



Construction Peer Network

A Collaborative Effort to Improve Highway Construction Quality



From creative ways to optimize staffing to the use of GPS and electronics for faster project delivery, the Construction Peer Network (CPN) highlighted best practices, challenges and innovations through regional peer exchanges. A truly cost effective approach, the exchanges helped construction professionals gain immediate program-improving takeaways from one another, while strengthening relationships as a catalyst for future collaboration. Positive reports of successful implementation and valuable networking have come from practitioners that took part, including 53 transportation agencies (including 48 States), and the key partners of AASHTO, the contracting community (AGC and ARTBA) and FHWA.

“The Boise event was a huge success. Based on the open discussion, several States indicated high interest in making use of what they learned in their own practice. The ITD will also benefit greatly from the information shared.”

Frances Hood, PE
Design/Materials/
Construction Engineer,
Idaho Transportation
Department

Peer Exchanges Offered Immediate, Implementable Results

With a small investment of time, construction leaders were able to take away proven practices to advance their programs – some with the expectation of immediate benefits. The smaller group dynamic and agendas tailored to regionally important topics enhanced the potential for gaining implementable ideas. Popular topics discussed and implemented include:

Implementing Innovative Staffing Practices:

- One state presented a “Staffing Needs Assessment Tool.” Another DOT tried the tool to complement its own innovative approaches, which included sharing staff among districts and cross-training maintenance and construction inspection personnel.
- One DOT is finding ways to use Intelligent Compaction to reduce their inspector’s workload on resurfacing projects.

Innovative and Risk-based Practices for Inspection:

- One agency shared its innovative “Quantlists,” which is a web-based checklist tool used to guide construction inspection. The tool provides a customized list of specification requirements for all bid items on a project that should be inspected. Each inspection attribute in the checklist is given a weighted factor based on importance and risk to project quality.
- Another DOT demonstrated use of an infrared thermography tool for real-time inspection of asphalt paving.

Construction Peer Network

National Leadership – Taking Action: Participants at the Northeast exchange scoped an idea for risk-based materials testing that has become a funded NCHRP project. The results will help optimize the frequency of testing procedures and increase construction process efficiencies. See NCHRP 10-93 (pending) – Optimizing the Risk and Cost of Materials QA Programs.

You can read more detail about the CPN's purpose and results in reports located at the AASHTO Subcommittee on Construction's Website. Go to <http://construction.transportation.org> then click on "Construction Peer Network."

Implementing the Digital Jobsite:

As a topic at every exchange, the great potential of 'e-construction' was confirmed with many examples, including use of LiDAR and GPS rovers, applications for going paperless and automated project management systems. Practitioners enthusiastically shared insights on transitioning to the 'digital jobsite': to manage electronic bid and contract information, to automate record keeping, and to use electronic signatures for change orders and contractor payment approvals.

National Synthesis Report Coming Soon!

FHWA is consolidating results from all five peer exchanges into a national summary. With the goal of expediting further implementation, it will focus on national trends, best practices, and potential future research directions. Syntheses of the top five most commonly identified topics include:

1. Effectively managing human resources for construction inspection (including training)
2. Construction information management and intelligent construction systems technologies guidance (3D models, RFID tags, intelligent compaction, GPS, digital data)
3. Construction inspection levels for project-specific, risk-based quality assurance
4. Guidance on useful performance measures to improve construction – what does a State really need to measure?
5. Alternative Contract Methods Guidance

Look for the CPN Synthesis Report coming November 2013!

For more information, contact:

Chris Schneider, 202-493-0551, Christopher.Schneider@dot.gov

David Unkefer, PE, 404-562-3669, David.Unkefer@dot.gov

