



# National Concrete Pavement Technology Center

Uniting agencies, industry, and researchers to advance concrete pavement technology



The mission of the National Concrete Pavement Technology Center (CP Tech Center) is to unite key transportation stakeholders around the central goal of advancing concrete pavement technology through research, tech transfer, and technology implementation.

## need for a national concrete pavement center

The surface transportation community faces a number of critical challenges and opportunities today and in the years ahead, including

- Minimizing tire/pavement noise without compromising safety
- Optimizing material quality and ensuring compatibility to extend pavement durability
- Developing high-speed nondestructive tests for reliable quality control
- Expanding the mechanistic approach to pavement design through implementation of the Mechanistic-Empirical Pavement Design Guide

- Developing pavement monitoring devices to meet performance and reliability criteria
- Providing rapid construction to reduce user delays
- Offering cost-effective rehabilitation strategies
- Facilitating process and technology advancements for high-speed concrete paving equipment automation
- Addressing environmental and energy-use demands

The CP Tech Center will help address these challenges by facilitating evaluation and implementation of promising technologies and processes to improve the concrete pavement product and the concrete paving business system.

## new era in concrete pavement research and technology

Five years ago, the concrete pavement community did not have a research plan, a coordinated funding stream, or a strong network of partnerships across the public-private-academic sectors. Now, for the first time ever, the concrete pavement community has

- A comprehensive national plan of recommended research and a process for managing it (the CP Road Map)
- The substantial financial commitment of federal and state agencies and industry, including dedicated funding for concrete pavement research in the recent SAFETEA-LU bill

- A mature administrative center capable of bringing the stakeholders together and coordinating the research conducted under the national plan

These factors have set the stage for a new era in concrete pavement research and technology.

The CP Road Map identified and prioritized research needs. Key stakeholders have shown their support and are demonstrating their financial commitment. Now, the CP Tech Center is prepared to facilitate coordination of the research by drawing together the private and public sectors and academia around common interests and goals.

## the national concrete pavement research plan

The CP Road Map identifies \$220–400 million of concrete pavement research to be financed over the next 10 years by many parties, including federal and state agencies and private industry. The plan is larger in depth, breadth, and funding requirements than any single entity can accommodate alone.

The plan of over 250 problem statements will be conducted by researchers across the country cooperatively focused through the CP Road Map's 12 tracks:

1. Performance-Based Mix Design System
2. Performance-Based Design Guide

3. High-Speed Nondestructive Testing and Intelligent Construction Systems
4. Optimized Surface Characteristics
5. Equipment Automation and Advancements
6. Innovative Joint Design, Materials, and Construction
7. High-Speed Rehabilitation and Construction
8. Long-Life Pavements
9. Accelerated and Long-Term Data Collection
10. Pavement Performance
11. Business Systems and Economics
12. Advanced Materials

## financial investment with multiplied returns

Over \$25 million of funding for concrete pavement research has been designated in SAFETEA-LU, including

- \$10.0 million for concrete pavement research and technology to be administered through the CP Tech Center
- \$16.4 million for additional concrete pavement research priorities

Other funding for concrete pavement research (from state DOTs, industry, etc.) will yield substantially larger returns when leveraged together as recommended in the CP Road Map.

## the center at iowa state university

The PCC Center at Iowa State University has become the national CP Tech Center with the endorsement of the American Concrete Pavement Association (ACPA). The center offers the following:

### *Proven track record*

- Iowa has been a concrete pavement pioneer.
- The university has nationwide credibility.
- The center brings comprehensive and well-respected knowledge of the concrete pavement system to its partnerships.
- The staff has considerable experience managing both highly technical projects and major strategic planning efforts, including preparation of the CP Road Map research plan.

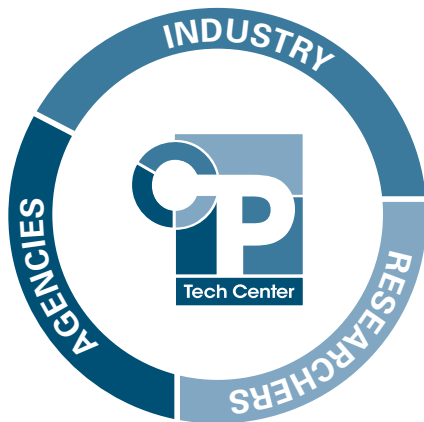
### *Collaborative management approach*

- The center has demonstrated its ability to bring together federal and state agencies, private industry, and academia.
- The center values and actively seeks collaboration with research partners across the country.
- The center has the administrative structure and professional staff necessary to facilitate nationwide cooperation and collaboration.

### *Financial support*

- The center is currently conducting over \$8 million in projects. The recently approved federal appropriation of \$10 million in SAFETEA-LU will be leveraged with funding from other sources to support future CP Tech Center efforts.
- The state industry and DOT have pledged financial support and commitment to help make the CP Tech Center's operations effective.

## a center of partnerships



The CP Tech Center is committed to building strong partnerships between federal and state agencies, industry, and researchers across the country.

The CP Tech Center will partner with interested organizations and individuals to make the vision of the CP Road Map a reality.

The CP Tech Center will

- Act as a catalyst to bring together federal, state, and industry partners to leverage funds and pool interests, extending the value of research investments for a wide range of stakeholders.
- Help build strong working relationships between the FHWA, state DOTs, ACPA, state paving chapters/associations, and the research community.

### **Executive Board of Directors (10-12)**

- **Principal sponsors (currently ACPA, Iowa Concrete Paving Association, and Iowa DOT)**
- **Provide direction on center management, operations, and finances**



### **Advisory Board (35-40)**

- **Public and private sector stakeholders**
- **Provide center oversight and program guidance**
- **Identify and establish technical committees to advance the center's mission**



### **Center Staff (12)**

The CP Tech Center's commitment to stakeholder governance is established in the center's advisory groups.

- Facilitate cooperation and encourage coordination of research and technology transfer activities taking place across the country.
- Partner with interested universities to accomplish research priorities.
- Work with all interested stakeholders to build consensus, advance research priorities of common interest, and accelerate implementation of promising technologies.

The CP Tech Center's commitment to inclusiveness and stakeholder governance is a hallmark of the center.

## what the center will do

The CP Tech Center will work with partners to improve pavement design, mix and materials, construction, and maintenance to produce durable, cost-effective concrete pavements.

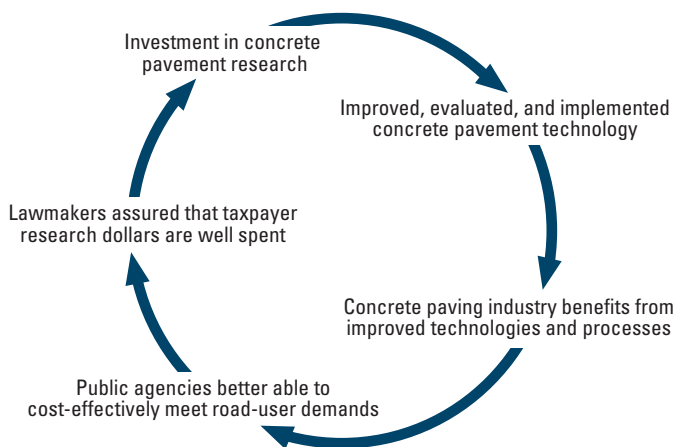
The CP Tech Center's primary focus will not be to conduct a large research program of its own, but to help facilitate and coordinate the massive research and tech transfer activity taking place around the country.

The CP Tech Center will

- Facilitate strategic partnering and cooperation on concrete pavement research for increased leverage and impact.

- Help identify teams of researchers from across the country to lead and conduct CP Road Map research.
- Partner with other researchers to accomplish research goals.
- Track proposed, ongoing, and completed research to ensure coordination and reduce duplication of effort.
- Provide technology transfer publications, training opportunities, and technical services.
- Work with state DOTs and other organizations to expand knowledge and acceptance of new products, advance specifications and standards, and expedite implementation of promising concrete pavement technologies.

## value of the center



The partnerships fostered by the CP Tech Center will result in stakeholders working together to accomplish the research priorities identified in the CP Road Map.

Investments in this effort will result in multiple returns, including rapid implementation of enhanced paving products and processes, improved safety and performance, and demonstrated wise stewardship of public monies.

## contact information

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**National Concrete Pavement  
Technology Center**



**IOWA STATE  
UNIVERSITY**

Iowa State University's Center for Transportation Research and Education (CTRE) is the umbrella organization for the following centers and programs:

Aurora  
Bridge Engineering Center  
Construction Management & Technology  
Iowa Local Technical Assistance Program  
Iowa Traffic Safety Data Service  
Midwest Transportation Consortium  
**National Concrete Pavement Technology Center**  
Partnership for Geotechnical Advancement  
Roadway Infrastructure Management Systems  
Statewide Urban Designs and Specifications