

THE INTERCONNECTED PUBLIC WORKS AGENCY: THRIVING IN A COMMUNICATIVE AND COLLABORATIVE ECONOMY

Public Works agencies face a common challenge today: to manage larger construction and maintenance budgets and more projects with fewer personnel.

Improved communications and information exchange can enable public works agencies and their supply chain (design consultants, inspection firms, contractors, etc.) to achieve greater levels of efficiency, performance and timeliness of project completion. The more synchronized these connections between the agency-owner and the consulting firms and contractors doing business with them become, the more power they have to drive up productivity, drive down cost and deliver more for the taxpayer's dollar.

This paper will summarize the results of a survey of public works officials conducted in late summer 2004 regarding the primary challenges they face today, their existing construction management processes and tools, and the relative importance placed on IT in their agency's strategic planning. It also will provide a case study of how one agency has created a highly effective environment of communication and collaboration through innovative IT investments (including web and wireless technologies) and strategic selection of business partners.

From Islands to Interconnected Systems

If public works agencies are to achieve continuous improvement, maximize existing investments, and excel in the interconnected world, the systems, process and people associated with administration, construction, and maintenance must be woven together. Largely thanks to web and wireless technologies, this decade will witness the emergence of **value networks**, where interactions and transactions happen simultaneously among multiple entities. Funding and oversight agencies, government agencies, design consultants, contract administration and inspection firms, and contractors will evolve into a dynamic, high performance network of public/private partnerships and information flows.

The diagram below provides an example of how the transportation construction contract lifecycle is already evolving into a system of improved connections and seamless data flows as more and more key functions in the process are being outsourced and agency-owners are constantly under pressure to compress project schedules and budgets.

Transportation Construction Management Lifecycle



High levels of interconnection are becoming increasingly attainable. Innovative outsourcing strategies, networked computing and communication technologies, and forward-looking public agencies are setting the stage for more efficient ways to obtain and share information, thereby squeezing costs out of contract management and administration. In particular, XML, Web, and wireless services now make it possible for agencies to exchange information much more fluently than before.

These new technologies increase the efficiency and transparency of agencies by synchronizing previously incompatible data and applications, including independent Line of Business applications. The result: it is now possible for Design, Estimation, Electronic Bidding, Construction and Materials Management, Maintenance Management, and Asset Management solutions to be integrated. The people and processes located at various points within a public agency and their outsourced partners can be connected both internally and outside the four walls in a secure environment.

Return on Investment in Technology

Transportation agencies expect compelling returns on their investment in new solutions. They require a low cost of ownership, stable technology, reliable service from their technology partner, and measurable benefits and cost savings.

The case study to be presented in this paper will describe how one agency achieved a considerable return on their technology investment by automating the following core business processes:

- Cost estimation
- Vendor and bid management
- Pre-award analysis

- Construction management and inspection
- Program level reporting and analysis

Proven, Measured Benefits and Cost Savings

The solution provided the following key benefits to the agency-owner and its business partners:

- Better Planning
 - Standardization
 - Integration of the entire construction program
- Better Budget Management
 - Improved cost estimation
 - Tracking cost allocation to funding sources
 - Improved competition and better prices
- Better Project Execution
 - On-time contractor pay estimates
 - Efficient change order (contract modification) initiation and tracking
 - Reduction in contractor disputes
 - Reduced delays and budget overruns
 - Shorter approval cycles

With a single point of data entry, the solution can enable a significant reduction in resource hours that are typically spent in a paper and pencil system to re-enter data, check and correct errors, and process documents. As a result, inspection reports and contract modifications are entered and processed more efficiently, pay estimates are generated in a more timely manner, contractors get paid more quickly, and the number of claims or disputes is reduced.

In addition, the case study will describe how multiple levels of reporting can help all stakeholders from the funding agency to the administering agency to the contractor **focus and report on the progress, not the process, of construction.**