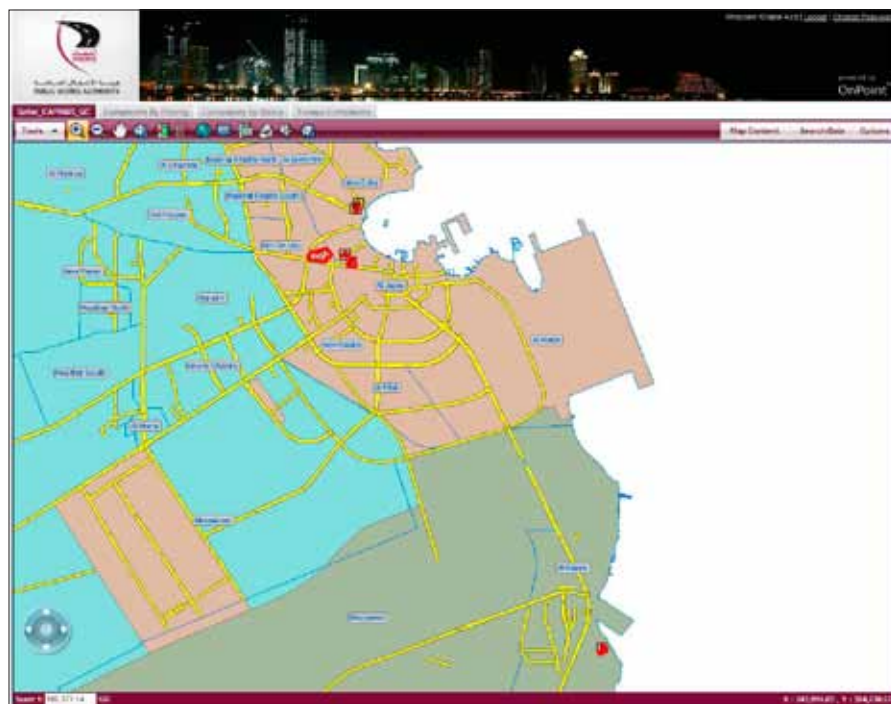# Simplifying
the Project Approval Process

Geocentric approach to budgetary system

By Jim Baumann, Esri Writer

↓ High-level map view of multiple projects being proposed

Though Ashghal, the Qatar public works authority, is responsible for a significant amount of the country's infrastructure—including roads, wastewater systems, and public buildings—there are numerous other government organizations in charge of designing, building, and maintaining government facilities. Because all government infrastructure projects compete for public funding, Ashghal was given the responsibility for implementing a system to coordinate the annual capital project budget application process.

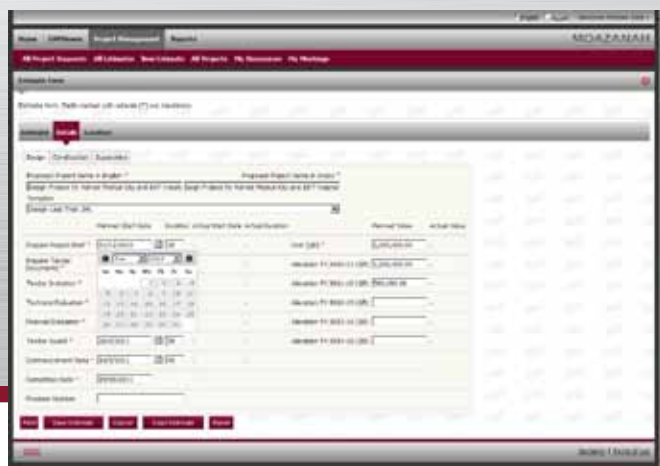### Traditional Workflow Led to Errors and Delays

Historically, the budget application process for major infrastructure projects was primarily paper based. This often led to incomplete or lost paperwork, resulting in protracted meetings between the ministries and Ashghal to resolve conflicts and miscommunications. It also led to late project submissions, frequent submission deadline extensions, a complicated tracking method, and limited opportunities to collaborate on projects.

With its wealth of oil and natural gas reserves, resulting in an expansion in trade and investment, the small Middle Eastern nation of Qatar has seen its population more than triple to 1.7 million in fewer than 15 years. This population growth has sparked an unprecedented boom in construction and infrastructure development projects.
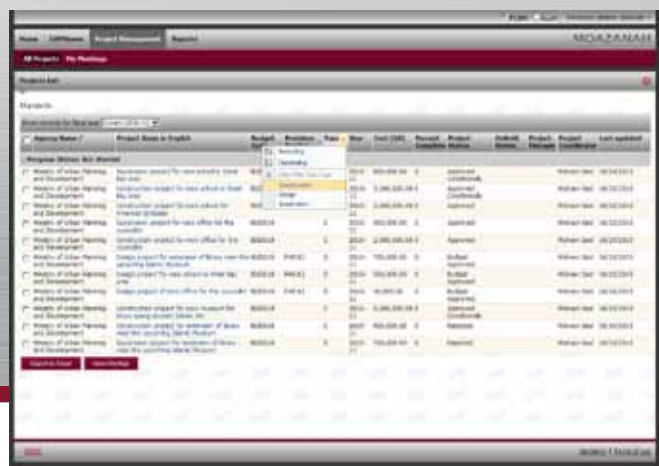
To automate this antiquated workflow, Ashghal's Engineering Business Services Department defined the requirements for a capital project request management system, called Moazanah (Arabic for *budget*). Moazanah would facilitate the country's budgetary review and approval, with the overarching aim to make sure that all capital project funding applications move forward smoothly, with greater clarity for the reviewing agencies and individuals. The Moazanah project was announced in 2009 and ultimately awarded to Rolta Middle East, an Esri partner, following competitive bidding.

↓ This Project Management view shows a high-level project estimate for a medical facility.

↓ This view displays a list of all projects so they can be reviewed by the project coordinator.

GIS-Based System Resolves Budget Process Bottlenecks

On the surface, a capital budget review process—with its mix of estimates and textual details covering legalities, materials, construction services, and logistics—might seem lacking in geographic content.

However, georeferencing is central to Moazanah. Each project has a geographic extent, which highlights areas where nearby projects may overlap. Each overlap becomes an opportunity for coordination and cost savings. For example, it is obviously costly and inefficient to repeat construction work on the same stretch of roadway. However, in the past, projects were proposed, funded, and completed without considering other projects scheduled for the same area. A project might tear up the same stretch of road that had just been resurfaced. These repeated disruptions were costly for the government, unnecessarily impacted local business, and impeded traffic flow throughout the affected area. Using ArcGIS—a key component of Moazanah—to track project locations helps coordinate neighboring projects or associated work, which reduces construction costs and the disruption for local businesses and residents.

Nasser Ali Al Mawlawi, who is Ashghal's president and also an engineer, said, "Moazanah manages our government infrastructure projects from beginning to end. It has not only expedited the review and approval process, but we are already seeing a cost savings, which will undoubtedly result in a significant return on investment."

Central to the Moazanah solution is Rolta's OnPoint, a web-based GIS application; SharePoint Web Parts; and Microsoft SQL Server. The underlying engine is based on Esri's ArcGIS Server platform, which manages the spatial data for subsequent analysis and distribution. Moazanah is also integrated with Primavera's Project Portfolio Management (PPM) to organize and manage the proposed projects once the budget is approved.

Simplicity Is Key to System's Effectiveness

The system features a series of interconnected SharePoint forms. These forms are tailored to the role of the individual who logs in to the system. Because the user experience was of utmost importance to the successful deployment of Moazanah, the user interface was deliberately kept clean and intuitive.

Shafik Jiwani, executive vice president of global business development at Rolta, explained, "We recognized early on that Ashghal had very ambitious plans for this system. With more than 23 agencies involved in the process, hundreds of users, and hundreds of complex projects, it was quite a challenge to present information in a way that felt intuitive to the user.

"As tempting as it was to build a sophisticated interface with lots of complex tools, the smart approach was to keep the interface clean and simple. It had to be easy to find the information needed to make informed assessments and immediate decisions."

Key performance indicators (KPI) are extracted from the data and displayed on a dashboard that is customized to reflect department heads' interests and responsibilities. Moazanah is used throughout the project assessment process to evaluate the suitability and impact of a proposed project on its specified location. During this process, various location-based government regulations must be considered. GIS is also used to drive other geospatially based analyses, such as the number of project requests submitted within a particular municipality and the status of those projects.

Increasing Efficiency and Collaboration

Moazanah has increased the efficiency of Qatar's budgetary process. Information is submitted digitally and can be examined by all stakeholders who evaluate and discuss the same information as it proceeds through the review procedures. It facilitates collaboration and coordination. With Moazanah, Qatar has an immediate status report for all proposed projects in the country.

Abdussamad Mohamed Al Makei, manager of Ashghal's Engineering Business Services Department, concluded, "Moazanah provides us with a forum to discuss and analyze the country's infrastructure project proposals so that we can confidently move forward with them, knowing they are properly managed and within budget."