

# Improved estimation at Jacksonville Transportation Authority

**Needs analysis:** JTA's goal was to develop an automated process that would allow them to use relevant historical bid prices to accurately predict expected future prices. **Product implemented:** JTA chose Info Tech's Appia to meet this goal. As part of the implementation, Info Tech was able to integrate Florida Department of Transportation's historical bid data with JTA's own project data from previously-let projects. **Results:** Use of better data produced instant improvements in JTA's estimation accuracy and promotes quick decision making during the award process .

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-Greg Day  
Project Controls Engineer



Jacksonville, Florida is booming. The last decade has seen explosive growth for this jewel on Florida’s “First Coast,” and increasing recognition throughout the US as an emerging cosmopolitan city of the south. As the largest city in terms of geographical area in the continental US, Jacksonville’s road and bridge systems are feeling the stress of accommodating growth and effectively moving traffic.

Jacksonville Transportation Authority (JTA), an independent regional state agency, has multi-modal responsibilities that include light rail, regional bus service and paratransit, in addition to developing and delivering major projects for Jacksonville’s intricate bridge and highway system. Working closely with the Florida Department of Transportation and the City of Jacksonville, JTA develops and implements construction plans to improve traffic flow.

JTA prides itself on keeping abreast with technology in construction management. One area that they felt had a need for improvement was project cost estimation. As their program grew in size and complexity, off-the-shelf applications like Microsoft Excel® and Access® were falling short.

“JTA did not have a rigorous system for developing consistent, reliable cost estimates for its’ complex construction projects” said Greg Day, a project controls engineer working for JTA’s consulting firm. Their engineer’s estimates were ‘hit and miss,’ compared against the actual contractor bids. The agency’s goal was to develop an automated process that would allow them to use relevant historical bid prices to accurately predict expected future prices.

When they began looking for an estimation application, there were several priorities, including ease of use, access to a reliable database of localized, historical bid information, and a reporting capability that would facilitate the detailed analysis of each contractor’s item prices versus those of the Engineer’s Estimate.

JTA’s Chief Engineer, John Davis, was determined to solve this problem and personally led the search for an application.

“We went to several major industry players in construction management software products, but none of them had a tool that would work for us, nor were they interested in working with us to develop one.”

Davis stated that the focus of other companies was primarily in vertical construction, not in item-based, horizontal work. JTA’s search finally led to Info Tech, AASHTO’s long time provider of construction management solutions for over 40 of the nation’s state DOTs.





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"Info Tech had already identified the need that existed in the local government market and was developing an application called Appia®. After our initial review of the application and an on-site demonstration, we believed that Appia was the right fit, and Info Tech was more than willing to work with us."

Appia is a web based solution for managing public works projects. It allows users to create projects, develop cost estimates, electronically advertise and bid projects, and manage them throughout the construction phase using a simple web application with an intuitive user interface.

Appia offers many benefits to users, including significant cost and time savings due to reduced hands-on time and elimination of re-keying data, more accurate record keeping, and paperless data collection. JTA's specific need of help in the area of cost estimation was easily met within Appia. Simple screens go step-by-step through the estimation process, and data is readily available based on past projects.

JTA was able to get data loaded into Appia quickly by leveraging Info Tech's long-standing relationship with the Florida Department of Transportation (FDOT). FDOT has implemented Bid Express®, Info Tech's Internet bidding service, which houses bid tabulations for projects around the state. As such, a wealth of historical data was available to assist JTA in developing a customized database of local projects for loading into Appia for use in the cost estimation process.

Upon installation, JTA was immediately able to use FDOT's historical bid data and combine it with their own project data from previously let projects. Info Tech's ability to tie the FDOT Bid Express data to JTA's Appia database produced instant improvements in JTA's estimation capabilities.

"Appia's use of a standardized master item list (in this case, FDOT's) and a corresponding database of localized, historical bidding data, was the organized approach to project estimation that was needed," Day said.

JTA found there was a wealth of information in their bid

tabulations that they were missing out on because they did not have the right tool to organize and present the data. Once the proper tool was in place, the estimation and bid analysis process became much easier. They found that they were also able to analyze bid data and award projects faster than ever before.

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JTA knew they had a powerful tool on their hands when they used Appia on a project for Jacksonville's busy and expansive Beach Boulevard, a major thoroughfare in the city. "Using Appia, the engineer's estimate was \$65 million. We had two contractors bid on the project and the bids were \$64.6 million and \$65.6 million," said Day.

With any new application, there is always a concern that training and installation will be a major hurdle. Since Appia is a web application, the user interface is already familiar to anyone who uses a web browser, so training is quick.

"Implementation went very well," said Day. "Appia was easy to learn and use, and we were able to put the product into production immediately after the training." Day adds that Appia was well-received by all users because "it does what is needed."

JTA now uses Appia for estimating all types of projects, but they find it particularly helpful when working on complex bridge jobs and new roadway construction.

Always on the look-out for innovative ways to improve efficiency, JTA is now focusing on Appia's electronic bidding capability to streamline its' communication process with the agency's contracting community.

As part of Florida's "First Coast," Jacksonville prides itself on its long history. Now that Appia is in production for project estimation, JTA can use its own historical data to make better roads and bridges. One again, Jacksonville is using its history to become a more prominent metropolitan area. •



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