



U.S. Department of Transportation
Federal Highway Administration

MCTC
MOBILE CONCRETE
TECHNOLOGY CENTER

**\$9M
SAVED**

MCTC SUCCESS STORIES

BETTER TECHNOLOGY, BIG SAVINGS

MCTC INNOVATION ON CALIFORNIA PROJECT HELPS SAVE MORE THAN \$9 MILLION

In 2019, looking to upgrade its specification and reduce costs and traffic delays, the California Department of Transportation (Caltrans) turned to the FHWA's Mobile Concrete Technology Center (MCTC) for pavement specification solutions. That summer, MCTC was mobilized to test project-produced concrete in two locations, as well as review the specification and identify areas for improvement.

MCTC IN ACTION

Caltrans, working together with industry, adopted MCTC's recommendations for specification changes. Caltrans officials documented a savings of \$9.4 million on the very first project utilizing the new specification.

Action items that led to these changes:

- Responded to Caltrans request for assistance improving their concrete specification and practices.
- Jointly identified opening times for concrete pavements as an opportunity for improvement.
- Developed and carried out a site visit and testing program to support specification changes.
- Provided Caltrans and their industry counterparts with suggestions for a new opening to traffic specification.
- MCTC specification suggestions were accepted and immediately used on a project.

Caltrans and industry counterparts continue to work with MCTC as well as the FHWA Resource Center and FHWA California Division Office on additional updates that improve concrete performance, increase efficiencies, and save funds.



"FHWA's MCTC Program has been extremely helpful in deploying new and innovative concrete pavement technologies in California, as they have helped collecting data and demonstrating nationwide best practices. They have been crucial to numerous recent improvements to our concrete pavement specifications. We appreciate the MCTC Program's strong support and technical assistance on these recent and future improvements to our specifications."

**– Dulce Rufino Feldman
Senior Transportation Engineer, Caltrans**

THE MCTC IS AVAILABLE TO COME TO YOUR PROJECT.

VISIT OUR WEBSITE: www.fhwa.dot.gov/mctc

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IMPROVING CONCRETE INFRASTRUCTURE

COLLABORATION IN THE GOLDEN STATE

Industry technicians and California transportation officials were able to improve concrete construction and testing practices with the assistance of the MCTC. The MCTC has proven its ability to create value, advance science, and work with State Departments of Transportation. The MCTC's efforts in California illustrate the value of its engagement with stakeholders to deploy technologies and improve concrete infrastructure.

MCTC EDUCATION IN CALIFORNIA

1. Sacramento: Open House, June 2019; QA Workshop, Dec. 2019
2. Fontana: Open House, June 2019; QA Workshop, Feb. 2020
3. Los Angeles: I-5 Field Visit, June 2019
4. Kramer Junction: RTE 58 Field Visit and Open House, July 2019
5. San Diego: Dowel Detection Virtual Training, Jan. 2021



ADDITIONAL MCTC IMPACTS IN CALIFORNIA

- Technical recommendations incorporated into Caltran's specifications include:
 - Contractor option for using maturity to determine opening to traffic strength.
 - Acceptance based on compressive strength in lieu of flexural strength only.
 - Addition of unit weight testing to control charts.
 - Performance-based language to address random pavement cracks.
- Targeted training efforts on Performance-Engineered Mixtures implementation.

"Our pavement engineers and construction professionals are eager to find exceptional knowledge, education, and leadership that will help them pursue innovations and improvements on their pavement projects. The MCTC team delivers exactly that."

– Charles Stuart
Southwest Concrete Pavement Association

LIVE from MCTC Sessions (Virtual Training): Dec 2020
Optimized Gradation and Workability Tests, Durability Tests, Mixture Consistency Tests

Equipment Loan: MCTC loaned several pieces of equipment to Caltrans including those for measuring pavement thickness, dowel alignment, and permeability.

www.fhwa.dot.gov/mctc

FHWA is the source of all images shown.