

# DRISI

CALTRANS DIVISION OF RESEARCH,  
INNOVATION AND SYSTEM INFORMATION

# Research Notes

Geotechnical/  
Structures

MAY 2024

Project Title:  
Technology Transfer Concrete  
Consortium [TPF-5(437)]

Task Number: 2746

Start Date: January 1, 2015

Completion Date: December 31,  
2024

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## Technology Transfer Concrete Consortium, Phase II [TPF-5(437)]

This pooled-fund study aims at identifying and examining new concrete pavement research initiatives to foster new technologies and practices

### WHAT IS THE NEED?

State departments of transportation (DOTs) are challenged to design and build longer-life concrete pavements which provide the greatest economic value over the long term for taxpayers and end users. One of the strategies for achieving longer-life pavements is to use innovative materials and construction optimization technologies and practices. Led by Iowa DOT, experts from state DOTs, Federal Highway Administration (FHWA), academia and industry collaborate to identify and examine new concrete pavement research initiatives to foster new technologies and practices.

### WHAT ARE WE DOING?

The objectives of this pooled-fund study include:

- Identifying and guiding the development and funding of technology transfer materials such as technical brief summaries, web-based courses, and training materials from research activities
- Publishing Moving Advancements into Practice (MAP) Briefs on a quarterly basis
- Providing research ideas to funding agencies
- Identifying and instigate needed research projects
- Including current activities and deliverables of the pooled fund on the CP Tech Center website
- Maintaining the pooled fund project website with current activities and deliverables
- Maintaining the Technology Transfer Concrete Consortium (TTCC) pooled fund listserv: a forum for state representatives to post questions to the other state representatives and hear how similar problems or situations have been mitigated
- Tracking TTCC listserv posted problems and discussions and categorize them for inclusion in a library on the project website



DRISI provides solutions and knowledge that improves California's transportation system

- Developing research problems statements for possible pooled fund projects to address research needs identified by member state representatives
- Acting as a technology exchange forum for the participating entities
- Contributing to a technology transfer newsletter on concrete pavement research activities every six months
- Submitting electronic quarterly reports following lead state guidelines. Pooled fund activities and budgets are discussed at the semi-annual meetings.

## WHAT IS OUR GOAL?

The main goal of this pooled fund project are as follows:

- Identifying needed research projects.
- Developing pooled fund initiatives.
- Providing a forum for technology exchange between participants.
- Developing and funding technology transfer materials.
- Providing on-going communication of research needs faced by state agencies to the FHWA, industry, and CP Tech Center.

## WHAT IS THE BENEFIT?

Caltrans significantly benefits from this project by integrating innovative materials and construction optimization technologies aimed at achieving longer-lasting concrete pavements. The collaboration with other state DOTs, FHWA, academia, and industry will allow Caltrans to stay at the forefront of technological advancements, enhancing the quality and durability of infrastructure. Additionally, through the technology transfer initiatives, Caltrans gains access to cutting-edge research and practical applications, which will improve construction practices and user satisfaction, ultimately leading to more sustainable and cost-effective pavement solutions.

## WHAT IS THE PROGRESS TO DATE?

Significant deliverables have been produced, including guides, technical briefs, case studies, and reports that document advancements like the reduced embodied carbon in paving concrete, the utilization of recycled materials, and optimized concrete overlays. Recent initiatives have included the “PEM Evolution: Then and Now” project, documented in a comprehensive report detailing the performance-engineered mixtures’ journey from conceptualization to field implementation. This effort has not only provided robust data for improving specifications but also facilitated widespread adoption and implementation across various states. Additionally, the project maintains active engagement through biannual meetings at the National Concrete Consortium (NC2), fostering a rich environment for exchanging ideas and practical outcomes. These efforts collectively aim to improve the sustainability, cost-efficiency, and user satisfaction of concrete pavements, setting a standard for future infrastructure projects.