AASHTO Technology Implementation Group
Nomination of Technology Ready for Implementation
2005 NOMINATIONS DUE BY FRIDAY, SEPTEMBER 9, 2005

<table>
<tr><td>Sponsoring DOT</td><td>1. Sponsoring DOT (State): Utah</td></tr>
<tr><td>Primary Technical Contact</td><td>2. Name: Michelle A. Page
Organization: Utah Department of Transportation
Address: 4501 South 2700 West
City: Salt Lake City State: UT Zip Code: 84114-8410
E-mail: michellepage@utah.gov Phone: (801) 965-4333 Fax: (801) 965-4564</td></tr>
<tr><td rowspan="3">Technology Description</td><td>3. Name of Technology:
Electronic Plan Room</td></tr>
<tr><td>4. Briefly describe the technology.
An online method for advertising and bidding transportation projects.</td></tr>
<tr><td>5. Briefly describe the history of its development.
UDOT began searching for a method to deliver plans and specifications electronically over the Web in 2000. Many approaches and vendors were analyzed and rejected. The main reason for rejection was the prohibitive costs associated in using the available technology. Most were between $250,000-$450,000 with many of the vendors requiring an ongoing service fee to our customers. UDOT management did not want to charge anything to our contractors and customers. We began researching a method of where we could create this application "in house". Digital InterPlot was just coming onto the market at this time and we realized that with minimal customization and utilizing our strong CADD standards we would be able to create an application and system to make the Electronic Plan Room (EPR) a reality.</td></tr>
<tr><td rowspan="3">State of Development</td><td>6. For how long and in approximately how many applications has your organization used this technology?
A couple of projects were selected as test projects in 2001 and by Fall 2002 full implementation was achieved. Since that time all state transportation projects are advertised via the electronic plan room.</td></tr>
<tr><td>7. What additional development is necessary to enable routine deployment of the technology?
The website can always be further developed and enhanced. This year we added a ProjectWise base to the system. Now we can deliver MicroStation .dgn files and civil design information directly from the EPR to the contractor as need. This has been one of the most successful projects that we have had and we look forward to many enhancements to the system in the future.</td></tr>
<tr><td>8. Have other organizations used this technology? If so, please list organization names and contacts.
Organization Name Phone E-mail
Bentley Wendell Gardner 888-716-9953
ND DOT Troy Zornjak 701-328-2038</td></tr>
</table>

Potential for Payoff	9. What benefits has your organization realized from using this technology? Include cost savings, safety improvements, transportation efficiency or effectiveness, environmental benefits, or other advantages over other existing technologies. UDOT was able to recognize an initial return on investment of over $100,000 a year in reduced printing costs as well as eliminating over the counter sales of plans which allowed us to reassign two full time employees to other duties. The savings to our contractors has been significantly greater. In interviewing our Prime Contractors they stated a realized savings of $200 per bid submittal. This translates into savings of over $500,000 a year for the entire group. This does not take into account the savings that sub contractors have realized. Nor have we had enough time to calculate the impact of having all of our bidding information online which has significantly broadened the base of contractors, subs and vendors able to participate on projects. UDOT has an excellent set of CADD standards but like any big organization the ability to police compliance has been hit or miss at best. The EPR in the first six months brought us to near total compliance to the CADD standards, this is because by using the plt tables in Digital InterPlot if UDOT or consultant designers have not followed the CADD standards then the plans that they submit will not plot correctly electronically, which requires us to fix them or more likely send them back to the designer for correction delaying the advertisement date. Contractors have told us that this has led to much improved bids because every set of plans is uniform statewide. This also benefits UDOT's electronic archive and our long range plans to reuse the design information and component features in the future.
Implementation Potential	10. Please describe what actions another transportation agency would need to take to adopt this technology. Initial scope for EPR: 1) First and foremost we needed to deliver MicroStation design files in a way where they were sharp, clear and could not be edited. 2) Be able to deliver project specification electronically. 3) Be able to control who could see and download plans and specifications. 4) We needed a public and a private site. The difference being who had access to structural drawings. The general public would be able to view all of the plans and specifications with the exception of the Structure drawings and would not be able to download any of the drawings. 5) We needed to record who had downloaded any plans or specifications to create a plan holder's list. The plan holder's list has been an important part of our system that allows sub contractors to contact prime bidders to submit offers for work. 6) The ability to quickly post addenda and automatically notify all plan holders by mail and email that they need to download it. 7) And finally, do not create any additional work for our design squads. 8) Provide training regarding CAD transfer to digital image. (See attachment for an example.) 9) Develop electronic bid system. (Bid opening/closing times online.)
	11. What is the estimated cost, effort, and length of time required for procurement or adoption by another transportation agency? Estimated Cost: $40,000 – UDOT hired a Bentley consultant, included software and administrator training. Research of available options (time can vary substantially here). Actual training and implementation achieved within 6 weeks with Bentley consultant. The system has worked incredibly well. The Bentley consultants did an outstanding job in a very short timeframe.
	12. What organization(s) currently supply and provide technical support for this technology? Bentley, but mostly in-house technical support. Bentley has provided assistance as needed for Digital Interplot (iPlot).

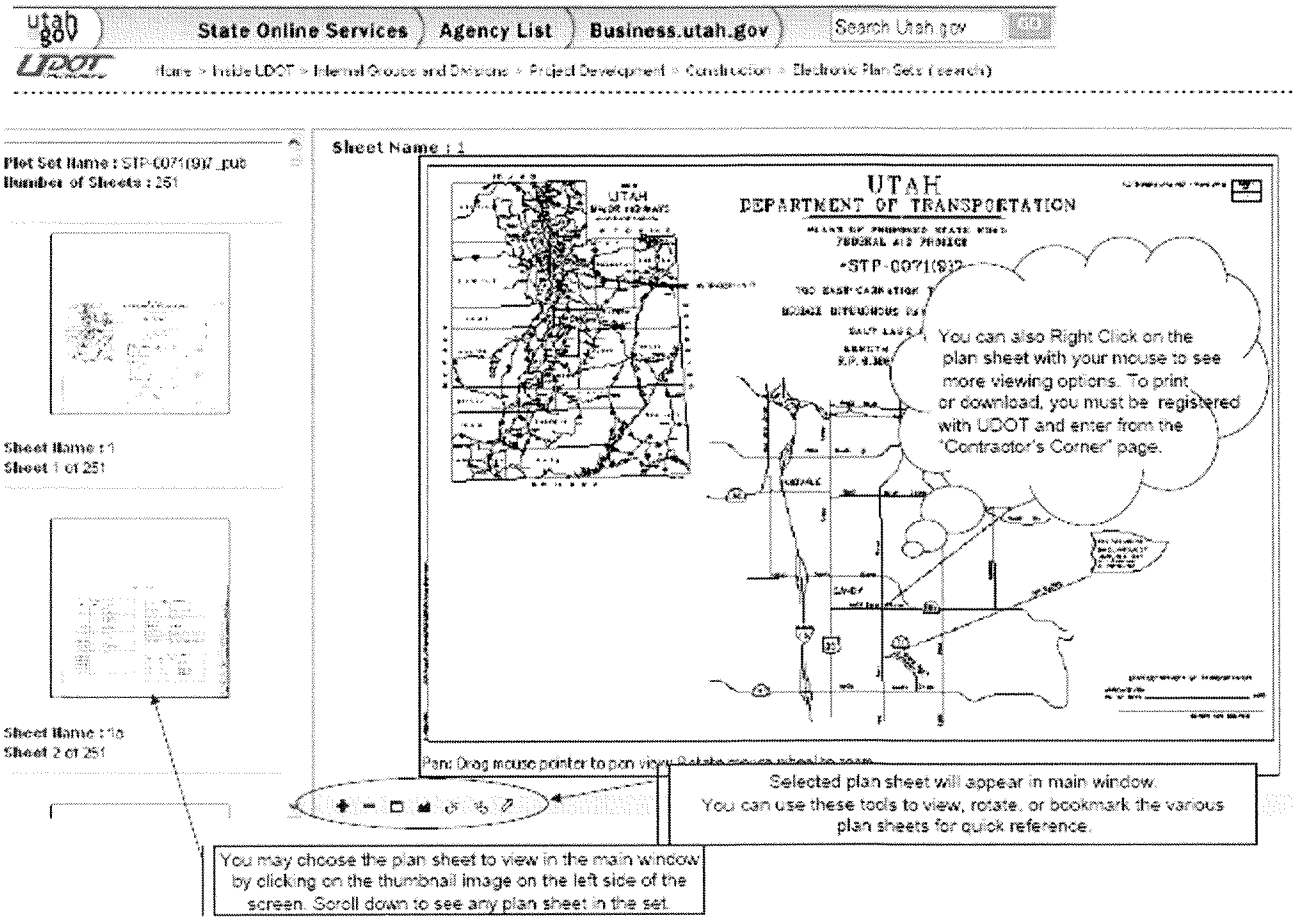
AASHTO Technology Implementation Group
Nomination of Technology Ready for Implementation
2005 NOMINATIONS DUE BY FRIDAY, SEPTEMBER 9, 2005

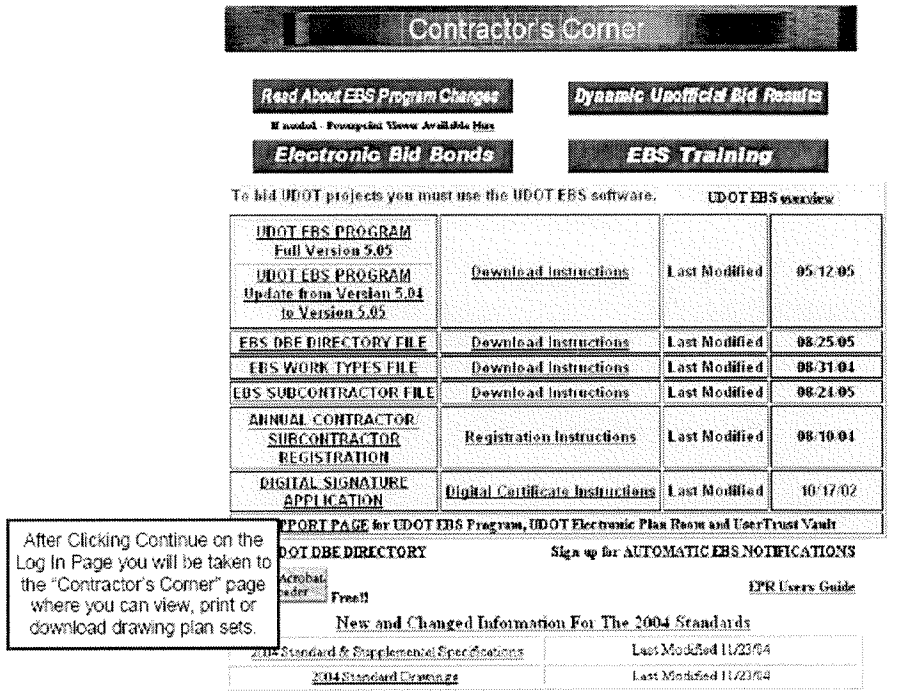
	13. Please describe any legal, regulatory, social, intellectual property, or other issues that could affect ease of implementation. Structural drawings posed several concerns due to homeland security issues. Ultimately, secure access of the website alleviated these concerns as well as a record of who was viewing the structural drawings.
Willingness to Champion	14. Is the sponsoring DOT willing to promote this technology to other states, if partially supported by the AASHTO Task Force on Technology Implementation? ☒ Yes ☐ No
Date Submitted	15. Date: September 8, 2005

16. Please include image(s) of sketches or photographs, if available ☒Image(s) are attached.*
Screen captures of applications.

*

AASHTO CONTACT	MARTY VITALE ADMINISTRATIVE COORDINATOR FOR ENGINEERING AASHTO	PHONE: 202.624.5862 FAX: 202.624.5469 mvitale@aashto.org





After Clicking Continue on the Log In Page you will be taken to the "Contractor's Corner" page where you can view, print or download drawing plan sets.