

Managing the Capital Planning Cycle: Best Practice Examples of Effective Capital Program Management.

By Westerman, Nicole

Publication: Government Finance Review

Date: Tuesday, June 1 2004

Just like an operating budget, and in harmony with operating budget development, planning and management of the capital improvement plan should occur in a regular, annual cycle. Because the CIP management cycle comprises so many activities, it is useful to break it down into more manageable parts, each with distinct goals and potentially different "owners." As shown in Exhibit 1, this article looks at the cycle in four phases: financial planning, project identification and prioritization, project management, and monitoring and reporting. Each of these four phases is discussed in some detail and is illustrated by best practice examples from several public agencies.

FINANCIAL PLANNING:

A sustainable capital program is simply not possible without reliable funding sources. For this reason, prudent financial planning is the cornerstone of an effective capital improvement plan. While it is easy for CIP managers to say, "I've identified my projects--now how do I fund them?" most agencies cannot afford to allow the CIP to be based on project needs first and plans for financial stability second. Because resources are always more limited than needs, fiscal discipline should be the ultimate criterion against which all CIP decisions are made. This means:

- * beginning with a solid and accepted multi-year financial plan;
- * committing to a single-year capital budget and a multi-year CIR preferably with at least a five-year horizon and possibly a 10- or 20-year outlook;
- * identifying financial resources and commitments carrying;
- * identifying financial resources and commitments carrying forward from previous CIPs;
- * quantifying the debt, if any, to be issued for capital projects over the term of the plan based on debt affordability goals, debt limitations, and debt service projections;
- * establishing goals for operating budget ("pay-as-you-go") or reserve funds to be spent on capital projects over the term of the plan;
- * identifying other funding sources, including earmarked revenue streams, grants, revolving loans, and development contributions; and
- * quantifying the operating costs, savings, and/or revenues that will result from project implementation, and incorporating those results into the financial plan.

Triple-A rated Germantown, Tennessee, is a city of approximately 40,000 people in southwestern Tennessee. (1) The city's financial plan includes a 10-year property tax plan and a five-year operating budget, the first year of which is approved by the Board of Aldermen. These plans, as well as financial policies in general, are developed with the input of the 19-member Financial Advisory Commission that is comprised of residents with financial expertise. The CIP is designed to serve as a planning tool linking long-range plans, the financial plan, and the city's physical development projections.

Germantown's CIP is built partially on a fiscal impact analysis model that projects property development, infrastructure needs, and capital projects in progress over a five-year period. The model analyzes multiple development scenarios based on a range of assumptions. To fund projects, some revenues, such as those from the state-shared Hall Income and Excise Tax, are earmarked for capital projects because they are volatile or their future is uncertain. Fund balance reserves and pay-as-you-go funding are used, when possible, to minimize debt issuance. For example, in fiscal 2004, these two funding sources make up 15 percent and 9 percent of total CIP funding, respectively. (2) The Office of Research and Budget performs an analysis of the operating budget impacts of each potential project (e.g., the costs of irrigating and mowing the landscaping on new medians) and evaluates those impacts relative to the projected operating budget.

While the binding sources of a water utility are quite different from those of a general-purpose government, financial planning is quite similar. The Contra Costa Water District, which is located near San Francisco and serves about 450,000 customers, develops a 10-year CIP as part of an annual cycle that includes operating and capital budget development and rate setting. Besides a D-year plan for funding capital projects, the CIP estimates operating and maintenance and debt service costs, projects reserve balances, and projects revenue requirements. By projecting rates over a 10-year period, the district is able to absorb one-time revenue shortfalls or unexpected expenditures without being forced to react with rate increases; moreover, by increasing rates in small annual increments--rather than steep, sudden hikes--increases are aligned with the financial plan and have lagged the rate of inflation for the last five years. These increases go virtually unnoticed compared to most tax or rate increases. Area developers even agreed to substantial increases in the district's "facility reserve charges" after participating in a technical advisory committee to review these charges relative to the plant investments required to serve growth. (3)

As a general rule, once an agency has established capital budget limits for the year, projects already in progress or planned in the previous CIP should have first dibs on available funding as long as their validity and funding needs are confirmed. Only then will new projects be considered for any leftover funds, though projects that were not included in previous CIPs might be funded if they meet more stringent criteria. Some projects might be funded because of their projected positive impacts on the operating budget; for example, Philadelphia's Aladdin project used a city revolving loan fund to finance the replacement of more than 50,000 light fixtures in municipal facilities, resulting in \$500,000 in recurring annual savings.

Effective financial management also means developing--and adhering to--sensible policies governing, for example, capital eligibility, uses of one-time revenue sources,

pay-as-you-go funding targets, term of debt, and mechanisms for cost recovery such as impact and user fees. Particularly important are debt affordability policies, which should include policies on off-balance sheet financings, self-imposed debt limitations, and the management of short-term and long-term investments as they relate to short-term and long-term debt (asset-liability management).

PROJECT IDENTIFICATION AND PRIORITIZATION:

The annual rite of defining potential capital projects should begin by identifying all potential projects from all possible sources. Such an exhaustive project identification process helps prevent unplanned needs--whether deferred maintenance, service improvement, neighborhood beautification, or any other needs--from usurping capital funds at the expense of approved projects. Systematic identification of all potential projects also increases the likelihood that capital needs will be addressed before they become urgent, and allows for a broader range of options.

To identify capital projects, obvious but valuable sources of information include representatives of "client" agencies and design professionals. Philadelphia's Capital Program Office deploys its architects and engineers to work with agencies citywide to identify potential projects, survey facilities, and establish project scope. Exhibit 2 shows a summary of needed improvements identified through a facility assessment conducted by the Manchester School District in New Hampshire.

Exhibit 2: Summary of Needed Improvements at 4 Manchester Elementary Schools

<u>Bakersville Elementary</u>	<u>Beech Street Elementary</u>	<u>Gossler Elementary</u>	<u>Green Acres Elementary</u>
New Heating System; Complete Air and Water; Painting; Flooring, Doors, Frames and Hardware; Roofing; Bathrooms; Exterior Windows at Stairs; Exterior Painting.	Remove "AMC;" Airside HV AC Replacement; Flooring and Epoxy; Exterior Doors; Gym Floor; Exterior Windows at Stairs and Entrances; New Ceilings Replace Door Hardware.	Replace HVAC System; Replace/Upgrade Electrical; Flooring; New Roof; New Gym Lighting, Replace Ceilings; New Ceiling Painting throughout; Replace Door Hardware; New Sinks and Drinking fountains in each room.	New Electrical Service and Distribution; New Flooring; New Roofing; Bathrooms

Operating and maintenance personnel should also be active in the identification of capital projects. In Germantown, for example, sewer line maintenance crews constantly investigate and monitor the condition of laterals and identify capital projects early enough

to be included in the out years of the five-year CIP. Similarly, the city's vehicle maintenance function maintains a comprehensive inventory of city vehicles and detailed records of service and repair work. Fleet needs are projected 12 years into the future and are based on each vehicle's mileage and maintenance history. Some vehicles are replaced almost every year, keeping capital expenditures relatively steady and predictable and resulting in a reliable and low-maintenance vehicle fleet.

Deferred maintenance is a common but severe problem for many public agencies. Delaying scheduled maintenance on capital facilities and infrastructure yields short-term savings, but increases long-term costs as needs become more acute and options more limited. Agencies facing significant deferred maintenance issues should start by looking backward at all the projects that should have been done and prioritizing them along with current projects.

Capital project identification needs to result in a profile of each potential project, including basic information such as scope, estimated cost and schedule, funding sources, useful life, and operating budget impacts. Classifying potential projects into different categories can prove useful in the prioritization process as well as in CIP presentation. For example, Fayetteville Public Schools in Arkansas defines each capital project in terms of project type and project purpose, as shown below.

Project Type

Facilities

Transportation

Technology

Other

Project Purpose

Useful Life

Growth

Program/Policy

Other

Establishing the project type and purpose allows the district to identify the resources going to a category or to prescribe the relative allocation of resources based on safety, policy, or other criteria. Establishing the project purpose allows the district to track the investments that are necessary to maintain the status quo, those needed to accommodate a growing student population, and those that respond to new or ongoing ideas about how best to meet student needs. A prioritization process might lump projects of all of these types and purposes together, or it might begin by defining the relative share of resources

to be directed to a particular type or purpose. For example, Fayetteville Public Schools might decide to dedicate 65 percent of one year's capital funds to useful life projects, 20 to growth projects, and 15 to program/policy projects. Alternatively, the district might use these categories to analyze and adjust its proposed capital budget after the prioritization process.

While the prioritization process itself is important, it need not be elaborate or sophisticated. A formal evaluation or ranking process helps stakeholders reach a common understanding of the priority-setting process and criteria, facilitates decision making, and generates a record of the process. Some jurisdictions, such as Washington, D.C., even include in their CIPs a list of the projects that did not make the cut. The following is a simple prioritization matrix developed for Fayetteville Public Schools:

Factor	Score (1-10)	Weight/Score
Legal mandate		10
Health or safety		9
Protection/preservation of district assets		8
End of useful life/obsolescence		7
Enrollment changes		6
Educational program		5
Cost savings		4
Comfort/convenience		2
TOTAL:		

PROJECT MANAGEMENT:

Implementation of a capital improvement plan is where the rubber hits the road. Careful financial planning, scope development, and prioritization do not matter if a project does not materialize--preferably as planned, on time, and on budget. Managing a capital project generally involves a long sequence of activities that includes some or all of the following steps:

1. RFP development and issuance
2. Selection of a design consultant
3. Design contract monitoring and management
4. Preparation and execution of the bidding process
5. Construction contract coordination, monitoring, and management
6. Budget and schedule management and reporting
7. Review of, and action on, proposed contract changes

8. Successful completion of project and transfer to users

One key to effective project management is centralizing responsibility for overall program oversight in the finance office. At the Contra Costa Water District, the financial manager assigned to CIP supervision is called the "project control manager." Ideally, this person possesses the tools and the expertise not only to monitor and facilitate the financial aspects of project management, but also to monitor program progress overall. The district's project control manager is responsible for producing monthly status reports on project financials and schedules, and serves as a point of accountability in CIP execution.

A second key to successful project management is treating this activity as a professional function. While the expertise of architects, engineers, and others with technical skills is unquestionably valuable, and is often used to carry out project management responsibilities, the tasks of project management should be distinguished from those of project design and treated accordingly. That is, the project manager should be oriented toward the management of resources, time, product, and risk—not design. Having project management duties performed by a central agency, such as Philadelphia's Capital Program Office, as opposed to a client department, can help prevent parochialism and promote a relatively objective orientation toward the basic goals of project delivery.

In addition to project management skills, project managers need ready access to project information, such as budget, encumbrance, expenditure, and contract information. They need sufficient authority to deal effectively with design consultants and contractors, but sufficient oversight and guidance from supervisors to troubleshoot and help keep projects running smoothly. Finally, they may be supported to various degrees (or replaced entirely) by professionals from the private sector, especially in the execution of extensive, complex, or ambitious capital programs.

To implement a comprehensive three-year capital program of school building renovations and additions with minimal financial risk and disruption to school operations, the Manchester School District reached beyond its own CIP management resources to engage a contractor under a structure termed "design-build-finance." In 2001, in partnership with the City of Manchester, the district engaged a private engineering firm to assess 14 elementary schools, three middle schools, and four high schools to identify needed improvements and define project scope. Based on a competitive selection process, the district selected a design-build team that would be compensated at a maximum guaranteed price, including all project costs, of \$94.9 million; the district also selected a separate project management firm to oversee the contractor. For the district and the city, this strategy had numerous benefits:

- * Focus and Accountability--a single private design-build-finance team is accountable to the city for all phases of design and construction.

- * Accelerated Completion--the program will be completed in three years, far shorter than the timeframe required for implementing projects separately or procuring design and construction services separately.

- * Cost and Funding Certainty--design-build reduces budget risks by determining total project costs earlier and ensuring the availability of all funds needed for the entire project.
- * Assignment of Responsibility--the private design-build team is responsible for cost overruns and completion delay expenses; change orders are eliminated unless initiated by the city.
- * Efficiency--opportunities for achieving efficiencies can be identified early through coordination and integration of the financing and project delivery.

Progress in capital program execution is reviewed regularly by a committee that includes representatives of the contractor and the city's Public Works Department, as well as members of the School Board and the Board of Aldermen. Construction began in July 2003 and is scheduled to be complete in 2006; as of April 2004, the program is on time and on budget.

For most governments, so many functions and stakeholders are involved in capital program management that procedures can quickly multiply and slow project progress. Strategies for improving project management include the following:

- * Seek methods for streamlining interdepartmental project elements, such as procurement, contract and payment processing, and code/zoning approvals.
- * Review intradepartmental processes, organizational structures, and workloads to identify opportunities for enhancing accountability and eliminating roadblocks.
- * Leverage economies of scale by consolidating schedules for common processes (e.g., solicitation of proposals), standardizing processes and products (e.g., correspondence and "boilerplate" sections of project specifications), and increasing automation and accuracy through electronic tools.

The City of Philadelphia used many of these strategies to improve CIP management when it created its Capital Program Office in 1996, in addition to overhauling project controls and developing a more "client"-oriented organizational structure. The results of this restructuring included the elimination of substantial project backlog within two years, a 49 percent reduction in project duration, reduced contract processing time, and more cost-effective architectural and engineering services. All of this was accomplished even as the city doubled the number of contracts awarded to minority and women-owned businesses.

In addition to oversight by the finance office, professional project management, appropriate use of private sector resources, and streamlining processes, earning the trust of legislative bodies is essential to effective project management. Officials from both the Contra Costa Water District and Germantown observe that frequent and candid communication, and a record of completing projects on time and on budget, enhance the confidence of legislative bodies in staff and help reduce roadblocks in capital program

management. Because these entities rarely bring a project to their governing bodies that has not already been discussed in conjunction with previous years' plans, elected officials know what decisions have to be made, feel more comfortable with the information provided by staff, and are more likely to make well informed, prudent decisions in a timely fashion.

MONITORING AND REPORTING:

Most public entities have effectively used technology to manage financial functions such as accounting and payment processing. Fewer, however, have been able to seamlessly merge the information from these systems with the information needed in capital program management, such as project, contract, schedule, and asset information. This data is required at all levels of the organization for efficient and effective project development, vendor selection, coordination of bundled or co-located projects, change order and amendment processing, reporting, communication with operations and maintenance personnel, and so on.

The data generated by integrated project accounting and management systems is useful on many levels. Project managers should use these systems to establish "critical path" steps for keeping projects on their established schedule and budget. Supervisors should regularly review project status--the conformance of actual results to the project budget and schedule--with staff and require documentation of the reasons for any delays or overruns. Agency heads should review on a monthly basis summary-level information on the number of open projects, monthly expenditures by division compared to projections and historical information, the aging of invoices or contracts, and other measures. Financial managers should review actual spending relative to the spending plan in terms of both individual projects and overall expenditures.

The Electronic City of Austin Project Reporting Information System, or e-CAPRIS as it is referred to by the city, exemplifies the effective electronic management of CIP information. This system, which was developed by the city's water and wastewater utility and subsequently adopted citywide, integrates project, contract, and budgetary information previously tracked by multiple departments with information in the centralized accounting system in a friendly, navigable Windows environment. The e-CAPRIS system offers a number of useful features, including the following:

- * Facilitates the development of the capital budget and tracks appropriations, encumbrances, and expenditures.
- * Records proposal solicitation, consultant selection, and construction bidding processes and results.
- * Tracks target and actual project schedules and related explanations, where appropriate.
- * Tracks consultant and contractor contracts and ties them to specific projects and appropriations.
- * Allows the user to drill down from departments or other broad categories to individual

projects and sub-project levels.

- * Produces a wide array of "canned" reports and easily generates ad hoc reports.
- * Allows the user to locate projects geographically to coordinate current or planned projects and identify other place-related information, such as council district or proximity to other city facilities.

Exhibit 3 shows an e-CAPRIS screen shot that presents information for two subprojects, including project number, project manager, appropriation, inception-to-date and year-to-date expenditures, current encumbrances, and remaining balance. Clicking on blue underlined fields leads to details such as a list of all the other sub-projects associated with that project number or a list of the dates and amounts of all previous payments or change orders. Clicking "Plan Page" leads to schedule information.

Easy access to so much information holds tremendous potential not only for improved capital project management at micro and macro levels, but also for meaningful performance measurement. Germantown establishes multiple performance measures based on goals and objectives and updates them quarterly. For example, the city has a target of 75 percent or more roadways scoring 70 or higher on its street evaluation form. Once managers have easy access to the information they need, they have the tools to track progress, identify problems, and make corrective actions to rectify those problems.

Effective control and use of information does not require elaborate information systems. Everyday programs-even standalone systems-can provide all the information needed to manage and understand the CIR Germantown, for example, uses less sophisticated means to generate its performance/status reports, but these reports provide a clear snapshot of each project through narrative, budget-to-actual comparisons, and schedule information.

SUMMARY:

A public agency's capital program typically represents one of its most significant financial obligations and managerial challenges; moreover, pressures on limited capital funds are increasing due to economic and financial pressures, aging infrastructure, population changes, and changes in technology. In this challenging context, major Wall Street credit rating agencies have identified effective capital program planning and management as a significant factor in determining overall fiscal health and credit quality. While effective capital program development and execution requires a broad range of resources and competencies, a phased approach such as the one outlined in this article may be more manageable. Around the country, public agencies of all shapes and sizes are excelling in one or more phases of the capital planning cycle. These best practice examples can serve as a valuable resource for agencies that are in the process of developing or improving their own CIP management practices.

NOTES:

(1.) Germantown has had a triple-A credit rating from Moody's since 1986 and h-ore Standard & Poor's since 1994.

(2.) Excludes capital expenditures for the Utility Fund and the Germantown Center Fund.

(3.) In October 2003, charges increased by 10 percent for developers who are retail customers, and 6 percent for developers using wholesale water

NICOLE WESTERMAN is a senior managing consultant with Public Financial Management and an advisor to GFOA's Committee on Economic Development and Capital Planning, Prior to joining PEN, she served as an assistant deputy mayor for the City of Philadelphia, where she managed the capital budgets of 10 city departments. Westerman is an adjunct faculty member of the University of Pennsylvania's Fels Center of Government, where she earned a Master of Government Administration degree.