Office of the City Auditor

City of San Diego

Public Utilities
Capital Improvement Program:
Steps Have Been Taken to Implement Asset Management and Planning, but Improvements Are Needed to More Effectively Manage Projects

Presentation to Audit Committee
October 3, 2011

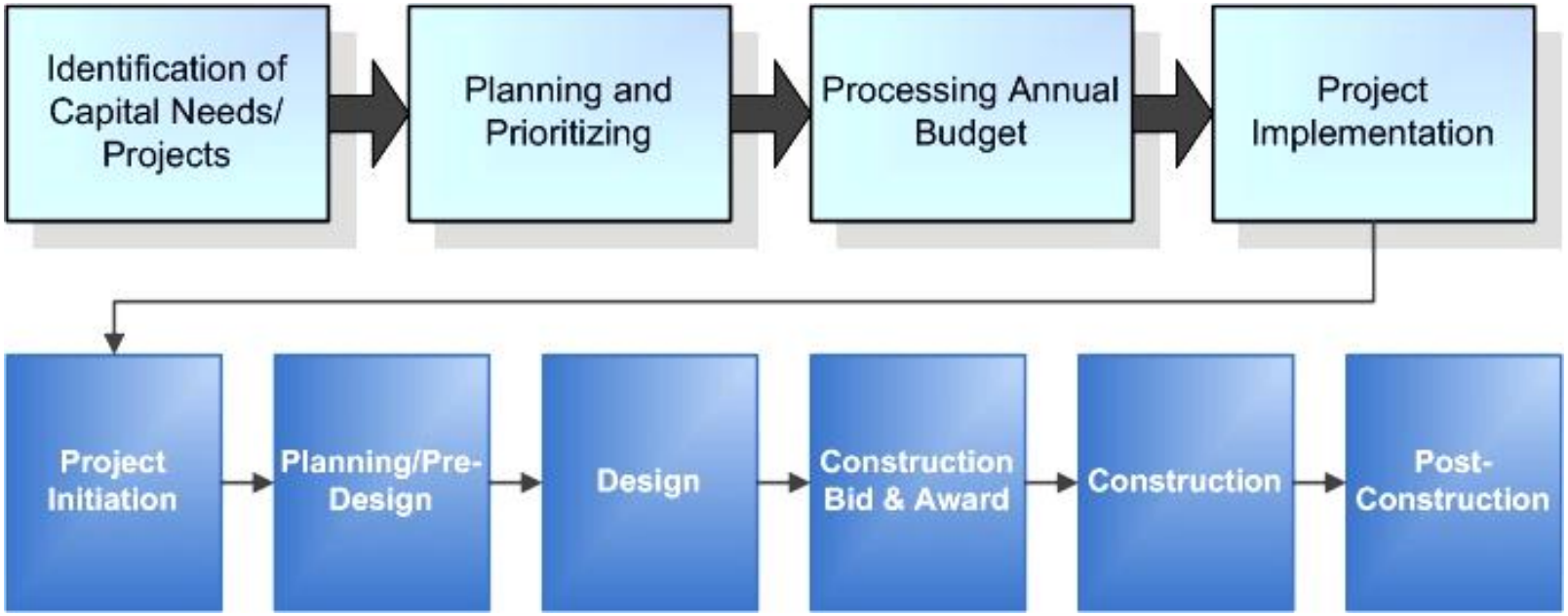
OCA
Independent • Objective • Accurate

Objectives, Scope, and Methodology

- Our overall objective was to assess the effectiveness and efficiency of the Public Utilities' Capital Improvement Program (CIP).
- To answer this question, we reviewed the (1) Public Utilities' Asset Management Program and Capital Planning; (2) Public Works/Engineerings' project delivery costs and project charges; and (3) Comptroller's Office's development of overhead rates for City Departments.
- We analyzed financial data; reviewed best practices for asset management, capital planning, and project management; and assessed project delivery data.

Background

CIP Process



Summary of Findings

1. Public Utilities Has Taken Steps to Implement Asset Management, but Efforts Are Not Comprehensive
2. Improvement Is Needed for Wastewater Master Plan and Communicating Capital Needs to Stakeholders
3. Project Delivery Costs Are Higher Than Statewide Average for Smaller Projects, and Projects Managers Are Not Consistently Charging Appropriate Line Items Elements of Projects
4. The City Is Not Charging Overhead, Which Impacts Public Utilities' and Other Departments' Forecasts of Future Project Costs

Asset Management Best Practices

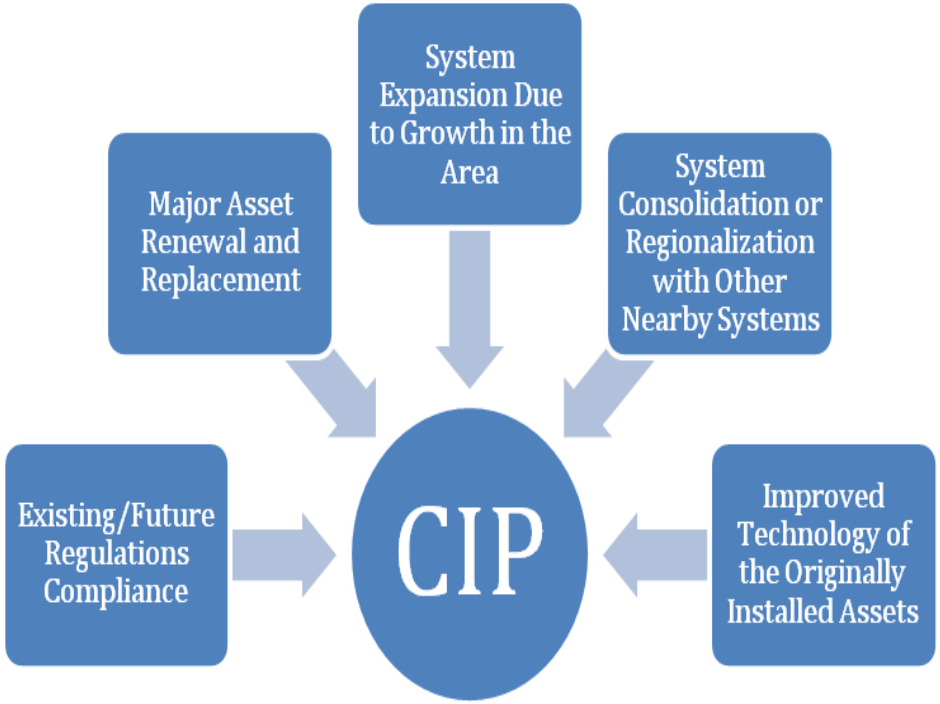
Strategy, Mission, Goals and Objectives	Establish departmental goals; desired customer level of service; target levels of condition; asset management goals and performance measures.
Asset Inventory	Collect and organize detailed information on assets, including asset hierarchy; descriptive information—such as age, material, location, and repair history; and map assets in GIS.
Asset Condition and Performance	Assess assets' physical condition ; expected remaining useful life; value; performance; risk to identify existing and predicted problems/needs.
Alternatives Evaluation and Risk Assessment	Consider and assess all options to address existing or predicted needs, including evaluating life cycle costs; investment alternatives; and assess risk to determine criticality.
Implementation Plan	Prepare asset management plan using short-, mid-, and long-range initiatives to ensure that funds and staff are available.
Performance Monitoring	Develop performance measures related to goals and service levels and monitor and report outcomes to stakeholders.

Improvements for Asset Management

- The Department has taken various steps toward implementing asset management, but there are opportunities for improvement.
  - Public Utilities has assessed the physical condition of many above-ground assets, but has only assessed about one percent of its water transmission pipes.
  - The Department recently made the decision to implement SAP EAM (a module for the City's financial system) to replace its three primary maintenance management systems—SWIM, EMPAC, and PS Tools.
  - The Department lacks targets for acceptable asset condition levels and has not completed an asset management plan, although officials told us they expect to complete the plan by the end of fiscal year 2012.

Drivers of Capital Planning

Master planning and capital improvement planning provide an overall perspective of developments in the City so that decision-makers can take a long-range view of future needs, projects, and priorities.



Various levels and types of planning are needed, including long-range master plans, mid-range capital improvement and financing plans, and the annual CIP budget.

Improvements for Capital Planning

- Public Utilities has developed three master plans to address capital needs—the Water Facilities Master Plan, Draft Metropolitan Wastewater Plan, and Municipal Wastewater Collection System Master Plan.
  - Only the Water Facilities Master Plan is comprehensive and in-line with best practices.
- While Public Utilities' master plans include an extensive planned infrastructure replacement program over the next 20 years, the Department is not reporting a backlog of projects that it is unable to implement due to funding constraints.

Improvements for Project Delivery

- City's average project delivery cost is just one percent higher than the statewide average of 25 percent.
- For smaller projects (between $100,000 and $2 million), average delivery costs are 47 percent of total costs—14 percent higher than the statewide average.
  - Officials believe project delivery costs are higher for small projects due to several uncontrollable factors, such as the City's limited access to public bond markets from 2004 to 2008.
- Public Works/Engineering does not review and report project delivery costs for each project or generating summary reports at project completion.

Improvements for Project Delivery

- Because of their scale and cost, capital projects can represent a significant risk for local governments.
  - Organizations should establish policies and procedures to support effective capital project monitoring and reporting to mitigate such risks, improve financial accountability, and enhance operational effectiveness.
- We found many projects with inaccurate project charges and the layout and functionality of the City's financial system poses much inefficiency with managing project budgets.
- This is because there is a lack of documented policies and procedures and there was a lack of training when the City switched from its prior financial system to SAP in fiscal year 2009.

City Not Charging Overhead

- We found that the City has not charged overhead since the beginning of fiscal year 2012, because it lacks an effective methodology for doing so.
- In previous years, the Comptroller's Office's methodology was based on reports from the City's former financial system.
  - The Comptroller's Office's cannot use this same methodology for fiscal year 2012 because the City's new financial system—SAP—does not require specific job orders for billing direct and indirect costs which has been a key driver to determining overhead rates for each department.
- Comptroller's officials told us they are working to develop a new methodology and expect it to be in place by the end of October 2011.

Recommendations - Recap

- We made a total of 18 recommendations to the Administration to improve asset management, planning, and project delivery of Public Utilities CIP projects.

- The City Administration:
  - Agreed with 10 recommendations;
  - Partially agreed with 4 recommendations; and
  - Disagreed with 4 recommendations (4, 15, 19, and 17) , in two cases they disagree and say that action is complete (4 and 15).

➢ Public Utilities and Public Works/Engineering are generally agreeing with recommendations and open to improvement, but the Administration is not acknowledging the issues we identified with SAP and appears unwilling to provide Departments with the tools needed.

Recommendations - Disagreement

4. Assess whether the current criteria and process for determining whether to develop a full Business Case Evaluation (BCE) for a project is sufficient to ensure that all appropriate capital projects are justified.
   - Ensure that BCE abstracts consistently include the necessary financial and other data to support business decisions. *(Disagree. Action completed.)*

5. Establish a policy and guidelines to streamline the process to identify costs related to construction management and the construction contract that requires:
   - all city labor for construction management, excluding city forces, to be charged to Construction Administration (WBS .06.02);
   - all construction contract vendor payments to be charged to Field Construction (Work Breakdown Structure 06.01.02); and
   - the correction of all inaccurate charges within a timely manner. *(Disagree. Action completed.)*

16. Establish a more effective process for obtaining input from Public Works/Engineering regarding SAP concerns impacting project management and address high priority issues expeditiously. *(Disagree)*

17. Develop and implement a tool to allow budget-to-date actual expenditures, such as for planning, design, and construction, to be available in one document or report. *(Disagree)*

Contact

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Recommendations

1. Work with Public Works/Engineering and Development Services to develop a documented process that insures all information and documents on completed project are provided to Public Utilities in a timely manner and include this in service level agreements with these departments.
   - The process should include a control for Public Utilities to ascertain that Public Works/Engineering and Development Services are providing all information within the agreed upon timeframe. *(Agree)*

2. Determine the frequency of which the condition of appropriate assets should be assessed and establish a schedule for these assessments, particularly for water transmission mains.
   - Reassess the most cost effective approach for assessing the condition of and prioritizing water distribution pipes as the Department develops its replacement program for asbestos cement pipes, such as the use of predictive software to forecast asset condition. *(Agree)*

3. Develop a schedule for implementation of SAP Enterprise Asset Management (EAM) and provide updates on progress to the Independent Rates Oversight Committee (IROC) and other stakeholders.
   - To ensure that all City departments, including Public Utilities, derive benefits from the Departments SAP EAM implementation, coordinate with ONESD's efforts to merge with the existing EAM system for streets and storm water. *(Agree)*

5. Provide input to the Capital Improvement Program Review and Advisory Committee (CIPRAC) regarding the prioritization ranking tool, so that appropriate changes can be made to Council Policy 800-14. *(Partially agree. Action Completed.)*

Recommendations

6. Complete a consolidated asset management plan and ensure it is in line with best practices and includes a schedule for implementation with a combination of short-, mid-, and long range initiatives to ensure that funds and staff availability are not barriers to successful implementation. *(Partially agree.)*
   - Ensure that the plan includes:
     - measurable goals and objectives;
     - clear, numeric goals for the target level of condition the Department wants to achieve for certain assets; and
     - performance measures that are linked with these goals.
   - Monitor and report out performance measures to the Independent Rates Oversight Committee, City Council, customers, and other stakeholders.

7. Develop a comprehensive Wastewater Master Plan based on a full assessment of the wastewater system's needs and best practices when it updates this plan in three to five years.

- Provide links to other plans or documents when best practice elements are excluded from master plans. *(Agree.)*

8. Conduct regular updates to master, CIP, and financing plans.
   - Update water and wastewater master plans every three to five years. *(Partially agree.)*

9. Include the basis for determining the funding mix in future Master Plans, CIP plans, or a financing plan and make these available to the public. *(Agree. Action Completed.)*

Recommendations

10. Improve the Department's strategy for communicating capital needs to stakeholders, including providing estimated deferred maintenance and unfunded needs if needed rate increases are not secured and implications of deferring projects. *(Partially agree. Action completed.)*

11. Revise the service level agreement with the Public Utilities Department to describe specific requirements to monitor and report project delivery costs. *(Agree.)*

12. Develop project-level delivery costs progress reports from the Project Portfolio Management Integrator or other sources to track, monitor, and report planned versus actual costs on a monthly basis for all active projects. *(Agree.)*

13. Report final project delivery costs versus total construction costs at the completion of each project. Annually, compile, consolidate, and analyze performance data of completed projects to identify inefficiencies and enhance performance and value, such as by developing a Process Improvement Plan as recommended by project management guides and standards. *(Agree.)*

14. Develop a regulation process narrative that outlines charges that are appropriate direct expenses. *(Agree.)*

18. Develop an effective methodology for developing overhead rates and make retroactive adjustments if needed to ensure that departments correctly receive overhead funds as budgeted and billed in fiscal year 2012. *(Agree.)*