

Research Notes

Program Steering Committee (PSC): Pavement

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Title: Technology Transfer Intelligent Compaction Consortium

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TITLE:

Technology Transfer Intelligent Compaction Consortium

Establishment of a Technology Transfer Intelligent Compaction Consortium (TTICC) to identify, support, and facilitate research and technology transfer for intelligent compaction technologies.

WHAT IS THE NEED?

Increasingly, state departments of transportation (DOTs) are challenged to design and build longer life pavements that result in a higher level of user satisfaction for the public. One of the strategies for achieving longer life pavements is to use innovative technologies and practices. In order to foster new technologies and practices, experts from state DOTs, Federal Highway Administration (FHWA), academia and industry must collaborate to identify and examine new and emerging technologies and systems. The purpose of this pooled fund project is to identify, support, and facilitate intelligent compaction research and technology transfer initiatives.

WHAT ARE WE DOING?

The Technology Transfer Intelligent Compaction Consortium (TTICC) was established to identify, advice, and fund research and technology transfer for intelligent compaction technologies. This consortium will be the national forum for state involvement in the technical exchange needed for collaboration and new initiatives, and be a forum for advancing the application and benefit of intelligent compaction technologies for soils, bases, and asphalt pavement uses. State participation in this process will be through the pooled fund. FHWA, industry and others will be invited to participate in the project discussions and activities.

The Iowa DOT is the lead state for this pooled fund project, and through the Center for Earthworks Engineering Research Center (CEER) at Iowa State University, will handle all administrative duties associated with the project. The CEER will serve as the lead institution for the project.

WHAT IS OUR GOAL?

The goals of the TTICC are as follows:

1. Identify needed research projects
2. Develop pooled fund initiatives
3. Plan and conduct an annual workshop on intelligent compaction for soils and HMA
4. Provide a forum for technology exchange between participants
5. Develop and fund technology transfer materials
6. Provide on-going communication of research needs faced by state agencies to the FHWA, states, industry, and the CEER

WHAT IS THE BENEFIT?

The TTICC provides a forum for addressing the needs and challenges of implementing Intelligent Compaction (IC) across the country. The IC is the next new and best technology to be developed (right after nuclear gages technology). It holds great promise for developing performance specifications. It provides a tool for quality control that can be used for quality assurance. It can help define specifications that will be in-line with Pavement Design Guide. This is something that will benefit Caltrans.

WHAT IS THE PROGRESS TO DATE?

A key outcome of the consortium was the establishment of workshops to evaluation and update of the IC Road Map. The top two IC research needs are (1) data management and analysis, and (2) developing IC specifications and guidance and roadmap elements. After updating the IC roadmap, the workshop participants identified action items for the TTICC group, FHWA, and industry for advancing each of the road map elements.

To date a total of 125 projects have been identified from 2002 to 2013. The TTICC website is continuously being updated with this information with the goal of showing an interactive map with the project locations by Hot Mix Asphalt (HMA) or earthwork projects, demonstrations or pilot projects, and links to specifications, project reports, tech briefs, magazine articles, or any other relevant information available from each project. Additionally, 12 tech briefs have been completed and the development for an IC 101 video showing the IC technology have been posted on the CEER TTICC webpage.

<http://www.ceer.iastate.edu/research/project/project.cfm?projectID=-598919230>

