



# CP<sup>2</sup> Center News

Newsletter of the California Pavement Preservation Center

No. 67

September 2023

## RSA Moves Pavement Recycling Forward

By Dennis McElroy, Graniterock / RSA



(Left to Right) RSA Members Dennis McElroy-Graniterock, Clay Slocum-CNCA, Tyler Bodnar-CNCA, Marco Estrada-PRS, Michael Concannon-PRS

The Recycling & Stabilizing Association (RSA) of California has been an industry partner actively engaged with Caltrans, local governments, and other industry partners to share knowledge and encourage wider adoption of pavement recycling throughout the state.

RSA has completed more than seven 'lunch-and-learn' workshops on In-Place Recycling in 2023, with plans to hold two more, one in Santa Barbara and another in San Luis Obispo in November.

In addition to educational workshops, RSA has recently begun hosting onsite visits to active projects. Member company Graniterock recently hosted a live partial depth recycling (PDR)-also known as cold in-place recycling (CIR) - project demonstration on Golden State Blvd, in Fresno County.

"Nearly 250,000 SY of pavement was recycled, spanning 16 miles from the town of Kingsburg to the town of Fowler. Approximately \$7-\$10M was saved from Mark Thomas, Kleinfelder and the County of Fresno's engineering team's working together to optimize the

various pavement designs on the project." said Joe Harrell, PE, Supervising Engineer, Fresno County.

RSA member company MCK Services hosted another live demo of the PDR process in the City of Martinez on September 8th.

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PDR is a pavement rehabilitation technique that involves pulverizing the top layer of deteriorated asphalt pavement, followed by the addition of an asphalt binder, and/or a recycling agent, and spreading and rolling the material to create a durable, high-quality pavement layer. This method minimizes waste by reusing the existing road hot mix asphalt (HMA) pavement material in-place. without trucking of materials, while introducing new binders and other additives such as cement, to enhance stability and material performance.

PDR and other Cold Recycling (CR) techniques are safe, cost-effective, sustainable, engineered, durable and reduce public impact of pavement projects.



**RSA member Graniterock, performs on site demonstration on Golden State Blvd,  
Fresno County**

### **Caltrans Achieves Milestone: 100 PDR Projects Completed**

Worth noting is the fact that the California Department of Transportation (Caltrans) recently reached a remarkable milestone by completing 100 partial depth recycling (PDR) projects. This achievement highlights Caltrans' commitment to innovation and sustainability in road construction, as well as its dedication to saving costs and reducing environmental impact. PDR has emerged as a game-changing technique that not only extends the life of roadways, but also contributes significantly to California's ambitious environmental goals.

"Cold Recycling (CR) is a cost-effective and sustainable solution for maintaining & rehabilitating pavement. It not only reduces construction time and costs, but also minimizes the environmental impact of our transportation projects. Caltrans is proud to have a great partnership with the Recycling & Stabilizing industry, as it allows us to maximize the value of our resources and promote a greener future for California's transportation infrastructure.", said Tom Pyle, Caltrans' State Pavement Engineer.

Caltrans' recent completion of its 100th partial depth recycling project is a testament to their commitment to innovation and sustainability. The completion of these projects also signifies the success of Caltrans' ongoing efforts to educate their staff and promote the benefits of Cold Recycling (CR) solutions like Partial Depth Recycling (PDR), Cold Central Plant Recycling (CCPR) and Full Depth Recycling (FDR).

Another recent major milestone completed by Caltrans is the successful Cold Central Plant Recycling (CCPR) Pilot Project constructed in their District 8 (San Bernardino), on Route 18, by Pavement Recycling Systems (PRS). A second CCPR project will be built in District 6 (Fresno).



**PRS Mobile Plant produces CCPR Material**

CCPR will be an effective tool for Caltrans and local municipalities because the asphalt pavement layer can be rehabilitated with CCPR and coupled with a cement or lime stabilized subgrade or (FDR-C) supporting layer. By stabilizing the subgrade with cement or lime, 100% of the pavement structure can be reused in place, minimizing disposal and transportation costs.

As Caltrans continues to push the concept of sustainable road construction, the achievement of 100 PDR projects, along with their CCPR pilots, serve as steppingstones towards a greener and more cost-efficient future. The department will undoubtedly inspire other transportation agencies to embrace similar techniques, advancing the state's environmental goals while improving road infrastructure.

"By embracing solutions like in-place recycling, we can reduce the costs and environmental impacts of our pavement maintenance and rehabilitation projects while reducing the disruption to the travelling public. This approach aligns perfectly with our vision of a transportation system that is safe, efficient, and environmentally responsible. Let us continue to lead the way in promoting in-place recycling as an industry best practice. Together, we can create a safer, more accessible, equitable, and sustainable California for all." says Tony Tavares, Director of Caltrans.

#### **Technical Guide Available**

For technical guidance a Guide for Partial- and Full-Depth Pavement Recycling in California (2020) by the UCPRC is available at: <https://doi.org/10.7922/G2TX3CN8>

For more information, or to RSVP for an RSA event go to: [rsa-california.com](https://rsa-california.com)



**CCPR Material Placed**



## **'PG' Binder Grade Selection Update**

**By Roger Smith, CP2 Center**



Choosing the right 'PG' grade of asphalt binder for a given HMA project is largely a climate-based decision. Updated guidance for selecting the appropriate PG grade of asphalt binder has now been included in the Caltrans Highway Design Manual (HDM), Section 632 (May 2022).

Worth noting is that while PG 64-10 remains the workhorse binder for California's milder climate coastal areas, the HDM allows for use of the harder PG70-10 grade in Coastal areas - if heavy truck and bus traffic is expected.

The HDM also now recommends PG 70-10 for "Inland Valley" and "Desert" areas. This use of the harder PG70-10 binder recognizes the need for a more stable, rut-resistant HMA in hot areas like the Central Valley.

For "High Mountain" areas, the recommended binder grade remains PG 64-28, which is usually a polymer-modified binder.

For more information consult the Caltrans HDM at: [Chapter 630 \(ca.gov\)](https://www.ca.gov/chapter-630)





## Tack Coat Between Lifts of New HMA?

By Roger Smith, CP2 Center



**Tack Coat Application**

Asphalt tack coats (usually asphalt emulsion) are routinely used when new HMA overlays are placed over old HMA. But discussions about the benefits of also placing an asphalt tack coat between lifts of new HMA have been around a long time. An early paper by UC Berkeley's Tech Transfer Center's Larry Santucci (2009) pointed out that in controlled Heavy Vehicle Simulator (HVS) testing, lifts of new HMA bonded by a tack coat produced very significant decreases in fatigue cracking.

More recently a 'white paper' reinforced that thinking, stating that "Proper tack coat application results in the pavement layers acting as a composite section." And that asphalt layers not well bonded can cut the fatigue life of a pavement in half! The paper is available on the CCPIC website: [City and County Pavement Improvement Center \(CCPIC\) \(ucdavis.edu\)](http://ucdavis.edu)

Recognizing the benefits, Caltrans now includes this requirement in Section 39 of their Standard Specifications, stating that a tack coat must be applied "to existing pavement" and "between HMA layers".



## First 'Lunch & Learn' A Success

By Roger Smith, CP2 Center



The Women of Asphalt - California Branch, held their first 'Lunch & Learn' webinar session on August 15. Sydney Johnson of Earth Systems coordinated the event, with the featured speaker being Cathrina Barros, Caltrans, Chief of the Office of Asphalt Pavements, who provided an update on Caltrans development of construction documents and standards, including their Standard Specifications.

Worth noting is that Caltrans will no longer produce their voluminous print version Standard Specifications book. It will only be available online, which will allow an annual updating - every July. She also explained the role of the Pavement Materials Partnering Committee (PMPC) as an important forum for input from their "Industry Partners" to their specification development process. The PMPC process often involves constructing 'pilot projects' incorporating new products or technologies. The current list of pilot project technologies includes high RAP (40%) HMA, 10% RAP in RHMA, Aramid fibers in HMA, and cold central plant recycling (CCPR). Where further research is needed, the UC Pavement Research Center (UC Davis) or California Pavement Preservation Center (CSU Chico) may be involved.

She also acknowledged that Caltrans directives for using appropriate 'PG' grades of asphalt binder are being reviewed, partly due to climate warming, which has created the possible need for expanded use of harder binder grades (e.g. PG 70). Input from asphalt refiners and hot mix producers will be included in these discussions.

These 'Lunch & Learn' events will be presented bi-monthly addressing various hot topics in asphalt pavement technology.

For more information go to: <https://www.womenofasphalt.org/> or contact Sydney Johnson at: [sjohnson@earthsystems.com](mailto:sjohnson@earthsystems.com)



## SWCPA Presents Diamond Grinding Workshop

By Mark Gudenas, SWCPA

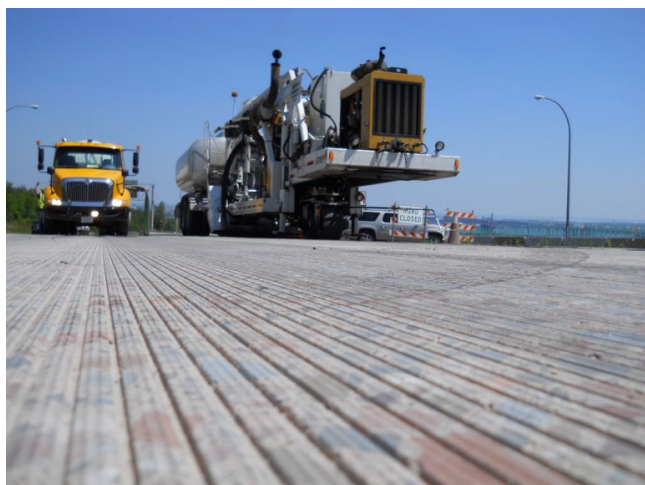


Since the beginning of 2022, the Southwest Concrete Pavement Association (SWCPA) has been hosting monthly online workshops covering the full scope of concrete pavement – from design to execution to renewal. The Tuesday morning workshops are offered at no cost, thanks SWCPA's steadfast support from concrete professionals throughout California and the U.S.

On June 20th, SWCPA hosted "Grinding the Way to Smoother, More Sustainable Pavements." The workshop revealed the sustainability advantages of diamond grinding for improving concrete pavements, along with the mechanics behind the process. Diamond grinding techniques were shown to revitalize and extend the lifespan of existing pavements, reducing the need for costly maintenance repairs and replacements.

Also, the environmental benefits of diamond grinding were presented by the panel of subject matter experts, and they include reduced noise, enhanced skid resistance, better pavement ride quality (smoothness), longer lifespan, and increased energy efficiency of vehicles.

The featured panelists in the workshop were Tom Van Dam, Principal at WJE, John Harvey, Professor of Civil & Environmental Engineering and Director of the University of California Pavement Research Center (UCPRC) at UC Davis, and Larry Scofield, Director of Pavement Innovation at the American Concrete Pavement Association (ACPA).



Tom Van Dam led off the workshop with illustrations of diamond grinding and Next Generation Concrete Surface (NGCS) – Grind and Groove. He showed the performance benefits of restoring smoothness, including significantly reducing noise, improving friction, improving cross slope, and extending the performance life by 14 to 17 years.

Van Dam also shared documentation detailing how smoother pavements result in less fuel consumption and less GHG emissions, validated by NCHRP, Caltrans, and the World Bank HDM 4 model.

### NGCS Grind Pattern

John Harvey then spoke of the importance of diamond grinding to ensure a smooth surface if any concrete pavement is "born rough," emphasizing that grinding is a procedure best done at night during the summer when curl and drying shrinkage that increase the pavement roughness are at a maximum. Harvey confirmed the benefits that Van Dam highlighted. Harvey also presented his "Quick Survey of the Use-Phase Benefits of Grinding Concrete Pavement" showing significant environmental benefits of smoother concrete pavement over the Use Phase

Next up Larry Scofield brought the basics to light – the physical procedures that take place in diamond grinding. On a very practical level, he demonstrated how frequent pavement problems can be addressed through diamond grinding. Covered issues included faulting at joints and cracks, built-in or construction roughness, a polished surface, wheel-path rutting, slab curling and warping, and unacceptable noise levels.

Spotlighting the difference between milling vs. grinding, Scofield showed a diamond grinding head that contained between 13,000 to 19,000 carats of industrial diamonds. He then showed the end-result difference between the two processes, with diamond grinding delivering superior results. He went on to illustrate the equipment components such as grinding blades and spacers, the precision of their placement and alignment, how they're configured, and the different results from

52 blades per foot versus 60 blades per foot.

He wrapped up his presentation and the workshop with a review of the key benefits that all of the presenters had highlighted. Diamond grinding is sustainable and efficient, extends pavement life, and enhances smoothness, surface friction, and safety.

For more information go to: [www.swcpa.org](http://www.swcpa.org)



**Diamond Grinding Operation**



## 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 pavement issues.



A combined in-person and online meeting on June 13, was hosted by San Diego County and facilitated by Orland Mott. Prior to the BBRWG meeting, the Group also hosted a Pavement Recycling Workshop presented by the Cal Nevada Concrete Association (CNCA). Tyler Bondar and his team presented on a number of topics including Full Depth Reclamation (FDR) and Cold In-Place Recycling (CIR).

The BBRWG Meeting kicked off with industry updates provided by association representatives from CalCIMA and CalAPA and included topics such as using High RAP and recycled asphalt shingles (RAS) in HMA, use of a new 'Ideal Crack Test' (ICT) for HMA, Caltrans Standard Specs going 'online only', and the availability of a new 'Superpave' spec for Local Government use (HMA-LG), now on the CCPIC website.

### 'White Topping' Presentation

The main presentation was an overview of concrete overlays for asphalt pavement, often called 'white topping'. Michael Smith (CEMEX) emphasized that this not a new technology but is being used extensively with great performance. These overlays are usually 4 – 6" thick and can take the form of straight overlays or a mill-and-fill operation to preserve original grade (e.g. on streets with curb & gutter). Caltrans, via the UC Pavement Research Center (UC Davis), is



doing an extensive research effort on this technology, with encouraging results.

### BBRWG Subcommittee Structure

A new structure for the BBRWG Subcommittees was announced. It will involve just two Committees – 1. Sustainability and 2. Innovation.

The **Sustainability** Committee has prioritized topics with the top 3 being: High RAP use, Waste Plastics in HMA and compliance with AB 2953 to use recycled materials.

The **Innovations** Committee will explore Regional HMA Mix Designs and Non-destructive Testing of HMA Density using dielectric profiling systems.

### BBRWG Products

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 \(sandiegocounty.gov/bbr\)](https://sandiegocounty.gov/bbr)

The next meeting of the group will be in October.

For more information go to: [Building Better Roads \(sandiegocounty.gov\)](https://sandiegocounty.gov)



## FHWA Update – RCC In Santa Rosa

By Chu Wei, FHWA- Sacramento

Roller-Compacted Concrete (RCC) is placed with conventional earthmoving or paving equipment, then compacted with vibratory rollers. RCC is used for mass concrete applications, such as dams, parking lots, roads, etc. RCC is a “zero slump” mixture that is stiff enough to be compacted by vibratory rollers. RCC can be constructed without joints, formwork, finishing or steel reinforcing.



### RCC in Place

The City of Santa Rosa is currently constructing RCC pavement on its Fulton Road Improvements Project, a reconstruction effort that's widening and rehabilitating one mile of Fulton Road between Guerneville Road and Piner Road. When completed, the new roadway will feature four travel lanes, a new median, Class II bicycle lanes, expanded ADA-accessible sidewalks, improved stormwater drainage facilities, plus enhanced aesthetics with drought-tolerant plantings. This section of Fulton Road serves Piner High School, a shopping center, and is enroute to more than half a dozen Sonoma County wineries. The construction team on site used metal plates to allow traffic flow through areas that were incomplete.

FHWA visited Fulton Road Improvements Project and gained an understanding of the process of RCC along with witnessing the “zero slump” mixture on August 14, 2023. Michael Smith from Cemex who was on the site provided a great overview of this RCC project and the benefits of RCC pavement. A resource within the realm of RCC is the comprehensive technical brief provided below by FHWA.

RCC Technical Brief:

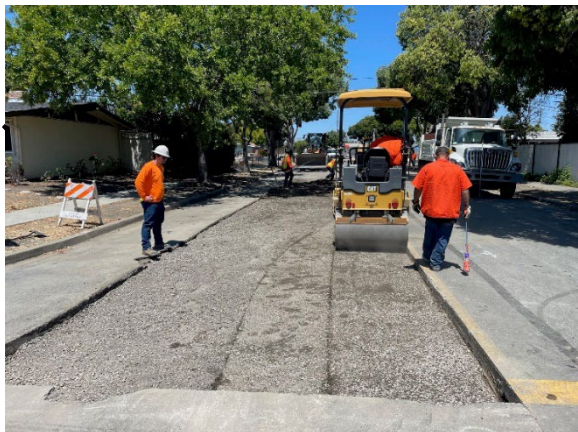
<https://www.fhwa.dot.gov/pavement/concrete/pubs/hif16003.pdf>

For more information contact: Chu Wei at: [chu.wei@dot.gov](mailto:chu.wei@dot.gov)



## Agency Profile: City of Sunnyvale

By Sean Smith, City of Sunnyvale



**Vibratory Roller Compaction by City Crews**

As a hub of the Silicon Valley, the City of Sunnyvale, the second largest in Santa Clara County with around 156,000 residents, takes pride in its well-maintained infrastructure. The Department of Public Works and its Street Operations division ensure a safe and efficient transportation network of 640 lane miles of paved road. The Street Operations division - comprised of approximately 25 highly skilled field staff - inspects, maintains, and repairs the City's road network. Their tasks encompass a range of street maintenance activities, from conducting Pavement Condition Index (PCI) inspections and ratings, to patching potholes, base repairs, and mill-and-fill repairs. Additionally, crews perform crack filling, street sweeping, and maintain and install traffic signs and markings. The City strives to keep skill levels high through technical training.

Sunnyvale's pavement maintenance and rehabilitation (M&R) program is diverse, combining City- performed maintenance and capital improvement projects. The City's M&R program includes asphalt patching, chip seal and slurry seal resurfacing, and pavement rehabilitation. These efforts share a common goal: cost-effectively extending the lifecycle of roads. Due to favorable weather in the Silicon Valley area, in-house crews perform pavement maintenance activities year-round. One of the flagship M&R projects is the annual resurfacing program that targets over five million square feet of residential streets. The City's unique project delivery model includes in-house preparatory work, including chip seal, crack filling, and asphalt repairs, followed by the contractor-preformed slurry seal application - awarded through a competitive public bidding process. Sunnyvale's M&R program is dedicated to efficiently enhancing road longevity, exemplified by its extensive annual resurfacing effort.



**Full-depth Base Repair by Sunnyvale Crew**

The Street Operations team utilizes its expertise in pavement maintenance to perform essential activities necessary to preserve healthy road conditions. The team's capabilities span a broad spectrum of asphalt maintenance tackling full-depth asphalt dig-outs to meticulous crack sealing. Field crews are cross-trained to operate standard paving equipment for completing maintenance, including chip spreaders, milling machines, and paving boxes. One recent noteworthy achievement from the Street Operations team involved a full-depth base repair, addressing accelerated degradation caused by a new bus route on a residential street. The field crews collaborated with a geotechnical engineering firm to ensure the repair adhered to design and structural standards for heavy traffic loading on arterial roads. Using a warm mix asphalt design further improved working conditions and reduced emissions, showcasing the City's commitment to utilizing sustainable materials. The Street Operation team's

dedication and adaptability demonstrate their commitment to innovative construction practices and delivering expectational quality results.

The Department of Public Works prioritizes excellent customer service and strives for exceptional service delivery. This commitment is evident in the meticulous work performed by the Street Operations division, ensuring the City's roadways remain safe, reliable, and well-maintained for residents and visitors alike.

For more information contact Sean Smith at: [srsmith@sunnyvale.ca.gov](mailto:srsmith@sunnyvale.ca.gov)



## National Conference Highlights CP2 Center

By Roger Smith, CP2 Center

Dr. Gary Hicks and Dr. Ding Cheng represented the CP2 Center at the National Pavement Preservation Conference put on by the National Center For Pavement Preservation (NCP). The Conference was held on September 18 through September 21 in Indianapolis. Dr. Hicks gave a final summary presentation at the end of the conference.



Dr. Cheng presented an overview of our California Pavement Preservation Center (CP2C) and highlighted the very successful Pavement Preservation Academy (PPA), now offered annually through CP2 Center.

The Academy involves 5 half-days, and covers 5 topics: Repairs & Preparations, Chip Seals, Slurry Surfacing, Cape Seals and Thin Overlays. It was developed as part of the Senate Bill 1 (SB-1) funding, through the California State University Transportation Consortium (CSUTC), led by the Mineta Transportation Institute (MTI) at San Jose State University.

The CP2 Center also developed a 'Certificate Program' in pavement preservation. The Certificate Program is an offspring of the Pavement Preservation Academy (PPA), first offered by the Center in 2021. The last Academy (2023) had over 100 attendees from various parts of California. People completing the Academy must pass an exam to obtain a Certificate.

The purpose of the PPA is to help state and local agencies improve the design and construction of pavement preservation treatments and develop a workforce to utilize the latest pavement preservation technologies. Through training, the Academy empowers local agency staff and contractors to select the right treatment for the right road at the right time to optimize funding. When properly designed and constructed, these preservation treatments can be a cost-effective tool to improve life cycle cost benefits.

The next Academy – our fourth - will be offered in April of 2024.

For more information go to: <https://www.csuchico.edu/cp2c/>



## CSU-Chico Hosts Summer Asphalt Workshop

By Kun Zhang, CSU, Chico



Pothole Patching

On June 5-7 and July 18-20, 2023, the Department of Civil Engineering at California State University, Chico and California Pavement Preservation (CP2) Center hosted two sessions for the 3rd Annual Summer Workshop on Asphalt Pavement Technology and Material Tests ([Video Link](#)). Participants are from Butte, Shasta, Yuba, and Woodland Community Colleges, UC Berkeley, and Chico State. The workshop was sponsored by APWA-Sacramento Chapter, which also supported the upgrading of the Civil Engineering Materials Lab ([Video Link](#)). Rick Liptak and Helena Allison made opening remarks for the workshop as the representatives of the APWA-Sacramento Chapter.

The aim of this three-day workshop is to facilitate transportation workforce development



**Field and Lab Tour at  
Knife River Construction**

for public works by introducing state-of-practice knowledge and training on asphalt paving technology and pavement materials testing following the AASHTO and Caltrans testing methods. Dr. Kun Zhang and Dr. DingXin Cheng lectured on various topics of Introduction to Pavement Engineering, Pavement Preservation, Aggregate, Asphalt Binder, Superpave Mix Design, Recycling of RAP and RAS, Balanced Mix Design, and Asphalt Plant Production and Field Compaction. Bill Long and Craig Long from Pavement Engineering Inc. were invited to present industrial experience in mix design, construction practice, and field tests.

Participants completed extensive hands-on labs over the three days, including Aggregate Gradation, Fine Aggregate Angularity, Specific Gravity of Coarse and Fine Aggregates, Rotational Viscosity of Asphalt Binders, Performance Grade Tests of Asphalt Binders using Dynamic Shear Rheometer and Bending Beam Rheometer, and Superpave Mix Design. Participants also learned how to patch road potholes using asphalt concrete made of waste cooking oil and RAP and visited a Chico Asphalt Plant. We sincerely thank Tim Denlay, Mason Richardson, and Thao Xiong at Knife River Construction for hosting the asphalt plant tours.



The APWA-Sacramento Chapter is committed to sponsoring the Annual Summer Asphalt Workshop at Chico State for the next few years. We will keep recruiting college students and entry-level engineers from California to attend this asphalt workshop. If you are interested in joining this workshop in the summer of 2024, please send an email to Dr. Kun Zhang (kzhang2@csuchico.edu)!



## WRAPP Update

**By Tim Schmid, WRAPP President**



The Western Region Association For Pavement Preservation (WRAPP) Board of Directors met on March 29, 2023 with Caltrans officials Sergio Aceves, Acting Deputy Director and Tom Pyle, State Pavement Engineer, to work on ways WRAPP can assist Caltrans' internal promotion of the benefits of pavement preservation. Caltrans recognizes that pavement preservation projects have dwindled in use and requested WRAPP's help with training of Caltrans personnel to assure Caltrans is using the right pavement treatment at the right time. The WRAPP organization is currently planning training sessions for Caltrans.

Also, starting in the Fall of last year, WRAPP officers began meeting with Caltrans Director Tony Tavares to discuss the status of the pavement preservation industry in California. WRAPP representatives and the Director spoke about the importance of pavement preservation, the urgent need to add more lane-miles per year of projects, and the need to provide training on the various pavement preservation products. Training for Caltrans will be half-day sessions covering topics including Pavement Preservation 101, QC and QA, Multi-Layer Applications, and Equipment Calibrations. The two scheduled sessions will be in October, dates TBD.

WRAPP and the Caltrans-Industry Pavement Materials Partnering Committee (PMPC) have now completed the new specifications for fog seals. Following the lifting of the moratorium on fog seals on Caltrans roadways, Caltrans will have the ability to let contracts for fog seal projects. The groups will also be studying RAP use in slurry surfacing and chip seals. PMPC aims for pilot projects to begin as early as 2024.


Please join industry leaders at the WRAPP annual **Pavement Preservation Workshop**, February 7th and 8th, 2024. It will be held at the Holiday Inn in downtown Sacramento. For more information go to: [www.wrapp.org](http://www.wrapp.org)



## Coming Events



**CalAPA Fall Workshop on EPD's October 25 (Sacramento)**



When the California Legislature took on the subject of Environmental Product Declarations earlier this year, it became apparent that the topic is far more complex than it appeared on the surface. We will be putting on a special daylong workshop Oct. 25 in Sacramento devoted exclusively to EPDs.

<https://calapa.weblinkconnect.com/events/EPDsfor%20Asphalt%20Mixtures%20Workshop%20%20Sacramento-9054/details>

## NICC 2023 October 25 (Reno)

NICC 2023 October 25 (Reno)

The Nevada Infrastructure Concrete Conference (NICC) is taking place on Wednesday, October 25th at the Atlantis Casino Resort Hotel in Reno. From the opening address from NDOT Director Tracy Larkin Thomason to Tom Van Dam's Roadmap to Successful Concrete, NICC 2023 is packed with engaging presentations from top subject matter experts.

Visit the NICC 2023 website at [www.NICC23.com](http://www.NICC23.com) to view the full program and register for the conference today.

**"Asphalt Pavement Preservation Treatments, Materials, Construction and Quality Assurance"**  
**November 27-30 (Online)**

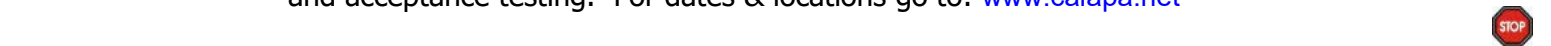
This course provides a solid working knowledge of the most common asphalt pavement maintenance and preservation practices. Common preservation treatments, basic principles, best field practices and quality assurance issues are covered. This is a core course in the pavement engineering and management training program offered by the City and County Pavement Improvement Center (CCPIC) in partnership with UCB TechTransfer.

Asphalt Pavement Preservation Treatments, Materials, Construction and Quality Assurance -  
232CCC021127 | TechTransfer (berkeley.edu)


**CalAPA 'Asphalt Pavement 101" Classes** (online & various locations)


**CalAPA 'Asphalt Pavement 101" Classes** (online & various locations)

The popular "Asphalt Pavement 101" class will be offered again this fall by CalAPA. This half-day class is a good review of the basics of asphalt pavement including materials, design, construction and acceptance testing. For dates & locations 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 CP2 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. 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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