

PUSHING TOWARD PAPERLESS GOVERNMENT

Utah DOT provides digital bid sets online,
cutting costs and speeding construction

Utah Governor Mike Leavitt laid down the mandate: "Enable people to conduct business with government online 24 hours a day, 7 days a week."

Following Leavitt's lead, the Utah Department of Transportation (UDOT) created a managed environment for engineering data, built on Bentley technology. The results: tangible cost savings, greater efficiency, and smoother collaboration among the highway agency, its contractors, and suppliers.

As part of Leavitt's push toward paperless government, UDOT did away with the paper plans that contractors once used to prepare project bids.

Instead, UDOT now provides digital plan sets via its Web-based Electronic Plan Room (EPR), powered by Bentley's Digital InterPlot™ collaboration server for plot management.

Other road agencies nationwide are following suit. The Federal Highway Administration's Western Federal Lands Highway Division purchased Digital InterPlot, planning to publish bid sets online. Minnesota's Department of Transportation uses Bentley technology to post project plans on its Web site.

"It requires minimal administrative resources, and very little on the part of the contractor—just a Web browser and an Internet connection," said Lou Barrett, transportation program supervisor in the Minnesota agency's technical support office.

Realizing instant savings

Immediately, UDOT expects to save \$192,000 a year in plan production and distribution costs, plus a drastic reduction in time spent preparing plans.

And over time, the agency may also see greater competition driving down bids. "We expect the EPR

SUMMARY

Organization

Utah Department of Transportation (UDOT)

Vertical Market

Civil

Location

Salt Lake City, Utah

Project Objectives

- Eliminate the costs and inefficiency of distributing paper project plans.
- Accelerate project lifecycles by making plan revisions available immediately.
- Enhance competitive bidding by making bid sets more widely available. Enable greater collaboration among bidders and suppliers by providing bid status and contact information.
- Secure sensitive engineering data by making it available only to authorized users.

Fast Facts

- UDOT expects to save \$192,000 a year in plan production and distribution costs, plus a drastic reduction in time spent preparing plans.
- A longtime MicroStation user, UDOT implemented Bentley's Digital InterPlot collaboration server in 2003 after evaluating competing products.

Bentley Products Used

- MicroStation®
- Digital InterPlot
- Bentley® InRoads®

to encourage a wider range of contractors nationwide to bid,” said Greg Herrington, EPR project manager.

Contractors save time and money as well. “It’s instant,” said Hillary Clark, project manager assistant at Gerber Construction in Lehi, Utah. “We just go into the site and get the plans, instead of having to send someone to go out and pick them up.” And while paper plan sets cost contractors up to \$250 each, the digital versions are available free.

The EPR collects the names of users who download project plans, and publishes lists of each project’s plan holders and bidders. Suppliers and subcontractors can use this information to approach bidders.

The Solution of Choice

A longtime user of Bentley’s MicroStation® platform and Bentley® InRoads® civil engineering applications, UDOT chose Digital InterPlot after considering competing products.



For one thing, Digital InterPlot integrates seamlessly with MicroStation. “The other systems weren’t geared to import directly from our CAD files. We would have



been forced to go through a TIFF format or some other intermediate conversion,” said Robert Gardiner, UDOT technical program analyst.

What’s more, Digital InterPlot handles multiple file formats with equal ease: MicroStation’s DGN format, but also raster files or AutoCAD’s DWG format.

While competing products typically publish drawings only to PDF or TIFF formats, Digital InterPlot supports the vector-based DPR format as well.

“With DPR, you get a higher image resolution for the file size,” said Jesse Sweeten, UDOT electronic documents manager.

UDOT takes advantage of another Digital InterPlot feature: Portable Plan Set, a tool for distributing electronic plots and their attributes.

While the EPR lets users browse, view, and print plans from a Web browser, Portable Plan Set allows them to download the entire project set at once. Saved on a user’s desktop, the plan set is self-contained in its own executable viewer.

“What they download as a portable plan set is identical to what’s online,” Sweeten said. From Portable Plan Set, users can print an entire project or a selected subdirectory.

“It’s nice. Once you download the plans, you don’t have to log back in again,” said Clark of Gerber Construction.

Customized access levels

Bentley helped UDOT integrate the EPR with the agency's Electronic Bid System, which lets contractors prepare and submit bids via UDOT's Web site.

As part of the customization, the EPR lets any site visitor view plans. To print or download plans, however, users must register on the site, providing a state contractor license.



To view plan sets, contractors must say whether or not they intend to bid on the project. That bidding status is reported on the list of plan holders, so contractors can see competitors and potential collaborators.

The registration system lets UDOT notify plan holders when project plans are revised. So contractors can get updated plans immediately, cutting time out of revision cycles and speeding construction.

And because of homeland security concerns, the system doesn't allow unregistered users to view structure drawings such as bridge construction plans.

Shifting services online

The EPR project was "primarily driven by the governor's directive to provide as many services online as we can. This was one we had been considering for a long time, and we thought it would be a good candidate for implementation with relatively minimal effort," Gardiner said.

Leavitt has set an aggressive goal: By 2004, the Utah governor wants all appropriate state services to be provided online. In part, his plan for bolstering the state economy leans on making transactions with government efficient and seamless.

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