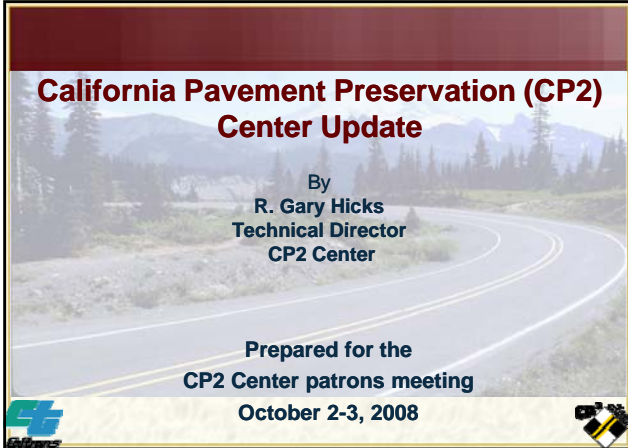




California Pavement Preservation (CP2) Center Update

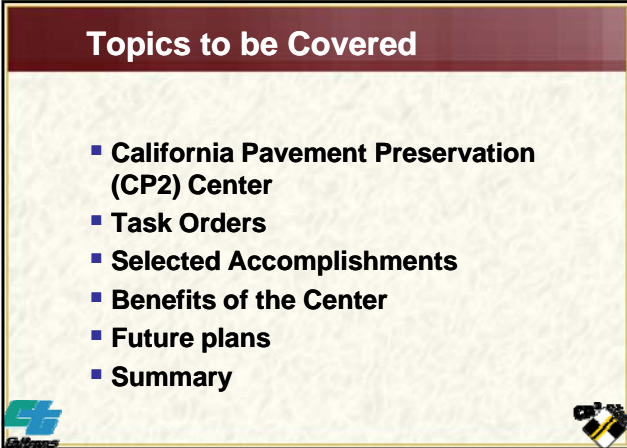


By
R. Gary Hicks
Technical Director
CP2 Center

Prepared for the
CP2 Center patrons meeting
October 2-3, 2008

Topics to be Covered

- California Pavement Preservation (CP2) Center
- Task Orders
- Selected Accomplishments
- Benefits of the Center
- Future plans
- Summary







CP2 Center Update

- Caltrans established the California Pavement Preservation Center on July 1, 2006
- Purpose is to accommodate the needs for pavement preservation services to governmental agencies and industry


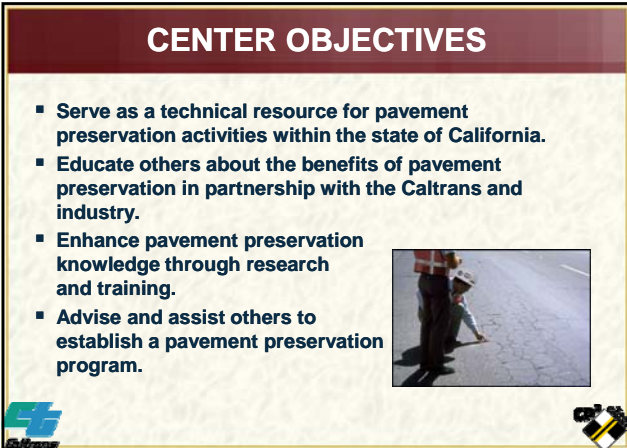




<http://www.cp2info.org/center>

CENTER OBJECTIVES

- Serve as a technical resource for pavement preservation activities within the state of California.
- Educate others about the benefits of pavement preservation in partnership with the Caltrans and industry.
- Enhance pavement preservation knowledge through research and training.
- Advise and assist others to establish a pavement preservation program.

CENTER'S GOALS/SERVICES

- Credible 3rd party for Caltrans, local agencies and industry
- Experts in evaluation of new products and innovation in pavement preservation
- Partners in conducting pavement preservation research and implementing practical findings
- Promoting useable pavement preservation tool



MEASURES OF SUCCESS

- Quality of educational & outreach programs
- Technical assistance provided
- Implementation of research and new technologies
- Successful internship and rotational programs
- Improvements in the pavement preservation process



INITIAL WORK PLAN – A PARTNERING PROCESS

- Strategic planning meeting held August 29-30, 2006
- Identified the major issues/challenges facing the pavement preservation industry in California
- Developed a practical vision for the center for the first 3 years
- Prioritized issues based on need and value added
- Charted a roadmap for the Center for 2007-09



TASK 1: DETERMINE AND DEMONSTRATE BENEFITS OF PAVEMENT PRESERVATION

- Actions
 - Track performance of existing strategies
 - Determine/document benefits
 - Conduct LCCA
- Deliverables
 - Report to document benefits of pavement preservation
 - White paper for decision makers



Benefits of Pavement Preservation

- Purpose-identify the benefits of pavement preservation
- Focus initially on economic, but identify others. Is it a 6:1 benefit or something else?
- Joint effort between the Center, UC Davis, and MACTEC



Efforts Included

- Collection of pavement performance data for state and local agencies using PMS data
- Identify the life extension if possible for the various treatments
- Focus on flexible pavements initially
- Conduct LCCA



Preliminary Findings

- For local agencies, the LCCA savings when using pavement preservation exceeds 20%
- For Caltrans, the LCCA savings when using pavement preservation is in the range of 20-50 %
- Additional work is needed using other sources of good PMS data



Future Work

- This effort was completed at the end of 2007
- Reports documenting the savings for local agencies and Caltrans have been developed and are under review
- A white paper summarizing the findings has been developed



TASK 2: PROVIDE TRAINING AND EDUCATION

- **Actions**
 - Develop training sessions on the MTAG
 - Develop training sessions on the importance of pavement preservation
 - Develop presentations for decision makers
 - Assist Caltrans in planning & conducting an annual conference on pavement preservation
- **Deliverables**
 - Training sessions and workshops on the above
 - Annual conference (www.cp2info.org/conference)



ANNUAL PAVEMENT PRESERVATION CONFERENCE

- **Conference Initiated in 2006**
- **Held every year, alternating between northern and southern California**
 - 2006- Diamond Bar
 - 2007- Union City
 - 2008- Newport Beach
 - 2009- Oakland

www.cp2info.org/conference



Planning for Conferences

- **PPTG effort**
- **Members include representatives from**
 - Caltrans
 - Industry
 - FHWA
 - Local agencies
 - Academia



Topics Covered

- **Importance of pavement preservation**
- **Integrating pavement preservation into PMS**
- **Strategy selection**
- **Maintenance techniques**
- **Case histories**
- **Lessons learned**
- **And much more**

Plans for the 2009 conference are underway



Measures of Success

- Attendance exceeded 300 in each of previous 3 conferences
- Attendees included representatives of all participating groups
- Presentations are posted on the conference website and used
- Evaluations have been very good

Kempton will Speak at the 2009 Event



TASK 3: IMPROVE PAVEMENT PRESERVATION PERFORMANCE

- Actions
 - Update the MTAG for Flexible and Rigid pavements
 - Define industry standards for various treatments
 - Update specifications to improve product quality
- Deliverables
 - Updated guides and associated training
 - Updated trigger values for selecting treatments
 - Develop performance curves for treatments
 - Updated specifications for treatments



Caltrans Industry Joint Training

- MTAG for flexible and rigid pavements were updated in 2007
- Training modules were being developed for both the flexible and rigid MTAG's
- Modules have been developed jointly by Industry, MACTEC and the Center
- Training began in March 2008
- Next training is scheduled for October 21-23, 2008



Topics Covered

- Introduction to pavement preservation
- Materials for pavement preservation
- Distress appropriate for preservation
- Strategy selection
- Important surface characteristics
- Discussion of individual treatments



Treatments Covered for Rigid Pavements

- Crack sealing
- Diamond grinding
- Partial-depth spall repair
- Slab replacement
- Dowel bar retrofit



Treatments Covered for Flexible Pavements

- Crack sealing
- Patching
- Fog seals
- Slurry and micro seals
- Chip seals
- Thin hot mix overlays
- Thin BWC
- Surface recycling
- Inter-layers



Measure of Success

- Well attended training
- Instruction provided by industry and Center staff
- Evaluations were very good.
- Attendees plan to take the training back to train their staff



Next Steps

- Make needed changes in training materials
- Take the training statewide and to the districts in 2009.
- Post training materials on the Center website



TASK 4: ENCOURAGE INNOVATION AND TECHNOLOGY TRANSFER

- **Actions**

- Streamline the process for implementing innovation and new products
- Work with industry to evaluate new technologies and processes
- Encourage T2 through dissemination of information



- **Deliverables**

- Improved process for innovation developed
- Reports/memos/ research notes on new technologies, materials, processes and tests
- Technology transfer through various media.



Innovation Process

- **Process to introduce new products established**
- **\$5,000,000 per year provided by the Caltrans Division of maintenance for innovation**
- **Products are being placed statewide and monitored by either the Center or UC Davis**



Current Projects Being Monitored

- **RAC-O-HB projects-Statewide**



FRE - 5

2,748,000 Annual ESALs

- **Fog and Rejuvenating seals-D9**



State Highway 58



Current projects being monitored

- **CIR projects-D3**

RT-16, Williams, CA
CIR using
Engineered Emulsion



- **European quite pavement project-D7**



SR 19 between
SR 60 and Rush Street



Current projects being monitored

- Interlayer project-D2



Highway 36 East
of Chester

- Warm mix pavement-D5



Morro Bay
May 2008



Current projects being monitored

- Chip seal projects-D11



- Verglimit project-D3



Planned innovation projects

- HIR project- D2 and D8
- Whisper grind project – D11
- Chip-seal over fabric- D6
- REAS Slurry seal- D7 and 11



Innovative database

- Data base has been developed to store all the information on the project
- Innovation subgroup and the Center developed this
- Information began to be loaded into the database in the summer of 2008



TASK 5: PROVIDE TECHNICAL ASSISTANCE

■ Actions

- Conduct pavement reviews on new products and others
- Provide technical consultation on pavement preservation to the PPTG and the WPPP



■ Deliverables

- Reports on failures and pavement reviews
- Technical assistance to Caltrans and the PPTG
- Help desk on pavement preservation



Product work plans and review

- Developed work plan for the fog and rejuvenation projects and prepared an interim report
- Monitored the interlayer project and prepared an interim report
- Developed work plan for the HIR project and are monitor its construction and performance



Technical Assistance to Caltrans & the PPTG

- Provide assistance to Caltrans for PPTG meetings and workshops
- Work with the PPTG to assist with the work assignments
- Provide technical support to Caltrans on a number of pavement related issues



Failure Investigations

- Assisted D2 and D3 to help with AR failures
- Worked with local agencies on pavement failures on AR and chip seals.
- Still need to expand this effort by letting agencies know the services available.



TASK 6: PROMOTE EFFECTIVE PAVEMENT PRESERVATION

Actions

- Develop information booth on pavement preservation
- Development of fact sheets, tech briefs and brochures and brochures
- Participation at agency and industry meetings



Deliverables

- Participation at major agency and industry meetings
- Marketing materials (newsletter, fact sheets, brochures, advisory guides)
- Development and delivery of presentations
- Maintaining the website



Accomplishments

- Developed quarterly newsletters (CP2 NEWS)
- Developed fact sheets and tech briefs on products and activities
- Developed a booth and exhibited it at numerous conferences around the state
- Maintain a web site www.cp2info.org



Benefits of the Center

- Raised the importance of pavement preservation in California
- Updating the MTAG and providing training on pavement preservation
- Documenting innovative treatments
- Promoting preservation to all agencies in California



Future plans

- Task orders for 2010 and beyond are being developed
- Will fit in the new pavements division
- Working with others (FHWA, SHRP, CIWMB, Industry) on national and regional studies
- Growth plan



SUMMARY

- Caltrans established CP² Center on July 1 2006
- Partnered process used to develop work plan
- Center task orders started in January 2007
- Work is underway on all tasks

