



Caltrans Division of Research,  
Innovation and System Information

# Research



# Results



Pavement

## DECEMBER 2015

**Project Title:**

Technology Transfer Concrete Consortium, TPF-5(159)

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## Developing Partnerships in Concrete Pavement Research

Concrete consortium facilitates scientific development and technology transfer

### WHAT IS THE NEED?

Across the nation, state departments of transportation (DOT) need to design and build concrete pavements that last longer, address environmental concerns, and provide a higher level of user satisfaction. Achieving improved pavements involves using innovative materials, new methodologies, and optimized construction technologies and practices. The most efficient way to foster new technologies and practices is to develop partnerships among experts from state DOTs, the Federal Highway Administration (FHWA), universities, and industry. The Technology Transfer Concrete Consortium provides the participating agencies a forum for collaboration.

### WHAT WAS OUR GOAL?

The goal was to promote collaboration among state and national agencies to identify, support, facilitate, and fund concrete research and technology transfer initiatives.

### WHAT DID WE DO?

Caltrans participated in this national forum of over 25 state highway agencies led by the Iowa DOT to collaborate on and exchange technical expertise regarding new initiatives in concrete materials and pavement-related issues. The National Concrete Pavement (CP) Technology Center served as the lead research institution.

All efforts of the Technology Transfer Concrete Consortium focused on these project activities and deliverables:

- Identify and guide the development and funding of technology transfer materials, such as summaries and training materials
- Review the CP Road Map initiatives and provide feedback to the FHWA, industry, and the CP Technology Center on those initiatives



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- Provide research ideas to funding agencies
- Identify and instigate needed research projects
- Develop pooled fund research studies for solutions to concrete and concrete pavement issues
- Act as a technology exchange forum for the participating entities

## WHAT WAS THE OUTCOME?

National forums have been held regularly twice a year at various locations. The consortium provides participating states the opportunity to be a part of new developments in concrete paving and the implementation of new technologies. Some of the work completed included a publication on long-life concrete and recommendations for standardizing dowel load transfer systems for jointed concrete roadway pavements. State highway agency requirements for dowel baskets vary widely. Adopting a standard set of dowel basket designs reduces manufacturer setup and production costs and allows manufacturers to maintain a larger inventory of fewer varieties, resulting in lower costs and fewer production delays.

A new pooled fund study has been established for the next fiscal year in which Caltrans will participate.

## WHAT IS THE BENEFIT?

Through collaboration, the Technology Transfer Concrete Consortium helps shorten the time it takes for scientific research to be implemented. New approaches and technologies are developed and tested more quickly and cost effectively. The consortium encourages standardization, making decision-making and production more efficient. Participants benefit from sharing expertise and experiential knowledge.

## IMAGES



Figure 1: Technical tour in Nevada, spring 2015. The consortium provides participating states the opportunity to observe new developments in concrete paving and the implementation of new technologies.



Figure 2: The Technology Transfer Concrete Consortium provides a forum for collaboration.



Figure 3: Tour of a Nevada cement plant