

# 2009 NASCIO Nomination IT Project and Portfolio Management



## Metropolitan Water District of Southern California

How to transform from

*A Project* Management Office to  
*A Performance* Management Office

On a shoe-string budget

## **B. Executive Summary**

The Metropolitan Water District of Southern California is a consortium of 26 cities and water districts that provides drinking water to nearly 19 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura counties. The mission is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. Metropolitan delivers an average of 1.9 billion gallons of water per day to 300 cities in a 5,200 square mile service area.

In 2005, the Information Technology Project Management Unit (PMU) established an initiative to elevate the performance of its Project Management Office (PMO) function responsible for overseeing a \$100M portfolio of IT projects. The journey involved improving key areas of People, Process, and Technology to transition from a *project* management office, to a *program* management office, and subsequently, to a *performance* management office. The People related improvements involved obtaining, training, and retaining PMP certified project managers; the Process related improvements involved implementing an in-house Systems Development Life Cycle (SDLC) methodology based on public-domain standards and frameworks, acquired at nominal cost due to financial constraints; and the Technology related improvements area involved implementing tools such as Project Office, Project Server, and SharePoint.

By June 2008, the main goals of this initiative were substantially achieved. The journey that Metropolitan IT has taken will facilitate responsible stewardship of public funds and provide a model for efficient and effective project and portfolio management in government.

## C. Description of Business Problem

### C1. Business Problem

Prior to the formation of the Metropolitan's IT PMU, capital projects were handled in a decentralized and ad-hoc fashion, with no formal methods, dedicated project management staff, reporting structure, or formal accountability and reporting. IT capital projects had a low success rate and IT had a negative reputation for project delivery. The projects tended to be technology-centric and had poor integration of people and process to technology, resulting in elevated actual and perceived project failures. Nearly immediately after the PMU formation in 2003, a PMU-sponsored strategic plan resulted in formalization of \$43M in capital projects, which has since increased to \$100M in 2008. To effectively handle this magnitude of work, existing program and project management challenges and deficiencies had to be resolved. These included:

- A very small staff of experienced project managers and administrators, with varying backgrounds and limited training and experience
- A lack of policies and procedures by which this staff could operate in an effective and efficient manner
- A lack of internal roles and responsibility definitions.
- A constant sense of firefighting and heroics needed to attain project objectives resulting in a reactionary instead of proactive environment
- No funding to implement project management methodologies, training, and tools
- A lack of a tactical plan by which the objectives identified in the strategic plan would be delivered, including prioritization and resource allocation

### C2. Business Solution

The business solution was to implement improvements in three key areas: People, Process, and Technology. These improvements were implemented in a 3-stage transition process within three years, with each transition step taking about a year.

Stage One - The first transition step was to become a proficient **Project Management Office** focused on oversight and professional management of multiple projects.

Stage Two - The second transition step was to expand project management best practices into a **Program Management Office** whereby multiple programs (Applications, Control Systems, Infrastructure, and Information Security) were integrated and aligned with Metropolitan's business objectives.

Stage Three - The third transition took the PMU into the realm of corporate governance by providing **Performance Management Office** functions with new enhanced duties such as working with system users, and CFO's Office, to develop and track quantifiable (ROI, NPV, etc.) and non-quantifiable (ease-of-use, reliability, end-of-life, etc.) benefits of IT systems which were implemented.

## People Improvements: Where everything starts (... and ends)

The focus of the PMU was first and foremost to ensure that there were enough qualified project managers to manage the large portfolio of projects. Because of the economic situation, the staffing of PMO took many forms. Management had agreed to re-allocate some existing positions to the newly formed PMU, while other project managers were “borrowed” from other units on a temporary basis. PMU also augmented staffing by hiring contractors to manage specific projects under the supervision of Program Managers. The next challenge was to ensure that Project Managers, who came from diverse backgrounds, had the necessary skills and tools to manage their projects efficiently. The PMU created an aggressive training and development program, which was managed as a typical project, with an assigned project manager, and associated cost, schedule, and deliverables.

The design of the training and development program took into account the need to minimize cost and interruptions to projects. The program took several forms: some training was conducted in a class room/boot-camp format; some training was conducted via coaching and mentoring by pairing employees together. Subject Matter Experts were invited to conduct short presentations during staff or project meetings. In many cases, staff members were asked to research and present specific topics. In addition, employees were given specific training and developmental goals, and were asked to fit those goals into their individual schedules as time allowed. The training and development plan emphasized the need for pragmatic and practical skills. A tailored program was developed to fit each employee’s specific needs in the following areas: project management, technical topics, business process, and soft skills such as effective writing, presentation skills, and team management skills.

Employees also had the opportunity to take advantage of Metropolitan’s tuition reimbursement program to continue their education and obtain PM certifications.

## Process Improvements: How to do things better..

During 2005, the first year of this three-year process, the process focus was to develop a formal Systems Development Life-Cycle (SDLC) methodology to guide \$80M of IT projects in development. This stage was preceded by a Capability Maturity Model Integrated (CMMI) Report which the PMU initiated to identify areas for improvement. Due to lack of financial means to procure external SDLC methodologies, licenses, and associated professional services, the PMU developed its own in-house SDLC methodology adapted from current and past processes, and piloted it on several IT projects. This in-house approach necessitated adopting components from current best practices public-domain IT frameworks and standards which could be acquired at zero or nominal cost. The SDLC was designed to be simple to adopt, add value, and be accomplished with nominal cost. Consequently, the PMU developed a collection of project management best practices derived from the Project Management Body of Knowledge (PMBOK), CMMI, Electrical and Electronics Engineers (IEEE), and Information Technology Infrastructure Library (ITIL) standards and guidelines. Information from these documents was extracted and assembled to define how IT capital projects were to be executed.

These project management best practices were then expanded to serve as an umbrella structure over an in-house developed SDLC Guidelines and Procedures for generating necessary SDLC deliverables for capital projects. By Year 2, the IT projects portfolio had grown to \$100M and these best-practices project-management processes and SDLC methodology continued to be expanded and refined. By Year 3, performance management functions were added and a performance measurement process was developed and implemented where IT projects with measurable benefits had to record the actual benefits resulting from implementation of the system. The PMU provided oversight of results which were then reported to senior management.

#### Technology Improvements: the tools..

During the course of transitioning from a Project Management Office to a Performance Management Office, several tools and technologies were adopted based on a requirements framework that was aligned with the people and process improvements occurring in tandem. Technology tools utilized during the transformation included:

#### **Project Management Office**

- Used stand-alone Microsoft Project scheduling software for scheduling and planning
- Developed and adopted a formal methodology (4Ds) using Word, Excel, and Microsoft Project templates including system requirements & definition, project planning and scheduling templates, and cost estimating tools

#### **Program and Portfolio Management Office**

- Implemented the Pacific Edge Project Office project portfolio management tool to assist in the execution of the IT Strategic Plan in areas such as balancing tactical project management priorities with strategic program management directives in the areas of achievability, alignment, balance and value
- Conducted business case analysis and ROI analysis utilizing financial models and tools

#### **Performance Management Office**

- Leveraged Microsoft Project Server and SharePoint to manage the complete lifecycle of projects: inception, definition, design, development, deployment, and post deployment
- Utilized collaboration technology to increase team efficiency and effectiveness
- Implemented a Benefits Measurement Planning (BMP) toolkit comprised of Excel spreadsheets and formulas

#### **D. Significance of Project**

The overall significance of the project was to allow the PMU to more effectively and efficiently manage a \$100M portfolio by transitioning from a decentralized, inconsistent approach to a project management office, to a program management office, and more recently, to a performance management office.

The PMU achieved the program goal of delivering a core set of project management competencies and experiences to all project managers. Now most project managers have several successful completed projects under their belt. Nearly half of the PMO project managers have obtained PMP certification, resulting in an increase in the success rate for IT projects, as judged by the number of projects completed on time, within budget, and with a high level of customer satisfaction.

The process improvements implemented were successful in elevating the PMU role in the organization. By adopting project management best practices combined with the appropriate tools & technologies, the increasing maturity of the PMU has allowed the PMU to carefully manage and be fiscally responsible for the execution of Metropolitan's IT Strategic Plan. The evolution of the PMU will influence and elevate the organization's capability to implement new technologies (e.g., Business Intelligence).

### **E. Benefits of Project**

By implementing the improvements mentioned above, the IT PMO was able to improve project success rates markedly. The IT portfolio consists of 65 projects budgeted at approximately \$100M, with 30 complete (\$54M), 19 in progress (\$22M), and the remainder are slated to start. As compared to industry statistics (2009 Standish Chaos report), where 32% of projects were considered functional, on time and on budget; 44% were "challenged" by being late, over budget or less than anticipated functionality; and 24% failed or were cancelled, MWD's recent project report shows significantly better metrics: 67% fully functional, on time and on budget; 33% behind schedule, but functional. More importantly, none were over budget and there were no failures or cancellations. These statistics show significant improvement as compared to the past and also compare very favorably with the IT industry as a whole.

This translates to providing benefits to our Member Agencies and the 19 million people in Southern California, such as ensuring:

- Reliable water delivery system through water planning, system modeling, water-bank accounting applications and world-class control systems.
- Enhanced water quality through, water quality monitoring, world-class lab software and reporting systems
- Improved physical and IT security through national standards and best practice compliance, rolling annual assessments and continual IT security policy and system upgrades
- Cost savings and increased reliability through robust system infrastructure and architecture design and deployment, best in class operations maintenance management systems, mobile and handheld deployments
- More dependable communications, both daily and in emergencies, within the District and to member agencies and the public, through secure, redundant, multi-

mode communications networks that include cell, radio, fiber and microwave systems.

- Increased cost efficiency and stewardship of public funds through award winning financial processes and business-focused budget, finance, accounting, and energy management systems.
- Improved and expanded employee development through broadened human resources functionality and multi-option / interactive training systems
- Increased public and employee outreach through Metropolitan's award-winning interactive web-based "People" magazine and public facing web-sites.

In summary, by increasing IT PMO capabilities, Metropolitan is more able to provide its service area with adequate and reliable supplies of high-quality water in an environmentally and economically responsible way.