U.S. Department of Transportation
Federal Highway Administration

Accelerated Construction Technology Transfer (ACTT)

September 2004, Dubois, Wyoming

IMPROVED CONSTRUCTION AND PRESERVATION SYSTEM TECHNOLOGIES

new strategies to enhance the quality performance of highway systems

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 Department of Transportations. American Association of State Highway and Transportation Officials and Federal Highway Administration (FHWA) jointly fund ACTT workshops.

In September 2004, the Wyoming Department of Transportation (WYDOT) hosted a workshop that brought together transportation professionals from around the Nation.

The primary objective of the workshop was to draw on the expertise of participants to help WYDOT achieve its goal of minimizing construction time for its US-287/26, between Moran Junction and Dubois. The $80 million project involves reconstruction of this 56-km (37-mi) stretch of the highway to upgrade to a super-two facility with passing lanes. The primary project challenge is to complete the project under traffic while minimizing socioeconomic, environmental, and wildlife impacts. Construction season in this part of the country is short and coincides with tourism, which the small communities along the corridor rely on as a major source of income. Prior to the workshop, WYDOT was evaluating several scheduling options including an accelerated 5-year construction option, a 7-year option, and a 9-year option. The corridor project was being designed as five projects that could be constructed individually or combined. The first project, approximately 16 km (10 mi) in length, was scheduled to begin in 2005 with completion in the 2006 construction season. To accelerate construction of the corridor, WYDOT is now considering combining contracts as recommended by workshop participants.

At the opening session on September 21, Pat Collins, WYDOT's Engineering and Planning Engineer, welcomed the participants and expressed support for the workshop. Jim Sorenson, FHWA's Senior Construction Engineer, posed the question "Why ACTT? Why Now?" before bringing on WYDOT personnel to give an overview of the project. Following the opening remarks and a project tour, the participants spent a day and a half brainstorming, looking for methods and measures that would help achieve project goals.

The Skill Sets selected by WYDOT prior to the start of the workshop were: Structures; Geotechnical; Innovative Contracting/Financing; Long Life Pavement/Maintenance; Traffic, ITS, Safety, Public Relations; Environmental; and Construction. Each Skill Set team focused on how the ACTT process applied to the specific concerns of their area of expertise while collectively, the teams searched for methods/measures to help WYDOT achieve its goals of minimizing construction time as well as socioeconomic, environmental, and wildlife impacts.

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

- Extend the construction season by using heaters and geogrid; by placing snow fences to mitigate snow storage conflicts; by using alternate materials/methods like the use of large crushed aggregate, which can be placed in colder weather; and by

Togwotee Pass Near the Continental Divide

using cold-weather concrete. Also, bid contracts in the fall and procure materials, submit shop drawings, and certify materials during the off-season.

- Change the density testing from sand cones to nuclear gauge and reduce the testing frequency by using proof rolling.
- Use advance clearing to facilitate the southern exposure for the construction season.
- Shift the alignment to the north for the Rosie's Ridge contract to minimize the impact on the traveling public and potentially reduce construction time by 2 years.
- Use technologies like webcams, Geogauge, maturity meters, improved lighting, and prefabrication.
- Use a surcharge over the winter to accelerate consolidation of the approaches to Buffalo Fork Bridge.
- Assign group specialty contracts like slide mitigation and rock cut by type and not by location.
- Deploy a traffic control system with a certified coordinator for the whole corridor.
- Package contracts and advance the contracts for hot spots like rock cuts and slide remediation.
- Eliminate frost-heaves using methods like an elevated profile with a rock cap, over excavation and replacement of material with drainage, Polystyrene board insulation layers, vertical edge drains, or horizontal geo-composite drains.
- Have a public relations representative on the advisory committee and develop a comprehensive and detailed communication plan, ensuring real-time construction and road condition information including possible alternate routes.

Sleater Dover, WYDOT's Director, attended the last day of the workshop. The Director thanked the participants, expressed support for the workshop, and spoke of the significance of such an undertaking on high profile projects like this one. With the workshop now completed, it remains for WYDOT to sift through the various workshop ideas/ recommendations and decide which ideas should be implemented in future planning, design, and construction phases of the US-287/26 reconstruction.

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

Galen Hesterberg of FHWA's Wyoming Division Office, (307) 772-2012, Galen.Hesterberg@fhwa.dot.gov
Pat Collins of WYDOT, (307) 777-4484, Pat.Collins@dot.state.wy.us

To find out more about ACTT and other ACTT projects, contact:

Dan Sanayi at (202) 493-0551, dan.sanayi@fhwa.dot.gov, or visit www.fhwa.dot.gov/construction.

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