

EMGT 835 Field Project

Implementation of a Project Management System for Improvement to City, State's Design and Construction Capital Project Delivery

By

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Executive Summary

Over the last three years, the City of City, State has been in the process of changing the methods used for capital improvement project delivery of Public Works and other departmental projects. This change was necessary to reduce a backlog of more than 400 projects with budgets of over a half billion dollars. It has shifted the capital improvement project delivery from a “multi-departmental” style of delivery to a “project management” style of delivery through the infusion of private consultants into the City’s staff for a unique public private partnership. This collaboration has allowed the infusion of innovative best management practices into the City’s organization. This change has also increased the capital improvement project delivery in City, State from an average of 30 to 40 Public Works’ style construction contracts a year to more than 100 construction contracts each year over the last two years.

These changes in project delivery have been made with great fanfare of what has been accomplished but it has been completed inside the City’s structure without much advertisements of how the internal processes have changed. This document will define the former and current project delivery systems utilized by City, State. It will then document the current process with those of other municipal capital project delivery systems. It will define the expected and unexpected benefits of the conversion to the project management style of the project delivery system. The final sections of this document will the key factors for success and pitfalls to avoid during implementation of this style of project management delivery system.

These changes from the “multi-departmental” style of management previously employed by the Public Works Department to the “project manager” style of

management employed by the Capital Improvement Management Office has allowed the City to complete hundreds of backlog of projects. This change has allowed the City to infuse hundreds of millions of dollars through construction alone into the City's economy. The success of this program has allowed the City to continue its progress toward creating a better community for its citizens and a modernization of its project management practices.

Introduction

Capital project delivery by a municipal government can bring life to the development of a city if done properly or can choke the life out of a municipal government's momentum if not done properly. Instituting the use of a project management system for project delivery is a viable method to improve capital project delivery and has provided additional momentum to the City of City, State's (CITY) current revitalization. The use of a project management delivery system instead of a multi-departmental delivery system has allowed City, State to double and triple their capital improvement project delivery. This success has led several other municipalities including New York, Chicago, San Francisco and Atlanta to inquire about this change in project delivery system.

The city of City, State has implemented the use of a project management system with a team approach to improve project delivery through a new Capital Improvements Management Office (CIMO). This was completed with the use of key consultant personnel through a public-private partnership incorporated into the City's staff. This implementation has dramatically improved project delivery for CITY. This transition from multi-departmental to project management delivery through a team approach, along with the unique infusion of consulting personnel, has allowed the City to dramatically reduce the backlog of projects while providing a delivery system flexible enough to change with the City's future focuses.

The City has been able to streamline the project delivery system reducing time, resources and energy necessary for project delivery. This transition has incorporated

private consultants with previous knowledge of the implementation of a project management delivery system into the City staff while working within a municipal government's business restriction. This experience was used to train the City staff in current best management business practices. The City has benefited from this capital project delivery improvement and has learned lessons from this transition into the current project delivery system.

This paper will define the project delivery system prior to CIMO as well as explain the current project delivery system. It will also compare this delivery system with other similar municipal project delivery systems. The paper will then define the expected and unexpected benefits of the transition to a project management delivery system while providing the key factors for success and pitfalls necessary to avoid when instituting a project management delivery system.

Literature Review

A Literature Review was completed using books and articles for writing this field project. Researching the comparison of the City, State project delivery system to other municipal agencies proved difficult in published literature and the few recent findings were located on the web. There was a lack of current books on the topic of municipal project management and new methods to implement project management into an organization, but a variety for private sector project management implementation. An evaluation of several books and article used for the research is described below:

A. Books

Kerzner, Harold. 2004. *Advanced project management: best practices on implementation*, 2d ed. John Wiley & Sons.

This author provides a guide to the implementation of a project management system. The author explains how various project management methodologies have evolved. The author also explains the necessary requirements and pitfalls in the implementation of the project management processes. This document is primarily focused on private sector project management implementation but was able to complete a solid review of the principals of project management necessary for public sector project management implementation.

Lewis, James P. 2000. *Project planning, scheduling & control, a hands on guide to bringing projects in on time and on budget, 3d ed.* McGraw-Hill.

The author has provided a framework of the planning and schedule control elements necessary to properly complete a project. The author focuses on the schedule aspects of a project while maintaining the knowledge that scope and budget play a key aspect toward the project's completion. The author also provides an intrinsic description of the requirements of a project manager and the team of professionals necessary to complete a project. This includes personality and motivational requirements needed to keep any project moving towards its ultimate completion.

Heerkens, Gary R. 2006. *The business-savvy project manager, indispensable knowledge and skills for success.* McGraw-Hill.

The author developed this text to assist private entities in enhancing their project management capabilities through the use of additional management tools and ideas. The author focuses primarily on the financial aspects of project management without losing focus on the scope and scheduling issues that arise in project delivery. Although the focus is for profit, many lessons can be learned for municipal project management. The author is able to provide additional focus on the budget aspects of a project necessary to make both public and private projects successful.

Richman, Larry 2002. *Project management step-by-step.* AMACON.

This text provides an emphasis on the planning and team aspects of project management.

The author provides a look into the human element of project management without forgetting the requirements of managing the scope, schedule and budget of the project.

This has been one of the key aspects of success within the process improvements discussed in this document. These aspects have been both a strength and weakness for the organization in its goal to improve project delivery.

Mintzer, Rich. 2002. *The everything project management book, tackle any project with confidence and get it done on time*. Adams Media Corporation.

The author has provided a basic format for developing a project management system for a project delivery organization. He includes a description of the tangible and intangible requirements necessary to make the project a success. This text distinguishes itself by recognizing the use of software and organizational technologies to facilitate the project delivery process as well as contingency plans. These apply to the project delivery improvements discussed in this paper by using the current technology to advance project delivery through communication and providing a recovery plan for projects as issues develop.

B. Articles

Looi, E C. 2005. Managing for success – the Sacramento City Hall expansion project.

[http://proquest.umi.com.www2.lib.ku.edu:2048/pqdweb?did=909948331&sid=3&Fmt=4
&clientId=42567&RQT=309&VName=PQD](http://proquest.umi.com.www2.lib.ku.edu:2048/pqdweb?did=909948331&sid=3&Fmt=4&clientId=42567&RQT=309&VName=PQD)

The author of this article touts the success of the City of Sacramento, California's City Hall expansion projects team. The project was lead by a public-private partnership that thrived on teamwork and communication to deliver a project that exceeded the City's expectations and needs. This project followed the basic principals of a project management system for a single project but the City does not appear to have completed the project management improvements city wide.

Illia, Tony. 2003. San Diego rights its ship under Navy's Lou Smith.

[http://proquest.umi.com.www2.lib.ku.edu:2048/pqdweb?did=503123021&sid=3&Fmt=3
&clientId=42567&RQT=309&VName=PQD](http://proquest.umi.com.www2.lib.ku.edu:2048/pqdweb?did=503123021&sid=3&Fmt=3&clientId=42567&RQT=309&VName=PQD)

The author of this article explains how San Diego school officials, namely Lou Smith, are completing the \$1.51 billion school bond construction program through the use of a project management system. The program is two years ahead of schedule and on budget by hiring a third party consultant to complete the project. The third party consultant completes the contracts through the school district processes but has not impacted the current staff or its operations. Keeping the two staffs separate is allowing for the completion of the projects without disruption of the day-to-day requirements of the district but does not appear to be imbedding the improvements into the future school districts project delivery systems.

C. Report

Capital Improvements Management Office. 2006. Progress Report, October 2006. City of City, State.

The Capital Improvements Management Office has issued a series of reports that are meant to update the City Managers Offices' staff and the elected officials about the progress of the organization. It contains an update of the projects by council district and has an update of the process improvements by the program. This document has also been used to update key community leaders that have an interest in the organization.

The Problem of Project Delivery in City, State

The city of City, State's (CITY) City Manager recognized the need for a change in the management of capital improvement projects previously completed by Public Works and currently completed by the Capital Improvement Management Office (CIMO). He recognized that there was a need for more than just minor adjustments to the delivery of projects in the organization; he needed a complete overhaul. These transformations of project delivery and project support systems would be necessary to spend the money previously allocated within a large backlog of projects as well as track their progress. The overall impact of this new office was to change the way the City does business, not just in the delivery of capital improvement projects, but throughout the City.

Project Delivery prior to the Capital Improvement Management Office

The city of City, State had found itself in the position of having a fragmented project delivery process that added to the backlog of projects on an annual basis. These projects had funding identified but for various reasons were not completed. The primary reason was that the former "multi-departmental" delivery system was fragmented and nearly impossible to follow by anyone not intimately familiar with an individual project. An application of the previous project delivery system for a significantly sized project would be as follows.

Project Planning

A project would be initiated by either City staff requests or public requests through the Public Improvement Advisory Committee (PIAC). The project would then

go to a planning section within one of 18 departments. These planning sections would review the priority of the project within their department, define the project scoping and complete an estimate of the improvements. The department would then make a case for the improvement if funding was made available then a study would be completed by the individual departments planning section. This study could potentially be completed by a different department. The study would then provide a solution to be re-submitted to the PIAC committee for design and construction funding. If funded, the project then would go to design. Designs were typically completed by the Public Works Department with the exception of large sewer, water and storm water projects that were done by the Water Services Department.

Preliminary Design through Final Design

Once the project was in Public Works, it would be assigned to an In-House Design Section, if small and generally uncomplicated, or as with the majority of the projects, assigned to a Professional Design Section that would begin the contract selection process for a private consultant. Selection of the private consultant and negotiations would be complete by that section. The project would then be transferred to a separate Contracting Section to be processed and the design contract executed.

The project would then be transferred back to the Professional Design Section to manage the private consultant. The private consultant would complete the plans to the land acquisition phase of the project with technical reviews completed by the City staff. The plans and land acquisition documents would then be sent to the Planning and Development Department's Rights-of-Way Section for review, appraisal, negotiation and

acquisition. If condemnation was necessary, as it usually is on large projects, the project would be transferred to the Law Department for completion of the acquisition process.

Once land acquisition was completed, the project would be transferred back to the Professional Design Section within Public Works. The private consultant would then be re-engaged to complete the final design and prepare bid documents. When these final project documents were completed, the project would be sent back to the Public Works Contracting Section for bid and award with a construction contractor.

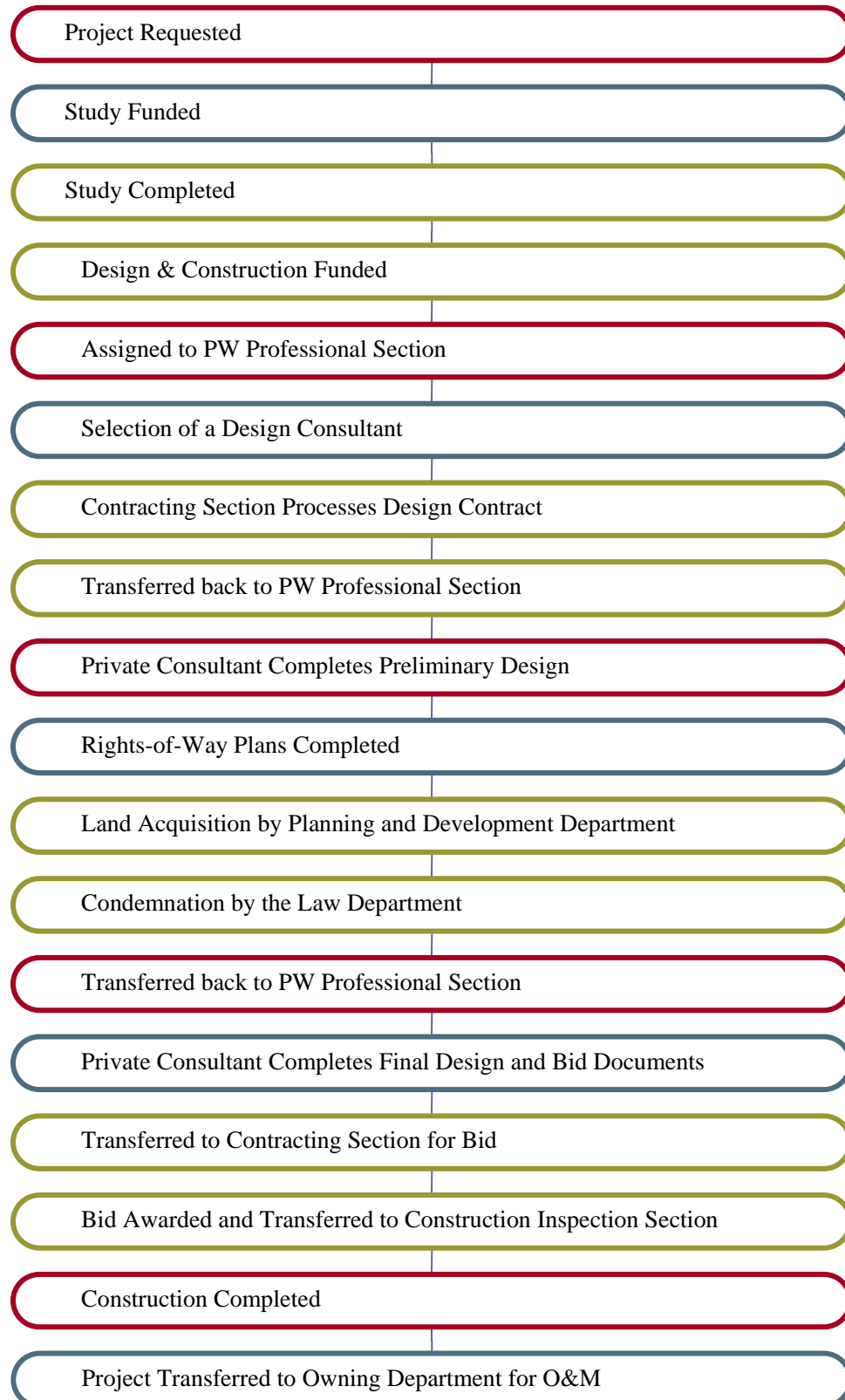
Construction, Operation and Maintenance

The project would then be transferred into the Construction Inspection Section of Public Works for construction. The requests for information and change orders were generally processed by this section without input from the previous staff or private consultants. As construction was completed, the project would be accepted by the Construction Inspection Section of Public Works and then transferred back to the original department for operation and maintenance (O&M). If the project originated in Public Works, it would then go to an independent Operations and Maintenance Section of Public Works for their utilization.

This “multi-departmental” style of delivery system required up to 18 separate handoffs of the project. If the shifting priorities by each of the project’s recipients within separate departments or independent departmental sections were not enough to delay a project, then inherent inefficiencies of constantly shifting of the project managers would almost always extend the project beyond promised due dates, sometimes by more than 10 years.

This complicated and fragmented process had been in place without any major modifications for years. Worse yet, the staff had forgotten the reasons for why the process existed as it was being implemented and did not want to significantly modify the system to improve project delivery. The result was an increase in the project backlog and the need for a major change in the project delivery system.

Project Delivery Prior to the Capital Improvement Management Office



The Inception of the Capital Improvement Management Office

The city of City, State's City Manager made the decision to create a program under his own office in January 2004 to accelerate and complete the backlog of Public Works projects through a public-private partnership. This team was to develop best practices for delivery systems that could be implemented into the City's day-to-day business operations. This sub-section of the City Manager's Office, later to be named the Capital Improvement Management Office (CIMO), was to be led and managed by private sector experts infused with existing City employees to complete 151 priority backlog projects.

The City Manager's office contracted with MWH Americas for the public-private partnership to develop a program with existing City staff to complete the project backlog. The contract was developed in such a way as to provide program management, process improvement suggestions as well as staff supplements necessary for the completion of the backlog. This included the development of standard processes and procedures for the use by the combined City and consultant staff.

The initial team included a group of six City employees from various departments and sixteen private consultants to begin the process of completing the 151 projects. They quickly learned that the existing disjointed process was not structured for efficiency or flexible enough to effectively expedite the identified projects. After working within the existing system for a number of months, they identified 16 critical projects that would need to be completed by the end of their year to maintain their existence. These critical projects became known as "glass ball projects" and were given priority above all others in their completion. With such a small group, the majority of the projects had to continue

their daily management with their current City employees as Project Managers. Improvements had to be made to the system and they needed to be completed quickly.

Initial changes included creating basic project reporting on a weekly basis for accountability of the CIMO Project Manager and City staff contact, agreements with other departments to make the CIMO projects the highest priority projects in their system as well as shadowing key projects with CIMO's staff to make sure that any barriers to their completion were removed in a timely manner.

Initial success brought on a desire to complete more projects. The leaders of the CIMO organization recognized that there were several additional improvements that could be made to the project delivery system but to deliver these projects effectively, they would need to take additional control of the system as well as increase CIMO's resources. With just the initial improvements, there was already an increase in productivity and this created additional support from the City Manager. The leadership group of CIMO was allowed to expand its operation into the current model being employed today.

Current Project Delivery System

The current model of the Capital Improvement Management Office has changed significantly from the process the initial members used to complete their projects in the first 6 months. After those first 6 months, the CIMO office took over more than 380 projects. The staff grew to over 100 people through a combination of full time staff and consultant supplementary staff funded by the project's individual budgets. In addition to completing the project backlog, this staff has documented the processes and procedures

developed. An example of how a significant project is completed under the new system is as follows.

Project Planning

The inception and budgeting of a project remains the same. Once the scope is defined and funding has been made available by the planning sections, the project is transferred into CIMO. The project is assigned to the Project Delivery Team and Project Manager (PM) who then begins a 4 phase process to complete the project through it. These phases are Pre-Design, Design, Bid and Construction. The PM is solely responsible for completing the project throughout these phases with the use of their assigned project team. From the end of the planning phase the success or failure of the project now resides with one department and has one champion; the Project Manager.

Preliminary Design through Final Design

The project team assembled for the completion of the project consists of a Project Manager, Contract Administrator, Project Controls Specialist, Right of Way Specialist, Construction Manager, Communications Specialist and other support staff all from within the CIMO staff to assist with the completion of the project. There will also be a Department Representative assigned by the future owning department to assist in technical review and provide input into major project decisions. The PM will also be the prime contact for the future contract with a private design consultant to complete the design and potentially assist in the construction observation. All of these individuals are directed by the PM and join in the responsibility to make the project a success.

The PM begins the Pre-Design phase of the project after the team has been assigned. This phase includes the transition of the project into CIMO from the owning department and the selection of the design consultant as well as placement of that design consultant under contract. The PM will team with the Communications Specialist and Contract Administrator to complete this task. Additionally, the Project Manager completes the schedule with the aide of the Project Controls Specialist through Primavera. The Project Controls Specialist will track and identify future schedule and budget issues throughout the projects duration with CIMO with a series of monthly project reviews. The Pre-Design phase ends with the issuance of a notice to proceed to the design consultant.

The Design Phase then begins under the guidance of the Project Manager. The project will have a preliminary design completed by the design consultant with reviews by the project team. Once approved, rights-of-way plans will be developed and reviewed by staff for land acquisition by the Rights-of-Way Specialist but still under the direction of the Project Manager. Once the land has been acquired, the final plans, specifications and bid documents are developed and finalized by the design consultant as coordinated by the Project Manager. This will conclude the Design Phase.

The next step is the bid phase. The plans and bid documents are advertised and the contractor is selected by the Project Manager with the assistance of the Contract Manager. The Contract Manager is responsible for ensuring that the contracting process meets the multiple municipal standards and regulations depending on the contracting method chosen. This includes the Minority/Women Business Enterprise requirements, updates to the standard front end documents and that the bids meet the fair business

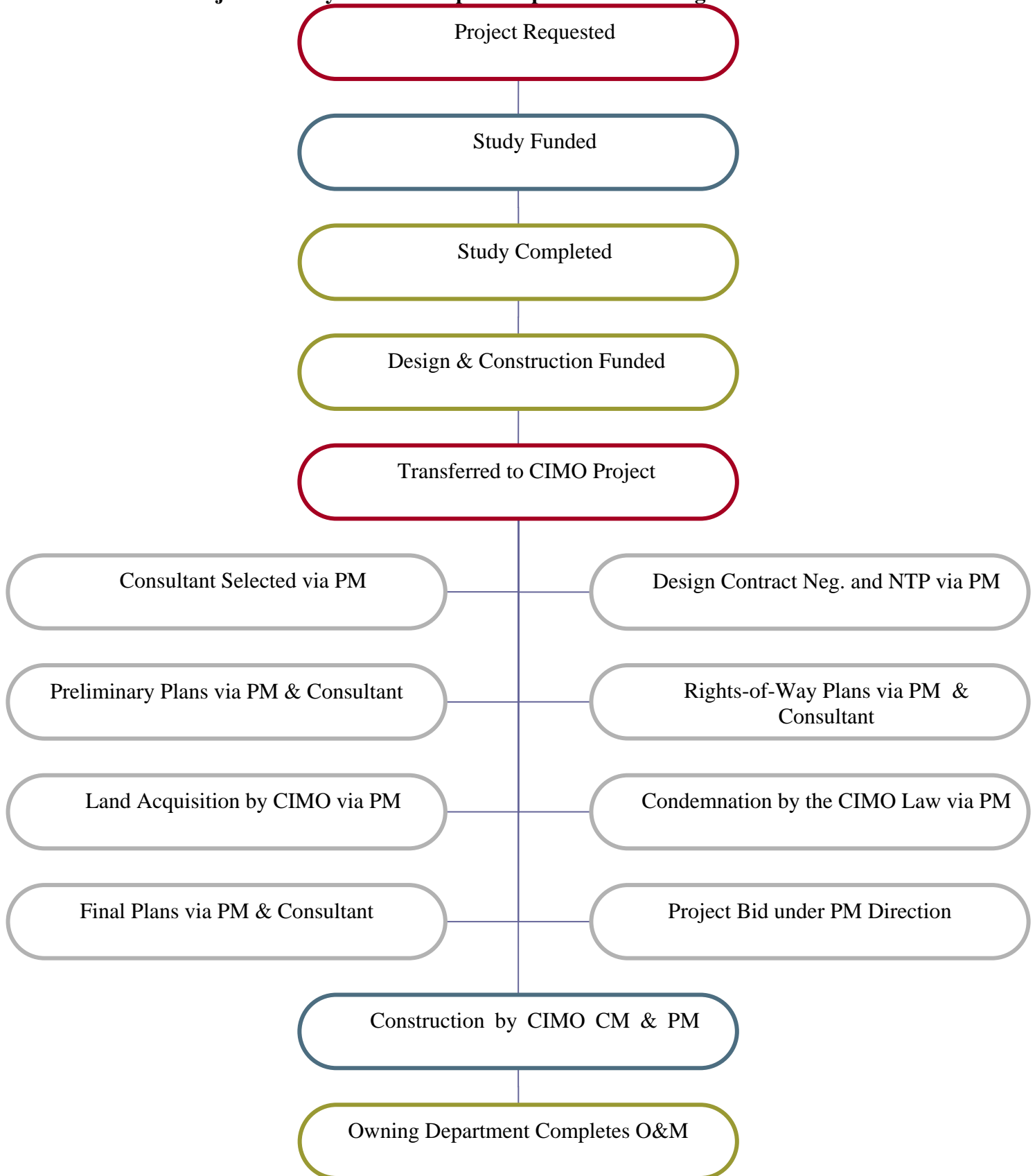
practices defined by the City as well as confirming that the special conditions do not conflict with the standard conditions. This phase ends with the award of a construction notice to proceed to the construction contractor and the Construction Phase begins.

Construction, Operation and Maintenance

The construction of the project is guided by a Construction Manager and Construction Inspector who are required to report to the Project Manager the progress and issues to be resolved. The Project Manager is tasked with guiding the project through the Construction Phase, reporting its status and managing the change orders within the budget restrictions. The Project Manager relies heavily on the Construction Manager and Inspectors to complete this phase of the project. Conclusion of this phase is determined by the completion of the project close out. This phase is concluded with the transfer of the project to the owning department responsible for its future operation and maintenance.

This “project management” style of delivery system reduced the potential number of separate handoffs of the project to 7. This reduction of handoffs has allowed for greater efficiencies while maintaining the project priorities. The ultimate improvement has been the reduction in the schedule. Many of the major projects transferred to CIMO had been funded for construction for greater than 10 years with minimal progress toward construction. These same projects, and many similar to them, are now having the designs completed and construction started in 2 years or less. This schedule reduction has not only reduced the time required for completion but also reduced the money necessary due to project inflation in the completion of projects once required.

Project Delivery after the Capital Improvement Management Office



Comparison to Other Municipal Project Delivery System

The use of a project management system is becoming a common model in the private world of project delivery but has not taken hold with the public entities as a holistic approach. Additionally, there have been multiple examples of implementing project management with a public-private partnership on a large individual project, but it has not been completed on large public program as is the case with CIMO. CIMO has shifted the capital improvement project delivery from a “multi-departmental” style of delivery to a “project management” style of delivery through the infusion of private consultants into the City’s staff. This partnership has allowed the infusion of innovative best management practices into the City’s organization. Public entities are typically using the “multi-departmental” methodology of project delivery but may not have as many handoffs as the CITY system once had.

There are several successful examples of the implementation of project management in the private sector. Harold Kerzner uses examples with such firms as 3M, Sun Microsystems, Motorola and Texas Instruments. (Kerzner, 2004) He goes on to explain that the concept of project management began surfacing in 1985 under the title of Total Quality Management with increasing support to present by using Capacity Planning Models. (Kerzner, 2004, 7) This system has evolved and been refined in the private industry with great success.

James P. Lewis lists the Boeing 777 project as “project management at its “best” but this is again for an individual project. (Lewis, 2000, 23) The use of a public-private partnership with project management methodologies in the completion of the Sacramento

City Hall project is touted as a success as well. (Looi, 2005) These individual successes have been publicized but the use of these tools has been completed at only the project level.

The closest model to that of CITY of implementing a program based public-private partnership is in San Diego, California's School District's Proposition MM's improvements. (Illia, 2003) The District hired URS Corporation to fully handle the school construction program with the assistance of its internal staff but did not fully integrate the staffs together nor implement the program for all of their district projects. The school district left this program in the hands of a private consultant and allowed the consultant to work as a separate entity from the existing public entity staff. The San Diego School District reports that its privately managed bond projects are being constructed up to two years ahead of schedule and on budget.

CIMO is unique in its development because it has contracted with a major consulting firm for the development of a public-private partnership program. To deliver its capital improvement projects, The City has modified its project delivery system with the insertion of private consultants into the city staff. CIMO has embraced the project management philosophies developed through this contractual partnership while incorporating the private consulting staff in its day to day management and delivery staff. This use of private consulting staff working directly with the city staff on a daily basis is the distinction that has led to unprecedented partnerships to advance the City's project delivery. It has also led to other municipalities to view this model as a possible solution to their own project delivery issues.

Expected and Unexpected Benefits

CIMO was tasked with completing more than \$500 million of backlog and capital improvement projects while completing an inventory of new projects as they were funded. CIMO was also tasked with developing a system that can be repeated for future project management needs. The simple question must be asked. Does this work?

The answer has been a resounding yes. The CIMO Progress Report, October 2006 provides a glimpse into the results of the process improvements and the public-private partnership. (CIMO 2006, 6) Prior to CIMO, the City Public Works Department was executing approximately 40 contracts a year for about \$35 million a year. In 2004, the first year of CIMO, the City executed 52 contracts for a total contract value of \$55.4 million while developing the teams and project delivery processes. In 2005, during the first full year of the process improvement, the City executed 117 contracts for a total contract value of \$630.3 million. The 2005 figure includes new downtown revitalization projects directed toward CIMO such as the \$276 million Sprint Center, \$147 million Bartle Hall Improvements and \$63 million entertainment district improvements. In 2006, the final year of the public-private partnership, CIMO completed 132 executed contracts for a total value of \$161.4 million. This has made a significant improvement in the delivery of the backlog of capital improvement projects as well as allowed for the addition of multiple new projects. These delivery achievements and projections exceeded goals at every level and continue to impress community leaders.

Year of Project Delivery	2003	2004	2005	2006
Project Delivery Goals	N/A	N/A	100	100
Number of Capital Improvement Contracts Executed	40	52	117	132
Value of Contracts Executed (Millions)	\$35	\$55.4	\$630.3	\$161.4

One of the other significant improvements was in the project delivery schedule. CIMO received multiple projects that had only progressed to a preliminary or land acquisition phase over 5 to 15 years. CIMO has been able to bid and start construction of these projects in less than 2 years thus saving the City costs in long term staff project management as well as construction inflation and price escalation.

Based on the goals established for the public-private partnership, all of this would still be considered a failure if there were not any legacy style improvements to the project management system. Multiple project delivery and project support systems have been developed to ensure the legacy of the initial partnership. (CIMO 2006, 15) Ultimately, the most un-expectant improvement has been an overall alteration in the attitude that change can be good and how fast this attitude has been incorporated into the City staff.

The City has been able to execute more contracts faster and at a total monetary value than at any other time in its past history through the use of the CIMO system. It has developed a model that allows it to continue this project delivery in the coming years and provides itself the flexibility to improve its processes as new issues arrive. (CIMO

2006, 13) This initial public-private partnership has thrived on the people and system it has developed while providing a model for future City project delivery. This improvement initiative has become extremely successful and is being reviewed for implementation in several other jurisdictions.

Key Factors for Success

The process of improving the project delivery for City has evolved successfully, creating a large number of lessons learned. The significant numbers of changes have been mostly effective in completing the work provided by CIMO with a few setbacks. The most noteworthy key factors of success are as follows:

Use of a Public-Private Partnership – This experimental strategy of using private consultants directly in the day to day workings of the staff to bring state-of-the-art project delivery systems into a public agency has allowed for an influx of multiple improvement ideas. It has also allowed CIMO to treat this section of the City's staff as a business. The staff of both the public and private agencies works together in a side by side office setting to brainstorm, institute and complete delivery system improvements for the City. This success has been primarily due to both the public and private entity staff's ability to work together without either internal or external entities distinguishing that there is a difference in personnel.

Placing Project Delivery Functions Into One Entity – This successful improvement has allowed one entity with the City to take full ownership of a project while keeping the level of priority consistent throughout the project delivery process. This has also allowed for a project to be consistently tracked by one entity without being

lost in the transfer from department to department or section to section. Ultimately, this has allowed for one entity to be held accountable and be given the tools to successfully complete the project delivery.

Change in Management Style – The Public Works staff operated in a management system that had nearly all decisions of impact or importance made through senior management. This included all contact with outside agencies. The CIMO office has adopted a style of management that has decisions pushed as far down into the organization as possible creating a flatter structure. This philosophy of management is amplified through the institution of a matrix form of management. This allows for both a subject matter team as well as a project delivery team. (CIMO 2006, 12) System improvements do not just come from management but can be, and are made, by any position within the staff with these two significant changes.

Ownership of Project through the use of a Project Manager – Providing a single Project Manager to guide, report and deliver the project has allowed for a project champion. The Project Manager makes sure the project keeps moving through the deliver process, makes project milestones and is completed on schedule as well as under or on budget. Project Managers have been empowered to make their own decisions and communications necessary for the completion of the projects while being able to elevate key issues to management for process improvements.

Top Personnel in Key Positions – This simple business strategy has not necessarily been completed throughout the previous delivery process as employed by the City. With this practice in place, it has allowed for the development of emerging leaders in the organization, provided a friendly competitive environment for key positions and

allowed for suggestions and decisions to be made by the best personnel in the organization. The strategy has allowed the organization to complete high priority projects with its top personnel.

Documentation of the Processes – Documenting the processes has allowed for the repetitive use of the same best management project delivery techniques on similar projects or processes. The documentation of the project management processes was not previously completed and created the issue of re-learning the process by each new employee that was involved in the system. Documentation of the processes has also allowed for the reporting of the projects to be completed in a uniform manner, standardized quality and budgetary controls. These documents have become crucial for a new employee to determine the process, procedures and expectations of their position as well as providing a standard for the veterans of the organization. Not all projects or processes are the exact same but at least they can now be developed and reported upon in the same manner.

Continual Reporting of Project Progress – There is a business axiom that if it is not measured, it will not get done. Although significant projects were previously discussed in the past, they were not continuously reported. Small projects were all but ignored unless complaints were received. CIMO is continually requiring the reporting of all of its projects with each being measured against the scoping, scheduling and budgetary restrictions required. The projects are also measured against one another to determine their progress and success. CIMO has been able to do this simply by using common software that meets its reporting needs. (Mintzer 2002, 142) These reports also allow for

information to be disseminated to the public, council members, owning departments and other interested parties on a minimum of a monthly basis.

Uniform Estimating Procedures – This improvement has allowed for a consistent and uniform review and reporting of the project costs. It has allowed for the budgets of different styles of projects to be tracked and reported against one another with a simplified level of uniformity. This has also allowed for the establishment of project budgets with a greater level of comfort and accuracy.

Broadening of the Contracting Process – Previously there were only a few methods of contracting generally practiced within the City. The CIMO has added multiple contracting methodologies to include design-build, construction manager at risk, an under \$100,000 design contract process and under \$300,000 construction contracting process. CIMO is also exploring other possible contracting opportunities after recent charter restrictions have been lifted.

Attitude that Change Can Be Good – The improvement in the organizations attitude that change can be good may be the hardest to measure but it did not seem to exist in the previous mindset of the City. It still does not exist in many areas of the City. This attitude for change has allowed for the rapid adjustment to systems that have been developed and given a higher level of energy to the personnel completing the improvements. This is a credit to the senior management's willingness to try new techniques brought in by both the private partners and City staff.

Pitfalls to Avoid In Implementation

There are always improvements that are made when instituting a new system that are not the best fit for the organization. The CIMO improvements were no different.

During the development and implementation of the new delivery system the following pitfalls befell the fledgling organization and will need to be addressed by CIMO:

Filling the Organizational Chart with Permanent Personnel – The private consultants have accounted for up to 70 percent of the CIMO staff. With less than 6 months remaining on the public-private partnership, the consultants accounted for nearly 30 percent of the staff, to include the director's position. Additionally, the majority of the CIMO's City management staff is in "acting" roles and do not meet the Human Resource requirements for those positions. A common problem in managing projects, as well as programs, is a breakdown in the balance of responsibility, accountability and authority. (Richman 2002, 35) With so many positions in a state of unknown, the staff is continually unsure of the reporting structure necessary to create this proper balance. There should have been a better transition or succession plan for the management positions held or shared by consultant staff as the public private partnership has concluded.

Completing the Updating and Integration of the Documented Systems – The initial drafts of the documented systems for each team member's role has not been completed entirely and there are occasionally differences in these documents that do exist. There needs to be a clear understanding of the wants and needs of each team member to be effective. (Richman 2002, 245) These documents need to be integrated to remove those differences in activities between the team members so that there is a common understanding of what is to be accomplished by whom. These documents also need to be updated and enhanced to allow for improved project delivery processes. There

should be a permanent Quality Assessment/Quality Control manager charged with this task.

Strategic Planning beyond a Consultant Contract – With the director level position being held by a consultant with a limited contract time, the strategic planning for the organization has been tied to the end of the director's contract. There has been minimal strategic planning beyond the current year to year consultant contract. The strategic planning should be completed throughout the development of the organization to properly plan resources and provide proper direction to staff as a whole beyond a year-to-year time frame.

Accurate Reporting of Budgetary Charges – It is currently difficult to determine the charges applied to a project in a reasonable amount of time. This has created issues in managing project budgets, awarding construction contracts and closing out the projects. This has made it difficult to get proper feedback and corrective action as well as place the controls necessary to manage the project budgets properly. (Heerkens 2006, 77) The issue of timely budgetary charges is being addressed within the City but does not have a completion date on the immediate horizon. This needs to be a primary concern when implementing a project management system as budget is one of the three key cornerstones of project management.

Significant Improvements to be Completed

As with any fledgling organization, there are still significant improvements to be completed. After 3 years, CIMO needs to complete some significant improvements. These include but are not limited to the following:

Keep the Momentum - CIMO has been able to build from its success to this point. It needs to continue the energy and attitude in the next year and beyond. Keeping the momentum that has been built will be a continual battle for the organization, which means developing ways to keep the energy level up and focused on improvements to the project delivery system.

Incorporating Other City Projects/Project Groups Into the System – The backlog of Public Works projects is nearly complete. The improvements made in the CIMO system can now be focused on other areas of the City such as Water Services, Parks and Recreation and the Aviation Department which have only been lightly touched by these improvements. This will allow the City to take further advantage of the improvements made through the initial public-private partnership.

Construction Management Improvements – Although touched in the initial improvements by CIMO, Construction Management system improvements are just now being addressed on an organization wide level. Significant construction management areas to be addressed should include the use of lowest and best bid awards, testing service consolidation, inspection service consolidation and further documentation standardization.

Summary and Conclusions

The change in the management of capital improvement projects from a multi-departmental method employed by Public Works to a project management methodology used by the Capital Improvement Management Office has allowed the City to complete millions of dollars of backlog projects while completing the new projects entering the system in a timely manner. Projects now have a champion as well as a project team that guides it through the bureaucracy of the city system. The projects no longer languish for years before they see the first spade of dirt turned for construction. The project delivery improvements have allowed an influx of large sums of money into the economy through the construction of the capital improvements while improving the City's infrastructure and encouraging development around these capital improvement projects.

The success of this program has affected the everyday lives of both the City employees who utilize the system improvements as well as the citizens of the City. The individuals working within the new system now have processes and procedures that allow them to achieve success with the projects. The citizens of City now can see the money they have sent become the projects they were told. The improvements to the project delivery system have improved the lives of all those it has touched directly and assisted with the renaissance the City is currently experiencing.

Suggestions for Additional Work

Change management in a municipal organization

Documentation of a municipal government's project delivery system

Comparisons of the project management delivery system to other municipal delivery systems

Long term effects of a Public-Private Partnership

Alternate project delivery systems

Differences between Municipal and Private Industry Project Management

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Appendices

Appendix A: Previous and Post Process Comparison of the City, State Project Delivery System

Appendix B: Project Manager's Job Description

Appendix C: CIMO Organizational Chart

Appendix A: Previous and Post Process Comparison of the City, State Project

Delivery System

Previous and Post Process Comparison of the City, State Project Delivery System			
Previous Process Phase Description/Project Handoff		Post Process Phase Description/Project Handoff	
Project Requested	X	Project Requested	X
Study Funded	X	Study Funded	X
Study Completed	X	Study Completed	X
Design & Construction Funded	X	Design & Construction Funded	X
Assigned to PW Professional Section	X	Transferred to CIMO Project Manager (PM)	X
Selection of a Design Consultant	X	Consultant Selected via PM	
Contracting Section Processes Design Contract	X	Design Contract Neg. and NTP via PM	
Transferred back to PW Professional Section	X	Preliminary Plans via PM & Consultant	
Private Consultant Completes Preliminary Design	X	Rights-of-Way Plans via PM & Consultant	
Rights-of-Way Plans Completed	X	Land Acquisition by CIMO via PM	
Land Acquisition by Planning and Development Department	X	Condemnation by the CIMO Law via PM	
Condemnation by the Law Department	X	Final Plans via PM & Consultant	
Transferred back to PW Professional Section	X	Project Bid under PM Direction	
Private Consultant Completes Final Design and Bid Documents	X		
Transferred to Contracting Section for Bid	X		
Bid Awarded and Transferred to Construction Inspection Section	X	Construction by CIMO CM & PM Oversight	X
Construction Completed	X		
Project Transferred to Owning Department for Operation and Maintenance	X	Project Transferred to Owning Department for Operation and Maintenance	X
Total Previous Process Handoffs	18	Total Post Process Handoffs	7

Appendix B: Project Manager's Job Description

City of City, State Job Specification

Job Title: Senior Project Manager (Senior Registered Engineer)

Status: Exempt

Job Code:

Department: Multi-Department

SUMMARY

This position is responsible for the overall administration of a City or departmental Project.

Work involves the day-to-day operations, administration and management of the project for the length of the project. A Senior Project Manager will typically deal with more complex and difficult projects and projects of a larger dollar value than a junior project manager. Serves as a key point of contact with internal and external clients. Serves as a technical resource and provides day-to-day technical and professional information as appropriate to the area of expertise. The Senior Project Manager is responsible for achieving the objectives of the project assigned. The Senior Project Manager will also have extensive experience as a project manager in the delivery of capital improvement projects.

ACCOUNTABILITIES

- Implements short and long-term goals and objectives for achieving the desired results.
- Manages and oversees the administrative and daily operations of a project ensuring adherence to established procedures and achievement of the City's goals for the project.
- Assists with the design and development of the project assigned.
- Drafts operating budgets and monitors expenditures. Identifies cost effectiveness issues and recommends cost controls where necessary.
- Provides technical and or professional coordination and leadership in the execution of day-to-day project activities, as appropriate to the project and City objectives and area of expertise.
- Represents the project in meetings with City officials, other departments, outside agencies, and the general public.
- Recommends and implements systems to maintain project records.
- Coordinates the collection, compilation, and analysis of project activity data.
- Drafts, writes and presents comprehensive project reports.

- Facilitates and assists with the development of policies and procedures for administering the project.
- Collaborates with other departments, projects, projects, other local and state governments or agencies and community organizations to consolidate resources, enhance productivity and ensure the desired outcome of the project.
- Maintains working knowledge of technological, legal and operational changes that affect the activities and work progress of the project and assures the dissemination of information to project team members as needed.
- Coordinates the allocation of designated resources.
- Performs related work as required.

COMPETENCIES

- | | |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Customer Focus | <ul style="list-style-type: none">• Effectively establishes and maintains constructive working relationships with employees, personnel of other agencies, City officials, and the general public.• Understands and meets or exceeds needs of internal and external clients.• Delivers timely and accurate service to clients.• Demonstrates professional and courteous service to clients.• Maintains clear communication with internal and external clients regarding expectations and monitors and maintains client satisfaction.• Follows through on internal and external client inquiries, requests and complaints.• Supports the interests of internal and external clients by making choices and setting priorities to meet client needs within guidelines set by City officials. |
| Communication | <ul style="list-style-type: none">• Provides guidance and training on technical issues to other project managers as requested by Team Lead.• Demonstrates accurate understanding of theories, principles and procedures in the area of assignment.• Effectively presents and represents the project to a wide variety of groups.• Expresses oneself clearly, concisely and logically, both orally and in writing.• Actively listens and asks appropriate questions to solicit more information.• Provides feedback and paraphrases information given to show an accurate understanding of the subject matter.• Utilizes the most effective or appropriate method of communication, oral, documentary or electronic.• Adapts communication appropriately to the current situation. |
| Team Work | <ul style="list-style-type: none">• Promotes a collaborative working environment to the benefit of the City and the assigned project.• Exhibits objectivity and openness to other's viewpoints.• Supports team decisions.• Shows willingness to assist others with time sensitive or large projects.• Contributes to and builds group morale and positive team spirit.• Supports team member's efforts to succeed.• Gives and receives feedback in a respectful manner.• Regards team members in a positive light. |

- Willingly participates in a team setting.
- Keeps team members informed and up-to-date about all relevant or useful information.
- Solicits ideas and opinions to help form specific decisions or plans.
- Encourages others and recognizes their contribution.
- Helps to resolve team conflicts.

Technical Skills

Working knowledge of:

Principles and procedures of management and supervision.

Public sector budgeting principles and practices.

Applicable laws, rules, ordinances and regulations.

Theories, principles and operational practices applicable to the area of assignment.

Personal computers and applicable software.

Education:

A Bachelors degree from an accredited college or university. Designated positions may require major course work in a specified and concentrated area of study.

Senior Project Managers will typically have multiple under graduate degrees, as well as a masters degree, in a relevant field and extensive experience in the subject area.

Appendix C: CIMO Organizational Chart

