

NCHRP 20-68A – “US Domestic Scan Program”
Scan 07-02 Best Practices in Accelerated Construction Techniques

Description of Scan

The unprecedented increase in traffic volume, coupled with an aging infrastructure, has caused funding levels to jump and highway construction activities to intensify in recent years in an attempt to accommodate the mounting traffic demands. Historically, highway construction time has been extensive, and construction operations have further compounded traffic congestion, particularly in our nation's larger cities. Highway construction is inevitable, but excessive construction time must be avoided. It is costly and causes highway workers to suffer prolonged exposure to traffic and the motorist to substandard conditions.

Using national transportation leaders to identify strategic planning goals, innovative techniques, and newer technologies, the Accelerated Construction Technology Transfer (ACTT) process has proven to be a viable approach to addressing the construction time and traffic congestion concerns of today's large, complex multi-phase projects. As a result, in recent years we have heard a lot about the Accelerated Construction programs that focus on achieving the objective: "Get in, Get out, and Stay out". However, much of the activity occurs preconstruction and it is also well recognized that there are many lessons to be learned during the construction phase of projects about how work can be accelerated even more.

This scan will focus on actual construction operations and management practices rather than contractual or other incentives to develop and apply such practices. Inclusion of construction contractors in discussions at locations visited by the scan team will be essential to achieving insight into these practices. Lessons learned from repair and reconstruction following major disasters - e.g., Hurricane Katrina; the May 2007 truck fire in Oakland, CA - will be considered in scan planning, to the extent that lessons from these fast-track efforts may be transferable to more general usage. The scan's results may influence, for example, construction specifications and procurement procedures to facilitate contractors' adoption of accelerated construction techniques.

Explicit items of interest will include actual construction practices such as the use of prefabricated bridge components, maturity meters for concrete strength, full road closures, innovative pavement products, alternative construction materials and possibly advanced technologies for non-destructive or rapid product testing. Contracts with open-ended methods or those that specify performance for accomplishing project goals and tasks will be sought and reviewed. A main focus of the scan will be to find and examine technologies and approaches to construction that minimize the duration of work zone occupation.

As a result of this scan, the team will compile a broad array of ready to implement technologies, methods and processes that could then be evaluated, catalogued and disseminated to transportation agencies. Specific products from the scan will include a written report; presentations at conferences and other venues; and research statements/projects that will examine specific tools and/or practices in greater depth to assess their applicability in the U.S.

Original Scan Proposal Title: Accelerated Construction Techniques

Last Reviewed/Revised October 26, 2010

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Execution Schedule

Milestone	Anticipated Date
Chairs and Team Members Identified	June, 2008
Desk Scan Completed	September, 2008
Prescan Meeting Held	September, 2008
Scan Conducted	March, 2009
Draft PowerPoint submitted by SME	April, 2009
Draft Report Delivered to NCHRP and Panel	June, 2009
Final Report Delivered to NCHRP	December, 2009

Estimated Scan Cost and Funding

Actual cost and duration: \$ 142,600; 2 weeks
Anticipated fund from FHWA: \$25,000.

Last Reviewed/Revised October 26, 2010