



Summary of Results
Six-month Survey of Team Members
And Follow-up Webinar
Scan 07-02: Accelerated Construction Techniques

(This memorandum is part of the work of NCHRP 20-68B(02): *Accelerating Innovation – Tracing Domestic Scan Impacts*)

CTC & Associates LLC
February 28, 2011

Scan 07-02: Accelerated Construction Techniques

A typical highway project, allowing for planning, design and construction, can take from 10 to 15 years from inception to completion of construction. This extended duration has very real consequences for the American public and, consequently, transportation agencies are seeking ways to accelerate project delivery.

This scan focused on construction operations and management practices to accelerate the delivery of construction projects. The scan team visited five states from the East to West Coasts, gathering perspectives and knowledge from transportation agency representatives, contractors, suppliers and engineering consultants experienced in accelerated project management and execution.

The team found that, for every project examined, the primary factor leading to success was a spirited effort of partnership and collaboration between the DOT and the contractor, together with a supportive design process.

Scan Team Members

Brian Blanchard, Florida DOT (co-chair)
Thomas Bohuslav, Texas DOT (co-chair) (now retired)
Christopher J. Schneider, FHWA (co-chair)
Richard H. Sheffield, Mississippi DOT
Steven D. DeWitt, North Carolina Turnpike Authority
George Raymond, Oklahoma DOT
Stuart Anderson, Texas A&M University (Subject Matter Expert)
Cliff J. Schexnayder, Arizona State University (Subject Matter Expert)

Sites Visited

Jacksonville and Pensacola, Florida
Birmingham and Montgomery, Alabama
Houston, Texas
Salt Lake City, Utah
Sacramento and Oakland, California

Scan Dates

March 1-7 and March 22-29, 2009

Final Report Published

December 2009

Survey Results

Scan 07-02: Accelerated Construction Techniques had eight team members, including three co-chairs and two subject matter experts (SMEs). One of the co-chairs (Thomas Bohaslav) has since retired. Of the eight original members, two responded to the survey.

Conduct of Scan. Please rank each of the following scan program features in terms of its contribution to the overall value of this particular scan tour, where 1 is “not important” and 5 is “extremely important.” If it did not apply to your scan, please pick N/A (Not Applicable).								
Answer Options	Not Important				Extremely Important		N/A	Response Count
Preparatory materials and meetings in advance of the scan tour	0	0	0	2	0	0	0	2
On-site visits to view the subject technology or practice	0	0	0	1	1	0	0	2
Face-to-face technical exchange with host state personnel and other scan participants	0	0	0	0	2	0	0	2
Final report of scan findings	0	0	0	0	2	0	0	2
Post-scan consultation with host state personnel and other scan participants	0	0	1	1	0	0	0	2

Scan Outcomes. Please rank each of the following scan program outcomes in terms of its contribution to the overall value of this particular scan tour, where 1 is “not important” and 5 is “extremely important.”							
Answer Options	Not Important				Extremely Important		Response Count
Introduction to a new technology or practice	0	0	1	1	0	0	2
Clearer understanding of a new technology or practice	0	0	2	0	0	0	2
Identification of one or more individuals at a host state to call on as a future resource	0	0	0	2	0	0	2
Identification of one or more scan participants to call on as a future resource	0	0	0	2	0	0	2
Information with which to <u>begin</u> implementation of a technology or practice at your agency	0	0	2	0	0	0	2
Information with which to <u>continue</u> implementation of a technology or practice at your agency	0	0	0	2	0	0	2

General comments regarding the overall value and benefits of the NCHRP Domestic Scan Program:

I believe the host state's take pride in getting to showcase their success stories and receive this type of national recognition; just a fringe benefit to the scan program i think..

Did your participation in the scan facilitate the implementation of any new practices or technologies?

Yes – 0

No – 2

Completed Implementations: (none)

Are any implementations planned within the next year?

Yes – 1

No – 1

Planned Implementations (within the next year):

"Construction Manager / General Contractor" (CM/GC) alternative project delivery method. Adopted and prominently used by Utah DOT, look for more widely spread use among US state DOTs. An FHWA EDC initiative.

Prefabricated Bridge Elements and Systems (PBES). Anticipate more widely spread application of standardized bridge elements by US state DOTs to shorten highway project delivery. A FHWA EDC initiative.

Number of respondents who attempted an implementation without success: none

Number of contacts provided regarding current or planned implementation activities: none

Number of contacts outside the agency provided: none

Dissemination Activities (from one respondent):

Organization - WASHTO

Event – Annual WASHTO Meeting

Date - 7/13/2010

Title/Subject – 2009 Domestic Scan of Accelerated Construction Practices

Used Scan PowerPoint? (Yes/No) – Yes

Webinar Summary

Date

Friday, January 21, 2011

Attendees

Facilitators:

Dylan Casey, CTC & Associates LLC

Pat Casey, CTC & Associates LLC

Scan Team Members:

Christopher J. Schneider, FHWA (co-chair)

Steven D. DeWitt, North Carolina Turnpike Authority

Panel Members:

Harold “Skip” Paul, Director LTRC (chair)

Rick Kreider, Kansas DOT

Glenn Roberts, New Hampshire DOT

Mark Van Port Vleet, Michigan DOT

Andrew Lemer, TRB

Guests:

Lori Rosenkopf, Wharton School at the University of Pennsylvania

Batia Wiesenfeld

Nicole Rosenkranz

Summary

Draft survey results were provided to scan team members prior to the webinar. Following introductions and a review of the results, each team member discussed some of their implementation efforts and their view of the impact of the scan.

Chris Schneider led off the discussion saying that while he was a co-chair, he was as senior within FHWA as his state counterpart within the DOT which affected his ability to push forward on implementation projects from the scan. It was the first scan he'd been involved in and he called it “very fulfilling.” He noted that it was “tough work, long days and long meetings” and that he'd “learned a lot personally from very knowledgeable construction people.” He found that the scan confirmed/validated the methods, technologies, and ideas from past years, particularly those that came out of the accelerated construction technology transfer exchanges sponsored by AASHTO. (These comprised approximately 34 workshops over the previous seven years.) The implementation plan included a number of presentations which were made, but many others were done as well. He also noted articles in *Focus* and *Public Roads* and a number of flyers that were created as a result of the scan.

In his comments, Steve Dewitt said he was a long-time scan veteran (two Domestic Scans, one past International Scan and one upcoming). He cited stand-out benefits of the scans as

the detailed, long-lasting report and inciting participants to innovate and pass-along innovations. “Scans become pieces of research that stand the test of time.” He pointed to UDOTs “culture of innovation” as being a particularly valuable stop, saying the visit “affirmed some things known and planted strategies for new things to try.” He saw the output of the scans not in terms of particular, traceable implementations, but rather through a more osmotic pressure toward incorporating new knowledge gathered during the scan.

Questions from panel members and other participants followed the general comments from the two scan participants.

Rick Kreider noted the importance of precast concrete to many of the accelerated construction techniques and wondered whether the pre-cast industry had stepped-up to fill the opportunity, particularly in locations where accelerated construction may be more prevalent. Steve affirmed that there is such a desire within the industry, but considered it a chicken and egg problem. “It’s tough because the need is sporadic right now,” noting that accelerated construction is frequently driven by disasters, not by dependable, everyday construction.

Andy Lemer inquired how the participants explain the broader value of the scans to home departments, funding agencies, or others. “It’s clearly a terrific experience for those on the scan and report is good, but what do think two years out? How long did the value of the scan last?” Steve compared the experience to engineering school where the specifics of what’s learned in class isn’t what is leveraged directly out on the job. Rather the techniques, context, and methods learned are brought to bear on problems and solutions that differ in their details. He also noted that this scan in particular focuses on unique circumstances and projects. “We’re not going to accelerate every project.” The scan provides access to understanding and thinking about particular technologies, but also to ways of thinking about a whole class of problems and techniques. “To me it’s not a great challenge to justify these things.”

Andy asked further about the modes of dissemination – “Do you spread the word about these things because of who you are or something from the scan?” Steve replied that it’s “a bit of both,” noting that he gives many talks as part of his work, but also frequently points to scan results as particular examples.

Glenn Roberts asked several questions focusing on *how* scan results are implemented, pointing to two general facets of implementation in the scans: 1) team members return to their DOTs and transfer the learned technology internally and 2) the team/scan program in general disseminates the lessons learned and technologies beyond the team itself to other audiences. He inquired about how much of the implementation plan has been executed, whether there were obstacles to implementation, and whether the scan team members were able to disseminate the scan results beyond the immediate team members. Steve said that there are always opportunities to disseminate the scan results, citing an upcoming conference of international construction management. “We will talk about things just as we are now that are very relevant. The process continues.” Chris noted that the scan fits nicely with the current “Every Day Counts” initiative through FHWA, where accelerating construction would be part of shortening construction in general.

Mark Van Port Fleet asked about the ways in which the message is promulgated beyond the scan team members. He suggested that some things could be done through the Technology Implementation Group (TIG) that aren’t done now and that the Domestic Scan Program as a whole might do well to make more efforts to broadcast scan results and reports. Noting that there is an audience of people that hear about the scan results from their participation in various federal and state programs at large, he thought that more effort could be made to get information

to those that are not direct participants. Possibly the AASHTO sub-committee structure may be a better model for sharing this information. He said that results disseminated primarily via fifteen minute PowerPoint presentations may not be enough to get the information to stick, suggesting a workshop environment or the FHWA peer exchange program as better avenues to promote dissemination and implementation.

Skip Paul, as panel chair, looked to see success and show value in the program. He wondered how much emphasis was placed on implementation in the process of the scan and how the program as a whole might be improved. Could the panel/program provide more assistance in fostering implementation? Was this particular topic possibly too broad and may that have inhibited efforts toward broad-based implementation/dissemination? He also wondered whether the scan team members had seen the website and whether it could be used fruitfully between team members. Chris said that the team discussed implementation plans frequently and took them seriously. The consensus at time was that there weren't any specific projects to implement per se, possibly some research projects. The focus of the implementation plans was dissemination of the findings. He noted that the TRB web-page for the scans can be difficult to get to and obtain information; he likes the new webpages. Steve responded by discussing one successful and another unsuccessful post-implementation attempt. A good example of a successful post-scan implementation: following the construction management international scan six years ago, there was a partially funded federal highway initiative aimed at fostering implementation that provided seed money to allow DOTs to reach out to private industry. This capitalized on the passion and enthusiasm of the group itself. He pointed to an upcoming meeting construction management (occurring every two years) that was born out of the implantation efforts from that scan and the dollars put in following the scan. "It's taken on a life of its own." A good example of an unsuccessful post-scan implementation: following the public/private partnership scan there were one or two meetings (three years ago) of some people, but nothing since. He noted that the topic was and remains very important and timely, however, the implementation effort "just evaporated." He cited the lessons for successful implementation as: gather a good group of people, keep them together, and provide funding for them to do their work. He further commented that for successful implementation, the results of a scan need to find a home, possibly an AASHTO subcommittee or something else the states are involved in. He thinks this scan topic could find such a home, but not sure that it has.

Skip wondered about low participation in the survey. Steve didn't think much should be read into it. "Everyone is swamped."

Lori Rosenkopf asked whether people come to scan members to ask for advice or information based upon their scan participation. Steve said yes, but he's not certain that it's due to the reports; more likely it's due to presentations and follow-up questions. Chris said he'd turned a number of people onto the scan from questions and calls he gets as project manager for accelerated construction for FHWA.

Steve closed by saying that he's as a strong advocate for the scan program and scan approach. "There's no better way to spend such money."