



U.S. Department of Transportation
Federal Highway Administration



Accelerated Construction Technology Transfer (ACTT)

June 2004, Minneapolis, Minnesota

IMPROVED
CONSTRUCTION
AND
SYSTEM PRESERVATION
TECHNOLOGIES
performance of highway systems

new strategies to enhance the quality

Accelerated Construction Technology Transfer (ACTT) is a strategic process that uses innovative techniques and technologies to reduce construction time on major highway projects while enhancing safety and improving quality. The process is implemented by conducting 2-day workshops for State Departments of Transportation (DOT). The American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) jointly fund ACTT workshops.

In June 2004, the Minnesota Department of Transportation (Mn/DOT) hosted a workshop that brought together approximately 100 transportation professionals from around the Nation.

The primary objective of the workshop was to draw on the expertise of participants to help Mn/DOT achieve its primary goal of minimizing construction time and right-of-way needs for its Crosstown Reconstruction Project, one of the most congested and heavily traveled locations within the Twin Cities metropolitan highway system. The \$200 million project is to reconstruct this interchange, which is severely substandard, lacking in capacity, and with over 250,000 Annual Daily Traffic remains congested over 13 hours a day. In addition to inadequate capacity, the accident rate on the existing facility is three times the metro average. Besides increasing capacity, the proposed improvements are expected to upgrade geometrics to today's standards and improve safety by separating I-35W traffic from the Crosstown traffic, thus eliminating dangerous merging conditions. The project is to go to construction in spring/summer of 2006 and is scheduled to be constructed over 4 years and will reconstruct 10 km (6 mi) of I-35W, 3 km (2 mi) of Highway 62, and nine interchanges. Maintaining the existing number of lanes throughout construction is the primary challenge of the project.

The workshop opened on June 14th with welcoming remarks from Carol Molnau, Lieutenant Governor of Minnesota and Commissioner of Transportation, and Al Steger, FHWA Division Administrator for Minnesota. Both Carol and Al expressed support for the workshop and asked the participants to get creative while helping Mn/DOT identify methods and measures to achieve project goals of minimizing construction time and adverse impacts. Following the opening remarks, Dave Huft, Research Program Manager for South Dakota DOT, illustrated the significance of the workshop as he covered "Why ACTT? Why Now?" The opening day concluded with a project overview by the project management team and a bus tour of the project site with stops along I-35W at the 58th Street pedestrian overpass and along Highway 62 at the Penn Avenue and Portland Avenue interchanges.



View of commons from the TH-121 area.

Over the course of the workshop, participants broke into Skill Set teams to examine how the ACTT concept could be implemented to accelerate various aspects of the project. The workshop skill sets selected by Mn/DOT were Right-of-Way and Utilities; Structures; Construction; Innovative Contracting; Geotechnical/Materials; Traffic/ITS/Safety/Public Relations; and Environment. Each team focused on applying the ACTT process to the specific concerns of their expertise while the teams collectively searched for methods and measures to help Mn/DOT achieve its goals of minimizing construction time, limiting closures of major traffic movements to 8 weeks during construction, increasing highway capacity, minimizing right-of-way acquisition, providing an advantage for bus transit, and reconstructing an aging facility.

Workshop participants remained focused throughout the workshop and made numerous recommendations, many of which were deemed viable and will be pursued, according to Mn/DOT. Among the recommendations presented were:

- Use the same structure type for V75 and V76 bridges instead of using precast box for one and cast-in place for the other.
- Change precast concrete box to steel for the flyover bridge at the north end of the project to open in the fall of 2006 instead of July 2007.
- Consider a 1 percent communications budget, but keep it under Mn/DOT's control and not the contractor's.
- Add a third lane to Highway 100 prior to the start of the mainline work, as part of upgrading the local system.
- Consider performance measures for enforcing traffic control specs.
- Install sheet pile protection at the storm sewer locations instead of supporting the retaining wall on the piling.
- Use high-performance concrete (HPC) on the bridge decks to eliminate the need to overlay.
- Use spread footings unless proven inadequate to minimize deep foundation needs (15 percent cost savings on bridge).

With the workshop now completed, several recommendations will be evaluated for use on this project during final design. Policy level evaluations will also be performed and implemented on this project if possible.

To find out more about the project and the implementation of recommendations, contact:

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www.fhwa.dot.gov/construction.