



GFOA Recommended Practice

Capital Project Monitoring and Reporting (2007) (CEDCP)

Recommendation Specifications

- 1.0 **Identify and incorporate legal and fiduciary requirements into capital monitoring and reporting.** Because finance officials are typically entrusted with ensuring that capital project activity is consistent with applicable laws and organizational rules and procedures, initial efforts should focus on understanding requirements related to
- 1.1
- Auditing and financial reporting consistent with generally accepted accounting principles and jurisdictional accounting and grant requirements.

1.2 • Arbitrage regulations, bond covenants, and/or bond referenda requirements related to long-term debt.

1.3 • State and local laws, including such areas as debt capacity limits, voter authorization, as well as public bidding and reporting requirements.

1.4 • Capital project contract language and the jurisdiction's contracting practices.

1.5 • The relationship between each project and the jurisdiction's planning processes, including specific plans and master plans.

2.0 **Identify external and internal stakeholder information needs.** Finance officials may be called upon to compile cost and performance data for diverse stakeholders. With this in mind, financial officials responsible for capital monitoring and reporting should:

2.1 • Identify key audiences involved in capital projects, for example, project engineers, contractors, finance and budget staff, executive management, elected officials, and constituents.

2.2 • Identify the business needs of key participants, including timing status, cost activity, and project scope.

2.4 • Establish project performance measures based on stakeholder needs and legal and fiduciary requirements.

2.5 • Collaborate with participants to determine the content of reports and the preferred reporting tools of various stakeholders, including the depth and frequency of information, established expectations and notable variances.

3.0 **Plan and design systems to collect, store, and analyze project data and to report results.** Often, more than one system or technological solution is required to properly address all informational requirements. To simplify this process, responsible officials should:

3.2.3 ○ The process for controlling and managing project changes.

3.2.4 ○ Accountability and data integrity within the financial management system.

3.3 ○ Data accuracy. This is particularly important when there are interfaces between separate information systems, such as geographic information systems, project management systems and financial systems. Careful consideration should be given to avoid duplicative data among these different systems.

3.3 ○ Triggers and protocols for identifying and addressing project cost overruns.

3.3 • Assure that appropriate system controls and security have been incorporated, consistent with the jurisdiction's technology standards.

3.4 • Strive for consistency and standardized language when compiling information from various sources.

4.0 **Regularly monitor capital projects' financial and project activity information.** Once legal, fiduciary, and informational requirements have been established and information systems are in place, finance officials should monitor capital project activity on a regular basis. At a minimum, such monitoring should include:

4.1 • Confirmation that a project plan exists that identifies all required resources and milestone work products and assurance that the project plan is being followed.

4.2 • Confirmation that the project's scope has been clearly identified upon completion of final design and that the project stays within scope or that changes to scope have been made consistent with an established process.

- 4.3 • A review of project-related financial transactions to support budget review, auditing and asset management.
- 4.4 • A review of expenditures, both in relation to the current budget, and over the entire project life.
- 4.5 • Review of encumbrances and estimates of planned expenditure activity.
- 4.6 • Confirmation of continued availability and appropriateness of revenue sources identified in the capital budget.
- 4.7 • Confirmation of the adequacy of cash flow in relation to project requirements.
- 4.8 • Review of the timing of investment maturities compared to planned project disbursements.
- 4.9 • Review of sources and project uses of bond proceeds and grants.
- 4.10. • Results compared to established measures of performance.

5.0 **Report on project status and activities.** Producing project status reports will help officials make informed decisions regarding scheduling and cost. (In establishing report content and frequency it is important for officials to keep in mind that high profile projects often require more extensive reporting of activity compared to a jurisdiction's more routine capital projects.) It is important to be consistent and use plain language when compiling information from various sources and reporting it to multiple stakeholders. Meaningful reports should provide straightforward project information for executive leadership and internal staff as well as citizens and the media, and, at minimum:

5.1 • Provide a comparison of actual results to the project plan, including:

5.1.1 ○ Percent of project completed

5.1.2 ○ Percent of project budget expended

5.1.3 ○ Progress on key project milestones

5.1.4 ○ Contract status information

5.1.5 ○ Revenue and expenditure activity

5.1.6 ○ Cash flow and investment maturities

5.1.7 ○ Funding commitments

5.1.8 ○ Available appropriation

5.1.9 ○ Comparison of results in relation to established performance measures

5.2 • Highlight significant changes to project scope or costs.

6.0 **Project close-out.** Upon project completion, ensure that actions are taken to finalize project activity, including, at minimum:

6.1 • Confirming that the project is closed out appropriately within all systems used to manage, monitor and report on the project.

6.2 • Confirming that the established procedures for user acceptance of project work and final project completion have been followed.

- 6.3
 - Confirming that new infrastructure assets are properly recorded.
- 7.0
 - Evaluate monitoring and reporting activities.** In order to assure that capital project monitoring and reporting practices continue to be effective and relevant to the organization, jurisdictions should conduct a periodic review of these practices, including at minimum:
- 7.1
 - An inspection of reporting data for accuracy and completeness.
- 7.2
 - The existence and adequacy of measures used for quality assurance and control in each phase of capital projects.
- 7.3
 - Solicitation of feedback (using surveys, interviews and other feedback mechanisms) from stakeholders on the adequacy and relevance of reports and reporting tools, including the extent to which business needs are being addressed.
- 7.4
 - A comparison of the organization's report format and content to other agencies' practices.
- 7.5
 - An assessment of the adequacy of communication between various organizational units.

CIPAce™ Y/N	Module	Sub module
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Y	Project Management	Project Financials
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Y

Project Management/Project Management/Fund Management	Project Scoping (Operation and Maintenance Scoping) / Project Financials/Resource and Schedule
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Y

Portfolio Planning/Project Management	Project Scoping (Operation and Maintenance Scoping) / Project Financials/ Schedule and Resource/ Workflow Engine
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Y

N

Portfolio Planning/Advanced Utilities	Project Scoping/Custom Fields
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Y

Y

CIPAce/Standard Utilities	Platform Solution/User Access Config
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Y

Portfolio Planning/
Project Management

Project Scoping/ Schedule and
Resource

Y

Project Management

Project Dashboard/ Workflow
Engine

Y

Standard/
Reporting

Advanced

Standard/
Analytics

Custom Reporting/

Y

Y

CIPAce

Platform solution

Y

Y

CIPAce

Platform solution

Y

Portfolio Planning/
Project Management
/ Standard
Utilities/ Fund and
Budgeting

Project Scoping/
and Resource, Project
Dashboard/
Config/ Capital Budget Mgmt

Schedule
User Access

Y

Portfolio
Planning/Standard
Utilities/Fund and
Budgeting

Project Scoping/User Access/
Workflow Engine/Capital
Budget Management

Y

CIPAce

Platform Solution integrated
with Financial System

Y

CIPAce

Platform Solution integrated
with: Financial System, Asset
Management System, HRIS,
GIS, Document Management,
Project Management Systems

Y

Project Management

Project Financials/Workflow
Engine/Dashboard

Y

CIPAce

Platform Solution: compatible
with MS Active Directory

Y

CIPAce/Advance
Utilities

Platform Solution/ Custom Field
Mgmt/Advanced
Classification/Smart Field Mgmt

Y

Y

Portfolio Planning/
Project Management
/Advance Utilities

Project Scoping/ Schedule
and Resource, Project
Financials, Project
Dashboard/Workflow
Engine/Document
Mangement/Audit Trail

Y

Portfolio Planning/
Project Management/
Advanced Utilities

Project Scoping/ Schedule
and Resource, Project
Dashboard, Project Financials,
Workflow Engine/Audit Trail

Y

Y	Portfolio Planning/ Fund & Budget/ Project Management/ Advanced Utilities	Project Scoping/ Capital Budget Mgmt, Line Item Promotion Budgeting Schedule and Resource, Project Dashboard, Project Financials, Workflow Engine/Audit Trail
Y	Portfolio Planning/ Fund & Budget/ Project Management	Project Scoping/ Capital Budget Mgmt, Line Item Promotion Budgeting Schedule and Resource, Project Dashboard, Project Financials, Workflow Engine
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Y	Fund & Budget	Fund Mangement/Capital Budget Mgmt, Line Item Promotion Mgmt
Y	Portfolio Planning/ Project Management	Project Scoping/ Schedule and Resource, Project Dashboard, Project Financials,
Y	Portfolio Planning/ Fund & Budget/ Project Management	Project Scoping/ Capital Budget Mgmt, Line Item Promotion Budgeting Schedule and Resource, Project Dashboard, Project Financials, Workflow Engine
Y	Portfolio Planning/ Fund & Budget/ Project Management	Project Scoping/ Capital Budget Mgmt, Line Item Promotion Budgeting Schedule and Resource, Project Dashboard, Project Financials, Workflow Engine
Y	Project Management	Schedule and Resource

Y	Portfolio Planning/ Project Management	Project Scoping/ Schedule and Resource, Project Financials, Project Dashboard/
Y	Project Management	Schedule and Resource/Project Financials
Y		
Y	Project Management	Project Financials
Y	Project Management	Schedule and Resource
Y	Advanced Project Mgmt	Contract Management
Y		
Y	Project Management	Project Financials
N		
Y	Project Management	Project Financials
Y	Project Management/ Fund & Budget	Project Financials/ Capital Budget Management
Y	Project Management	Schedule and Resource
Y	Portfolio Management/ Project Management	Project Scoping/ Schedule and Resource
Y		
Y	Project Management/ Advanced Utilities/ Fund and Budget	Schedule and Resource/ Workflow Engine/ Audit Trail/Funding Allocation
Y		
Y	Project Management/ Advanced Utilities	Schedule and Resource/ Workflow Engine/ Audit Trail

Y Project Management/
Advanced Utilities Schedule and Resource/
Workflow Engine/ Audit Trail

Y Project Management/
Advanced Utilities Schedule and Resource/
Workflow Engine/ Audit Trail

Y Project Management/
Advanced Utilities Schedule and Resource/
Workflow Engine/ Audit Trail

Y Project Management/
Advanced Utilities Schedule and Resource, Risks
and Issues, Workflow Engine/
Audit Trail

Y CIPPlanner Services CIPPlanner Services
CIPPlanner Services CIPPlanner Services

Y

Narrative

The Project Financials module tracks and classifies the financial costs for capital projects, including project encumbrances, actual costs, vendors and time sheets and associated labor costs. Actual costs may be tracked at the line item level and may be classified by project, by fund or by any other way of classification that the user prefers in accordance with GAP requirements. Actual and encumbrance expenses may come from the financial accounting system via a system interface. Comparison between actual spending and budget, at line item level, can be produced easily from the integrated database. Users can easily set up a variety of classification structures, such as object codes, to classify both budgets and expenses to make it easy to compare budget versus expenditures.

The CIPAce platform solutions allows the data to be rolled up in multiple dimensions. For example interest earnings on bond proceeds can be allocated to the projects for which the funds were borrowed. All the projects that were included in a bond referendum can be tracked to show implementation progress. Bond coverage covenants can be monitored with the Fund Management Module

Information for voter authorization, public bidding and reporting requirements can be imbedded in both the administrative lead process before a project is actually authorized and within the workflows and schedules associated with project implementation including public bidding and reporting requirements.

At a Projects creation or at any point in its lifecycle a relationship to a jurisdiction's planning process can be created and maintained. This includes the ability to monitor the progress of implementation of all the projects identified in a master plan, including those which are not currently funded. This allows a jurisdiction to understand the gap between identified service levels and resources

As a web based enterprise platform CIPAce is designed to distribute information to the whole spectrum of stakeholders. At the same time in order to automate workflows access to change or alter information must be highly configurable.

CIPAce is designed to accommodate the diverse perspectives and business needs of all key participants focusing fundamentally on project management and financial management perspectives. But starting with the project management perspective to ensure that the system provides a direct utility to the audience that will have the most day-to-day activity with the solution. This starting focus with this audience then allows the other stakeholders, mainly finance, to have the most current up-to-date information to make decisions and analyze. We have found that this structure enables the core interplay of resource constraints and financial constraints to be both visible and manageable. For example, assume 20 building projects are authorized in a jurisdiction's CIP because the financial resources are available. All the projects require a public bid in the same month and a jurisdiction only has 2 project managers who can process 3 public bids in a given month. Some of the projects are going to miss a construction season and wind up not commencing until the subsequent planning years. CIPAce allows this process to evolve to the optimal financial and resource allocation solution.

The Project Dashboard Module of CIPAce can be configured around stakeholders' legal and fiduciary requirements. This configuration can take the form of business rules that are triggered by event deadlines, resulting in notification to all required stakeholders.

CIPAce is a Governmental Off the Shelf solution designed specifically for the public sector. One of the design requirements for this sector is a very high level of configurability to account for the very wide variance of practice of local governments around the core task of Capital Program Management. This configurability allows the tool to accommodate the preferred reporting format and information required by various stakeholders. The configurability also allows the measurement of variance in schedule, planning cycles and various other measures that are important to the various stakeholders.

CIPAce is a Capital Program Management platform solution that allows data to flow in and out of various systems to minimize data redundancy increase accuracy. This platform is especially powerful in the context of Capital Program Management because of the several factors that are associated with the recommended practices adopted by the GFOA. Namely the need for the tight coordination of both the implementing departments and finance. Each of these constituencies has over time built up systems that are concerned with their core responsibilities. Thus a financial constituency tends to look for a financial system solution and a implementing agency tends to look for a project management, asset management or work order solution. CIPAce combines the all the relevant data from the constituent systems with Capital Program Management functionality that is as flexible as spreadsheets that are typically used and as powerful as a custom built web based database solution.

See 3.1

The CIPAce User Access Configuration module allows the exercise of extensive and flexible access control over the entire application, from a module down to an individual field, and from a specific type of data to an individual data record or data element. Through an easy-to-use web interface, the solution can define access rights of "write", "read only" or "deny" for a user and a role on the application down to an individual data field or data element level. As a platform solution CIPAce provides functionality in its various modules corresponding to the positional roles of users. Special consideration is given to the primary input roles to provide both ease of use and a high degree of direct user payoff in using the solution. In the context of Capital Program Management CIPAce views the implementing side as the primary input users who would have constant contact with the system.

CIPAce is built around the reality that a capital plan is an every evolving process built around new information constantly being input into the system that as long term impacts on resources limitation as well as financial impacts. Given this understanding configurable controls and workflows are imbedded in CIPAce around Project Scope, Cost, and schedule. In addition to configurable controls and workflows around Purchase Orders Contract Management, Change Orders and Capital Budget Amendments down to the line item level. CIPAce is designed to meet this requirement by incorporating industry standard practices of data management and database design to facilitate integration with a jurisdictions financial management system. The open architecture of CIPAce allows for integration with almost all financial systems be they vintage legacy systems or the most recent ERP system. Intergration is typically structured as a one way batch integration into CIPAce as the most cost effective method to creat and maintain the Capital Program Management Platform.

CIPAce is designed to meet this requirement by incorporating industry standard practices of data management and database design to facilitate integration with a jurisdictions GIS, Project Management, Asset Management, Document Management, Human Resource Information Systems and Operating Budget Systems.

The Project Financial module of CIPACe tracks and classifies the financial costs for capital projects, including project encumbrances, actual costs, vendors and time sheets and associated labor costs. Actual costs may be tracked at the line item level and may be classified by project, by fund or by any other way of classification that the user prefers. Actual and encumbrance expenses may come from the financial accounting system via a system interface. Comparison between actual spending and budget, at line item level, can be produced easily from the integrated database. These comparisons can be used to set up triggers and protocols for addressing project cost overruns as wellas schedule issues which may impact service delivery

see 3.2.2 above

This Smart Field Managemtn Module allows customization of terminologies, program messages and instructions throughout the CIPAce™ solution to fit the organization's specific needs. Further the soultion may add or modify the text in the help files to match the terminology and processes used by the jursidction The customization is achieved by using an intuitive web user interface. The Custom Fields Management module allows authorized users to add new data fields on data entry forms for proposals, projects, funds and fund groups. This feature to track date elements that are not included in the standard version of the software

The Sechedule and Resource module of CIPAce provides a simple straight forward process to develop a Project Schedule. CIPSchedule™ provides a method to develop a multi layer plan with a parent child relationship, adding resource requirements and then presenting the plan in a Gant chart format. This module enables the assignment and management of resources as part of the project planning and management function. Project managers may write up project status reports online to summarize project status and outline project schedules. As project status is updated along the implementation process, a history of the project progress is produced as well. Monitoring of the milestones of the project process can be done either thru configurable dashboards wich indicate dynamically indicate project stauts from both a schedule and cost perspective or via customized e-mail alerts structured around precise workflowsl. All of the activity associated with the project is capture in a the audit trail module for later review.

The Project Scoping Module can be configured to require that changes in projects scope trigger workflow approval cycles. Additionally

See 3.3

The scope of the Project Financial module includes all prior planning cycles and approved capital budgets. Thus allowing visibility over the entire project life. Additionally the Line Item Promotion Budget Module allows for customized workflow approval cycles associated with the approved budget for each project

The Project Financial module in addition to tracking expenditures can produce construction projections on a project by project basis that can be rolled up in multiple dimensions.

The Fund Management module in addition to projections over the multi year horizon can track actual fund balances over time. These in turn can be used to coordinate the available funds in the capital budget down to a line item basis.

Percent of project completed can be measured in both financial and milestone dimensions. It can also be combined to measure the earned value of the project to take into account that certain milestones have a great deal more cost associated with them than others. CIPAce provides customizable reports for % Completion for both individual projects and the entire capital portfolio

see 5.1.1

see 5.1.1

The Contract Management module of CIP Ace provides tracking mechanism of contracts in relation to capital projects. This module allows the linkages between contract, contract line items, purchase orders, invoices, funds, projects and expense line item details.

see 3.3

see 3.3

see 3.3

Use of the schedule and Resource module of CIPAce can be extended to manage and report on the tasks associated with project close out. Especially useful is the ability to use the fund allocation module to allocate administrative cost easily across projects

Use of the Schedule and Resource module of CIP Ace can accommodate this type of workflow

Use of the Schedule and Resource module of CIP Ace can accommodate this type of workflow

CIPPlanner Corporation undertook a study of over 100 capital programs in its initial design and continues to evolve through its implementation with a variety of local government ranging from San Francisco to Sheridan, Wyoming. As part of its implementation services CIPPlanner offers a gap analysis between a jurisdiction's current practices and reports and industry standards such as GFOA. CIPPlanner continues to conduct an in-depth review of GFOA Budget Award winners as examples for best practices. Additionally, this analysis as well as best practices that have been identified as a result of past and ongoing implementations.

See 7.1

See 7.1

See 7.1

As part of a gap analysis CIPPlanner will interview stakeholders in various organizational units to evaluate and, if necessary, document workflows and procedures. Often, this evaluation uncovers the key data disconnects as well as the process issues that are at the heart of improving the efficiency of a jurisdiction's Capital Program Management System.