuchico.edu/cp2c/educational-opportunities/ppacademy.shtml>

POTHOLES

The winter and spring rains have revealed weak spots in our pavement, often to the point of pothole formation. Patching potholes should be considered high-priority item since they can pose a real safety hazard to vehicles – especially the motorcycles and bicycles. Unrepaired potholes can pose a big liability for the roadway owner, so repairing them should be a very high priority.



Typical Spring Pothole

Quick-Patch Products

Fortunately we there are excellent 'quick patch' products for making simple and immediate repairs to hazardous potholes. They usually produce good service life and excellent 'bang for the buck'. These special cold mix products use small aggregate and proprietary asphalt binders to produce a very sticky mass that will adhere well and stay put in smaller, deeper potholes and small patches – even in the presence of water. But trying to use them as patches in larger, less confined areas will usually lead to their displacement/movement, and their rutting or shoving out of the void area. With only minimal compaction via a hand tamper or a truck tire, these product densify to form a strong cohesive mass. A light sanding of the surface will help them blend in for aesthetics and prevent any pick-up or tracking of the asphalt binder. Be sure to sweep up any excess sand and as it can become a slip/skid hazard – especially to motorcycles.



Quick-Patch Product

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Various brand names of quick-patch products are available – some even at the local home stores in 40-50 lb. bags. A few bags of these special materials in the back of a maintenance pickup can make everyone a pothole patcher. The products are also available in bulk for stockpiling.

Digout Patches

For those larger localized failed areas, it's usually necessary to remove the severely failed material and replace it with hot mix asphalt (HMA). Warm mix asphalt can also be used, but rubberized asphalt mixes (e.g. RHMA) do not lend themselves to hand work and should be avoided.

Best practices include laying out a cut line at least 1 foot beyond the visible cracking and making the cut with a pavement saw, a jackhammer or a small milling machine. The old pavement should be excavated deep enough to allow placement of HMA at least 50% thicker than the old HMA layer that failed. With the major costs being lane closures and crew time, making thicker patches is cost effective. The underlying material – often aggregate base (AB) - should always be re-compacted. A heavy tack coat should be applied to the faces of the HMA vertical cuts to help promote a good seal. Heated patcher vehicles (trucks or trailers) should be used to keep the HMA material hot for making multiple patches.



HMA Patcher Trailer

You should place enough loose material so that it requires 3 to 4 passes of the roller to make it flush with the old pavement. The goal is a flush patch surface and a well-compacted patch. Checking the final surface of your patch with a straightedge can help prevent a 'patch bump', especially important on higher speed roadways.

It's important to note that a steel drum roller may only be used in 'vibratory' mode if it's not

touching the old surrounding pavement. This means that on smaller dig out patches, only 'static' rolling should be used. A vibratory steel drum contacting old cold pavement will cause cracking surrounding your new patch.

Hot Mastic Patches

Hot mastic products can also be used for patching – for potholes and for larger patches. Mastics can also be used to fill wide cracks – say wider than 2" – where conventional crack sealers aren't recommended. These proprietary products use hot thermoplastic elastomeric binders, which tend to retain flexibility to accommodate pavement movement. They contain high quality aggregate to provide a repair that stays stable under wheel loads. These hot mastic blends require special heating / melting equipment, which can be either purchased or rented.



Hot Mastic Patching

ROUGHNESS & RAVELING The ravages of winter also can contribute to a rough-riding pavement due to raveling of the HMA surface in the wheelpaths. Often these pavements are structurally in acceptable condition, and just need a surface smoothing and leveling. Short of placing a new HMA overlay, microsurfacing is a lower cost way to improve smoothness – and provide a surface sealing benefit.



Microsurfacing Application

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Microsurfacing application

Microsurfacing contains polymer modifiers, and also cement, that combine with high-quality aggregate to create a tougher, more stable mix that can help smooth out a rough or rutted pavement. These treatments are also enhanced by the addition of chemical additives, allowing placement in cooler air temps, or even night work.

CRACK SEALING

Spring and Fall are the also ideal seasons to do crack sealing – mainly because air temperatures are more moderate and cracks are open enough to allow for an optimum amount of sealant to be placed in the crack. Cracks greater than 1/4" can usually be

effectively sealed. For wide cracks (greater than 2") use a hot mastic product. Material manufacturers should be consulted as to the proper grade of material for your climate and traffic conditions. On higher speed routes, avoid 'overbanding' and sealant bumps, which can cause a rough ride.

So as we head into spring, you'll need to have all you maintenance & repair operations ready to go!

These and other maintenance practices are covered in the new Manuals developed by the CP2 Center for our Pavement Preservation Academy being offered April 3-7 online.

For more info go to: www.csuchico.edu/cp2c/



'Hi-mod' Micro Surfacing and Slurry Seal for Harsh Conditions

By Cesar Lara (Unico Engineering) and Gary Hicks (CP2 Center)

The improved properties and performance benefits of highly polymer modified ('hi-mod' - 6% polymer) micro surfacing and slurry seal emulsion, when compared to conventional slurry surfacings (< 4% polymer), have been demonstrated in the laboratory and the field. For several years, hi-mod emulsion has been used in micro surfacing and slurry seal applications on roadways in high-elevation, cold-climate areas throughout California for the usual sealing and smoothing, as well as in warm/hot-climate, and urban areas. But in colder climates, the hi-mod emulsion has also proven to resist thermal cracking, snowplow damage, and other distresses brought on by cold weather conditions. And in the warm/hot weather climates in urban areas, the hi-mod emulsion has provided

improved resistance to scuffing, shoving, and pushing at intersections and cul-de-sacs.

Hi-mod Performance in High-Elevation and Snowy Conditions

A series of projects at Lake Tahoe, Big Bear, and Lake Almanor Country Club (LACC) demonstrated the enhanced performance of hi-mod treatments in high-elevation and snowy conditions. The projects at the LACC included a 2015 hi-mod micro surfacing and a 2016 cape seal featuring an asphalt rubber (AR) chip seal and hi-mod micro surfacing. Evaluated in the fall of 2021, findings from these LACC projects showed that the hi-mod project was still performing well with little-to-no snowplow damage, as shown in Figure 1. There was some reflective thermal



Figure 1. Performance of 2016 projects in 2021



Figure 2. Performance of 2019 Projects in 2021

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cracking, but, as shown in Figure 2, the pavement surface was still in good condition and expected to last up to 10 years. In 2019, another AR cape seal was applied at the LACC, but this time with a conventional micro surfacing emulsion (meeting Caltrans specification) instead of the hi-mod product. The conventional micro surfacing wearing course has already worn off on many project sections and is exhibiting extensive snowplow damage, as shown in Figure 3.



a) Loss of Micro



b) Snow Plow Damage

Figure 3. Performance of 2019 projects in 2021

Bob Feeney, a LACC homeowner and one of the team that laid out and inspected the first two projects said, *"The 2015 and 2016 projects went well. There was good communication between the contractor and the LACC staff. Also, the project had some daily inspections. For the 2019 project, the hi-mod was not used. Also,*

the communication and expectations between the contractor was not good, there were some workmanship issues, and the work was done in the late season where temperatures dropped below freezing at night. The material placed in 2019 did not perform as well as the 2016 and 2017 projects".

Other projects in high-elevation situations have yielded comparable results as these hi-mod projects at the LACC. Recent results from a 2013 demo project at Big Bear evaluating the benefits of hi-mod versus conventional slurry seal revealed minimal snowplow damage on the hi-mod section compared to the section that received the conventional slurry seal, which is now mostly worn. Results were similar on a Lake Tahoe application where hi-mod micro surfacing was compared to conventional micro surfacing. These projects have proven that hi-mod emulsion does make a difference in long-term performance.

Increased Durability in Urban Areas

Hi-mod's improved performance has also been demonstrated in hotter urban areas on projects in Victorville, Ontario, LaQuinta, and more sites. Hi-mod micro surfacing applications on roadways at these sites resulted in resistance to scuffing due to hot temperatures as well as resistance to surface abrasions due to power steering in cul-de-sacs, as shown in Figure 4.



a) Conventional Emulsion



b) Hi-Mod Emulsion

Figure 4. Comparison of the Conventional emulsion with a hi-mod emulsion at a cul-de-sac after the same trash truck

The hi-mod applications also reduced the risk of instability (pushing)

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at intersections.

Hi-mod in High Demand

Many agencies and taxpayers are demanding better performing, more sustainable, and resilient products. Hi-mod emulsion checks all of these boxes. With increased durability, a wider temperature band, and increased flexibility, hi-mod emulsions have increased the life-extending benefits of micro surfacing and slurry seal projects in comparison to its conventional counterparts.

The specific emulsion utilized for these California

hi-mod projects was supplied by Ergon Asphalt & Emulsions.

"Hi-mod emulsion allows for the possibility of up to 10 years of service life, which is a game changer," said Ergon Asphalt & Emulsions' Scott Metcalf. "Agencies that have used hi-mod have all noted that it's just tougher and more durable."

For more information on hi-mod micro emulsion, contact Gary Hicks at rg Hicks40@outlook.com or Scott Metcalf at Scott.Metcalf@ergon.com.



Concrete Pavement Workshops

By Charles Stuart (SWCPA)



As part of their *"Paving the Sustainable Road to the Future"* program, the concrete industry and the Southwest Concrete Pavement Association (SWCPA) will offer a series of short online Workshops in 2023, including:

"Fundamentals of Concrete Pavement: JPCP, CRCP and Precast" (March 21)

"Understanding the Admixtures for Paving Mixes" (April 25)

"Fundamentals of Concrete Paving Equipment" (May 23)

"Grinding the Way to Smoother, Sustainable Pavements" (June 20)

Agency and Industry personnel involved in concrete pavement design, construction and performance for roadway and airfield projects will benefit from these workshops.

There is no cost, but registration is required.

For additional information, contact Charles Stuart (SWCPA) at: cstuart@swcpa.org go to: <https://swcpa.org/the-swcpa-workshops-are-back/>



MTAG Update Underway!

By Roger Smith, CP2 Center

Since its first publication in 2003, the Caltrans Maintenance Technical Advisory Guide (MTAG) has been a go-to reference for all things pavement maintenance. It's often referred to as the pavement maintenance 'Bible'!

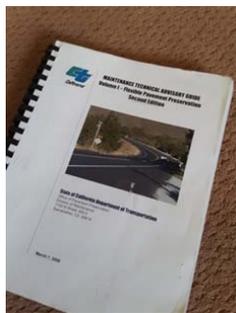
It's a 2-Volume reference - Volume 1 is for Flexible (Asphalt) Pavement Preservation, and Volume 2 addresses Rigid (PCC) Pavement Preservation. The Guides cover a lot. The full Caltrans Guides can be found at: <https://dot.ca.gov/programs/maintenance/pavement/mtag>

Volume 1 (Asphalt Pavement) covers topics such as the purpose of pavement preservation, strategy selection, and coverage of the specifics of

10 commonly used strategies, including crack sealing, patching, fog seals, chip seals, slurry & and micro surfacings, thin asphalt overlays and even in-place recycling. It's a very comprehensive Guide!!

Volume 2 (PCC Pavement) covers strategy selection and specific topics such as joint sealing, diamond grinding / grooving, dowel bar retrofit, and partial / full-depth repairs of PCC.

But updates are needed. Its last update was in 2008. So an updating effort will begin in 2023, with the CP2 Center playing a major role as part of our support work for Caltrans.



MTAG in print form

BBRWG Update

By Roger Smith, CP2 Center

The San Diego area's Building Better Roads Working Group (BBRWG) has engaged agencies and industry associations to identify pavement preservation challenges and solutions throughout the San Diego region. Since 2018, BBRWG has organized numerous meetings and

workshops to share knowledge and provide educational opportunities and leadership on a number of pavement topics. The Group continues to focus on regional issues, including the use of reclaimed asphalt pavement (RAP), cold

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in-place recycling (CIR), fiber-reinforced asphalt, and warm mix asphalt (WMA).

It's combined in-person and online meeting on February 28, was hosted by San Diego County and facilitated by Rich Fitterer (Kleinfelder). Industry updates were provided to the Group by various Industry association representatives. The main presentation was an overview of Assembly Bill 2953 (Salas) Recycling which requires local governments to adopt specifications starting January 1, 2024 for use of recycled construction materials including road base, asphalt and concrete to the levels allowed by Caltrans 2018 Standard Specifications.

Fitterer provided a brief history and overview of the Group's charter, mission and goals. Since its formation, its major accomplishments have

included informational surveys, plant tours, training classes, creation of 'Guidance Documents', and implementation of pilot projects (e.g., use of 25% RAP in AC overlays, warm mix asphalt (WMA) and fiber-reinforced HMA).

Seven 'Guidance Documents' have so far been produced by the Group, and are in the process of being posted on the website to support local agencies in maintaining their pavement networks. The BBRWG's website, which also offers updates on pilot projects, meeting agendas, presentations, meeting notes and more, is at:

Building Better Roads (sandiegocounty.gov/bbr). For more information, please contact Keith Kezer with the County of San Diego at keith.kezer@sdcounty.ca.gov.



FHWA Update

By Chu Wei, FHWA Sacramento

Mobile Asphalt Technology Center visits California in the spring

The Federal Highway Administration and California Department of Transportation are hosting the open house for the Mobile Asphalt Technology Center (MATC) at Caltrans

District 8 – Southern Regional Laboratory,
13970 Victoria Street, Conference Room 13,

Fontana, CA on Tuesday, March 14th, 2023, from 9am to 4pm. The MATC features the latest in asphalt mixture testing, materials quality monitoring, and field test equipment and technologies.

Plan to Join us at the Open House (In-Person or Virtually). Please register at: <https://forms.office.com/g/YwXXhiRHGQ>

There are also 'Lunch + Learn' virtual info sessions provided by the FHWA MATC program, listed below:

MATC Efforts to Quantify Surface Macrotexture for Added Asphalt Roadway Friction and Safety – Ram Veeraragavan & Andy Mergenmeier

3/21/2023 @ 11:00 a.m. Pacific Time

<https://usdot.zoomgov.com/meeting/register/vJltdO-prD8rHxs5syBJNjaVJWnVOvhPLM0>

Sustainability in Asphalt Pavement: EPD's and LCA Decoded – Jennifer Albert

3/28/2023 @ 11:00 a.m. Pacific Time

https://usdot.zoomgov.com/meeting/register/vJlscCgqTguHPvV_AvSszaJy0AkHb0y3UA

Lab Look-In: Live BMD Test and Fabrication Demonstration from the MATC – MATC Crew 4/4/2023 @ 11:00 a.m. Pacific Time

https://usdot.zoomgov.com/meeting/register/vJlFuGhrzloE9A6cDKsKekBSqUsPYVJn_U

Balanced Mix Design: Key Tasks for Implementation – Derek Nener-Plante

4/6/2023 @ 10:00 a.m. Pacific Time

<https://usdot.zoomgov.com/meeting/register/vJlTcuutrDwsGdsdm06Lp200xB5MG51kksQ>

FHWA 'Everyone Day Counts (EDC) #7'

EDC is Innovation for a Nation on the Move. This EDC cycle features initiatives for strategies to improve safety for all users, build sustainable infrastructure for the future, and grow an inclusive workforce. There will be presentations, fact sheets, videos, virtual booths, and pdfs of innovations developed. There are two EDC #7 innovations related to pavement & materials:

Enhancing Performance with Internally Cured Concrete (EPIC2)

Cracking in concrete is a limiting factor in achieving long-term concrete performance. 'Internal curing' mitigates shrinkage cracking and has the potential to substantially extend the service life of concrete bridge decks and enhance the performance of pavements and repairs.

EPDs for Sustainable Project Delivery

Construction materials such as concrete and asphalt have environmental impacts during their life cycle. Environmental Product Declarations, or EPDs, help document those

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U.S. Department of Transportation
Federal Highway Administration

impacts. This tool helps States support procurement decisions and quantify embodied carbon reductions using life cycle

assessments for sustainable pavements.

For more information contact Chu Wei, FHWA, at: chu.wei@dot.gov



Pavement Preservation Academy in April

By Roger Smith, CP2 Center



A big achievement of the Center has been the development and delivering of the Pavement Preservation Academy (PPA) sponsored by the SB-1 'fuel tax' fund.

The third offering of this online Academy will be April 3 – 7, from 9am to noon each day.

Instructors are Roger Smith, Gary Hicks, Lerose Lane, Ding Cheng and Erik Updike.

The 5 segments of the PPA are based on manuals that have been developed by the CP2 Center and are published on the MTI website. In addition to being used in the Academy, these manuals are free to the public and downloadable using the following links:

- Asphalt Pavement Repair and Resurfacing Preparation: https://scholarworks.sjsu.edu/mti_publications/414/
- Chip seals: <https://transweb.sjsu.edu/sites/>

[default/files/1845A-Chip-Seal-Manual.pdf](https://transweb.sjsu.edu/sites/default/files/1845A-Chip-Seal-Manual.pdf)

- Slurry surfacing: <https://transweb.sjsu.edu/sites/default/files/1845B-Cheng-Manual-Slurry-Surfacing.pdf>
- Cape seals: <https://transweb.sjsu.edu/sites/default/files/1845C-Cheng-Cape-Seal-Manual.pdf>
- Thin asphalt overlays: <https://transweb.sjsu.edu/sites/default/files/1906-RB-Cheng-Manual-Thin-Asphalt-Overlay.pdf>

The registration site for the Academy is open at the CP2 Center's website: <https://www.csuchico.edu/cp2c/educational-opportunities/pp-academy.shtml>.

If you need more information regarding the CP2 Center, please contact Dr. Ding Cheng at dxcheng@csuchico.edu or got to: <https://www.csuchico.edu/cp2c/>



Coming Events – Mark Your Calendar!

By Roger Smith, CP2 Center

Pavement Preservation Academy - April 3 (online)

A big achievement of the Center has been the development of the Pavement Preservation Academy (PPA) sponsored by the SB-1 'fuel tax' fund. The Academy has 5 segments covering the basics of pavement preservation, including:

- Asphalt Pavement Repair and Resurfacing Preparation
- Chip seals
- Slurry surfacing
- Cape seals
- Thin asphalt overlays

The registration site for the Academy is open at the CP2 Center's website: <https://www.csuchico.edu/cp2c/educational-opportunities/pp-academy.shtml>.

CalAPA "Asphalt Pavement 101" Class - March 22 (Ontario)

CalAPA's most popular technical class will be held in conjunction with the CalAPA Spring Conference in Ontario. This class is a good

review of the basics of asphalt pavement including materials, design, construction, and testing.

For more information go to: www.calapa.net

CalAPA Spring Conference - March 23-24 (Ontario)

The California Asphalt Pavement Association (CalAPA) Spring Conference will feature speakers on timely important topics and numerous vendor and equipment displays.

For more information got to: www.calapa.net

CCPIC / U.C. Berkeley Technology Transfer Courses

These courses were developed in partnership with the City and County Pavement Improvement Center (CCPIC) and funded by California Senate Bill 1, the *Road Repair and Accountability Act of 2017*.

Classes currently open for enrollment are

Pavement Construction Specifications and quality Assurance (CCC-03) March 13-21

Pavement Management Systems and Preservation Strategies (CCB-02) March 28 – April 5

Introduction to Pavement Engineering & Management (CCA-01) May 1-10, 2023

Information is at: <https://www.techtransfer.berkeley.edu/>

TRB Webinar: Guide Specifications for Constructing Slurry Seals, Scrub Seals, and Tack Coats - April 19 (online)

(Registration details to be announced)



NCPP National Conference - September 18-21 (Indianapolis)

The National Conference of the National Center for Pavement Preservation (NCPP) will offer technical speakers, educational events, equipment demos and networking opportunities on all aspects of pavement maintenance and preservation. For more info go to:

<https://nationalpavement2023.org/wp-content/uploads/2023/01/2023-NPPC-Brochure.pdf>



Nevada LTAP Center Classes - Various Dates (Online)

The Nevada center for the Local Technical

Assistance Program (NV-LTAP) regularly offers classes on a variety of pavement maintenance topics.

For more information go to: <https://nvltap.com/>



RMWPPP Annual Meeting - Dates / Location TBA

The Rocky Mountain West Pavement Preservation Partnership (RMWPPP) is a

regional forum of pavement professionals from State and Provincial Agencies, Contractors, Suppliers, Academia, Local and Federal Government Officials. For more information go to:

<https://tsp2pavement.pavementpreservation.org/rocky-mountain-west-rmwppp/>

The Asphalt Institute and NAPA Webinars (Online)



The Asphalt Institute offers national training on pavement design, asphalt binders, mix design and asphalt construction. They now offer an online Paving Inspector Certification (PIC) program. For more information on The Asphalt Institute go to; <http://www.asphaltinstitute.org/training/seminars/>

The National Asphalt Pavement Association (NAPA) offers webinars on various asphalt pavement topics. For current listings go to: <https://www.asphaltpavement.org/programs/napa-webinars>

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 CP2 Center, or the State of California.

Caltrans established the California Pavement Preservation (CP² 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. Rukesh Maharjan 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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